

Arthur J. Ragauskas
Professor
2024

Governor's Chair in Biorefining
Interim Head, Department of Chemical and Biomolecular Engineering
Fellow of American Association for the Advancement of Science
Fulbright Chair of Alternative Energy
Center for BioEnergy Innovation
Oak Ridge National Laboratory
Department of Chemical and Biomolecular Engineering
The University of Tennessee, Knoxville
Center for Renewable Carbon
Department of Forestry, Wildlife, and Fisheries
The University of Tennessee Institute of Agriculture

Brief Biographical Sketch

Dr. Arthur Ragauskas held the first Fulbright Chair in Alternative Energy and is a Fellow of the American Association for the Advancement of Science, the International Academy of Wood Science, and TAPPI. In 2014, he assumed a Governor's Chair for Biorefining based in the University of Tennessee's Department of Chemical and Biomolecular Engineering, with a complementary appointment in the UT Institute of Agriculture's Department of Forestry, Wildlife, and Fisheries and serves in the Energy and Environmental Sciences Directorate, Biosciences Division, at ORNL. His research program is directed at understanding and exploiting innovative sustainable bioresources for the circular economy. This multifaceted program is targeted to develop new and improved applications for nature's premiere renewable biopolymers for biofuels, biopower, and bio-based materials and chemicals. His research program has been sponsored by NSF, USDA, DOE, GA Traditional Industry Program, a consortium of industry partners, and several fellowship programs which are summarized in **738 peer-reviewed** publications. His Fulbright-sponsored activities at the Chalmers University of Technology, Sweden were focused on forest biorefinery and new biofuel conversion technologies for lignocellulosics. Currently, Dr. Ragauskas manages a research group of graduate students, postdoctoral research fellows, a research scientist, and visiting scientists. He is the recipient of the 2014 TAPPI Gunnar Nicholson Gold Medal Award, the 2014 ACS Affordable Green Chemistry Award, the 2017 AIChE Green Processing Award, the 2017 Academia Distinguished Service Award, 2019 AIChE Chase Award and 2022 RSC Environment, Sustainability, and Energy Division open award: Environment Prize. In addition, his students and postdocs have won several awards, including the ACS graduate research award, the ORNL UT-Battelle Award, and the ORNL Supplementary Performance Award.

Dr. Ragauskas is an Associate Editor for Biofuels, Bioproducts and Biorefining, Biofuels, BioEnergy Research, Industrial Biotechnology, Taiwan Journal of Forest Service, TAPPI J., Holzforschung, Journal of Biobased Materials and Bioenergy, Journal of Petroleum Technology and Alternative Fuels, The Open Biotechnology Journal, Current Biotechnology, and J. Wood Chemistry and Technology. He is an editorial board member of Sustainability and the Journal of Chemical Technology and Biotechnology. Dr. Ragauskas has served on several advisory boards and review panels including the Austrian Science Fund, European Commission Research Directorate, National Science Academy, J. Paul Getty Trust, NSF, USDA, DOE, ARAPA-E, NSERC, TAPPI Research

Management Committee, Netherlands Organization for Scientific Research (NWO), Swedish Foundation for Strategic Research, Swedish VINN Excellence Center, Swedish Knowledge Foundation, VTT Technical Research Centre of Finland, ERA Chemistry, Swiss National Science Foundation, Finnish Academy of Science Norway Research Council, The Technology Foundation STW, Agence Nationale de la Recherche and Singapore Agency for Science, Technology, and Research. Dr. Ragauskas has been an invited visiting professor at Universidade da Beira Interior, Portugal; Chalmers University of Technology, Sweden; Royal Institute of Technology/ STFi, Stockholm, Sweden; and Southeast University, China, and South China University of Technology, China.

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<p>Home Pages: http://biorefinery.utk.edu/; http://cbe.utk.edu/people/art-j-ragauskas/; https://www.ornl.gov/staff-profile/arthur-j-ragauskas</p>																															

**ARTHUR J. RAGAUSKAS
CURRICULUM VITAE**

RAGAUSKAS, ARTHUR JONAS, Professor /Governor's Chair/Interim Head CBE
Department of Chemical and Biomolecular Engineering, University of Tennessee
Center for Renewable Carbon, Department of Forestry, Wildlife, and Fisheries, The University of
Tennessee Institute of Agriculture, Center for BioEnergy Innovation, Oak Ridge National
Laboratory

EDUCATIONAL BACKGROUND

Ph.D. Science, University of Western Ontario 1980 – 1985
Honors B.S. Chemistry, University of Western Ontario 1976 – 1980

EMPLOYMENT HISTORY

Professor/Governor's Chair Biorefining/Interim Head 2014 – Present
Department of Chemical and Biomolecular Engineering

• Interim Head 2023-Present
Center for Renewable Carbon, Department of Forestry, Wildlife, and Fisheries
University of Tennessee
Oak Ridge National Laboratory

Professor 2007 – 2014
School of Chemistry and Biochemistry
Georgia Institute of Technology (GA Tech)

Associate Professor 2003 – 2007
School of Chemistry and Biochemistry
Georgia Institute of Technology (GA Tech)

Professor of Wood Chemistry 1998 – 2003
Institute of Paper Science and Technology

Associate Professor of Wood Chemistry 1995 – 1998
Institute of Paper Science and Technology

Assistant Professor of Wood Chemistry 1989 – 1995
Institute of Paper Science and Technology (IPST)

National Research Council of Canada, Associate Research Scientist 1987 – 1989

NSERC Postdoctoral Fellow, Colorado State University 1986 – 1987

National Science and Engineering Research Council of Canada (NSERC) 1985 – 1986
Postdoctoral Fellow, University of Alberta, Canada

CURRENT FIELDS OF EXPERTISE

BioRefining, BioFuels, Bio-Based Materials & Chemicals, BioComposites, BioPower, Circular Economy, Fiber Modification, Nanobioterials, Sustainability/Green Chemistry, Pulp/Bleaching, Chemistry of Natural Biopolymers including Cellulose, Hemicellulose, and Lignin, Polysaccharides, Organic/Carbohydrate Chemistry, Waste Plastic Upcycling

HONORS, AWARDS, AND RECOGNITIONS

- RSC Environment, Sustainability, and Energy Division open award: Environment Prize (2022)
- Clarivate Highly Cited Researcher (2021, 2022)
- AD Scientific Index: Highly Cited Researchers (2021, 2022)
- Stanford University's list of the world's top 2 percent of most cited scientists (2022)
- 2019 AIChE Chase Award
- Joint Faculty Award in Science and Technology, UT-Battelle (2019)
- Nominated to Sigma Xi (2019)
- Clarivate Analytics, Publons: Ragauskas named one of the world's most highly cited researchers in his field for 2018
- Fellow Royal Society of Chemistry (2018)
- Albert Nelson Marquis Lifetime Achievement Award (2017)
- Green Process Engineering American Institute of Chemical Engineers Award (2017)
- University of California, Bourns College of Engineering – Center for Environmental Research and Technology, Distinguished Service Award (2017)
- Governor's Chair Biorefining (2014 – Present)
- TAPPI Gunnar Nicholson Gold Medal Award (2014)
- ACS Award for Affordable Green Chemistry (2014)
- ORNL Visiting Fellow (2013)
- Elected American Association for the Advancement of Science Fellow (2012)
- Elected to Academy Board of International Academy of Wood Science (2012)
- Fulbright Distinguished Chair in Alternative Energy (2008-2009)
- Nominated to National Commission on Energy Policy (2008)
- Recipient of 2008 William H. Aiken Research Prize
- Served on the Committee on Technologies to Deter Currency Counterfeiting, Board on Manufacturing and Engineering Design, Division on Engineering and Physical Sciences, National Research Council of the National Academies (2005-2006)
- Elected Fellow to International Academy of Wood Science (2003)
- Elected TAPPI Fellow (2003)
- Recipient of Luso-American Foundation teaching fellowship at Departamento Ciéncias e Tecnologia do Papel Universidade da Beira Interior, Covilhã - Portugal (2003)
- Invited guest teaching professor at Chalmers University of Technology, Sweden (2001)
- Best Poster at International Pulp Bleaching Conference, Halifax (2000)
- 1999 IPST President's Award for Education
- 1999 IPST Teacher of the Year
- Cited in Marquis Who's Who in Science and Engineering (1999-present)
- Cited in Who's Who in Plastics and Polymers (2000-2002)
- Invited guest professor to Royal Institute of Technology/STFI, Stockholm, Sweden (1998)

- Invited guest professor South China University of Technology, Guangzhou, China (1996)
- Research Associate Fellowship, National Research Council Canada (1987-1989)
- National Science and Engineering Research Council Canada, Postdoc Fellowship (1985-1987)
- National Science and Engineering Research Council Canada, Graduate Fellowship (1980-1984)

PATENTS

- CM Cai, Y Wang, A Ragauskas, Polyurethanes and Methods to Prepare Polyurethanes. US Patent App. 18/139,768.
- Sannigrahi, P.; Ragauskas, A.J.; Miller, S. J. Chlorine dioxide treatment of biomass feedstock useful in production of biofuel ethanol. U.S. Pat. Appl. Publ. (2012), US 20120040413 A1 20120216; PCT Int. Appl. (2012), WO 2012021725 A1 20120216.
- Ziemer, C.J.; Arcidiacono, S.; Ragauskas, A.; Morrison, M., Novel fibro-biotic bacterium isolate. U.S. Pat. Appl. Publ. (2011), US 20110076356 A1 Application: US 2009-569572 20090929. Priority: US 2009-569572 20090929.
- Deng, Y.; Yoon, S.Y.; Ragauskas, A.; White, D., Methods and Compositions for Papermaking. U.S. Pat. 7,964,063 B2 (2011).
- Ragauskas, Arthur J.; Kim, Dong Ho., Metal Substituted Xerogels for Improved Peroxide Bleaching of Kraft Pulps. U.S. Pat. Appl. Publ. (2003), CODEN: USXXCO US 2003019596 A1 20030130 CAN 138:108518 AN 2003:77170.
- Chakar, F.S; Ragauskas, A.J., Methods for Reducing Fluorescence in Paper-Containing Samples. Patent # 6,294,047 B1 & 6,387,211 B1 (2001).

REFEREED PUBLICATIONS

1. Assessing microbial systems and process configurations for improved ethanol production from sugary stovers by integrating soluble sugars and holocellulose. Zabed, Hossain M.; Akter, Suely; Tian, Yuehui; Dar, Mudasir A.; Yun, Junhua; Zhao, Mei; Ragauskas, Arthur J.; Li, Jia; Qi, Xianghui. *Industrial Crops and Products* (2024), 212, 118269
2. Efficient Fast Fractionation of Biomass Using a Diol-Based Deep Eutectic Solvent for Facilitating Enzymatic Hydrolysis and Obtaining High-Quality Lignin. Cheng, Jinyuan; Liu, Xuze; Zhan, Yunni; Wang, Jia; Meng, Xianzhi; Zhou, Xuelian; Geun Yoo, Chang; Huang, Caoxing; Huang, Chen; Fang, Guigan; et al *ChemSusChem ASP*.
3. Sustainable valorization of waste tires: Selective hydrotreating for renewable p-cymene production. Zhang, Yiyun; Meng, Xianzhi; Jiang, Jianchun; Ragauskas, Arthur J.; Wang, Jia. *Fuel* (2024), 364, 131137.
4. Efficient fractionation of kenaf chemical components by using recyclable acidic DES. Nie, Kai; Li, Boya; Wang, Pixiang; Song, Yan; Ben, Haoxi; Han, Guangting; Jiang, Wei; Ragauskas, Arthur. *Industrial Crops and Products* (2024), 211, 118239.
5. Multi-catalytic active site biochar-based catalysts for glucose isomerized to fructose: Experiments and density functional theory study. Kang, Xiheng; You, Zi; Huang, Yongheng; Peng, Jian; Zhang, Junhua; Ragauskas, Arthur J.; Zhang, Zhanying; Song, Xueping. *Advanced Composites and Hybrid Materials* (2024), 7(2), 54.
6. Cellulose regulated lignin/cellulose-based carbon materials with hierarchical porous structure for energy storage. Lin, Yan; Huang, Chen; Huang, Caoxing; Deng, Yongjun; Zou, Xiuxiu; Ma, Wencan; Fang, Guigan; Ragauskas, Arthur J. *Advanced Composites and Hybrid Materials* (2024), 7(2), 51.

7. Synthesis of Red, Green, and Blue Carbon Quantum Dots and Construction of Multicolor Cellulose-Based Light-Emitting Diodes. Chen, Xinrui; Han, Xing; Zhang, Caixia; Ou, Xue; Liu, Xiaoli; Zhang, Junhua; Liu, Wei; Ragauskas, Arthur J. ; Song, Xueping; Zhang, Zhanying. *Small Structure* (2024) 2300449.
8. Structure-property relationship between lignin structures and properties of 3D-printed lignin composites. Zhang, Shuyang ; Ji, Anqi; Meng, Xianzhi; Bhagia, Samarthya ; Yoo, Chang Geun ; Harper, David P.; Zhao, Xianhui ; Ragauskas, Arthur J. *Composites Science and Technology* (2024), 249, 110487.
9. Lignin - A green material for antibacterial application - A review. Das, Atanu Kumar; Mitra, Kangkana; Conte, Austin J.; Sarker, Asim; Chowdhury, Aysha; Ragauskas, Arthur J. *International Journal of Biological Macromolecules* (2024), 261(Part_2), 129753.
10. Investigation of a Na₂S-assisted deep eutectic solvent pretreatment for enhanced cellulose/xylan saccharification and high-quality lignin with abundant ether bond. Liu, Xuze; Liang, Fangmin; Cheng, Jinyuan; Zhou, Xuelian; Wang, Jia; Fang, Guigan; Shen, Kuizhong; Meng, Xianzhi; Huang, Chen; Ragauskas, Arthur J. *Industrial Crops and Products* (2014) 208, 117790
11. Microwave resonance enhanced CO₂ reduction using biochar. La, Xinru; Ren, Jurong; Wen, Mengyuan; Meng, Xianzhi; Wang, Jia ; Jiang, Jianchun; Ragauskas, Arthur J. *Environmental Chemistry Letters* (2024), 22(1), 7-12
12. Integrated hydrolysis and vapor-phase hydrodeoxygenation process with Pd/Al₂O₃ for production of advanced oxygen-containing biofuels from cellulosic wastes. Wang, Ji; Jiang, Jianchun; Li, Dongxian; Meng, Xianzhi, Ragauskas, Arthur J. *Fuel Processing Technology* 254, 107948.
13. Double in-situ lignin modification in surfactant-assisted glycerol organosolv pretreatment of sugarcane bagasse towards efficient enzymatic hydrolysis. Song, Guojie; Madadi, Meysam; Meng, Xianzhi; Sun, Chihe; Aghbashlo, Mortaza; Sun, Fubao ; Ragauskas, Arthur J.; Tabatabaei, Meisam; Ashori, Alireza. *Chemical Engineering Journal* (2024), 481, 148713
14. Biocompatible organosolv fractionation via a novel alkaline lignin-first strategy towards lignocellulose valorization. Li, Wuhuan; Wang, Yunxuan; Tan, Xuesong; Miao, Changlin; Ragauskas, Arthur J.; Zhuang, Xinshu. *Chemical Engineering Journal* (2024), 481, 148695.
15. 3D printed lignin/polymer composite with enhanced mechanical and anti-thermal-aging performance. Zhang, Shuyang; Meng, Xianzhi; Bhagia, Samarthya ; Ji, Anqi; Dean Smith, Micholas; Wang, Yun-yan; Liu, Bo; Yoo, Chang Geun; Harper, David P. ; Ragauskas, Arthur J. *Chemical Engineering Journal (Amsterdam, Netherlands)* (2024), 481, 148449.
16. Economics and global warming potential of a commercial-scale delignifying biorefinery based on co-solvent enhanced lignocellulosic fractionation to produce alcohols, sustainable aviation fuels, and co-products from biomass. Klein, Bruno Colling; Scheidemantle, Brent; Hanes, Rebecca J.; Bartling, Andrew W.; Grundl, Nicholas J.; Clark, Robin J.; Bidy, Mary J.; Tao, Ling; Trinh, Cong T.; Guss, Adam M.; Wayman, Charles E.; Ragauskas, Arthur J.; Webb, Erin G.; Davison, Brian H.; Cai, Charles M., *Energy & Environmental Science* ASP
17. Atomistic Simulations of Polydisperse Lignin Melts Using Simple Polydisperse Residue Input Generator. Sethuraman, Vaidyanathan ; Vermaas, Josh V. ; Liang, Luna; Ragauskas, Arthur J. ; Smith, Jeremy C. ; Petridis, Loukas. *Biomacromolecules*, ASP
18. Investigation of the effects of ternary deep eutectic solvent composition on pretreatment of sorghum stover. Wang, Yunxuan ; Ryu, Jiae ; Kim, Kwang Ho ; Meng, Xianzhi ; Pu, Yunqiao ; Tian, Yang; Eudes, Aymerick ; Leem, Gyu ; Ragauskas, Arthur J. ; Yoo, Chang Geun. *AIChE Journal* (2023), 69(12), e18227.

19. Systematic approaches to C-lignin engineering in *Medicago truncatula*. Ha, Chan Man; Escamilla-Trevino, Luis; Zhuo, Chunliu; Pu, Yunqiao; Bryant, Nathan; Ragauskas, Arthur J.; Xiao, Xirong; Li, Ying; Chen, Fang; Dixon, Richard A. *Biotechnology for Biofuels and Bioproducts* (2023), 16(1), 100.
20. Deconvoluting Structures of Component Plant Biopolymers Using Deuterium Labeled Brassica oleracea Stems. Yang, Zhi; Bhagia, Samarthya; O'Neill, Hugh; Evans, Barbara R.; Ragauskas, Arthur J.; Davison, Brian H.; Pingali, Sai Venkatesh. *ACS Sustainable Chemistry & Engineering* (2023), 16(1), 100.
21. A novel mineral-acid free biphasic deep eutectic solvent/ γ -valerolactone system for furfural production and boosting the enzymatic hydrolysis of lignocellulosic biomass. Cheng, Jinyuan; Huang, Chen; Zhan, Yunni; Liu, Xuze; Wang, Jia; Huang, Caoping; Fang, Guigan; Ragauskas, Arthur J.; Xie, Zhanghong; Meng, Xianzhi. *Bioresource Technology* (2023), 387, 129653.
22. Unleashing the capacity of *Rhodococcus* for converting lignin into lipids. Zhao, Zhi-Min; Liu, Zhi-Hua; Zhang, Tongtong; Meng, Rongqian; Gong, Zhiqun; Li, Yibing; Hu, Jing; Ragauskas, Arthur. *Biotechnology Advances*, (2023) 108274.
23. Machine and Deep Learning: Artificial Intelligence Application in Biotic and Abiotic Stress Management in Plants. Gou, Caiming; Zafar, Sara; Hasnain, Zuhair; Aslam, Nazia; Iqbal, Naeem; Abbas, Sammar; Li, Hui; Li, Jia; Chen, Bo; Ragauskas, Arthur J; Abbas, Manzar. *Frontiers in bioscience* (2024), 29(1), 20
24. Lytic polysaccharide monooxygenase synergized with lignin-degrading enzymes for efficient lignin degradation. Sun, Su; Li, Fei; Li, Muzi; Zhang, Wenqian; Jiang, Zhenxiong; Zhao, Honglu; Pu, Yunqiao; Ragauskas, Arthur J.; Dai, Susie Y.; Zhang, Xiaoyu; Yu, Hongbo; Yuan, Joshua S.; Xie, Shangxian. *iScience* (2023), 26(10), 107870
25. Analysis of metal tolerance protein (MTP) family in sunflower (*Helianthus annuus* L.) and role of HaMTP10 as Cadmium antiporter under moringa seed extract. Li, Jia; Abbas, Manzar; Desoky, El-Sayed M.; Zafar, Sara; Soaud, Salma A.; Hussain, Syed Sarfaraz; Abbas, Sammar; Hussain, Athar; Ihtisham, Muhammad; Ragauskas, Arthur J.; Wafa, H.A.; El-Sappah, A.H. *Industrial Crops and Products* (2023), 202, 117023.
26. Coupling hydrolysis and vapor-phase catalytic hydrotreatment to produce biomethane from pine sawdust. Wang, Jia; Jiang, Jianchun; Meng, Xianzhi; Ragauskas, Arthur J. *Bioresource Technology* (2023), 129472.
27. Towards functionalized lignin and its derivatives for high-value material applications. Yu, Xiaona; Yang, Bin; Zhu, Wanbin; Deng, Tiansheng; Pu, Yunqiao; Ragauskas, Arthur; Wang, Hongliang. *Industrial Crops and Products* (2023), 200(Part_A), 116824.
28. Synthesis of Mg–K-biochar bimetallic catalyst and its evaluation of glucose isomerization. Kang, X.; You, Z.; Peng, J.; Ragauskas, A.J.; Pang, J.; Zhao, P.; Yin, Y.; Song, X.; *Biochar* (2023) 5 (1), 56.
29. The significance of biomass densification in biological-based biorefineries: A critical review. Gong, Chunxiao; Meng, Xianzhi; Thygesen, Lisbeth Garbrecht; Sheng, Kuichuan; Pu, Yunqiao; Wang, Lei; Ragauskas, Arthur; Zhang, Ximing; Thomsen, Sune Tjalfe. *Renewable & Sustainable Energy Reviews* (2023), 183, 113520
30. Tailored mesoporous structures of lignin-derived nano-carbons for multiple applications. Yu, Lu; Liang, Luna; Bajaj, Ishan; Seabright, Kendahl; Keffer, David J.; Ivanov, Iliana N.; Chen, Hao; Dai, Sheng; Ragauskas, Arthur J.; Maravelias, Christos T.; Harper, D.P. *Carbon* (2023), 213, 118285.

31. Genetic engineering, pretreatment, thermochemical, and biochemconversion for lignocellulose valorization. Shen, X.; Wen, J.L.;Huang, C.; Ragauskas, A.J.; Zhang, C. *Frontiers in Bioengineering and Biotechnology* 11, 1265271.
32. Lignin with controlled structural properties by N-heterocycle-based deep eutectic solvent extraction. Lin, K.T.; Wang, C.; Guo, M.F.; Aprà, E.; Ma, R.; Ragauskas, A.J.; Zhang, X. *Proceedings of the National Academy of Sciences* 120 (32), e2307323120
33. Gradient synthesis of carbon quantum dots and activated carbon from pulp black liquor for photocatalytic hydrogen evolution and supercapacitor. Chen, Xinrui; Zhao, Siyu; Kang, Xiheng; He, Caiyu; Zhao, Peitao; Meng, Xianzhi; Ragauskas, Arthur J.; Pang, Jingdong; Song, Xueping. *Advanced Composites and Hybrid Materials* (2023), 6(4), 131.
34. Direct Extraction of Uniform Lignin Microspheres from Bamboo Using a Polyol-Based Deep Eutectic Solvent. Cheng, Jinyuan; Huang, Chen; Liu, Xuze; Zhou, Xuelian; Zhan, Yunni; Chen, Tingjun; Huang, Caoping; Meng, Xianzhi ; Fang, Guigan; Ragauskas, Arthur J. *ACS Sustainable Chemistry & Engineering* (2023), 11(27), 10158-10163.
35. Quantitative Low-Field 19F NMR Analysis of Carbonyl Groups in Pyrolysis Oils. Tang, B.; Chong, K.; Ragauskas, A.J.; Evans., R. *ChemSusChem*, e202300625.
36. Novel waste-derived non-noble metal catalysts to accelerate acidic and alkaline hydrogen evolution reaction. Zhao, Peitao; Zhao, Yanling; Liang, Huagen; Song, Xueping; Yu, Bo; Liu, Fang; Ragauskas, Art J.; Wang, Cuiping. *Chemical Engineering Journal* (2023), 466, 143140.
37. Mitigation of Hepatotoxicity via Boosting Antioxidants and Reducing Oxidative Stress and Inflammation in Carbendazim-Treated Rats Using Adiantum Capillus-Veneris L. Extract. Seif, Mohamed ; Aati, Hanan ; Amer, May; Ragauskas, Arthur J. ; Seif, Amr; El-Sappah, Ahmed H.; Aati, Abdulrahman; Madboli, Abd El-Nasser A.; Emam, Mahmoud. *Molecules* (2023), 28(12), 4720.
38. Cell wall response of field grown Populus to Septoria infection. Bryant, N.; Muchero, W.; Weber, R.A.; Barros, J.; Chen, J.G. Tschaplinski, T.; Pu, Y.; Ragauskas, A.J. *Frontiers in Plant Science* 14, 1089011.
39. Regulating the properties of activated carbon for supercapacitors: impact of particle size and degree of aromatization of hydrochar. Peng, Jian; Kang, Xiheng; Zhao, Siyu; Yin, Yongjun; Zhao, Peitao; Ragauskas, Arthur J.; Si, Chuanling; Song, Xueping. *Advanced Composites and Hybrid Materials* (2023), 6(3), 107.
40. Effects of Saccharomyces cerevisiae quorum sensing signal molecules on ethanol production in bioethanol fermentation process. Tian, Jun; Lin, Yunqin; Su, Xiaoying; Tan, Honghao; Gan, Chaoyi; Ragauskas, Arthur J. *Microbiological Research* (2023), 271, 127367.
41. Towards the sustainable conversion of corn stover into bioenergy and bioproducts through biochemical route: Technical, economic and strategic perspectives, Zabed, Hossain M.; Akter, Suely; Yun, Junhua; Zhang, Guoyan; Zhao, Mei; Mofijur, M.; Awasthi, Mukesh Kumar ; Kalam, M. A.; Ragauskas, Arthur; Qi, Xianghui. *Journal of Cleaner Production* (2023), 400, 136699.
42. Novel candidate genes for lignin structure identified through genome-wide association study of naturally varying Populus trichocarpa. Bryant, Nathan; Zhang, Jin; Feng, Kai; Shu, Mengjun; Ployet, Raphael; Chen, Jin-Gui; Muchero, Wellington; Yoo, Chang Geun; Tschaplinski, Timothy J; Pu, Yunqiao; Ragauskas, Arthur J. *Frontiers in Plant Science* (2023), 14, 1153113.
43. Bioinspired design toward nanocellulose-based materials. Zhao, Xianhui ; Bhagia, Samarthyia ; Gomez-Maldonado, Diego ; Tang, Xiaomin; Wasti, Sanjita; Lu, Shun ; Zhang, Shuyang ; Parit, Mahesh; Rencheck, Mitchell L. ; Korey, Matthew; Jiang, Huixin; Zhu, Jiadeng, Meng, Xianzhi;

- Lamm, Meghan E.; Copenhaver, Katie; Peresin, Maria, S.; Wang, Lu; Halil Tekinalp, Haili; Yang, Guang Yang; Kumar, Vipin; Chen, Gang; Nawaz, Kashif; Chen, Chelsea Chen; Vaidya, Uday; Ragauskas, Arthur, Jonas; Webb, Erin; Gardner, Douglas, J.; He, Ping, H; He, Ximin; Li, Kai; Ozcan, Soydan. *Materials Today* (2023), 66, 409-430.
44. Advances in multi-dimensional cellulose-based fluorescent carbon dot composites. Zhang, Caixia; Zhao, Siyu; Liu, Wei; Han, Xing; Wu, Min; Zhao, Peitao; Ragauskas, Arthur J.; Song, Xueping. *Composites, Part B: Engineering* (2023), 260, 110752.
 45. Rechargeable metal-metal alkaline batteries: Recent advances, current issues and future research strategies. Islam, Jahidul; Anwar, Rubel; Shareef, Mahmud; Zbed, Hossain M.; Sahu, J. N.; Qi, Xianghui; Khandaker, Mayeen Uddin; Ragauskas, Arthur; Boukhris, Imed; Rahman, Rezaur Md; Chowdhury, Faisal I. *Journal of Power Sources* (2023), 563, 232777.
 46. An integrated biorefinery approach to obtain xylo-oligosaccharides from corncob using lactic acid-rich fermentation broth. Yang, Qianqian; Sun, Fubao; Meng, Xianzhi; Pu, Yunqiao ; Ragauskas, Arthur J.; Zhang, Junhua. *Journal of Cleaner Production* (2023), 397, 136513
 47. Alternative splicing: transcriptional regulatory network in agroforestry. Hussain, Syed Sarfaraz; Abbas, Manzar; Abbas, Sammar; Wei, Mingke; El-Sappah, Ahmed H; Sun, Yuhan; Li, Yun; Ragauskas, Arthur J; Li, Quanzi. *Frontiers in Plant Science* (2023), 14, 1158965
 48. Lignin-based carbon quantum dots with high fluorescence performance prepared by supercritical catalysis and solvothermal treatment for tumor-targeted labeling. Zhao, Siyu; Yue, Guihua; Liu, Xiaoli; Qin, Shiru; Wang, Baosu; Zhao, Peitao; Ragauskas, Arthur J.; Wu, Min; Song, Xueping. *Advanced Composites and Hybrid Materials* (2023), 6(2), 73
 49. Steam explosion pretreatment coupling high-temperature short-time sterilization facilitating cellulose degradation and sporulation-regulatory gene expression in high-solid fermentation. Li, Chonglei; Du, Xiaoyu; Liu, Zhi-Hua; Li, Bing-Zhi; Meng, Xianzhi; Zhao, Ji; Zhao, Zhi-Min; Ragauskas, Arthur J. *International Journal of Biological Macromolecules* (2023), 232, 123475
 50. One-pot generation of lignin microspheres and digestible substrate with a polyol-DES pretreatment in high solid loading. Cheng, Jinyuan; Zhan, Yunni; Liu, Xuze; Huang, Chen; Zhou, Xuelian; Wang, Jia; Meng, Xianzhi; Yoo, Chang Geun ; Fang, Guigan; Ragauskas, Arthur J. *Journal of Cleaner Production* (2023), 394, 136322
 51. Single-molecular insights into the breakpoint of cellulose nanofibers assembly during saccharification. Zhang, Ran ; Hu, Zhen; Wang, Yanting; Hu, Huizhen; Li, Fengcheng; Li, Mi; Ragauskas, Arthur ; Xia, Tao; Han, Heyou; Tang, Jingfeng; Yu, Bongqian; Peng, Liangcai. *Nature Communications* (2023), 14(1), 1100.
 52. Urban mining from biomass, brine, sewage sludge, phosphogypsum and e-waste for reducing the environmental pollution: Current status of availability, potential, and technologies with a focus on LCA and TEA. Agrawal, Ruchi ; Bhagia, Samarthyaa; Satlewal, Alok; Ragauskas, Arthur J. *Environmental Research* (2023), 224, 115523.
 53. High-level co-production of 3-hydroxypropionic acid and 1,3-propanediol from glycerol: Metabolic engineering and process optimization. Zhang, Yufei; Yun, Junhua; Zbed, Hossain M.; Dou, Yuan; Zhang, Guoyan; Zhao, Mei; Taherzadeh, Mohammad J.; Ragauskas, Arthur; Qi, Xianghui. *Bioresource Technology* (2023), 369, 128438.
 54. Green synthesis of cellulose formate and its efficient conversion into 5-hydroxymethylfurfural. Gong, Chunxiao; Meng, Xianzhi; Jin, Caidi; Yang, Ming; Liu, Jianglong; Sheng, Kuichuan; Pu, Yunqiao; Ragauskas, Arthur ; Ji, Guanya; Zhang, Ximing. *Industrial Crops and Products* (2023), 192, 115985

55. Integrated lignocellulosic biorefinery for efficient production of furans and photothermal materials. Liu, Chao; Wang, Kui; Zhao, Xinpeng; Chen, Zhijun; Yin, Xiaoyan; Cai, Tingting; Zhang, Xiaolei; Xu, Junming; Hu, Jun; Meng, Xianzhi; Ragauskas, Arthur J. Jiang, Jianchun. et al. *Chemical Engineering Journal* (2023), 453(Part_1), 139688.
56. Upcycling disposable face masks into fuel range iso-alkanes through hydrolysis coupled with vapor-phase hydrocracking. Wang, Jia; Jiang, Jianchun; Zhang, Yiyun; Meng, Xianzhi; Ragauskas, Arthur J. *Energy (Oxford, United Kingdom)* (2023), 263(Part_B), 125843.
57. Growth mechanism of glucose-based hydrochar under the effects of acid and temperature regulation. Peng, Jian; Kang, Xiheng; Zhao, Siyu; Zhao, Peitao; Ragauskas, Arthur J.; Si, Chuanling; Xu, Ting; Song, Xueping. *Journal of Colloid and Interface Science* (2023), 630(Part_A), 654-665.
58. Sustainable bioplastics derived from renewable natural resources for food packaging. Zhao, Xianhui; Wang, Ying; Chen, Xiaowen; Yu, Xinbin; Li, Wei; Zhang, Shuyang; Meng, Xianzhi; Zhao, Zhi-Min; Dong, Tao; Anderson, Alexander; et al. Aiyedun, Antony; Li, Yanfei Li; Webb, Erin; Wu, Zili; Kunc, Vlastimil; Ragauskas, Arthur, Ozdan, Soydan; Zhu, Hongli. *Matter* (2023), 6(1), 97-127.
59. Novel biphasic DES/GVL solvent for effective biomass fractionation and valorization. Cheng, Jinyuan; Liu, Xuze; Huang, Chen; Zhan, Yunni; Huang, Caoping; Chen, Tingjun; Meng, Xianzhi; Yoo, Chang Geun; Fang, Guigan; Ragauskas, Arthur J. *Green Chemistry* (2023), 25(16), 6270-6281.
60. Variable lignin structure revealed in *Populus* leaves. Bryant, Nathan; Engle, Nancy; Tschaplinski, Timothy; Pu, Yunqiao; Ragauskas, Arthur J. *RSC Advances* (2023), 13(29), 20187-20197.
61. Elucidating the nonproductive adsorption mechanism of cellulase with lignin fractions from hydrothermally pretreated poplar using multi-dimensional spectroscopic technologies. Zhao, Xiaoxue; Bian, Bin; Huang, Caoping; Lai, Chenhuan; Song, Junlong; Jin, Yongcan; Meng, Xianzhi; Ragauskas, Arthur; Yong, Qiang. *Green Chemistry* (2023), 25(16), 6383-6397.
62. Facile design of renewable lignin copolymers by photoinitiated RAFT polymerization as Pickering emulsion stabilizers. Liu, Jingyi; Shi, Xiaoyu; Ma, Lin; Zhang, Daihui; Lai, Chenhuan; Wang, Chunpeng; Li, Mi; Ragauskas, Arthur J.; Chu, Fuxiang; Xu, Yuzhi. *Green Chemistry* (2023), 25(14), 5428-543.
63. A facile strategy to fabricate a lignin-based thermoset alternative to formaldehyde-based wood adhesives. Shi, Xiaoyu; Gao, Shishuai; Jin, Can; Zhang, Daihui; Lai, Chenhuan; Wang, Chunpeng; Chu, Fuxiang; Ragauskas, Arthur J.; Li, Mi. *Green Chemistry* (2023), 25(15), 5907-5915.
64. Valorization of homogeneous linear catechyl lignin: opportunities and challenges. Li, Yibing; Meng, Xianzhi; Meng, Rongqian; Cai, Ting; Pu, Yunqiao; Zhao, Zhi-Min; Ragauskas, Arthur J. *RSC Advances* (2023), 13(19), 12750-12759.
65. Biomass-derived composites for various applications. De, Shuvodeep; James, Breanna; Ji Jesse; Wasti, Sanjita; Zhang, Shuyang; Kore, Surbhi; Tekinalp, Halil; Li, Yan; Ureña-Benavides, Esteban, E.; Vaidya, Uday; Ragauskas, Arthur J.; Webb, erin; Ozcan Soydan; Zhao, Xianhui. *Advances in Bioenergy*, (2023) 8, 145-196.
66. Advances and perspectives on mass transfer and enzymatic hydrolysis in the enzyme-mediated lignocellulosic biorefinery: A review. Sun, Chihe; Meng, Xianzhi; Sun, Fubao; Zhang, Junhua; Tu, Maobing; Chang, Jo-Shu; Reungsang, Alissara; Xia, Ao; Ragauskas, Arthur J. *Biotechnology Advances* (2023), 62, 108059

67. Applications of biomass-derived solvents in biomass pretreatment - Strategies, challenges, and prospects. Meng, Xianzhi; Wang, Yunxuan; Conte, Austin J.; Zhang, Shuyang; Ryu, Jiae; Wie, Jeong Jae; Pu, Yunqiao; Davison, Brian H.; Yoo, Chang Geun; Ragauskas, Arthur J. *Bioresource Technology* (2023), 368, 128280
68. Alkali-facilitated deep eutectic solvent for effective bamboo saccharification. Liu, Xuze; Cheng, Jinyuan; Huang, Chen; Wang, Jia; Fang, Guigan; Shen, Kuizhong; Meng, Xianzhi; Ragauskas, Arthur J. *Bioresource Technology* (2023), 367, 128297
69. Recent advances in biomass pretreatment using biphasic solvent systems. Li, Ruolin; Zheng, Yayue; Zhao, Xiaoxue; Yong, Qiang; Meng, Xianzhi; Ragauskas, Arthur; Huang, Caoxing. *Green Chemistry* (2023), 25(7), 2505-2523
Selected by our GC Editors as a 2023 HOT Green Chemistry article.
70. A high-solid DES pretreatment using never-dried biomass as the starting material: towards high-quality lignin fractionation. Cheng, Jinyuan; Huang, Chen; Zhan, Yunni; Liu, Xuze; Wang, Jia; Meng, Xianzhi; Yoo, Chang Geun; Fang, Guigan; Ragauskas, Arthur J. *Green Chemistry* (2023), 25(4), 1571-1581.
71. Mild organosolv pretreatment of sugarcane bagasse with acetone/phenoxyethanol/water for enhanced sugar production. Li, Wuhuan; Tan, Xuesong; Miao, Changlin; Zhang, Zhanying; Wang, Yunxuan; Ragauskas, Arthur J.; Zhuang, Xinshu. *Green Chemistry* (2023), 25(3), 1169-1178.
72. A promising degumming method to prepare kenaf fibers by using recyclable deep eutectic solvents. Nie, Kai; Li, Boya; Song, Yan; Qiao, Xiaolong ; Zhao, Tao; Zhang, Yuanming; Ben, Haoxi; Ragauskas, Arthur ; Wang, Conger; Jiang, Wei; Han, Guangting, *Industrial Crops and Products* (2023), 191(Part_A), 115990.
73. Alkali-facilitated deep eutectic solvent for effective bamboo saccharification. Liu, Xuze; Cheng, Jinyuan; Huang, Chen; Wang, Jia; Fang, Guigan; Shen, Kuizhong; Meng, Xianzhi; Ragauskas, Arthur J. *Bioresource Technology* (2023), 367, 128297.
74. Beneficial effect of surfactant in adsorption/desorption of lignocellulose-degrading enzymes on/from lignin with different structure. Wang, Jinye; Xiao, Wenyan; Zhang, Junhua; Quan, Xiyu; Chu, Jie; Meng, Xianzhi; Pu, Yunqiao; Ragauskas, Arthur J. *Industrial Crops and Products* (2023), 191(Part_A), 115904.
75. Revealing the relationship between molecular weight of lignin and its color, UV-protecting property. Li, Yarong; Zhao, Siyu; Li, Yihan; Ragauskas, Arthur J.; Song, Xueping; Li, Kai. *International Journal of Biological Macromolecules* (2022), 223(Part_A), 1287-1296
76. Catalytic cascade upcycling single-use natural rubber glove wastes into fuels via a two-stage pressurized fixed-bed reactor. Wang, Jia; Jiang, Jianchun; Meng, Xianzhi; Lam, Su Shiung; Ragauskas, Arthur J.; Wang, Yanqin. *Fuel Processing Technology* (2022), 238, 107490.
77. Biocatalytic gateway to convert glycerol into 3-hydroxypropionic acid in waste-based biorefineries: Fundamentals, limitations, and potential research strategies. Zabed, Hossain M.; Akter, Suely; Rupani, Parveen Fatemah; Akor, Joseph; Zhang, Yufei; Zhao, Mei; Zhang, Cunsheng; Ragauskas, Arthur J.; Qi, Xianghui. *Biotechnology Advances* (2023), 62, 108075.
78. Effect of the Lignin Structure on the Physicochemical Properties of Lignin-Grafted-Poly(ϵ -caprolactone) and Its Application for Water/Oil Separation. Xie, Di; Pu, Yunqiao; Meng, Xianzhi ; Bryant, Nathan D.; Zhang, Kailong; Wang, Wei ; Ragauskas, Arthur J. ; Li, Mi. *ACS Sustainable Chemistry & Engineering* (2022), 10(50), 16882-16895.

79. Biotechnology for a sustainable future: biomass and beyond. Yuan, Joshua S.; Pavlovich, Matthew J.; Ragauskas, Arthur J.; Han, Buxing. *Trends in Biotechnology* (2022), 40(12) 1395-1398.
80. A photosensitive sustainable lignin nanoplatfrom for multimodal image-guided mitochondria-targeted photodynamic and photothermal therapy. Liu, X.; Li, M.; Li, X.; Ge, M.; Liu, S.; Li, S.; Li, J.; Ding, J.; Ragauskas, A. J.; Sun, W.; James, T.D.; Chen, Z. *Materials Today Chemistry* (2022), 26, 101000.
81. Bioconversion of Agave Bagasse Lignin to Medium-Chain-Length Polyhydroxyalkanoates by *Pseudomonas putida*. Arreola-Vargas, Jorge ; Xu, Bing; Hu, Cheng; Meng, Xianzhi ; Wang, Yun-yan; Ragauskas, Arthur J. ; Mendez-Acosta, Hugo Oscar; Perez-Pimienta, Jose Antonio ; Dai, Susie Y.; Yuan, Joshua S. *ACS Sustainable Chemistry & Engineering* (2022), 10(48), 15670-15679
82. Bioconversion and quantification of humic substances from low rank coals using indigenous fungal isolates. Rehman, Muhammad Zia ur; Akhtar, Kalsoom; Khan, Ali Nisar; Tahir, Muhammad Ali; Khaliq, Shazia; Akhtar, Nasrin; Ragauskas, Arthur J. *Journal of Cleaner Production* (2022), 376, 134102.
83. Enhancing thermal conductivity and toughness of cellulose nanofibril/boron nitride nanosheet composites. Xu, Ying; Chen, Xinrui; Zhang, Caixia; Ragauskas, Arthur J.; Wen, Jia-Long; Zhao, Peitao; Si, Chuanling; Xu, Ting; Song, Xueping. *Carbohydrate Polymers* (2022), 296, 119938.
84. Emerging Modification Technologies of Lignin-based Activated Carbon toward Advanced Applications. Chen, Kai; He, Zi-Jing; Liu, Zhi-Hua; Ragauskas, Arthur J.; Li, Bing-Zhi ; Yuan, Ying-Jin. *ChemSusChem* 15, e202201284 (2022).
85. Understanding of bacterial lignin extracellular degradation mechanisms by *Pseudomonas putida* KT2440 via secretomic analysis. Xu, Zhangyang; Peng, Bo; Kitata, Reta Birhanu; Nicora, Carrie D.; Weitz, Karl K.; Pu, Yunqiao; Shi, Tujin; Cort, John R.; Ragauskas, Arthur J.; Yang, Bin. *Biotechnology for Biofuels and Bioproducts* (2022), 15(1), 117
86. Converting polyisoprene rubbers into bio-jet fuels via a cascade hydrolysis and vapor-phase hydrogenation process. Wang, Jia; Jiang, Jianchun; Zhang, Zhukun; Meng, Xianzhi; Sun, Yunjuan; Ragauskas, Arthur J.; Zhang, Qiaozhi; Tsang, Daniel C. W. *Energy Conversion and Management* (2022), 270, 116250.
87. Lignin molecular design to transform green manufacturing. Li, Jinghao; Hu, Cheng; Wang, Yun-Yan; Meng, Xianzhi; Xiang, Sisi; Bakker, Christopher; Plaza, Katherine; Ragauskas, Arthur J.; Dai, Susie Y.; Yuan, Joshua S. *Matter* (2022), 5(10), 3513-3529.
88. Impact of biomass ash content on biocomposite properties. Zhao, Xianhui ; Oyedeji, Oluwafemi; Webb, Erin; Wasti, Sanjita; Bhagia, Samarthya; Hinton, Holly; Li, Kai; Kim, Keonhee; Wang, Ying; Zhu, Hongli; Vaidya, Uday; Labbé, Nicole; Tekinalp, Halil; Gallego, Nidia C.; Pu, Yunqiao; Ragauskas, Arthur J.; Ozcan, Soydan. *Composites, Part C: Open Access* (2022), 9, 100319.
89. Creating values from wastes: Producing biofuels from waste cooking oil via a tandem vapor-phase hydrotreating process. Wang, Jia; Jiang, Jianchun; Li, Dongxian; Meng, Xianzhi; Zhan, Guowu; Wang, Yunpu; Zhang, Aihua; Sun, Yunjuan; Ruan, Roger; Ragauskas, Arthur J. *Applied Energy* (2022), 323, 119629.
90. Utilization of guaiacol-based deep eutectic solvent for achieving a sustainable biorefinery. Huang, Chen; Cheng, Jinyuan; Zhan, Yunni; Liu, Xuze; Wang, Jia; Wang, Yunxuan; Yoo,

- Chang Geun; Fang, Guigan; Meng, Xianzhi; Ragauskas, Arthur J.; Song, X. *Bioresource Technology* (2022), 362, 127771.
91. Lignin as a bioactive polymer and heavy metal absorber - an overview. Sadeghifar, Hasan; Ragauskas, Arthur. *Chemosphere* (2022), 309(Part_1), 136564.
 92. Polyethylene upcycling to fuels: Narrowing the carbon number distribution in n-alkanes by tandem hydrolysis/hydrocracking. Wang, Jia; Jiang, Jianchun; Wang, Xiaobo; Liu, Sibao; Shen, Xiaojun ; Cao, Xincheng; Sun, Yunjuan; Dong, Lin; Meng, Xianzhi; Ragauskas, Arthur J.; Wang, Yanqin. *Chemical Engineering Journal (Amsterdam, Netherlands)* (2022), 444, 136360.
 93. The bamboo delignification saturation point in alkaline hydrogen peroxide pretreatment and its association with enzymatic hydrolysis. Huang, Chen; Zhan, Yunni; Cheng, Jinyuan; Wang, Jia; Meng, Xianzhi; Fang, Guigan; Ragauskas, Arthur J. *Bioresource Technology* (2022), 359, 127462.
 94. Revealing the mechanism of surfactant-promoted enzymatic hydrolysis of dilute acid pretreated bamboo. Huang, Caoping; Zhao, Xiaoxue; Zheng, Yayue; Lin, Wenqian; Lai, Chenhuan; Yong, Qiang; Ragauskas, Arthur J.; Meng, Xianzhi. *Bioresource Technology* (2022), 360, 127524.
 95. Competitive effects of glucan's main hydrolysates on biochar formation: A combined experiment and density functional theory analysis. Kang, Xiheng; Peng, Jian; Ragauskas, Arthur J. ; Ren, Xiaofei; Si, Chuanling; Wang, Shuangfei; Song, Xueping. *Bioresource Technology* (2022), 359, 127427.
 96. Effective biomass fractionation and lignin stabilization using a diol DES system. Cheng, Jinyuan; Huang, Chen; Zhan, Yunni; Han, Shanming; Wang, Jia; Meng, Xianzhi; Yoo, Chang Geun; Fang, Guigan; Ragauskas, Arthur J. *Chemical Engineering Journal (Amsterdam, Netherlands)* (2022), 443, 136395.
 97. Role Evaluation of Active Groups in Lignin on UV-Shielding Performance. Li, Yaron; Zhao, Siyu; Hu, Dongbin; Ragauskas, Arthur J.; Cao, Danyu; Liu, Wenqing; Si, Chuanling; Xu, Ting; Zhao, Peitao; Song, Xueping; Li, Kai. *ACS Sustainable Chemistry & Engineering* (2022), 10(36), 11856-11866.
 98. Chemical and Morphological Structure of Transgenic Switchgrass Organosolv Lignin Extracted by Ethanol, Tetrahydrofuran, and γ -Valerolactone Pretreatments. Liang, Luna; Wang, Yun-Yan; Bhagia, Samarthya ; Sethuraman, Vaidyanathan ; Yang, Zhi ; Meng, Xianzhi ; Bryant, Nathan; Petridis, Loukas ; Smith, Jeremy C. ; Pingali, Sai Venkatesh; Gallego, Nidia C.; Pu, Yunqiao Pu; Evans, Barbara R; O'Neill, Hugh, M.; Davison, Brian, H.; Ragauskas, Arthur, J. *ACS Sustainable Chemistry & Engineering* (2022), 10(28), 9041-9052.
 99. Ferric chloride aided peracetic acid pretreatment for effective utilization of sugarcane bagasse. Zhuang, Jingshun; Kim, Kwang Ho; Jia, Linjing; Meng, Xianzhi; Kumar, Deepak; Leem, Gyu; Kang, Sung Bong; Li, Youming; Ragauskas, Arthur J.; Hou, Yi; Yoo, Chang Geun *IFuel* (2022), 31, 123739.
 100. Application of Box–Behnken Design in Optimizing Product Properties of Supercritical Methanol Co-liquefaction of Rice Straw and Linear Low-density Polyethylene. Yuan, Z.; Jia, G.; Cui, X.; Song, X.; Wang, C.; Zhao, P.; Ragauskas, A.J. *SSRN Electronic Journal* (2022) DOI: 10.2139/ssrn.4044354.
 101. Molecular Engineering of Biorefining Lignin Waste for Solid-State Electrolyte. Li, Qiang; Cao, Daxian; Naik, Mandar T.; Pu, Yunqiao; Sun, Xiao; Luan, Pengcheng; Ragauskas, Arthur J.; Ji, Tongtai; Zhao, Yuyue; Chen, Fangqi; Zhu, Hongli. *ACS Sustainable Chemistry & Engineering* (2022), 10(27), 8704-8714.

102. Genome-Wide Analysis and Expression Profiling of SIHsp70 Gene Family in *Solanum lycopersicum* Revealed Higher Expression of SIHsp70-11 in Roots under Cd²⁺ Stress. Abbas, Manzar; Li, Yunzhou; Elbaiomy, Rania G; Yan, Kuan; Ragauskas, Arthur J; Yadav, Vivek; Soaud, Salma A; Islam, Md Monirul; Saleem, Noor; Noor, Zarqa; Zafar, Hussian, Syed, Sara; Abbas, Mubashir; Abbas, Sammar; Li, Jia Li; El-Sappah, Ahmed H. El-Sappah. *Frontiers in bioscience* (2022), 27(6), 186.
103. Coal polymer composites prepared by fused deposition modeling (FDM) 3D printing. Zhang, Shuyang; Rehman, Muhammad Zia ur; Bhagia, Samarthya; Meng, Xianzhi; Meyer, Harry M. iii; Wang, Hsin; Koehler, Michael R.; Akhtar, Kalsoom; Harper, David P.; Ragauskas, Arthur J. *Journal of Materials Science* (2022), 57(22), 10141-10152.
104. Hydrogen bond-induced aqueous-phase surface modification of nanocellulose and its mechanically strong composites. Li, Kai ; Li, Yuzhan; Tekinalp, Halil; Kumar, Vipin; Zhao, Xianhui; Pu, Yunqiao; Ragauskas, Arthur J.; Nawaz, Kashif; Aytug, Tolga; Ozcan, Soydan. *Journal of Materials Science* (2022), 57(17), 8127-8138
105. Deuterium incorporation into cellulose: a mini-review of biological and chemical methods. Song, Yan; Meng, Xianzhi; Jiang, Wei; Evans, Barbara R.; Ben, Haoxi; Zhang, Yuanming; Pu, Yunqiao; Pingali, Sai Venkatesh; Davison, Brian H.; Zhang, Sai; Davison, Brian, H.; Zhang, Sai; Han, Guangting Han. *Ragauskas, Arthur, J. Cellulose* (2022), 29(8), 4269-4286.
106. Revealing the mechanism of lignin re-polymerization inhibitor in acidic pretreatment and its impact on enzymatic hydrolysis. He, Juan; Huang, Caoming; Lai, Chenhuan; Wang, Zhongkai; Yuan, Liang; Ragauskas, Arthur; Yan, Youxian; Yong, Qiang. *Industrial Crops and Products* (2022), 179, 114631.
107. Preparation, Properties, and Application of Lignocellulosic-Based Fluorescent Carbon Dots. Song, Xueping; Zhao, Siyu; Xu, Ying; Chen, Xinrui; Wang, Shuangfei; Zhao, Peitao; Pu, Yunqiao; Ragauskas, Arthur J. *ChemSusChem* (2022), 15(8), e202102486.
108. Effects of temperature and time on supercritical methanol Co-Liquefaction of rice straw and linear low-density polyethylene wastes. Yuan, Zhilong; Jia, Guangchao; Cui, Xin; Song, Xueping; Wang, Cuiping; Zhao, Peitao; Ragauskas, Art J. *Energy* (2022), 245, 123315.
109. A combination of deep eutectic solvent and ethanol pretreatment for synergistic delignification and enhanced enzymatic hydrolysis for biorefinary process. Yao, Lan; Cui, Pingping; Chen, Xiong; Yoo, Chang Geun; Liu, Qianting; Meng, Xianzhi; Xiong, Long; Ragauskas, Arthur J.; Yang, Haitao. *Bioresource Technology* (2022), 350, 126885.
110. Assessing the availability of two bamboo species for fermentable sugars by alkaline hydrogen peroxide pretreatment. Zhan, Yunni; Cheng, Jinyuan; Liu, Xuze; Huang, Chen; Wang, Jia; Han, Shanming; Fang, Guigan; Meng, Xianzhi; Ragauskas, Arthur J. *Bioresource Technology* (2022), 349, 126854.
111. Preparation and characterization of aminated co-solvent enhanced lignocellulosic fractionation lignin as a renewable building block for the synthesis of non-isocyanate polyurethanes. Meng, Xianzhi; Zhang, Shuyang; Scheidemantle, Brent; Wang, Yun-yan; Pu, Yunqiao; Wyman, Charles E.; Cai, Charles M.; Ragauskas, Arthur J. *Industrial Crops and Products* (2022), 178, 114579.
112. A facile degumming method of kenaf fibers using deep eutectic solution. Nie, Kai Nie; Liu, Bingxu; Zhao, Tao; Wang, Hongyan; Song, Yan; Ben, Haoxi, Ragauskas, Arthur, J.; Han, Guangting Han; Jiang Wei. *Journal of natural fibers*. (2022) 19(3) 1115-1125.

113. Tree-inspired lignin microrods-based composite heterogeneous nanochannels for ion transport and osmotic energy harvesting. Cheng, Peng; Chen, Sheng; Li, Xin; Xu, Yanglei; Xu, Feng; Ragauskas, Arthur J. *Energy Conversion and Management* (2022), 255, 115321.
114. Cosolvent enhanced lignocellulosic fractionation tailoring lignin chemistry and enhancing lignin bioconversion. Zhao, Zhi-Min; Meng, Xianzhi; Scheidemantle, Brent; Pu, Yunqiao; Liu, Zhi-Hua; Li, Bing-Zhi; Wyman, Charles E.; Cai, Charles M.; Ragauskas, Arthur J. *Bioresource Technology* (2022), 347, 126367.
115. Enhancing Lignin Dispersion and Bioconversion by Eliminating Thermal Sterilization. Zhao, Zhi-Min; Meng, Xianzhi; Senanayake, Manjula; Pingali, Sai Venkatesh; Pu, Yunqiao; Li, Mi; Ma, Litong; Xu, Jifei; Ragauskas, Arthur J. *ACS Sustainable Chemistry & Engineering* (2022), 10(10), 3245-3254.
116. Nanoscale FTIR and Mechanical Mapping of Plant Cell Walls for Understanding Biomass Deconstruction. Bhagia, Samartha; Durkovic, Jaroslav; Lagana, Rastislav; Kardosova, Monika; Kacik, Frantisek; Cernescu, Adrian; Schafer, Philip; Yoo, Chang Geun; Ragauskas, Arthur J. *ACS Sustainable Chemistry & Engineering* (2022), 10(9), 3016-3026.
117. Lignin-enzyme interaction: A roadblock for efficient enzymatic hydrolysis of lignocellulosics. Huang, Caoxing; Jiang, Xiao ; Shen, Xiaojun ; Hu, Jinguang ; Tang, Wei; Wu, Xinxing; Ragauskas, Arthur ; Jameel, Hasan ; Meng, Xianzhi; Yong, Qiang. *Renewable & Sustainable Energy Reviews* (2022), 154, 111822.
118. Recycling of natural fiber composites: Challenges and opportunities. Zhao, Xianhui; Copenhaver, Katie; Wang, Lu; Korey, Matthew; Gardner, Douglas J.; Li, Kai; Lamm, Meghan E.; Kishore, Vidya; Bhagia, Samartha; Tajvidi, Mehdi; Tekinalp, Halil; Oyedeji, Oluwafemi; Wasti, Sanjita; Wasti, Erin; Ragauskas, Arthur, J.; Zhu, Hongli; Peter, William H.; Ozcan, Soydan. *Resources, Conservation, and Recycling* (2022), 177, 105962.
119. Plastic waste upcycling toward a circular economy. Zhao, Xianhui; Korey, Matthew; Li, Kai; Copenhaver, Katie; Tekinalp, Halil; Celik, Serdar; Kalaitzidou, Kyriaki; Ruan, Roger; Ragauskas, Arthur J.; Ozcan, Soydan. *Chemical Engineering Journal* (2022), 428, 131928.
120. A Unique Bacterial Pelletized Cultivation Platform in *Rhodococcus opacus* PD630 Enhanced Lipid Productivity and Simplified Harvest for Lignin Bioconversion. Xu, Bing; Li, Qiang; Pu, Yuanqiao; Xie, Shangxian; Ragauskas, Arthur J.; Arreola-Vargas, Jorge; Liu, Zhi-Hua; Yuan, Joshua S. *ACS Sustainable Chemistry & Engineering* (2022), 10(3), 1083-1092.
121. Toward a fundamental understanding of the role of lignin in the biorefinery process. Yao, Lan; Yang, Haitao; Meng, Xianzhi; Ragauskas, Arthur J. *Frontiers in Energy Research* (2022) 9, 804086.
122. Catalytic cascade vapor-phase hydrotreatment of plastic waste into fuels and its sustainability assessment. Wang, Jia; Jiang, Jianchun; Dong, Xinyue; Zhang, Yiyun; Yuan, Xiangzhou; Meng, Xianzhi; Zhan, Guowu; Wang, Lei; Wang, Yanqin; Ragauskas, Arthur J. *Green Chemistry* (2022), 24(21), 8562-8571
123. Evaluating the mechanism of milk protein as an efficient lignin blocker for boosting the enzymatic hydrolysis of lignocellulosic substrates. Huang, Caoxing; Lin, Wenqian; Zheng, Yayue; Zhao, Xiaoxue; Ragauskas, Arthur; Meng, Xianzhi. *Green Chemistry* (2022), 24(13), 5263-5279.
124. Valorization of bamboo biomass using combinatorial pretreatments. Huang, Chen; Zhan, Yunni; Wang, Jia; Cheng, Jinyuan; Meng, Xianzhi; Liang, Luna; Liang, Fangmin; Deng, Yongjun; Fang, Guigan; Ragauskas, Arthur J. *Green Chemistry* (2022), 24(9), 3736-3749

125. Bioenergy Underground: Challenges and opportunities for phenotyping roots and the microbiome for sustainable bioenergy crop production. York, Larry M.; Cumming, Jonathan R.; Trusiak, Adrianna; Bonito, Gregory; Haden, Adam C. von; Kalluri, Udaya C.; Tiemann, Lisa K.; Andeer, Peter F.; Blanc-Betes, Elena; Diab, Jonathan H; Favela, Alonso; Germon, Amandine; Gomez-Casanovas, Nuria; Hyde, Charles A.; Kent, Angela D.; Ko, Dae Kwan; Lamb, Austin; Missaoui, Ali M.; Northern, Trent R.; Pu, Yunqiao; Ragauskas, Arthur J.; Raglin, Sierra; Scheller, Henrik V.; Washington, Lorenzo; Yang, Wendy H. *The Plant Phenome J.* (February 2022) e20028.
126. Strikingly high amount of tricin-lignin observed from vanilla (*Vanilla planifolia*) aerial roots. Li, Mi; Pu, Yunqiao; Meng, Xianzhi; Chen, Fang; Dixon, Richard A.; Ragauskas, Arthur J. *Green Chemistry* (2022), 24(1), 259-270.
127. Opportunities and challenges for flow-through hydrothermal pretreatment in advanced biorefineries. Meng, Xianzhi; Yoo, Chang Geun; Pu, Yunqiao; Ragauskas, Arthur J. *Bioresource Technology* (2022), 343, 126061.
128. Unlocking the secret of lignin-enzyme interactions: Recent advances in developing state-of-the-art analytical techniques. Zhao, Xiaoxue; Meng, Xianzhi; Ragauskas, Arthur J.; Lai, Chenhuan; Ling, Zhe; Huang, Caoxing; Yong, Qiang. *Biotechnology Advances* (2022), 54, 107830.
129. Highly selective hydrogenation of phenol to cyclohexanone over a Pd-loaded N-doped carbon catalyst derived from chitosan. Wu, Qiong; Wang, Lu; Zhao, Baozheng; Huang, Lang; Yu, Shitao; Ragauskas, Arthur J. *Journal of Colloid and Interface Science* (2022), 605, 82-90.
130. Structural Reorganization of Noncellulosic Polymers Observed In Situ during Dilute Acid Pretreatment by Small-Angle Neutron Scattering. Yang, Zhi; Foston, Marcus B.; O'eill, Hugh; Urban, Volker S.; Ragauskas, Arthur; Evans, Barbara R.; Davison, Brian H.; Pingali, Sai Venkatesh. *ACS Sustainable Chemistry & Engineering* (2022), 10(1), 314-322.
131. Fluorescence Enhancement of Lignin-Based Carbon Quantum Dots by Concentration-Dependent and Electron-Donating Substituent Synergy and Their Cell Imaging Applications. Zhao, Siyu; Chen, Xinrui; Zhang, Caixia; Zhao, Peitao; Ragauskas, Arthur J.; Song, Xueping. *ACS Applied Materials & Interfaces* (2021), 13(51), 61565-61577.
132. Engineered Sorghum bagasse enables a sustainable biorefinery with p-hydroxybenzoic acid-based deep eutectic solvent. Wang, Yunxuan; Meng, Xianzhi; Tian, Yang; Kim, Kwang Ho; Jia, Linjing; Pu, Yunqiao; Leem, Gyu; Kumar, Deepak; Eudes, Aymerick; Ragauskas, Arthur J.; Yoo, Geun, Chang. *ChemSusChem* (2021), 14(23), 5235-5244.
133. Product Characteristics and Synergy Study on Supercritical Methanol Liquefaction of Lignocellulosic Biomass and Plastic. Zhao, Peitao; Yuan, Zhilong; Song, Xueping; Zhang, Jing; Ragauskas, Arthur J. *ACS Sustainable Chemistry & Engineering* (2021), 9(50), 17103-17111.
134. Effects of different pelleting technologies and parameters on pretreatment and enzymatic saccharification of lignocellulosic biomass. Gong, Chunxiao; Thomsen, Sune Tjalfe; Meng, Xianzhi; Pu, Yunqiao; Puig-Arnavat, Maria; Bryant, Nathan; Bhagia, Samarthyaa; Felby, Claus; Ragauskas, Arthur J.; Thygesen, Lisbeth Garbrecht. *Renewable Energy* (2021), 179, 2147-2157
135. THF co-solvent pretreatment prevents lignin redeposition from interfering with enzymes yielding prolonged cellulase activity. Patri, Abhishek S.; Mohan, Ramya; Pu, Yunqiao; Yoo, Chang G.; Ragauskas, Arthur J.; Kumar, Rajeev; Kisailus, David; Cai, Charles M.; Wyman, Charles E. *Biotechnology for Biofuels* (2021), 14(1), 63.
136. Targeting hydroxycinnamoyl CoA: shikimate hydroxycinnamoyl transferase for lignin modification in *Brachypodium distachyon*. Serrani-Yarce, Juan Carlos; Escamilla-Trevino,

- Luis; Barros, Jaime; Gallego-Giraldo, Lina; Pu, Yunqiao; Ragauskas, Art; Dixon, Richard A. *Biotechnology for Biofuels* (2021), 14(1), 50.
137. Enhancement of polyhydroxyalkanoate production by co-feeding lignin derivatives with glycerol in *Pseudomonas putida* KT2440. Xu, Zhangyang; Pan, Chunmei; Li, Xiaolu; Hao, Naijia; Zhang, Tong; Gaffrey, Matthew J.; Pu, Yunqiao; Cort, John R.; Ragauskas, Arthur J.; Qian, Wei-Jun; et al. *Biotechnology for Biofuels* (2021), 14(1), 11.
138. Hydrogen bond-induced aqueous-phase surface modification of nanocellulose and its mechanically strong composites. Li, Kai ; Li, Yuzhan; Tekinalp, Halil; Kumar, Vipin; Zhao, Xianhui; Pu, Yunqiao; Ragauskas, Arthur J.; Nawaz, Kashif; Aytug, Tolga; Ozcan, Soydan. *Journal of Materials Science* (2022), 57(17), 8127-8138.
139. Lignin-enzyme interaction: A roadblock for efficient enzymatic hydrolysis of lignocellulosics. Huang, Caoxing; Jiang, Xiao; Shen, Xiaojun; Hu, Jinguang; Tang, Wei; Wu, Xinxing; Ragauskas, Arthur; Jameel, Hasan; Meng, Xianzhi; Yong, Qiang. *Renewable & Sustainable Energy Reviews* (2022), 154, 111822.
140. Effect of Protic Ionic Liquids in Sugar Cane Bagasse Pretreatment for Lignin Valorization and Ethanol Production. Pin, Thaynara C.; Rabelo, Sarita C.; Pu, Yunqiao; Ragauskas, Arthur J.; Costa, Aline C. *ACS Sustainable Chemistry & Engineering* (2021) 9(50), 16965–16976.
141. Valorisation of technical lignin in rigid polyurethane foam: a critical evaluation on trends, guidelines and future perspectives. Haridevan, Hima; Evans, David A. C.; Ragauskas, Arthur J.; Martin, Darren J.; Annamalai, Pratheep K. *Green Chemistry* (2021), 23(22), 8725-8753.
142. Recycled Cardboard Containers as a Low Energy Source for Cellulose Nanofibrils and Their Use in Poly(L-lactide) Nanocomposites. Copenhaver, Katie; Li, Kai; Lamm, Meghan E.; Walker, Colleen; Johnson, Donna; Han, Yousoo; Wang, Lu; Zhao, Xianhui; Pu, Yunqiao; Hinton, Holly; Tekinalp, Halil; Bhagia, Samarthya; Ragauskas, Arthur J.; Gardner, Douglas, J.; Ozcan, Soydan. *ACS Sustainable Chemistry & Engineering* (2021), 9(40), 13460-13470.
143. Enhanced medium chain length-polyhydroxyalkanoate production by co-fermentation of lignin and holocellulose hydrolysates. Arreola-Vargas, Jorge; Meng, Xianzhi; Wang, Yun-yan; Ragauskas, Arthur J.; Yuan, Joshua S. *Green Chemistry* (2021), 23(20), 8226-8237.
144. Recent Advances in the Synthesis of Deuterium-Labeled Compounds. Yang, Xiaoli; Ben, Haoxi; Ragauskas, Arthur J. *Asian Journal of Organic Chemistry* (2021), 10(10), 2473-2485.
145. Use of a Lewis acid, a Bronsted acid, and their binary mixtures for the liquefaction of lignocellulose by supercritical ethanol processing. Alper, Koray; Wang, Yun-Yan; Meng, Xianzhi; Tekin, Kubilay; Karagoz, Selhan; Ragauskas, Arthur J. *Sustainable Energy & Fuels* (2021), 5445-5453.
146. New Technologies are Needed to Improve the Recycling and Upcycling of Waste Plastics Ragauskas AJ, Huber GW, Wang J, Guss A, O'Neill HM, Lin CSK, Wang Y, Wurm FR, Meng X. *ChemSusChem* (2021) 14(19):3982-3984.
147. Research on Chemically Deuterated Cellulose Macroperformance and Fast Identification. Song Y; Liu S; Ben H; Zhang Y; Han G; Ragauskas AJ; Jiang W. *Frontiers in Plant Science* (2021) 12:709692.
148. Critical review of FDM 3D printing of PLA biocomposites filled with biomass resources, characterization, biodegradability, upcycling, and opportunities for biorefineries. Bhagia S, Bornani K, Agarwal R, Satlewal A, Đurković J, Lagaña R, Bhagia M, Yoo CG, Zhao X, Kunc V. *Applied Materials Today* (2021) 24, 101078

149. Synergistic Improvement of Carbohydrate and Lignin Processability by Biomimicking Biomass Processing. Li M, Liu ZH, Hao N, Olson ML, Li Q, Bhagia S, Shinde S, Kao KC, Ragauskas AJ, Xie S. *Frontiers in Energy Research* (2021) 8, 194
150. Tensile properties of 3D-printed wood-filled PLA materials using poplar trees. Bhagia S; Lowden RR; Erdman D; Rodriguez M; Haga BA; Solano IRM; Gallego NC; Pu Y; Muchero W; Kunc V; Ragauskas AJ. *Applied Materials Today* (2020) 21, 100832
151. The preparation and characterization of chemically deuterium incorporated cotton fibers. Song, Yan; Jiang Wei; Ben, Haoxi; Zhang, Yuanming; Han, Guangting; Ragauskas, Arthur J. *Cellulose* (2021) 28:5351–5361.
152. Phototunable Lignin Plastics to Enable Recyclability. Hu, Cheng; Zhao, Mingzhen; Li, Qiang; Liu, Zhihua; Hao, Naijia; Meng, Xianzhi; Li, Jinghao; Lin, Furong; Li, Chenxuan; Fang, Lei; Dai, Susie Y.; Ragauskas, Arthur J.; Sue, H. J. Sue; Yuan, Joshua S. *ChemSusChem* (2021), 14(19), 3980.
153. Effect of Dilute Acetic Acid Hydrolysis on Xylooligosaccharide Production and the Inhibitory Effect of Cellulolytic Enzyme Lignin from Poplar. Wen, Peiyao; Zhang, Tian; Wei, Liting; Wang, Jinye; Ragauskas, Arthur J.; Zhang, Ying; Xu, Yong; Zhang, Junhua. *ACS Sustainable Chemistry & Engineering* (2021), 9(34), 11361-11371.
154. In Situ Wood Delignification toward Sustainable Applications. Li, Jianguo; Chen, Chaoji; Zhu, J. Y.; Ragauskas, Arthur J.; Hu, Liangbing. *Accounts of Materials Research* (2021), 2(8), 606-620.
155. Use of a Lewis acid, a Bronsted acid, and their binary mixtures for the hydrothermal liquefaction of lignocellulose. Alper, Koray; Wang, Yun-Yan; Meng, Xianzhi; Tekin, Kubilay; Karagoz, Selhan; Ragauskas, Arthur J. *Fuel* (2021), 304, 121398.
156. Transforming biorefinery designs with "Plug-In Processes of Lignin" to enable economic waste valorization. Liu, Zhi-Hua; Hao, Naijia; Wang, Yun-Yan; Dou, Chang; Lin, Furong; Shen, Rongchun; Bura, Renata; Hodge, David B.; Dale, Bruce E.; Ragauskas, Arthur J.; Bin, Yang; Yuan, Joshua, S. *Nature Communications* (2021), 12(1), 3912.
157. Degradation of aromatic compounds and lignin by marine protist *Thraustochytrium striatum*. Li, Xiang; Li, Mi; Pu, Yunqiao; Ragauskas, Arthur J.; Tharayil, Nishanth; Huang, Jiale; Zheng, Yi. *Process Biochemistry* (2021), 107, 13-17.
158. Elucidating the mechanisms of enhanced lignin bioconversion by an alkali sterilization strategy. Zhao, Zhi-Min; Zhang, Shuyang; Meng, Xianzhi; Pu, Yunqiao; Liu, Zhi-Hua; Ledford, William K.; Kilbey, S. Michael II; Li, Bing-Zhi; Ragauskas, Arthur J. *Green Chemistry* (2021), 23(12), 4697-4709.
159. Catalytic degradation of waste rubbers and plastics over zeolites to produce aromatic hydrocarbons. Wang, Jia; Jiang, Jianchun; Sun, Yunjuan; Wang, Xiaobo; Li, Mi; Pang, Shusheng; Ruan, Roger; Ragauskas, Arthur J.; Ok, Yong Sik; Tsang, Daniel C. W. *Journal of Cleaner Production* (2021), 309, 127469.
160. Wood-reinforced composites by stereolithography with the stress whitening behavior. Zhang, Shuyang; Bhagia, Samarthyaa; Li, Mi; Meng, Xianzhi; Ragauskas, Arthur J. *Materials & Design* (2021), 206, 109773.
161. Polyurethanes Based on Unmodified and Refined Technical Lignins: Correlation between Molecular Structure and Material Properties. Wang, Yun-Yan; Scheidemantle, Brent; Wyman, Charles E.; Cai, Charles M.; Ragauskas, Arthur J. *Biomacromolecules* (2021), 22(5), 2129-2136.

162. Fine grinding of thermoplastics by high speed friction grinding assisted by guar gum. Bhagia, Samarthyia; Gallego, Nidia C.; Hiremath, Nitalaksha; Harper, David P.; Lowden, Richard A.; Lowden, Richard R.; Pu, Yunqiao; Vaidya, Uday; Ozcan, Soydan; Ragauskas, Arthur J. *Journal of Applied Polymer Science* (2021), 138(32), 50797.
163. Recent Advances in Functional Materials through Cellulose Nanofiber Templating. Lamm, Meghan E.; Li, Kai; Qian, Ji; Wang, Lu; Lavoine, Nathalie; Newman, Reagan; Gardner, Douglas J.; Li, Teng; Hu, Liangbing; Ragauskas, Arthur J.; Halil Tekinalp, Halil; Kunc, Vlastimil; Ozcan, Soydan. *Advanced Materials* (2021), 33(12), 2005538.
164. Influence of plasticizers on thermal and mechanical properties of biocomposite filaments made from lignin and polylactic acid for 3D printing. Wasti, Sanjita; Triggs, Eldon; Farag, Ramsis; Auad, Maria; Adhikari, Sushil; Bajwa, Dilpreet; Li, Mi; Ragauskas, Arthur J. *Composites, Part B: Engineering* (2021), 205, 108483.
165. Heterogeneous Diels-Alder tandem catalysis for converting cellulose and polyethylene into BTX. Wang, Jia; Jiang, Jianchun; Sun, Yunjuan; Meng, Xianzhi; Wang, Xiaobo; Ruan, Roger; Ragauskas, Arthur J.; Tsang, Daniel C. W. *Journal of Hazardous Materials* (2021), 414, 125418.
166. Enhancing Multifunctional Properties of Renewable Lignin Carbon Fiber via Defining Structure-Property Relationship Using Different Biomass Feedstock. Li, Qiang; Hu, Cheng; Li, Mengjie; Truong, Phuc; Li, Jinghao; Lin, Hao-Sheng; Naik, Mandar; Xiang, Sisi; Jackson, Brian; Kuo, Kuo, Winson; Wu, Wenhao; Pu, Yunqiao; Ragauskas, Arthur J.; Yuan, Joshua S. *Green Chemistry* (2021), 23(10), 3725-3739.
167. Facilitating enzymatic hydrolysis with a novel guaiacol-based deep eutectic solvent pretreatment. Huang, Chen; Zhan, Yunni; Cheng, Jinyuan; Wang, Jia; Meng, Xianzhi; Zhou, Xuelian; Fang, Guigan; Ragauskas, Arthur J. *Bioresource Technology* (2021), 326, 124696
168. Alignment of Cellulose Nanofibers: Harnessing Nanoscale Properties to Macroscale Benefits. Li, Kai; Clarkson, Caitlyn M.; Wang, Lu; Liu, Yu; Lamm, Meghan; Pang, Zhenqian; Zhou, Teng; Ragauskas, Arthur, J.; Youngblood, Jeffrey P.; Ozcan, Soydan. *ACS Nano* (2021), 3646-3673.
169. Recent advancements of plant-based natural fiber-reinforced composites and their applications. Li, Mi; Pu, Yunqiao; Thomas, Valerie M.; Yoo, Chang Geun; Ozcan, Soydan; Deng, Yulin; Nelson, Kim; Ragauskas, Arthur J. *Composites, Part B: Engineering* (2020), 200, 108254.
170. Double bonus: surfactant-assisted biomass pelleting benefits both the pelleting process and subsequent enzymatic saccharification of the pretreated pellets. Gong, Chunxiao; Bryant, Nathan; Meng, Xianzhi; Bhagia, Samarthyia; Pu, Yunqiao; Xin, Donglin; Bender Koch, Christian; Felby, Claus; Thygesen, Lisbeth Garbrecht; Ragauskas, Arthur; Thomsen, Sune, Tjalfe. *Green Chemistry* (2021), 23(2), 1050-1061.
171. Production of xylo-oligosaccharides from poplar by acetic acid pretreatment and its impact on inhibitory effect of poplar lignin. Wang, Jinye; Xu, Yong; Meng, Xianzhi; Pu, Yunqiao; Ragauskas, Arthur; Zhang, Junhua. *Bioresource Technology* (2021), 323, 124593.
172. Supercritical water co-liquefaction of LLDPE and PP into oil: properties and synergy. Zhao, Peitao; Yuan, Zhilong; Zhang, Jing; Song, Xueping; Wang, Cuiping; Guo, Qingjie; Ragauskas, Arthur J. *Sustainable Energy & Fuels* (2021), 5(2), 575-583.
173. Effect of using regenerated combined FAU and MOR zeolites as catalysts during the pyrolysis of kraft lignin. Mondal, Ajoy Kanti; Qin, Chengrong; Ragauskas, Arthur J.; Ni, Yonghao; Huang, Fang. *BioResources* (2021), 16(1), 417-440.

174. Deep Eutectic Solvents: A Review of Fundamentals and Applications. Hansen, Benworth B.; Spittle, Stephanie; Chen, Brian; Poe, Derrick; Zhang, Yong; Klein, Jeffrey M.; Horton, Alexandre; Adhikari, Laxmi; Zelovich, Tamar; Doherty, Brian W.; Gurkan, Burcu; Maginn, Edward, J.; Ragauskas, Arthur; Dadmun, Mark; Zawodzinski, Thomas, A.; Baker, Gary, A.; Tuckerman, Mark E.; Savinell, Robert, F.; Sangoro, Joshua R. *Chemical Reviews*. (2021), 121(3), 1232-1285.
175. Fabrication of lignocellulosic biomass paper containing nanofibrillated biomass. Bhagia, Samarthy; Dunlap, John R.; Khuraishi, Mohammed Zahid A.; Lowden, Richard R.; Muchero, Wellington; Vaidya, Uday K.; Pu, Yunqiao; Ragauskas, Arthur J. *BioResources* (2021), 16(1), 209-222.
176. The physiochemical alteration of flax fibers structuring components after different scouring and bleaching treatments. Ding, Jinhua; Liang, Luna; Meng, Xianzhi; Yang, Fei; Pu, Yunqiao; Ragauskas, Arthur J.; Yoo, Chang Geun; Yu, Chongwen. *Industrial Crops and Products* (2021), 160, 113112.
177. Influence of chain length in protic ionic liquids on physicochemical and structural features of lignins from sugarcane bagasse. Pin, Thaynara C.; Brenelli, Livia B.; Nascimento, Viviane M.; Costa, Aline C.; Pu, Yunqiao; Ragauskas, Arthur J.; Rabelo, Sarita C. *Industrial Crops and Products* (2021), 159, 113080.
178. Structural characterization of sugarcane lignins extracted from different protic ionic liquid pretreatments. By: Pin, Thaynara C.; Nascimento, Viviane M.; Costa, Aline C.; Pu, Yunqiao; Ragauskas, Arthur J.; Rabelo, Sarita C. *Renewable Energy* (2020), 161, 579-592
179. Synergistic enhancement of nanocellulose foam with dual in situ mineralization and crosslinking reaction. Huang, Chen; Zhan, Yunni; Hao, Xin; Wang, Zimeng; Li, Mi; Meng, Xianzhi; Fang, Guigan; Ragauskas, Arthur J. *International Journal of Biological Macromolecules* (2020), 165(Part_B), 3198-3205.
180. Mechanistic Insight into Lignin Slow Pyrolysis by Linking Pyrolysis Chemistry and Carbon Material Properties. Li, Wenqi ; Wanninayake, Namal ; Gao, Xin; Li, Mi ; Pu, Yunqiao ; Kim, Doo-Young ; Ragauskas, Arthur J. ; Shi, Jian. *ACS Sustainable Chemistry & Engineering* (2020), 8(42), 15843-15854.
181. Emerging Strategies for Modifying Lignin Chemistry to Enhance Biological Lignin Valorization. Zhao, Zhi-Min; Liu, Zhi-Hua; Pu, Yunqiao ; Meng, Xianzhi; Xu, Jifei; Yuan, Joshua S.; Ragauskas, Arthur J. *ChemSusChem* (2020), 13(20), 5423-5432.
182. Enhanced BTEX formation via catalytic fast pyrolysis of styrene-butadiene rubber: Comparison of different catalysts. Wang, Jia; Jiang, Jianchun; Wang, Xiaobo; Pang, Shusheng ; Sun, Yunjuan; Meng, Xianzhi; Li, Mi; Ruan, Roger ; Ragauskas, Arthur J. *Fuel* (2020), 278, 118322.
183. Hydrogenation of pyrolysis oil from loblolly pine residue. Mondal, Ajoy Kanti; Qin, Chengrong; Ragauskas, Arthur J.; Ni, Yonghao; Huang, Fang. *Paper and Biomaterials* (2020), 5(1), 1-13
184. Modified alkaline peroxide pretreatment: An efficient path forward for bioethanol production from bamboo. Huang, Chen; Zhan, Yunni; Du, Xinghu; Zhou, Yang; Yu, Longxiang; Meng, Xianzhi; Jiao, Jian; Fang, Guigan; Ragauskas, Arthur J. *Energy Conversion and Management* (2020), 224, 113365.
185. Structural Insights into Low and High Recalcitrance Natural Poplar Variants Using Neutron and X-ray Scattering. Shah, Riddhi; Bhagia, Samarthy; Keum, Jong K.; Pingali, Sai

- Venkatesh ; Ragauskas, Arthur J. ; Davison, Brian H.; O'Neill, Hugh. *ACS Sustainable Chemistry & Engineering* (2020), 8(36), 13838-13849.
186. Structural Insights into Low and High Recalcitrance Natural Poplar Variants Using Neutron and X-ray Scattering. Shah, Riddhi; Bhagia, Samarthya; Keum, Jong K.; Pingali, Sai Venkatesh ; Ragauskas, Arthur J. ; Davison, Brian H.; O'Neill, Hugh. *ACS Sustainable Chemistry & Engineering* (2020), 8(36), 13838-13849.
 187. Investigation of a Lignin-Based Deep Eutectic Solvent Using p-Hydroxybenzoic Acid for Efficient Woody Biomass Conversion. Wang, Yunxuan ; Meng, Xianzhi ; Jeong, Keunhong ; Li, Shuya; Leem, Gyu ; Kim, Kwang Ho ; Pu, Yunqiao; Ragauskas, Arthur J. ; Yoo, Chang Geun. *ACS Sustainable Chemistry & Engineering* (2020), 8(33), 12542-12553.
 188. Deconstruction of biomass enabled by local demixing of cosolvents at cellulose and lignin surfaces. By: Pingali, Sai Venkatesh; Smith, Micholas Dean; Liu, Shih-Hsien; Rawal, Takat B. ; Pu, Yunqiao; Shah, Riddhi; Evans, Barbara R. ; Urban, Volker S.; Davison, Brian H. ; Cai, Charles M.; Ragauskas, Arthir J.; O'Neill, Hugh, M.; Smith, Jeremy; Petridis, Loukas. *Proceedings of the National Academy of Sciences of the United States of America* (2020), 117(29), 16776-16781.
 189. Arabidopsis C-terminal binding protein ANGUSTIFOLIA modulates transcriptional co-regulation of MYB46 and WRKY33. Xie, Meng ; Zhang, Jin ; Yao, Tao; Bryan, Anthony C.; Pu, Yunqiao; Labbe, Jessy; Pelletier, Dale A.; Engle, Nancy; Morrell-Falvey, Jennifer L.; Schmutz, Jeremy; Ragauskas, Arthur, J.; Tschaplinski, Timothy, J.; Chen, Feng; Tuskan, Gerald, A.; Muchero, Wellington, Chen, Jin-Gui. *New Phytologist* (2020), 228(5), 1627-1639.
 190. The effect of switchgrass plant cell wall properties on its deconstruction by thermochemical pretreatments coupled with fungal enzymatic hydrolysis or *Clostridium thermocellum* consolidated bioprocessing. Kothari, Ninad; Bhagia, Samarthya; Pu, Yunqiao; Yoo, Chang Geun; Li, Mi; Venketachalam, Sivasankari; Pattathil, Sivakumar; Kumar, Rajeev; Cai, Charles M.; Hahn, Michael G.; Ragauskas, Arthur, J.; Wyman, Charles, E. *Green Chemistry* (2020), 22(22), 7924-7945.
 191. Correlations of the physicochemical properties of organosolv lignins from *Broussonetia papyrifera* with their antioxidant activities. Yao, Lan; Xiong, Long; Yoo, Chang Geun; Dong, Chengyu; Meng, Xianzhi; Dai, Jun; Ragauskas, Arthur J.; Yang, Chunlei; Yu, Jun; Yang, Haitao; Chen, Xiong. *Sustainable Energy & Fuels* (2020), 4(10), 5114-5119.
 192. Observation of potential contaminants in processed biomass using fourier transform infrared spectroscopy. Zhuang, Jingshun; Li, Mi; Pu, Yunqiao; Ragauskas, Arthur Jonas ; Yoo, Chang Geun. *Applied Sciences* (2020), 10(12), 4345.
 193. Sustainable energy and fuels from biomass: a review focusing on hydrothermal biomass processing. Alper, Koray; Tekin, Kubilay; Karagoz, Selhan; Ragauskas, Arthur J. *Sustainable Energy & Fuels* (2020), 4(9), 4390-4414.
 194. Natural deep eutectic solvent mediated extrusion for continuous high-solid pretreatment of lignocellulosic biomass. Ai, Binling; Li, Wenqi; Woome, Joseph; Li, Mi; Pu, Yunqiao; Sheng, Zhanwu; Zheng, Lili; Adedeji, Akinbode; Ragauskas, Arthur J.; Shi, Jian. *Green Chemistry* (2020), 22(19), 6372-6383
 195. Physico-chemical properties of lignin fractions from acid pretreated corn stover and their effects on enzymatic hydrolysis of microcrystalline cellulose. Yang, Haitao; Zhang, Yuhang; Yoo, Chang Geun; Meng, Xianzhi; Chen, Xiong; Ragauskas, Arthur J.; Yao, Lan. *BioResources* (2020), 15(3), 4898-4911.

196. 3D printing of biomass-derived composites: application and characterization approaches. Ji, Anqi; Zhang, Shuyang; Bhagia, Samartha; Yoo, Chang Geun; Ragauskas, Arthur J. *RSC Advances* (2020), 10(37), 21698-21723.
197. One-step transformation of biomass to fuel precursors using a bi-functional combination of Pd /C and water tolerant Lewis acid. Hao, Najia; Alper, Koray; Patel, Himanshu; Tekin, Kubilay; Karagoz, Selhan; Ragauskas, Arthur J. *Fuel* (2020), 277, 118200.
198. Promoting Aromatic Hydrocarbon Formation via Catalytic Pyrolysis of Polycarbonate Wastes over Fe- and Ce-Loaded Aluminum Oxide Catalysts. Wang, Jia; Jiang, Jianchun; Meng, Xianzhi; Li, Mi; Wang, Xiaobo; Pang, Shusheng; Wang, Kui; Sun, Yunjuan; Zhong, Zhaoping; Ruan, Roger; Ragauskas, Arthur J. *Environmental Science & Technology* (2020), 54(13), 8390-8400.
199. Perspective on Technical Lignin Fractionation. Sadeghifar, H.; Ragauskas, A. *ACS Sustainable Chemistry & Engineering* (2020), 8(22), 8086-8101.
200. The production of hydrogen-deuterium exchanged cellulose fibers with exchange-resistant deuterium incorporation. Song, Y.; Jiang, W.; Ben, H.; Meng, X.; Zhang, Y.; Han, G.; Ragauskas, A. *J. Cellulose* (2020), 54(13), 8390-8400.
201. Increasing the Carbohydrate Output of Bamboo Using a Combinatorial Pretreatment. Huang, C.; Fang, G.; Zhou, Y.; Du, X.; Yu, L.; Meng, X.; Li, M.; Yoo, C.G.; Chen, B.; Zhai, S.; Guan, Q.; Yong, Q.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2020), 8(19), 7380-7393.
202. From cellulose to 1,2,4-benzenetriol via catalytic degradation over a wood-based activated carbon catalyst. Wu, Q.; Zhao, B.; Liu, S.; Yu, S.; Huang, L.; Ragauskas, A.J. *Catalysis Science & Technology* (2020), 10(10), 3423-3432.
203. Transgenic Poplar Designed for Biofuels. Bryant, N.D.; Pu, Y.; Tschaplinski, T.J.; Tuskan, G.A.; Muchero, W.; Kalluri, U. C.; Yoo, C. G.; Ragauskas, A.J. *Trends in Plant Science* (2020), 25(9), 881-896.
204. Solvent-free production of carbon materials with developed pore structure from biomass for high-performance supercapacitors. Huang, Lang; Wu, Qiong; Liu, Shouxin; Yu, Shitao; Ragauskas, Arthur J. *Industrial Crops and Products* (2020), 150, 112384.
205. A biomass pretreatment using cellulose-derived solvent Cyrene. Meng, Xianzhi; Pu, Yunqiao; Li, Mi; Ragauskas, Arthur J. *Green Chemistry* (2020), 22(9), 2862-2872.
206. Enhancing Enzyme-Mediated Hydrolysis of Mechanical Pulps by Deacetylation and Delignification. Wu, Jie; Chandra, Richard P.; Kim, Kwang Ho; Kim, Chang Soo; Pu, Yunqiao; Ragauskas, Arthur J.; Saddler, Jack Nicholas. *ACS Sustainable Chemistry & Engineering* (2020), 8(15), 5847-5855.
207. 2D HSQC Chemical Shifts of Impurities from Biomass Pretreatment. Bryant, Nathan; G. Yoo, Chang; Pu, Yunqiao; Ragauskas, Arthur J. *ChemistrySelect* (2020), 5(11), 3359-3364.
208. Conversion of Loblolly pine biomass residues to bio-oil in a two-step process: Fast pyrolysis in the presence of zeolite and catalytic hydrogenation. Mondal, Ajoy Kanti; Qin, Chengrong; Ragauskas, Arthur J.; Ni, Yonghao; Huang, Fang. *Industrial Crops and Products* (2020), 148, 112318.
209. Isolation and characterization of lignocellulosic nanofibers from four kinds of organosolv-fractionated lignocellulosic materials. Wang, Xiaoyu; Chen, Hang; Feng, Xinhao; Zhang, Qijun; Labbe, Nicole; Kim, Keonhee; Huang, Jingda; Ragauskas, Arthur J.; Wang, Siqun; Zhang, Yang. *Wood Science and Technology* (2020), 54(3), 503-517.

210. Lignin extraction and upgrading using deep eutectic solvents. Chen, Z.; Ragauskas, A.; Wan, C. *Industrial Crops and Products* (2020), 147, 112241.
211. The effect of lignin degradation products on the generation of pseudo-lignin during dilute acid pretreatment. He, J.; Huang, C.; Lai, C.; Huang, C.; Li, M.; Pu, Y.; Ragauskas, A.J.; Yong, Q. *Industrial Crops and Products* (2020), 146, 112205.
212. Synthesis, Characterization, and Utilization of a Lignin-Based Adsorbent for Effective Removal of Azo Dye from Aqueous Solution. Meng, X.; Scheidemantle, B.; Li, M.; Wang, Y.Y.; Zhao, X.; Toro-Gonzalez, M.; Singh, P.; Pu, Y.; Wyman, C.E.; Ozcan, S.; Cai, C.; Ragauskas, A.J. *ACS Omega* (2020), 5(6), 2865-2877
213. Effects of the advanced organosolv pretreatment strategies on structural properties of woody biomass. Meng, Xianzhi; Bhagia, Samarthya; Wang, Yunxuan; Zhou, Yang; Pu, Yunqiao; Dunlap, John R.; Shuai, Li; Ragauskas, Arthur J.; Yoo, Chang Geun. *Industrial Crops and Products* (2020), 146, 112144.
214. Preparation and Characterization of Various Kraft Lignins and Impact on Their Pyrolysis Behaviors. Mondal, Ajoy Kanti; Qin, Chengrong; Ragauskas, Arthur J.; Ni, Yonghao; Huang, Fang. *Industrial & Engineering Chemistry Research* (2020), 59(8), 3310-3320.
215. Robust galactomannan/graphene oxide film with ultra-flexible, gas barrier and self-clean properties. Huang, Chen; Fang, Guigan; Deng, Yongjun; Bhagia, Samarthya; Meng, Xianzhi; Tao, Yuheng; Yong, Qiang; Ragauskas, Arthur J. *Composites, Part A: Applied Science and Manufacturing* (2020), 131, 105780.
216. The critical role of lignin in lignocellulosic biomass conversion and recent pretreatment strategies: A comprehensive review. Yoo, C.G.; Meng, X.; Pu, Y.; Ragauskas, A.J. *Bioresource Technology* (2020), 301, 122784.
217. Lignin-derived electrochemical energy materials and systems. Wu, X.; Jiang, J.; Wang, C.; Liu, J.; Pu, Y.; Ragauskas, A.; Li, S.; Yang, B. *Biofuels, Bioproducts & Biorefining* (2020), 14:650–672.
218. Black Liquor Valorization by Using Marine Protist *Thraustochytrium striatum* and the Preliminary Metabolic Mechanism Study. Li, X.; Li, M.; Pu, Y.; Ragauskas, A.J.; Zheng, Y. *ACS Sustainable Chemistry & Engineering* (2020), 8(4), 1786-1796.
219. Detailed Oil Compositional Analysis Enables Evaluation of Impact of Temperature and Biomass-to-Catalyst Ratio on ex Situ Catalytic Fast Pyrolysis of Pine Vapors over ZSM-5. Patel, H.; Hao, N.; Iisa, K.; French, R.J.; Orton, K.A.; Mukarakate, C.; Ragauskas, A.J.; Nimlos, M.R. *ACS Sustainable Chemistry & Engineering* (2020), 8(4), 1762-1773.
220. Converting polycarbonate and polystyrene plastic wastes into aromatic hydrocarbons via catalytic fast co-pyrolysis. Wang, Jia; Jiang, Jianchun; Wang, Xiaobo; Wang, Ruizhen; Wang, Kui; Pang, Shusheng; Zhong, Zhaoping; Sun, Yunjuan; Ruan, Roger; Ragauskas, Arthur J. *Journal of Hazardous Materials* (2020), 386, 121970.
221. Maximizing enzymatic hydrolysis efficiency of bamboo with a mild ethanol-assistant alkaline peroxide pretreatment. Huang, C.; Fang, G.; Yu, L.; Zhou, Y.; Meng, X.; Deng, Y.; Shen, K.; Ragauskas, A.J. *Bioresource Technology* (2020), 299, 122568.
222. Preserving Aryl Ether Linkages and Higher Yields of Isolated Lignin through Biomass Fibrillation. Bhagia, S.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2020), 8(1), 34-37.
223. Preparation of Highly Reactive Lignin by Ozone Oxidation: Application as Surfactants with Antioxidant and Anti-UV Properties. Shi, C.; Zhang, S.; Wang, W.; Linhardt, R.J.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2020), 8(1), 22-28.

224. Structural changes of lignins in natural *Populus* variants during different pretreatments. Yang, H.; Yoo, C.G.; Meng, X.; Pu, Y.; Muchero, W.; Tuskan, G.A.; Tschaplinski, T.J.; Ragauskas, A.J.; Yao, L. *Bioresource Technology* (2020), 295, 122240.
225. Cross-linked Nanocellulosics and Their Applications. Liang L.; Bhagia S.; Li M.; Huang C.; Ragauskas A.J. *ChemSusChem* (2020), 13(1), 78-87.
226. Recent Advances in the Application of Functionalized Lignin in Value-Added Polymeric Materials. Wang Yun-Yan; Ragauskas Arthur J; Meng Xianzhi; Ragauskas Arthur J; Pu Yunqiao; Ragauskas Arthur J; Pu Yunqiao; Ragauskas Arthur J. *Polymers* (2020), 12(10).
227. Chemically cross-linked cellulose nanocrystal aerogels for effective removal of cation dye. Liang, L.; Zhang, S.; Goenaga, G.A.; Meng, X.; Zawodzinski, T.A.; Ragauskas, A.J. *Frontiers in Chemistry* (2020) 8, 570.
228. Effects of CELF Pretreatment Severity on Lignin Structure and the Lignin-Based Polyurethane Properties. Wang, Y.Y.; Sengupta, P.; Scheidemantle, B.; Pu, P.; Wyman, C.E.; Cai, C.M.; Ragauskas, A.J. *Frontiers in Energy Research* (2020) 8, 149.
229. Mechanism-Guided Design of Highly Efficient Protein Secretion and Lipid Conversion for Biomanufacturing and Biorefining. Xie, S.; Sun, S.; Lin, F.; Li, M. Pu, Y.; Cheng, Y.; Xu, B.; Liu, Z.; da Costa Sousa, L.; Dale, Bruce E.; Ragauskas, A.J.; Dai, S.Y.; Yuan, J.S. *Advanced Science* (2019), 6, 1801980.
230. Stereolithography 3D Printing of Lignin-Reinforced Composites with Enhanced Mechanical Properties. Zhang, S.; Li, M; Hao, N.; Ragauskas, A.J. *ACS Omega* (2019), 4(23), 20197-20204.
231. PdWND3A, a wood-associated NAC domain-containing protein, affects lignin biosynthesis and composition in *Populus*. Yang, Y.; Yoo, C.G.; Rottmann, W.; Winkeler, K.A.; Collins, C.M.; Gunter, L.E.; Jawdy, S.S.; Yang, X.; Pu, Yunqiao; Ragauskas, A.J.; Tuskan, G.A.; Chen, J.G. *BMC Plant Biology* (2019), 19, 486.
232. Physicochemical changes of cellulose and their influences on *Populus trichocarpa* digestibility after different pretreatments. Yao, L., Yoo, C. G., Pu, Y., Meng, X., Muchero, W., Tuskan, G. A., Tschaplinski, T. J., Ragauskas, A. J.; Yang, *BioRes.* (2019) 14(4), 9658-9676.
233. A comprehensive characterization of pyrolysis oil from softwood barks. Ben, H.; Wu, F.; Wu, Z.; Han, G.; Jiang, W.; Ragauskas, A.J. *Polymers* (2019), 11(9), 1387.
234. Recycling benzene and ethylbenzene from in-situ catalytic pyrolysis of plastic wastes. Wang,J.; Jiang, J.; Sun, Y.; Zhong, Z.;Wang, X.;Xia, H.; Liu, G.; Pang, S.; Wang,K.;Xu, J.; Li, M.; Ruan, R.; Ragauskas, A. *Energy Conversion & Management* (2019) 200, 112088.
235. Poplar as biofiber reinforcement in composites for large-scale 3D printing. Zhao, X.; Tekinalp, H.; Meng, X.; Ker, D.; Benson, B.; Pu, Y.; Ragauskas, A.; Wang, Y.; Li, K.; Webb, E.; Douglas, G.J.; Anderson, J.;Ozcan, S. *ACS Applied Bio Materials* (2019) 2(10), 4557-4570.
236. Nacre-inspired hemicelluloses paper with fire retardant and gas barrier properties by self-assembly with bentonite nanosheets. Huang, C.; Fang, G.; Tao, Y.; Meng, X.; Lin, Y.; Bhagia, S.; Wu, X.; Yong, Q.; Ragauskas, A.J. *Carbohydrate Polymers* (2019), 225, 115219.
237. An alkali-free method to manufacture ramie fiber. Song, Y.; Jiang, W.; Nie, K.; Zhang, Y.; Ben, H.; Han, G.; Ragauskas, A.J. *Textile Research Journal* (2019), 89(17), 3653-3659.
238. A finalized determinant for complete lignocellulose enzymatic saccharification potential to maximize bioethanol production in bioenergy *Miscanthus*. Alam, A.; Zhang, R.; Liu, P.; Huang, J.; Wang, Y.; Hu, Z.; Madadi, M.; Sun, D.; Hu, R.; Ragauskas, A.J.; Tu, Y.; Peng, L. . *Biotechnol Biofuels* (2019) 12, 99.

239. Dynamic self-assembly of polyelectrolyte composite nanomaterial film. Hou, Q.; Wang, X.; Ragauskas, A.J. *Polymers* (2019), 11(8), 1258.
240. Catalytic conversion of rubber wastes to produce aromatic hydrocarbons over USY zeolites: Effect of SiO₂/Al₂O₃ mole ratio. Wang, J.; Jiang, J.; Wang, X.; Liu, P.; Li, J.; Liu, G.; Wang, K.; Li, M.; Zhong, Z. Xu, J.; Ragauskas, A.J. *Energy Conversion and Management* (2019), 197, 111857.
241. Utilization of deep eutectic solvent as a degumming protocol for *Apocynum venetum* bast. Song, Y.; Kai, N.; Jiang, W.; Zhang, Y.; Ben, H.; Han, G.; Ragauskas, A.J. *Cellulose* (2019), 26(13-14), 8047-8057.
242. A Multifunctional Cosolvent Pair Reveals Molecular Principles of Biomass Deconstruction. Patri, A. S.; Mostofian, B.; Pu, Y.; Ciaffone, N.; Soliman, M.; Smith, M.D.; Kumar, R.; Cheng, X.; Wyman, C. E.; Tetard, L.; Ragauskas, A.J.; Smith, J.C.; Petridis, L.; Cai, C.C. *Journal of the American Chemical Society* (2019) 141(32), 12545-12557.
243. Non-Solvent Fractionation of Lignin Enhances Carbon Fiber Performance. Li, Q.; Li, M.; Lin, H.S.; Hu, C.; Truong, P.; Zhang, T.; Sue, H.J.; Pu, Y.; Ragauskas, A.J.; Yuan, J.S. *ChemSusChem* (2019), 12(14), 3249-3256.
244. Integration of renewable deep eutectic solvents with engineered biomass to achieve a closed-loop biorefinery. Kim, K.H.; Eudes, A.; Jeong, K.; Yoo, C.G.; Kim, C.S.; Ragauskas, A. *Proceedings of the National Academy of Sciences of the United States of America* (2019), 116(28), 13816-13824.
245. Bio-inspired nanocomposite by layer-by-layer coating of chitosan/hyaluronic acid multilayers on a hard nanocellulose-hydroxyapatite matrix. Huang, C.; Fang, G.; Zhao, Y.; Bhagia, S.; Meng, X.; Yong, Q.; Ragauskas, A.J. *Carbohydrate Polymers* (2019), 222, 115036.
246. Cellulolytic Enzyme-Aided Hemicellulose Extraction and Its Characteristics from Switchgrass. Ding, J.; Yoo, C.G.; Pu, Y.; Meng, X.; Bhagia, S.; Yu, C.; Ragauskas, A., *Green Chemistry* (2019), 21(14), 3902-3910.
247. Catalytic fast co-pyrolysis of bamboo sawdust and waste plastics for enhanced aromatic hydrocarbons production using synthesized CeO₂/Al₂O₃ and HZSM-5. Wang, J.; Jiang, J.; Zhong, Z.; Wang, K.; Wang, X.; Zhang, B.; Ruan, R.; Li, M.; Ragauskas, A.J. *Energy Conversion and Management*, (2019), 196, 759-767.
248. Investigating the correlation of biomass recalcitrance with pyrolysis oil using poplar as the feedstock. Lu, Kongyu; Hao, N; Meng, X.; Luo, Z.; Tuskan, G.A.; Ragauskas, A.J. *Bioresource Technology* (2019), 289, 121589.
249. Preparation and characterization of microcellulose and nanocellulose fibers from *Artemisia vulgaris* bast. Nie, K.; Song, Y.; Liu, S.; Han, G.; Ben, H.; Ragauskas, A.J.; Jiang, W. *Polymers* (2019), 11(5), 907.
250. Hydrogenation of Phenol to Cyclohexanone over Bifunctional Pd/C-Heteropoly Acid Catalyst in the Liquid Phase. Liu, S.; Han, J.; Wu, Q.; Bian, B.; Li, L.; Yu, S.; Song, J.; Zhang, C.; Ragauskas, A.J. *Catalysis Letters* (2019), 149(9), 2383-2389.
251. Cooperative Valorization of Lignin and Residual Sugar to Polyhydroxyalkanoate (PHA) for Enhanced Yield and Carbon Utilization in Biorefineries. Liu, Z.H.; Shinde, S.D.; Xie, S.; Hao, N.; Lin, F.; Li, M.; Yoo, C.G.; Ragauskas, A.; Yuan, J.S. *Sustainable Energy & Fuels* (2019) 3(8), 2024-2037.
252. Lignin-based Polyurethanes from Unmodified Kraft Lignin Fractionated by Sequential Precipitation. Wang, Y.Y.; Wyman, C.E.; Cai, C.M.; Ragauskas, A.J. *ACS Applied Polymer Materials* (2019), 1(7), 1672-1679.

253. One-pot transformation of lignocellulosic biomass into crude bio-oil with metal chlorides via hydrothermal and supercritical ethanol processing. Hao, N.; Alper, K.; Tekin, K.; Karagoz, S.; Ragauskas, A.J. *Bioresource Technology* (2019), 288, 121500.
254. In-situ evaluation for upgrading of biomass model compounds over noble metal catalysts by isotopic tracing and NMR monitoring. *Journal of Analytical and Applied Pyrolysis* (2019), 137, 253-258.
255. Determination of hydroxyl groups in biorefinery resources via quantitative ³¹P nuclear magnetic resonance spectroscopy. Meng, X.; Crestini, C.; Ben, H.; Hao, N.; Pu, Y.; Ragauskas, A.J.; Argyropoulos, D.S., *Nature Protocols* (2019) 14(9), 2627-2647.
256. Combining loss of function of *FOLYLPOLYGLUTAMATE SYNTHETASE1* and *CAFFEOYL-COA 3-O-METHYLTRANSFERASE1* for lignin reduction and improved saccharification efficiency in *Arabidopsis thaliana*. Xie, H.; Engle, N.L.; Venketachalam, S.; Yoo, C.G.; Barros, J.; Lecoultre, M.; Howard, N. N.; Li, G.; Sun, L.; Srivastava, A.C.; Pattathil, S.; Pu, Y.; Hahn, M.G.; Ragauskas, A.J.; Nelson, R.S.; Dixon, R.A.; Tschaplinski, T.J.; Blancaflor, E.B.; Tang, Y. *Biotechnology for Biofuels* (2019) 12,108.
257. Chitosan-based layered carbon materials prepared via ionic-liquid-assisted hydrothermal carbonization and their performance study. Wu, Q.; Gao, M.; Cao, S.; Hu, J.; Huang, L.; Yu, S.; Ragauskas, A.J. *Journal of the Taiwan Institute of Chemical Engineers* (2019), 101, 231-243.
258. Cellulose hydrolysis by *Clostridium thermocellum* is agnostic to substrate structural properties in contrast to fungal cellulases. Kothari, N.; Bhagia, S.; Zaher, M.; Pu, Y.; Mittal, A.; Yoo, C.G.; Himmel, M.E.; Ragauskas, A.J.; Kumar, R.; Wyman, C.E. *Green Chemistry* (2019), 21(10), 2810-2822.
259. Preparation and characterization of nanocellulose-polyvinyl alcohol multilayer film by layer-by-layer method. Hou, Q.; Wang, X.; Ragauskas, A.J. *Cellulose* (2019), 26(8), 4787-4798.
260. Diol pretreatment to fractionate a reactive lignin in lignocellulosic biomass biorefinery. Dong, C.; Meng, X.; Yeung, C.S.; Tse, H.Y.; Ragauskas, A.; Leu, S.Y. *Green Chemistry* (2019), 21(10), 2810-2822.
261. Population-level approaches reveal novel aspects of lignin biosynthesis, content, composition and structure. Tuskan, G.A.; Muchero, W.; Tschaplinski, T.J.; Ragauskas, A.J. *Current Opinion in Biotechnology* (2019), 56, 250-257.
262. Effect of solvent fractionation pretreatment on energy consumption of cellulose nanofabrication from switchgrass. Wang, X.; Bozell, J.J.; Feng, X.; Huang, J.; Chen, H.; Bozell, J.J.; Li, Qian; Ragauskas, A.; Wang, S.; Mei, C. *Journal of Materials Science* (2019) 54(10), 8010-8022.
263. Cross-linked poly(methyl vinyl ether-co-maleic acid)/poly(ethylene glycol)/nanocellulosics foams via directional freezing. Liang, L.; Huang, C.; Hao, N.; Ragauskas, A.J. *Carbohydrate Polymers* (2019), 213, 346-351.
264. Pyrolytic behavior of major biomass components in waste biomass. Ben, H.; Wu, Z.; Han, G.; Jiang, W.; Ragauskas, A. *Polymers* (2019), 11(2), 324/1-324/16.
265. Production of deuterated biomass by cultivation of *Lemna minor*(duckweed) in D₂O. Evans, B.R.; Foston, M.; O'Neill, H.M.; Reeves, D.; Rempe, C.; McGrath, K.; Ragauskas, A.J.; Davison, B.H. *Planta* (2019), 249(5), 1465-1475.
266. A critical review on the analysis of lignin carbohydrate bonds in plants. Giummarella, N.; Pu, Y.; Ragauskas, A.; Lawoko, M. *Green Chemistry* (2019) 20, 1573 - 1595.

267. Identifying and creating pathways to improve biological lignin valorization. Liu, Z.-H.; Le, R. K.; Kosa, M.; Yang, B.; Yuan, J.; Ragauskas, A.J. *Renewable & Sustainable Energy Reviews* (2019), 105, 349-362.
268. Biomimetic composite scaffold from an in situ hydroxyapatite coating on cellulose nanocrystals. Huang, C.; Bhagia, S.; Hao, N.; Meng, X.; Liang, L.; Yong, Q.; Ragauskas, A.J. *RSC Advances* (2019), 9(10), 5786-5793.
269. Clean production of 5-hydroxymethylfurfural from cellulose using a hydrothermal/biomass-based carbon catalyst. Wu, Q.; Zhang, G.; Gao, M.; Cao, S.; Li, Lu; Liu, S.; Xie, C.; Huang, L.; Yu, S.; Ragauskas, A.J. *Journal of Cleaner Production* (2019), 213, 1096-1102.
270. Catalytic conversion of waste cooking oils for the production of liquid hydrocarbon biofuels using in-situ coating metal oxide on SBA-15 as heterogeneous catalyst. Cao, X.; Li, L.; Shitao, Y.; Liu, S.; Hailong, Y.; Qiong, W.; Ragauskas, A.J. *Journal of Analytical and Applied Pyrolysis* (2019), 138, 137-144.
271. Co-design of combinatorial organosolv pretreatment (COP) and lignin nanoparticles (LNPs) in biorefineries. Liu, Z.H.; Hao, N.; Shinde, S.; Olson, M.L.; Bhagia, S.; Dunlap, J.R.; Kao, K.C.; Kang, X.; Ragauskas, A.J.; Yuan, J.S. *ACS Sustainable Chemistry & Engineering* (2019), 7(2), 2634-2647.
272. Effects of one-step alkaline and two-step alkaline/dilute acid and alkaline/steam explosion pretreatments on the structure of isolated pine lignin. Das, P.; Stoffel, R.B.; Area, M. C.; Ragauskas, A.J., *Biomass and Bioenergy* (2019), 120, 350-358.
273. Downregulation of pectin biosynthesis gene *GAUT4* leads to reduced ferulate and lignin-carbohydrate cross-linking in switchgrass. Li M.; Yoo C.G.; Pu Y.; Biswal A.K.; Tolbert A. K; Mohnen D.; Ragauskas A.J. *Communications Biology* (2019), 2, 22.
274. Kinetic understanding of nitrogen supply condition on biosynthesis of polyhydroxyalkanoate from benzoate by *Pseudomonas putida* KT2440. Xu, Z.; Li, X.; Hao, N.; Pan, C.; de la Torre, L.; Ahamed, A.; Miller, J.H.; Ragauskas, A.J.; Yuan, J.; Yang, B. *Bioresource Technology* (2019), 273, 538-544.
275. Defining lignin nanoparticle properties through tailored lignin reactivity by sequential organosolv fragmentation approach (SOFA). Liu, Z.H.; Hao, N.; Shinde, S.D.; Pu, Y.; Kang, X.; Ragauskas, A.; Yuan, J.S. *Green Chemistry* (2019), 21(2), 245-260.
276. Assessing the facile pretreatments of bagasse for efficient enzymatic conversion and their impacts on structural and chemical properties. Satlewal, A.; Agrawal, R.; Das, P.; Bhagia, S.; Pu, Y.; Puri, S.K.; Ramakumar, S. S. V.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2019), 7(1), 1095-1104.
277. Catalytic fast co-pyrolysis of bamboo sawdust and waste tire using a tandem reactor with cascade bubbling fluidized bed and fixed bed system. Wang, J.; Zhong, Z.; Ding, K.; Li, M.; Hao, N.; Meng, X.; Ruan, R.; Ragauskas, A.J. *Energy Conversion and Management* (2019), 180, 60-71.
278. Overexpression of a serine hydroxymethyltransferase increases biomass production and reduces recalcitrance in the bioenergy crop *Populus*. Zhang, J.; Li, M.; Bryan, A. C.; Yoo, C.G.; Rottmann, W.; Winkeler, K.A.; Collins, C.M.; Singan, V.; Lindquist, Erika A.; Jawdy, S.S.; Gunter, L.E.; Engle, N.L.; Yang, X.; Barry, K.; Tschaplinski, T.J.; Schmutz, J.; Pu, Y.; Ragauskas, A.J.; Tuskan, G.A.; Muchero, W. *Sustainable Energy & Fuels* (2019), 3(1), 195-207.

279. Characterization of fractional cuts of co-solvent enhanced lignocellulosic fractionation lignin isolated by sequential precipitation. Meng, X.; Parikh, A.; Seemala, B.; Kumar, R.; Pu, Y.; Wyman, C.E.; Cai, C.M.; Ragauskas, A.J., *Bioresource Technology* (2019), 272, 202-208.
280. From lignin to valuable products-strategies, challenges, and prospects. Wang, H.; Pu, Y.; Ragauskas, A.; Yang, B. *Bioresource Technology* (2019), 271, 449-461.
281. Hemicellulose-cellulose composites reveal differences in cellulose organization after dilute acid pretreatment. Shah, R.; Huang, S.; Pingali, Sai V.; Sawada, D.; Pu, Y.; Rodriguez, M.; Ragauskas, A.J.; Kim, S.H.; Evans, B.R.; Davison, B. H.; Hugh, O.N., *Biomacromolecules* (2019), 20(2), 893-903.
282. Linking lignin source with structural and electrochemical properties of lignin-derived carbon materials. Li, W.; Zhang, Y.; Das, L.; Wang, Y.; Li, M.; Wanninayake, N.; Pu, Y.; Kim, D.Y.; Cheng, Y.T.; Ragauskas, A.J.; Shi, J., *RSC Advances* (2018), 8(68), 38721-38732.
283. Porous artificial bone scaffold synthesized from a facile in situ hydroxyapatite coating and crosslinking reaction of crystalline nanocellulose. Huang, C.; Hao, N.; Bhagia, S.; Li, M.; Meng, X.; Pu, Y.; Yong, Q.; Ragauskas, A.J. *Materialia* 4 (2018) 237-246.
284. A new calmodulin-binding protein expresses in the context of secondary cell wall biosynthesis and impacts biomass properties in *Populus*. Badmi, R.; Payyavula, R.S.; Bali, G.; Guo, H.B.; Jawdy, S.S.; Gunter, L.; Yang, X.; Winkeler, K.; Collins, C.; Rottmann, W.J.; Yee, K.; Rodriguez Jr, M.; Sykes, R.; Decker, S.R.; Davis, M.F.; Ragauskas, A.; Tuskan, G.; Kalluri, U.C., *Frontiers in Plant Science*, section Plant Cell Biology (2018), 9, article 1669.
285. Natural deep eutectic solvents for lignocellulosic biomass pretreatment: Recent developments, challenges and novel opportunities. Satlewal, A.; Agrawal, R.; Bhagia, S.; Sangoro, J.; Ragauskas, A.J., *Biotechnology Advances* (2018), 36(8), 2032-2050.
286. Hemicellulose characterization of deuterated switchgrass. Bhagia, S.; Pu, Y.; Evans, B.R.; Davison, B. H.; Ragauskas, A.J., *Bioresource Technology* (2018), 269, 567-570.
287. Functional analysis of cellulose synthase *CesA4* and *CesA6* genes in switchgrass (*Panicum virgatum*) by overexpression and RNAi-mediated gene silencing. Mazarei M.; Baxter H.L.; Li M.; Biswal A.K.; Kim K.; Meng X.; Pu Y.; Wuddineh W.A.; Zhang J.Y.; Turner G.B.; Sykes R.W.; Davis M.F.; Udvardi M.K.; Wang Z.Y.; Mohnen D.; Ragauskas A.J.; Labbe N.; Stewart C. N. *Front. Plant Sci.*, (2018) 9, article 1114.
288. Fractionation and characterization of lignin streams from unique high-lignin content endocarp feedstocks. Li W.; Shi J.; Amos K.; Debolt S.; Li M.; Pu Y.; Ragauskas A.J; Li M; Ragauskas A.J. *Biotechnology for Biofuels* (2018), 11, 304.
289. Isolation and characterization of cellulosic fibers from kenaf bast using steam explosion and Fenton oxidation treatment. Song, Y.; Jiang, W.; Zhang, Y.; Ben, H.; Han, G.; Ragauskas, A.J. *Cellulose* (2018), 25(9), 4979-4992.
290. Hybrid catalytic biorefining of hardwood biomass to methylated furans and depolymerized technical lignin. Seemala, B.; Meng, X.; Parikh, A.; Nagane, N.; Kumar, R.; Wyman, C.E.; Ragauskas, A.J.; Christopher, P.; Cai, C.M. *ACS Sustainable Chemistry & Engineering* (2018), 6(8), 10587-10594.
291. Production of single cell protein from agro-waste using *Rhodococcus opacus*. Mahan, K.M.; Le, R.K.; Wells, Jr., T.; Anderson, S.; Yuan, J.S.; Stoklosa, R.J.; Bhalla, A.; Hodge, D.B.; Ragauskas, A.J. *Journal of Industrial Microbiology & Biotechnology* (2018), 45(9), 795-801.
292. A structured understanding of cellobiohydrolase I binding to poplar lignin fractions after dilute acid pretreatment. Yao, L.; Yoo, C.G.; Meng, X.; Li, M.; Pu, Y.; Ragauskas, A.J.; Yang, H. *Biotechnology for Biofuels* (2018) 11: 96.

293. Fast fractionation of technical lignins by organic co-solvents. Wang, Y.Y.; Li, M.; Cai, C.; Wyman, C.; Ragauskas, A.J. *ACS Sustainable Chemistry and Engineering* (2018), 6(5), 6064-6072.
294. Understanding lignin fractionation and characterization from engineered switchgrass treated by an aqueous ionic liquid. Liu, E.; Li, M.; Das, L.; Pu, Y.; Frazier, T.; Zhao, B.; Crocker, M.; Ragauskas, A.J.; Shi, J. *ACS Sustainable Chemistry & Engineering* (2018), 6(5), 6612-6623.
295. Impact of hydration and temperature history on the structure and dynamics of lignin. Vural, D.; Gainaru, C.; O'Neill, H.; Pu, Y.; Smith, M. D.; Parks, J. M.; Pingali, S. V.; Mamontov, E.; Davison, B.H.; Sokolov, A.P.; Ragauskas, A.J.; Smith, J.C.; Petridis, L. *Green Chemistry* (2018), 20(7), 1602-1611.
296. Characterization of whole biomasses in pyridine based ionic liquid at low temperature by ³¹P NMR: An approach to quantitatively measure hydroxyl groups in biomass as their original structures. Ben, H.; Chen, X.; Shao, Y.; Han, G.; Jiang, W.; Pu, Y.; Ragauskas A.J. *Frontiers in Energy Research* (2018) 6, article 13.
297. Inhibitory effects of lignin on enzymatic hydrolysis: The role of lignin chemistry and molecular weight. Li, X.; Li, M.; Pu, Y.; Ragauskas, A.J.; Klett, A.S.; Thies, M.; Zheng, Y. *Renewable Energy* 123 (2018) 664-674.
298. Laccase-mediated functionalization of chitosan with 4-hexyloxyphenol enhances antioxidant and hydrophobic properties of copolymer. Liu, N.; Ni, S.; Ragauskas, A.J.; Meng, X.; Hao, N.; Fu, Y. *Journal of Biotechnology* (2018), 269, 8-15.
299. Cellulose-hemicellulose interactions at elevated temperatures increase cellulose recalcitrance to biological conversion. Kumar, R.; Bhagia, S.; Smith, M.D.; Petridis, L.; Ong, R.; Cai, C.M.; Mittal, A.; Himmel, M.E.; Balan, V.; Dale, B.E.; Ragauskas, A.J.; Smith, J.C.; Wyman, C.E. *Green Chemistry* (2018), 20(4) 921-934.
300. Characteristics of lignin fractions from dilute acid pretreated switchgrass and their effect on cellobiohydrolase from *Trichoderma longibrachiatum*. Yao, L.; Yang, H.; Yoo, C.G.; Meng, X.; Pu, Y.; Hao, N.; Ragauskas, A.J. *Frontiers in Energy Research*, section Bioenergy and Biofuels, (2018) 6, article 1.
301. Co-production of bio-ethanol, xylonic acid and slow-release nitrogen fertilizer from low-cost straw pulping solid residue. Huang, C.; Ragauskas, A.J.; Wu, X.; Huang, Y.; Zhou, X.; He, J.; Huang, C.; Lai, C.; Li, X.; Yong, Q. *Bioresource Technology* (2018), 250, 365-373.
302. Significance of lignin S/G ratio in biomass recalcitrance of *Populus trichocarpa* variants for bioethanol production. Yoo, C.G.; Dumitrache, A.; Muchero, W.; Natzke, J.; Akinosho, H. O.; Li, M.; Sykes, R.; Brown, S.D.; Davison, B.H.; Tuskan, G.A.; Pu, Y.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2018), 6, 2162-2168.
303. Ultrastructure and enzymatic hydrolysis of deuterated switchgrass. Bhagia S.; Meng X.; Evans B.R.; Dunlap J.R.; Bali G.; Chen J.; Reeves K.S.; Ho H.C.; Davidson, B.H.; Pu, Y.; Ragauskas, A.J. *Scientific Reports* (2018), 8(1), 1-9.
304. Catalytic conversion of bamboo sawdust over ZrO₂-CeO₂/γ-Al₂O₃ to produce ketonic hydrocarbon precursors and furans. Wang, J.; Xu, C.; Zhong, Z.; Deng, A.; Hao, N.; Li, M.; Meng, X.; Ragauskas, A.J., *ACS Sustainable Chemistry & Engineering* (2018), 6(11), 13797-13806.
305. Ethanol: A promising green solvent for the deconstruction of lignocellulose. Tekin, K.; Hao, N.; Karagoz, S.; Ragauskas, A.J. *ChemSusChem* (2018), 11(20), 3559-3575.

306. Catalytic fast pyrolysis of bamboo sawdust via a two-step bench scale bubbling fluidized bed /fixed bed reactor: Study on synergistic effect of alkali metal oxides and HZSM-5. Wang, J.; Zhong, Z.; Ding, K.; Deng, A.; Hao, N.; Meng, Xianzhi; Ben, H.; Ruan, R.; Ragauskas, A.J., *Energy Conversion and Management* (2018), 176, 287-298.
307. Insights of ethanol organosolv pretreatment on lignin properties of *Broussonetia papyrifera*. Yao, L.; Chen, C.; Yoo, C.G.; Meng, X.; Li, M.; Pu, Y.; Ragauskas, A.J.; Dong, C.; Yang, H., *ACS Sustainable Chemistry & Engineering* (2018), 6(11), 14767-14773.
308. Topochemical understanding of lignin distribution during hydrothermal flowthrough pretreatment. Jung, S.; Trajano, H.L.; Yoo, C.G.; Foston, M.B.; Hu, F.; Tolbert, A.K.; Wyman, C.E.; Ragauskas, A.J., *ChemistrySelect* (2018), 3(32), 9348-9352.
309. Characterization and catalytic transfer hydrogenolysis of deep eutectic solvent extracted sorghum lignin to phenolic compounds. Das, L.; Li, M.; Stevens, J.; Li, W.; Pu, Y.; Ragauskas, A.J.; Shi, J. *ACS Sustainable Chemistry & Engineering* (2018), 6(8), 10408-10420.
310. Chemical transformations of poplar lignin during co-solvent enhanced lignocellulosic fractionation process. Meng, X.; Parikh, A.; Nagane, N.; Seemala, B.; Kumar, R.; Cai, C.M.; Pu, Y.; Wyman, C.E.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2018), 6(7), 8711-8718.
311. Understanding the influences of different pretreatments on recalcitrance of *Populus* natural variants. Yao, L.; Yang, H.; Yoo, C.G.; Pu, Y.; Meng, X.; Muchero, W.; Tuskan, G.; Tschaplinski, T.; Ragauskas, A.J. *Bioresource Technology* (2018), 265, 75-81.
312. Investigation of composition, structure and bioactivity of extracellular polymeric substances from original and stress-induced strains of *Thraustochytrium striatum*. Xiao, R.; Yang, X.; Li, M.; Li, X.; Wei, Y.; Cao, M.; Ragauskas, A.; Thies, M.; Ding, J.; Zheng, Y. *Carbohydrate Polymers* (2018), 195, 515-524.
313. A green degumming process of ramie. Jiang, W.; Song, Y.; Liu, S.; Ben, H.; Zhang, Y.; Zhou, C.; Han, G.; Ragauskas, A.J. *Industrial Crops and Products* (2018), 120, 131-134.
314. Effect of Autohydrolysis Pretreatment Conditions on Sugarcane Bagasse Structures and Product Distribution Resulting from Pyrolysis. Hao, N.; Lu, K.; Ben, H.; Adhikari, S.; Bezerra, T.L.; Ragauskas, A.J. *Energy Technology* (2018), 6(4), 640-648.
315. Recent advances in understanding the pseudo-lignin formation in a lignocellulosic biorefinery. Shinde, S.D.; Meng, X.; Kumar, R.; Ragauskas, A.J. *Green Chemistry* (2018), 20(10), 2192-2205.
316. Sugar release and growth of biofuel crops are improved by downregulation of pectin biosynthesis. Biswal, A.K.; Atmodjo, M.A.; Li, M.; Baxter, H.L.; Yoo, C.G.; Pu, Y.; Lee, Y.C.; Mazarei, M.; Black, I.M.; Ji-Yi, Z.; Ramanna, H.; Bray, A.L.; King, Z.R.; LaFayette, P.R.; Pattathil, S.; Donohoe, B.S.; Mohanty, S.S.; Ryno, D.; Yee, K.; Thompson, O.A.; Rodriguez Jr., M.; Dumitrache, A.; Natzke, J.; Winkeler, K.; Collins, C.; Yang, X.; Tan, L.; Sykes, R.W.; Gjersing, E.L.; Ziebell, A.; Turner, G.B.; Decker, S.R.; Hahn, M.G.; Davison, B.H.; Udvardi, M.K.; Mielenz, J.R.; Mark, D.F.; Nelson, R.A.; Parrott, W.A.; Ragauskas, A.J.; Stewart Jr., N.C.; Mohnen, D. *Nature Biotechnology* (2018), 36(3), 249-257.
317. The nature of hololignin. Meng, X.; Pu, Y.; Sannigrahi, P.; Li, M.; Cao, S.; Ragauskas, A.J.; *ACS Sustainable Chemistry & Engineering* (2018), 6(1), 957-964.
318. Rice straw as a feedstock for biofuels: Availability, recalcitrance, and chemical properties. Satlewal, A.; Agrawal, R.; Bhagia, S.; Das, P.; Ragauskas, A.J. *Biofuels, Bioproducts & Biorefining* (2018), 12(1), 83-107.

319. ³¹P NMR Chemical Shifts of Solvents and Products Impurities in Biomass Pretreatments. Li, M.; Yoo, C.G.; Pu, Y.; Ragauskas, A.J. ACS Sustainable Chemistry & Engineering (2018), 6(1), 1265-1270.
320. Overexpression of a domain of unknown function 231-containing protein increases O-xylan acetylation and cellulose biosynthesis in *Populus*. Yang, Y.; Yoo, C.G.; Winkeler, K.A.; Collins, C.M.; Hinchey, M. A. W.; Jawdy, S. S.; Gunter, L. E.; Engle, N. L.; Pu, Y.; Yang, X.; Tschaplinski, T. J.; Ragauskas, A.J.; Tuskan, G.A.; Chenet, J.G. Biotechnology for Biofuels (2017), 10, 311/1-311/16.
321. Solid-State NMR Investigation of Bio-chars Produced from Biomass Components and Whole Biomasses. Ben, H.; Hao, N.; Liu, Q.; Ragauskas, A.J. BioEnergy Research (2017), 10(4), 1036-1044.
322. The effect of liquid hot water pretreatment on the chemical-structural alteration and the reduced recalcitrance in poplar. Li, M.; Cao, S.; Meng, X.; Studer, M.; Wyman, C.E.; Ragauskas, A.J.; Pu, Y. Biotechnology for Biofuels (2017), 10, 237/1-237/13.
323. Overexpression of a Domain of Unknown Function 266-containing protein results in high cellulose content, reduced recalcitrance, and enhanced plant growth in the bioenergy crop *Populus*. Yang, Y.; Yoo, C.G.; Guo, H.B.; Rottmann, W.; Winkeler, K.A.; Collins, C.M.; Gunter, L.E.; Jawdy, S.S.; Yang, X.; Guo, H.; Pu, Y.; Ragauskas, A.J.; Tuskan, G.A.; Chen, J.G., Biotechnology for Biofuels (2017), 10, 74/1-74/13.
324. Study of traits and recalcitrance reduction of field-grown COMT down-regulated switchgrass. Li, M.; Pu, Y.; Yoo, C.G.; Gjersing, E.; Decker, S.R.; Doepke, C.; Shollenberger, T.; Tschaplinski, T.J.; Engle, N.L.; Sykes, Robert W.; Davis, M.F.; Baxter, H.L.; Mazarei, M.; Fu, C.; Dixon, R.A.; Wang, Z.Y.; Stewart, N.C.; Ragauskas, A.J.; Biotechnology for Biofuels (2017), 10, 12/1-12/12.
325. Dynamic changes in transcriptome and cell wall composition underlying brassinosteroid-mediated lignification of switchgrass suspension cells. Himmel, M.; Rao X.; Shen H.; Pattathil S.; Hahn M.G.; Gelineo-Albersheim I.; Mohnen D.; Pu Y.; Ragauskas A.J.; Chen X.; Chen F.; Richard A. Dixon, R.A. Biotechnology for Biofuels (2017) 10(1), 266/1-18.
326. Lignin exhibits recalcitrance-associated features following the consolidated bioprocessing of *Populus trichocarpa* natural variants. Akinosho, H.; Yee, K.; Rodriguez, M.; Muchero, W.; Yoo, C/ G.; Li, M.; Thompson, O.; Pu, Y.; Brown, S.; Mielenz, J.; Ragauskas, A.J. ChemistrySelect (2017), 2(33), 10642-10647.
327. Adding tetrahydrofuran to dilute acid pretreatment provides new insights into substrate changes that greatly enhance biomass deconstruction by *Clostridium thermocellum* and fungal enzymes. Thomas V.A; Donohoe, B.S; Li, Mi; Pu, Y.; Ragauskas, A.J.; Kumar. R.; Cai, C.; Wyman C. E. Biotechnology Biofuels (2017) 10, 252, doi:10.1186/s13068-017-0937-3.
328. Defined tetra-allelic gene disruption of the 4-coumarate: coenzyme A ligase 1 (Pv4CL1) gene by CRISPR/Cas9 in switchgrass results in lignin reduction and improved sugar release. Biotechnology Biofuels. (2017) 10, 284/1-11.
329. Insights of biomass recalcitrance in *Populus trichocarpa* natural variants for biomass conversion Yoo, C.G.; Yang, Y.; Pu, Y.; Meng, X.; Muchero, W.; Yee, K.; Thompson, O.; Rodriguez, M.; Bali, G.; Engle, N.L.; Lindquist, E.; Singan, V.; Schmutz, J.; DiFazio, S.; Tschaplinski, T.J.; Tuskas, G.; Chen, J.G.; Davison. B.H.; Ragauskas, A. Green Chemistry (2017), 19(22), 5467-5478.

330. Utilization of simultaneous saccharification and fermentation residues as feedstock for lipid accumulation in *Rhodococcus opacus*. Le, R.K.; Das, P.; Mahan, K.M.; Anderson, S.M., Wells T. Jr.; Yuan, J.S.; Ragauskas, A.J. *AMB Expr* (2017) 7:185, 1-10.
331. A Review on The Bioconversion of Lignin to Microbial Lipid with Oleaginous *Rhodococcus opacus*. Mahan, K.M.; Le, R.M., Yuan, J. Ragauskas, A.J. *Journal of Biotechnology & Biomaterials* (2017) 7, 2.
332. Synergistic maximization of the carbohydrate output and lignin processability by combinatorial pretreatment. Liu, Z.H.; Olson, M.L.; Shinde, S.; Wang, X.; Hao, N.; Yoo, C.G.; Bhagia, S.; Dunlap, Jo. R.; Pu, Y.; Kao, K.C.; Ragauskas, A.J.; Jin, M.; Yuan, J.S. *Green Chemistry* (2017), 19(20), 4939-4955.
333. Bioavailability of Carbohydrate Content in Natural and Transgenic Switchgrasses for the Extreme Thermophile *Caldicellulosiruptor bescii*. Zurawski J. V.; Khatibi P. A.; Straub C. T.; Compton S. H.; Conway J. M.; Lee L. L.; Kelly R. M.; Akinosho H. O.; Ragauskas A. J.; Davison B. H.; Adams, M.W.W.; Kelly, R. M. *Applied and Environmental Microbiology* (2017), 83(17), e00969-17/18.
334. Solid-State NMR Investigation of Bio-chars Produced from Biomass Components and Whole Biomasses. Ben, H.; Hao, N.; Liu, Q.; Ragauskas, A.J., *BioEnergy Research* (2017), 10(4), 1036-1044.
335. Deconstruction of lignocellulosic biomass with hydrated cerium (III) chloride in water and ethanol. Akalin, M.K.; Das, P.; Alper, K.; Tekin, K.; Ragauskas, A.J.; Karagoz, S. *Applied Catalysis, A General* (2017), 546, 67-78.
336. Adsorption of cellobiohydrolases I onto lignin fractions from dilute acid pretreated *Broussonetia papyrifera*. Yao, L.; Yang, H.; Geun Yoo, C.; Meng, X.; Li, M.; Pu, Y.; Ragauskas, A.J.; Sykes, R.W. *Bioresource Technology* (2017), 244(Part 1), 957-962.
337. Characterization of products from hydrothermal carbonization of pine. Wu, Q.; Yu, S.; Hao, N.; Wells, T.; Meng, X.; Li, M.; Pu, Y.; Liu, S.; Ragauskas, A.J. *Bioresource Technology* (2017), 244(Part 1) 78-83.
338. The effect of in-vivo deuteration on structure of switchgrass lignin. Meng, X.; Evans, B.R.; Yoo, C. G.; Pu, Y.; Davison, B. H.; Ragauskas, A. J., *ACS Sustainable Chemistry & Engineering* (2017), 5:9, 8004–8010.
339. Elucidating the structural changes to *Populus* lignin during consolidated bioprocessing with *Clostridium thermocellum*. Akinosho, H. O.; Yoo, C. G.; Dumitrache, A.; Natzke, J.; Muchero, W.; Brown, S.D.; Ragauskas, A.J., *ACS Sustainable Chemistry & Engineering* (2017), 5:9, 7486–7491.
340. Surface Characterization of *Populus* during *Caldicellulosiruptor bescii* Growth by TOF-SIMS. Tolbert, A.K.; Young, J.M.; Jung, S.; Chung, D.; Passian, A.; Westpheling, J.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2017), 5(3), 2084-2089.
341. Allelopathic effects of exogenous phenylalanine: a comparison of four monocot species. Evans, B.R.; Bali, G.; Ragauskas, A.; Shah, R.; O'Neill, H.; Howard, C.; Lavenhouse, F.; Ramirez, D.; Weston, K.; Ramey, K.; Cangemi, V.; Kinney, B.; Partee, C.; Ware, T.; Davidson, B. *Planta* (2017) 246:673-685.
342. Plasticity, elasticity, and adhesion energy of plant cell walls: nanometrology of lignin loss using atomic force microscopy. Farahi, R. H.; Charrier, A. M.; Tolbert, A.; Lereu, A. L.; Ragauskas, A.J.; B. H. Davison, B.H.; Passian, A., *Scientific Reports* (2017) 7(1), 1-12.

343. Effect of autohydrolysis pretreatment on biomass structure and the resulting bio-oil from a pyrolysis process. Hao, N.; Bezerra, T.L.; Wu, Q.; Ben, H.; Sun, Q.; Adhikari, S.; Ragauskas, A.J., *Fuel* (2017), 206, 494-503.
344. Laccase-mediated synthesis of lignin-core hyperbranched copolymers. Cannatelli, M.D.; Ragauskas, A.J., *Applied Microbiology and Biotechnology* (2017), 101(16), 6343-6353.
345. Recent Advances in Lignin-based Polyurethanes. Wang, Y.Y.; Cai, C.M.; Ragauskas, A.J. *TAPPI Journal* (2017) 16(4), 203 – 207.
346. Biofuel production from Jerusalem artichoke tuber inulins: a review. Bhagia, S.; Akinosho, H.; Ferreira, J.F.S.; Ragauskas, A. *Biofuel Research Journal* (2017) 14, 587-599.
347. Comparative Study of the Structure of Hydroproducts Derived from Loblolly Pine and Straw Grass Wu, Q.; Huang, L.; Yu, S.; Liu, S.; Xie, C.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2017), 5(7), 6131-6138.
348. Structural elucidation of hydro-products from hydrothermal carbonization of loblolly pine at different temperatures using NMR techniques. Wu, Q.; Huang, L.; Yu, S.; Liu, S.; Xie, C.; Ragauskas, A.J. *Energy*, (2017), 133, 171-178.
349. Ionic liquids: Promising green solvents for lignocellulosic biomass utilization. Yoo C.G.; Pu Y.; Ragauskas A.J. *Current Opinion in Green and Sustainable Chemistry* (2017) 5, 5-11.
350. Pseudo-Lignin Formation during Dilute Acid Pretreatment for Cellulosic Ethanol. Meng, X.; Ragauskas, A.J. *Recent Advances in Petrochemical Sciences*, (2017), 1(1), 001.
351. ³¹P NMR characterization of tricetin and its structurally similar flavonoids. Li, M.; Pu, Y.; Tschapinski, T.J.; Ragauskas, A.J. *ChemistrySelect* (2017), 2(12), 3557-3561.
352. Effects of biomass accessibility and Klason lignin contents during consolidated bioprocessing in *Populus trichocarpa*. Akinosho, H.; Dumitrache, A.; Natzke, J.; Muchero, W.; Jawdy, S.S.; Tuskan, G.A.; Brown, S.D.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2017), 5(6), 5075-5081.
353. Cellulose and lignin colocalization at the plant cell wall surface limits microbial hydrolysis of *Populus* biomass. Dumitrache, A.; Tolbert, A.; Natzke, J.; Brown, S.D.; Davison, B.H.; Ragauskas, A.J. *Green Chemistry* (2017), 19(9), 2275-2285.
354. Understanding the changes to biomass surface characteristics after ammonia and organosolv pretreatments by using time-of-flight secondary-ion mass spectrometry (TOF-SIMS). Tolbert, A.K.; Yoo, C.G.; Ragauskas, A.J. *ChemPlusChem* (2017), 82(5), 686-690.
355. Effects of organosolv and ammonia pretreatments on lignin properties and its inhibition for enzymatic hydrolysis. Yoo, C.G.; Li, M.; Meng, X.; Pu, Y.; Ragauskas, A.J.; *Green Chemistry* (2017), 19(8), 2006-2016.
356. OsCESA9 conserved-site mutation leads to largely enhanced plant lodging resistance and biomass enzymatic saccharification by reducing cellulose DP and crystallinity in rice. Li, F.; Xie, G.; Huang, J.; Zhang, R.; Li, Y.; Zhang, M.; Wang, Y.; Li, A.; Li, X.; Xia, T.; Qu, C.; Hu, F.; Ragauskas, A.J.; Peng, L. *Plant Biotechnol J.*, (2017), 15(9), 1093-1104.
357. Advances in understanding the surface chemistry of lignocellulosic biomass via time-of-flight secondary ion mass spectrometry. Tolbert, A.; Ragauskas, A.J., *Energy Science & Engineering* (2017), 5(1), 5-20.
358. Fractionation of organosolv lignin using acetone: water and properties of the obtained fractions. Sadeghifar, H.; Wells, T.; Le, R.K.; Sadeghifar, F.; Yuan, J.S.; Ragauskas, A.J., *ACS Sustainable Chemistry and Engineering* (2017), 5(1), 580-587.

359. Conversion of corn stover alkaline pre-treatment waste streams into biodiesel via Rhodococci. Le, R.K.; Wells J.T.; Das, P.; Meng, X.; Stoklosa, R.J.; Bhalla, A.; Hodge, D.B.; Yuan, J.S.; Ragauskas, A.J., RSC Advances (2017), 7(7), 4108-4115.
360. Effects of Lignin Structure on Hydrodeoxygenation Reactivity of Pinewood Lignin to Valuable Chemicals. Wang, H.; Ben, H.; Ruan, H.; Zhang, L.; Pu, Y.; Feng, M.; Ragauskas, A.J.; Yang, B. ACS Sustainable Chemistry & Engineering (2017), 5(2), 1824-1830.
361. Advanced chemical design for efficient lignin bioconversion. Xie, S.; Sun, Q.; Pu, Y.; Lin, F.; Sun, S.; Wang, X.; Ragauskas, A.J.; Yuan, J.S. ACS Sustainable Chemistry & Engineering (2017), 5(3), 2215-2223.
362. Comparative evaluation of *Populus* variants total sugar release and structural features following pretreatment and digestion by two distinct biological systems. Thomas, V.A.; Kothari, N.; Bhagia, S.; Akinosho, H.; Li, M.; Pu, Y.; Yoo, C.G.; Pattathil, S.; Hahn, M.G.; Ragauskas, A.J.; Wyman, C.E.; Kumar, R. Biotechnol Biofuels (2017) 10, 292.
363. An in-depth understanding of biomass recalcitrance using natural poplar variants as the feedstock. Meng, X.; Pu, Y.; Yoo, C.G.; Li, M.; Bali, G.; Park, D.Y.; Gjersing, E.; Davis, M.F.; Muchero, W.; Tuskan, G.A.; Tschaplinski, T.; Ragauskas, A.J., ChemSusChem (2017), 10(1), 139-150.
364. Understanding multiscale structural changes during dilute acid pretreatment of switchgrass and poplar. Pingali, S.V.; Urban, V.S.; Heller, W.T.; McGaughey, J.; O'Neill, H.; Foston, M.B.; Li, H.; Wyman, C. E.; Myles, D.A.; Langan, P.; Ragauskas, A.; Davison, B.; Evans, B.R., ACS Sustainable Chemistry & Engineering (2017), 5(1), 426-435.
365. Enhanced production of bioethanol by fermentation of autohydrolyzed and C4mimOAc-treated sugarcane bagasse employing various yeast strains. Ragauskas A.J.; Hashmi M.; Shah A.; Hameed A. Energies (2017) 10(1207):1-7 14.
366. Two decades of laccases: Advancing sustainability in the chemical industry. Cannatelli, M.D.; Ragauskas, A.J. Chemical Record (2017), 17(1), 122-140.
367. Physicochemical structural changes of cellulosic substrates during enzymatic saccharification. Meng, X.; Yoo, C.G.; Li, M.; Ragauskas, A.J., J Appl. Biotechnol. Bioeng. 2016, 1(3): 00015.
368. Current understanding of the correlation of lignin structure with biomass recalcitrance. Li, M.; Pu, Y.; Ragauskas, A.J., Frontiers in Chemistry. (2016), 4, 45/1-45/8.
369. Consolidated bioprocessing of *Populus* using *Clostridium (Ruminiclostridium) thermocellum*: a case study on the impact of lignin composition and structure. Dumitrache, A.; Akinosho, H.; Rodriguez, M., Jr.; Meng, X.; Yoo, C.G.; Natzke, J.; Engle, N.L.; Sykes, R.W.; Tschaplinski, T.J.; Muchero, W.; Ragauskas, A.J.; Davison, B.H.; Brown, S.B. Biotechnology for Biofuels (2016) 9, 31/1-31/14.
370. Effect of torrefaction temperature on lignin macromolecule and product distribution from HZSM-5 catalytic pyrolysis. Mahadevan, R.; Adhikari, S.; Shakya, R.; Wang, K.; Dayton, D.C.; Li, M.; Pu, Y.; Ragauskas, A.J., Journal of Analytical and Applied Pyrolysis (2016), 122, 95-105.
371. Revealing the Molecular Structural Transformation of Hardwood and Softwood in Dilute Acid Flowthrough Pretreatment. Zhang, L.; Pu, Y.; Cort, J.R.; Ragauskas, A.J.; Yang, B. ACS Sustainable Chemistry & Engineering (2016), 4(12), 6618-6628.
372. Comparison of autohydrolysis and ionic liquid 1-butyl-3-methylimidazolium acetate pretreatment to enhance enzymatic hydrolysis of sugarcane bagasse. Hashmi, M.; Sun, Q.; Tao, J.; Wells, T., Jr.; Shah, A.A.; Labbe, N.; Ragauskas, A.J. Bioresource Technology (2017), 224, 714-720.

373. Synergistic enzymatic and microbial lignin conversion. Zhao, C.; Xie, S.; Pu, Y.; Zhang, R.; Huang, F.; Ragauskas, A.J.; Yuan, J.S., *Green Chemistry* (2016), 18(5), 1306-1312.
374. Lignin Association to Nano-/Micro-particle Preparation: Extracting Higher Value of Lignin Zhao, W.; Simmons, B.; Singh, S.; Ragauskas, A.J.; Cheng, G. *Green Chemistry* (2016), 18(21), 5693-5700.
375. Characterization of cellulose structure of *Populus* plants modified in candidate cellulose biosynthesis genes. Bali, G.; Khunsupat, R.; Akinosho, H.; Payyavula, R.S.; Samuel, R.; Tuskan, G.A.; Kalluri, U.C.; Ragauskas, A.J. *Biomass and Bioenergy* (2016), 94, 146-154.
376. Down-regulation of *KORRIGAN*-like endo-beta-1,4-glucanase genes impacts carbon partitioning, mycorrhizal colonization, and biomass production in *Populus*. Kalluri, U.C.; Payyavula, R.S.; Labbe J.L.; Engle, N.; Bali, G.; Jawdy, S.S.; Sykes, R.W.; Davis, M.; Ragauskas, A.; Tuskan G.A.; Tschaplinski, T. *Frontiers in Plant Science* (2016) 7.
377. Conversion of lignin into value-added materials and chemicals via laccase-assisted copolymerization. Cannatelli, M.D.; Ragauskas, A.J. *Applied Microbiology and Biotechnology* (2016), 100(20), 8685-8691.
378. Review of NMR characterization of pyrolysis oils. Hao, N.; Ben, H.; Yoo, C. G.; Adhikari, S.; Ragauskas, A.J. *Energy & Fuels* (2016), 30(9), 6863-6880.
379. Physicochemical structural changes of poplar and switchgrass during biomass pretreatment and enzymatic hydrolysis. Meng, X.; Sun, Q.; Kosa, M.; Huang, F.; Pu, Y.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2016), 4(9), 4563-4572.
380. Ecofriendly syntheses of phenothiazones and related structures facilitated by laccase - a comparative study. Cannatelli, M.D.; Ragauskas, A.J. *Tetrahedron Letters* (2016), 57(33), 3749-3753.
381. A review of sugarcane bagasse for second-generation bioethanol and biopower production. Bezerra, T.L.; Ragauskas, A.J. *Biofuels, Bioproducts & Biorefining* (2016), 10(5), 634-647.
382. Systems biology-guided biodesign of consolidated lignin conversion. Lin, L.; Cheng, Y.; Pu, Y.; Sun, S.; Li, X.; Jin, M.; Pierson, E.A.; Gross, D.C.; Dale, B.E.; Dai, S.; Dai, S.; Ragauskas, A.J.; Yuan, J.S. *Green Chemistry* (2016) 18(20), 5536-5547.
383. Lignin conversion: Opportunities and challenges for the integrated biorefinery. Xie, S.; Ragauskas, A.J.; Yuan, J.S. *Industrial Biotechnology* (2016), 12(3), 161-167.
384. Determining the syringyl/guaiacyl lignin ratio in the vessel and fiber cell walls of transgenic *Populus* plants. Tolbert, A.K.; Ma, T.; Kalluri, U.C.; Ragauskas, A.J. *Energy & Fuels* (2016), 30(7), 5716-5720.
385. A study of poplar organosolv lignin after melt rheology treatment as carbon fiber precursors. Sun, Q.; Khunsupat, R.; Akato, K.; Tao, J.; Labbe, N.; Gallego, N.C.; Bozell, J.J.; Rials, T.G.; Tuskan, G.A.; Tschaplinski, Timothy J.; Naskar, A.K.; Pu, Y.; Ragauskas, A.J. *Green Chemistry* (2016), 18(18), 5015-5024.
386. Isolation and characterization of new lignin streams derived from extractive ammonia (EA) pretreatment. Sousa, L. da C.; Foston, M.; Bokade, V.V.; Azarpira, A.; Lu, F.; Ragauskas, A.; Ralph, J.; Dale, B.E.; Balan, V. *Green Chemistry* (2016), 18(15), 4205-4215.
387. Comparative study of lignin characteristics from wheat straw obtained by soda-AQ and kraft pretreatment and effect on the following enzymatic hydrolysis process. Yang, H.; Xie, Y.; Zheng, X.; Pu, Y.; Huang, F.; Meng, X.; Wu, W.; Ragauskas, A.; Yao, L. *Bioresource Technology* (2016), 207, 361-369.

388. Elucidating structural characteristics of biomass using solution-state 2D NMR with a mixture of deuterated dimethylsulfoxide and hexamethylphosphoramide. Yoo, C.G.; Pu, Y.; Li, M.; Ragauskas, A.J., *ChemSusChem* (2016), 9(10), 1090-1095.
389. The occurrence of triclin and its derivatives in plants. Li, M.; Pu, Y.; Yoo, C.G.; Ragauskas, A.J. *Green Chemistry* (2016), 18(6), 1439-1454.
390. Lignin valorization via laccase-assisted functionalization. Hashmi, M.; Chandra, R.P.; Ragauskas, A.J., *BAOJ Chem* (2016) 2, 012.
391. Deconstructing biomass. Ragauskas, A.J. *Nature Energy* (2016) 1, 5.
392. Application of a pyroprobe - Deuterium NMR system: deuterium tracing and mechanistic study of upgrading process for lignin model compounds. Ben, H.; Jarvis, M.W.; Nimlos, M.R.; Gjersing, E.L.; Sturgeon, M.R.; Foust, T.D.; Ragauskas, A.J.; Bidy, M.J. *Energy & Fuels* (2016), 30(4), 2968-2974.
393. A review of whole cell wall NMR by the direct-dissolution of biomass. Foston, M.; Samuel, R.; He, J.; Ragauskas, A.J. *Green Chemistry* (2016), 18(3), 6908-621.
394. Physiochemical characterization of lignocellulosic biomass dissolution by flowthrough pretreatment. Yan, L.; Pu, Y.; Bowden, M.; Ragauskas, A.J.; Yang, B. *ACS Sustainable Chemistry & Engineering* (2016), 4(1), 219-227.
395. Synergistic enzymatic and microbial conversion of lignin for lipid. Zhao, C.; Xie, S.; Pu, Y.; Zhang, R.; Huang, F.; Ragauskas, A.; Yuan, J.S., *Green Chemistry* (2016), 18(5), 1306-1312.
396. How chip size impacts steam pretreatment effectiveness for biological conversion of poplar wood into fermentable sugars. DeMartini, J.D.; Foston, M.; Meng, X.; Jung, S.; Kumar, R.; Ragauskas, A.J.; Wyman, C.E., *Biotechnology for Biofuels* (2015), 8, 209/1-209/16.
397. Value added biomaterials via laccase-mediated surface functionalization. Cannatelli, M.D.; Ragauskas, A.J., *J Biotechnol Biomater* (2015) 5:1.
398. Toxicological challenges to microbial bioethanol production and strategies for improved tolerance. Akinosho, H.; Rydzak, T.; Borole, A.; Ragauskas, A.; Close, D., *Ecotoxicology* (2015), 24(10), 2156-2174.
399. Characterization of micro fibrillation process of cellulose and mercerized cellulose pulp. Sharma, S.; Nair, S. S.; Zhang, Z.; Ragauskas, A.J.; Deng, Y. *RSC Advances* (2015), 5(77), 63111-63122.
400. Recalcitrance and structural analysis by water-only flowthrough pretreatment of ¹³C enriched corn stover stem. Foston, M.; Trajano, H.L.; Samuel, R.; Wyman, C.E.; He, J.; Ragauskas, A.J. *Bioresource Technology* (2015), 197, 128-136.
401. In situ upgrading of whole biomass to biofuel precursors with low average molecular weight and acidity by the use of zeolite mixture. Ben, H.; Huang, F.; Li, L.; Ragauskas, A.J., *RSC Advances* (2015), 5(91), 74821-74827.
402. Structural transformation of isolated poplar and switchgrass lignins during dilute acid treatment. Sun, Q.; Pu, Y.; Meng, X.; Wells, T.; Ragauskas, A.J., *ACS Sustainable Chemistry & Engineering* (2015), 3(9), 2203-2210.
403. Lignin structural alterations in thermochemical pretreatments with limited delignification. Pu, Y.; Hu, F.; Huang, F. Ragauskas, A.J., *BioEnergy Research* (2015), 8(3), 992-1003.
404. Insights into the effect of dilute acid, hot water, or alkaline pretreatment on the cellulose accessible surface area and the overall porosity of *Populus*. Meng, X.; Wells, T.; Sun, Q.; Huang, F.; Ragauskas, A., *Green Chemistry* (2015), 17(8), 4239-4246.

405. Production of deuterated switchgrass by hydroponic cultivation. Evans, B. R.; Bali, G.; Foston, Ma.; Ragauskas, A.J.; O'Neill, H. M.; Shah, R.; McGaughey, J.; Reeves, D.; Rempe, C.S.; Davison, B.H. *Planta* (2015), 242(1), 215-222.
406. Laccase-catalyzed synthesis of 2,3-ethylenedithio-1,4-quinones. Cannatelli, M.D.; Ragauskas, A.J. *Journal of Molecular Catalysis B: Enzymatic* (2015), 119, 85-89.
407. Microbial lipid production by oleaginous *Rhodococci* cultured in lignocellulosic autohydrolysates. Wei, Z.; Zeng, G.; Huang, F.; Kosa, M.; Sun, Q.; Meng, X.; Huang, D.; Ragauskas, A.J., *Applied Microbiology and Biotechnology* (2015), 99(17), 7369-7377.
408. Silicon cantilever functionalization for cellulose-specific chemical force imaging of switchgrass. Lee, I.; Evans, B.R.; Foston, M.; Ragauskas, A.J., *Analytical Methods* (2015), 7(11), 4541-4545.
409. Bioconversion of oxygen-pretreated Kraft lignin to microbial lipid with oleaginous *Rhodococcus opacus* DSM 1069. Wei, Z.; Zeng, G.; Huang, F.; Kosa, M.; Huang, D.; Ragauskas, A.J., *Green Chemistry* (2015) 17(5), 2784-2789.
410. Effect of torrefaction on biomass structure and hydrocarbon production from fast pyrolysis. Neupane, S.; Adhikari, S.; Wang, Z.; Ragauskas, A. J.; Pu, Y., *Green Chemistry* (2015), 17(4), 2406-2417.
411. Vibrational spectral signatures of crystalline cellulose using high resolution broadband sum frequency generation vibrational spectroscopy (HR-BB-SFG-VS). Zhang, L.; Lu, Z.; Velarde, L.; Fu, L.; Pu, Y.; Ding, S.Y.; Ragauskas, A.J.; Wang, H.F.; Yang, B. *Cellulose* (2015), 22(3), 1469-1484.
412. Pinorensinol reductase 1 impacts lignin distribution during secondary cell wall biosynthesis in *Arabidopsis*. Zhao, Q.; Zeng, Y.; Yin, Y.; Pu, Y.; Jackson, L.A.; Engle, N.L.; Martin, M.Z.; Tschaplinski, T.J.; Ding, S.Y.; Ragauskas, A.J.; Dixon, R.A. *Phytochemistry* (2015), 112, 170-178.
413. The effect of alkaline pretreatment methods on cellulose structure and accessibility. Bali, G.; Meng, X.; Deneff, J.I.; Sun, Q.; Ragauskas, A.J. *ChemSusChem* (2015), 8(2), 275-279.
414. Thermo-responsive and fluorescent cellulose nanocrystals grafted with polymer brushes. Wu, W.; Huang, F.; Pan, S.; Mu, W.; Meng, X.; Yang, H. Xu, Z.; Ragauskas, A.J.; Deng, Y., *Journal of Materials Chemistry A: Materials for Energy and Sustainability* (2015), 3(5) 1995-2005.
415. Bioconversion of lignocellulosic pretreatment effluent via oleaginous *Rhodococcus opacus* DSM 1069. Wells, T., Jr.; Wei, Z.; Ragauskas, A., *Biomass and Bioenergy* (2015), 72, 200-205.
416. High shear homogenization of lignin to nanolignin and thermal stability of nanolignin-polyvinyl alcohol blends. Nair, S.S.; Sharma, S.; Pu, Y.; Sun, Q.; Pan, S.; Zhu, J. Y.; Deng, Y.; Ragauskas, A.J. *ChemSusChem* (2015), 7(12), 3513-3520.
417. Pyrolysis oil-based lipid production as biodiesel feedstock by *Rhodococcus opacus*. Wei, Z.; Zeng, G.; Kosa, M. Huang, D.; Ragauskas, A.J. *Applied Biochemistry and Biotechnology* (2015), 175(2), 1234-1246.
418. Laccase-catalyzed α -arylation of benzoylacetonitrile with substituted hydroquinones. Cannatelli, M.D.; Ragauskas, A.J. *Chemical Engineering Research and Design Chemical Engineering Research and Design* (2015), 97, 128-134.
419. Recalcitrance and structural analysis by water-only flowthrough pretreatment of (13)C enriched corn stover stem. Foston M.; Trajano H.L; Samuel R.; Wyman C.E; He J.; Ragauskas A.J., *Bioresource Technology* (2015), 197, 128-136.

420. Eucalyptus fiber modification using dielectric-barrier discharge. Jardim, C. M.; Oliveira, R. C.; Hsieh, J. S.; Ragauskas, A. J.; Elder, T., TAPPI Journal (2015), 14(9), 585-591.
421. The emergence of *Clostridium thermocellum* as a high utility candidate for consolidated bioprocessing applications. Akinosho, H.; Yee, K.; Close, D.; Ragauskas, A. Frontiers in Chemistry (2014), 2, 1-18.
422. Effect of lignin content on changes occurring in poplar cellulose ultrastructure during dilute acid pretreatment. Sun, Q.; Foston, M.; Meng, X.; Sawada, D.; Pingali, S.V.; O'Neill, H.M.; Li, H.; Wyman, C.E.; Langan, P.; Ragauskas, Art J.; Kumar, R. Biotechnology for Biofuels (2014), 7, 150/1-150/14.
423. Changes in cell wall properties coincide with overexpression of extensin fusion proteins in suspension cultured tobacco cells. Tan, L.; Pu, Y.; Pattathil, S.; Avci, U.; Qian, J.; Arter, A.; Chen, L.; Hahn, M.G.; Ragauskas, A.; Kieliszewski, M.J. PLoS One (2014), 9(12), e115906/1-e115906/23.

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424. High performance green barriers based on nanocellulose. Nair, S. S.; Zhu, J. Y.; Deng, Y.; Ragauskas, A. J., Sustainable Chemical Processes (2014), 2, 23/1-23/15.
425. The use of combination of zeolites to pursue integrated refined pyrolysis oil from kraft lignin. Huang, F.; Ben, H.; Pan, S.; Pu, Y.; Ragauskas, A. Sustainable Chemical Processes (2014), 2, 7/1-7/11.
426. Lignin structure and aggregation behavior in a two-component ionic liquid solvent system. Bylin, S.; Wells, T.; Sun, Q.; Ragauskas, A.; Theliander, H. BioResources (2014), 9(4), 6002-6018.
427. Economic analysis of an organosolv process for bioethanol production. Kautto, J.; Realf, M.J.; Ragauskas, Arthur J.; Kassi, T. BioResources (2014), 9(4), 6041-6072.
428. Agave proves to be a low recalcitrant lignocellulosic feedstock for biofuels production on semi-arid lands. Li, H.; Pattathil, S.; Foston, M.B.; Ding, S.Y.; Kumar, R.; Gao, X.; Mittal, A.; Yarbrough, J.M.; Himmel, M.E.; Ragauskas, A.J. Hahn, M.G.; Wyman, C.E. Biotechnology for Biofuels (2014), 7, 50/1-50/11.
429. Preparation of aligned porous chitin nanowhisker foams by directional freeze-casting technique. Zhou, Y.; Fu, S.; Pu, Y.; Pan, S.; Ragauskas, A.J. Carbohydrate Polymers (2014), 112, 277-283.
430. Noble metal catalyzed aqueous phase hydrogenation and hydrodeoxygenation of lignin-derived pyrolysis oil and related model compounds. Mu, W.; Ben, H.; Du, X.; Zhang, X.; Hu, F.; Liu, W.; Ragauskas, A.J.; Deng, Y. Bioresource Technology (2014), 173, 6-10.
431. Physicochemical characterization of ethanol organosolv lignin (EOL) from Eucalyptus globulus: Effect of extraction conditions on the molecular structure. Yanez, S. M.; Matsuhiro, B.; Nunez, C.; Pan, S.; Hubbell, C.A.; Sannigrahi, P.; Ragauskas, A.J. Polymer Degradation and Stability (2014), 110, 184-194.
432. Thermally enhanced high performance cellulose nano fibril barrier membranes. Sharma, S.; Zhang, X.; Nair, S.S.; Ragauskas, A.; Zhu, J.; Deng, Y. RSC Advances (2014), 4(85), 45136-45142.

433. Enhancement of nanofibrillation of softwood cellulosic fibers by oxidation and sulfonation. Pan, S.; Ragauskas, A.J., *Carbohydrate Polymers* (2014), 111, 514-523.
434. Nanocomposite film prepared by depositing xylan on cellulose nanowhiskers matrix. Sun, Q.; Mandalika, A.; Elder, T.; Nair, S.S.; Meng, X.; Huang, F.; Ragauskas, A.J. *Green Chemistry* (2014), 16(7), 3458-3462.
435. Structure analysis of pine bark, residue, and stem derived light oil and its hydrodeoxygenation products. Mu, W.; Ben, H.; Ragauskas, A.J.; Qiu, D.; Deng, Y. *Industrial & Engineering Chemistry Research* (2014), 53(28), 11269-11275.
436. Comparison of changes in cellulose ultrastructure during different pretreatments of poplar. Sun, Q.; Foston, M.; Sawada, D.; Pingali, S.V.; O'Neill, H.M.; Li, H.; Wyman, C.E.; Langan, P.; Pu, Y.; Ragauskas, A.J. *Cellulose* (2014), 21(4), 2419-2431.
437. Characterization and analysis of the molecular weight of lignin for biorefining studies. Tolbert, A.; Akinosho, H.; Khunsapat, R.; Naskar, A.K.; Ragauskas, A.J. *Biofuels, Bioproducts & Biorefining* (2014), 8(6), 836-856.
438. Lignin Valorization: Improving Lignin Processing in the Biorefinery. Ragauskas, A.J.; Beckham, G.T.; Bidy, M.J.; Chandra, R.; Chen, F.; Davis, M.F.; Davison, B.H.; Dixon, R.A.; Gilna, P.; Keller, M.; Langan, P.; Naskar, A.K.; Saddler, J.N.; Tschaplinski, T.J.; Tuskan, G.A.; Wyman, C.E. *Science*, (2014), 344(6185), 1246843-1-1246843-10.
439. 19F NMR spectroscopy for the quantitative analysis of carbonyl groups in bio-oils. Huang, F.; Pan, S.; Pu, Y.; Ben, H.; Ragauskas, A.J. *RSC Advances* (2014), 4(34), 17743-17747.
440. Effect of D2O on Growth Properties and Chemical Structure of Annual Ryegrass (*Lolium multiflorum*). Evans, B.R.; Bali, G.; Reeves, D.T.; O'Neill, H.M.; Sun, Q.; Shah, R.; Ragauskas, A.J. *Journal of Agricultural and Food Chemistry* (2014), 62(12), 2595-2604.
441. Characterization of cellulose nanofibrillation by micro grinding. Nair, S.S.; Zhu, J.Y.; Deng, Y.; Ragauskas, A.J. *Journal of Nanoparticle Research* (2014) 16:4, 2349-2347.
442. Preparation and characteristics of cellulose nanowhisler reinforced acrylic foams synthesized by freeze-casting. Xu, Z.; Sun, Q.; Huang, F.; Pu, Y.; Pan, S.; Ragauskas, A.J. *RSC Advances* (2014), 4(24), 12148-12153.
443. Hydrogels Prepared from Cross-Linked Nanofibrillated Cellulose. Nair, S. S.; Zhu, J. Y.; Deng, Y.; Ragauskas, A. J. *ACS Sustainable Chemistry & Engineering* (2014) 2(4), 772-780.
444. Recent advances in understanding the role of cellulose accessibility in enzymatic hydrolysis of lignocellulosic substrates. Meng X.; Ragauskas A. J. *Current Opinion in Biotechnology* (2014), 27C, 150-158.
445. Synthesis of a co-cross-linked nanocomposite hydrogels from poly(methyl vinyl ether-co-maleic acid)-polyethylene glycol and nanofibrillated cellulose. Dash, R.; Cateto, C.A.; Ragauskas, A.J. *Cellulose* (2014) 21, 529-534.
446. Structural Characterization of Lignin in Wild-type versus COMT Down-regulated Switchgrass. Samuel, R.; Pu, Y.; Jiang, N.; Fu, C.; Wang, Z.Y. Ragauskas, A. *Frontiers in Bioenergy and Biofuel*. (2014) 1, 1-9.
447. Ice templated and cross-linked xylan/nanocrystalline cellulose hydrogels. Köhnke, T.; Elder, T.; Theliander, H.; Ragauskas, A.J. *Carbohydrate Polymers* (2014) 100, 24- 30.
448. Suppression of pseudo-lignin formation under dilute acid pretreatment conditions. Hu, F.; Ragauskas, A. *RSC Advances* (2014), 4(9), 4317-4323.
449. Common processes drive the thermochemical pretreatment of lignocellulosic biomass. Langan, P.; Petridis, L.; O'Neill, H. M.; Pingali, S.V.; Foston, M.; Nishiyama, Y.; Schulz, R.;

- Lindner, B.; Hanson, B. L.; Harton, S.; Heller, W.T.; Urban, V.; Evans, B.R.; Gnanakaran, S.; Ragauskas, A.J.; Smith, J.C.; Davison, B.H. *Green Chemistry* (2014), 16(1), 63-68.
450. Investigation of lignin deposition on cellulose during hydrothermal pretreatment, its effect on cellulose hydrolysis, and underlying mechanisms. Li H.; Pu Y.; Kumar R.; Ragauskas A.J.; Wyman C.E. *Biotechnology and Bioengineering*, (2014), 111(3), 485-492.
451. Global transcriptome analysis of *Clostridium thermocellum* ATCC 27405 during growth on dilute acid pretreated *Populus* and switchgrass. Wilson, C. M.; Rodriguez, M.; Johnson, C.M.; Martin, S.L.; Chu, T.M.; Wolfinger, R.D.; Hauser, L.J.; Land, M.L.; Klingeman, D.M.; Syed, M.H.; Ragauskas, A.J.; Tschaplinski, T.J.; Mielenz, J.R.; Brown, S.D. *Biotechnology for Biofuels* (2013), 6, 179/1-179/18.
452. Design and simulation of an organosolv process for bioethanol production. Kautto, J.; Realf, M.J.; Ragauskas, A.J. *Biomass Conversion and Biorefinery* (2013), 3(3), 199-212.
453. Integration of hemicellulose pre-extraction in the bleach-grade pulp production process. Huang, F.; Ragauskas, A. *TAPPI Journal* (2013), 12(10), 55-61.
454. Lignin Pyrolysis Components and Upgrading-Technology Review. Mu, W.; Ben, H.; Ragauskas, A.; Deng, Y. *BioEnergy Research* (2013), 6(4), 1183-1204.
455. Freeze-casting of cellulose nanowhisker foams prepared from a water-dimethylsulfoxide (DMSO) binary mixture at low DMSO concentrations. Zhou, Y.; Fu, S.; Pu, Y.; Pan, S.; Levit, M.V.; Ragauskas, A.J. *RSC Advances* (2013), 3(42), 19272-19277.
456. Comparison for the compositions of fast and slow pyrolysis oils by NMR characterization. Ben H.; Ragauskas, A.J. *Bioresource Technology* (2013), 147, 577-84.
457. Effect of storage conditions on the stability and fermentability of enzymatic lignocellulosic hydrolysate. Jin, M.; Bothfeld, W.; Austin, S.; Sato, T.K.; La Reau, A.; Li, H.; Foston, M.; Gunawan, C.; LeDuc, R.D.; Quensen, J.F.; Mcgeec, M.; Uppugundla, N.; Higbee, A.; Ranatungac, R.; Donald, C.W.; Bone, G.; Ragauskas, A.J.; Tiedje, J.M.; Noguera, D.T.; Dale, B.D.; Zhang, Y. *Bioresource Technology* (2013), 147, 212-220.
458. Hydrodeoxygenation by deuterium gas – a powerful way to provide insight into the reaction mechanisms. Ben, H.; Ferguson, G.A.; Mu, W.; Pu, Y.; Huang, F.; Jarvis, M.; Bidy, M.; Deng, Y.; Ragauskas, A.J. *Phys. Chem. Chem. Phys.* (2013), 15, 19138 - 19142.
459. Lignin to lipid bioconversion by oleaginous *Rhodococci*. Kosa, M.; Ragauskas, A.J. *Green Chemistry* (2013), 15(8), 2070-2074.
460. Biodiesel from grease interceptor to gas tank. Ragauskas, A.M.E.; Pu, Y.; Ragauskas, A.J. *Energy Science & Engineering* (2013), 1(1), 1-11.
461. The fate of lignin during hydrothermal pretreatment. Trajano, H.L.; Engle, N.L.; Foston, M.; Ragauskas, A.J.; Tschaplinski, T.J.; Wyman, C.E., *Biotechnology for Biofuels* (2013), 6, 110.
462. Determination of porosity of lignocellulosic biomass before and after pretreatment by using Simons' stain and NMR techniques. Meng, X.; Kosa, M.; Ragauskas, A.J. *Bioresource Technology* (2013), 144, 467–476.
463. Carbohydrate and lignin are simultaneously solubilized from unpretreated switchgrass by microbial action at high temperature. Kataeva, I.; Foston, M.B.; Yang, S.J.; Pattathil, S.; Biswal, A.K.; Poole, F.L., II; Basen, M.; Rhaesa, A.M.; Thomas, T.P.; Azadi, P.; Olman, V.; Saffold, T.D.; Mohler, K.E.; Lewis, D.L.; Doepcke, C.; Zeng, Y.; Tschaplinski, T.J.; York, W.S.; Davis, M.; Mohnen, D.; Xu, Y.; Ragauskas, A.J.; Ding, S.Y.; Kelly, R.M.; Hahn, M.G.; Adams, M.W.W. *Energy & Environmental Science* (2013), 6(7), 2186-2195.
464. Polymerization of Kraft lignin via ultrasonication for high-molecular-weight applications. Wells, T. Jr.; Kosa, M.; Ragauskas, A.J. *Ultrasonics Sonochemistry* (2013), 20, 1463–1469.

465. Enhanced characteristics of genetically modified switchgrass (*Panicum virgatum* L.) for high biofuel production. Shen, H.; Poovaiah, C.R.; Ziebell, A.; Tschaplinski, T.J.; Pattathil, S.; Gjersing, E.; Engle, N.L.; Katahira, R.; Pu, Y.; Sykes, R.; Mielenz, J.R.; Hahn, M.G.; Davis, M.; Stewart, C.N. Jr.; Dixon, R.A. *Biotechnology for Biofuels* (2013), 6, 71.
466. The effect of deuteration on the structure of bacterial cellulose. Bali, G.; Foston, M.B.; O'Neill, H.M.; Evans, B. R.; He, J.; Ragauskas, A.J., *Carbohydrate Research* (2013), 374, 82-88.
467. Extraction of Hemicellulose from Loblolly Pine Woodchips and Subsequent Kraft Pulping. Huang, F.; Ragauskas, A. *Industrial & Engineering Chemistry Research* (2013), 52(4), 1743-1749.
468. Assessing the molecular structure basis for biomass recalcitrance during dilute acid and hydrothermal pretreatments. Pu, Y.; Hu, F.; Huang, F.; Davison, B. H.; Ragauskas, A.J. *Biotechnology for Biofuels* (2013), 6, 15.
469. Compositional Characterization and Pyrolysis of Loblolly Pine and Douglas-fir Bark. Pan, S.; Pu, Y.; Foston, M.; Ragauskas, A.J. *BioEnergy Research* (2013), 6(1), 24-34.
470. Mechanical deconstruction of lignocellulose cell walls and their enzymatic saccharification. Hoeger, I.C.; Nair, S.S.; Ragauskas, A.J.; Deng, Y.; Rojas, O.J.; Zhu, J.Y. *Cellulose* (2013), 20:807–818.
471. Investigation of the fate of poplar lignin during autohydrolysis pretreatment to understand the biomass recalcitrance. Samuel, R.; Cao, S.; Das, B. K.; Hu, F.; Pu, Y. *RSC Advances* (2013), 3(16), 5305-5309.
472. Improving Physical Properties of Kraft Hardwood Pulps by Copulping with Agricultural Residues. Levit, M.V.; Allison, L.; Bradbury, J.; Ragauskas, A.J. *Industrial & Engineering Chemistry Research* (2013), 52(9), 3300-3305.
473. Comparison of laboratory delignification methods, their selectivity, and impacts on physiochemical characteristics of cellulosic biomass. Kumar, R.; Hu, F.; Hubbell, C.A.; Ragauskas, A.J.; Wyman, C.E. *Bioresource Technology* (2013), 130, 372-381.
474. Three lignocellulose features that distinctively affect biomass enzymatic digestibility under NaOH and H₂SO₄ pretreatments in *Miscanthus*. Zhang, W.; Yi, Z.; Huang, J.; Li, F.; Hao, B.; Li, M.; Hong, S.; Lv, Y.; Sun, W.; Ragauskas, A.; Hu, F.; Peng, J.; Peng, L. *Bioresource Technology* (2013), 130, 30-37.
475. Carbohydrate derived-pseudo-lignin can retard cellulose biological conversion. Kumar, R.; Hu, F.; Sannigrahi, P.; Jung, S.; Ragauskas, A.J.; Wyman, C.E. *Biotechnology and Bioengineering* (2013), 110(3), 737-753.
476. Impact of Pseudolignin versus Dilute Acid-Pretreated Lignin on Enzymatic Hydrolysis of Cellulose. Hu, F.; Jung, S.; Ragauskas, A. *ACS Sustainable Chemistry & Engineering* (2013), 1(1), 62-65.
477. Fuel ethanol production from *Eucalyptus globulus* wood by autocatalyzed organosolv pretreatment ethanol-water and SSF. Yanez-S, M.; Rojas, J.; Castro, J.; Ragauskas, A.; Baeza, J.; Freer, J. *Journal of Chemical Technology and Biotechnology* (2013), 88(1), 39-48.
478. Production of renewable gasoline from aqueous phase hydrogenation of lignin pyrolysis oil. Ben, H.; Mu, W.; Deng, Y.; Ragauskas, A.J. *Fuel* (2013), 103, 1148-1153.
479. Influence of Si/Al ratio of ZSM-5 zeolite on the properties of lignin pyrolysis products. Ben, H.; Ragauskas, A.J. *ACS Sustainable Chemistry & Engineering* (2013), 1(3), 316-324.

480. Improving the Mechanical and Thermal Properties of Gelatin Hydrogels Cross-Linked by Cellulose Nanowhiskers. Dash, R.; Ragauskas, A.J. *Carbohydrate Polymers* (2013), 91, 638-645.
481. NMR a critical tool to study the production of carbon fiber from lignin. Foston, M.; Nunnery, G.A.; Meng, X.; Sun, Q.; Baker, F. S.; Ragauskas, A. *Carbon* (2013), 52, 65-73.
482. Effects of feeding fiber-fermenting bacteria to pigs on nutrient digestion, fecal output, and plasma energy metabolites. Ziemer, C J; Kerr, B J; Weber, T E; Arcidiacono, S; Morrison, M; Ragauskas, A. *Journal of Animal Science* (2012), 90(11), 4020-4027.
483. One step thermal conversion of lignin to the gasoline range liquid products by using zeolites as additives. Ben, H; Ragauskas, A.J. *RSC Advances* (2012), 2 (33), 12892 – 12898.
484. Biotechnological opportunities with the β -ketoacid pathway. Wells, T.; Ragauskas, A.J. *Trends in Biotechnology* (2012), 30(12), 627-637.
485. Grafting of model primary amine compounds to cellulose nanowhiskers through periodate oxidation. Dash, R.; Elder, T.; Ragauskas, A.J. *Cellulose* (2012), 19(6), 2069-2079.
486. 3D Chemical Image using TOF-SIMS Revealing the Biopolymer Component Spatial and Lateral Distributions in Biomass. Jung, S.; Foston, M.; Kalluri, U.C.; Tuskan, G.A.; Ragauskas, A.J. *Angewandte Chemie, International Edition* (2012), 51(48), 12005-12008.
487. Down-regulation of the caffeic acid O-methyltransferase gene in switchgrass reveals a novel monolignol analog. Tschaplinski, T.J.; Standaert, R.F.; Engle, N.L.; Martin, M.Z.; Sangha, A.K.; Parks, J.M.; Smith, J.C.; Samuel, R.; Jiang, N.; Pu, Y.; Ragauskas, A.J.; Hamilton, C.Y.; Fu, C.; Wang, Z.Y.; Davison, B.D.; Dixon, R.A.; Mielenz, J.R. *Biotechnology for Biofuels* (2012) 5, 71.
488. Structural characterization of alkaline hydrogen peroxide pretreated grasses exhibiting diverse lignin phenotypes. Li, M.; Foster, C.; Kelkar, S.; Pu, Y.; Holmes, D.; Ragauskas, A.J.; Saffron, C.M.; Hodge, D.B. *Biotechnology for Biofuels* (2012), 5, 38.
489. Chemical transformations of *Populus trichocarpa* during dilute acid pretreatment. Cao, S.; Pu, Y.; Studer, M.; Wyman, C.; Ragauskas, A.J. *RSC Advances* (2012), 2(29), 10925-10936.
490. Pretreatment and Lignocellulosic Chemistry. Hu, F.; Ragauskas, A. *BioEnergy Research* (2012), 5(4), 1043-1066.
491. In Situ NMR Characterization of Pyrolysis Oil during Accelerated Aging. Ben, H; Ragauskas, A.J. *ChemSusChem* (2012), 5(9), 1687-1693.
492. Miscanthus: a fast-growing crop for biofuels and chemicals production. Brosse, N.; Dufour, A.; Meng, X.; Sun, Q.; Ragauskas, A. *Biofuels, Bioproducts & Biorefining* (2012), 6(5), 580-598.
493. 4-O-methylation of glucuronic acid in *Arabidopsis* glucuronoxylan is catalyzed by a domain of unknown function family 579 protein. Urbanowicz, B.R.; Pena, M.J.; Ratnaparkhe, S.; Avci, U.; Backe, J.; Steet, H.F.; Foston, M.; Li, H.; O'Neill, M.A.; Ragauskas, A.J.; Davill, A.G.; Wyman, C.; Gilbert, H.J.; York, W.S. *Proceedings of the National Academy of Sciences of the United States of America* (2012), 109(35), 14253-14258.
494. Biomass Characterization: Recent Progress in Understanding Biomass Recalcitrance. Foston, M.; Ragauskas, A.J. *Industrial Biotechnology* (2012), 8(4), 191-208. *April:2013 Top Read Article*
495. Development of New Methods in Scanning Probe Microscopy for Lignocellulosic Biomass Characterization. Tetard, L.; Passian, A.; Jung, S.; Ragauskas, A.J.; Davison, B.H. *Industrial Biotechnology* (2012), 8(4), 245-249.

496. Neutron Technologies for Bioenergy Research. Langan, P.; Evans, B.R.; Foston, M.; Heller, W.T.; O'Neill, H.; Petridis, L.; Pingali, S.V.; Ragauskas, A.J.; Smith, J.C.; Urban, V.S.; Davison, B.H. *Industrial Biotechnology* (2012), 8(4), 209-216.
497. ¹³C cell wall enrichment and ionic liquid NMR analysis: progress towards a high-throughput detailed chemical analysis of the whole plant cell wall. Foston, M.; Samuel, R.; Ragauskas, A.J. *Analyst* (2012), 137(17), 3904-3909.
498. Novel Oxidative Pretreatment of Loblolly Pine, Sweetgum, and Miscanthus by Ozone. Sannigrahi, P.; Hu, F.; Pu, Y.; Ragauskas, A. *Journal of Wood Chemistry and Technology* (2012), 32(4), 361-375.
499. Nanoreinforced xylan-cellulose composite foams by freeze-casting. Koehnke, T.; Lin, A.; Elder, T.; Theliander, H.; Ragauskas, A.J. *Green Chemistry* (2012), 14(7), 1864-1869.
500. Pseudo-lignin formation and its impact on enzymatic hydrolysis. Hu, F.; Jung, S.; Ragauskas, A. *Bioresource Technology* (2012), 117, 7-12.
501. Synthesis of a novel cellulose nanowhisker-based drug delivery system. Dash, R.; Ragauskas, A.J. *RSC Advances* (2012), 2(8), 3403-3409.
502. Chemical Characterization and Water Content Determination of Bio-oils Obtained from Various Biomass Species using ³¹P-NMR Spectroscopy. David, K.; Ben, H.; Muzzy, J.; Feik, C.; Iisa, K.; Ragauskas, A.J. *Biofuels* (2012), 3(2), 123-128.
503. Cellulose Nanowhisker Foams by Freeze Casting. Dash, R.; Li, Y.; Ragauskas, A.J. *Carbohydrate Polymers* (2012), 88(2), 789-792.
504. ¹³C Selective Excitation Cross Polarization and Spin Diffusion NMR to Resolve Spatial Dimensions in Plant Cell Walls. Foston, M.; Katahira, R.; Gjersing, E.; Davis, M. F.; Ragauskas, A.J. *Journal of Agricultural and Food Chemistry* (2012), 60(6), 1419-1427.
505. Modification of Old Corrugated Container Pulp with Laccase and Laccase - Mediator System. Chen, Y.; Wan, J.; Tang, B.; Han, W.; Pu, Y.; Ragauskas A.J. *Bioresource Technology*, (2012), 110, 297-301.
506. Study on the Modification of Bleached Eucalyptus Kraft Pulp Using Birch Xylan. Han, W.; Zhao, C.; Elder, T.; Chen, K.; Yang, R.; Kim, D.; Pu, Y.; Hsieh, J.; Ragauskas A.J. *Carbohydrate Polymers* (2012), 88(2), 719-725.
507. Structural Characterization of Switchgrass Lignin after Ethanol Organosolv Pretreatment. Hu, G.; Cateto, C.; Pu, Y.; Samuel, R.; Ragauskas, A.J. *Energy & Fuels* (2012), 26(1), 740-745.
508. Ethanol Organosolv Lignin-based Rigid Polyurethane Foam Reinforced with Cellulose Nanowhiskers. Li, Y.; Ragauskas, A.J. *RSC Advances* (2012), 2(8), 3347-3351.
509. Deuterium Incorporation in Biomass Cell Wall Components by NMR Analysis. Foston, M.B.; McGaughey, J.; O'Neill, H.; Evans B.R.; Ragauskas, A.J. *Analyst* (2012), 137(5), 1090-1093.
510. Determination of cellulase colocalization on cellulose fiber with quantitative FRET measured by acceptor photobleaching and spectrally unmixing fluorescence microscopy. Wang, L.; Wang, Y.; Ragauskas, A.J. *Analyst* (2012), 137(6), 1319-1324.
511. Biopolymer Nanocomposite Films Reinforced with Nanocellulose Whiskers. Saxena, A.; Foston, M.; Kassae, M.; Elder, T.J.; Ragauskas, A.J. *Journal of Nanoscience and Nanotechnology*(2012), 12, 218-226.
512. Bioconversion of Lignin Model Compounds with Oleaginous *Rhodococci*. Kosa, M.; Ragauskas, A.J. *Applied Microbiology and Biotechnology* (2012), 93(2), 891-900.
513. Kraft Lignin-based Rigid Polyurethane Foam. Li., Y.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (2012), 32(3), 210-224.

514. Dilute H₂SO₄ and SO₂ Pretreatments of Loblolly Pine Wood Residue for Bioethanol Production. Huang, F.; Ragauskas, A.J. *Industrial Biotechnology* (2012), (2012), 8(1), 22-30.
515. Preparation of Superabsorbent Cellulosic Hydrogels. Pan, S.; Ragauskas, A. J. *Carbohydrate Polymers* (2012), 87(2), 1410-1418.
516. Torrefaction of Loblolly Pine. Ben, H.; Ragauskas, A.J. *Green Chemistry* (2012), 14 (1), 72 – 76.
517. Characterization of Fermentation Residues from the Production of Bio-ethanol from Lignocellulosic Feedstocks. Sannigrahi, P.; Ragauskas, A.J. *Journal of Biobased Materials and Bioenergy* (2011), 5, 514-519.
518. Heteronuclear Single-Quantum Correlation-Nuclear Magnetic Resonance (HSQC-NMR) Fingerprint Analysis of Pyrolysis Oils. Ben, H.; Ragauskas, A. J. *Energy & Fuels* (2011), 25(12), 5791-5801.
519. Chemical, Ultrastructural and Supramolecular Analysis of Tension Wood in *Populus Tremula* x *Alba* as a Model Substrate for Reduced Recalcitrance. Foston, M.; Hubbell, C.A.; Samuel, R.; Jung, S.; Fan, H.; Ding, S.Y.; Zeng, Y.; Jawdy, S.; Davis, M.; Sykes, Robert; Gjersing, E.; Tuskan, G.A.; Kalluri, U.; Ragauskas, A.J. *Energy & Environmental Science* (2011), 4(12), 4962-4971.
520. Nano Materials and Composites Amino Acid Modified Cellulose Whiskers. Cateto, C.A.; Ragauskas, A. *RSC Advances* (2011), 1(9), 1695-1697.
521. Cellulose Isolation Methodology for NMR Analysis of Cellulose Ultrastructure. Foston, M.; Hubbell, Christopher A.; Ragauskas, A.J. *Materials (Carbohydrate Polymers Special Issue)* 2011, 4(11), 1985-2002.
522. Pyrolysis of Kraft Lignin with Additives. Ben, H.; Ragauskas, A.J. *Energy & Fuels* (2011), 25(10), 4662-4668.
523. Structural Changes in Switchgrass Lignin and Hemicelluloses during Pretreatments by NMR Analysis. Samuel, R.; Foston, M.; Jiang, N.; Allison, L.; Ragauskas, A.J. *Polymer Degradation and Stability* (2011), 96(11), 2002-2009.
524. Characterization of Milled Wood Lignin (MWL) in Loblolly Pine Stem Wood, Residue, and Bark. Huang, F.; Singh, P.M.; Ragauskas, A.J. *Journal of Agricultural and Food Chemistry* (2011), 59(24), 12910-12916.
525. Application of Quantitative (31)P NMR in Biomass Lignin and Biofuel Precursors Characterization. Pu Y.; Cao S.; Ragauskas A.J. *Energy & Environmental Science* (2011), 4(9), 3154-316.
526. Rigid Polyurethane Foam/Cellulose Whisker Nanocomposites: Preparation, Characterization, and Properties. Li, Y.; Ren, H.; Ragauskas, A.J. *Journal of Nanoscience and Nanotechnology* (2011), 11, 6904-6911.
527. Challenges of the Utilization of Wood Polymers: How Can They Be Overcome? Pu, Y; Kosa, M; Kalluri, U.C.; Tuskan, G.A.; Ragauskas, A.J. *Applied Microbiology and Biotechnology* (2011), 91(6), 1525-1536.
528. HSQC (Heteronuclear Single Quantum Coherence) ¹³C–¹H Correlation Spectra of Whole Biomass in Perdeuterated Pyridinium Chloride–DMSO System: An Effective Tool for Evaluating Pretreatment. Samuel, R.; Foston, M.; Jaing, N.; Cao, S.; Allison, L.; Studer, M.; Wyman, C.; Ragauskas, A.J. *Fuel* 90 (2011), 2836-2842.
529. Biomass Characterization of Morphological Portions of Alamo Switchgrass. Hu, Z.; Foston, M. B.; Ragauskas, A.J. *Journal of Agricultural and Food Chemistry* (2011), 59(14), 7765-7772.

530. Comparative Studies on Hydrothermal Pretreatment and Enzymatic Saccharification of Leaves and Internodes of Alamo Switchgrass. Zhoujian, H.; Foston, M.; Ragauskas, A.J. *Bioresource Technology* (2011), 102(14), 7224-7228.
531. Enzymatic Hydrolysis of Organosolv Kanlow Switchgrass and its Impact on Cellulose Crystallinity and Degree of Polymerization. Cateto, C.; Hu, G.; Ragauskas, A. *Energy & Environmental Science* (2011), 4(4), 1516-1521.
532. Comparison of Microwaves to Fluidized Sand Baths for Heating Tubular Reactors for Hydrothermal and Dilute Acid Batch Pretreatment of Corn Stover. Shi, J.; Pu, Y.; Yang, B.; Ragauskas, A.; Wyman, C.E. *Bioresource Technology* (2011), 102(10), 5952-5961.
533. NMR Characterization of Pyrolysis Oils from Kraft Lignin. Ben, H.; Ragauskas, A.J. *Energy & Fuels* (2011), 25(5), 2322-2332.
534. Pseudo-lignin and Pretreatment Chemistry. Sannigrahi, P.; Kim, D.H.; Jung, S.; Ragauskas, A. *Energy Environ. Sci.* (2011) 4, 1306-1310.
535. Thermal Gravimetric Analysis of In-situ Crosslinked Nanocellulose Whiskers - Poly(Methyl Vinyl Ether-co-maleic Acid)-polyethylene Glycol. Goetz, L.A.; Mathew, A.P.; Oksman, K.; Ragauskas, A.J. *TAPPI Journal* (2011), 10(4), 29-33.
536. Moisture Barrier properties of Xylan Composite Films. Saxena, A.; Elder, T.J.; Ragauskas, A.J. *Carbohydrate Polymers* (2011), 84(4), 1371-1377.
537. Hydrothermal Pretreatment of Switchgrass. Hu, Z.; Ragauskas, A.J. *Industrial & Engineering Chemistry Research* (2011), 50(8), 4225-4230.
538. Wet Strength Development in Sisal Cellulose Fibers by Effect of a Laccase-TEMPO Treatment. Aracri, E; Vidal, T; Ragauskas, A. *Carbohydrate Polymers* (2011), 84(4), 1384-1390.
539. Genetic Manipulation of Lignin Reduces Recalcitrance and Improves Ethanol Production from Switchgrass. Fu, C.; Mielenz, J.R.; Xiao, X.; Ge, Y.; Hamilton, C.Y.; Rodriguez, Jr., M.; Chen, F.; Foston, M.; Ragauskas, A.; Bouton, O.; Dixon, R.A.; Wang, Z.Y. *Proceedings of the National Academy of Sciences of the United States of America* (2011), 108(9), 3803-3808.
540. Analyzing Cellulose Degree of Polymerization and Its Relevancy to Cellulosic Ethanol. Hallac, B.B.; Ragauskas, A.J. *Biofuels, Bioproducts & Biorefining* (2011), 5(2), 215-225.
541. Lipids from Heterotrophic Microbes: Advances in Metabolism Research. Kosa, M.; Ragauskas, A.J. *Trends in Biotechnology* (2011), 29(2), 53-61.
542. Preparation of Microwave-assisted Polymer-grafted Softwood Kraft Pulp Fibers. Enhanced Water Absorbency. Goetz, L.A.; Sladky, J.R.; Ragauskas, A.J. *Journal of Applied Polymer Science*, (2011), 119 (1), 387-395.
543. Evaluation of grape stalks as a bioresource. Ping, L.; Brosse, N.; Sannigrahi, P.; Ragauskas, A. *Industrial Crops and Products* (2010), 33(1), 200-204.
544. Increase in 4-Coumaryl Alcohol Units during Lignification in Alfalfa (*Medicago sativa*) Alters the Extractability and Molecular Weight of Lignin. Ziebell, A.; Gracom, K.; Katahira, R.; Chen, F.; Pu, Y.; Ragauskas, A.J.; Dixon, R.A.; Davis, M. *Journal of Biological Chemistry* (2010), 285(50), 38961-38968.
545. Charging Cellulose Spheres: Synthesis of 2,3-Disulfonated Cellulose in Bead Form. Dash, R.; Ragauskas, A.J. *Journal of Biobased Materials and Bioenergy* (2010), 4, 440-445.
546. Cellulosic Biorefineries-Unleashing Lignin Opportunities. Sannigrahi, P.; Pu, Y.; Ragauskas, A. *Current Opinion in Environmental Sustainability* (2010), 2, 383-393.

547. High Oxygen Nanocomposite Barrier Films Based on Xylan and Nanocrystalline Cellulose. Saxena, A.; Elder, T.J.; Kenvin, J.; Ragauskas, A.J. *Nano-Micro Letters* (2010), 2(4), 235-241.
548. ³¹P-NMR Analysis of Bio-oils Obtained from the Pyrolysis of Biomass. David, K.; Kosa, M.; Williams, A.; Mayor, R.; Realff, M.; Muzzy, J.; Ragauskas, A.J. *Biofuels* (2010), 1(6), 839-845.
549. Rapid Determination of Lignin Content via Direct Dissolution and ¹H NMR Analysis of Plant Cell Walls. Jiang, N.; Pu, Y.; Ragauskas, A.J. *ChemSusChem* (2010), 3(11), 1285-1289.
550. Direct Analysis of Cellulose in Poplar Stem by Matrix-assisted Laser Desorption/Ionization Imaging Mass Spectrometry. Seokwon J.; Chen, Y.; Cameron, S.M.; Ragauskas, A.J. *Rapid Communications in Mass Spectrometry* (2010), 24(10), 3230–3236.
551. Changes in Lignocellulosic Supramolecular and Ultrastructure during Dilute Acid Pretreatment of Populus and Switchgrass. Foston, M.; Ragauskas, A.J. *Biomass and Bioenergy* (2010), 34(12), 1885-1895.
552. SANS Study of Cellulose Extracted from Switchgrass. Pingali, S.V.; Urban, V.S.; Heller, W.T.; McGaughey, J.; O'Neill, H.M.; Foston, M.; Myles, D.A.; Ragauskas, A.J.; Evans, B.R. *Acta Crystallographica, Section D: Biological Crystallography* (2010), D66 (11), 1189-1193.
553. Changes in the Structure of the Cellulose Fiber Wall during Dilute Acid Pretreatment in Populus Studied by ¹H and ²H NMR. Foston, M.; Ragauskas, A.J. *Energy Fuels* (2010), 24, 5677-5685.
554. Poly(Methyl Vinyl Ether-co-maleic Acid)-Polyethylene Glycol Nanocomposites Cross-Linked In Situ with Cellulose Nanowhiskers. Goetz, L.; Foston, M.; Mathew, A.P.; Oksman, K.; Ragauskas, A.J. *Biomacromolecules* (2010), 11, 2660-2666.
555. Correlation between Anatomical Characteristics of Ethanol Organosolv Pretreated *Buddleja Davidii* and Its Enzymatic Conversion to Glucose. Hallac, B.B.; Ray, M.; Murphy, R.J.; Ragauskas, A.J. *Biotechnology and Bioengineering* (2010), 107(5), 795-801.
556. Breakdown of Cell Wall Nanostructure in Dilute Acid Pretreated Biomass. Pingali, S.V.; Urban, V.S.; Heller, W.T.; McGaughey, J.; O'Neill, H.; Foston, M.; Myles, D.A.; Ragauskas, A.; Evans, B.R. *Biomacromolecules* (2010), 11(9), 2329-2335.
557. Switchgrass as an Energy Crop for Biofuel Production: A Review of Its Ligno-cellulosic Chemical Properties. Kasi D.; Ragauskas, A.J. *Energy Environ. Sci.* (2010), 3, 1182-1190.
* *One of the top ten most-read articles from the online version of Energy & Environmental Science for September 2010*
558. A Novel FRET Approach for In Situ Investigation of Cellulase-cellulose Interaction. Wang, L.; Wang, Y.; Ragauskas, Arthur J. *Analytical and Bioanalytical Chemistry* (2010), 398(3), 1257-1262.
559. Atomic Force Microscopy Characterization of Switchgrass. Lee, I.; Evans, B. R.; Foston, M.; Ragauskas, A. *Microscopy and Microanalysis* (2010), 16(Suppl. 2), 1040-1041.
560. Dilute Sulphuric Acid and Ethanol Organosolv Pretreatment of *Miscanthus x Giganteus*. Brosse, N.; El Hage, R.; Sannigrahi, P.; Ragauskas, A. *Cellulose Chemistry and Technology* (2010), 44(1-3), 71-78.
561. Ultrasound-promoted Synthesis of Nitriles from Aldoximes under Ambient Conditions. Jiang, N.; Ragauskas, A.J. *Tetrahedron Letters* (2010), 51(34), 4479-4481.
562. Rigid Polyurethane Foam Reinforced with Cellulose Whiskers: Synthesis and Characterization. Li, Y.; Ren, H.; Ragauskas, A.J. *Nano-Micro Lett.* (2010), 2, 89-94.

563. Effect of Acid-chlorite Delignification on Cellulose Degree of polymerization. Hubbell, C.A.; Ragauskas, A.J. *Bioresource Technology* (2010), 101(19), 7410-7415.
564. Starch-modified fillers for linerboard and paper grades: A perspective review. Deng Y.L.; Jones P.; McLain L.; Jones, P. *TAPPI Journal* (2010), 9(4), 31-36.
565. Effects of Process Severity on the Chemical Structure of Miscanthus Ethanol Organosolv Lignin. El Hage, R.; Brosse, N.; Sannigrahi, P.; Ragauskas, A. *Polymer Degradation and Stability* (2010), 95(6), 997-1003.
566. Structural Characterization and Comparison of Switchgrass Ball-milled Lignin before and after Dilute Acid Pretreatment. Samuel, R.; Pu, Y.; Raman, B.; Ragauskas, A.J. *Applied Biochemistry and Biotechnology* (2010), 162(1), 62-74.
567. Effects of Organosolv Pretreatment and Enzymatic Hydrolysis on Cellulose Structure and Crystallinity in Loblolly Pine. Sannigrahi, P.; Miller, S.J.; Ragauskas, A.J. *Carbohydrate Research* (2010), 345(7), 965-970.
568. Poplar as a Feedstock for Biofuels: A Review of Compositional Characteristics. Sannigrahi, P.; Ragauskas, A.J.; Tuskan, G.A. *Biofuels, Bioproducts & Biorefining* (2010), 4(2), 209-226.
569. Rapid Quantitative Analytical Tool for Characterizing the Preparation of Biodiesel. Nagy, M.; Foston, M.; Ragauskas, A.J. *Journal of Physical Chemistry A* (2010), 114(11), 3883-3887.
570. Surface Characterization of Dilute Acid Pretreated Populus Deltoides by ToF-SIMS. Jung, S.; Foston, M.; Sullards, M.C.; Ragauskas, A.J. *Energy & Fuels* (2010), 24(2), 1347-1357.
571. Effect of Ethanol Organosolv Pretreatment on Enzymatic Hydrolysis of Buddleja Davidii Stem Biomass. Hallac, B.B.; Sannigrahi, P.; Pu, Y.; Ray, M.; Murphy, R.J.; Ragauskas, A. J. *Industrial & Engineering Chemistry Research* (2010), 49(4), 1467-1472.
572. Chemical Profiles of Switchgrass. Hu, Z.; Sykes, R.; Davis, M.F.; Brummer, M.E; Ragauskas, A.J. *Bioresource Technology* (2010), 101(9), 3253-3257.
573. Solid-state NMR Characterization of Switchgrass Cellulose after Dilute Acid Pretreatment. Samuel R.; Pu, Y.; Foston, M.; Ragauskas, A.J. *Biofuels* (2010), 1, 85-90.
574. Characterization of CO₂ Precipitated Kraft Lignin to Promote Its Utilization. Nagy, M.; Kosa, M.; Theliander, H.; Ragauskas, A.J. *Green Chemistry* (2010), 12(1), 31-34.
- *Top ten accessed on the web from the online version of Green Chemistry (Jan., 2010)*
575. Synthesis of Novel Water-soluble Sulfonated Cellulose. Dash, R.; Jiang, N.; Gelbaum L.; Ragauskas, A.J. *Carb. Res.* (2010), 345 (2), 284-290.
576. Chemical Compositions of Four Switchgrass Populations. Yan, J.; Hu, Z.; Pu, Y.; Charles B.E.; Ragauskas, A.J. *Biomass and Bioenergy* (2010), 34(1), 48-53.
577. Lignin Structural Modifications Resulting from Ethanol Organosolv Treatment of Loblolly Pine. Sannigrahi, P.; Ragauskas, A.J.; Miller, S.J. *Energy Fuels* (2010), 24, 683-689.
578. Chemical Transformations of Buddleja Davidii Lignin during Ethanol Organosolv Pretreatment. Hallac, B.B.; Pu, Y.; Ragauskas, A.J. *Energy & Fuels* (2009), 24(4), 2723-2732.
579. Filler Modification with Polysaccharides or Their Derivatives for Improved Paper Properties. Song, D.; Dong, C.; Ragauskas, A.; Deng, Y. *Journal of Biobased Materials and Bioenergy* (2009), 3(4), 321-334.
580. Perdeuterated Pyridinium Molten Salt (Ionic Liquid) for Direct Dissolution and NMR Analysis of Plant Cell Walls. Jiang, N.; Pu, Y.; Samuel, R.; Ragauskas, A.J. *Green Chemistry* (2009), 11(11), 1762-1766.

581. NMR Characterization of C3H and HCT Down-regulated Alfalfa Lignin for Improved Fermentable Sugar Yields. Pu, Y.; Chen, F.; Ziebell, A.; Davison, B.; Ragauskas, A.J. *BioEnergy Research* (2009), 2, 198–208.
582. Variations in Cellulosic Ultrastructure of Poplar. Foston, M.; Hubbell, C.A.; Davis, M.; Ragauskas, A.J. *BioEnergy Research* (2009), 2, 193–197.
583. Novel Nanocellulosic Xylan Composite Film. Saxena, A.; Elder, T.; Shaobo, P.; Ragauskas, A.J. *Composites Part B: Engineering* (2009), 40(8), 727-730.
584. Characterization of Milled Wood Lignin and Ethanol Organosolv Lignin from Miscanthus. El Hage, R.; Brosse, N.; Chrusciel, L.; Sanchez, C.; Sannigrahi, P.; Ragauskas, A.J. *Polymer Degradation and Stability* (2009), 94(10), 1632-1638.
585. Pretreatment of Miscanthus x Giganteus using the Ethanol Organosolv Process for Ethanol Production. Brosse, N.; Sannigrahi, P.; Ragauskas, A.J. *Industrial & Engineering Chemistry Research* (2009), 48(18), 8328-8334.
586. Water Transmission Barrier Properties of Biodegradable Films Based on Cellulosic Whiskers and Xylan. Saxena, A.; Ragauskas, A.J. *Carbohydrate Polymers* (2009), 78(2), 357-360.
587. Phosphitylation and Quantitative ³¹P NMR Analysis of Partially Substituted Biodiesel Glycerols. Nagy, M.; Kerr, B.J.; Ziemer, C.J.; Ragauskas, A.J. *Fuel* (2009), 88(9), 1793-1797.
588. Synthetic Applications of Laccase in Green Chemistry. Witayakran, S.; Ragauskas, A.J. *Advanced Synthesis & Catalysis* (2009), 351(9), 1187-1209.
589. Catalytic Hydrogenolysis of Ethanol Organosolv Lignin. Nagy, M.; David, K.; Britovsek, G.J. P.; Ragauskas, A.J. *Holzforchung* (2009), 63(5), 513-520.
590. A Novel Nanocomposite Film Prepared from Crosslinked Cellulosic Whiskers. Goetz, L.; Mathew, A.; Oksman, K.; Gatenholm, P.; Ragauskas, A.J. *Carbohydrate Polymers* (2009), 75(1), 85-89.
591. Quantitative NMR Analysis of Partially Substituted Biodiesel Glycerols. Nagy, M.; Alleman, T.L.; Dyer, T.; Ragauskas, A.J. *Journal of Biobased Materials and Bioenergy* (2009), 3(1), 108-111.
592. Analytical Pyrolysis Study of Biodelignification of Cloned Eucalyptus Globulus (EG) Clone and Pinus Pinaster Aiton Kraft Pulp and Residual Lignins. Oudia, A.; Meszaros, E.; Jakab, E.; Simoes, R.; Queiroz, J.; Ragauskas, A.; Novak, L. *Journal of Analytical and Applied Pyrolysis* (2009), 85(1-2), 19-29.
593. Biomass Characterization of Buddleja Davidii: A Potential Feedstock for Biofuel Production. Hallac, B.B.; Sannigrahi, P.; Pu, Y.; Ray, M.; Murphy, R.J.; Ragauskas, A.J. *Journal of Agricultural and Food Chemistry* (2009), 57(4), 1275-1281.
594. Cocatalytic Enzyme System for the Michael Addition Reaction of In-situ-Generated Ortho-quinones. Witayakran, S.; Ragauskas, A.J. *European Journal of Organic Chemistry* (2009), (3), 358-363.
595. Analysis of Microwave vs. Thermally Assisted Grafting of Poly(methyl-vinyl ether co-maleic acid)-polyethylene Glycol to Birch Kraft Pulp. Goetz, L.A.; Sladky, J.P.; Ragauskas, A.J. *Holzforchung* (2009), 63(4), 414–417.
596. Modification of High-lignin Softwood Kraft Pulp with Laccase and Amino Acids. Witayakran, S.; Ragauskas, A.J. *Enzyme and Microbial Technology* (2009), 44(3), 176-181.
597. Cross-polarization/Magic Angle Spinning (CP/MAS) ¹³C Nuclear Magnetic Resonance (NMR) Analysis of Chars from Alkaline-treated Pyrolyzed Softwood. David, K.; Pu, Y.; Foston, M.; Muzzy, J.; Ragauskas, A. *Energy & Fuels* (2009), 23(1), 498-501.

598. Effects of Two-stage Dilute Acid Pretreatment on the Structure and Composition of Lignin and Cellulose in Loblolly Pine. Sannigrahi, P.; Ragauskas, A.J.; Miller, S.J. *BioEnergy Research* (2008), 1:205–214.
599. Cellulase Kinetics as a Function of Cellulose pretreatment. Bommarius, A.S.; Katona, A.; Cheben, S.E.; Patel, Arpit S.; Ragauskas, A.J.; Knudson, K.; Pu, Y. *Metabolic Engineering* (2008), 10(6), 370-381.
600. Exploring Fibre-fibre Interfaces via FRET and Fluorescence Microscopy. Thomson, C.; Lowe, R.; Page, D.; Ragauskas, A. *Journal of Pulp and Paper Science* (2008), 34(2), 113-120.
601. Co-production of Ethanol and Cellulose Fiber from Southern Pine: A Technical and Economic Assessment. Frederick, W. J.; Lien, S. J.; Courchene, C. E.; DeMartini, N. A.; Ragauskas, A. J.; Iisa, K. *Biomass and Bioenergy* (2008), 32(12), 1293-1302.
602. Copper-catalyzed Highly Efficient Aerobic Oxidation of Alcohols under Ambient Conditions. Nan, J.; Ragauskas, A.J. *ChemSusChem* (2008), 1(10), 823-825.
603. Energy Saving in Papermaking through Filler Addition. Dong, C.; Song, D.; Patterson, T.; Ragauskas, A.; Deng, Y., Energy Saving in Papermaking through Filler Addition. *Industrial & Engineering Chemistry Research* (2008), 47(21), 8430-8435.
604. Laccase Treatment of Recycled Blue Dyed Paper: Physical Properties and Fiber Charge. Mohandass, C.; Knutson, K.; Ragauskas, A.J. *Journal of Industrial Microbiology & Biotechnology* (2008), 35(10), 1103-1108.
605. First Characterization of the Development of Bleached Kraft Softwood Pulp Fiber Interfaces During Drying and Rewetting Using FRET Microscopy. Thomson, C.I.; Lowe, R. M.; Ragauskas, A.J. *Holzforschung* (2008), 62(4), 383-388.
606. Near-infrared Spectroscopy and Chemometric Analysis for Determining Oxygen Delignification Yield. Pu, Y.; Ragauskas, A.J.; Lucia, L.A.; Naithani, V.; Jameel, H. *Journal of Wood Chemistry and Technology* (2008), 28(2), 122-136.
607. Oxidation and Sulfonation of Cellulosics. Zhang, J.; Jiang, N.; Dang, Z.; Elder, T.J.; Ragauskas, A.J., *Cellulose* (2008), 15(3), 489-496.
608. Production of Ethanol from Carbohydrates from Loblolly Pine: A Technical and Economic Assessment. Frederick, W. J.; Lien, S. J.; Courchene, C. E.; DeMartini, N. A.; Ragauskas, A. J.; Iisa, K. *Bioresource Technology* (2008), 99(11), 5051-5057.
609. Developing a New Paradigm for Linerboard Fillers. Zhao, Y.; Kim, D.; White, D.; Deng, Y.; Patterson, T.; Jones, P.; Turner, E.; Ragauskas, A. J. *TAPPI Journal* (2008), 7(3), 3-7.
610. Enhanced Enzymatic Hydrolysis of Spruce by Alkaline Pretreatment at Low Temperature. Zhao, Y.; Wang, Y.; Zhu, J. Y.; Ragauskas, A.; Deng, Y. *Biotechnology and Bioengineering* (2008), 99(6), 1320-1328.
611. The New Forestry Biofuels Sector. Pu, Yunqiao; Zhang, Dongcheng; Singh, Preet M.; Ragauskas, Arthur J. *Biofuels, Bioproducts & Biorefining* (2008), 2(1), 58-73.
612. Piperylene Sulfone: A Recyclable Dimethyl Sulfoxide Substitute for Copper-catalyzed Aerobic Alcohol Oxidation. Jiang, N.; Vinci, D.; Liotta, C. L.; Eckert, C.A.; Ragauskas, A.J. *Industrial & Engineering Chemistry Research* (2008), 47(3), 627-631.
613. A Novel Method for Enhanced Recovery of Lignin from Aqueous Process Streams. Kim, D.H.; Pu, Y.; Chandra, R.P.; Dyer, T.J.; Ragauskas, A. J.; Singh, P. M. *Journal of Wood Chemistry and Technology* (2007), 27(3-4), 219-224.
614. Cascade synthesis of Benzofuran Derivatives via Laccase Oxidation-Michael Addition. Witayakran, S.; Gelbaum, L.; Ragauskas, A.J. *Tetrahedron* (2007), 63(45), 10958–10962.

615. Selective Aerobic Oxidation of Activated Alcohols into Acids or Aldehydes in Ionic Liquids. Jiang, N.; Ragauskas, A.J. *Journal of Organic Chemistry* (2007), 72(18), 7030-7033.
616. Characterizing TEMPO-mediated Oxidation of ECF Bleached Softwood Kraft Pulps. Dang, Z.; Zhang, J.; Ragauskas, A.J., *Carbohydrate Polymers* (2007), 70(3), 310-317.
617. Polymer Clay Self-assembly Complexes on Paper. Ou, R.; Zhang, J.; Deng, Y.; Ragauskas, A.J. *Journal of Applied Polymer Science* (2007), 105(4), 1987-1992.
618. Chemistry for a Sustainable Future. Grassian, V.H.; Meyer, G.; Abruna, H.; Coates, G. W.; Achenie, L.E.; Allison, T.; Brunshwig, B.; Ferry, J.; Garcia-Garibay, M.; Gardea-Torresday, J.; Grey, C.P.; Hutchison, J.; Li, C.-J.; Liotta, C.; Ragauskas, A.; Minter, S.; Mueller, K.; Roberts, J.; Sadik, O.; Schmehl, R.; Schneider, W.; Selloni, A.; Stair, P.; Stewart, J.; Thorn, D.; Tyson, J.; Voelker, B.; White, J. M.; Wood-Black, F. *Environmental Science & Technology* (2007), 41(14), 4840-4846.
619. One-pot Synthesis of 1,4-naphthoquinones and Related Structures with Laccase. Witayakran, S.; Ragauskas, A.J. *Green Chemistry* (2007), 9(5), 475-480.
620. Total Fibre Charge of Fully Bleached SW Kraft Pulps: a Comparative Study. Zhang, D. C.; Pu, Y.; Courchene, C. E.; Chai, X.-S.; Ragauskas, A. J. *Journal of Pulp and Paper Science* (2006), 32(4), 231-237.
621. Imaging Cellulose Fibre Interfaces with Fluorescence Microscopy and Resonance Energy Transfer. Thomson, C.I.; Lowe, R.M.; Ragauskas, A.J. *Carbohydrate Polymers* (2007), 69(4), 799-804.
622. Tunable Solvents for Fine Chemicals from the Biorefinery. Eckert, C.; Liotta, C.; Ragauskas, A.; Hallett, J.; Kitchens, C.; Hill, E.; Draucker, L. *Green Chemistry* (2007), 9(6), 545-548.
623. Facile Synthesis of Spherical Cellulose Nanoparticles. Zhang, J.; Elder, T.J.; Pu, Y.; Ragauskas, A.J. *Carbohydrate Polymers* (2007), 69(3), 607-611.
624. Deformation Behavior of Wet Lignocellulosic Fibers. Lowe, R.M.; Page, D.H.; Waterhouse, J.F.; Hsieh, J.; Cheluka, N.; Ragauskas, A.J. *Holzforchung* (2007), 61(3), 261-266.
625. Alkaline Peroxide Treated ECF Bleached Softwood Kraft Pulps Part I. Characterizing the Effect of Alkaline Peroxide Treatment of ECF Bleached Softwood Kraft Pulp on Carboxyl Groups of Fibers. Dang, Z.; Elder, T.; Ragauskas, A.J. *Holzforchung* (2007), 61(3), 445-450.
626. Alkaline Peroxide Treated ECF Bleached Softwood Kraft Pulps. Part II. The Effect of Increased Fiber Charge Pulps by Peroxide Treatment on Refining, Wet-end Application, and Drying/Hornification. Dang, Z.; Elder, T.; Hsieh, J.S.; Ragauskas, A.J. *Holzforchung* (2007), 61(3), 451-458.
627. The Effect of Fiber Charge Enhanced by Chemical Oxidation on Paper Dry-tensile Stiffness. Zhang, D.; Ragauskas, A.J. *Nordic Pulp & Paper Research Journal* (2007), 22(1), 76-79.
628. Ionic Liquid as a Green Solvent for Lignin. Pu, Y.; Jiang, N.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (2007), 27(1), 23-33.
629. Effect of Photolysis on 17th/18th Century Paper. Knutson, K.; Pu, Y.; Elder, T.; Buschle-Diller, G.B.; Yang, R.; Thomson, C.; Kim, Dong H.K.; Dang, Z.; Ragauskas, A.J. *Holzforchung* (2007), 61(2), 131-137.
630. Laccase-generated Quinones in Naphthoquinone Synthesis via Diels-Alder Reaction. Witayakran, S.; Zettili, A.; Ragauskas, A.J. *Tetrahedron Letters* (2007), 48(17), 2983-2987.
631. Experimental and Modeling of Carbonate Formation in the Effluent of Oxygen Delignification. Zhang, D. C.; Hsieh, J.; Chai, X. -S.; Ragauskas, A. J. *AIChE Journal* (2007), 53(3), 669-677.

632. Investigation into Nanocellulosics Versus Acacia Reinforced Acrylic Films. Pu, Y.; Zhang, J.; Elder, T.; Deng, Y.; Gatenholm, P.; Ragauskas, A.J. *Composites, Part B: Engineering* (2007), 38B(3), 360-366.
633. Lignocellulosic Fiber Charge Enhancement by Catalytic Oxidation During Oxygen Delignification. Zhang, D.; Chai, X.-S.; Pu, Y.; Ragauskas, A.J. *Journal of Colloid and Interface Science* (2007), 306(2), 248-254.
634. Vanadium-catalyzed Selective Aerobic Alcohol Oxidation in Ionic Liquid [bmim]PF₆. Jiang, N.; Ragauskas, A.J. *Tetrahedron Letters* (2007), 48, 273-276.
635. Measuring the Efficiency of Biomass Energy. Reply. Davison, B.H.; Ragauskas, A.J.; Templer, R.; Tschaplinski, T. J.; Melenz, J.R., *Science* (2006), 312(5781), 1744.
636. The Path Forward for Biofuels and Biomaterials. Ragauskas, A.J.; Williams, C.K.; Davison, B.H.; Britovsek, G.; Cairney, J.; Eckert, C.A.; Frederick, W.J., Jr.; Hallett, J.P.; Leak, D.J.; Liotta, C.L.; Mielenz, J.R.; Murphy, R.; Templer, R.; Tschaplinski, T. *Science* (2006), 311(5760), 484-489.
- *Essential Science Indicators as a highly cited paper in the Special Topic of biofuels*
637. Copper(II)-Catalyzed Selective Aerobic Oxidation of Alcohols under Mild Conditions. Jiang, N.; Ragauskas, A.J. *Journal of Organic Chem.* (2006), 71(18), 7087-7090.
638. Study of Thioglycosylation in Ionic Liquids. Zhang, J.; Ragauskas, A.J. *Beilstein Journal of Organic Chemistry* (2006), 2(12) (27 Jun 2006).
639. Tailoring the Wet Strength of Linerboard via Dielectric Barrier Discharge. Johansson, E.E.; Elder T.J.; Ragauskas, A.J. *Wood Chemistry and Technology* (2006), 26, 289-297.
640. Environmentally Friendly Synthesis of Biaryls: Suzuki Reaction of Aryl Bromides in Water at Low Catalyst Loading. Jiang, N.; Ragauskas, A.J. *Tetrahedron Letters* (2006), 197-200.
641. CP/MAS ¹³C NMR Analysis of Cellulase Treated Bleached Softwood Kraft Pulp. Pu, Yunqiao; Ziemer, Cherie; Ragauskas, A.J. *Carbohydrate Research* (2006), 341(5), 591-597.
642. Surface Modification of Cellulosic Fibers using Dielectric-barrier Discharge. Vander Wielen, L.C.; Ostenson, M.; Gatenholm, P.; Ragauskas, A.J. *Carbohydrate Polymers* (2006), 65, 179-184.
643. Wood to Fuels: Integrating Biofuels and Pulp Production. Ragauskas, A.J., Nagy, M.; Kim, D.H.; Eckert, C.A.; Liotta, C.L. *Industrial Biotechnology* (2006), 2(1), 55-65.
644. Influence of Kraft Pulping on Carboxylate Content of Softwood Kraft Pulps. Dang, Z.J.; Elder, T.; Ragauskas, A. J. *Industrial & Engineering Chemistry Research* (2006), 45(13), 4509-4516.
645. Characterization of Lignocellulosic-Polylactic Acid Reinforced Composites. Hou, Q., Chai, R.; Yang, R.; Elder, T.; Ragauskas, A.J. *Journal of Applied Polymer Science* (2006), 99, 1346-1349.
646. Deconvoluting Chromophore Formation and Removal during Kraft Pulping: Influence of Metal Cations. Dyer, T.J.; Ragauskas, A.J. *Appita Journal* (2006), 59(6), 452-458. [Invited]
647. Direct Observations of Bonding Influence on the Tensile Creep Behavior of Paper. DeMaio, A.; Lowe, R.; Patterson, T.; Ragauskas, A.J. *Nordic Pulp & Paper Research Journal* (2006), 21(3), 297-302.
648. Dielectric-barrier Discharge Initiated Grafting to Enhance Fiber Charge. Vander Wielen, L.; Ragauskas, A.J. *Chemical Engineering Communications* (2006), 193(6), 683-688.
649. Elucidating Carboxylic Acid Profiles for Extended Oxygen Delignification of High-kappa Softwood Kraft Pulps. Zhang, D.; Pu, Y.; Chai, X. S.; Naithani, V.; Jameel, H.; Ragauskas, A.J. *Holzforchung* (2006), 60(2), 123-129.

650. Structural Analysis of Acetylated Hardwood Lignin and Their Photoyellowing Properties. Pu, Y.; Ragauskas, A.J. *Canadian Journal of Chemistry* (2005), 83(12), 2132-2139.
651. Synthesis of Benzylidenated Hexopyranosides in Ionic Liquids. Zhang, J.; Ragauskas, A.J., *Carbohydrate Research* (2005), 340, 2812-2815.
652. Copper(II)-Catalyzed Aerobic Oxidation of Primary Alcohols to Aldehydes in Ionic Liquid [bmpy]PF₆. Jiang, N.; Ragauskas, A.J. *Organic Letters* (2005), 7(17), 3689-3692.
653. TEMPO-catalyzed Oxidation of Benzylic Alcohols to Aldehydes with the H₂O₂/HBr/Ionic Liquid [bmim]PF₆ System. Nan, J; Ragauskas, A.J. *Tetrahedron Letters* (2005), 46(19), 3323-3326.
654. Characterization of Fiber Carboxylic Acid Development during One-Stage Oxygen Delignification. Zhang, D.; Chai, X.-S.; Hou, Q.; Ragauskas, A.J. *Industrial & Engineering Chemistry Research* (2005), 44(24), 9279-9285.
655. Mechanism of Dielectric-barrier Discharge Initiated Wet-strength Development. Vander Wielen, L.C.; Ostenson, M.; Gatenholm, P.; Ragauskas, A.J. *Journal of Applied Polymer Science* (2005), 98(5), 2219-2225.
656. Enzymatic Biobleaching of Two Recalcitrant Paper Dyes with Horseradish and Soybean Peroxidase. Knutson, K.; Kirzan, S.; Ragauskas, A.J. *Biotechnology Letters* (2005), 27(11), 753-758.
657. Improvement of Paper Properties using Starch-modified Precipitated Calcium Carbonate Filler. Zhao, Y.; Hu, Z.; Ragauskas, A.J.; Den, Y. *TAPPI Journal* (2005), 4(2), 3-7.
**2nd place for 2006 TAPPI Journal Outstanding Research Paper Award*
658. Modification of High-Lignin Kraft Pulps with Laccase. Part 2. Xylanase-Enhanced Strength Benefits. Chandra, R.P.; Ragauskas, A.J. *Biotechnology Progress* (2005), 21(4), 1302-1306.
659. Improvement of Paper Strength with Starch Modified Clay. Yan, Z.; Liu, Q.; Deng, Y.; Ragauskas, A. *Journal of Applied Polymer Science* (2005), 97(1), 44-50.
660. Enhanced Wet Tensile Paper Properties via Dielectric-barrier Discharge. Vander Wielen, L.C.; Page, D.H.; Ragauskas, A.J. *Holsforschung* (2005), 59(1), 65-71.
661. Analysis of the Topochemical Effects of Dielectric-barrier Discharge on Cellulosic Fibers. Vander Wielen, L.C.; Elder, T.; Ragauskas, A.J. *Cellulose* (2005), 12(2), 185-196.
662. Profiling the Wood and Pulp Properties of Southern Pine Thinning Resources. Dong Ho, K.; Allison, L.; Carter, B.; Hou, Q.; Courchene, C.; Ragauskas, A.J.; Sealey, J. *TAPPI Journal* (2005), (1), 21-25.
663. Wet-stiffening of TMP and Kraft Fibers via Dielectric-barrier Discharge Treatment. Vander Wielen, L.C.; Ragauskas, A.J. *Nordic Pulp & Paper Research Journal* (2004), 19(3), 384-385.
664. Review of Current and Future Softwood Kraft Lignin Process Chemistry. Chakar, F.S.; Ragauskas, A.J. *Industrial Crops and Products* (2004), 20(2), 131-141.
665. Biobleaching Chemistry of Laccase-mediator Systems on High-lignin-content Kraft Pulps. Chakar, F.S.; Ragauskas, A.J. *Canadian Journal of Chemistry* (2004), 82, 344-352.
666. Investigation of the Photo-oxidative Chemistry of Acetylated Softwood Lignin. Pu, Y.; Anderson, S.; Lucia, L.; Ragauskas, A.J. *Journal of Photochemistry and Photobiology, A: Chemistry* (2004), 163(1-2), 215-221.
667. Laccase-mediator Biobleaching Applied to a Direct Yellow Dyed Paper. Knutson, K.; Ragauskas, A.J. *Biotechnology Progress* (2004), 20(6), 1893-1896.
668. Grafting of Acrylamide onto Lignocellulosic Fibers via Dielectric-barrier Discharge. Vander Wielen, L; Ragauskas, A.J. *European Polymer J.* (2004), 40(3), 477-482.

669. Modification of High Lignin Content Kraft Pulps with Laccase to Improve Paper Strength Properties. Laccase Treatment in the Presence of Gallic Acid. Chandra, R.P.; Lehtonen, L.K.; Ragauskas, A.J. *Biotechnology Progress* (2004), 20(1), 255-261.
670. Fundamentals of Photobleaching Lignin. Part 1: Photobehaviors of Acetylated Softwood BCTMP Lignin. Pu, Y.; Anderson, L.; Lucia, L.; Ragauskas, A.J. *Journal of Pulp and Paper Science* (2003), 29(12), 401-406.
671. Oxygen Delignification Chemistry and Its Impact on Pulp Fibers. Yang, R.; Lucia, L.; Ragauskas, A.; Jameel, H. *Journal of Wood Chemistry Technology* (2003), 23(1), 13-29.
672. Green Liquor Chip Pretreatment as a Feasible Method for the Enhancement of Softwood Pulp Chemical Properties. Singh, J.; Ragauskas, A.J.; Lucia, L.A. *Cellulose Chemistry and Technology* (2003), 36(1-2), 173-181.
673. Comparative Evaluation of Oxygen Delignification Processes for Low- and High-Lignin-Content Softwood Kraft Pulps. Lucia, L.; Ragauskas, A.J.; Chakar, F. *Industrial & Engineering Chemistry Research* (2002), 41, 5171-5180.
674. Oxygen Degradation and Spectroscopic Characterization of Hardwood Kraft Lignin. Yang, R.; Lucia, L.; Ragauskas, A.; Jameel, H. *Industrial & Engineering Chemistry Research* (2002), 41(24), 5941-5948.
675. Evaluating Laccase-Facilitated Coupling of Phenolic Acids to High-Yield Kraft Pulps. Chandra, R.P., Ragauskas, A.J. *Enzyme and Microbial Technology* (2002), 30(7), 855-861.
676. Delving into the Fundamental LMS Delignification of High-Kappa Pulps. Chandra, R.P., Chakar, F.S., Allison, A., Kim, D.H., Ragauskas, A.J.; Elder, T.J. *Progress in Biotechnology, Biotechnology in the Pulp and Paper Industry* (2002), 21, 151-164.
677. Structural Changes of Lignin during EMCC Pulping of *Pinus Elliottii* in Southern China. Zhan, H.; Pu, Y.; Ragauskas, A.J.; Jiang, J.E. *Huanan Ligong Daxue Xuebao, Ziran Kexueban* (2002), 30(9), 65-69.
678. Elucidating the Effects of Laccase on the Physical Properties of High-Kappa Kraft Pulps. Chandra, R.; Ragauskas, A.J. *Progress in Biotechnology, Biotechnology in the Pulp and Paper Industry* (2002), 21, 165-172.
679. Enzymatic Modification of Kraft Lignin through Oxidative Coupling with Water-Soluble Phenols. Lund, M.; Ragauskas, A.J. *Applied Microbiology Biotechnology* (2001), 55, 699-703.
680. N-Hydroxyl Compounds as New Internal Standards for the ³¹P-NMR Determination of Lignin Hydroxyl Functional Groups. Zawadzki, M.; Ragauskas, A.J. *Holzforchung* (2001), 55, 283-285.
681. A Comparative Evaluation of Low-AOX Hardwood Kraft Pulp Bleaching Sequences. McDonough, T.J.; Courchene, C.E.; Shaket, A.; Ragauskas, A.J.; Khandelwal, B.; Magnotta, V.L. *Pulp & Paper Canada* (2001), 102(10), 46-52.
682. Brightness Reversion of Mechanical Pulps. Part XVI: The Effect of Oxygen on Photostabilization of High-Yield Mechanical Pulps Treated with UV Absorbers and a Fluorescent Whitening Agent. Li, C.; Ragauskas, A.J. *Journal of Pulp Paper Science* (2001), 27(6), 202-206.
683. Brightness Reversion of Mechanical Pulps XIV: Application of FWAs for High-Brightness, High-Yield Pulps. Ragauskas, A.J.; Allison, L.; Lucia, L.A.; Li, C. *TAPPI Journal* (2001), 84(11), 1-11.

684. Photoyellowing of Untreated and Acetylated Aspen Chemithermomechanical Pulp under Argon, Ambient, and Oxygen Atmospheres. Paulsson, M.; Lucia, L.A.; Ragauskas, A.J.; Li, C. *Journal of Wood Chemistry and Technology* (2001), 21(4), 343-360.
685. Laccase N-Hydroxybenzotriazole Full-Sequence Bleaching with Hydrogen Peroxide and Chlorine Dioxide. Sealey, J.E.; Runge, T.M.; Ragauskas, A.J. *TAPPI Journal* (2000), 83(9), 66-70.
686. The Kismet of Residual Lignins during LMS Delignification of High-Kappa Kraft Pulps. Chakar, F.S.; Ragauskas, A.J. *Holzforschung* (2000), 54, 647-653.
687. The Effects of Oxidative Alkaline Extraction Stages after Laccase_{HBT} and Laccase_{NHAA} Treatments – An NMR Study of Residual Lignin. Chakar, F.S.; Ragauskas, A.J. *Journal of Wood Chem. Technol.* (2000), 20(2), 169-184.
688. Facile Detection of Ortho- and Para-Quinone Structures in Residual Lignin by ³¹P NMR Spectroscopy. Zawadzki, M.; Runge, T.; Ragauskas, A.J. *Journal of Pulp and Paper Science* (2000), 26(3), 102-106.
689. Intrinsic Metal Binding Capacity of Kraft Lignins. Werner, J.; Ragauskas, A.J.; Jiang, J.E. *Journal of Wood Chemistry and Technology* (2000), 20(2), 133-145.
690. Influence of Hexenuronic Acids on U.S. Bleaching Operations. Chakar, F.S.; Allison, L.; Ragauskas, A.J.; McDonough, T.J.; Sezgi, U. *TAPPI Journal* (2000), 83(11), 62-71.
691. Metal Profiling of Southeastern U.S. Softwood and Hardwood Furnish. Allison, L.; Ragauskas, A.J.; Hsieh, J. *TAPPI Journal* (2000), 83(8), 97-102.
692. Brightness Reversion of Mechanical Pulps. Part XVII: Diffuse Reflectance Study on Brightness Stabilization by Additives under Various Atmospheres. Li, C.; Ragauskas, A.J. *Cellulose* (2000), 7, 369-385.
693. Investigations into Laccase-Mediator Delignification of Kraft Pulps. Sealey, J.; Ragauskas, A.J.; Elder, T.J. *Holzforschung* (1999), 53, 498-502.
694. NMR Analysis of Oxidative Alkaline Extraction Stage Lignins. Runge, T.M.; Ragauskas, A.J. *Holzforschung* (1999), 53, 623-631.
695. NMR Studies. Part 5: Nature of Residual Lignin in Kraft Pulps. Ragauskas, A.J.; Lin, W.; McDonough, T.J.; Jiang, J.E. *TAPPI Journal* (1999), 82(9), 113-116.
696. Oxygen Delignification of High-Yield Kraft Pulp. Moe, S.T.; Ragauskas, A.J. *Holzforschung* (1999), 53, 416-422.
697. Brightness Reversion of Mechanical Pulps. XI: Photostabilization of High-Yield Pulps by Thiosulfates. Li, C.; Cook, C.M.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (1999), 19(1&2), 27-41.
698. Brightness Reversion of Mechanical Pulps. Part XIII: Photoinduced Degradation of Lignin on Cellulose Matrix. Li, C.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (1999), 19(1&2), 43-60.
699. NMR Studies. Part 3: Analysis of Lignins from Modern Kraft Pulping Technologies. Froass, P.M.; Ragauskas, A.J.; Jiang, J.E. *Holzforschung* (1998), 52, 385-390.
700. NMR Studies. Part 4: Analysis of Residual Lignin after Kraft Pulping. Froass, P.M.; Ragauskas, A.J.; Jiang, J.E. *Industrial & Engineering Chemistry Research* (1998), 37(8), 3388-3394.
701. Residual Lignin Studies of Laccase Delignified Kraft Pulps. Sealey, J.; Ragauskas, A.J. *Enzyme and Microbial Technology* (1998), 23(Nov.), 422-426.
702. Investigation of Laccase/N-Hydroxybenzotriazole Delignification of Kraft Pulp. Sealey, J.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (1998), 18(4), 403-416.

703. Interaction of Hydrogen Peroxide and Chlorine Dioxide in ECF Bleaching. Senior, D.; Hamilton, J.; Froass, P.; Sealey, J.; Ragauskas, A.J. *TAPPI Journal* (1998), 81(6), 170-178.
704. Chemical Modification of Lignin-Rich Paper. Photostabilizing High-Brightness Aspen CTMP by Combining Various Classes of Additives and Acetylation. Paulsson, M.; Ragauskas, A.J. *Nordic Pulp & Paper Research Journal* (1998), 13(2), 124-131.
705. Chemical Modification of Lignin-Rich Paper. Effect of Light Source on the Accelerated Light-Induced Yellowing of Untreated and Acetylated High-Yield Pulps. Paulsson, M.; Ragauskas, A.J. *Nordic Pulp & Paper Research Journal* (1998), 13(2), 132-142.
706. Brightness Reversion of Mechanical Pulps X: Fiber Topochemistry. Cook, C.M.; Barzyk, D.; Allison, L.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (1998), 18(3), 289-297.
707. Chemical Modification of Lignin-Rich Paper. Effect of Dry Heat and Moist Heat on the Accelerated Yellowing of Untreated and Acetylated High-Yield Pulps. Paulsson, M.; Ragauskas, A.J. *Nordic Pulp & Paper Research Journal* (1998), 13(3), 191-197.
708. Chemical Modification of Lignin-Rich Paper. The Light-Induced Yellowing of Untreated and Acetylated High-Yield Pulps Studied by Solid-State UV/VIS Diffuse Reflectance Spectroscopy. Paulsson, M.; Ragauskas, A.J. *Nordic Pulp & Paper Research Journal* (1998), 13(3), 198-205.
709. Acidic Group Topochemistry and Fiber-to-Fiber Specific Bond Strength. Barzyk, D.; Page, D.; Ragauskas, A.J. *Journal of Pulp and Paper Science* (1997), 23(2), J59-J61.
710. Brightness Reversion of Mechanical Pulps. Part VIII: Fate of Dienic Additives during Brightness Reversions of High-Yield Pulp. Cook, C.; Pan, X.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (1997), 17(1&2), 27-39.
711. Brightness Reversion of Mechanical Pulps. Investigation of Synergistic Photostabilization Methods for High-Yield Pulps. Cook, C.M.; Ragauskas, A.J. *Journal of Photochem. Photobiol.* (1997), 104, 217-224.
712. NMR Studies. Part 2: Investigation of Process Analytical NMR Techniques for the Pulp and Paper Industry. Draheim, E.J.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (1997), 17(3), 287-296.
713. Improvements in ECF Bleaching: Use of Activated Oxygen Species and Xylanase. Hamilton, J.; Senior, D.; Rodriguez, A.; Santiago, D.; Szwec, J.; Ragauskas, A.J. *TAPPI Journal* (1996), 79(4), 231- 234.
714. Comparison of the Properties of Native and Pentaammineruthenium(III)-Modified Xylanase. Evans, B.R.; Lane, L.M.; Margalit, R.; Hathaway, G.M.; Ragauskas, A.J.; Woodward, J. *Enzyme and Microbial Technology* (1996), 19, 367-373.
715. Brightness Reversion of Mechanical Pulps. Part 5: On the Mechanism of Stabilization by Dienols of Photoinduced Degradation in Lignocellulosic Materials. Harvey, L.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (1996), 16(1), 79-93.
716. Brightness Reversion of Mechanical Pulps. Part 6: Cooperative Photostabilization Approaches for High-Yield Pulps. Pan, X.; Harvey, L.C.; Ragauskas, A.J. *Journal of Pulp and Paper Science* (1996), 22(4), J135-J140.
717. Brightness Reversion of Mechanical Pulps. Part 7: Photostabilization Studies of Thiol Additives for Lignocellulosic Materials. Cook, C.; Pan, X.; Ragauskas, A.J. *Journal of Wood Chem. Technol.* (1996), 16(3), 327-345.
718. Chemical Structure of Residual Lignin from Kraft Pulp. Froass, P.M.; Ragauskas, A.J.; Jianer, J. *Journal of Wood Chemistry and Technology* (1996), 16(4), 347-365.

719. Bleaching Kraft Pulps with in-situ Generated Dioxiranes. Santiago, D.; Rodriguez, A.; Szwec, J.; Baumstark, A.L.; Ragauskas, A.J. *Industrial & Engineering Chemistry Research* (1995), 34, 400-403.
720. Brightness Reversion of Mechanical Pulps. Part 4: A Study on the Action of Thiols and Disulfides on Hardwood BCTMP. Pan, X.; Ragauskas, A.J. *Journal of Pulp and Paper Science* (1995), 21(1), J25-J29.
721. Brightness Reversion of Mechanical Pulps. Part 3: Mechanistic Studies of Mercapto Stabilizers for High-Yield Mechanical Pulps. Pan, X.; Ragauskas, A.J. *Journal of Wood Chemistry and Technology* (1995), 15(1), 135-152.
722. A New Model Compound for Studying Alkaline Cellulose Cleavage Reactions. Kaylor, R.M.; Dimmel, D.R.; Ragauskas, A.J.; Liotta, C. *Journal of Wood Chemistry and Technology* (1995), 15(4), 431-452.
723. Application of Endo(1,4)-D-xylanase in the Pulp and Paper Industry. Santiago, D.; Rodriguez, A.; Hamilton, J.; Senior, D.J.; Szwec, J.; Ragauskas, A.J. *Industrial Biotechnology Polymers*, Technomic Publishing Co., Ed. Gebelein, C.G., Carraher, C.E. (1995), 53.
724. Molecular Recognition of a Salmonella Trisaccharide Epitope by Monoclonal Antibody SE155-4. Bundle, D.R.; Eichler, E.; Gidney, M.A.J.; Meldal, M.; Ragauskas, A.J. *Biochemistry* (1994), 33(17), 5172-5182.
725. Brightness Reversion of Mechanical Pulps. Part 2: Thermal Aging of Ascorbic Acid Impregnated Lignin-Retaining Pulps. Ragauskas, A.J. *Cellulose Chemistry Technology* (1994), 28(3), 265-72.
726. Effect of Xylanase Pretreatment Procedures for Nonchlorine Bleaching. Ragauskas, A.J.; Poll, K.M.; Cesternino, A.J. *Enzyme Microbial and Technology* (1994), 16, 492-495.
727. Investigation of Dimethyldioxirane as a Bleaching Reagent for Kraft Pulp. Ragauskas, A.J. *TAPPI Journal* (1993), 76(7), 87-90.
728. Photoyellowing of Mechanical Pulp. Part 1: Inhibition of Brightness Reversion by Unsaturated Compounds. Ragauskas, A.J. *TAPPI Journal* (1993), 76(12), 153-157.
729. An Examination of the Effect of Conformation on β -Enolization in Some Bicyclo[3.2.1]octan-2-ones. Clements, T.M.; Klinck, R.E.; Peiris, S.; Ragauskas, A.J.; Stothers, J.B. *Canadian Journal Chemistry* (1988), 66, 454-460.
730. Homo-enolization in the Camphenilone System. Examination of Some 7-Substituted Derivatives. Peiris, S.; Ragauskas, A.J.; Stothers, J.B. *Canadian Journal of Chemistry* (1987), 65, 789-797.
731. Preparative Ring Expansions of Bicyclic Ketones by Homoketonization of Cyclopropoxide Analogues. Patel, V.; Ragauskas, A.J.; Stothers, J.B. *Canadian Journal of Chemistry* (1986), 64, 1440-1449.
732. An Examination of the [3.3.1.0] - [4.3.0.0] Rearrangement via β -Enolization and H/D Exchange in Tricyclic Ketones. Ragauskas, A.J.; Stothers, J.B. *Canadian Journal Chemistry* (1985), 63, 1250-1257.
733. Tricyclo[3.3.0.0] and [3.2.1.0]octanones from Substituted Norbornenones via Cyclopropanation and Homoketonization. Ragauskas, A.J.; Stothers, J.B. *Canadian Journal Chemistry* (1985), 63, 2961-2968.
734. The Simmons-Smith Reaction with Some Silyl Enol Ethers. Unusual Ring Expansions of Some Norcamphors. Ragauskas, A.J.; Stothers, J.B. *Canadian Journal Chemistry* (1985), 63, 2969-2974.

735. ¹³C NMR Spectra of Several Tricyclo[6.3.0.0^{2,6}]undecane Derivatives. Jurlina, J.L.; Ragauskas, A.J.; Stothers, J.B. *Magnetic Resonance Chemistry* (1985), 23, 689-691.
736. A Synthesis of Hirsutene: A Simple Route via β -Enolization. Dawson, B.A.; Ghosh, A.K.; Jurlina, J.L.; Ragauskas, A.J.; Stothers, J.B. *Canadian Journal Chemistry* (1984), 62, 2521-2525.
737. A Serendipitous, High Yield Conversion of Norbornenone to Tricyclo[3.2.1.0^{2,7}] octan-4-one. Ragauskas, A.J.; Stothers, J.B. *Canadian Journal Chemistry* (1983), 61, 2254-2256.
738. Nitrobenzene Valence Bond Structures: Evidence in Support of Through-Resonance from ¹⁷O Shieldings. Fraser, R.R.; Ragauskas, A.J.; Stothers, J.B. *Journal American Chemical Society* (1982), 104, 6475-6476.

REFEREED CONFERENCE PROCEEDINGS

1. (a) Investigating the Effects of Ethanol Organosolv Pretreatment on *Buddleja davidii*.
(b) Towards an Improved Understanding of the Effects of Ethanol Organosolv Pretreatment on *Buddleja davidii*. Hallac, B.; Ragauskas, A.J. AICHE Annual Meeting, Nashville, TN (November 2009).
2. Feedstock for Bioethanol Production. Hallac, B.; Sannigrahi, P.; Pu, Y.; Ragauskas, A.J.; Ray, M.; Murphy, R. Preprints of Symposia - American Chemical Society, Division of Fuel Chemistry 54(1), 44-45 (2009).
3. Wood Fiber Reinforced Polyamides. Muzzy, J.; Xu, X.; Ragauskas, A., Annual Technical Conference - Society of Plastics Engineers, 65th, 2240-2244 (2007).
4. Chemical Modification of ECF Softwood Kraft Pulp by Alkaline Peroxide Treatment. Dang, Z.; Ragauskas, A.J., 2006 Engineering, Pulping, and Environmental Conference, Atlanta, GA (November 2006).
5. The Effect of Sequential Bleaching on Total Fiber Charge of SW Kraft Pulp Fibers. Zhang, D.C.; Ragauskas, A.J., 2006 Engineering, Pulping, and Environmental Conference, Atlanta, GA (November 2006).
6. Co-Production of Ethanol and Cellulose Fiber from Southern Pine: A Technical and Economic Assessment. Frederick, J.; Lien, S.J.; Courchene, C.; Ragauskas, A.J.; Iisa, K., 2006 Engineering, Pulping, and Environmental Conference, Atlanta, GA (November 2006).
7. Starch as Driver in Papermaking Development. Ragauskas, A.J.; Deng, Y.; White, D., Pira Fillers and Pigments for Papermakers Conference (November 2005).
8. Improvement of Paper Properties using Starch-modified Precipitated Calcium Carbonate Filler. Zhao, Y.; Hu, Z.; Ragauskas, A.; Deng, Y., TAPPI Practical Papermaking Conference, Milwaukee, WI (May 2005).
9. Imaging Fibre Deformations. Lowe, R.; Page, D.; Ragauskas, A.J., 13th Fundamental Research Symposium, Robinson College, Cambridge, UK (September 2005).
10. The Influence of the Conditions in Kraft Cooking of Loblolly Pine on Kraft Charge. Dang, Z.; Ragauskas, A.J., 2005 Engineering, Pulping, and Environmental Conference, Philadelphia, PA (2005).
11. Fiber Chemical Modification by Selective Catalytic Oxidation during One-stage Oxygen Delignification. Zhang, D.C.; Ragauskas, A.J., 2005 Engineering, Pulping, and Environmental Conference, Philadelphia, PA (2005).
12. The Fate of Fiber Charge during Peroxide Bleaching and Oxygen Delignification. Zhang, D.; Kim, D.; Allison, A.; Dang, Z.; Ragauskas, A.J., 2005 International Pulp Bleaching Conference, June, Stockholm, Sweden (2005).

13. Deconvoluting Chromophore Formation and Removal during Kraft Pulping: Influence of Metal Cations. Dyer, T.J.; Ragauskas, A.J., 13th International Symposium on Wood, Forestry, and Pulping Chemistry, Auckland, New Zealand (2005).
14. Excitation Energy Transfer in Cellulosics: Indications of Inter-fibre Fluorescence Resonance Energy Transfer. Thomson, C.I.; Lowe, R.M.; Ragauskas, A.J., 13th International Symposium on Wood, Forestry, and Pulping Chemistry, Auckland, New Zealand (2005).
15. Evaluation of ECF Bleached SW Kraft Pulps from Mature and Thinning Wood Resources. Ragauskas, A.J.; Kim, D.H.; Carter, B.C.; Courchene, C.E., Fall TAPPI Technical Conference, Atlanta (2004).
16. Assessing the Pulp and Paper Industry Outlook, Frederick, J.; Ragauskas, A.J., South Carolina Forestry Association's Annual Meeting and Governor's Forestry Summit, Myrtle Beach, SC (2004).
17. Defining the Benefits of High-Kappa Pulps for ECF Bleaching Operations, Ragauskas, A.J.; Pu, Y.; Naithani, V.; Jameel, H.; Lucia, L., Fall TAPPI Technical Conference, Atlanta (2004).
18. Tailoring Fiber Properties During One-Stage Oxygen Delignification Fiber Acid Group Content Development, Zhang, D.; Ragauskas, A.J.; Hou, Q.; Chai, X.S., Fall TAPPI Technical Conference, Atlanta (2004).
19. Surfaces Customized for Performance via Dielectric Barrier Discharge. Vander Wielen, L.C.; Elder, T.; Ragauskas, A.J., 2004 Progress in Paper Physics Seminar, Trondheim, Norway (2004).
20. Excitation Energy Transfer in Lignin: Fluorescence of Kraft Residual Lignin. Dyer, T.J.; Ragauskas, A.J., 8th European Workshop on Lignocellulosics and Pulp, Latvia (2004).
21. The Tincture of Kraft Pulps. Thomson, C.I.; Dyer, T.J.; Ragauskas, A.J., 8th European Workshop on Lignocellulosics and Pulp, Latvia (2004).
22. Enhanced Composite Board Curing and Performance via Nano Clays. Kim, D.H.; Ragauskas, A.J., TAPPI Paper Summit 2004, Atlanta, GA (2004).
23. Improving Bleached Kraft Pulp Production via Integrated Kraft pulping and O-Delignification Technologies. Lucia, L.; Ragauskas, A.J.; Naithani, V.; Jameel, H., TAPPI Paper Summit 2004, Atlanta, GA (2004).
24. Examining the Impact of Process Variables on Brownstock Kraft Pulps. Dyer, T.J.; Ragauskas, A.J., 2003 TAPPI Fall Technical Conference: Engineering, Pulping & PCE&I, Chicago, IL (2003).
25. Pulping Properties of Southern Pine Thinning Wood Resource. Ragauskas, A.J.; Allison, L.; Carter, B.R.; Courchene, C.E.; Hou, Q.; Kim, D.H.; Sealey, J.E. II, TAPPI Fall Technical Conference: Engineering, Pulping & PCE&I, Chicago, IL (2003).
26. High Selectivity Oxygen Delignification of SW and HW Kraft Pulps with Tailored Bleachability Properties. Ragauskas, A.J.; Hasan, J.; Naithani, V.; Lucia, L.; Pu, Y. TAPPI Fall Technical Conference: Engineering, Pulping & PCE&I, Chicago, IL (2003).
27. Impact of Dielectric-Barrier Discharge on Bonding. Vander Wielen, L.; Page, D.; Ragauskas, A.J., 2003 International Paper Physics Conference, Victoria, BC, Canada.
28. Imaging Individual Fibre Intersections in the Wet and Dry State. Lowe, R.; Page, D.; Ragauskas, A.J., 2003 International Paper Physics Conference, Victoria, BC, Canada.
29. Enhancing the Chemical Basis for Improved Kraft Pulping with PS, AQ, and PS/AQ. Dyer, T.; Feng, Z.; Ragauskas, A.J.; Vaaler, D.; Moe, S.T., 12th International Symposium on Wood and Pulping Chemistry, Madison, WI (2003).

30. Dielectric Discharge a Concatenated Approach to Fiber Modification. Vander Wielen, L.C.; Ragauskas, A.J., Moe, S.T., 12th International Symposium on Wood and Pulping Chemistry, Madison, WI (2003).
31. An Auspicious Application of Laccase and Hydrogen Peroxidases for Biobleaching of Recalcitrant Paper Dyes. Knutson, K.; Ragauskas, A.J., 12th International Symposium on Wood and Pulping Chemistry, Madison, WI (2003).
32. Developing Predictive Relationships Between O₂, Delignification and Physical Pulp Properties, Yang, R.; Pu, Y.; Lucia, L.; Ragauskas, A.J.; Jameel, H., 12th International Symposium on Wood and Pulping Chemistry, Madison, WI (2003).
33. Influence of Nonprocess Elements on Lignin Structure during Oxygen Delignification. Pu, Y.; Lucia, L.; Ragauskas, A.J.; Jameel, H., 2nd International Symposium on Emerging Technologies of Pulping and Papermaking Conference, Guangzhou, China (2002).
34. Identifying the Optimal Applications of D and Z for Low Consistency Bleaching of Hardwood Kraft Pulps. Retzlaff, A.; Ragauskas, A.J., TAPPI Pulping Conference, San Diego, CA (2002).
35. The Application of an Economic and Effective Selectivity Chemical System for Improving Oxygen Delignification in a Mill Setting. Fu, S., Goyal, G., Lucia, L.A., Ragauskas, A.J., Hanna, R., TAPPI Pulping Conference, San Diego, CA (2002).
36. LMS Biobleaching Studies. Allison, L.; Ragauskas, A.J., TAPPI Pulping Conference, San Diego, CA (2002).
37. Optimizing Pulping and Oxygen Bleaching to Improve Yield. Jameel, H.; Kirkman, A.; Ragauskas, A.J.; Lucia, L., TAPPI Kraft Pulp Yield Workshop, Paper Summit (2002).
38. Developments in Bleaching Technology Focus on Reducing Capital, Operating Costs, Pulp and Paper. Dyer, T.; Ragauskas, A.J., 49-53 (2002).
39. A Determination of the Sui Generis Photoyellowing Properties of Acetylated BCTMP Lignin. Pu, Y.; Anderson, S.; Lucia, L.; Ragauskas, A.J., 7th European Workshop on Lignocellulosics and Pulp, Turku, Finland (2002).
40. (D/Z/D) and (Z/D/Z): A Sagacious Application of Bleaching Chemistry for Kraft Pulps. Retzlaff, A.; Ragauskas, A.J., 7th European Workshop on Lignocellulosics and Pulp, Turku, Finland (2002).
41. Elucidating the Barriers for Extended Oxygen Delignification. Pu, Y.; Lucia, L.; Jameel, H.; Ragauskas, A.J., 7th European Workshop on Lignocellulosics and Pulp, Turku, Finland (2002).
42. Long-time Natural Aging of Untreated and Additive-treated Aspen CTMP. Paulsson, M.; Parkås, J.; Ragauskas, A.J., 7th European Workshop on Lignocellulosics and Pulp, Turku, Finland (2002).
43. Low Capital Retrofit for High Value Pulping. Ban, W.; White, D.; Woitkovich, C.; Ragauskas, A.; Lucia, L., TAPPI Kraft Pulp Yield Workshop, Paper Summi, (2002).
44. Laccase: The Renegade of Fiber Modification. Chandra, R.; Ragauskas, A.J., TAPPI Pulping Conference, Seattle, WA (2001).
45. Sculpting the Molecular Weight of Lignin via Laccase. Chandra, R.; Ragauskas, A.J., 11th International Symposium on Wood and Pulping Chemistry, Nice, France, II; 9 (2001).
46. Biotechnology in the Pulp and Paper Industry: A Challenge for Change. Ragauskas, A.J., 8th International Conference on Biotechnology in the Pulp and Paper Industry, Helsinki, Finland (2001).
47. Delving into the Fundamental LMS Delignification of High Kappa Kraft Pulps. Chandra, R.P.; Chakar, F.S.; Allison, L.; Kim, D.H.; Ragauskas, A.J., Elder, T., 8th International Conference on Biotechnology in the Pulp and Paper Industry, Helsinki, Finland, 54 (2001).

48. Elucidating the Effect of Laccase on the Physical Properties of High Kappa Kraft Pulps. Chandra, R.P.; Ragauskas, A.J., 8th International Conference on Biotechnology in the Pulp and Paper Industry, Helsinki, Finland, 255 (2001).
49. Improved Bleaching Performance with Reduced Cost: Optimizing ECF Bleaching Technologies with a Poor Man's O. Dyer, T.J.; Johnston, D.C.; Ragauskas, A.J., TAPPI Pulping Conference, Seattle, WA (2001).
50. Controlling the Efficiency of Oxygen Delignification Through Selected Key Operational Parameters: Pulp Mixing and Metals Management. Yang, R.; Lucia, L.A.; Ragauskas, A.J., TAPPI Pulping Conference, Seattle, WA (2001).
51. Lignin-Extractives Complexes May Disturb Analysis of Isolated Lignins by NMR. Nilvebrant, N.O.; Ragauskas, A.J.; Dyer, T.; Kleen, M., 11th International Symposium on Wood and Pulping Chemistry, Nice, France, I, 139 (2001).
52. Novel Concatenations of Bleaching Sequences. Retzlaff, A.; Ragauskas, A.J., 11th International Symposium on Wood and Pulping Chemistry, Nice, I, France, 271 (2001).
53. On the Improved Selectivity of Oxygen Delignification 1. Fiber Curl, Crystallinity and Length. Fiskari, J.P.T.; McDonough, T.J.; Dyer, T.J.; Ragauskas, A.J.; Waterhouse, J.F., 11th International Symposium on Wood and Pulping Chemistry, Nice, I, France, III-463 (2001).
54. Low Capital, High Return Modifications to Kraft Pulping Operations. Ban, W.; Ragauskas, A.J.; Lucia, L.A., TAPPI Pulping Conference, Seattle, WA (2001).
55. Structural Changes of Lignin during EMCC[®] Pulping of Pinus Elliottii in Southern China. Pu, Z.; Zhan, H.; Ragauskas, A.J.; Jiang, J.E., 11th International Symposium on Wood and Pulping Chemistry, Nice, France, I, 45 (2001).
56. The Influence of Pulp Bleaching on Non-Process Elements. Wang, W.; Hsieh, J.S.; Ragauskas, A.J., TAPPI Pulping Conference, Boston, MA (2000).
57. Mini Oxygen Stages: More Delignification with Less Capital. Dyer, T.J.; Lucia, L.A.; Ragauskas, A.J.; Jameel, H., TAPPI Pulping Conference, Boston, MA (2000).
58. Evaluation of Hexenuronic Acids in U.S. Kraft Pulps. Chakar, F.S.; Allison, L.; McDonough, T.J.; Ragauskas, A.J. 6th European Workshop on Lignocellulosics and Pulp – Advances in Lignocellulosics Chemistry Towards High Quality Processes and Products, Bordeaux, France, 253 (2000).
59. Improving the Bleachability of Hardwood Kraft Pulps. McDonough, T.J.; Shaket, A.; Ragauskas, A.J.; Boasman, A.; Sezgi, U., 2000 International Pulp Bleaching Conference, Halifax, NS, 49 (2000).
60. Extending the Limits of Oxygen Delignification. Chakar, F.S.; Lucia, L.; Ragauskas, A.J., 2000 International Pulp Bleaching Conference, NS, Canada, 123 (2000).
61. The Path Forward to Practical Nascent Laccase Biobleaching Technologies. Chakar, F.S.; Allison, L.; Kim, D.H.; Ragauskas, A.J., TAPPI Pulping Conference, Boston, MA (2000).
62. The Challenge of Change. Ferris, J.; Ragauskas, A.J., TAPPI Pulping Conference, Boston, MA (2000).
63. Laccase-Lignin Interactions, Chakar, F.S.; Ragauskas, A.J., 6th European Workshop on Lignocellulosics and Pulp – Advances in Lignocellulosics Chemistry Towards High Quality Processes and Products, Bordeaux, France, 53 (2000).
64. Laccase-Mediator Systems and Oxygen Delignification-A Comparative Study. Chakar, F.S.; Ragauskas, A.J.; McDonough, T.J., 2000 International Pulp Bleaching Conference, Halifax, NS, 59 (2000).

65. Pulp Properties Influencing Oxygen Delignification Bleachability. Zawadzki, M.; Ragauskas, A.J., TAPPI Pulping Conference, Orlando, FL, 1, 323 (1999).
66. ECF Bleachability of Softwood and Hardwood Kraft Pulps Made with Altered Liquor Concentration Profiles. McDonough, T.J.; Krishnagopalan, G.A.; Rawat, N.; Saucedo, V.M.; Ragauskas, A.J.; Melander, M.; Zawadzki, M., 10th International Symposium on Wood and Pulping Chemistry, Yokohama, Japan, 296 (1999).
67. Structural Changes in Kraft Pulp Residual Lignin upon Peracetic Acid Treatment. Moe, S.T.; Ragauskas, A.J., 10th International Symposium on Wood and Pulping Chemistry, Yokohama, Japan, 296 (1999).
68. Fundamental Investigations of Laccase Mediator Delignification on High Lignin Content Kraft Pulps. Chakar, F.S.; Ragauskas, A.J., 10th International Symposium on Wood and Pulping Chemistry, Yokohama, Japan, 566 (1999).
69. A Comparative Evaluation of Low-AOX Hardwood Kraft Pulp Bleaching Sequences, McDonough, T.J.; Courchene, C.E.; Shaket, A.; Ragauskas, A.J.; Khandelwal, B.; Magnotta, V.L., 1999 CPPA Conference, Montreal, QC, B307 (1999).
70. Photoyellowing of Acetylated High-Yield Pulps under Ambient, Oxygen, and Argon Atmospheres. Lucia, L.A.; Ragauskas, A.J.; Li, C.; Paulsson, M., 10th International Symposium on Wood and Pulping Chemistry, Yokohama, Japan, 722 (1999).
71. Lignin Structural Changes by Oxidative Alkaline Extraction. Runge, T.M.; Ragauskas, A.J.; McDonough, T.J., 1998 TAPPI Pulping Conference, Montreal, QC, 3, 1541 (1998).
72. Biobleaching of High Lignin Content Kraft Pulps Via Laccase-Mediator Systems. Chakar, F.S.; Ragauskas, A.J.; Nilvebrant, N.-O., 1998 TAPPI Pulping Conference, Montreal, QC (1998).
73. Effects of Laccase Mediator Delignification on Fiber Properties. Haynes, K.; Ragauskas, A.J., International Pulp Bleaching Conference, Helsinki, Finland, 355 (1998).
74. Chromophoric Properties of High Brightness Pulps. Zawadzki, M.; Runge, T.M.; Ragauskas, A.J., TAPPI Pulping Conference, Montreal, QC, 3, 1551 (1998).
75. Fundamental Parameters Contributing to Improved ClO₂ Pulp Bleaching. Ragauskas, A.J.; McDonough, T.J.; Lin, L., International Pulp Bleaching Conference, Helsinki, Finland, 87 (1998).
76. Extended Oxygen Delignification of High-Yield Kraft Pulp. Correlation between Residual Lignin Structures and Bleachability by Oxygen and Chlorine Dioxide. Moe, S.T.; Ragauskas, A.J.; McDonough, T.J., 1998 International Pulp Bleaching Conf., Helsinki, Finland, 33 (1998).
77. A Comparative Evaluation of Low AOX Bleaching Sequences. Ragauskas, A.J.; Turner, M.; Khandelwal, B.; Magnotta, V.L., 1998 International Pulp Bleaching Conference, Helsinki, Finland, 389 (1998).
78. High-Yield Pulping and Bleaching Strategy for Aspen Kraft Pulps. Senior, D.J.; Oldroyd, D.L.; Fleming, B.I.; Ragauskas, A.J.; Zawadzki, M., 1998 International Pulp Bleaching Conference, Helsinki, Finland, 49 (1998).
79. Oxidative Alkaline Extraction Impact on Delignification and Chromophore Destruction. Runge, T.; Ragauskas, A.J., 1998 International Pulp Bleaching Conference, Helsinki, Finland, 613 (1998).
80. Differences in Bleaching and Refining Response of Displacement Batch Hardwood and Softwood Caused by Pulping Conditions and Structure of Residual Lignin. Hanna, R.J.; Fisher, J.J.; Krohn, M.J.; Goyal, G.C.; Packwood, R.E.; Ragauskas, A.J., International Pulp Bleaching Conference, Helsinki, Finland, 323 (1998).

81. Studies of Chlorine Dioxide Delignification: Vapor-Phase Bleaching of Hardwood and Softwood Kraft Pulps. McDonough, T.; Ragauskas, A.; Shaket, A.; Sezgi, U., TAPPI International Environmental Conference, 1121 (1998).
82. Evaluation of the Intrinsic Metal Binding Capacity of Kraft Black Liquor Lignins. Werner, J.A.; Ragauskas, A.J.; Jiang, J.E., 1998 TAPPI Pulping Conference, Montreal, QC, 3, 1145 (1998).
83. Fundamental Parameters Contributing to Residual Lignin in Kraft Pulp. Ragauskas, A.J.; Lin, W.; McDonough, T.; Jiang, J., TAPPI Pulping Conference, San Francisco, CA, 903 (1997).
84. Biobleaching of Kraft Pulps with Laccase and Hydroxybenzotriazole. Sealey, J.; Runge, T.; Ragauskas, A.J., TAPPI Biological Sciences Symposium, San Francisco, CA, 339 (1997).
85. Fundamental Investigations into the Chemical Mechanisms Involved in Laccase-Mediator Biobleaching. Sealey, J.; Ragauskas, A.J., 9th International Symposium on Wood and Pulping Chemistry, Montreal, QC, F1-1 (1997).
86. High-Yield Production Strategy for Hardwood Kraft Pulps. Senior, D.; Hamilton, J.; Oldroyd, D.; Hillis, S.; Wadley, F.; Fleming, B.; Ragauskas, A.; Sealey, J., TAPPI Pulping Conference, San Francisco, CA, 45 (1997).
87. Advances in Understanding the Basics of the First Alkaline Extraction Stage in Bleaching. Runge, T.; Ragauskas, A.; Froass, P., TAPPI Pulping Conf., San Francisco, CA, 603 (1997).
88. Second Generation of Sulfur-Based Additives for Hindering Brightness Reversion of Mechanical Pulps. Ragauskas, A.J.; Cook, C., 9th International Symposium on Wood and Pulping Chemistry, Montreal, QC, K6-1 (1997).
89. Photoyellowing of Mechanical Pulps: Mechanism and Prevention. Pan, X.; Ragauskas, A.J., 9th International Symposium on Wood and Pulping Chemistry, Montreal, QC, 97-1 (1997).
90. Effect of Acid Group Content on the Properties of Cotton Fibers. Barzyk, D.; Ragauskas, A.; Ellis, R., Fundamentals and Applications in Pulping, Papermaking, and Chemical Preparation, AIChE, Forest Products Symposium, Chicago, IL, 146 (1996).
91. Residual Lignin Studies of Laccase Delignified Kraft Pulps. Sealey, J.; Ragauskas, A.J., Fourth European Workshop on Lignocellulosics and Pulp, Stresa, Italy, 171 (1996).
92. Relationship between Residual Lignin Structure and Pulp Bleachability. Froass, P.M.; Ragauskas, A.J.; McDonough, T.J.; Jiang, J.E., 1996 International Pulp Bleaching Conference, Washington, DC, 163 (1996).
93. Interaction of Hydrogen Peroxide and Chlorine Dioxide Stages in ECF Bleaching. Senior, D.J.; Hamilton, J.; Ragauskas, A.J.; Sealey, J.; Froass, P.M., International Pulp Bleaching Conference, 261 (1996).
94. Fundamental Investigations of the Biobleaching Interactions between Xylanase, Ozone, and Dimethyldioxirane. Ragauskas, A.J.; Rodriguez, A.; Allison, L.; Santiago, D., 1994 Biological Sciences Symposium, Minneapolis, MN, 245 (1994).
95. Totally Chlorine-Free Bleaching with Dimethyldioxirane. McDonough, T.J.; Marquis, A.; Ragauskas, A.J., International Pulp Bleaching Conference, Vancouver, BC, 47 (1994).
96. Fundamental Studies of Dimethyldioxirane as a Bleaching Reagent for Kraft Pulps. Ragauskas, A.J.; Rodriguez, A.; Senior, D.J.; Qui, C., Nonchlorine Bleaching Conference, Hilton Head, SC, 41, 13 (1993).
97. Chemistry of Cationic Retention Aids: Molecular Orbital Calculations on Monomers. Elder, T.; Ragauskas, A.J., CTAPI 7th Int. Symp. Wood Pulping Chem. Proc., Beijing, 3, 404 (1993).

BOOKS

- Advances In The Structural Elucidation And Utilization Of Lignins. Eds. Shuai, L.; Yoo, C.G.; Yue, F.; Ragauskas, A.J. *Front. Energy Res* (July 2021). DOI: 10.3389/FENRG.2021.724825
- Lignin Utilization Strategies from Processing to Applications. ACS Symposium Series, Volume 1377, Eds. C. Yoo and A. Ragauskas (2021)
- Emerging Technologies for Biorefineries, Biofuels, and Value-Added Commodities, Springer Nature Switzerland AG Eds. Zhi-Hua Liu, Art Ragauskas (2021)
- Materials for Biofuels, World Scientific Publishing, Ed: Ragauskas, A.J. (2014).
- Developments in Engineered Fibres. Pu, Y.; Zhang, D.; Ragauskas, A.J., Pira International Leatherhead, UK (2008-Invited).

BOOK CHAPTERS

1. Technical Lignin Fractionation: A Powerful Tool for Lignin Structure Homogenization and Its Application by Sadeghifar, H.; Ragauskas, A. (2023), 4, 59, In Biomaterials Science Series No. 16 Lignin-based Materials: Health Care and Medical Applications. Edited by Kuruvilla Joseph, Runcy Wilson, Gejo George and Saritha Appukuttan, The Royal Society of Chemistry 2023
2. Biomass-derived composites for various applications. De, S.; James, B.; Ji, J.; Wasti, S.; Zhang, S.; Kore, S.; Tekinalp, H.; Li, Y.; Urena-Benavides, E.; Vaidya, U.; Ragauskas, A.; Webb, E.; Ozcan, S.; Zhao. X. Biomass-derived composites for various applications. “Advances in Bioenergy”. Edited by Yebo Li, Elsevier. 2023.
3. Epoxy as filler or matrix for polymer composites. Xianhui Zhao, Shun Lu, Wei Li, Shuyang Zhang, Kai Li, Kashif Nawaz, Peter Wang, Guang Yang, Arthur Ragauskas, Soydan Ozcan and Erin Webb. In “Epoxy-Based Composites,” Intech Open, ISBN 978-1-80355-160-9. Ed.: Samson Jerold Samuel Chelladurai (2022).
4. Emerging Technologies for Biorefineries, Biofuels, and Value-Added Commodities, Springer Nature Switzerland AG Eds. Zhi-Hua Liu, Art Ragauskas (2021)
 - Lignin Valorization in Biorefineries Through Integrated Fractionation, Advanced Characterization, and Fermentation Intensification Strategies. Zhi-Min Zhao, Yan Chen, Xianzhi Meng, Siying Zhang, Jingya Wang, Zhi-Hua Liu, and Arthur J. Ragauskas, 337-362.
5. Lignin Utilization Strategies from Processing to Applications. ACS Symposium Series, Volume 1377, Eds. C. Yoo and A. Ragauskas (2021)
 - a. Opportunities and Challenges of Lignin Utilization. Yoo, Chang Geun; Ragauskas, Arthur J. ACS Symposium Series (2021), 1377
 - b. Lignin Utilization Strategies: From Processing to Applications. Yoo Chang, Geun; Ragauskas, Arthur
 - c. Recent Advances in Synthesis and Application of Lignin Nanoparticles. Meng, Xianzhi, Poonia; Mandeep; Yoo Chang Geun; Ragauskas, Arthur J.
6. Measurement of physicochemical properties of lignin. Yoo, C.G.; Ragauskas, A.J.; Pu, Y. ACS Symposium Series (2019), 1338 (Understanding Lignocellulose: Synergistic Computational and Analytic Methods), 33-47.
7. Structural Studies of Deuterium-Labeled Switchgrass Biomass, In Understanding Lignocellulose: Synergistic Computational and Analytic Methods, ACS Books, by Evans, B.; Pingali, S. V.; Bhagia, S.; O'Neill, H.; Ragauskas, A.J. ACS Books (2019) 1338(Understanding Lignocellulose: Synergistic Computational and Analytic Methods), 17-32

8. Rhodococcus and Yarrowia-Based Lipid Production Using Lignin-Containing Industrial Residues. Le, R.K.; Mahan, K.M.; Ragauskas, A.J. *Microbial Lipid Production: Methods and Protocols*, Ed.: Balan, V. Springer, N.Y., (2019) 103-120.
9. Measuring Biomass-derived Products in Biological Conversion and Metabolic Process. Yoo, C.G.; Pu, Y.; Ragauskas, A.J. *Metabolic Pathway Engineering: Methods and Protocols in protocol series Methods in Molecular Biology*. Eds: Yannick Bomble and Mike Himmel, Springer Nature (2019).
10. Analytical Methods for Biomass Characterization during Pretreatment and Bioconversion. Pu, Y.; Meng, X.; Yoo, C.G.; Li, M.; Ragauskas A.J. *Valorization of Lignocellulosic Biomass in a Biorefinery: From Logistics to Environmental and Performance Impact*. Eds., Kumar, R.; Singh, S.; Balan, V., Nova Science Publishers, 2, 37-78. (2016).
11. *Materials for Biofuels*. Ed: Ragauskas, A.J. World Scientific (2014).
12. Lignin Modification to Reduce the Recalcitrance of Biomass Processing. Hallac, B.B.; Ragauskas, A.J. *Biological Conversion of Biomass for Fuels and Chemicals Explorations from Natural Utilization Systems*. Eds. Sun, J.; Ding, S.Y.; Peterson, J.D., RSC Publishing, Oxfordshire, UK (2013).
13. Plant biomass characterization: application of solution- and solid-state NMR spectroscopy. Pu, Y.; Hallac, B.; Ragauskas, A.J., Edited by Wyman, C.E. *Aqueous Pretreatment of Plant Biomass for Biological and Chemical Conversion to Fuels and Chemicals* (2013), 369-390.
14. Fundamentals of biomass pretreatment by fractionation. Sannigrahi, P.; Ragauskas, A.J. Wyman, C.E., *Aqueous Pretreatment of Plant Biomass for Biological and Chemical Conversion to Fuels and Chemicals* (2013), 201-222.
15. Chemical Pretreatment Techniques for Biofuels and Biorefineries from Softwood. Huang, F.; Ragauskas, A.J. *Pretreatment Techniques for Biofuels and Biorefineries*. Ed. Fang, Z. (2013) 8, 151-182.
16. Perdeuterated Pyridinium Ionic Liquids for Direct Biomass Dissolution and Character. Jiang, N. Ragauskas, A.J. *Ionic Liquids: Applications and Perspectives*, Book edited by: Alexander Kokorin, Tech, Rijeka, ISBN: 978-953-307-248-7 (2011).
17. *The Biorefinery Concept*. Plackett, D.; Ragauskas, A. *Sustainable Development in the Forest Products Industry*, Eds: Rowell, R.; Caldeira, F.; Rowell, J.K., Edicoes Universidade Fernando Pessoa, Portugal (2010).
18. *Forest Products: Biotechnology in Pulp and Paper Processing*. Viikari, L., Suurnäkki, A., Grönqvist, S., Raaska, L. & Ragauskas, A. *Encyclopedia of Microbiology*. 3rd ed. Schaechter, M. (ed.). Academic Press. ISBN 978-0-12-373944-5, 80-94 (2009).
19. Fiber Modification via Dielectric-barrier Discharge: Theory and Practical Applications to Lignocellulosic Fibers. Vander Wielen, L.C.; Ragauskas, A.J. *Modified Fibers with Medical and Specialty Applications*, Eds. Edwards, J.V.; Buschle-Diller, G.; Goheen, S.C. Springer, Dordrecht, Neth., 215-229 (2006).
20. *Is That Real? Identification and Assessment of the Counterfeiting Threat for U.S. Banknotes*. Committee on Technologies to Deter Currency Counterfeiting, National Research Council (2006).
21. *A Path to the Next Generation of U.S. Banknotes – Keeping Them Real*. Committee on Technologies to Deter Currency Counterfeiting, National Research Council (2006).
22. Formation of Quinonoid Structures in Laccase-Mediator Reactions. Chakar, F.S., Ragauskas, A.J. *ACS Series Fundamentals and Catalysis of Oxidative Delignification Processes*. Oxidative

- Delignification Chemistry. Fundamentals and Catalysis. Ed. Argyropoulos, D.A., ACS Symposium Series, Oxford University Press, Washington, 785, 444-455 (2001).
23. Breaking the Oxygen Delignification Barrier: Lignin Activity and Inactivity. Lucia, L.; Goodell, M.; Chakar, F.S.; Ragauskas, A.J. Oxidative Delignification Chemistry. Fundamentals and Catalysis. Ed. Argyropoulos, D.A., ACS Symposium Series, Oxford University Press, Washington, 785, 92-107 (2001).
 24. Chemical Modification of Lignin-rich Paper. Light-induced Changes of Softwood and Hardwood Chemithermomechanical Pulps: The Effect of Irradiation Source. Paulsson, Magnus; Ragauskas, Arthur J., In Lignin: Historical, Biological, and Materials Perspectives, Eds. Glasser, W.G.; Northey, R.A.; Schultz, T.P., ACS Symposium Series, American Chemical Society, Washington, 742, 490-504 (2000).
 25. Investigations into the Intrinsic Non-Process Element Binding Capacity of Kraft Black Liquor Lignins. Werner, J.; Jiang, J.E.; Ragauskas, A.J. Fundamentals Advances and Innovations in the Pulp and Paper Industry, Eds. Brogdon, B.N., Hart, P.W., Walker, C.C., AIChE Symposium Series 322, 31-36 (1999).
 26. Investigation of Ortho- and Para-Quinone Chromophores in Alkaline Extraction Stage Residual Lignins. Zawadzki, M.; Runge, T.; Ragauskas, A.J., In ACS Symposium Series 742, Lignin: Historical, Biological, and Materials Perspectives. Eds. Glasser, W.G.; Northey, R.A.; Schultz, T.P., ACS, Washington, 254, 505-519 (1999).
 27. Carboxylic Acid Groups and Fiber Bonding. Barzyk, D.; Page, D.; Ragauskas, A.J., The Fundamentals of Papermaking Materials, Baker, C.F. (Ed.), Pira Internat., Surrey, UK, 2, 893-907 (1997).
 28. The Effect of Acid Group Content on the Properties of Cotton Fibers. Barzyk, D.; Ragauskas, A.J.; Ellis, R.L., The 1995 Forest Products Symposium. P.W. Hart, Editor; B.N. Brogdon, J.C. Joseph, and B.P. Roy, Co-editors. AIChE Symposium Series 311, 92, 146-151. Published by AIChE, New York (1996).
 29. Brightness Properties of Pulp and Paper. Ragauskas, A.J., in Surface Analysis of Paper. CRC Press, Boca Raton, 5, 109-118 (1995).
 30. Bleaching of Kraft Pulps via Dioxiranes. Ragauskas, A.J., in Advances in Oxygenated Processes. Ed. A.L. Baumstark, JAI Press Inc., England, 4, 177-201 (1995).

NON-REFERRED ESSAYS

1. Lignocellulosic valorization: Fractionation, conversion, and applications. Shen, X. ; Wen, J.L.; Huang, C.; Ragauskas, A.J. *Frontiers in Energy Research* (July 2022)
2. New Contributions in Biorefining. EU ACADEMY OF SCIENCES. Arthur Ragauskas (2020)
3. Nanocellulose: What's Next? Ragauskas, A.J.; Walker, C. *TAPPI Journal* (2019) 18(5), 275-276
4. Lignin 'First' Pretreatments: Research Opportunities and Challenges. Ragauskas, A.J., *Biofuels, Bioproducts & Biorefining* (2018), 12(4), 515-517.
5. Interaction of Lignin with Cellulase, a Key Role in Cellulosic Ethanol Production. Yao, L.; Yang, H.; Ragauskas, A.J. *Advances in Biotechnology and Microbiology*, (2018) 8(1).
6. New lignocellulosics address consumer expectations and industry prosperity. Ragauskas, A.J.; Pu, Y. *TAPPI Journal* (2018) March (2) 59.
7. It's Entirely About Character: The Digest's 2018 Multi-Slide Guide to Characterizing Lignocellulosic Biomass: Characterization Strategies for Lignocellulosic Biomass. Ragauskas, A.J., O'Neill, H.M.; Tschaplinski, T.T. (2018)

- <https://www.biofuelsdigest.com/bdigest/2018/03/01/its-entirely-about-character-the-digests-2018-multi-slide-guide-to-characterizing-lignocellulosic-biomass/>
8. Nanocellulose-base Materials for Biomedical Applications. Liang, L.; Huang, C.; Ragauskas, A.J. *JSM Chemistry* (2017) 5(3), 1048.
 9. Lignin: Today and tomorrow. *TAPPI Journal* (2017) 16(3) 103-104.
 10. Lignin carbon fiber: The path for quality. Li, Q.; Ragauskas, A.; Yuan, J.S., *TAPPI Journal* (2017) 16(3) 107-108.
 11. Thermochemical Conversion of Biomass Components-Recent Research and Future Opportunity Ben, H.; Ragauskas, A.J., *Innov Ener Res* (2017) 6:1.
 12. Potential Future Directions for Achieving Low Cost Cellulosic Ethanol. Bhagia, S.; Ragauskas, A.J. *Innov. Ener. Res.*, (2016), 5:2.
 13. Spinning Biomass into Gold. *Quest* (2016) Fall/Winter.
 14. Challenging/interesting lignin times. Ragauskas, A.J., *Biofuels, Bioproducts & Biorefining* (2016), 10(5), 489-491.
 15. Analysis of Biomass, Today and Tomorrow. Yoo C.G.; Ragauskas A.J., *Annals of Chromatography & Separation Techniques*, (2016) 2(1).
 16. Refining Each Process Step to Accelerate the Development of Biorefineries. Chandra, R.P.; Ragauskas, A.J. *Industrial Biotechnology*, (2016) 12(3) 151-152.
 17. Report on the business ecosystem for cellulosic nanomaterials. Ragauskas, A.J. *TAPPI Journal* (2016) 15(6), 355.
 18. Lignin Bioproducts to Enable Biofuels. Wyman, C.E.; Ragauskas, A.J. *Biofuels, Bioproducts & Biorefining* (2015), 9(5), 447-449.
 19. Forest Biorefining Fast Forward. Ragauskas, A.J.; Rials, T.G., *TAPPI Journal* (2015) 14(3), 157.
 20. Paper: Back to the Future. Ragauskas, A.J. *TAPPI Journal* (2015) 14(3), 157.
 21. US-Swedish bridge to the future: sustainable forest biorefining, Ragauskas, Emma J.; Ragauskas, Arthur J., *Biofuels, Bioproducts & Biorefining*, (2014), 8(3), 295-297.
 22. Nanocellulose and the Future. Ragauskas, A., Lindstrom, T., *TAPPI Journal* (2014), May, 5-6.
 23. Editorial perspective on bleaching: Today and tomorrow. Ragauskas, A.J.; Paulsson, M.; Goyal, G. *TAPPI Journal* (2013) 12(10), 5.
 24. Laccase-Catalyzed C-C Bond Forming Reactions. Cannatelli M.D.; Ragauskas A.J., *Organic Chemistry: Current Research*, 2:3 (2013).
 25. Enzyme Initiated Cascade Reactions. Cannatelli M.D.; Ragauskas A.J. *Organic Chemistry: Current Research*, 2:3 (2013).
 26. A 'Twitter' Generation Perspective on Biorefining. Tolbert, A., Ragauskas, A.M.E., Akinosho, H.; Hu, F.; Wells, T.; Sun, Q.; Meng, X.; Ragauskas, A.J. *Biofuels, Bioproducts & Biorefining*, (2013) 7(6), 629-633.
 27. When to accept no ... to yesterday's solutions. Ragauskas, A., *Biofuels, Bioproducts & Biorefining* (2013) 7(3), 217-219.
 28. Pretreatment chemistry what to expect & need. Ragauskas, A.J., *Preprints - American Chemical Society, Division of Energy & Fuels* (2013) 58(1), 77.
 29. IB Leaders—Meet Our Editorial Board. Interview with Art Ragauskas. *Industrial Biotechnology*, (2013) 9(3) 1-3.
 30. The City of FOG, *Biodiesel Magazine* (2013).
 31. Re-defining the Future of FOG and Biodiesel. Ragauskas, A.M.E., Ragauskas A.J. *Journal of Petroleum & Environmental Biotechnology* (2013) 4, 1.

32. Art Ragauskas: Eyes on the Future. TAPPI Journal (2012) 11(10).
33. Forest Products: The Nanocellulosics Frontier. Ragauskas, A.J. Tappi Journal (2011) 10(4), 5-6.
34. New Energy and Green Entrepreneurship. Ragauskas, A. J. Biofuels, Bioproducts & Biorefining, (2011) 5(3), 227-228.
35. Patent Intelligence. Biofuels, Bioproducts & Biorefining, (2009) 3(5), 563-574.
36. Biorefining and Beyond. Biofuels, Bioproducts & Biorefining, (2008) 2(3), 199-200.
37. Faculty Column 'Addressing Transportation Fuel Challenges' GT Research Horizons Spring, 30 (2006).
38. New Research Opportunities at IPST at Georgia Tech. Solutions! 88(4) (April 2005).
39. From Tree to Paper, A Brief Overview of Modern Papermaking: IDS Publishing / Media (2005). (http://www.ids-publishing.com/publishing_author_biography-1-1-1.html).
40. Critical Issues in Bio-Products Development. Innovation Alberta see .
41. Big Opportunities with Tiny Technology. Pulp and Paper (May 2004).
42. Developments in Bleaching Technology Focus on Reducing Capital, Operating Costs, Pulp and Paper, Dyer, T.; Ragauskas, A.J., 49-53 (March 2002).
43. Interview 'Le Vivant Investit L'industrie Americaine' Biofutur Le Mensuel Europeen de Biotechnologie, (2001) 208, 45.
44. A Kids' View of 'Forests for Our Future', TAPPI Journal Vol. 83(1) (January 2000).
45. Bio-Tech Road Map - Biotechnology Contribution and Potential to the Pulp and Paper Industry. See http://home.ipst.edu/~aragausk/Bio-Tech_Road_Map/bio-tech_road_map.html.
46. Interview 'Pulping and Bleaching' PIMA'S Papermaker, 46 (October 2000).
47. NMR Imaging Applications at IPST. TAPPI Journal (1996) 79(3), 16.

SPECIAL EDITOR ISSUE

- ChemSusChem: Special Issue on Chemistry of Waste Plastics Upcycling (2021).
- Special Issue of ChemSusChem on Lignin Valorization: From Theory to Practice. Sun, Run-Cang; Samec, Joseph S. M.; Ragauskas, Arthur J. ChemSusChem (2020), 13(17),
- ACS Sustainable Chemistry & Engineering Virtual Special Issue on Recent Advances in Biomass Characterization and Modeling. Ragauskas, Arthur; Meng, Xianzhi. ACS Sustainable Chemistry & Engineering (2020), 8(28), 10321-10322.
- TAPPI Journal (April 2019)
- Special issue of Frontiers in Energy Research, section Bioenergy and Biofuels titled Advancements in Biomass Recalcitrance: The Use of Lignin for the Production of Fuels and Chemicals (2018)
- TAPPI Journal (February 2018)
- TAPPI Journal (March 2017)

INVITED JOURNAL COVERS

- Quantitative Low-Field ¹⁹F Nuclear Magnetic Resonance Analysis of Carbonyl Groups in Pyrolysis Oils. Bridget Tang, Dr. Katie Chong, Prof. Arthur J. Ragauskas, Dr. Robert Evans August 2023
- Chemical and Morphological Structure of Transgenic Switchgrass Organosolv Lignin Extracted by Ethanol, Tetrahydrofuran, and γ -Valerolactone Pretreatments. ACS Sustainable Chemistry & Engineering (2022), 10(28)

- Preparation, Properties, and Application of Lignocellulosic-Based Fluorescent Carbon Dots. ChemSusChem., (August 2022)
- Phototunable Lignin Plastics to Enable Recyclability (ChemSusChem 19/2021). Hu C, Zhao M, Li Q, Liu Z, Hao N, Meng X, Li J, Lin F, Li C, Fang L ChemSusChem 14(19):3980-3980 (October 5, 2021)
- Cellulose Nanofiber Templating: Recent Advances in Functional Materials through Cellulose Nanofiber Templating Adv. Mater. (December 2021)
- Green Chemistry, (2021) 23(1) 1-614 (January 2021)
- Green Chem., (2021) 23, 4697.
- Polymers, (December 2020)
- Investigation of a Lignin-Based Deep Eutectic Solvent" (10.1021/acssuschemeng.0c03533) in ACS Sustainable Chemistry & Engineering (August 24, 2020) 8, Issue 33
- Biofuels, Bioproducts & Biorefining (2020), 14(3)
- ACS Omega Supplementary Cover (5)61 (2020)
- ChemSusChem (2020), 13(1)
- ACS Applied Polymer Materials (July 2019)
- TAPPI Journal (April 2019)
- TAPPI Journal (February 2018)
- Energy Technology (April 2018)
- Green Chemistry (May 2018)
- TAPPI Journal (March 2017)
- Energy Science & Engineering 12 (2016)
- Biofuels, Bioproducts and Biorefining 10(5) (2016)
- TAPPI Journal (June 2016)
- Industrial Biotechnology 12(3), (2016)
- TAPPI Journal 14(3) (2015)
- Green Chem., 2014, 16 (7)
- TAPPI Journal (May 2014)
- TAPPI Journal (October 2013)
- Industrial Biotechnology 8(4), (2012)
- TAPPI Journal (April 2012)
- Industrial Biotechnology 8(1), (2012)
- TAPPI Journal (April 2011)
- Energy and Environmental Science (April 2011)
- Trends in Biotechnology (2011), 29(2)
- Journal of Biobased Materials and Bioenergy 4(4), (2010)
- Biotechnology and Bioengineering 107(5), (2010)
- Green Chem. 12(1), (2010)
- Industrial Biotechnology 2(1), (2006)

MEETINGS AND SYMPOSIA

HONORARY/PLENARY/INVITED SPEAKER

1. Exploring the Biological and Chemical Catalytic Pathways for Biorefining Biomass and Waste, to Department of Chemical and Biological Engineering, The University of Alabama, Tuscaloosa, AL (Oct., 2023)
2. RSC Environment, Sustainability, and Energy Division open award: Environment Prize (2023)
 - Grantham Institute, Imperial College London's: Chemistry of Advanced Pretreatments
 - Aston University: Exploring the Biological and Chemical Catalytic Pathways for Biorefining Biomass and Waste
 - Queen's University: Investigating and Leveraging Natural Variation of Biomass
3. The 3rd International Conference on Materials Science & Nanotechnology: Future Materials 2022, Coal polymer composites prepared by fused deposition modeling (FDM) 3D printing. Shuyang Zhang, Muhammad Zia ur Rehman, Samarthya Bhagia, Xianzhi Meng, Harry M. Meyer, III, Hsin Wang, Michael R. Koehler, Kalsoom Akhtar, David P. Harper, Arthur J. Ragauskas (October 2022)
4. University of Cincinnati, Department of Chemical and Environmental Engineering, College of Engineering and Applied Science, Department of Chemical and Environmental Engineering: Challenges and Opportunities in Biorefining (October 2022)
5. ACS Meetings & Expositions - American Chemical Society. Lignin Valorization Old and New Lessons. ACS Biomaterials, Biofuels, and Biochemicals from Lignocelluloses-Symposium for Prof. Run-Cang Sun [2020] Anselm Payen Award (April 2021)
6. Lignin Valorization for Current/Tomorrow's Biorefining Operations. Sustainable Materials - Innovating Our Future Beyond the Pandemic (September 2020)
7. Lignocellulosic Valorization and Biorefining. EPNOE Conference, Aveiro, Portugal (2019)
8. Fractionating Lignin towards Diversified Valorization Routes. International Conference on Biomass Conversion and Renewable Materials. Guilin, China (October 2019)
9. Biorefining for Bio-Derived Materials and Fuels. Plants to Projects Network, Birmingham Science Museum, Birmingham, England (November 7, 2018)
10. A Deep Dive in Biomass Recalcitrance. European Bioenergy Research Institute, Aston University, England (November 8, 2018)
11. Integration Thermochemical and Biological Biorefining of Biomass, Xiamen Forum on Biomass Frontiers 2018, Xiamen, China (October 2018)
12. Advances in The Characterization and Analysis of Pyrolysis and Upgraded Oils, 2018 Thermal & Catalytic Sciences Symposium, Auburn, AL (October 2018)
13. Elucidating and addressing biomass recalcitrance for cellulosic ethanol production. ECO-BIO Challenges in Building a Sustainable Biobased Economy, Dublin (2018)
14. Biomass characterization and utilization. Wallenberg Wood Science Center, Gothenburg, Sweden (December 2017)
15. Valorizing Biorefinery Lignin, Inaugural Workshop of China-US Center for Biomass Science and Engineering, Nanjing, China (November 2017)
16. Wood Chemist's Adventure in Biomass Recalcitrance, Graduate Student Seminar, Department of Forest Biomaterials, North Carolina State University (October 2017)
17. Structural Characterization of Co-Solvent Enhanced Lignocellulosic Fractionation Pretreated Lignin. Meng, X.; Cai, C.M.; Pu, Y.; Parikh, A.; Wyman, C.; Ragauskas, A.J. 17th Annual Syracuse CoE Symposium (October 2017)
18. Valorizing Lignin, Qingdao University, Qingdao, China (September 2017)
19. Biorefining Lignin, Southeast University, Nanjing, China (September 2017)
20. Valorizing Biorefinery Lignin, Nanjing Forestry University, Nanjing China (September 2017)

21. Lignin Biorefining, Fujian Agriculture and Forestry University, Fuzhou, China (September 2017)
22. Completing the New Biofuel and Bio-Derived Chemicals and Materials Research Challenge. AIChE Annual Meeting (October 2017)
23. Fractionating Lignin Towards Diversified Valorization Route, International Conference on Biomass Conversion and Renewable Materials 2017 (ICBCRM'17) in Syracuse, New York.
24. Recalcitrance: The plant cell wall and cellulosic biofuels. 254th American Chemical Society National Meeting & Exposition, MN (August 2017)
25. Fractionating Lignin towards Diversified Valorization Routes. International Conference on Biomass Conversion and Renewable Materials, NY (August 2017)
26. Valorizing Lignin, 5th International Conference on Green Chemistry and Technology. Rome, Italy (July 2017)
27. Advances in Biorefining to Biofuels. The 10th World Bioenergy Symposium, Dongguan, China (December 2016)
28. Fundamentals of biorefining and lignin valorization. Workshop on Second Generation Bioethanol 2016, Campinas, Brazil (November 2016)
29. Nanocellulose: Bio-Inspired Polymers, Aalto University, Espoo, Finland, (August 2016)
30. Bio-Inspired Polymers, Gordon Conference, Green Chemistry, VT (August 2016)
31. 251 ACS National Meeting & Exposition, San Diego, CA (March 2016)
 - Making room during pretreatment
 - Valorizing lignin
32. Biorefining and GlycoScience, Glycobiotechnology, Manchester, (April 2016).
33. Lignin Biorefining, 2015 Metabolic Engineering and Green Manufacturing in Microorganisms, Beijing University Chemical Engineering, China (July 2015)
34. Sustainable Biofuels from Laboratory Bench to the Gas-Tank, GA ACS Section Dinner Meeting (April 2015).
35. Advances in Sustainable Fuels. International Conference on “Sustainable Fuel for IC Engines in Emerging Nations”, New Delhi, India (February 2015).
36. Second-generation biofuels from the benchtop to the gas tank. Nordic Baltic BioEnergy Riga, Latvia (April 2015).
37. Award Address (ACS Award for Affordable Green Chemistry sponsored by Dow Chemical Company and endowed by Rohm and Haas Company). Green chemistry, biofuels, and biorefineries. 247th ACS National Meeting & Exposition, Dallas, TX, (March 2014).
38. Internationell utblick. Ekmandagarna, Stockholm Sweden, (January 2014)
39. Biofuels: From the Field to the Fuel-Tank. USA Embassy, Vilnius, Lithuania (May 2013).
40. Lignocellulosic 2nd and 3rd Generation Biofuels - Using Science to Accelerate Implementation. Natick Soldier Center, MA (March 2013).
41. Using NMR to Characterize Recalcitrance Elements in Biomass at the Molecular Level. Pittcon, Philadelphia, PA (March 2013).
42. Enabling Biopolymers through Green Chemistry, 2012 Intern. Bioenergy Days (October 2012).
43. Sustainable Nano-Materials - What is happening at the cellular level? DOE Workshop on Sustainable Nanomaterials, VA (June 2012).
44. (i) Introduction to Biorefining Session; (ii) Biorefining Expanding the Envelope for Green Forest Products Manufacturing, IPST Members Meeting (April 2012).
45. Organosolv Pretreatments. EBI Workshop on Pretreatment Strategies. University of California Berkeley (March 2012).

46. Green Nanocellulosic Barriers, USDA Nanocellulose Program Review (March 2012).
47. Lignin: The New Paradigm in Biofuels. Phytochemical Society of North America 50th Meeting, HI (December 2011).
48. Biorefineries and Bioconversions: Current and Future Challenges. GA Tech Fall 2011 Transformational Energy Speaker Series.
49. BESC Research and Lessons in Pretreatment Chemistry. Ragauskas, A.J., NSERC Bioconversion Network, University of Toronto, Canada (June 2011).
50. Fiber Modification: Strengthening Softwood Fibres with Hemicelluloses. Ragauskas, A.J., Pira 3rd biennial Fibre Engineering, Barcelona, Spain (May 2011).
51. A Fresh Look at the Biorefinery Concept: What Works and What Doesn't. Ragauskas, A.J., Wood Science and Engineering, Oregon State University (April 2011).
52. Creating Sustainable Chemical Solutions Essential to Converting Lignocellulosic Biomass resources to BioMaterials, BioFuels, BioChemicals and BioPower for People Everywhere. Ragauskas, A.J., Department of Energy, Washington, DC (April 2011).
53. Organsolv Pretreatment: Reduced Recalcitrance and More. Ragauskas, A.J. Great lakes BioEnergy Research Center, Michigan State University (March 2011).
54. BESC Research and Lessons in Pretreatment Chemistry. Ragauskas, A.J. Great lakes BioEnergy Research Center, Michigan State University (March 2011).
55. Green Chemistry: Grand Challenges from Converting Biomass to Biofuels and Bio-based Materials, FOBI series. University of Copenhagen (January 2011).
56. Hemicelluloses: The Good, The Bad, The Promising. Biomass Derived Pentoses: from Biotechnology to Fine Chemistry. Reims, France (November 2010).
57. Recent Advances in Biorefining and Pretreatment Chemistry. Second International Symposium on Bioenergy And Biotechnology, Wahun, China (September 2010).
58. Cellulose Whiskers, Gels, Films and Foams- New Composites and Applications XII IMC and the 7th Isnapol, Gramado, Brazil (September 2010).
59. BioRefining Biomass to BioFuels
 - Renewable Energy Department, Research Center of Petrobras – CENPES, Rio de Janeiro, Brazil.
 - Shell Research Center, Amsterdam, Netherlands (2010).
60. New Energy Research – An Industry-Governmental Partnership, American Resource Center, Yliopistonkatu, Helsinki, Finland (2010).
61. “A Perspective on Pre-Treatment Chemistry: Recent Advances and Future Challenges”, Jyväskylä University, Finland (2010).
62. BioRefining & Fiber Modification. Arauco Company, Concepción, Chile (2010).
63. BioRefining at IPST@GT, UPM Kymmene (2010).
64. Cu: Green Chemistry Oxidations from Laccase to Cu-complexes in Ionic Liquids. Auburn University, School of Chemistry. Auburn, AI (April 2010).
65. Transformational Forest Biorefineries Opportunities and Challenges, KETJU (Sustainable Products and Production Conference, Finnish Academy Science (February 2009).
66. Forest Biorefinery: Time to Be. Polysaccharides as a Source of Advanced Materials Conference, Abo Academia, Turku, Finland (September 2009).
67. Forest BioRefinery Accomplishments, Latvian State Institute of Wood Chemistry (June 2009).
68. BioFuels and Biomaterials: Forest BioRefinery, Lithuanian Seimas (Parliament) Committee on Environment Protection (June 2009).

69. Alternative Energy in the US and State-of-the-Art Biological Conversion Technologies to Bioethanol, Lithuanian Confederation of Industrialists, Vilnius, Lithuanian (June 2009).
70. US Forest Biorefinery, Lithuanian Energy Institute, Kaunas, Lithuanian (June 2009).
71. Recent Development in US Forest Biorefinery, Kaunas University of Technology, Lithuanian (June 2009).
72. Transformational Forest BioRefinery Technologies, 10th Baltic Economic Forum, Riga, Latvia (June 2009).
73. Recent Developments in US Forest Biorefinery, Novel Products and Fuels from Forest Trees Seminar Series, Umeå Plant Science Centre, Umeå University, Sweden (May 2009).
74. The Biorefinery Concept: Opportunities, Challenges and Innovation, Chalmers University of Technology (May 2009).
75. Securing Biofuels and Bioenergy from the Next Generation of Forest BioRefineries, House of Sweden/Swedish Embassy-Washington DC (May 2009).
76. US Perspective on Biorefinery, Forest Products Industry Research College (FPIRC), Royal Institute of Technology, Stockholm (January 2009).
77. Engineering the Next Generation of LignoCellulosic Fibers, Colloquium Wood Valorisation Epinal, France (January 2009).
78. Forest Biorefineries Opportunities, Challenges and Innovation, Colloquium Wood Valorisation, Epinal, France (January 2009).
79. Characterizing Lignocellulosics from Biomass to Bioethanol, Colloquium Wood Valorisation, Epinal, France (January 2009).
80. Characterizing Lignocellulosics from Biomass to Bioethanol, Booregard, Sarpsborg, Norway (December 2008).
81. Wood Chemistry in the Biorefinery, Booregard, Sarpsborg, Norway (December 2008).
82. Putting Chemistry Back into the Biorefinery, Imperial College London, London (December 2008).
83. Review of Fiber Modification, Eka Chemicals, Sweden (December 2008).
84. Seeing Fibers in a Pulp Forest. Joint SCA, Sodra, Chalmers meeting, Gothenburg, Sweden (October 2008).
85. Energizing the Forest Biorefinery: Pulp-Paper-Fuels, TAPPI SuperCorrExpo conference, Atlanta. GA, (September 2008).
86. Wanted: Technology Breakthroughs, International Bioenergy Days, MN. At request of the US State Department (September 2008).
87. Forest Biorefinery: A Contribution to the One Big Thing Fulbright Chair in Alternative Energy. US- Swedish Science and Technology Review, Swedish Ministry of Education and Research Ministry, Stockholm (September 2008).
88. Forest – Energy: One Big Thing. One Big Thing 2008 Retreat. Embassy of United States of America, Stockholm (September 2008).
89. Forest Biorefineries Bridge to Future: FPRIC Sweden (August 2008).
90. Developing the new lignocellulosic energy age. 235th ACS National Meeting, New Orleans, LA (April 2008).
91. Fiber Modification/Fiber Fiber Bonding, Eka Chemical (June 2008).
92. Advances in Fiber Modification, Aracruz, Brazil (March 2008).
93. US Perspective on Biorefinery, STFI-Packforsk/KTH (January 2008).
94. Forest Biorefinery at the Cross Roads of Science, Engineering and Innovation, Mid Sweden University (January 2008).

95. The BioRefinery: The Next Green Revolution in Science, Engineering and Innovation, Berzeliusdagarna, University of Stockholm (January 2008).
96. The New Lignocellulosic Age, Luleå University of Technology, Skellefteå Sweden (September 2007).
97. Lignocellulose Chemistry: Lonesome BioPolymer to Key BioFuel Resource. School of Polymer, Textile and Fiber Engineering, GT (January 2008).
98. Over View of Cellulosic Material Research. Industry Days IPST@GT (November 2007)
99. Mission Possible: The Search for the New Forest Biorefinery. BioTechnology Institute - University of Minnesota (November 2007).
100. BioEnergy Science Center a DOE BioEnergy Research Center. Bioproducts and Biosystem Engineering at the University of Minnesota (November 2007).
101. Seeing Fibers in the Pulp Forest, Lectures at the Leading Edge, Department of Chemical Engineering and Applied Chemistry, University of Toronto (October 2007).
102. Forest Biorefineries: Pulp-Lumber-Biofuels Third Leg of Forest Products Industry, TAPPI Gulf Coast Conference, Auburn University (October 2007).
103. BioEnergy Science Center: DOE Bioenergy Research Center, IPST@GT (September 2007).
104. The New Lignocellulosic Age, Luleå University of Technology, Skellefteå, Sweden (September 2007).
105. Universidade Beira Interior, Departamento de Ciência e Tecnologia do Papel; Covilhã, Portugal (June 2007).
106. University of Aveiro, Department of Chemistry; Aveiro, Portugal (June 2007).
107. Cacia Soporcel Kraft Pulp Mill, Research Department; Aveiro, Portugal (June 2007).
108. RAIZ - Instituto de Investigacao da Floresta e Papel; Aveiro, Portugal (June 2007).
 - Fiber Modification
 - Cellulose Microfibrills and Nanotechnology
 - Seeing Fibers in a Pulp Forest
 - Bio Fuels, Chemicals, and Materials A Walk on the Green Side of Sustainability
109. Enhancing and Visualizing Fiber-Fiber Crossings. Södra Cell AB, Väröbacka, Sweden (2007).
110. Microfibrills and Nanotechnology, Pulp Paper 2007, Helsinki, Finland (June 2007).
111. Forest Products Biofinery – US Perspective, Norwegian University of Science and Technology NTNU (April 2007).
112. Engineering Fiber Charging and Barriers for Paper and Board, EU COST54 – “Characterization of the Fine Structure and Properties of Papermaking Fibres using New Technologies” Riga, Latvia (April 2007).
113. BioFueling the Future. Challenges - Opportunities^{GT} Georgia Tech Advisory Board (April 2007).
114. Biofuels, Clark Atlanta University (April 2007).
115. Profiling Biomass Resources and Their Chemistries, Huntsman Houston (April 2007).
116. Advanced Lignocellulosic Based Composite Materials, IPST Board of Trustees (April 2007).
117. Biorefining the Future. 233rd ACS National Meeting, Chicago, IL, United States (March 2007).
118. Biofueling the Future. National Academy of Engineering/GA Tech (March 2007).
119. Seeing Fibers in a Pulp Forest, Royal Institute of Technology, Stockholm, Sweden (March 2007).
120. Charging Fibers for New and Enhanced Strength Properties, Pira, Stockholm (March 2007).
121. Biofuels and the Future, VTT Technical Research Centre of Finland (February 2007).
122. Biofuels for the Future, Carlsberg Institute (February 2007).

123. BioFuels: An Agenda for Research and Innovation. GTRC Board of Trustees (December 2006).
124. The Path Forward for Biofuels and Biomaterials. Primer Congreso Latinoamericano sobre Biorefinerías: Oportunidades de innovación para el sector forestal, que se realizará los días Concepción, Chile (November 2006).
125. L’Avenir des Biopolymères Renouvelables, Lorexpo Metzès Congress, France (November 2006).
126. Topochemistry of Renewable Biopolymers, University Nancy, Nancy France (November 2006).
127. Food for Thought Seminar Series, Faculty of Agriculture and Environmental Sciences, McGill University (November 2006).
128. Biofuels – Biochemicals Research Needs and Opportunities, Lyondell Symposium (October 2006).
129. The Energy Challenge, GTRI: Seminar on Emerging Research Needs (October 2006).
130. Biomass to Bioproducts, Biofuels and Biopower - B2B3, AtlanTICC Alliance Symposium, Imperial College London (2006).
131. BioFuels Research Opportunities/Needs, World Congress on Industrial Biotechnology and Bioprocessing, Toronto, Canada (2006).
132. The Challenges and Opportunities for Next Generation of Forest Product Biorefineries, World Congress on Industrial Biotechnology and Bioprocessing, Toronto, Canada (2006).
133. Profiling Biomass Resources and Their Chemistries, Shell, Amsterdam, Netherlands (2006).
134. Future of Topochemical Cellulosic Fiber Modification. Metsa-Botnia, Jyväskylä, Finland (2006).
135. Fiber Modification Chemistry, International Paper Cincinnati Technology Center, OH (2006).
136. Biofinery of the Future, Now. Rendez-Vous Atlantic Biotech, Guest of Government of Canada. Moncton, New Brunswick (2006).
137. Chemistry of Fiber Modification, Nalco Chemical Company, IL (2006).
138. Biofuels, College of Science, Georgia Institute of Technology (2006).
139. Topochemistry of Fiber Modification, Hercules, Inc., DE (2006).
140. Profiling Biomass Resources and Their Chemistries, Chevron – Texaco, Richmond, CA (2006).
141. Over the Horizon View of Nano Coatings and Barriers for Paper. Pira's Ultrathin Films and Nanocoatings Conference, Vienna, Austria (2006).
142. Chemicals from Biomass, Alberta Research Council, Canada (2005).
143. Platform Chemicals from Forest Biomass, Alberta Forestry Research Institute, Canada (2005).
144. Nanotechnology in Pulp and Paper, Stora-Enso OYJ, Stockholm (2005).
145. Platform Chemicals from Biomass. The World Congress on Industrial Biotechnology and Bioprocessing, ACS Orlando, FL (2005).
146. Fiber Modification, Weyerhaeuser Company (2005).
147. A Few Good Fibers. Pre-Symposium on Wood, Forestry, and Pulping Chemistry, Auckland, New Zealand (2005).
148. Nanotechnology Innovation Directed to Forest Products Industry. Forest Products Technobusiness Forum (2005).
149. The USA Forest Industry Nanotechnology Roadmap. Nano Harju Goes Global, Lohja, Finland (2005).
150. Nanotechnology Address from the USA. Jaakko Pöyry Consulting, Helsinki, Finland (2005)
151. Fiber Modification Chemistry. Metsa-Botnia, Helsinki, Finland (2005).
152. Cellulosic Fiber Chemistry. Hercules Company, USA (2005).

153. BioPower – BioMaterials Research, School of Chemistry, Imperial College London (2005).
Platform Chemicals from Biomass, Alberta Research Council, Canada (2005).
154. NanoBiotericals, Nanotechnology Forest Products Workshop, Washington, DC (2004).
155. Nanotechnology in the Pulp and Paper Industry, Lake States TAPPI/NC PIMA Conf. (2004).
156. Fiber Modification Chemistry. Taiwan Forestry Research Institute (2004).
157. Nanotechnology for Pulp and Paper. IPST/CPBIS Forest Products Techno-Business Forum, (2004).
158. Innovative Fiber Modification Chemistry: Asian Institute of Technology, Department Pulp and Paper Technology, Kasetsart University, Faculty of Forestry, Thailand (2004).
159. Biobleaching Chemistry of Laccase. Department Chemistry, Mahidol University, Thailand (2004).
160. Nascent Nanotechnology in Pulp and Paper and Its Future. PIRA, Stockholm (2004).
161. Forest Products Biotechnology: Before and After. The World Congress on Industrial Biotechnology and Bioprocessing. ACS Orlando, FL (2004).
162. Fundamentals of Oxidative Laccase Chemistry, Departamento de Ciência e Tecnologia do Papel, Universidade Beira Interior, Covilhã, Portugal (2003).
163. Invited speaker at NSF, AAAS sponsored EMERGE Conference: Strengthening and Fostering Productive Partnerships-The Corporate Academic Role. Seminar titled “Fostering Academic-Industry Relationships”, Atlanta (2003).
164. Nanotechnology – Changing the Challenge in Pulp and Paper Research, presented at Nano All Around Us Conference, The University of Wisconsin's Inaugural Technical Conference and Public Expo on Nanotechnology (2003).
165. Future of Lignin Research, International Lignin Institute 6th Forum, Wageningen, Netherlands (2003).
166. Invited speaker at 2003 Gordon Conference Polysaccharide Chemistry, Redefining the Pulp and Paper Industry with New Chemo-Enzymatic Technologies. Ragauskas, A.J., Gordon Conference, Italy (2003).
167. Nano-Biotechnology Changing the Challenge in Pulp & Paper Research, TAPPI Fall Technical Conference: Engineering, Pulping & PCE&I, Oct., Chicago, IL (2003).
168. Back to The Future: How Current Pulp-Bleaching Research Will Influence Future Furnish Resources. 7th Pira Recycling Technology Conference, Brussels (2002).
169. Advances in Fiber Modification, Taiwan Forestry Research Institute, Taiwan (2002).
170. Chemoenzymatic Fiber Modification, Asian Institute of Technology and Department of Forest Products, Kasetsart University, Thailand (2002).
171. Decade of Pulp and Paper Research, Kaunas University of Technology, Lithuania (2002).
172. Biotechnology in the Pulp and Paper Industry: A Challenge for Change. Ragauskas, A.J., 8th International Conf. on Biotechnology in the Pulp and Paper Industry, Helsinki, Finland (2001).
173. Pulp/Bleach Mill of the Future. Innovase hosted Mini-Symposium, San Diego, CA (2001).
174. The Challenge of Change. Ferris, J.; Ragauskas, A.J., TAPPI Pulping Conference, Boston, MA (2000).
175. Advances in Fiber Modification Topo-Chemistry present at:
- Oji Technical Research Center, Nippon Paper Company, Japan
 - Cheng Loong Corp., Taiwan; Advanced Agro, Thailand; April, Singapore;
 - Riaupaper, Indonesia; Yuen Foong Yu Paper Mfg. Co. Ltd., Taiwan; Siam Pulp and Paper Public Company Ltd., Thailand (2000).
176. Developing New Pulp Fibers. Kimberly-Clark Corporation, Neenah, WI (2000).

177. Topofiber Chemistry. Argonne National Laboratory (2000).
178. Fundamentals of Laccase Mediator System Delignification. Hercules Incorporated, Wilmington, DE (2000).
179. Laccase Biobleaching Technologies. International Paper, Tuxedo Park, NY (2000).
180. Fundamentals of Pulping and Bleaching. Westvaco Corporation, Charleston Research Center (1998).
181. Fundamentals of Biobleaching. STFI, Stockholm, Sweden (1998).
182. Fundamental Chemistry of Kraft Pulping. Ahlstrom Corporation, Finland (1998).
183. Applications of NMR in Modern Pulping and Bleaching Research, Argonne National Laboratories (1998).
184. Fundamental Structural Analysis of Residual Lignin in Kraft Pulp. Ahlstrom Corporation, Glens Falls, NY (1997).
185. Peroxide Pulp Bleaching Challenges. Florida Catalysis Conference, Palm Coast, FL (1996).
186. Fundamentals of Brightness Reversion. Nalco Chemical Company, Naperville, IL (1996).
187. Fundamentals of Brightness Reversion. South China University of Technology, Guangzhou, China (1996).
188. Activated Peroxide Bleaching Chemistry. South China University of Technology, Guangzhou, China (1996).
189. Photostabilization for High-Yield Pulps. Kimberly-Clark Corporation, Neenah, WI (1996).
190. Chemical Activation of Peroxide. 1995 TAPPI/NC State Emerging Pulping and Bleaching Workshop (1995).

INVITED ON-SITE INDUSTRY RESEARCH PRESENTATIONS

AbitibiBowater; Advanced Agro/Thailand; Ahlstrom Corporation/Finland; Appleton Papers; April/Singapore; Aracruz/Brazil; Arauco/Chile; Booregard/Norway; Buckeye Technologies Inc; Cheng Loong Corp./Taiwan; Chevron; Ciba Corporation; Consolidated Papers Incorporated; Eka-Chemical; Georgia Pacific; Hercules Incorporated; Hiroshima R&D Center/Japan; Imerys, Innovase Corporation; International Paper; Champion International Corporation; DuPont, Kimberly-Clark Corporation; Korsnas AB/Sweden; LTD/Japan; MeadWestvaco; Mondi; Nalco Chemical Company; Novo-Nordisk; Mitsubishi Heavy Industries; NewPage Corp.; Nippon Paper Company/Japan; Oy Metsä-Botnia Ab/Finland; Oji Paper Co./Japan; Portucel Soporcel Group/Portugal; Potlatch Corporation; Rayonier Inc.; Riaupaper/Indonesia; SAPPI; Shell/Netherlands; SCA/Sweden; Schweitzer-Mauduit International; Siam Pulp and Paper Public Company Ltd./Thailand; Sodra/Sweden; Stora-Enso/Finland; UPM-Kymmene Group/Finland; Weyerhaeuser Company; Yuen Foong Yu Paper Mfg. Co. Ltd./Taiwan; Fibria/Brazil.

CONTRIBUTED PARTICIPATIONS

1. AIChE Annual Meeting, Orlando (November 2023)
 - Efficient Processing of Lignin to Bioproducts and Biofuels. Chaired by Bin Yang, Joshua Yuan, Arthur Ragauskas, and Ning Sun
 - Investigating and Leveraging Natural Variation of Lignin in Biomass. Arthur Ragauskas
 - Applications of Lignin-derived Deep Eutectic Solvents in Biorefinery Processes. Chang Geun Yoo, Yunxuan Wang, Jiae Ryu, Kwang Ho Kim, Xianzhi Meng, Yunqiao Pu, Yang Tian, Aymerick Eudes, Gyu Leem and Arthur Ragauskas.

- Switchgrass Deconstruction Mechanisms on Biomass Solubilization Elucidated through Characterization of Consolidated Bioprocessing Residues. Rohit Kousika, Yunqiao Pu, Arthur Ragauskas, Yannick J. Bomble, National Renewable Energy Laboratory, Golden, CO
 - Effects of Lignin Properties on the Performance of Lignin-Based Polyurethane Foam for Eco-Friendly Thermal Insulation. Soyeon Jeong, Mairui Zhang, Charles M. Cai, Xianzhi Meng, Paul Crovella, Arthur Ragauskas and Chang Geun Yoo
 - Impact of Methoxy Group Component of Lignin-Derived Deep Eutectic Solvents on the Biomass Pretreatment Performance. Jiae Ryu, Jialong Lin, Yunxuan Wang, Gyu Leem, Kwang Ho Kim, Arthur Ragauskas and Chang Geun Yoo
 - Fractionation and Chemical Modification of Celf Lignin: Toward Production of Next-Generation of Polyurethane. Xianzhi Meng, Yunxuan Wang, Zhaohong Xiu, Brent Scheidemantle, Charles M. Cai, Chang Geun Yoo, Arthur Ragauskas
 - Fused Deposition Modeling (FDM) 3D Printing of Industrial Hemp Waste Polymer Composites. Anqi Ji, Nara Han, Shuyang Zhang, Samarthy Bhagia, Xianhui Zhao, Arthur Ragauskas, Deepak Kumar, Jeong Jae Wie and Chang Geun Yoo
 - Application of Biomass-Derived Solvent Cyrene in the Pretreatment of Lignocellulosic Biomass. Yunxuan Wang, Xianzhi Meng, Yunqiao Pu and Arthur Ragauskas
 - Application of Three-Component Dihydroxybenzoic Acid-Based Deep Eutectic Solvent in a Sustainable Biorefinery Process. Jiae Ryu, Yunxuan Wang, Xianzhi Meng, Yang Tian, Linjing Jia, Aymerick Eudes, Kwang Ho Kim, Yunqiao Pu, Gyu Leem, Deepak Kumar, Arthur Ragauskas and Chang Geun Yoo.
 - High-value and Platform Chemicals from Renewable Resources and Wastes. Chaired by Chang Geun Yoo, Chang Dou, Yunqiao Pu
2. 2023 BSSD PI Meetings
 - Biomass pretreatment and structural changes shown from scattering and modeling. Brian H. Davison; Barbara Evans; Arthur J. Ragauskas; Micholas Dean Smith; Haden L. Scott; Sai Venkatesh Pingali; Hugh M. O'Neill; Loukas Petridis; Luna Liang; Riddhi Shah; Xianzhi Meng; Yunxuan Wang; Yunqiao Pu; Jeremy C. Smith
 3. AIChE 6th International Conference on Plant Synthetic Biology, Bioengineering and Biotechnology. Feedstock Design for Quality Biomaterial. Cheng Hu, Arthur Ragauskas, Susie Dai and Joshua Yuan (December 2022).
 4. AIChE Annual Meeting (November 2022)
 - Improve Infrastructure Resilience Toward Climate Changes through Plastics Waste Upcycling. Kainan Chen, Fujie Zhou, Yunqiao Pu, Jinghao Li, Arthur Ragauskas, Joshua Yuan
 - 3D Printing of a Recycled Terephthalic Acid-Based Copolyester Containing Tetramethylcyclobutane diol. Samarthy Bhagia; Surbhi Kore; Sanjita Wasti; Jaroslav Ďurkovič; Ján Kováč; Xianhui Zhao; Uday Vaidya; Soydan Ozcan; Arthur J. Ragauskas.
 - Efficient Processing of Lignin to Bioproducts and Biofuels. Jorge Arreola Vargas. Cheng Hu, Furong Lin, Arthur Ragauskas, Bin Yang, Joshua Yuan
 - Reductive Depolymerization of PAA-Fractionated Lignin Via Using Cupmo Catalyst. Anqi Ji, Xianzhi Meng, Jingshun Zhuang, Jiseok Park, Kwang Ho Kim, Gyu Leem, Sung Bong Kang, Arthur Ragauskas and Chang Geun Yoo
 - Bioconversion of Rich Containing β -O-4 Linkage Lignin to Medium Chain Length-Polyhydroxyalkanoates. Jorge Arreola Vargas, Bing Xu, Cheng Hu, Xianzhi Meng, Yun-

- Yan Wang, Arthur Ragauskas, Hugo Oscar Mendez-Acosta, Jose Antonio Perez-Pimienta and Joshua Yuan
- Lignin Bioconversion in a Unique Pelletized Cultivation Platform Using *Rhodococcus Opacus* PD630 Simplifies Biomass Harvesting and Enhances Lipid Production. Bing Xu, Qiang Li, Yunqiao Pu, Shangxian Xie, Arthur Ragauskas, **Jorge Arreola Vargas**, Zhi-Hua Liu and Joshua Yuan
5. ACS Meetings & Expositions - American Chemical Society (March 2022)
 - 3D printing of polymer composites with lignin-assisted-exfoliated boron nitride (BN) for enhanced thermal conductivity. Zhang, Shuyang; Bhagia, Samarthya; Wang, Hsin; Meng, Xianzhi; Ragauskas, Arthur Jonas
 - Catalyzing biomass solvolysis: Challenges and opportunities. Ragauskas, Arthur Jonas; Wang, Yun-Yan; Hao, Najia; Alper, Koray; Meng, Xianzhi; Tekin, Kubilay; Karagoz, Selhan.
 6. AIChE Annual Meeting (November 2021)
 - Developing a Multi-Target Alkali Sterilization Strategy to Facilitate Lignin Dispersion and Promote Biological Lignin Valorization. Zhi-Min Zhao, Shuyang Zhang; Xianzhi Meng; Yunqiao Pu; Arthur J. Ragauskas
 - Demethylated Lignin As the Interface Enhancer in FDM 3D Printing for PA12 Composites. Shuyang Zhang; Xianzhi Meng; Arthur J. Ragauskas
 - Lignin-Based Deep Eutectic Solvent Pretreatment of Transgenic Sweet Sorghum Bagasse to Achieve a Sustainable Biorefinery Process. Yunxuan Wang, Xianzhi Meng; Yang Tian; Linjing Jia; Aymerick Eudes; Kwang Ho Kim; Yunqiao Pu; Gyu Leem; Deepak Kumar; Arthur J. Ragauskas; Chang Geun Yoo
 - High Speed Friction Grinding of Thermoplastics Assisted By Food Gums. Samarthya Bhagia; Nidia C. Gallego; Nitilaksh Hiremath; David Harper; Richard A. Lowden; Richard R. Lowden; Yunqiao Pu; Uday Vaidya; Soydan Ozcan; Arthur J. Ragauskas
 - Synthesis of Charged Lignin Nanoparticles and Its Applications As Adsorbent. Mandeep Poonia; Kwang Ho Kim; Xianzhi Meng; Udani Kaushalya Wijethunga; Arthur J. Ragauskas; Gyu Leem; Chang Geun Yoo
 7. 2022 Genomic Sciences Program (GSP) Annual PI Meeting (February 2022)
 - Noncellulosic biopolymer morphology and structural changes during real-time reaction studies. Zhi Yang; Marcus Foston; Hugh O'Neill; Volker S. Urban; Arthur Ragauskas; Barbara Evans; Sai Venkatesh Pingali; Brian H. Davison.
 - Solid state NMR characterization of lipid membrane and organic solvent induced effects
 - Yunqiao Pu; Haden Scott; James G. Elkins; John Katsaras; Jonathan Nickels; Arthur J. Ragauskas; Brian H. Davison
 - Effect of Cyrene Pretreatment on Switchgrass Lignin Structure. Yun-Yan Wang; Luna Liang; Xianzhi Meng; Yunqiao Pu; Nicholas Dean Smith; Arthur Ragauskas; Brian H. Davison
 - Candidate Genes for Lignin Structure Identified Through Genome Wide Association of Naturally Variant Populus. Nathan Bryant; Jin Zhang; Kai Feng; Jin-Gui Chen; Wellington Muchero; Chang Geun Yoo; Timothy J. Tschaplinski; Yunqiao Pu; Arthur J. Ragauskas; Gerald A. Tuskan
 8. ACS Meetings & Expositions - American Chemical Society (April 2021)
 - Green and scalable fabrication of lignite-based aerogel with enhanced adsorption properties for multiple purposes. Shuyang Zhang, Luna Liang, Xianzhi Meng, Muhammad Zia ur Rehman, Arthur Ragauskas

- 3D printing of poplar wood filled PLA materials. Samarthy Bhagia, Richard Lowden Donald Erdman, Miguel Rodriguez, Bethany Haga, Ines Roxana Mena Solano, Nidia Gallego, Yunqiao Pu, Wellington Muchero, Vlastimil Kunc, Arthur Ragauskas
 - Enhancement of biomass-derived 3D printing resins by chemical modification. Anqi Ji., Samarthy Bhagia, Kwang Ho Kim, Arthur Ragauskas, Gyu Leem, Chang Geun Yoo
 - Elucidating the structure and variability of lignin and the underlying genetic factors in a diverse switchgrass population. Nathan Bryant, Hari Chhetri, Yunqiao Pu, Thomas Pendegast, Katrien Devos, David Kainer, Daniel A. Jacobson, Arthur Ragauskas
 - Deuterium labelled plants enable deconvolution of plant cell wall biopolymer component structures using neutron scattering. Zhi Yang, Samarthy Bhagia, Barbara Evans, Hugh O'Neill, Arthur Ragauskas, Brian Davison, Sai Venkatesh Pingali
9. All Atom Simulations of Lignin Melts and Lignin Organic Cosolvent Complexes in the Secondary Cell Wall of Plants for Biofuel Production. Vaidyanathan Sethuraman; Vermaas, Josh; Liang, Luna; Ragauskas, Arthur; Smith, Jeremy, C.; Petridis, Loukas. APS (March 2021)
 10. Comparative Study of Transgenic Switchgrass Organosolv Lignin Extracted By Ethanol, Tetrahydrofuran, and gamma Valerolactone Pretreatments. Liang, Luna Liang; Wang, Yun Yan; Yang, Zhi Yang; Bhagia, Samarthy Bhagia; Meng, Xianzhi, Bryant, Nathan; Pingali, Sai Venkatesh Pingali; Pu, Yunqiao; O'Neill, Hugh, M. Ragauskas Arthur. Food Energy Water Nexus, AIChE (February 2021)
 11. 2021 Genomic Sciences Program (GSP) Annual Principal Investigator (PI) Meeting, Washington D.C. (February 2020)
 - Visualization of plant cell wall polymers using neutron scattering and deuterium labelling in planta. Pingali, Sai Venkatesh; Zhi Yang, Zhi; Bhagia Samarthy; Evans, Barbara; O'Neill, Hugh; Ragauskas, Arthur. J.; Davison, Brian, H.
 - Chemical and Morphological Structure of Solubilized Lignin Extracted via Ethanol, Tetrahydrofuran, and γ Valerolactone Pretreatments from Wild Type and Transgenic Switchgrass. Liang, Luna; Wang, Yun Yan; Bhagia, Samarthy; Yang, Zhi; Meng, Xianzhi; Pingali, Sai; Bryant, Nathan; Vaidya, Sethuraman, Mathamangalath; Petridis, Loukas; Pu, Yunqiao; Evans, Barbara; O'Neill, Hugh, M.; Ragauskas, Arthur; Davison, Brian, H.
 12. 2020 Genomic Sciences Program (GSP) Annual Principal Investigator (PI) Meeting, Washington D.C. (February 2020)
 - Pectin – lignin interactions in plant cell walls and model composites. Shah, R.; O'Neill, H.; Pu, Y.; Biswal, A.; Pingali, S.V; Ragauskas, A.J.; Mohnen, D.; Davison, B.H.
 - Polymer and structural science behind valorizing lignin using solvents, Berg, M.C.; Vural, D.; Bhagia, S.; Liang, L.; Yang, Z.; Meng, X.; Gallego, N.; Bryant, N.; Pingali, S.V.; O'Neill, H.M.; Pu, Y.; Mamontov, E.; Ragauskas, A.J.; Smith, J.C.; Petridis, L.; Davison, B.H.
 13. 259th ACS National Meeting & Exposition, Philadelphia, PA, (March 2020)

- Methods of processing of thermoplastics and lignocellulosic biomass for 3D printing Bhagia, S.; Ragauskas, A.J.
 - Chemical modification of biomass for bio-based 3D printing, Ji, A.; Bhagia, S.; Zhao, J.; Kim, K.H.; Ragauskas, A.J.; Yoo, C.G.
 - Application of lignin-derived deep eutectic solvents for biomass conversion. Wang, Y.; Meng, X.; Jeong, K.; Li, S.; Leem, G.; Kim, K. Ho; Ragauskas, A.J.; Yoo, C.G.
 - Solvent screening for the fractionation and application of CELF lignin. Meng, X.; Scheidemantle, B.; Wang, Y.Y.; Wyman, C.; Pu, Y.; Cai, C.; Ragauskas, A.J.
 - Oxidative transformation of lignin using peracetic acid for value-added chemical production. Zhuang, J.; Kim, K.H.; Wang, R.; Leem, G.; Pu, Y.; Li, Y.; Ragauskas, A.J.; Yoo, C.G.
 - Switchgrass lignin and hemicellulose structural reorganization observed in situ during dilute acid pretreatment. Pingali, S.V.; Yang, Z.; Foston, M.; O'Neill, H.M.; Urban, V.; Ragauskas, A.J.; Evans, B.; Davison, B.H.
 - Tunable molecular features of CELF lignin and CELF lignin-based polyurethanes. Wang, Y.Y.; Sengupta, P.; Cai, C.; Wyman, C.; Pu, Y.; Ragauskas, A.J.
14. 2019 AIChE Annual Meeting, Orlando, FL (November 2018)
- Enhancement of Polyhydroxyalkanoate Production By Co-Feeding Lignin Derivatives with Glycerol in *Pseudomonas Putida* KT2440. Xu, Z.; Li, X.; Hao, N.; Ragauskas, A.J.; Yang, B.
 - Codesign of Combinatorial Organosolv Pretreatment (COP) and Lignin Nanoparticles (LNPs) in Biorefineries. Liu, Z.-H.; Ragauskas, A.J.
 - Preparation of Nanofibrillated Biomass (NFB) for Thin Films and Composites. Bhagia, S.; Dunlap, J.; Lowden, R.; Muchero, W.; Pu, Y.; Ragauskas, A.J.
 - Elucidating Lignin Structure and Relationships from Naturally Variant *Populus Trichocarpa*. Bryant, N.; Zhang, J.; Muchero, W.; Pu, Y.; Ragauskas, A.J.
 - Conversion of Sugarcane Bagasse to Bioenergy over a Metal Oxide Catalyst. Hao, N.; Ragauskas, A.J.
 - A Closed-Loop Biorefinery for Woody Biomass Conversion Using Lignin-Derived Deep Eutectic Solvents. Wang, Y.; Meng, X.; Pu, Y.; Kim, K.H.; Ragauskas, A.J. Yoo, C.G.
15. Nanocellulosics from Packing Barriers to Bone Templates. 4th International Symposium on Materials from Renewables, University of Georgia, GA (October 2019)
16. 258th ACS National Meeting & Exposition, San Diego, CA, United States, August (2019)
- In-depth study on the effect of oxygen-containing functional groups in pyrolysis oil by P-31 NMR. Wu, Z; Ben, H.; Han, G.; Jiang, W.; Ragauskas, A.J.
 - Improved dispersion and interfacial bonding between nanocellulose and poly(lactic acid) using solvent infiltration and ball milling methods. Li, M.; Pu, Y.; Deng, Y.; Nelson, K.; Ragauskas, A.J.
 - Polyurethanes from unmodified technical lignin fractionated by sequential precipitation. Wang, Y.Y.; Sengupta, P.; Pu, Y.; Wyman, C.E.; Cai, C.M.; Ragauskas, A.J.
17. Symposium on Biotechnology for Fuels and Chemicals. Seattle, WA (April 2019).
- Structural insights into low and high recalcitrant natural poplars with neutron and X-ray scattering. Shah, R.; Bhagia, S.; Pingali, S.V.; Ragauskas, A.; Davison, B.; O'Neill, H.
 - Real-time visualization of biomass deconstruction during co-solvent reactions. Pingali, S.V.; O'Neill, H.; Petridis, L.; Cai, C.; Volker, U.; Wyman, C.; Ragauskas, A.; Smith, J.; Davison, B.

- Innovative Pretreatment and Fractionation to Transform Biorefinery Design for Lignin-based Products. Liu, Z.; Ragauskas, A.J. Yuan, J.S.
 - System analysis on lignin degradation mechanisms and metabolic pathways in marine protist, *Thraustochytrium striatum*. Li, X.; Li, M.; Pu, Y.; Ragauskas, A.; Blennerm, M.; Yuan, J.S.; Zheng, Y.
 - Co-feeding Lignin Derivatives with Glycerol for Polyhydroxyalkanoate Production by *Pseudomonas putida* KT2440. Xu, Z.; Li, X.; Pan, C.; Hao, N.; Pu, Y.; Ragauskas, A.; Yang, B.
 - Co-solvent enhanced lignocellulosic fractionation to enable co-production of bioethanol and lignin-based polyurethanes from poplar wood. Sengupta, P.; Wang, Y.Y.; Shrestha, U.; Dadmum, M.; Ragauskas, A.; Wyman, C.E.; Cai, C.
 - Lignin First Solvent Pretreatments and Their Influences on Biomass Structural Characteristics. Meng, X.; Bhagia, S.; Wang, Y.; Zhou, Y.; Pu, Y.; Shuai, L.; Ragauskas, A.; Yoo, C.G.
 - SANS study of structures and deuterium incorporation into vegetative leaf stalks of deuterated Kale (*Brassica oleracea*). Yang, Z.; Bhagia, S.; Pingali, S.F.; O'Neill, H.; Evans, B.; Davison, B.; Ragauskas, A.
18. 257th ACS National Meeting & Exposition, Orlando, FL, United States, (March 31-April 4, 2019)
- Elucidating lignin structure and relationships from naturally variant *Populus trichocarpa*. Bryant, N.; Ragauskas, A.J.
 - One-pot transformation of lignocellulosic biomass into crude bio-oil with metal chloride catalyst via hydrothermal and supercritical ethanol processing. Hao, N.; Ragauskas, A.; Alper, K.; Karagoz, S.; Tekin, K.
 - Hemicellulose-cellulose composites reveal differences in cellulose organization after dilute acid pretreatment. O'Neill, H.M.; Shah, R.; Huang, S.; Pingali, S.V.; Sawada, D.; Pu, Y.; Ragauskas, A.; Kim, S.H.; Evans, B.R.; Davison, B.H.
 - Characterization and synthesis of next generation of lignin-based polyurethanes. Meng, X.; Singh, P.; Wyman, C.; Cai, C.; Ragauskas, A.
 - Structural insights into low and high recalcitrant natural poplar with neutron and X-ray scattering. Shah, R.; Pingali, S.V.; Bhagia, S.; Ragauskas, A.J.; Davison, B.H.; O'Neill, H.M.
 - Towards valorization of biorefinery waste to polyhydroxyalkanoate: Structural characterization and mechanisms. Hao, N.; Liu, Z.-H.; Shinde, S.; Yuan, J.; Ragauskas, A.
19. Genome Science Program Contractor-Grantee Workshops, Washington (February 2019):
- Dynamics of the Lignin Glass Transition. Petridis, L.; Vural, D.; O'Neill, H.M.; Pu, Y.; Pingali, S.V.; Ragauskas, A.J.; Smith, J.C.; Davison, B.H.
 - Structural Characterization of Poplar Variants Provides New Insights into Plant Cell Wall Recalcitrance. Shah, R.; Bhagia, S.; Pingali, S.V.; Ragauskas, A.; Đurkovič, J.; Lagaña, R.; Kardošová, M.; Muchero, W.; Chen, J.; O'Neil, H.; Davison, B.H.
20. 2018 AIChE Annual Meeting (October 2018)
- Towards Valorization of Biorefinery Waste to Polyhydroxyalkanoate: Structural Characterization and Mechanisms. Hao, N.; Shinde, S.; Liu, Z.; Yuan, J.; Ragauskas, A.J.

- Characterization of Deep Eutectic Solvent Extracted Lignin Streams from Endocarp Biomass. Li, W.; Amos, K.; Li, M.; Pu, Y.; Ragauskas, A.J.; Debolt, S.; Cheng, Y.T.; Shi, J. Effect of
 - Pretreatment Conditions on the Structure of CELF Lignin. Wang, Y.Y.; Sengupta, P.; Wyman, C.E.; Cai, C.M.; Ragauskas, A.J.
 - Innovative Design to Transform Waste Valorization through Co-Processing of Lignin and Residual
 - Saccharides (CLARS) in an Integrated Biorefinery. .H.; Ragauskas, A.J.; Yuan, J.
 - Advanced Characterization of Poplar Variants for Understanding Plant Cell Wall Recalcitrance. Bhagia, S.; Durkovic, J.; Lagana, R.; Shah, R.; Yoo, C.G.; Pingali, S.V.; O'Neill, H.; Muchero, W.; Tuskan, G.; Davidson, B.; Ragauskas, A.J.
 - Lignin Nanoparticles (LNPs) Fabrication through Tailored Lignin Reactivity By Innovative Sequential Organosolv Fragmentation Approach (iSOFA). Liu, Z.H.; Ragauskas, A.; Yuan, J.
21. Real-time visualization of biomass deconstruction during various thermochemical reactions. Pingali, S. V.; O'Neill, H.; Petridis, L.; Cai, C.; Urban, V.; Wyman, C.; Ragauskas, A.; Smith, J.; Davison, B., ACS National Meeting & Exposition, Boston, MA, (August 2018).
 22. Next Generation of Low Recalcitrance Plants for BioFuels. 11th World Bioenergy Congress and Expo. Golden Tulip Berlin – Hotel Hamburg, Berlin, Germany (July 2018).
 23. Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL (April 2018).
 - Characterization and catalytic upgrading of deep eutectic solvent extracted sorghum lignin to phenolic compounds. Shi, J.; Das, L.; Li, M.; Stevens, J.; Li, W.; Pu, Y.; Ragauskas, A.
 - Significance of lignin characteristics in biomass recalcitrance of Populus for biomass valorization. Yoo, C.G.; Dumitrache, A.; Yang, Y.; Meng, X.; Muchero, W.; Tschaplinski, T.J.; Brown, S.D.; Davison, B.; Tuskan, G.; Chen, J.G.; Pu, Y. Ragauskas, A.
 - Multi-stream Integrated BioRefinery (MIBR) for Sustainable and Cost-effective Biofuels and Bioproducts. Li, Q.; Xie, S.; Liu, Z.; Pu, Y.; Yang, B.; Ragauskas, A.; Yuan, J.S.
 24. International Conference on Renewable Energy (ICREN) Evaluation of Energy Crop Hybrid Poplar for Non-energy Application, Wang, S.; Wang, Y.; Wang, X.; Chen, H.; Rials, T.; Labbé, N.; Ragauskas, A., Barcelona April (2018)
 25. 255th ACS National Meeting & Exposition, New Orleans, LA, USA, March (2018)
 - Real-time visualization of lignin structure during dilute acid pretreatment of native and lignin mutants of switchgrass and poplar. Pingali, S.V.; O'Neill, H.; Petridis, L.; Foston, M.; Evans, B.; Ragauskas, A.J.; Smith, Jeremy; Davison, B.; Urban, V.
 - Structural characterization of corn stover lignins after combinatorial pretreatment strategies. Shinde, S.; Liu, Z.H.; Olson, M.L.; Wang, X.; Hao, N.; Yoo, C.G.; Bhagia, S.; Dunlap, J.R.; Pu, Y.; Kao, K.C.; Yuan, J.; Ragauskas, A.J.
 - Catalytic upgrading of bio-oils derived from agricultural crop residue: A study of application and mechanism. Hao, N.; Ragauskas, A.J.; He, Y.; Laursen, S.
 26. ECO-BIO Challenges in Building a Sustainable Biobased Economy 2018, Dublin Ireland, Reducing switchgrass recalcitrance for cellulosic ethanol production. A.J. Ragauskas, University of Tennessee.
 27. Genomic Science Contractor-Grantee Meeting, Tyson, VA (February 2018)
 - Impact of Hydration and Temperature History on the Structure and Dynamics of Lignin Petridis, L.; Vural, D.; O'Neill, H.M.; Pu, Y.; Pingali, S.V.; Urban, V.; Ragauskas, A.J.; Smith, J.C.; Davison, B.H.

- Molecular Interactions Enhanced by Co-Solvent Use for Effective Biomass Pretreatment Pingali, S.V.; Petridis, L.; Shah, R.; O'Neill, H.M.; Smith, M.D.; Pu, Y.; Cai, C.; Wyman, C.E.; Urban, V.; Ragauskas, A.J.; Smith, J.C.; Davison, B.H.
 - CELF/CBP for Enhanced Utilization of Polysaccharides and Lignin, Singh, P.; Kothari, N.; Patri, A.; Katahira, R.; Cai, C.; Kumar, R.; Beckham, G.Y.; Ragauskas, A.J.; Wyman, C.E.; Tuskan, G.A.
28. American Institute of Chemical Engineers Knoxville-Oak (October 19, 2017)
- Effect of Autohydrolysis Pretreatment on Sugarcane Bagasse Structure and Pyrolysis Product Distribution. Hao, N.; Ragauskas, A.J.
 - Cross-linked Nanocellulose/poly(methyl vinyl ether-co-maleic acid)/ poly(ethylene glycol) composites. Liang, L. Ragauskas, A.J.
29. 2017 AIChE Annual Meeting (October 2017)
- Novel Inverse Isotope Effect for Cellulose Hydrolysis of Deuterated Switchgrass. Bhagia, S.; Meng, X.; Dunlap, J.; Bali, G.; Reeves, K.S.; Ho, H.C.; Davison, B.H.; Ragauskas, A.J.
 - Biomass Deconstruction Towards Total Carbon Utilization for Future Biorefineries. Cai, C.C.; Patri, A.; Mostofian, B.; Seemala, B.; Kothari, N.D.; Nguyen, T.Y.; Pu, Y.; Petridis, L.; Smith, M.; Cheng, X.; Smith, J.; Ragauskas, A.; Christopher, P.; Kumar, R.; Wyman, C.
 - Structural Characterization and Catalytic Valorization of Co-Solvent Enhanced Lignocellulosic Fractionation Pretreated Lignin. Meng, X.; Cai, C.M.; Pu, Y.; Parikh, A.; Wyman, C.; Ragauskas, A.
 - Depolymerization of Lignin Using Peracetic Acid Under Mild Conditions. Yoo, C.G.; Pu, Y.; Ragauskas, A.
 - Co-Optimization of Lignin and Carbohydrate Processibility By Combinatorial Pretreatment. Liu, Z.H.; Pu, Y.; Kao, K.; Ragauskas, A.J. Jin, M.; Yuan, J.
 - Insights of Biomass Recalcitrance in Populus for Biomass Valorization. Yoo, C.G.; Yang, Y.; Meng, X.; Wellington, M.; Tschaplinski, T.; Tuskan, G.; Chen, J.; Pu, Y.; Ragauskas, A.
30. Symposium BI02—Materials Innovation for Sustainable Agriculture and Energy. Cai, C.; Patri, A.; Mostofian, B.; Seemala, B.; Ninad D. Kothari, N.D.; Sengupta, P.; Nguyen, T.Y.; Pu, Y.; Shrestha, U.; Wang, Y.; Petridis, L.; Smith, M.; Cheng, X.; Smith, J.; Ragauskas, A.J.; Christopher, P.; Dadmun, M.; Kumar, R.; Wyman, C.E. (November 2017).
31. Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA (May 2017).
- A four-year comparative analysis of lignin structural changes in COMT down-regulated Switchgrass (*Panicum virgatum* L.) with reduced-recalcitrance phenotype. Li, M.; Pu, Y.; Baxter, H.; Mazarei, M.; Flanagan, A.; Fu, C.; Nelson, R.; Dixon, R.A.; Wang, Z.Y.; Stewart, N.; Ragauskas, A.
 - Microbial hydrolysis of populus biomass is limited by cellulose and lignin colocalization at the plant cell wall surface. Dumitrache, A.; Tolbert, A.; Natzke, J.; Brown, S.D.; Davison, B.; Ragauskas, A.
 - C-lignin in vanilla seeds during pretreatments. Li, M.; Pu, Y.; Yoo, C.G.; Chen, F.; Dixon, R.A.; Ragauskas, A.
 - Fractionation and characterization of lignin streams from engineered switchgrass pretreated by an aqueous ionic liquid. Liu, E.; Li, M.; Das, L.; Pu, Y.; Zhao, B.; Crocker, M.; Ragauskas, M.; Shi, H.
32. 2017 Genomic Science Program Annual PI meeting (2017)
- Characterization of Populus Transgenic Plants Overexpressing PtDUF266A (OXPdDUF266A) and Biofuel Production. Yoo, C.G.; Yang, Y.; Pu, Y.; Guo, H.B.;

- Rottmann, W.; Winkeler, K.A.; Collins, C.M.; Gunter, L.E.; Jawdy, S.S.; Yang, Z.; Guo, H.; Tuskan, G.A.; Chen, J.G.; Ragauskas, A.J.; Gilna, P.
- 2. Defined Tetra-Allelic Gene Disruption of the 4-Coumarate: Coenzyme A ligase 1 Gene by CRISPR/Cas9 in Switchgrass Results in Lignin Reduction and S/G Ratio Alteration. Park, J.; Wang, Z.Y.; Yoo, C.G.; Dempewolf, E.; Pu, Y.; Debnath, S.; Ragauskas, A.J.; Gilna, P.
 - Conformations of Low-Molecular Weight Lignin in Water: Insights on the Chemical Character of Lignin. Petridis, L.; Pingali, S.V.; O'Neill, H.M.; Pu, Y.; Urban, V.; Langan, P.; Shah, R.; Bhagia, S.; Ragauskas, A.J.; Evans, B.; Smith, J.C.; Davison, B.H.
 - Deuteration Effects on Switchgrass Structure and Metabolism: Lignin Deposition Changes in Cell Walls of Deuterated Switchgrass. Bhagia, S.; Meng, X.; Dunlap, J.R.; Evans, B.; Bali, G.; Chen, J.; Reeves, K.S.; Ho, H.C.; Ragauskas, A.J.; Davison, B.H.
33. 2016 AIChE Annual Meeting, San Francisco, CA (November 2016)
- Understanding the Effects of Ammonia and Organosolv Pretreatments on Physicochemical Characteristics of Lignin, Yoo, C.G.; Li, M.; Pu, Y.; Ragauskas, A.J.
 - Upgrading Corn Stover Pretreatment Wastes into Biodiesel Via Oleaginous Rhodococci; Ragauskas, A.J.
34. 252 ACS National Meeting & Exposition, Philadelphia, PA CA, (August 2016)
- Exploiting the oxidizing capabilities of laccases for green chemistry. Cannatelli, M.D.; Ragauskas, A.J.
 - Lignin S/G ratio facilitates Populus solubilization during consolidated bioprocessing. Dumitrache, A.; Akinosho, H.; Rodriguez, M.; Meng, X.; Yoo, C.G.; Natzke, J.; Engle, N.; Sykes, R.; Tschaplinski, T.; Muchero, W. et al.
 - Characterization of Populus stems using time-of-flight secondary ion mass spectrometry. Tolbert, A.; Yoo, C.G.; Ragauskas, A.
35. The International Chemical Congress of Pacific Basin Societies (December 2015).
- Advances in low recalcitrance plants and tailored pretreatments, Ragauskas, A.
 - Advances in nanolignocellulosics for foams and fills, Ragauskas, A.; Sun, S.; Kohnke, T.
36. Investigation on the physicochemical properties of poplar lignin carbon precursors before and after melt rheology. Sun, Q.; Ragauskas, A.J. 250th ACS National Meeting & Exposition, Boston, MA, (August 2015).
37. USDA-DOE Plant Feedstock Genomics for Bioenergy Meeting, Washington (February 2015)
- Solid Residuals from Populus trichocarpa Demonstrate that Recalcitrance Persists
 - During Consolidated Bioprocessing. Akinosho, H.; Yee, K.; Rodriguez, M.; Muchero, W.; Pu, Y.; Ragauskas, A.; Gilna, P.
 - Hydration Control of Cellulose Surface Structure and Dynamics, Petridis, L.; Pingali, S. V.; Sawada, D.; Urban, V.; O'Neill, H.M.; Ragauskas, A.J.; Evans, B.R.; Smith, J.C.; Langan, P.A., Davison. B.H.
38. NMR characterization of plant cell wall polymers and sugar release. Davis, M.; Foston, M.B.; Gjersing, E.; Katahira, R.; Happs, R.; Doepcke, C.; Sykes, R.; Ragauskas, A.J. 247th ACS National Meeting & Exposition, Dallas, TX (March 2014).
39. Genomic Science Contractor-Grantee Meeting XII, Maryland, (February 2014)
- Discovering Naturally Occurring Allelic Variants Associated with Biomass Recalcitrance in Populus trichocarpa, Wellington, M.; Yee, K.; Ranjan, P.; Ragauskas, A. J.; DiFazio, S. P.; Evans, L.; Slavov, G.; Rodgers-Melnick, E.; Bhagia, S.; Wyman, C. E.; Rokhsar, D.; Goodstein, D. M.; Martin, J.; Schackwitz, W.; Tuskan, G. A.

- Surface Characterization of Populus during *C. bescii* Growth: Understanding the Relationship between Biomass Degradation and *C. bescii* Penetration in Wood Sticks, Jung, S.; Chung, D.; Tolbert, A.; Westpheling, J.; Ragauskas, A. J.; Gilna, P.
 - Comparative Solubilization of Minimally Pretreated Lignocellulose as Impacted by Choice of Feedstock and Biocatalyst, Paye, J.; (Julie.Paye@Dartmouth.edu), Guseva, A.; Pattathil, S.; Pu, Y.; Meng, X.; Gjersing, E.; Ragauskas, A. J.; Hahn, M.; Davis, M.; Davison, B.; Lynd, L.; Gilna, P.
 - Fundamentals of Aqueous Pretreatment Chemistry and Cell Wall Cellular Structures of Low Recalcitrance Populus Lines for Enhanced Performance, Bhagia, S.; (sbhagia@engr.ucr.edu), Meng, X.; Yee, K.; Wellington, M.; Bali, G.; Pu, Y.; Kumar, R.; Tuskan, G. A.; Ragauskas, A. J.; Wyman, C. E.; Gilna, P.
 - Simulation and Structure of Cel7A during Binding and Hydrolysis of Cellulose. Pingali, S. V.; He, J.; O'Neill, H. M.; Urban, V. S.; Petridis, L.; Heller, W. T.; Foston, M.; Ragauskas, A. J.; Evans, B. R.; Smith, J. C.; Langan, P.; Davison, B. H.
 - Investigation of Pretreatment-specific Changes in Biomass Structure, Petridis, L.; Pingali, S. V.; Sawada, D.; Urban, V.; O'Neill, H. M.; Bali, G.; Ragauskas, A. J.; Evans, B. R.; Smith, J. C.; Langan, P. A.; Davison, B. H.
 - Production and Characterization of Deuterated Switchgrass and Annual Grasses for Neutron Studies, Evans, B. R.; Bali, G.; Shah, R.; Ragauskas, A. J.; O'Neill, H. M.; Pingali, S. V.; Sawada, D.; Urban, V.; Langan, P. A.; Davison, B. H.
 - Neutron and X-Ray Experiments and Computational Modeling of Pretreatment of Biomass, Langan, P.; Petridis, L.; O'Neill, H.; Pingali, S. V.; Foston, M.; Schulz, R.; Lindner, B.; Urban, V.; Evans, B. R.; Ragauskas, A. J.; Smith, J. C.; Davison, B.
40. Recent progress in understanding the role of cellulose accessibility in biomass recalcitrance Meng, X.; Foston, M.; Wells, T.; Ragauskas, A. 247th ACS National Meeting & Exposition, Dallas, TX, (March 2014).
41. Effect of chemical pretreatment on lignocellulosic biomass. Pingali, S.V.; Urban, V.S.; O'Neill, H.M.; Heller, W.T.; Foston, M.; Evans, B.R.; Ragauskas, A.J.; Langan, P.; Davison, B. 247th ACS National Meeting & Exposition, Dallas, TX, (March 2014).
42. Comparison of Detailed Characteristics of Substrates Produced by Pretreatment of Lignocellulosic Biomass in Flowthrough and Batch Reactors with Liquid Hot Water and Extremely Dilute Acid. Bhagia, S.; Hu, F.; Samuel, R.; Pu, Y.; Meng, X.; Kumar, R., Ragauskas, A. J.; Wyman, C. E. 14th Annual AIChE, Atlanta, GA (2014).
43. Defeating Biomass Recalcitrance with a Novel Co-Solvent Pretreatment Technology. Nguyen, T. Y.; Cai, C. M.; Bhagia, S.; Pu, Y.; Kumar, R.; Ragauskas, A. J.; Wyman, C. E., 14th Annual AIChE, Atlanta, GA (2014).
44. BESC Research. University of Georgia and Georgia Institute of Technology Biofuels Summit Gwinnett, GA, (2013).
45. 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR (April 2013).
Oral Presentation:
- Insights into lignin in the reduced recalcitrance of transgenic switchgrass. Pu, Y; Samuel, R.; Fu, C.; Shen, H.; Wang, Z.Y.; Dixon, R.A.; Ragauskas, A.
 - Surface characterization of transgenic poplar by TOF-SIMS. Ragauskas, A.; Ma, T.; Jung, S.; Bali, G.; Kalluri, Y.C.; Tuskan, G.
 - Biodesign of Rhodococci for Lignin Fuel: A Path from Systems to Synthetic Biology. Xie, S.; Xing, X.; Chen, H.; Li, X.; Wells, T., Dai, S.Y.; Ragauskas, A.; Yuan, J.S.

Poster Presentation:

- Fungal Cellulase Activity is Affected More by Oxidation of Other Groups than Cellulose Reducing Ends - a Case of Enhanced Cellulose Recalcitrance without Change in Accessibility, Chain Length, or Crystallinity. Kumar, R.; Mittal, A.; Yarbrough, J.; Jung, S.; Himmel, M.; Ragauskas, A.; Wyman, C.E.
 - Characterization of GXMT1 reveals a new family of Co²⁺-dependent enzymes that catalyze the methylation of glucuronoxylan. Urbanowicz, B.; Pena, M.J.; Backe, J.; O'Neill, M.A.; Steet, H.F.; Avci, U.; Li, H.; Wyman, C.; Foston, M.; Ragauskas, A.; York, W.S.
 - Recalcitrance without Change in Accessibility, Chain Length, or Crystallinity. Kumar, R.; Mittal, A.; Yarbrough, J.; Jung, S.; Himmel, M.; Ragauskas, A.; Wyman, C.E.
46. High Barrier Films Made from Cellulosic Nanofibrils. Sharma, S.; Deng, Y.; Hu, Z.; Ragauskas, A.; Nair, S.S.; Zhu J., PaperCon., Atlanta, GA (April 2013).
47. Pretreatment chemistry: What to expect and need. Ragauskas, A., 245th ACS National Meeting & Exposition, New Orleans, LA, United States, (April 2013).
48. Monitoring structural modification of biomass by small and wide scattering of X-ray and neutrons on oriented specimens. Nishiyama, Y.; Langan, P.; Foston, M.; O'Neill, H.; Pingali, S. V.; Horton, S.; Ragauskas, A., 245th ACS National Meeting & Exposition, New Orleans, LA, United States (April 2013).
49. Computer simulation of pretreatment of lignocellulosic biomass in cellulosic ethanol production. Smith, J.C.; O'Neill, H.; Langan, P.; Pingali, V.; Urban, V.; Petridis, L.; Evans, B.; Lindner, B.; Schulz, R.; Ragauskas, A.; Foston, M.; Cheng, X., 245th ACS National Meeting & Exposition, New Orleans, LA, United States (April 2013).
50. Influence of the deconstruction of the cell wall in the enzymatic saccharification of softwoods. Hoeger, I. C.; Nair, S.S.; Ragauskas, A.J.; Deng, Y.; Rojas, O.J.; Zhu, J., 245th ACS National Meeting & Exposition, New Orleans, LA, United States (April 2013).
51. Genome Science Program Contractor-Grantee Workshops, Washington (February 2013).
- Application of Chemical Imaging by TOF-SIMS to Understand Recalcitrance, Jung, S.; Foston, M.; Ma, T.; Mckenzie, H.L.; Tetard, L.; Passian, A.; Kalluri, U.; Tuskan, G.A.; Wyman, C.E.; Davison, B.H.; Sullards, C.; Ragauskas, A.J.; Gilna, P.
 - Characterization of GXMT1 reveals a new family of Co²⁺-dependent enzymes that catalyze the methylation of glucuronoxylan. Urbanowicz, B.; Peña, M.J.; Backe, J.; O'Neill, M.A.; Li, H.; Wyman, C.A.; Steet, H.; Ratnaparkhe, S.; Gilbert, H.J.; Avci, U.; Foston, M.; Ragauskas, A.J.; Darvill A.G.; York, W.S.; Gilna, P.
 - PvMYB4-overexpression switchgrass yields very high cellulosic ethanol levels without pretreatment. Shen, H.; Poovaiah, C.R.; Ziebell, A.; Tschaplinski, T.J.; Pattathil, S.; Gjersing, E.; Engle, N.; Katahira, R.; Pu, Y.; Sykes, R.; Chen, F.; Ragauskas, A.J.; Mielenz, J.R.; Hahn, M.G.; Davis, M.; Stewart, Jr. C.N.; Dixon, R.A.; Gilna, P.
52. Effect of Low Lignin Content in Transgenic Populus Trichocarpa On Sugar Release. Foston, M.; Ragauskas, A.; Bouton, J.; Dixon, R.A.; Wang, Z.Y. AIChE Annual Meeting, San Francisco, CA (2013).
53. Characterization of the Interactions of Cellulose, Hemicellulose, and Lignin During Pretreatment Through the Use of Flowthrough Pretreatment. McKenzie, H. L.; DeMartini, J. D.; Foston, M.; Hahn, M. G.; Tomkins, B. A.; Ragauskas, A. J.; Van Berkel, G. A. Pittsburg AIChE Annual Meeting (2012).
54. Hydrogenation of Pyrolysis Oil Derived from Lignin. Ben, H., Ragauskas, A. J., Deng, Y., Pittsburg AIChE Annual Meeting (2012).

55. Investigation of fate of poplar lignin during auto hydrolysis pretreatment to understand the biomass recalcitrance. Samuel, R.; Cao, S.; Das, B.; Hu, F.; Pu, Y.; Ragauskas, A.J., 244th ACS National Meeting, Philadelphia, PA (August 2012).
56. 34th Symposium on Biotechnology for Fuels and Chemicals. New Orleans, LA (May 2012).
- Assessing the cellulase accessibility of lignocellulosic substrate before and after pretreatment. Meng, X.; Foston, M.; Wyman, C.; DeMartini, J.; Ragauskas, A.
 - Investigation of lignin deposition on cellulose during hydrothermal pretreatment, its effect on cellulose hydrolysis, and underlying mechanisms, Li, H.; Kumar, R.; Pu, Y.; Ragauskas, A.J.; Wyman, C.E.
 - Impact of delignification of cellulosic biomass by common laboratory methods on lignin selectivity, cellulose molecular structure, and enzymatic digestibility. Kumar, R.; Hubbell, C.; Ragauskas, A.; Wyman, C.
 - Carbohydrates derived humins (pseudo-lignin) can retard cellulose biological conversion. Kumar, R.; Fan, H.; Sannigrahi, P.; Seokwon, J.; Ragauskas, A.J.; Wyman, C.
 - Extremely thermophilic bacteria exploit high temperature to deconstruct untreated plant biomass. Kataeva, I.A.; Foston, M.B.; Yang, S.-J.; Pattathil, S.; Biswal, A.K.; Poole II, F.L.; Olman, V.; Safford, T.D.; Lewis, D.L.; Doepfke, C.; Tschaplinski, T.; York, W.S.; Davis, M.; Mohnen, D.; Xu, Y.; Ragauskas, A.J.; Kelly, R.M.; Hahn, M.G.; Adams, M.W.W.
 - Understanding how cell wall differences in agave, poplar, and switchgrass affect deconstruction in pretreatment and enzymatic hydrolysis. Li, H.; Pattathil, S.; Foston, M.; Samuel, M.; Kumar, R.; Ragauskas, A.J.; Hahn, M.G.; Wyman, C.E.
 - Effect of pretreatments and enzymatic deconstruction on the surface of biomass: chemical image analysis. Jung, S.; Foston, M.; McKenzie, H.L.; Avci, U.; Ding, S.Y.; Kalluri, U.C.; Tuskan, G.; Hahn, M.; Wyman, C.; Ragauskas, A.
57. Characterization of transgenic and wild whole biomass before and after pretreatment by 31P NMR. Ben, H.; Ragauskas, A.J.; Jiang, N., 243rd ACS National Meeting & Exposition, San Diego, CA (March 2012).
58. Surface characterization of biomass (tension wood and pretreated poplar stem) by imaging mass spectrometry: 2D and 3D ToF-SIMS. Jung, S.; Foston, M.; McKenzie, H. L.; Ding, S.Y.; Kalluri, U.; Tuskan, G. A.; Wyman, C.E.; Ragauskas, A.J., 243rd ACS National Meeting & Exposition, San Diego, CA (March 2012).
59. Pyrolysis of biomass to biofuels. Ben, H.; Ragauskas, A.J., 243rd ACS National Meeting & Exposition, San Diego, CA (March 2012).
60. Genomic Science Awardee, Meeting X, Bethesda, Maryland, (February 2012)
- Characterizing the Mechanisms of Reduced Recalcitrance of Biomass, Ragauskas, A.
 - C Labeling and NMR Analysis: Critical Tools in the Development of Next Generation Biofuel Platforms. Foston, M.; Samuels, R.; Katahira, R.; Gjersing, E.; Davis, M.; McKenzie, H.L.; Wyman, C.E.; Ragauskas, A.J.; Gilna, P.
 - Down-Regulation of the Caffeic Acid *O*-methyltransferase Gene in Switchgrass Reveals a Novel Monolignol Analog. Tschaplinski, T.J.; Standaert, T.F.; Engle, N.; Madhavi Z. Martin, M.Z.; Sangha, A.K.; Parks, J.M.; Smith, J.C.; Samuel, R.; Pu, Y.; Ragauskas, A.J.; Hamilton, C.Y.; Fu, C.; Zeng-Yu Wang, Z.-Y.; Davison, B.H.; Dixon, R.A.; Mielenz, J.R.J.; Gilna, P.

- Flowthrough Pretreatment to Characterize Biomass Deconstruction. McKenzie, H.L.; Wyman, C.E.; Foston, M.B.; Seokwon, J.; Ragauskas, A.; Engle, N.L.; Emory, J.F.; Tomkins, B.A.; Tschaplinski, T.; Tuskan, G.; Van Berkel, G.J.; Gilna, P.
 - Production and NMR Analysis of Deuterated Cellulose and Lignocellulosic Biomass and Its Utilization for Neutron Scattering Studies. Evans, B.R.; Foston, M.; Ragauskas, A.; O'Neill, H.M.; He, J.; Pingali, S.V.; Urban, V.; Langan, P.A.; Davison, B.H.
 - *In situ* Small-Angle Neutron Scattering and Computer Simulation Investigate Lignin Aggregation During Biomass Pretreatment. Petridis, L.; Pingali, S.V.; Urban, V.; Heller, W.T.; O'Neill, H.M.; Foston, M.; Ragauskas, A.; Evans, B.R.; Langan, P.A.; Smith, J.C.; Davison, B.H.
61. Ice templated xylan-nanocrystalline cellulose aero/hydrogels. Kohnke, T.; Theliander, H.; Ragauskas, A.J., 243rd ACS National Meeting & Exposition, San Diego, CA (March 2012).
 62. Lignin to Lipid Bioconversion by Rhodococci Bacteria. Kosa, M.; Ragauskas, A.J. 242nd ACS National Meeting & Exposition, Denver, CO (August 2011).
 63. Nuclear Magnetic Resonance Analysis of Deuterium Enriched Biomass. Foston, M.; McGaughey, J.; O'Neill, H.; Evans, B.R.; Ragauskas, A.J. 242nd ACS National Meeting & Exposition, Denver, CO (August 2011).
 64. Use of Advanced NMR Analysis on Water-only Flow-through Pretreated and Enzymatic Deconstructed ¹³C Enriched Corn Stover. Foston, M.B.; McKenzie, H.L.; Wyman, C.E.; Ragauskas, A., 242nd ACS National Meeting & Exposition, Denver, CO (August 2011).
 65. Nuclear Magnetic Resonance and Small-Angle Neutron Analysis of Native and Deuterium Enriched Biomass. Foston, M.; Ragauskas, A.J.; McGaughey, J.; O'Neill, H.; Evans, B.R.; Pingali, S.V.; Urban, V.; Heller, W.; Myles, D. AIChE National Meeting, Minneapolis, MN (October 2011).
 66. Cellulose Whiskers from the Forest. Ragauskas, A.J. TAPPI Intl Conference on Nano for Renewable Materials, Washington, DC (June 2011).
 67. 33rd Symposium on Biotechnology for Fuels and Chemicals Seattle, WA (May 2011).
 - Contribution of Thermal and Microbial Factors to Switchgrass Conversion by Caldicellulosiruptor Bescii. Kataeva, I.A.; Foston, M.; Pattathil, S.; Phuongan Dam, P.; Tschaplinski, T.J.; Doeppke, C.; Davis, M.; Ragauskas, A.J.; Hahn, M.G.; Xu Y.; Adams, M.W.
 - Monitoring the Effects of Hydrothermal Pretreatment on the Chemistry and Structure of Populus Trichocarpa to Identify Characteristics that Affect Digestibility. DeMartini, J.D.; Pattathil, S.; Avci, U.; Mazumder, K.; Foston, M.; Ragauskas, A.J. Hahn, M.G.; Wyman, C.E.
 - Analysis of ¹³C Enriched Corn Stover by Water-only Flow-through Pretreatment. Foston, M.B.; McKenzie, H.L.; Wyman, C.E.; Ragauskas, A.J.
 - Characterization of Lignin after Water-only Pretreatment. McKenzie, H.L.; Foston, M.B.; Tschaplinski, T.; Ragauskas, A.J. Wyman, C.E.
 68. A Perspective on Pretreatment Chemistry: What We Know and Need to Know. Ragauskas, A.J. Pira 4th annual Biorefining for the Pulp and Paper Industry, Barcelo Sants, Barcelona, Spain (May 2011).
 69. Genomic Sciences Contractor-Grantee Meeting IX/USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee (2011):
 - Understanding Cellulose Structure by Crowley, F.; Foston, M.; Matthews, J.F.; Brady, J.; Himmel, M.E.; Ragauskas, A.J.; Gilna, P.

- Investigation of the Fate of Lignin Structures of Poplar and Switchgrass during Various Pretreatments to Understand Its Impact to Biomass Recalcitrance by Pu, Y.; Cao, S.; Samuel, R.; Jaing, N.; Foston, M.; Studer, M.; Wyman, C.; Ragauskas, A.J.; Gilna, P.
 - Redesigning Lignocellulosic Feedstocks: Genetic Modification of COMT in Switchgrass Significantly Reduces Recalcitrance and Improves Ethanol Production by Fu, C.; Mielenz, J.R.; Xiao, X.; Ge, Y.; Choo Y.; Miguel Rodriguez Jr., H.; Chen, F.; Foston, M.; Ragauskas, A.J.; Bouton, J.; Dixon, R.A.; Wang, Z-Y.; Gilna, P.
70. Lignin-based Rigid Polyurethane Foam Filled with Cellulose Whiskers. Ragauskas, A.J.; Li, Y. 241st ACS National Meeting & Exposition, Anaheim, CA (2011).
 71. Cellulose Nanowhiskers as a Drug Delivery System. Dash, R.; Ragauskas, A.J. 241st ACS National Meeting & Exposition, Anaheim, CA (2011).
 72. Cellulose Nanowhiskers Hydrolyzed from Oxygen/Organosolv Agricultural Cellulose. Witayakran, S.; Anapanurak, W.; Kongtud, W.; Yoksan, R.; Ragauskas, A.J. 241st ACS National Meeting & Exposition, Anaheim, CA (2011).
 73. Comparison of Laboratory Delignification Methods, Their Selectivity, and Impacts on Physiochemical Characteristics of Cellulosic Biomass. Kumar, R.; Hubbell, C.A.; Ragauskas, A.; Wyman, C.E. 241st AIChE Annual Meeting, ACS National Meeting & Exposition, Anaheim, CA (2011).
 74. Refining BioRefining. Ragauskas, A.J. 2011 TAPPI International Bioenergy & Bioproducts Conference, Atlanta (2011).
 75. Catalytic Pyrolysis of Lignin for Bio-oils. Ben, H.; Ragauskas, A.J. 2011 TAPPI International Bioenergy & Bioproducts Conference, Atlanta (2011).
 76. Towards an Improved Understanding of the Effects of Dilute Acid Pretreatment on Poplar Lignin. Ragauskas, A.J.; Cao, S.; Pu, Y.; Studer, M., Wyman, C. TAPPI PEERS Conf. (2010).
 77. Chemical Transformations of Poplar Lignin During Dilute Acid Pretreatment. Cao, S.; Studer, M.; Wyman, C. E.; Ragauskas, A., AIChE National Meeting, Salt Lake City, UT (2010)
 78. Structural Modifications of Cellulose and Lignin in Loblolly Pine Arising from the Ethanol Organosolv Pretreatment. Sannigrahi, P.; Ragauskas, A.J.; Miller, S.J. TAPPI PEERS Conf. (2010).
 79. Chemical Modification of Cellulose Nanowhiskers through Periodate Oxidation. Ragauskas, A.J.; Dash, R.; Elder, T. Georgia Life Science Summit 2010, Atlanta, GA (2010).
 80. Chemical Image of Poplar Stem using Imaging Mass Spectrometry: ToF-SIMS and MALDI-MS. Jung, S.; Chen, Y.; Sullards, M. C.; Ragauskas, A. J. Georgia Life Science Summit 2010, Atlanta, GA (2010).
 81. Novel Polyurethane Nanocomposite Foam Reinforced with Cellulose Whiskers. Li, Y.; Ren, H.; Ragauskas, A.J. Georgia Life Sciences Summit 2010, Atlanta, GA (2010).
 82. Pyrolysis of Kraft Lignin at Different Temperature. Ben, H.; Ragauskas, A. J. Georgia Life Sciences Summit 2010, Atlanta, GA (2010).
 83. Advances in the use of NMR to Characterize Biomass in an Effort to Elucidate the Nature of Recalcitrance. AIChE National Meeting, Salt Lake City, UT (2010).
 84. Chemical Characterization of Poplar after Hot Water Pretreatment. Pu, Y.; Cao, S.; Studer, M.; Wyman, C.; Ragauskas, A.J., 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL (2010).
 85. Imaging Matrix-assisted Laser Desorption/ionization Mass Spectrometry (MALDI-MS) of Poplar Stem. Jung, S.; Chen, Y.; Sullards, C.; Ragauskas, A.J. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL (2010).

86. Toward Understanding Fundamentals of Enzymatic Hydrolysis of Cellulose through a Restart Approach. Yang, B.; Pu, Y.; Ragauskas, A.J.; Shi, J.; Wyman, C. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL (2010).
87. Investigating the Anatomical Features of Ethanol Organosolv Pretreated *Buddleja Davidii*. Hallac, B.; Ray, M.; Murphy, R.; Ragauskas, A.J. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL (2010).
88. Recalcitrance: Will the Real Lignin Stand Up? Sannigrahi, P.; Kim, D.H.; David, K.; Ragauskas, A.J. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL (2010).
89. A Perspective on Pretreatment Chemistry: What We Know and Need to Know. Ragauskas, A.J.; Pu, Y.; Jung, S. Foston, M.; Sannigrahi, S.; Ziebell, A.; Davis, M.; Chen, F.; Dixon, R.A.; Davison, B.H.; Studer, M.; Wymann, C. E. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL (2010).
90. Biomass Characterization of Alamo Switchgrass. Hu, Z.; Ragauskas, A.J. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL (2010).
91. Copper-catalyzed Dehydration of Aldoximes into Nitriles at Room Temperature. Jiang, N.; Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2010).
92. Direct Dissolution and NMR Analysis of the Plant Cell Walls via Perdeuterated Pyridinium-based Ionic Liquid. Jiang, N.; Pu, Y.; Ragauskas, A.J.; Samuel, R. 239th ACS National Meeting, San Francisco, CA (2010).
93. All About Biorefining. Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2010).
94. ToF-SIMS Characterization of Chemical Differences on the Surface of *Populus Deltoid* between Different Treatments and Growth Stages. Jung, Seokwon; Sullards, M. Cameron; Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2010).
95. Solid-state NMR Analysis of Changes in the Supramolecular and Ultrastructure of the Cellulose Fiber Wall in Poplar during Dilute Acid Pretreatment. Foston, M.B.; Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2010).
96. Synthesis of Novel Cellulosics through Periodate Oxidation. Rajalaxmi, D.; Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2010).
97. Rigid Polyurethane Foam Reinforced with Cellulose Nano Whiskers. Li, Y.; Ren, H.; Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2010).
98. Study Cellulase-cellulose Interaction using FRET. Wang, L.; Ragauskas, A.J.; Wang, Yi. 239th ACS National Meeting, San Francisco, CA (2010).
99. Biomass Characterization of Switchgrass for Biofuel Production. Hu, Z.; Pu, Y.; Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2010).
100. Ethanol Organosolv Lignin: More than Just Boiler Fuel. Sannigrahi, P.; Ragauskas, A.J.; Miller, S.J. 239th ACS National Meeting, San Francisco, CA (2010).
101. Tango for Two: Biomass Recalcitrance - Enzymatic Deconstruction. Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2010).
102. Chemical Characterization of Poplar during Dilute Acid Pretreatment. Pu, Y.; Studer, M.; Ragauskas, A.J. 239th ACS National Meeting, San Francisco, CA (2009).
103. Towards An Improved Understanding of the Effects of Ethanol Organosolv Pretreatment On *Buddleja Davidii*. Hallac, B.; Sannigrahi, P.; Pu, Y.; Ray, M.; Murphy, R.; Ragauskas, A.J. AIChE National Meeting, Salt Lake City, UT (2010).

104. Investigating the Effects of Ethanol Organosolv Pretreatment on *Buddleja Davidii*. Hallac, B.; Sannigrahi, P.; Ray, M.; Murphy, R.; Ragauskas, A.J. AIChE National Meeting, Salt Lake City, UT (2009).
105. Investing in Biorefining Today for Tomorrow's Opportunities. Ragauskas, A.J. Biorefining for the Pulp and Paper Industry, Pira, Stockholm (2009).
106. Effects of Two-stage Dilute Acid Pretreatment on the Structure and Composition of Lignin and Cellulose in Loblolly. Sannigrahi, P.; Ragauskas, A.J.; Miller, S.J., 31st symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA (2009).
107. Elucidation of Alfalfa Lignin Structures on Gene Down-regulation. Pu, Y.; Chen, F.; Dixon, R.; Davis, M.; Davison, B.; Ragauskas, A.J., 31st Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA (2009).
108. Biomass Characterization and Organosolv Pretreatment of *Buddleja Davidii*. Hallac, B.; Sannigrahi, P.; Pu, Y.; Ray, M.; Murphy, R.; Ragauskas, A.J., 237th ACS National Meeting, Salt Lake City, UT (2009).
109. New Energy: Fuel Resources from Kraft Pulping. Nagy, M.; Kosa, M.; Ragauskas, A.J.; Theliander, H., 237th ACS National Meeting, Salt Lake City, UT (2009).
110. Biomass Characterization of *Buddleja Davidii*: A Potential Feedstock for Biofuel Production. Hallac, B.; Sannigrahi, P.; Pu, Y.; Ray, M.; Murphy, R.; Ragauskas, A.J., 60th Southeastern Regional Meeting American Chemical Society, Nashville, TN (2008).
111. Production of Ethanol from Forest Residues. Iisa, K.; Ragauskas, A.; Frederick, Jr., W. J.; Knutson, K., 100 AIChE, Philadelphia (2008).
112. Unleashing Organosolv Lignin for Biofuels. Nagy, M; Britovsek, G.J. P.; Ragauskas, A. J., 236th ACS National Meeting, PA (2008).
113. Developing the New Lignocellulosic Energy Age. Ragauskas, A.J., 235th ACS National Meeting, New Orleans, LA (2008).
114. Modification of Linerboard Softwood Kraft Pulp with Laccase and Amino Acids. Witayakran, S.; Ragauskas, A.J., 235th ACS National Meeting, New Orleans, LA (2008).
115. Tying Cellulose Whiskers Together. Goetz, L.A.; Ragauskas, A.J.; Mathew, A.; Oksman, K., 235th ACS National Meeting, New Orleans, LA (2008).
116. Structural Characteristics and In Vitro Fermentation of Various Dietary Fibers by Pig Fecal Bacteria. Pu, Y.; Ziemer, C.; Ragauskas, A.J., 235th ACS National Meeting, New Orleans, LA (2008).
117. Cost Effective High Value-Added Chemical Extraction from Lignin with Gas Expanded Liquids. Draucker, L. C., Hallett, J. P.; Kitchens, C. L.; Bush, D., AIChE, San Francisco, CA (2006)
118. Path Forward for NanoBiomaterials Derived from Lignocellulosics. Ragauskas, A.J.; Rials, T.G.; Ashurst, R.W.; Cullinan, H.T.; Wegner, T.H.; Holbery, J.D., TAPPI International Conference on Nanotechnology for the Forest Products Industry (2006).
119. Tunable Solvents for Fine Chemicals from the Biorefinery. Eckert, C.A.; Liotta, Charles L.; Ragauskas, A.J.; Hallett, J.P.; Kitchens, C.L.; Hill, E.M.; Draucker, L.C., 232nd ACS National Meeting, San Francisco, CA (2006).
120. The Synthesis of Carbohydrates in Ionic Liquids. Zhang, J.; Ragauskas, A.J., 231st ACS National Meeting, Atlanta, GA (2006).
121. Arboreal Nanotechnology. Ragauskas, A.J.; Rials, T.G.; Ashurt, R.W.; Cullinan, H.T.; Wegner, T.H.; Holbery, James D., 231st ACS National Meeting, Atlanta, GA (2006).

122. Probing Fiber-fiber Interfaces with Fluorescence Resonance Energy Transfer: Imaging Individual Fiber-fiber Crossings. Thomson, C.I.; Lowe, R.M.; Ragauskas, A.J., 231st ACS National Meeting, Atlanta, GA (2006).
123. The Dynamic Change of Fiber during Extended Oxygen Delignification of SW Kraft Pulps. Zhang, D.; Pu, Y.; Ragauskas, A.J., 231st ACS National Meeting, Atlanta, GA (2006).
124. Fiber Modification with Peroxide Bleaching on ECF Pulp. Dang, Z.; Elder, T.; Ragauskas, A.J., 231st ACS National Meeting, Atlanta, GA (2006).
125. Green Chemistry One-pot Synthesis of 1,4-naphthoquinones and Related Structures. Witayakran, S.; Ragauskas, A.J., 231st ACS National Meeting, Atlanta, GA (2006).
126. An Innovative Green Chemistry Methodology for Selective Aerobic Oxidation of Primary Alcohols. Jiang, N.; Ragauskas, A.J., 231st ACS National Meeting, Atlanta, GA (2006).
127. Fundamentals of Fiber Modification Chemistry. Ragauskas, A.J. Pu, Y., Allison, L., Pacificchem., HI (2005).
128. A Nano Perspective of Cellulose. Ragauskas, A.J., The Second Workshop on Regenerated Cellulose and Cellulose Derivatives, Karlstad University, Sweden (2005).
129. New Value Streams from Residuals and Spent Liquor. Ragauskas, A.J., Fall TAPPI Technical Conference, Atlanta, GA (2004).
130. Ratiocination for Laccase Biobleaching of Recycled Paper. Knutson, K.; Ragauskas, A.J., 227th ACS National Meeting, Anaheim, CA (2004).
131. Industrial Biotech Applications in the Pulp and Paper Industry. Ragauskas, A.J., World Congress on Industrial Biotechnology and Bioprocessing Orlando, FL (2004).
132. DBD A Palmary Approach to Fiber Modification. Vander Wielen, L.; Ragauskas, A.J., AIChE Annual Meeting, San Francisco, CA (2003).
133. Enzymatic Biobleaching of Recalcitrant Paper Dyes. Knutson, K.; Ragauskas, A.J., SERMACS, Atlanta, GA (2003).
134. Nanotechnology – Changing the Challenge in Pulp and Paper Research, presented at Nano All Around Us Conference, Ragauskas, A.J., The University of Wisconsin's Inaugural Technical Conference and Public Expo on Nanotechnology (2003).
135. Dielectric Discharge Initiated Grafting onto Cellulosic Fibers. Vander Wielen, L.; Ragauskas, A.J., Gordon Conference, Italy (2003).
136. Redefining the Pulp and Paper Industry with New Chemo-Enzymatic Technologies. Ragauskas, A.J., Gordon Polysaccharide Conference, Italy (2003).
137. Laccase: An Ancilla to Kraft Pulping. Dyer, T.; Kim, D.; Ragauskas, A.J., 225th ACS National Meeting, New Orleans, LA (2002).
138. Invigorating High Kappa Kraft Pulps with Laccase. Chandra, R.P; Ragauskas, A.J., 225th ACS National Meeting, New Orleans, LA (2002).
139. Parlaying Dielectric Breakdown Discharge for Fiber Modification. Vander Wielen, L.C., Ragauskas, A.J., 225th ACS National Meeting, New Orleans, LA (2002).
140. Modifying the Color of Recycled Paper with Laccase. Knutson, K.; Ragauskas, A.J., 224th ACS National Meeting, Boston, MA (2002).
141. Enhanced Environmentally Compatible Pulp Bleaching Chemistry. Yang, R.; Lucia, L.; Ragauskas, A.J.; Jameel, H., Intern. Conf. Organic Synth., Baltic Organicum Syntheticum, Vilnius, Lithuania (2002).
142. Applications of Lignin NMR Techniques for Wood Resins. Dyer, T.; Ragauskas, A.J.; Nilvebrant, N.-O., 223rd ACS National Meeting, Orlando, FL (2002).

143. Fiber Modification with Laccase: You Say You Want a Revolution? Chandra, R.P.; Wolfaardt, F.; Ragauskas, A.J., 223rd ACS National Meeting, Orlando, FL (2002).
144. Fundamental Delignification Chemistry of Laccase-Mediator Systems on High-Lignin Content Kraft Pulps-A Synopsis of Contributions. Chakar, F.S.; Ragauskas, A.J., 125th ACS National Meeting, San Diego, CA (2001).
145. Defining the Photostabilization Success Properties of Acetylated Lignin. Ragauskas, A.J.; Pu, Y.; Lucia, L., 125th ACS National Meeting, San Diego, CA (2001).
146. Laccase-Lignin Oxidative Chemistry. Ragauskas, A.J.; Allison, L.; Chakar, F.S., International Chemical Congress of Pacific Basin Societies, Honolulu, HI (2000).
147. Parsing Laccase's Effect on Modifying Lignin. Chandra, R.; Ragauskas, A.J., International Chemical Congress of Pacific Basin Societies, Honolulu, HI (2000).
148. Structural Enhancement of Laccase-Lignin Reactions. Chakar, F.S., Ragauskas, A.J., 219th ACS National Meeting, San Francisco, CA (2000).
149. Provenience of Lignin Reactivity in Extended Oxygen Delignification, Lucia, L.; Ragauskas, A.J.; Yang, R., International Chemical Congress of Pacific Basin Societies, HI (2000).
150. Breaking the Oxygen Delignification Barrier: Lignin Reactivity and Inactivity. Lucia, L.A.; Boasman, A.; Ragauskas, A.J., 219th ACS National Meeting, CA (2000).
151. Insight into Laccase-Mediator Delignification of Softwood Kraft Pulps. Chakar, F.S.; Ragauskas, A.J., 1999 217th ACS National Meeting, Anaheim, CA (1999).
152. New NMR Applications for Old Spectroscopic Techniques: Detection of Lignin-Quinone Structures by ³¹P-NMR. Zawadzki, M.; Ragauskas, A.J., 217th ACS National Meeting, Anaheim, CA (1999).
153. Fundamental chemistry involved in chromophore removal of chemical pulps. Zawadzki, M.; Runge, T.; Ragauskas, A., 215th ACS National Meeting, Dallas (1998).
154. Analysis of residual lignin structure from modern pulping technologies. Froass, P.M.; Jiang, J.E.; Ragauskas, A.J., 211th ACS National Meeting, New Orleans, LA (1996).
155. Mercapto photostabilization mechanisms for mechanical pulp. Ragauskas, A.J.; Cook, C.M., 211th ACS National Meeting, New Orleans, LA (1996).

PROFESSIONAL SERVICES

UTK

- Associate Vice Chancellor for Research Search Committee Member (2016)
- Director, Research Development Team, Search Committee Member (2016)
- ChBE Tenure Committee (2014 – Present)
- Presentation to UTK ChBE Assistant Professors, External Funding (2016)
- PhD Proposal and Defense Committees (2014 – Present)
- UTK-ORNL JDRD proposal review (2018)
- Haslam Scholars Program Lecture: Biofuels/Biorefining (February 2018)
- UTK Chem Eng., Head of Promotion/Tenure Committee (2018 - Present)
- UTK Strategic Visioning Committee and Strategic Visioning Executive Committee (2020)
- ChBE Chair Exploratory Search (2021)
- ChBE Assistant Professors Search (2021)
 - STRIDE for Faculty Workshop, October 12
- Chemical and Biomolecular Engineering Committee Assessment (2021)
 - K. Glynn, J. Brown

- PPR Committee (2022)
- ChBE Assistant Professor Search Committee (2021)
- Virtual SPARKS: The ‘Space’ Between Aerospace and Biomedical Engineering (2022)
- Volkswagen Innovation Meeting @UTK (2022)
- ChBE Chair Search Committee (2022)
- ChBE Assistance Professor Search Committee (2022)
- UT IAMM Biomaterials Workshop (2022)
- ChBE Space Committee (2022)
- ChBE Head Search Committee (2023)
- ChBE Assistant Professor Search Committee (2023)

ORNL

- Strategic Planning Workshop (2023)
- BSD extended leadership team
- Sequence to Ecosystem Implications: Potential new user facility (2019)
- CBI Research Committee (2019 – present)
- Biomaterials Facilities Initiative (2018)
- Soft Matter Initiative (2017)
- BSD Research & Management Team (2014 - Present)

GA Tech

- Ph.D. Proposal Committee, PhD Defense Committee
- Chemistry and Biochemistry Safety Committee
- Chemistry and Biochemistry Development Committee
- GA Tech GRA Eminent Scholar in Energy Sustainability Search Committee
- GA Tech-Imperial-ORNL Committee for Development of Collaboration Research/Educational Programs in Biopower/BioFuels/Biomaterials
- Defining and Supporting Interdisciplinary: External Research Collaborations Committees

Institute of Paper Science and Technology

- Paper Science Engineering Graduate Committee
- PhD Proposal Committee, PhD Defense Committee
- Gunnar and Lillian Nicholson Graduate Fellowship/Faculty Program
- Sloan/CPBIS Study Group
- SAC Institutional Effectiveness Subcommittee
- SAC Reaccreditation Committee
- Graduate and Faculty Recruiting Committees
- Safety Committee

External Tenure Promotion Review (2000 – Present)

- Old Dominion University (2), Norfolk, VA. Chemical Biomolecular Engineering, University Tennessee, Penn State, University of Toronto, Auburn University, Queen’s University
- Department of Civil & Environmental Engineering, Old Dominion University, Norfolk, VA (2015)

- Chemical Biomolecular Engineering, University Tennessee (2015)
- External Evaluation Agricultural and Biological Engineering Promotion to Professor (2015)
- Department of Chemical Engineering & Applied Chemistry, University of Toronto (2016)
- Sustainable Chemical Technology, Imperial College (2018)
- Department of Biosystems Engineering, Auburn University, AL (2018)
- Civil and Environmental Engineering, Old Dominion University, Norfolk, VA (2018)
- Department of Plant and Soil Science, Texas Tech University (2018)
- Russell School of Chemical Engineering, University of Tulsa (2019)
- Mechanical Engineering, King Fahd University of Petroleum and Minerals, (2019)
- University of California, Riverside, The Center for Environmental Research and Technology (2019)
- Department of Forest Biomaterials, North Carolina State University (2020)
- Department of Biological Systems Engineering, College of Agricultural, Human, and Natural Resource Sciences, Washington State University (2020)
- RBI, Georgia Institute of Technology (2020)
- Department of Chemical and Environmental Engineering, University of Cincinnati (2020)
- Institute of Chemical Sciences and Engineering, Ecole Polytechnique Federale de Lausanne, Switzerland (2020)
- Department of Forestry and Department of Chemical Engineering & Material Science, Michigan State University (2021)
- Nominate Professor for a Canada Research Chair (CRC) Tier 1 at the University of Alberta (2022)
- University of KwaZulu-Natal (Howard College Campus), Chemical Engineering, Associate Professor promotion (2022)
- Department of Chemistry at State University of New York, College of Environmental Science & Forestry, Associate Professor promotion (2023)
- Promotion Committee Plant and Microbial Biology, NC State University (2023)
- KFUPM Faculty Promotion, Associate Professor in the Department of Department of Chemical Engineering (2023)
- Department of Mechanical Engineering, Iowa State University, Associate Professor promotion (2023)
- University of KwaZulu-Natal (Howard College Campus), Chemical Engineering, Professor promotion (2023)

Outside Professional Service

- ACS Spring National Meeting, Division of Energy and Fuels. Oral & Poster Sessions (2024).
- 2023 AIChE Annual Meeting, November 2023, Orlando, Co-chair Efficient Processing of Lignin to Bioproducts and Biofuels Session
- ACS Spring National Meeting, Division of Energy and Fuels. Advances in Lignin-derived Fuels and Chemicals, Oral & Poster Sessions (2023).
- 2022 AIChE Annual Meeting, November 2021, Phoenix, Co-chair Efficient Processing of Lignin to Bioproducts and Biofuels Session

- ACS Fall National Meeting, Symposium CELL 002 "From Biopolymers to Commercial Products: Materials Upgrading of Lignocellulose" (2022)
- 2021 AIChE Annual Meeting, November 2021, Boston
- ACS Meetings & Expositions - American Chemical Society (April 2021), Session Chair
 - Lignocellulosic Biorefining: From In-Silico to Products
 - Recent Advancements in Lignin Valorization Strategies for Fuels and Chemicals
- Efficient Processing of Lignin to Bioproducts and Biofuels. Bin Yang, Washington State University, Arthur J. Ragauskas, The University of Tennessee-Knoxville and Joshua Yuan, Texas A&M University, 2020 Annual AIChE Student Conference. November 13-16, 2020.
- Co-Session Chair, Efficient Biological Processing of Lignin to Bioproducts and Biofuels, AIChE, Orlando, FL (November 2019)
- Scientific Committee, Fibres Energivie and IAR Bio-Economy Clusters fifth Edition of Woodchem Conference in Nancy, France (November 2019).
- Co-Session Chair, Everything Lignin, Symposium on Biotechnology for Fuels and Chemicals. Seattle, WA (April 2019).
- Co-Session Chair, Efficient Processing of Lignin to Bioproducts and Biofuels I and II, AIChE, Pittsburg (October 2018)
- Organizing Committee. 11th World Bioenergy Congress and Expo. Golden Tulip Berlin – Hotel Hamburg, Berlin, Germany (July 2018).
- ECO-BIO Challenges in Building a Sustainable Biobased Economy. Dublin. Session Chair (March 2018)
- AIChE Annual Meeting, Session co-Chair (October 2017)
- Scientific Advisory Committee, International Conference on Biomass Conversion and Renewable Materials, NY (August 2017)
- Organizing Committee, 5th International Conference on Green Chemistry and Technology, Rome, Italy (July 2017)
- Scientific Committee, International Conference on Biomass Conversion and Renewable Materials Conference hosted by the State University of New York – College of Environmental Science and Forestry (August 2017)
- Advanced Products from Lignin and Nano-fibrillated Cellulose. The International Chemical Congress of Pacific Basin Societies (December 2015).
- Organizing Committee, University of Georgia and Georgia Institute of Technology Biofuels Summit (December 2013)
- Organizing Committee, GTMI workshop of Opportunities for Innovation in Lignocellulosic Materials, IPST@GT, (December 2013)
- Scientific Committee of the International Symposium on Lignocellulosic Materials, held in the context of the 13th International Congress on Science and Technology of Metallurgy and Materials, in Puerto Iguazu, Argentina (2013)
- Convener, 35th Symposium on Biotechnology for Fuels and Chemicals, Portland, OR (April 29-May 2, 2013)
- ACS Session, Chair. American Chemical Society, Division of Cellulose and Renewable Materials, Improving Efficiency at Biorefineries, San Diego (2012).
- Organizing Committee, TAPPI International Conference on Nanotechnology for Renewable Materials, Washington (2011).
- ACS Session, co-Session Chair: Nanolignocellulosics, Honolulu, HI (2009).

- Participant for AFPA Forest Products Industry Technology Roadmap Workshop, held at IPST@GT (2009).
- Organizing Committee, International Conference on Nanotechnology for the Forest Products Industry, Edmonton, Alberta (2009).
- International Pulp Bleaching Conference, Program Committee, Quebec, Canada (2008).
- ACS Session Presiding Chair, 2008 Engineering the Transition to the Bioeconomy, 235th ACS National Meeting, New Orleans, LA (2008).
- Organizing Committee, International Conference on Nanotechnology for the Forest Products Industry, St. Louis, MO (2008).
- Fourth Meeting of the U.S. and Sweden Science and Technology Committees, Invited by State Department, and presented a seminar titled “Forest Biorefinery A Contribution to the One Big Thing Fulbright Chair in Alternative Energy” (2008).
- USA Embassy One Big Thing review and presented a seminar titled “Forest Biorefinery a Contribution to the One Big Thing Fulbright Chair in Alternative Energy” (2008).
- Fulbright Grantee Day (2008).
- Bioenergy Meeting at American Embassy, involving senior forestry professionals and officials from Minnesota as part of their Nordic tour organized by the Blandin Foundation, Ragauskas reviewed research in US/Swedish biofuel technologies (2008).
- Assistant Sec, DOE David Rodger visit to US Embassy, Stockholm for a review of Swedish companies contributing to One Big Thing (2008).
- International Pulp Bleaching Conference, Program Committee, Quebec, Canada (2008).
- ACS Session Presiding Chair, 2008 Engineering the Transition to the Bioeconomy, 235th ACS National Meeting, New Orleans, LA (2008).
- Organizing Committee, International Conference on Nanotechnology for the Forest Products Industry, St. Louis, MO (2008).
- Organizing Committee, International Conference on Nanotechnology for the Forest Products Industry Knoxville, TN (2007).
- Organizing Committee/Session Chair TAPPI International Conference on Renewable Energy, Atlanta, GA (2007).
- Session Chair Pira International Fiber Engineering for Papermakers Conference, Stockholm, Sweden (2007).
- NSF Chemistry Workshop on Sustainability (2006).
- Session Co-Chair 28th Symposium on Biotechnology for Fuels and Chemicals, Nashville, TN (2006).
- ACS Session Co-Chair/Organizer, 2006 Topochemical Modification of Lignocellulosic Fibers, Atlanta, GA (2006).
- Session Chair Pira International Ultra-thin Films and Nanocoatings Conference, Vienna, Austria (2006).
- TAPPI International Conference on Nanotechnology for the Forest Products Industry, Program Committee Member and Session Chair (2006).
- Session Chair 2005 Pacifichem. Agrochemistry: Characterization, Photostabilization and Usage of Lignocellulosic Materials (2005).
- Pira International, Workshop Chair, Future Developments in Starch for Paper Manufacture, Atlanta, GA (2005).
- Program Committee Member 2005 International Pulp Bleaching Conf., Stockholm (2005).

- Program Committee Member for Workshop on Cellulose and Cellulose Derivatives, Karlstad University, Karlstad, Sweden (2005).
- Program Committee Member GT-ORNL-ICL Biofuels – Biomaterials Program Review (December 2004); Workshop (April 2005); Strategic Review (June 2005).
- Program Chair for Workshop on Defining the Opportunities, Challenges, and Research Needs for NanoBiomaterials Derived from Lignocellulosics, Atlanta, GA (September 2005).
- Program Committee Member for Nanotechnology Workshop for the Forest Products Industry, Washington, DC (2004).
- Session Chair 2003 TAPPI Fall Technical Conference: Engineering, Pulping & PCE&I, Chicago, IL (October 2003).
- Poster Session Chair, 2002 International Pulp Bleaching Conference, Portland, OR (2002).
- 11th International Symp. Wood and Pulping Chemistry, Nice, France, Session Chair (2001).
- 10th International Symp. Wood Chemistry and Pulping, Japan, Session Chair (1999).
- 1998 International Symp. Emerging Technologies of Pulping and Papermaking of Fast-Growing Wood, Session Chair, South China University of Technology, P.R. China (1998).
- 1997 TAPPI Biological Sciences Symposium, San Francisco, CA (1997).
- 211th American Chemical Society National Meeting, New Orleans, Cellulose, Paper, and Textile Division, Session Chair (1996).

EDITORIAL ADVISORY BOARD SERVICE

- Global Journal of Organic Chemistry (2010 – Present)
- Journal of Petroleum & Environmental Biotechnology (2010 – Present)
- The Open Biotechnology Journal (2009 – Present)
- Journal of Biobased Materials and Bioenergy (2009 – Present)
- Journal of Petroleum Technology and Alternative Fuels (2010 – Present)
- Journal Wood Chemistry and Technology (2000 – Present)
- Journal of Pulp and Paper Science (2000-2008)
- Holzforschung (2003 – Present)
- Biofuels (2009 – Present)
- Biofuels, Bioproducts, and Biorefining (2007 – Present)
- Industrial Biotechnology (2007 – Present)
- BioEnergy Research (2007 – Present)
- Sustainability (2009 – Present)
- Journal of Chemical Technology and Biotechnology (2009 – 2019)
- TAPPI Journal (2010 – Present)
- Frontiers in Cellulose Biotechnology/Frontiers in Biotechnology (2011 – Present)
- Current Biotechnology (2011 – Present)
- Energies (2011 – Present)
- RN Chemical Engineering (2011 – Present)
- Organic Chemistry: Current Research (2011 – Present)
- ChemSusChem (2011 – 2023)
- Open Journal of Organic Polymer Materials (2012 – Present)
- Physiobiochemical Metabolism (2012 – Present)
- Modern Research in Catalyst (2012 – Present)

- Technologies (2012 – Present)
- International Journal of Bioorganic Chemistry & Molecular Biology (2012 – Present)
- Emirates Journal of Food and Agriculture (2012 – Present)
- Energy Conversion and Management (2013 – Present)
- GSTF Journal of Chemical Science (JChem; 2013 – Present)
- Academic and Scientific Publishing (2013 – Present)
- Microscopy Research (2013 – Present)
- Journal of Materials Science and Engineering with Advanced Technology (2013 – Present)
- Journal of Sci Med Chemistry (2013 – Present)
- Frontiers in Energy (2013 – Present)
- Review Editorial Board of Frontiers in Bioenergy and Biofuel (2013 – Present)
- Innovative Energy Policies (2013 – Present)
- International Journal of Renewable Energy Research and Development (2013 – Present)
- Journal of Current Reports on Energy (2014 – Present)
- International Editorial Board Member of Journal of The Korean Wood Science and Technology (2014 – Present)
- Journal of Chemical Engineering Research Studies (2014 – Present)
- Journal of Environmental Sciences (2014 – Present)
- International Journal of Polymer Science (2014 – Present)
- SOJ Biotechnology (2014 – Present)
- EC Chemistry Journal (2014 – Present)
- Aperito Journal of Advanced Plant Biology (2014 – Present)
- Food Science and Nutrition (2014 – Present)
- Annals of Chromatography and Separation Techniques (2015 – Present)
- Journal of Oil and Gas Research (2015 – Present)
- Journal of Modern Engineering (2015 – Present)
- AIMS Bioengineering (2016 – Present)
- Bioethanol Journal (2016 – Present)
- Mini-Reviews in Organic Chemistry (2016 – Present)
- BioAccent BAOJ Chemistry (2016 – Present)
- Energy (2016 – Present)
- The Scientific Pages of Crop Science (2016 – Present)
- Innovative Techniques in Agriculture (2016 – Present)
- Green Energy & Environment (2016 – Present)
- SciFed Journal of Chemical Research (2016 – Present)
- The Open Biotechnology Journal (2016 – Present)
- Advances in Biochemistry and Biotechnology (2016 – Present)
- Special issue of Frontiers in Energy Research, section Bioenergy and Biofuels titled Advancements in Biomass Recalcitrance: The Use of Lignin for the Production of Fuels and Chemicals (2018)
- Fuel Processing Technology (2022 - present)
- Biotechnology for Biofuels and Bioproducts (2023-)
- Exploration of BioMat-X Associate Editor (2023 -)
- Sustainable Energy And Environment Review (2023 -)

Scientific Advisory Board/Committee

- NSERC Bioconversion Network, Canada
- National Commission on Energy Policy
- National Academy of Science, Committee Member Technologies to Deter Currency Counterfeiting
- Scientific Advisory Committee, Arauco Company, Chile
- UCLA DOE External Advisory Committee member
- Aalto University Advisory Board, Finland
- BioFuelNet Canada's Independent Scientific Advisory/Management Board, Canada
- Latvian State Institute of Wood Chemistry International Advisory Board (2020-)
- EU Academy of Sciences (EUAS) (2020 -)
- Energy & Biosciences Institute (EBI) Review Committee (2021)
- Academy of Finland, Evaluation Committee of the New Energy Programme (2021)
- Department of Bioproducts and Biosystems, School of Chemical Engineering, Aalto University (2023)

NATIONAL/INTERNATIONAL FUNDING REVIEW PANELS AND COMMITTEES

- Natural Sciences and Engineering Research Council of Canada
- GA One Stop Shop
- Canadian Foundation for Innovation
- Consortium for Plant Biotechnology Research Incorporated
- United States Department of Agriculture
- National Research Initiative Competitive Grants Program (NRI)
- Small Business Grants
- National Science Foundation
- Department of Energy
- ACS - Petroleum Research Fund
- ARPA-E
- Louisiana Board of Regents Support Fund
- Kansas Bioscience Eminent Scholars Program Review
- Austrian Science Fund
- European Commission Research Directorate-General Invitation to the evaluation of proposals for the "Quality of Life and Management of Living Resources" RTD program (2001).
- J. Paul Getty Museum/Foundation to review research needs for photostabilization technologies/protocols for the Great Masters museum holdings (2002)
- National Renewable Energy Laboratory, Golden, CO, Stage-Gate Program review of Cellulose/Hemicellulose Biorefiner Research Programs
- U.S. Civilian Research and Development Foundation
- Evaluation of biotechnology and chemistry study programmes in Lithuania, Centre for Quality Assessment in Higher Education Lithuania (2015, 2014, 2013)
- National Nanotechnology Committee for Forest Products Industry
- National Research Foundation, South Africa

- Swedish The Knowledge Foundation: The KK-foundation
- Swedish Foundation for Strategic Research - Strategic Research Centres
- VINN Excellence Center/Swedish Agency for Innovation Systems
- Finnish Academy of Science
- VTT Technical Research Centre of Finland, Clean World Program
- Netherlands Organization for Scientific Research
- Norway Research Council
- The Technology Foundation STW
- ERA Chemistry
- Israel Science Foundation's FIRST: Focal Initiatives in Research in Science and Technology
- BARD: The United States - Israel Binational Agricultural Research and Development Fund
- Swiss National Science Foundation (2019)
- Singapore Agency for Science, Technology and Research
- UBC Center Review Committee for Pulp and Paper Center, Canada
- Agence Nationale de la Recherche, France
- Danish National Advanced Technology Foundation
- Danish Council for Strategic Research
- Netherlands Organisation for Scientific Research (NWO, 2021)
- National Research Foundation, South Africa
- Romanian National Council for Scientific Research
- King Fahd University of Petroleum & Minerals, Saudi Arabia
- TEKES Strategic Centres for Science, Technology, and Innovation (*SHOK*) Program, Forest Cluster, Finland
- OTKA - Hungarian Scientific Research Fund
- Chair of CONICYT and Academy of Finland Sustainable Energy Review, Santiago, Chile
- FONDECYT - CHILE (2015, 2017, 2019, 2023)
- European Research Council Executive Agency (2015)
- Academy of Finland/Biomass Conversion (2015)
- European Commission (2015)
- María de Maeztu Units of Excellence Programme, by the Spanish Government to promote and support outstanding research units (2015)
- Agenda 2020 pulping and nanocellulose subcommittee (2014-15)
- Czech Science Foundation (2016, 2020)
- SBIR National Program Review Panel Leader (2016)
- Iowa Energy Center (2016)
- Austrian Science Fund (2017)
- Spanish State Research Agency (2017)
- Agence nationale de la Recherche (2017)
- Program of the Israel Science Foundation (2017)
- Industrial Biotechnology Group, International Centre for Genetic Engineering and Biotechnology (2017)
- Canada Excellence Research Chairs (CERC) Competition (2017, 2019)
- Laboratory of Excellence ARBRE (2017)
- The Royal Society, Dorothy Hodgkin Fellowships (2018)

- Innovation Fund Denmark (2018)
- Eurostar (2018)
- Biotechnology and Biological Sciences Research Council (2018)
- NSERC Reminder: Discovery Grant Review (2019)
- Future Leaders Fellowships, UK Research and Innovation (2019)
- Dutch Research Council (2019)
- Start: Science Alliance Office of Research & Engagement, UTK (2019)
- Royal Swedish Academy of Agriculture and Forestry (KSLA) in Stockholm, “Tandem Forest Values” (2019)
- UAEU Research Grants Management System (2020, 2021, 2022, 2023)
- The European Science Foundation (2020)
- Israel Ministry of Science and Technology (2020)
- Large-scale Research Programmes « Grands programmes de Recherche (GPR) » 2020 Evaluation Report
- The KU Leuven (University of Leuven, Belgium) Impulse Fund projects (2020, 2021)
- Agence Nationale de la Recherche (2021)
- DOE SBIR/STTR Phase II (2021)
- UKRI Biotechnology and Biological Sciences Research Council (BBSRC, 2021)
- SNS Nordic Forest Research (2021)
- National Research Foundation-Prime Minister’s Office Singapore (2021)
- Eurostars 3 – Call 1 (2021)
- Eureka Programme (2021, 2022)
- Mitacs Accelerate Quebec, Canada (2022, 2023)
- Wallenberg Foundation WiSE 2 (2022)
- RMC Aiken Award TAPPI committee (2023)
- Fulbright U.S. Scholar Peer Review (2022, 2023)

MEMBERSHIP IN PROFESSIONAL AND HONOR SOCIETIES

- Royal Society of Chemistry
- Society for Industrial Microbiology and Biotechnology (SIMB)
- American Society for Engineering Education
- American Institute of Chemical Engineers
- Society of Chemical Industry
- ASEE - American Society for Engineering Education (2014 -)
- American Institute of Chemical Engineers (2017-)
- Forest Bioproducts Division (2019 -)
- American Nano Society (2011 -)
- Invited International Academy of Wood Science (2003 -)
- National Academy of Science, Committee Member for Technologies to Deter Currency Counterfeiting (2005-2006)
- American Association of the Advancement of Science (2005 -)
- The Society of Chemical Industry (2011 -)
- American Chemical Society (1985-)

- Cellulose, Paper and Textile Division (1991 -)
 - -Assistant Program Chair (1996-1998)
 - -Student Activities Chair (1996-1998)
- TAPPI – Technical Association of Pulp and Paper Industry (1993 -)
- PAPTAC - Pulp and Paper Association of Canada (2000-2003).

DIVISION COMMITTEES

Pulp Manufacture Division

	<u>Effective Date</u>	<u>Thru Date</u>
Alkaline Pulping and Bleaching Committee	9/2/1997	
Alkaline Pulping Committee	9/2/1997	5/14/2007
Color Stabilization Subcommittee	5/4/1998	5/14/2007
Pulp Bleaching Committee	9/2/1997	5/14/2007
Wood Chemistry and Biotechnology	5/26/1995	8/2/2009

Independent Technical Committee

Biochemical/Yeast & Microorganisms	10/29/2009
Biorefinery Committee	1/2/2009
International Research Management Committee	9/8/2009
Paper Physics Committee	6/7/2004
Thermochemical/Chemical Catalytic	10/29/2009

Nonwovens Division

Nonwovens Binders and Additives Committee	2/1/2000
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Communities

Nanotechnology Steering Committee	9/1/2004	
Renewable Energy Conference Committee	2/6/2007	1/7/2009

Board Committees

TAPPI Journal Editorial Board	4/21/2010
TAPPI Past & Current FELLOWS	3/1/2004

ACADEMIC ACCOMPLISHMENTS

Ragauskas Pedagogical Prizes Awarded

- GT Thank a Teacher Certificate (2011)
- 1999 IPST President's Award for Education
- 1999 Teacher of the Year, selected by IPST graduate students

Student Awards Achieved under Ragauskas' Supervision

- James E. Sealey II Best IPST Ph.D. Student – 1997
- Troy M. Runge Best IPST Ph.D. Student – 1998
- Fadi S. Chakar Best IPST Ph.D. Student – 1999
- Fadi S. Chakar Best Poster at Int. Pulp Bleaching Conference – 2000
- Fadi S. Chakar ACS Graduate Student Award – 2000
- Richard Chandra ACS Graduate Student Award – 2003
- Lorraine Vander Wielen Best IPST Ph.D. Student – 2004
- Qining Sun GT Research and Innovation Conference, IPC Foundation

- Chang Geun Yⁱoo Innovation Award – 2013
ORNL Individual award in Postdoctoral Researcher category, UT- Battelle Awards Program – 2017
- Mi Li ORNL Post-Doctoral Researcher Award – 2017
- Najjia Hao UTK Student/faculty research award (2017)
Invited talks at the meeting of American Institute of Chemical Engineers (AIChE) Knoxville-Oak Ridge regions (2015, 2017)
Jim and Sandra McKinley Outstanding Graduate Student Award (2020)

Postdoctoral Research Fellow Awards Achieved under Ragauskas' Supervision

- Dr. S. Bhagia: ORNL Postdoctoral Research Award (2021)
- Dr. M. Li: Research Distinguished Achievement Award, Biosciences Division, ORNL
- Dr. Yoo: ORNL UT-Battelle Awards (2017); Supplementary Performance Award ORNL (2016)

Ragauskas Development Courses

- 2000 Georgia Institute of Technology, DuPree College of Management
 - Executive Program for Technical Managers
 - Certificate program designed to develop managers who know how to manage a firm's core technologies and to lead and manage its key technologists.
- 2000 Georgia Institute of Technology, DuPree College of Management
 - Developing an Effective E-Business Strategy
 - Certificate program to gain an in-depth understanding of the emerging field of E-business.
- 2001 Georgia Institute of Technology, DuPree College of Management
 - Project Management
 - Certificate program designed to provide managers with the knowledge base, tools, and skills required to successfully manage projects

TEACHING ACCOMPLISHMENTS

Southeast University, Nanjing, China (September 2017)

Invited short course on biorefining biomass to biofuels.

University of Tennessee, Chemical Biomolecular Engineering

- Renewable Biopolymers 690

Ga Tech undergraduate and graduate courses developed and presented (2002-14):

- Organic Chemistry II/Georgia Institute of Technology Chemistry 2312
- Spectroscopy in Organic Chemistry 6222/5020
- Pulp and Bleaching Chemistry: Georgia Institute of Technology Chemistry 8833A
- Biorenewable Polymers: Georgia Institute of Technology Chemistry 8833A

Guest GA Tech Professor

- The Science of Alternative Energy: GT Chem. 2803

IPST: FY 1989 - 2002

- Introduction to Organic Chemistry/IPST CHEM 5020
- Carbohydrate Chemistry/IPST CHEM 6221
- Lignin Chemistry/IPST CHEM 6220
- Spectroscopy in Organic Chemistry/IPST CHEM 6222
- Advanced Pulping and Bleaching Chemistry/IPST CHEM 6223

Invited Teaching Visit - Chalmers University Of Technology (2001)

Dr. Ragauskas was invited by the Department of Forest Products and Chemical Engineering, Chalmers University of Technology (Goteburg, Sweden), to present a 2-credit graduate course on pulping and bleaching titled: Fiber Line Bleaching, Department of Forest Products and Chemical Engineering.

Course Summary: The course is directed at reviewing recent developments in advanced pulp bleaching. Students are introduced to advanced concepts in lignin/carbohydrate structure and pulp bleachability. State-of-the-art pulp bleaching equipment, chemistry, and environmental issues are explored.

Course Objectives:

1. To provide a review of how lignin/carbohydrate structure influences pulp bleachability.
2. To establish the relationship between basic pulp bleaching chemistry and modern bleach plant operations.

FULBRIGHT TEACHING ACCOMPLISHMENTS (2008-09)

During my Fulbright tenure at the Chemical and Biological Engineering Department, Chalmers University of Technology, I participated in several classes on alternative energy and forest biorefinery, including:

- KBT145: Biorefinery
- KBT130: Cellulose Technology
- In addition, I presented teaching material to students at Forest Products Industry Research College (FPIRC).
- Forest Biorefineries Bridge to Future: FPRIC Sweden (August 2008).
- US Perspective on Biorefinery, Royal Institute of Technology, Stockholm (January 2009)

GUEST CLASS SEMINARS

- The BioRefinery: The Next Green Revolution in Science, Engineering and Innovation, Berzeliusdagarna, (Top Swedish High School Science Students) University of Stockholm (January 2008)
- Biomass-Biofuels-Biomaterials, Mill Creek High School in Hoschton, GA on May 18, 2007, (Note: 1-day presentations to grade 10 students on the fundamentals of biomass, biofuels, and conversion chemistry-biochemistry)
- Future of Integrated Biofineries, GA Tech Honors Energy Class (September 2006).
- GA Tech- Chem. 2803 HP1 - The Science of Alternative Energy (2010)
- Course Description: This course will give a general overview of the most popular alternative energy sources which are currently being used or developed to help relieve the world's dependence on fossil fuels. The basic scientific principles governing the current and future approaches in solar photo-voltaic, fuel cells, biomass conversion, nuclear energy, and wind

power will be presented. Though the course will focus on the basic principles and fundamental science underpinning the current advancements in energy technologies, there will also be an emphasis on understanding the efficiency and general sustainability issues associated with the most popular alternate energy options.

GRADUATE AND UNDERGRADUATE STUDENTS SUPERVISED

Undergraduate Students

- A.J. Cesternino GA State, Chemistry Department (1992)
- J. Szwec GA State, Chemistry Department (1993)
- C. Qui Clark Atlanta University, Chemistry Department (1994)
- D. Johnson Clark Atlanta University, Chemistry Department (1996)
- V. Goel Emory University, Chemistry Department (2000)
- S. Anderson Clark Atlanta University, Chemistry Department (2001)
- S. Krizan Chemical Engineering, McMaster University (2002)
- G. K. Feld School of Chemistry and Biochemistry, GA Tech (2005-06)
- J. Slady School of Chemistry and Biochemistry, GA Tech (2005-06)
- N. Cheluka Department Paper Technology, Indian Institute of Technology, (2006)
- A. Zettili Chemistry Department, Jacksonville State University, AL (2006)
- S. Anderson CHBE/UTK (2016/2017)
- R. Ledbetter CHBE/UTK (2015/2016)
- W. Dyer CHBE/UTK (2021)
- Ariole Bullock CHBE/UTK (2023)

GRADUATE COMMITTEES - GEORGIA TECH:

GT PhD Proposal Committee

- Susnata Samanta, School of Chemistry and Biochemistry (2004)
- Huina Guo, School of Polymer, Textile and Fiber Engineering (2004)
- Kimberly L. Nelson, School of Chemical and Biomolecular Engineering (2006)
- Bradley E. Carson, School of Chemistry and Biochemistry (2006)
- Kane Barker, School of Chemistry and Biochemistry (2006)
- Wei Mu, School of Chemical Biomolecular Engineering (2011)

GT PhD Committee

- Courtney Sorrell, School of Chemistry and Biochemistry (2005)
- Se-Young Yoon, School of Chemical Biomolecular Engineering (2005)
- Ayanna M. Bernard, School of Chemical Biomolecular Engineering (2005)
- Jenny Raynor, School of Chemistry and Biochemistry (2006)
- Mariefel Olarte, School of Chemical Biomolecular Engineering (2011)
- Pranav Kalelkar, School of Chemistry and Biochemistry (2013)
- Laura Mast Stoy, School of Civil and Environmental Engineering (2021)

GT PhD Defense Committee

- Se-Young Yoon, School of Chemical Biomolecular Engineering (2007)
- Susnata Samanta, School of Chemistry and Biochemistry (2007)
- Patrick E. Hazlewood, School of Materials Science and Engineering (2006)

- Mariefel B. Valenzuela, School of Chemical Biomolecular Engineering (2005)
- Jihoon Lee, School of Chemical Biomolecular Engineering (2010)
- Laura Mast Stoy, School of Civil and Environmental Engineering (2021)

UTK PhD Committee

- Max Mortensen, CBE (2023)
- Di Xie, Center for Renewable Carbon (2023)
- Lee Shippy, CBE (2023)
- Stephanie Spittle, Chemical and Biomolecular Engineering (2022)
- Riddhi Shalibhad Shah. Bredesen Center for Interdisciplinary Research (2019)
- Luke Servedio. Chemical Biomolecular Engineering (2017)
- Yang He. Chemical Biomolecular Engineering (2017)

M.S. Graduate Supervising Activities

Student and Research Topic/Report	Graduation Date	Post-Graduate Position
• Peter M. Froass	1993	IPST Ph.D.
• Brian Boyer	1993	Patent Lawyer
• Eric J. Draheim	1994	Kimberly-Clark Corporation
• Fadi Chakar	1995	Appleton Papers Inc.
• Coray Harper	1995	GE Company
• Thomas Bales	1996	Booz Allen and Hamilton
• John Werner	1999	Kimberly-Clark Corporation
• Andrew Kulchin	2000	Samoa Pacific Cellulose
• Daniel Johnston	2001	UPM
• Jason Montegna	2002	IPST graduate
• Kendric Nelson	2002	IPST graduate
• W. Widiatmoko	2006	April, Indonesia
• S. Anderson	2008	-

GA Tech Co-Supervisor Research Accomplished in Ragauskas Laboratory

- | | | |
|---|-----------|------------------------|
| • Asmeron Hagos – Visiting student | 1998 | GA Tech Ph.D. graduate |
| • Magnus Melander – Visiting;Licentiate Student | 1998-1999 | Stora-Enso |

Ph.D. Students Supervised	Graduation Date	Post-Graduate Employment
• Peter M. Froass	1997	International Paper
• David Barzyk	1997	Georgia Pacific Company
• Jim Sealey	1998	First Quality
• Troy Runge	1998	University of Wisconsin
• Kaaren Haynes	1999	Hollingsworth & Vose, Co.
• Michael Zawadzki	1999	Lorillard Tobacco Co.
• Fadi S. Chakar	2000	Appleton Ideas Company
• Richard Chandra	2003	University of British Columb
• Lorraine C. Vander Wielen	2004	Appleton Ideas Company

• Thomas Dyer	2004	Kimberly Clark Corporation
• Kristina Knutson	2004	GA Tech Post-Doctoral Fellow
• Bassem Hallac	2011	HCI Cleantech
• Mate Nagy	2009	Hollingsworth & Vose, Co.
• Suteera Witayakran	2008	Kasetsart University
• Dongcheng Zhang	2006	Agrivida
• Rob Lowe	2007	Nalco Company
• Cameron Thomson	2007	MeadWestvaco
• Zheng Dang	2007	American Process
• Zhoujian Hu	2012	Postdoc Fellow NCSU
• Yang Li	2012	University of Texas
• Kósa Mátyás	2012	Renmatix
• Dash Rajalaxmi	2012	KCC
• Lee Goetz	2012	Contact Technologies, Inc.
• Seokwon Jung	2012	Samsung, S. Korea
• Amit Saxena	2013	Post-Doctoral Fellow, India
• Ben Haoxi	2013	Post-Doctoral Fellow, NREL
• Fan Hu	2014	Research Chemist, Revlon
• Qining Sun	2014	Georgia Pacific
• Xianzhi, Meng	2015	Post-Doctoral Fellow, UTK
• Tyrone Wells	2014	Bechtel
• Mark Cannetli	2017	Renmatix
• Allison Tolbert	2017	Wofford College
• Hannah Akinosho	2017	Johnson- Johnson

UTK Graduate Supervising Activities

Student	Graduation Date	Post-Graduate Position
• Tais Lacerda Bezerra: MS, CHBE/UTK	2016	University of Alabama
• Naijia Hao CHBE/UTK	2019	LANL
• Liang Luna CHBE/UTK	2021	CRC, UTIA
• Shuyang Zhang CHBE/UTK	2023	UTK
• Stephanie Spittle CHBE/UTK	2023	Evolve Renewable Materials Inc.
• Nathan Bryant CHBE/UTK	2023	NIST
• John Austin Conte CHBE/UTK	2024	
• Rohit Kousika CHBE/UTK	2026	
• Peter Kibebe Karoki CHBE/UTK	2026	
• Zhaohong Xiu CHBE/UTK	2026	Left Program
• Christian Kemefa CHBE/UTK	2026	
• Ryan, Davis CHBE/UTK	2026	

Thesis Opponent

- Invited by Prof. S. Jayalalitha, to review Ph. D. thesis of Ms. Bhuvaneshwari, SASTRA Deemed University, Thanjavur-613 401, India (2023)

- Invited by Prof. David Lokhat, Student name Adeolu Abiodun Awoyale, Thesis title “ Bioethanol Production From Excess Food Crops In Nigeria: Process Design, Optimization, and Techno-Economic Analysis.” School of Chemical Engineering University of KwaZulu-Natal (2021)
- Invited by Prof. Dr. Magda Ali Akl, Analytical Chemistry, Student name Wael Ibrahim, Thesis title "Studies on Modifications of Some Selected Natural Fibers for the Removal of Some Environmental Pollutants." Chemistry Department, Faculty of Science, Mansoura University, Mansoura, Egypt (2020)
- Invited by Professor M. Monier, Student name: Wael Mohamed Ibrahim Ali, Thesis title: "Studies on Modifications of Some Selected Natural Fibers for the Removal of Some Environmental Pollutants." Chemistry Department, Faculty of Science, Mansoura University, Mansoura, Egypt (2020).
- Invited by Assistant Professor Martin Lawokoi/Royal Institute of Technology, to be an external opponent to the Ph.D. defense of Nicola Giummarella “Fundamental Aspects of Lignin Carbohydrate Complexes (LCC). Mechanisms, Recalcitrance, and Material Concepts” (2018).
- Invited by Professor Hans Theliander/Chalmers University of Technology, to be an external opponent to the Ph.D. defense of Huyen Nguyen Lyckeskog “Hydrothermal Liquefaction of Lignin into Bio-Oil Influence of the Reaction Conditions and Stability of the Bio-Oil Produced” (2016).
- Invited by Professor Tapani Vuorinen/Aalto University, to be an external opponent to the Ph.D. defense of Ville Pihlajaniemi titled “Pretreatment categories, process alternatives and material characteristics in enzymatic hydrolysis of lignocellulose” (2016).
- External Ph.D. thesis reviewer for Amit Kumar" for the award of Ph.D. degree in Department of Paper Technology, Indian Institute of Technology Roorkee, ROORKEE - 247 667, Uttarakhand, India (2015).
- Invited by Professor H. Theliander/Chalmers University of Technology, to be an external opponent to the Ph.D. defense of Kristoffer Lund titled “Pulp fibres in absorption applications Modifications and properties (2013).
- Invited by Professor G. Gunnar Henriksson to be an external opponent to the Ph.D. defense of Dimitri Areskoghs thesis titled “Structural Modifications of Lignosulphonates ” at the Royal Institute of Technology, School of Chemical Science and Engineering, Stockholm, Sweden (2011).
- Invited by Professor J. Saddler, University of British Columbia, Canada to be a member of the external reviewer board for Ph.D. thesis by Seiji Nakagame, titled “The Influence of Lignin on the Enzymatic Hydrolysis of Pretreated Biomass Substrates.” (2010).
- Invited by Professor Eva Malmström, Royal Institute of Technology, Fibre and Polymer Technology, Stockholm, Sweden KTH as member of external reviewer board for Ph.D. thesis by Hanna Lönnberg, titled “Ring-Opening Polymerization from Cellulose for Biocomposites Applications.” (2009).
- Ph.D. opponent for Ali Moosavifar, thesis titled: “Lignin Extraction from Black Liquor: Properties of the Liquors and Sulphur Content in the Lignin”, Chalmers University of Technology, Forest Products and Chemical Engineering Dept Chemical and Biological Engineering (2008).
- Participated in Ph.D. defence of Henrik Wallmo, thesis titled “Lignin Extraction from Black Liquor: Precipitation, Filtration and Washing”; and Ph.D. defence of Johannes Bogren,

thesis titled “Further Insights into Kraft Cooking Kinetics,” Chalmers University of Technology, Forest Products and Chemical Engineering Dept Chemical and Biological Engineering (2008).

- Invited by Professor Kristina Oksman as an opponent for Ph.D. thesis by L. T. Petersson, titled “Biopolymer-Based Nanocomposites – A Comparison between Renewable Cellulose Reinforcements and Layered Silicates” Department of Engineering and Design and Materials, Norwegian University of Science and Technology (2007).
- Invited by Associate Professor J.F. Kadla as an external reviewer for Ph.D. thesis by Yong Sik Kim titled “Study of Polyoxometalate (POM) Reaction Mechanism and Kinetics with Lignin and Model Compounds” Department of Forestry, University of British Columbia (2007).
- Invited by Professor W.F. Boman to be an external opponent to Licentiate defense of Lotta Utterberg, thesis title “Oxidative Degradation of Diastereomers of β -O-4 Lignin Model Compound and Heterologous Expression of Trametes veriscolor Laccase” at Karlstad University, Karlstad, Sweden (2006).
- Invited by Professor G. Gellerstedt to be an external opponent to the Ph.D. defense of Waleed Wafa Al-Dajani, thesis title “Bleachability of Alkaline Pulps” at the Royal Institute of Technology, Department of Pulp and Paper Chemistry and Technology, Stockholm, Sweden (2001).
- Invited by Professor R. Ede to be external opponent to the Ph.D. defense of Nicole More, thesis title “Structural Changes to Pinus Radiata Wood Lignin during Kraft Pulping and Bleaching” at the University of Waikato, Chemistry Department, Hamilton, New Zealand (1999).
- Invited by Professor G. Gellerstedt to be an external opponent to the Ph.D. defense of Eva Johansson, thesis title “The Effect of Oxygen on the Degradation of Lignin Model Compounds and Residual Lignin” at the Royal Institute of Technology, Department of Pulp and Paper Chemistry and Technology, Stockholm, Sweden (1997).

- **Postdoctoral Research Fellows Supervised by Ragauskas**

Postdoctoral Fellow	Period of Residence	Post-Status
• Dr. Daphne Santiago	1993-1994	FDA
• Dr. Lilly C. Harvey	1993-1994	Agnes Scott College
• Dr. Xiaoqi Pan	1992-1995	Alberta Research Council
• Dr. J. Brambila	1994-1995	--
• Dr. M. Hogjat	1994-1995	--
• Dr. Charles Cook	1995-1997	Oxychem, NY
• Dr. William Lin	1996-1997	NREL, CO
• Dr. B. Dhasmana	1997-1998	Halifax Community College, NC
• Dr. Cang Li	1997-1999	Research Superv., Selecto Inc.
• Dr. P. Agrawal	1998-1999	ACS Abstract Services
• Dr. A. Boasman	1999-2000	SP Newsprint Co.
• Dr. Rallming Yang	1999-2001	IPST@GT Research Services
• Dr. Yunqiao Pu	2000-2014	IPST@GT
	2015-Present	ORNL

• Dr. Dongho Kim	2002-Present	GA Tech
• Dr. Z. Feng	2001-2003	McMaster University
• Dr. Q. Hoe	2003-2004	Professor and Director of Tianjin Key Laboratory of Pulp & Paper Engineering, Tianjin University of Science and Technology, Tianjin, China
• Dr. Eric Johansson	2004-2005	Sweden Consultant
• Dr. Kristina Knutson	2005-2008	Gwinnett Technical College
• Dr. J. Zhang	2004-2010	Consultant
• Dr. Nan Jiang	2004-2011	Baze Chemical
• Dr. Runqing Ou	2005-2006	Nei Corp
• Dr. Weiping Ban	2006	Dalian Institute Light Industry, Dalian, China
• Dr. Poulomi Sannigrahi	2006-2011	Conoco Phillips
• Dr. Kasi David	2007-2011	Clark Atlanta University
• Dr. Richel Samuel	2008-2012	Polyglass USA
• Dr. Hongjia Li	2008	Clark Atlanta University
• Dr. Marcus Foston	2008-2012	Washington University
• Dr. Christopher Hubbell	2009-2012	Ciba
• Dr. Liqun Wang	2009-2011	FDA
• Dr. C. Shilin Cao	2009-2011	GA Tech
• Dr. Gang Hu	2010-2011	Clark Atlanta University
• Dr. Carlina Cateto	2010-2012	ExxonMobil
• Dr. F. Hunang	2010-2014	Chemistry, GA Tech
• Dr. S. Nair	2012-2014	University Toronto
• Dr. Garima Bali	2012-2014	Airgas
• Dr. Jung Seokwon	2013-2014	Samsung
• Dr. Thomas Moore	2015-2016	UTK
• Dr. S. Tanneru	2015	ChBE, UTK
• Dr. Qining Sun	2015-2016	Hexion Inc.
• Dr. Mi Li	2015-2020	ORNL/UTK
• Dr. Chang G. Yoo	2015-2018	SUNY/ESF
• Dr. Rosemary Le	2015-2017	UTK
• Dr. Xianzhi Meng	2016-Present	ChBE, UTK
• Dr. Tyron Wells	2015-2016	Bechtel
• Dr. Kristina Mahan	2016-2017	PNNL
• Dr. Partha Das	2015-2017	Evonik Industries
• Dr. Yun-Yan. Wang	2017-Present	
• Dr. Sam Bhagia	2017-Present	ORNL
• Dr. Somnath Shinde	2017-2018	PNNL
• Dr. Y. Wang	2022 -	

VISITING RESEARCHERS/STUDENTS

Researcher	Visiting Date	Position
Dr. S. Moe	1996-1997	Associate Professor, Norwegian University of Science and Technology, Norway
Dr. M. Paulsson	1997-1998	Researcher Eka Chem., Sweden
Dr. A. Suurnakki	1999	Researcher, VTT, Finland
Dr. D.H. Kim	1999-2014	Researcher, IPST
Martin Lund	2001	The Royal Veterinary and Agricultural University Chemistry Department, Denmark
Dr. F. Wolfaardt	2001	Research Officer Department of Microbiology and Biochemistry, University of Orange Free State, South Africa
Dr. S. Wang	2001	Professor, Depart. Bio-Technology Sugar Engineering Industry, Guangxi University, Nanning, Guangxi, China
Dr. P. Gatenholm	2005-2006	Professor, Department of Materials and Surface Chemistry, Chalmers University of Technology, Gothenburg, Sweden
A. Oudia	2005	Graduate Student, Departamento de Ciência, Universidade Beira Interior, Covilhã Portugal
Dr. C. Mohandass	2006-2007	Biological Oceanography Division National Institute of Oceanography Dona Paula, Goa-403004, India
Dr. J. Yan	2007	Department of Pulp and Papermaking, Guangdong Industry Technical College, Guangzhou 510300, P.R. China
Assist. Prof. N. Brosse	2008	Laboratoire d'Etude et de Recherche sur le Materiau Bois, Faculté des Sciences et Techniques, Nancy-Université, Bld des Aiguillettes, F-54500 Vandoeuvre-lès-Nancy, France
Carolina Jardim, Visiting student	2008-2009	Química da Madeira e Branqueamento Da Celulose, Laboratório de Celulose Papel Departamento de Engenharia Florestal Universidade Federal de Viçosa - MG Brasil
Elisabetta Aracr Visiting student	2009	Universitat Politècnica de Catalunya School of Industrial Aeronautic Eng. of Terrassa, Depart. Textile and Paper Engineering, Campus de Terrassa,

		Edifici TR4. C/Colom, 11. 08222 Terrassa, Spain
Wenjia Han Visiting student	2010	State Key Laboratory of Pulp and Paper Engineering, College of Light Industry & Food Sciences, South China University of Technology, Guangzhou, Guangdong Province, China
Yangmei Chen	2010	State Key Laboratory of Pulp and Paper Engineering, College of Light Industry & Food Sciences, South China University of Technology, Guangzhou, Guangdong Province, China
Christopher M. Conifer	2011	School of Chemistry Imperial College London London, England
Dr. Tobias Köhnke	2011-2012	Assistant Professor Chalmers University of Technology
Prof. Birinchi Kumar Das	2011-2012	Fulbright-Nehru Senior Res. Fellow Gauhati University, India
Dr. Monideepa Chakraborty	2011-2012	Fulbright-Nehru Senior Res. Fellow Gauhati University, India
Yandan Chen	2011-2012	Fujian Agriculture and Forestry University, China
Guo Chen	2011-2012	Department of Bioengineering and Biotechnology, Huaqiao University, Jimei AVE. 668, Xiamen, 361021, China
Jiebin Tang	2011-2012	China
Magdalena Parra Carrillo	2012	GENZ: Grupo de investigacion Enzimologia, Departamento de Bioquimica y Biologia Molecular-A Universidad de Murcia E-30071 Murcia, Spain
Qianjun Shaw	2012-2013	Professor, National Engineering Research Center of Wood-based Resource Utilization, China Dean of Undergraduate Academic Affairs, Zhejiang A&F University, China
Yiming Zhou	2012-2013	Ms. Yiming Zhou State Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Guangzhou, China
Zhen Wei	2012-2013	College of Environmental Science and Engineering Hunan University No.2, Changsha, Hunan, 410082, China

Nagarajan Ponnurengam	2013-2014	Annamalai University, India Assistant Professor, Depart. Chem. Eng.
Weibing Wu	2014	College of Light Industry Science and Engineering, Nanjing Forestry University, China
Muzna Hashmi	2015	PhD Research Scholar, Department of Microbiology, Quaid-i-Azam University, Islamabad, Pakistan
Romina B. Stoffel	2016	Pulp and Paper Program- Institute of Materials of Misiones. Félix de Azara 1552, Postal Box: 3300, Posadas, Misiones, Argentina
Dr. Alok Satlewal	2016-2017	Research Manager, IOCL R&D Centre Haryana, India.
Dr. Lan Yao	2016-2017	School of Pulp & Paper Engineering, Hubei University of Technology, Wuhan 430068, China
Chen Huang	2017-2018	College of Chemical Engineering, Nanjing Forestry University, Nanjing City, Jiangsu Province, China
Dr. Na Liu	2016-2017	Key Lab of Pulp and Paper Science and Technology of Education Ministry of China, School of Papermaking and Plant Resources Engineering, Qilu University of Technology, 3501 Daxue Rd, Changqing, Jinan, Shandong, P.R. China
Kongu Lu	2017-2018	Yuquan Campus, Zhejiang University, Xihu district, Hangzhou, Zhejiang, China
Xiwen Wang	2017-2018	South China University of Technology, Wu Shan Road No. 381, Guangzhou, China
Jia Wang	2017-2018	Key Laboratory of Energy Thermal Conversion and Control of Ministry of Education, Southeast University, No.2 Sipailou, Xuanwu District, Nanjing, Jiangsu, China
Jinhua Ding	2017-2018	Department of Textile, Donghua University, Shanghai, China
Juan He	2018	Nanjing Forestry University Longpan Road, Nanjing 210037, China
Himanshu Patel	2018	Senior Research Fellow, CSIR-Central

Thaynara Coradini Pin	2018-19	Salt and Marine Chemicals Research Institute, Takhteshwar, Vidhyanagar, Bhavnagar, Gujarat 364002, India.
Chunxiao Gong	2018-19	Universidade Estadual de Campinas, Faculdade de Engenharia Quimica UNICAMP, Av. Albert Einstein, 500 - Cidade Universitaria, Campinas, Brazil
Yan Song	2019	Department of Geosciences and Natural Resource Management University of Copenhagen, Denmark
Yangmei Chen	2019	State Key Laboratory of Biopoly-saccharide Fiber Forming and Eco-Textile, Qingdao University, Qingdao, Shandong, China
Peitao Zhao	2019	College of Natural Resources and Environment, South China Agricultural University, Guangzhou, China
Junhua Zhang	2019	China University of Mining and Technology, Jiangsu Province, PR China
Yan Shang	2019	College of Forestry, Northwest Agriculture and Forestry University, China
Peitao Zhao	2019	shangyan@dlut.edu.cn Dalian University of Technology
Yangmei Chen	2019	p.zhao@cumt.edu.cn China University of Mining and Technology
Junhua Zhang	2019	ymchen@scau.edu.cn, South China Agricultural University, China
Zhi-Min Zhao	2021	junhuazhang@nwsuaf.edu.cn, Northwest A & F University, China
Atanu Kumar Das	2022	Key Laboratory of Ecology and Resource Use of the Mongolian Plateau, Inner Mongolia University, Hohhot, 010021, China
Anqi Ji	2022	Department of Forest Biomaterials and Technology, Swedish University of Agricultural Sciences, Umeå, Sweden
Paul Dim	2022-23	Department of Chemical Engineering SUNY College of Environmental Science and Forestry, 304 Walters Hall, 1 Forestry Drive, Syracuse, 13210
		Department of Chemical Engineering

Miceh Rose, Magdadaro 2023
Institute of Technology

School of Infrastructure, Process
Engineering and Technology, Federal
University of Technology, P. M.B. 65,
Minna, Nigeria.
Mindanao State University-Iligan

Zhanga Yunqin Lin 2023

Andres Bonifacio Avenue, Tibanga,
9200 Iligan City. Philliphines
Maoming Branch, Guangdong
Laboratory for Lingnan Modern
Agriculture, Guangdong Provincial Key
Laboratory of Agricultural & Rural
Pollution Abatement and Environmental
Safety, College of Natural Resources
and Environment, South China
Agricultural University, Guangzhou
510642, China

Evidence of Teaching Effectiveness



Review of Teaching Effectiveness at Chalmers University – May/July 2001

Dr. Magnus Paulsson

Assistant Professor

August 2, 2001

Professor Arthur J. Ragauskas visit to Chalmers University of Technology

Professor Arthur J. Ragauskas, Institute of Paper Science and Technology, was invited to be a guest lecturer for the Ph.D. course “Fibre Line”, held at the Department of Forest Products and Chemical Engineering, Chalmers University of Technology. The objective of the Ph.D. course was to give in-depth knowledge about modern pulping and bleaching processes with respect to process chemistry as well as chemical engineering principles of fiber line operations. Professor Ragauskas gave lectures dealing with the following topics:

- Structure of residual lignin in paper pulps after kraft pulping;
- Chemistry of lignin-removing and lignin-retaining bleaching;
- Kinetics of delignification;
- Process descriptions (layouts);

- Equipment used in bleaching plants;
- Environmental aspects of bleaching;
- New bleaching technologies (e.g., enzymes);
- Characterization of pulp.

The students also prepared reports under the supervision of Professor Ragauskas dealing with one of the topics above. Professor Ragauskas gave, as one of the leading researchers in the field of bleaching of paper pulps, an extensive coverage of the chemistry and physics of lignin-removing and lignin-retaining bleaching. Professor Ragauskas' lectures were well planned, logical, and very informative. The students greatly appreciated that Professor Ragauskas always had time to answer questions dealing with the topics of the Ph.D. course as well as questions related to the Ph.D. student's research interests. Professor Ragauskas' visit to the Department of Forest Products and Chemical Engineering has been a great success and it is an honour for us that Professor Ragauskas had the opportunity to share his extensive knowledge, in this and other research fields, with both students and faculty. We hope that Professor Ragauskas' visit will strengthen the bond between Chalmers University of Technology and the Institute of Paper Science and Technology.

Sincerely,
Dr. Magnus Paulsson

General Public Articles: Our biorefinery studies have been highlighted by +500 news agencies announcements. This outreach provides a touchstone from which students, the general public and business/policy makers can be engaged in the science and engineering of renewable energy and materials.

Addressing the Food or Fuel Challenge of Bioethanol - The Wall Street Journal - Tuesday January 16th 2007

Ethanol Could Fuel Rise in Corn

Growing Demand May Limit Supply For Poor Countries

By **PRASENJIT BHATTACHARYA**

Corn prices are likely to reach unprecedented highs in the next two to three years, as an ethanol boom in the U.S. is likely to limit corn's availability for food and feed use.

This has fueled concerns that corn, a staple food ingredient in many countries and widely used as feed in the poultry and livestock sectors, might become out of reach for poorer consumers, boosting food prices in general.

Soaring food prices could cause urban riots in scores of low-income countries that rely on grain imports, such as Indonesia, Egypt, Algeria, Nigeria and Mexico, said Lester Brown, founder of the Earth Policy Institute and author of a recent report about potential corn demand from the ethanol industry.

The report said the ethanol distilleries being built in the U.S. will need 139 million metric tons of corn by the 2008 harvest, far more than a U.S. Department of Agriculture estimate of the requirement, pegged at around 60 million tons.

"If the Earth Policy Institute estimate is at all close to the mark, the emerging competition between cars and people for grain will likely drive grain prices to levels never seen before," Mr. Brown said.

Apart from being the biggest corn grower, the U.S. is also the leading corn exporter. Since 2006, corn-importing countries

have become more dependent on U.S. corn as China cut back on exports amid increased domestic demand from its own ethanol industry and fears of a supply shortage.

Mr. Brown isn't alone in warning that an ethanol boom might lead to sharp rise in corn prices by creating a supply squeeze.

"If biofuels continue to expand globally, you can expect grain prices to move to their energy equivalent, until cellulose and other alternative-energy sources become commercially available," said Simon Bentley, analyst with LMC International, a commodities research firm based in the United Kingdom.

Mr. Bentley said that while sufficient land is available to expand corn output in the U.S. and Brazil, how such expansion will affect output of other crops, especially soybean, and corn prices, remains the key question.

According to a recent report by J.P. Morgan, average corn prices are expected to be about \$4.03 a bushel in 2007, up 61% from \$2.51 a bushel in 2006.

The most-active March contract on the Chicago Board of Trade closed at \$3.9650 a bushel Friday, up 55% from the \$2.5525 a bushel the contract traded at on the same day last year.

The J.P. Morgan report said the ethanol industry's growth calls for an additional 500 million to one billion bushels of corn every year.

While such a rapid rise in demand in itself will ensure high corn prices, the study added that any weather threat to the corn crop this year will be "met with record high prices."

China, a large producer and consumer of corn, is already taking measures to ensure domestic availability.

In December, the Chinese government stopped approving new corn-based ethanol plants.

ence, said the key to a sustainable biofuels industry is cheaper feedstock, not expensive corn.

"As demand for corn increases, so too will its prices. This will drive the ethanol industry to look for lower-cost feedstock and as these alternatives develop, price and demand will stabilize," Mr. Ragauskas said. He said the food-versus-fuel



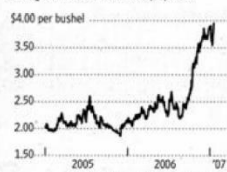
Corn Futures

Daily settlement price on the continuous front-month contract

Friday's close: **\$3.965**

Change since start of 2005, up 94%

Change since start of 2006, up 84%



Source: CBOT via Thomson Datastream

An Iowa cornfield

"As of now, it seems the government is reluctant to permit additional capacity for corn-based ethanol production, though existing corn-based ethanol plants are functioning normally," said Gu Lifeng, manager of the maize division at the state-run **Cofco Maize Co.**, based in Beijing.

Meanwhile, Chinese corn processors are ramping up their alcohol-production capacity, which can be converted into ethanol plants if the government relaxes its stance.

Arthur Ragauskas, associate professor at the Georgia Institute of Technology, who recently co-wrote a paper on biofuels in the industry journal *Sci-*

debate can generate new ideas if there is increased collaboration among academia, governments and the private sector to develop nonfood biomass—such as switchgrass, recycled waste materials and corn stovers, which is the part of the corn plant that is left over after harvest—into viable resources for biofuels.

The corn growers' lobby in the U.S., however, continues to argue that there will be enough corn in the long term to meet food, fuel and feed needs.

"All demand for corn—food, feed, fuel and exports—are being met. Farmers have always responded to price signals from the marketplace and historically we have had much more challenge with overproduction than shortage," said Rick Tolman, chief executive of the National Corn Growers Association.

"Market forces, not broad assumptions, are driving ethanol and corn markets...There is no conflict between [corn use for food and fuel], nor any pending crisis," Mr. Tolman said.



[Home](#) | [Inside Washington](#)

Bush Goes Into High Gear on Energy

By Bret Schulte Posted 1/24/07

President Bush laid out his most aggressive energy and environmental agenda to date—mentioning global warming for the first time in a State of the Union address, or any major speech.

According to the president, his plan "will help us to confront the challenge of global climate change." Though such words mark a dramatic step for Bush, energy analysts and environmentalists have responded with as much skepticism as encouragement.

Bush laid out an ambitious goal to, in his words, "reduce our dependence on foreign oil" while simultaneously reducing greenhouse gas emissions.

The White House is labeling the plan "20 in 10"—establishing a goal of reducing gasoline consumption by 20 percent in the next 10 years, which would be accomplished primarily by two acts.

The first is to reform fuel economy standards for cars to conserve 8.5 billion gallons of gasoline. The proposal has gotten muted applause from environmentalists, who are calling it a move in the right direction, though many believe the plan gives too much flexibility to automakers and could allow loopholes. The second is by far the more ambitious, calling for a major ratcheting-up of the Renewable Fuels Standard, the popular centerpiece of his Energy Policy Act of 2005.

In 2006, RFS mandated production of 4 billion gallons of ethanol, a goal that was handily topped by about a billion gallons. Benchmarks for coming years, analysts say, will be easily surpassed as well. The success of ethanol has policymakers giddy. For one, it has proved to be an economic boon to the American heartland.

Several members of Congress, including Senate Agriculture Committee stalwarts Tom Harkin of Iowa and Dick Lugar of Indiana, are calling for increased ethanol production to a staggering 60 billion gallons by 2030. Rumors swirled in Washington that Bush would call for the same in his State of the Union address last night.

Instead, he targeted a no less ambitious but shorter-term goal of 35 billion gallons of ethanol by 2017, displacing 15 percent of projected annual gasoline consumption. But that proposal faces the

same challenges, and on an accelerated timeline. Industry experts believe this country can produce about 15 billion gallons of ethanol from corn without disrupting other sectors of the economy, notably livestock producers that use corn and other feed.

Already, agricultural economist Lester Brown sees escalating food prices as a result of last year's record ethanol sales and predicts graver outcomes in the near future. Even if the market stabilizes, that leaves a 20 billion-gallon shortfall in ethanol supplies, which will have to be made up for with cellulosic ethanol, an alternative derived by other feedstocks such as switch grass, wood, and other plant matter. The problem is that for all intents and purposes, cellulosic ethanol doesn't exist yet, at least not commercially.

It can be produced with success in labs, but according to Arthur Ragauskas, a biofuels expert at Georgia Tech, "there are still significant challenges" to bringing it to market, namely cost and efficiency. While converting a starch like corn or sugar to ethanol is relatively simple, cellulosic matter poses a greater challenge because it requires "pretreatment" to make the material more reactive to the deconstruction enzymes that turn starch to glucose, which is easily turned into ethanol. make this cost effective. Ragauskas says new technology looks promising, but many experts believe it's unlikely that the fuel will go from zero to 20 billion in 10 years. It took the corn industry more than a decade to get to 1 billion gallons of ethanol capacity.

McGill Reporter. November 23, 2006 - Volume 39 Number 07

McGill REPORTER

Global warming needs global learning



Some of the world-class scientists who participated in the Macdonald Centenary Symposium included Rickey Yada, University of Guelph; Wes Warren, Washington University; Bert Drake, Smithsonian Environmental Research Center; Arthur Ragauskas, Georgia Institute of Technology; Gordon Young, UN Water Assessment Program; and Don Smith, Chair of McGill's Plant Science Department.

The most powerful tool available to combat global warming is not being used adequately, according to a panel of world-class environmental scientists. That tool is education. Without more education and public awareness the threat of global warming will not be adequately addressed, experts agree.

Six experts in fields such as water management, biofuels and animal-borne viruses (such as West Nile and Monkey Pox) were invited to Macdonald Campus on Nov. 3 for the symposium "A Biorevolution in the Next 100 Years," organized by Don Smith, James McGill Professor and chair of the Plant Science Department. The goal of the Macdonald Centenary Symposium was to look ahead to the environmental research challenges of the next 100 years.

Minister
of Natural Resources Canada



Ministre
des Ressources naturelles Canada

Ottawa, Canada K1A 0E4

OCT - 4 2006

Dr. Arthur J. Ragauskas
Professor
School of Chemistry and Biochemistry
Institute of Paper Science and Technology
Georgia Institute of Technology
500-10th Street North West
Atlanta, Georgia 30332-0620
U.S.A.

Dear Professor Ragauskas:

The Prime Minister's Office has forwarded to my attention a copy of your correspondence of May 23, 2006, regarding the article on use of wood products to produce biofuels.

Your article is of great interest to my department from both energy and forestry perspectives, and it comes at an important time as Canada is developing a national framework on renewable fuels. Canada's new government is committed to expanding the production and use of renewable transportation fuels such as ethanol and biodiesel. These fuels can diversify our energy mix, reduce harmful emissions and create new opportunities for both the agricultural and forestry sectors.

In Budget 2006, the new Government announced accelerating the Capital Cost Allowance for Forestry Bioenergy, by implementing an incentive for cogeneration systems in the pulp and paper industry that produce both thermal energy and electricity using a biomass residue from the pulping process referred to as "black liquor."

Looking forward, we have announced our intention to require an average of five percent renewable content in Canadian fuel by 2010. We are working closely with the provinces, territories and stakeholders on this initiative.

Canada 

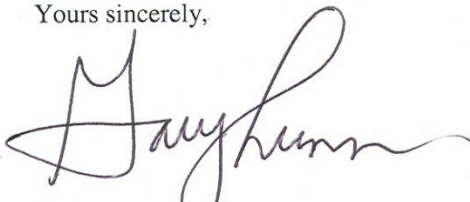
- 2 -

A historic meeting of Canada's ministers of environment, energy and agriculture took place in Regina on May 23, 2006. For the first time, federal, provincial and territorial ministers assembled for a dedicated meeting on this important subject. We discussed the opportunities this sector presents for Canadians and the path forward. This was a key step towards achieving our goal of five percent renewable content in Canadian fuels and we plan to hold another meeting on the national strategy in fall 2006. We have set an ambitious agenda, but working together, we know it can be achieved.

I have forwarded your article to officials in my department who work on renewable fuels, for their further consideration.

Thank you for writing on this important matter.

Yours sincerely,

A handwritten signature in cursive script, appearing to read "Gary Lunn". The signature is written in black ink and is positioned above the typed name.

The Honourable Gary Lunn, P.C., M.P.

[Chemical & Engineering News](#)

Biotech's 'Perfect Storm'

April 30, 2007

Volume 85, Number 18

pp. 38-40

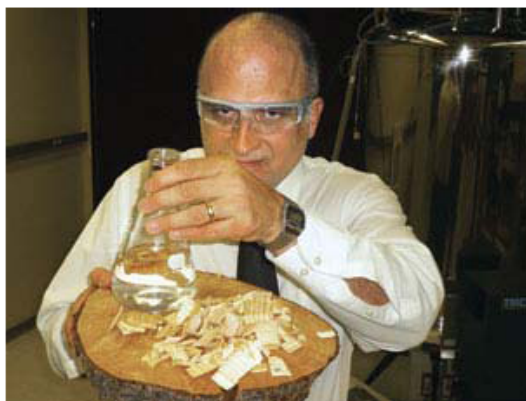
Opportunities for 2007 and Beyond

Biotech's 'Perfect Storm'

The push for energy independence may yield more bioenergy-related jobs

[Corinne A. Marasco](#)

The pursuit of biofuels has become a red-hot area for research, fed by a fervor that rivals the California Gold Rush. Academia, government, and industry are collaborating to find practical and affordable ways to produce and use biomass for energy. These R&D and production efforts cut a swath across specialties: chemistry, agricultural science, microbiology, materials science, biochemistry, and engineering, just to name a few.



Courtesy of Art Ragauskas

Chip power Cellulosic feedstocks such as wood chips can be used to produce ethanol.

In the 10 years since the publication of Sebastian Junger's book "The Perfect Storm," that term has come to refer to a set of factors that combine simultaneously to create a powerful event. Biotechnology appears to be brewing its own perfect storm—biotechnology breakthroughs, geopolitical tensions, falling inventories, and soaring oil prices are working together, creating conditions that just might churn out a more energy-independent nation.

The momentum behind the demand for alternative energy sources is strong, but what does it mean in terms of job opportunities for chemists? It seemed like a good time to ask the question, so C&EN contacted representatives from industry, government, and academia to find out what they see on the employment horizon. The early verdict: Biotechnology is entering an exciting time, and the employment opportunities in biofuels are about as good as they could be.

[Art Ragauskas](#), a professor in the [School of Chemistry & Biochemistry](#) at Georgia Institute of Technology, remembers that not too long ago, biomass chemistry wasn't so attractive. "Around 2000, there was a passionate subgroup interested in this field, but it wasn't mainstream science," he recalls.

United States Embassy Stockholm

Press Release



**2nd Generation Ethanol Expert Selected to Hold
Inaugural Alternative Energy Chair
at Chalmers University**

May 23, 2008

Arthur Ragauskas, Professor at the Georgia Institute of Technology, has been selected as the first holder of the Fulbright Distinguished Chair in Alternative Energy Technology at Chalmers University. The award includes a stipend of \$125,000, one of the largest in the 60-year history of the Fulbright Program. Funding support for the Distinguished Chair is being provided to the Fulbright Commission for Educational Exchange between the United States and Sweden by Marianne och Marcus Wallenbergs Stiftelse.

The Fulbright Distinguished Chair in Alternative Energy Technology has been created as part of the U.S. Embassy's One Big Thing initiative, fostering alternative energy cooperation between the U.S. and Sweden. "My work will contribute to innovative green chemistry sustainable technologies for the conversion of woody biomass to biofuels, bioenergy and in the next generation of biorefineries," said Dr. Ragauskas. "This will be accomplished by bringing together the best students, businesses, and academicians in the United States and Sweden to address the global bioenergy challenge of this millennium."

Chalmers University was selected to host the new position because the University is increasing its efforts in the area of developing fuels and chemicals from renewable resources. This development is driven by the need to conserve energy and a desire to produce more value-added products from wood and wood waste. Wood can be a source for fuel, plastics and advanced chemicals, as well as paper and lumber.

Michael Wood, U.S. Ambassador to Sweden, and Chalmers President Karin Markides led the effort to create the new Fulbright Chair. Ambassador Wood said, "Senator Fulbright's intention was to promote international good will through the exchange of students and professors. He may not have foreseen the issue of global warming or the importance of bioethanol, but his vision is alive and well in this new program. Dr. Ragauskas was selected from among a field of highly qualified applicants. I'm excited about the possibility that while at Chalmers, Professor Ragauskas may work on a technology breakthrough that allows people to drive cars on 2nd generation ethanol from non-food sources."

This Fulbright Chair will provide Dr. Art Ragauskas the opportunity to share his internationally recognized expertise in lignocellulosic biofuels with Swedish and international students, postdoctoral research fellows and faculty. He will develop a Swedish-American network to address society's need to develop sustainable cellulose biofuels and bioenergy. These interactions will be pursued by participating in formal classroom discussions, industry workshops, school presentations, and the development of unique web-based learning resources, including pod-casts. Dr. Ragauskas will be based in the Forest Products and Chemical Engineering department at Chalmers.

"My academic and research career has benefited from President Bush and his administration's vision and support of bioethanol," said Professor Ragauskas. "I am honored and humbled to now be able to expand this vision beyond Georgia Tech and the southeast U.S. to Sweden and Scandinavia."

Arthur Ragauskas is a Fellow of the International Academy of Wood Science and TAPPI. His research program at Georgia Tech is seeking to understand and exploit innovative sustainable bioresources. This multifaceted program seeks to develop new and improved applications for nature's premiere renewable biopolymers for biofuels, biopower and biomaterials. Ragauskas has published more than 220 papers, patents and conference proceedings. He has served on several advisory boards and review panels, including: European Commission Research Directorate; National Science Academy; J. Paul Getty Trust; Swedish Foundation for Strategic Research; VTT Technical Research Centre of Finland; and the Finnish Academy of Science. Ragauskas has been an invited visiting professor at Universidade da Beira Interior, Portugal; Chalmers University of Technology, Sweden; Royal Institute of

Redaktör: Maria Sundberg, debattredaktör: Teodor 08-53302018

Miljö- och energisamarbetet mellan USA och Sverige är redan framgångsrikt. Företags- och universitetssutbyten leverar nu resultat som gör att ekonomisk utveckling också kan avhjälpa mänskligthetens mest akuta klimat- och miljöproblem, skriver Art J. Ragauskas, gästprofessor i alternativ energi på Chalmers i Göteborg.

Den gröna vägen leder till ekonomisk återhämtning

Precis som årsderna väder, har dagens ekonomi också genomgått enorma förändringar som har påverkat många av oss på ett personligt plan. Dessa förändringar har börjat verka ut på nya möjligheter och utmaningar för framtiden. Ett stort antal industrisektorer berörs av ett ökande intresse och behov av miljöteknik. Företagsutvecklingen sträcker sig över hela spektrat från småskalig, bioteknik och solceller till nästa generations batterier, hållbara bioplast och flygförbränsel från biol och flygtransporter. Under några dagar denna vecka har Savannah, Georgia, stått värd för Svenska-amerikanska handelskonferensen E-dagar som sätter miljösamarbetet mellan USA och Sverige som två viktiga steg i utvecklingen. Kommer många människor att dröja om att utveckla tekniska lösningar som kan bidra till att lösa miljöproblemen på ett hållbart sätt. Svenska myndigheter och företag har berömt att det går att både lösa klimatet och ha den kvar.



Art J. Ragauskas är Distinguished Chair in Alternative Energy, Chalmers tekniska högskolan professor, Genetec Institute of Technology.

Under dessa dagar har fokus legat på svensk-amerikanska möjligheter för miljöföretagen inom områden som lagring, förnybar energi och industriell design. Det är särskilt intressant med tanke på de globala anställningarna som pågår från regeringarna att stimulera ekonomin och minska koldioxidutsläppen. Dessa företagssutbyten bygger på det bilaterala avtal om samarbete kring alternativ energi som slöts mellan USA och Sverige 2007. Det främjar gemensamt arbete om biobränsel, samarbete kring biomasproduktion, transport och forskning inom till-

frättade den amerikanska Fullbrightkommissionen en gästprofessor i alternativ energi vid Chalmers tekniska högskola i Göteborg. Jag fick äran att bli den första professorn. Sedan jag kom till Sverige i augusti förra året har jag varit aktiv i att utbilda en ny generation studenter som är intresserade av att främja den gröna industrirevolutionen. Jag har också fortsatt med forskning inom innovativ teknik för att konvertera trämassa till biobränsel och biogas som i framtiden integrerade skogsbio-refinaderier. Under dessa dagar har fokus legat på svensk-amerikanska möjligheter för miljöföretagen inom områden som lagring, förnybar energi och industriell design. Det är särskilt intressant med tanke på de globala anställningarna som pågår från regeringarna att stimulera ekonomin och minska koldioxidutsläppen.

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Verslo Zinios: Vilnius/Lithuanian Newspaper (June/2009)

Mokslininkų neįgašdina ilgas biodegalų kelias į rinką

Energija Galimybės yra, tereikia valios



ARTŪRAS RAGAUSKAS, JAV Želvezijos technologijos instituto Atlantide Chemijos ir biokemijos fakulteto profesorius, šiuo metu yra Vilniuje, Lietuva, kurioje vyksta konferencija apie biodegalų gamybą. (Foto: Artūras Ragauskas)

BIODIEGALŲ GAMYBA LIETUVOJE
Nors tyrimai rodo, kad biodegalams auginti reikalinga kultūrinė turto pagalba, tačiau mokslininkai ir politikai turėtų būti atsargūs. JAV želvezijos technologijos instituto Atlantide Chemijos ir biokemijos fakulteto profesorius, šiuo metu yra Vilniuje, Lietuva, kurioje vyksta konferencija apie biodegalų gamybą. (Foto: Artūras Ragauskas)

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Mėnuo	Biodegalų gamyba	Biodegalų gamyba	Kitas	% nuo bendrosios gamybos
2008, 1-3 mėn.	3594, 23	17	19	0,05
2009, 1-3 mėn.	2925, 21	0,8	10,8	0,1
2009, 4 mėn.	2200, 15,1	0,3	20,4	0,8
2009, 5 mėn.	2087, 20,8	0,5	30,8	4,3
2009, 6 mėn.	3000, 80	20	100	3,4
2009, 7 mėn.	2200, 15,1	0,8	20,4	0,8
2009, 8 mėn.	2200, 15,1	0,8	20,4	0,8

For additional details, see

http://www.ipst.gatech.edu/faculty_new/faculty_bios/ragauskas/ragauskas_news_articles.html

- Georgia's first wood-to-ethanol plant opens, in Atlanta Business Chronicle - by Dave Williams (August 2010)
- Going Green with Sweden Should Boost U.S.
- According to Reuters Special Topics analysis on Biofuels, one of the most-cited papers in the Research Front Map on Ethanol Biofuels is "The Path Forward for Biofuels and Biomaterials" (Ragauskas AJ, et al., Science 311[5760]: 484-9, 27 January 2006). For more information see:
 - <http://sciencewatch.com/sciencewatch/ana/st/biofuels/08octSTbioRag/>
- GA Tech Fulbright Announcement
- Ragauskas Award in GA Tech, The Whistle Vol. 33, No. 20, June 2, 2008
- Dr. Art Ragauskas Wins Prestigious Research Management Award
- Fulbright Distinguished Chair in Alternative Energy Technology/TAPPI News
- CSREES NRI Grant Recipient Receives Fulbright Award
- Georgia Pines May Play Role in Fuel of the Future
- Advancing the Kraft BioRefinery in Biomass Magazine - October 2007
- Update of Biomass to Biofuels Research: GA Tech - Ragauskas
- Ragauskas Nanobioterials in Process Nordic
- Georgia Tech Part of New Biofuel Research Center

TV/Radio Interviews

- News interview on GA PBS: "Georgia Weekly" Biofuels - Alternative Energy is Big Business these Days and Biofuels are Receiving a Lot of Attention. Dr. Arthur Ragauskas, Professor, Georgia Tech School of Chemistry and Biochemistry
 - See http://www.ipst.gatech.edu/faculty_new/faculty_bios/ragauskas/news_articles/georgia_weekly.html
 - NBC News Footage of Art Ragauskas on the Subject of Biofuels from Wood Pulp
 - See http://www.ipst.gatech.edu/faculty_new/faculty_bios/ragauskas/ragauskas_news_articles.html
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