

CURRICULUM VITAE

DIMITRIS S. ARGYROPOULOS

Group Web Page: <http://www4.ncsu.edu/~dsargyro/index.htm>

EDUCATION

1985	Ph.D	Chemistry	McGill University, Montreal, Quebec, Canada
1981	M. Phil.	Polymer Chemistry	Brunel University, Uxbridge, England
1980	B.Sc. (Hons.)	Chemistry	University of London, London, England

DISTINCTIONS & AWARDS

- *Visiting Distinguished Professor*, Center for Advanced Materials Research & Dept of Chemistr, King AbdulAziz University, Jeddah, Saudi Arabia
- *Finland Distinguished Professor of Chemistry*, Dept. of Chemistry, University of Helsinki.
- *Fellow* Chemical Institute of Canada, Ottawa, Ontario. Elected, March 2000.
- *Fellow* International Academy of Wood Science, Vancouver, BC. Elected 1998.
- *High Impact Paper Scholarship Award*. 2nd Prize. Technical Association of the Pulp & Paper Industry (TAPPI) for the best paper presented during the 1998 Pulping Conference, Atlanta, GA, July 1999.
- *Visiting Professor*. Department of Chemistry, University of Bordeaux, Bordeaux, France. Elected, July 1998.
- *Participant* with the National Network of Excellence on Protein Engineering, Canada, April 1994.
- *Participant* with the National Network of Excellence on Mechanical and Chemimechanical Wood Pulps, Montreal, Canada., 1991 to 2002
- *Research Associateship*. National Research Council of Canada, January 1988.
- *Dean's Honorary Distinction* for High Academic Achievement during a Doctorate degree. McGill University, April 1985.
- *C.B. Purves Memorial Fellowship*. McGill University, September 1982 to September 1984.
- *Overseas Student Scheme Competitive Award*. Committee of Vice Chancellors and Principals of British Universities, September 1980 to August 1981.

EMPLOYMENT HISTORY

Period	Employer	Position
July 2002 – To Date	North Carolina State University, College of Natural Resources, Dept. of Forest Biomaterials	Professor
Oct. 1991 – June. 2002	Department of Chemistry, McGill University Pulp and Paper Research Centre	PAPRICAN Professor
July 2001 – June 2002	Pulp and Paper Research Institute of Canada Pointe Claire, Québec, Canada	Principal Scientist
Oct. 1988 – July 2001	Pulp and Paper Research Institute of Canada Pointe Claire, Québec, Canada	Senior Scientist
May 1987 – May 1988	Polysar Limited, Sarnia, Ontario, Canada	Research Scientist, Product Research and Development Latex Division
March 1985 – April 1987	Pulp and Paper Research Institute of Canada Pointe Claire, Québec, Canada`	Research Scientist, Fibre Chemistry Section
May 1979 – Sept. 1979	MacPherson Powders Ltd., Barking, Essex, England	Trainee on “ <i>Computer Colour Matching Procedures for Epoxies.</i> ”
Oct. 1977 – March 1978	Wavin Plastics Ltd., Ashford, Kent, England	Trainee

GRADUATE & UNDERGRADUATE TEACHING

Period	Department/Course Description	Course No./Description
Taught 2005, 2006 With Profs Lucian, & Rojas	“Principles of Biomaterials Science” Department of Forest Biomaterials North Carolina State University	WPS 595B Graduate Course
Taught 2006, 2007, 2008 With Profs Lucian, Rojas & Pawlak	“Biomaterials Characterization ” Department of Forest Biomaterials North Carolina State University	WPS 595B Graduate Course
Annually since 2004	“Wood & Pulping Chemistry” Department of Forest Biomaterials North Carolina State University	WPS 332 Undergraduate Course
Annually since 2003 (Taught, 2003-2007,2010)	“Chemistry of Wood Polysaccharides” Department of Forest Biomaterials North Carolina State University	WPS 721 Graduate Course
Teaching At McGill University		
Annually 1995-2002	“Organic Chemistry of Wood Components” Department of Chemistry, McGill University “Organic Chemistry of Wood Components”	CH 555 A Graduate Course
Annually 1992-1994	Department of Chemistry, McGill University “The Chemistry of Pulp and Paper”	CH 655 A Graduate Course
Annually since 11/2000 With Prof. Chan	Department of Chemistry, McGill University “Green Chemistry”	A Late Undergraduate Course
Annually since 04/ 2001 With Prof. Sleiman	Department of Chemistry, McGill University “Synthetic Polymer Chemistry”	A Late Undergraduate Course
Annually since 1998 With Prof. Kazlauskas	Department of Chemistry, McGill University “Structural Organic Chemistry”	An Undergraduate Course
Annually 1992-1994 With Prof. Marchessault	Department of Chemistry, McGill University “Introduction to Polymer Chemistry”	A Late Undergraduate Course
Annually 1991-1998	Pulp and Paper Research Institute of Canada PAPRICOURSE	
Oct. 1980 – March 1981	Department of Non-Metallic Materials Brunel University, England “Polymer Chemistry,” Teaching Assistant	
Oct. 1981 – June 1982	Department of Chemistry, McGill University “General Chemistry,” Teaching Assistant	
Sept. 1989 – June 1992 Part Time	Federation of Greek Parents and Guardians, Montreal, Québec, Canada Greek High School Teacher	

STUDENTS AND THESES SUPERVISED:

- Mr. Timo Leskinen, "Analytical approaches to Understanding the Role of Non-carbohydrate Components in Wood biorefinery". Ph.D Forest Biomaterials & Chemistry Feb. 2015.
- Mr. Daniel Peters, "Photoresponsive Cellulose Nanocrystals", Ph.D Chemistry, Dec. 2016
- Dr. Ilari Filpponen, "The Synthetic Strategies for Unique Properties in Cellulose Nanocrystal Materials". Ph.D July 2009.
- Ms. Sofia Contreras "On the Propensity of Lignin to Associate; Static Light Scattering Measurements" MSc. Feb. 2008).
- Ms. Labrini Adamopoulos "Understanding the Formation of Sugar Fatty Esters" MSc 2004-2006 – Recipient of the Cellulose & Renewable Materials Student Excellence Award, American Chemical Society, 2006.
- Dr. Quorong Fu "Studies on the Pyrolysis of Chromated Arsenate-Treated Wood : Analytical Methodology & Optimization" , (2002-2006)
- Dr. Kamilah Smith, "Semi-Quantitative Detection of Free Radicals Using Spin-Trapping & ³¹P NMR." M.Sc. Jan., 2003.
- Ms. Christa Beaton, "Photo-Protection Mechanisms of UV Stabilizers on Milled Wood Lignin." M.Sc. Sept., 2000, (Dean's Honours List).
- Mr. Ivan De Souza, "Physicochemical Changes of Cellulose Subjected to Oxidative Conditions." M.Sc. Dec., 1999.
- Mr. Patrick Halevy, "Protection Mechanisms of Novel Photoyellowing Inhibitors." M.Sc. Nov., 1999.
- Dr. David Moore, "In Situ Perborate Bleaching of Thermomechanical Pulp." Ph.D. June, 1999.
- Dr. Jhi Hua Jiang, "Advances and Applications of Quantitative ³¹P NMR for the Structural Elucidation of Lignin." Ph.D. Nov., 1997.
- Ms. Martine Lepage, "Kinetics of Formamide Sulfinic Acid Degradation." M.Sc. Nov., 1997.
- Dr. Behzad Ahvazi, "Development and Application of Novel NMR Methods for the Study of Lignin." Ph.D. July, 1998.

STUDENT MENTORING/ADVISING ACTIVITIES

Committee Chair:

- Ilari Filpponen (PhD) (2006-2009)
- Quorong Fu, (PhD (2002-2005)
- L. Adamopoulos (MSc. 2005-2007)
- Sofia Irma Contreras (MSc. 2006-2008)
- Paula Jarvi (U.Helsinki, Chem. (PhD 2007-2011)
- Timo Leskinen (PhD FB 2011-2015)
- Daniel Peters (PhD Chem. 2011-2016)

Committee Member/ Co-chair :

- N. J. Sharma (PhD) (2003-2005)
- Richard Gang (PhD (2004-2009)
- C. Moriarty (MSc) (2002-2007)
- H. Kim (PhD) (2002-2004)
- Jeong Chang Woo (PhD) (2003-2006)
- Wang Yun (PhD) (2004-2006)
- Junlong Song (PhD) (2004-2007)
- Takao Sezaki (MSc) (2002-2003)
- Jung Myoung (PhD) (2002-2007)
- J. T. Wallace (MSc) (2003-2006)
- P. W. Ondachi (PhD) (2004-2008)
- J. Budhathoki-Uprety (PhD Chem. 2009-2010.)
- Mathew Lehman (PhD Chem. 2010-2013)
- David Barrios (PhD-Chem. 2008-2013)
- Florentino De La Cruz (PhD Civil 2009-)
- Cassandra Morisson (PhD Chem. 2010-2014)
- Brad Carpender (PhD Chem. 2011-2015)

Post-Doctoral/Doctoral Research Associates (An additional 9 such associates were employed in my lab at McGill from 1991-2002)

- Dr. K. Coda (2003-2005)
- Dr. Hongyang Li (2004-2006)

- Dr. Armindo Gaspar (2004-2007)
- Dr. Xingwu Wang (2004-2006)
- Dr. Abdul Hai (2005-2006)
- Dr. J. Soriano (2005-2007)
- Dr. A. Guerra (2005-2006)
- Dr. Carl Saquing (2005-2006)
- Dr. Bin Li (2007-2008)
- Ms Ana Xavier (2005-2006)
- Dr. Haibo Xie (2006-2007)
- Dr. Hui Sun (2007-2008)

Visiting Scientists (Visits Funded by the Foreign Institutions/ Governments)

- Dr. Claudia Crestini- Italy (1997-1999)
- Dr. A. Stina Jaskelainen-Finland (2000-2001)
- Dr. Leo Liu- China (2004-2005)
- Dr. Shubin Wu- China (2001-2002)
- Dr. Luca Zoia- Italy (2007-2008)
- Mr. Mahmood Yussif- Egypt (2007-2008)
- Dr. Alistair King - Finland (2007)
- Dr. Rafalella Perazini, Italy, (2009)
- Mr. Timo Leskinen, Finland (2009)
- Dr. Janne Asikalla, Finland (2009-2011)
- Dr. Hasan Sadeghifar, Iran (2010-2011)
- Dr. Yiqun Li, China (2011-2012)
- Mrs. Gao Gao wen-hua (2011-2012)

Undergraduate Research Advising:

- R. A. Ernest (2003)
- A. Lee (2003-2004)
- M. Mixon (2003-2005)
- J. N. Harris (2003-2005)
- B. Godfrey (2004)

- T. Bayer (2004)
- D. Abrecht (2005-2006)
- T. Blalock (2005-2006)
- K. Spence (2005-2006)
- G. Culberthson (2004-2005)
- R. Clark (2005-2007)
- B. Bogumil (2005-2006)
- N. Southards (2005-2006)
- G. Okotie, Saint Augustine's College (2006)
- Dana Kelley, (2006)
- Karoline k. Yoo (2006-2007)
- L. Royce (2006-2007)

EXAMINER DUTIES

Examiner for Ph.D Oral Theses for: Dr. Younghao Ni (March 1991), Dr. Francoise Morin (April 1994), Dept. Chem. Eng., McGill, Drs. Alexander Vekselman (Nov. 1996), G. Barbiero (March 1997), J-F Alary (Feb. 1998), Dept. Chem., McGill, Humayun Mandal, Dept. Chem. (Aug. 1998), Dr. C. Murphy, Dept. Chem., McGill (Nov. 2001).

Examiner of M.Sc Theses for: Ms Karen Maa, Dept. Chem., Lakehead Univ. (1996), Ms. E. Kimpe, Dept. Chem. Eng., McGill Univ. (1997), J. Revenaz, Dept. of Atm. & Oceanic Sci., McGill Univ. (June 2001).

Official Opponent, Dr. Erja Ammalahti, Faculty of Science, University of Helsinki, (November 1999).

Official Opponent, Dr. Kyösti Ruuttunen, Helsinki University of Technology (October 5th 2006).

REVIEWING DUTIES (since year)

- | | |
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| <ul style="list-style-type: none"> 40. Green Chemistry (2009) 39. Angewante Chemie (2009) 38. J. Physical Chemistry (2008) 37. J. Appl. & Anal. Pyrolysis (2007) 36. Biomacromolecules (2007) 35. J. Appl. Polym. Sci. (2007). 34. Cellulose (2005) 33. Bioresources (2006) 32. Bioresouce Technology (2007) 31. Research Letters in Org.Chem. (2006); 30. Advanced Synthesis & Catalysis, (2004) 29. Journal of the Science of Food & Agric.(2004) 28. Journal American Chemical Society, (2001) 27. Organic Geochemistry, (2001) 26. Chemoshere, (2001) 25. Science, (2000) 24. Chemical Physics Letters, (2000) 23. Industrial & Eng. Chem. Research, (2000) 22. National Science Foundation, (2000) 21. Petroleum Research Fund, (2000) 20. Polymer International, (1999) 19. Chemistry, A European Journal, (1999) 18. Journal of Polymer Science, (1998) 17. Environmental Science & Technology, (1998) 16. Journal of Agric. & Food Chem., (1995) 15. Natur Wissenschaften, (1997) 14. Bioresource Technology, since Sept. 1997 13. Canadian J. of Chem. Engineering, (1996) 12. United States Department of Agriculture (USDA), Competitive Grants Scheme, (1996) 11. Photochemistry and Photobiology, (1995) 10. Journal of Computational Chemistry, (1994) 9. Research on Chemical Intermediates, (1994) 8. Phytochemistry, since February (1994) 7. Natural Sciences and Engineering Research Council of Canada, Research Grants (1993) 6. Hozlforschung, Intern. Journal of the Biology, Chemistry, Physics & Technol. of Wood, (1993) 5. Canadian Journal of Chemistry, (1992) 4. Pulp and Paper Research Institute of Canada, Internal Report Series, (1988) | <ul style="list-style-type: none"> 3. Journal of Wood Chemistry & Technol. (1991) 2. Journal of Pulp and Paper Science, (1989) 1. American Chem. Soc., Books Dept. (1989) |
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EDITORIAL BOARD MEMBERSHIPS & OTHER HONORARY PROFESSION AFFILIATIONS

22. Expert Scientific Advisor; EU, Horizon 2020, Bio Based Industries, October 2014.
21. Editorial Board, World Journal of Biological Chemistry, Since Dec 2014.
20. Expert Scientific Advisor; EU, FP7, Biorefinery January 2009.
19. Expert; Sci. AdvEU, FP7 PEOPLE "Initial Training Networks" (ITN 201 Chemistry (CHE), Feb. 2013
18. Editorial Board, Materials Science & Engineering, since January 2013
17. Editor, Journal of Engineered Fibres & Fabrics, since, Oct. 2009.
16. Associate Editor, New Zealand Journal of Forestry Science, Nov. 2005.
15. Editorial Board, International Scholarly Research , Spectroscopy, Oct 2011
14. Editorial Board, Journal of Biotechnology & Biomaterials - OMICS Publishing Group, July 2010
13. Expert Scientific Advisor & Chair, European Community, FP7 Bioenergy/Chem.2001/2009/2012/2013
12. Chairman, Scientific Committee, Wood Wisdom Swedish-Finnish Research Program, Stockholm, 2007
11. Board of Directors, International Lignin Institute, Lausanne Switzerland, 2006-2008
10. Editorial Board, BioResources, Journal, March 2006
9. Advisory Board, EWT Holdings Corp., 2005-2006.
8. Editorial Board, Holzforschung an International Journal, since Nov. 2003.
7. Editorial Board Wood Sci. and Technol. an International Journal. Since Vol. 35, 1, 2001.
6. Editorial Board , Cellulose Chem. and Technol. Commencing from Vol. 34, No. 1, 2000 February 2000.
5. Board of Directors, National Network Centre of Excellence on Wood Pulps. Elected Sept. 1999.
4. Expert Scientific Advisor; European Community, DG General XII, Agriculture & Fisheries, since 1997.
3. National Ministry Education & Religious Affairs, Athens, Greece, Review panel member, since 1998.
2. National Secretariat Research and Development, Athens Greece, Review panel member, since 1998.
1. National Science Foundation, Washington DC Review Panels, Aug. 2011, Aug. 2012, Feb. 2013. Aug 2013., Feb. 2014.

INTERNATIONAL SCIENTIFIC COMMITTEES

18. 16th International Symp. Wood, Fibre & Pulping Chemistry, Vienna, Austria June , 2015
17. 15th International Symp. Wood, Fibre & Pulping Chemistry, Montreal Canada, June, 2013.
16. Italian Meeting on Lignin Chemistry, *Italic 6* University of Tuscia, Viterbo, Italy Sept. 4-8, 2011
15. Italian Meeting on Lignin Chemistry, *Italic 5* Villa Monastero, Varenna Lecco Italy Sept. 1-4, 2009
14. 4th International Symposium on Pulping & Papermaking Guangzhou, China, November 8-10, 2010
13. Italian Meeting on Lignin Chemistry, *Italic 4*, University of Rome, May 8-10, 2007
12. 14th International Symp. Wood, Fibre & Pulping Chemistry, Durban South Africa, June 25-28, 2007.
11. 5th International Non-Wood Fiber Pulping and Papermaking Conference (INWFPPC) & 3rd Intern. Symp. on Emerging Technol,s of Pulping and Papermaking, Guangzhou, China, November 8-10, 2006
10. Italian Meeting on Lignin Chemistry, *Italic 3*, University of Rome, June 24-26, 2005.
9. 13th Intern. Symp. Wood Fiber & Pulping Chem., May 16-19, 2005, Auckland New Zealand, 2005.
8. 12th International Symposium on Wood and Pulping Chemistry, Madison, Wisconsin, June 8-12, 2003.
7. Italian Meeting on Lignin Chemistry, *Italic 2*, University of Milan, February 20-21, 2003.
6. 2nd Intern. Symp. Emerging Technoln of Pulping & Papermaking, Guangzhou, China, Oct. 9-11, 2002.
5. 7th Brazilian Symp. on Lignin Chem. & Other Wood Components, B. Horizonte, Brazil, Sept. 3-5, 2001.
4. 11th International Symposium on Wood and Pulping Chemistry, Nice, France, June 11-14, 2001.
3. Italian Meeting on Lignin Chemistry, *Italic 1*, University of Rome, February 16-17, 2001.
2. International Symposium on Wood and Pulping Chemistry, Montreal, Quebec, June 9-12, 1997.
1. Advances in Microscopy & NMR Spectroscopy of Lignocellulosic Materials, Quebec, June 5-7, 1997.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1. Member of Tappi, Atlanta, 1988.
2. Member of the Plastics and Rubber Institute, MPRI, London, 1986.
3. Member of the Canadian Pulp and Paper Association, Montreal, 1986.
4. Member of New York Academy of Sciences, New York, 1985.
5. Member of the American Chemical Society, Washington, 1982.
6. Member of the Canadian Chemical Society, MCIC, Ottawa, 1982.
7. Graduateship of the Royal Society of Chemistry, GRSC, London, 1980.
8. Graduateship of the Plastics and Rubber Institute GPRI, London, 1980.
9. Member of Sigma-X, Society for the Advancement of Science 1993.

ELECTED COMMITTEE MEMBERSHIPS

13. University of North Carolina System, Member of the Faculty Assembly 2012-2014
12. North Carolina State University, Faculty Senate Executive Committee 2010-2013
11. North Carolina State University, Faculty Senator for the College of Natural Resources 2009-2013
10. North Carolina State University, Chair, Academic Policy Committee of the Faculty Senate 2010-2013
9. Chair (2002), American Chemical Society, Washington, DC. Cellulose and Renewable Materials Division. Elected January 2002.
8. Chair-Elect (2001-2002), American Chem. Society, Washington, DC. Cellulose, Paper and Textiles Division. Elected January 2001.
7. Secretary (1996-2001), American Chem. Society, Washington, DC. Cellulose, Paper and Textiles Division.
6. Chairman NMR User's Committee, Department of Chemistry, McGill University, since September 1994 to date.
5. Executive Committee Member (1994-1995), American Chemical Society, Washington, DC. Cellulose, Paper and Textiles Division.
4. Executive Committee Member (1996-1997), International Lignin Institute, Lausanne, Switzerland. Elected February 1996.
3. Executive Committee Member of the Technical Association of the American Pulp and Paper Industry, of the Wood Chemistry. Elected September 1995.
2. Executive Committee Member, Sigma-X, Society for the Advancement of Science, Montreal Chapter. Elected May 1994 - May 1995.
1. Chairman (1997-1998) Academic Committee, Hellenic Scholarships Foundation, Montreal, Quebec.

CONFERENCE ORGANIZATION

- Bridging Homogeneous and Heterogeneous Catalysis in Biorefining of Lignin (#405) [1P, Pacifichem 2015, Honolulu, Hawaii, December 15-20 2010
- Ionic Liquids; Novel Processing Platforms of Cellulose & Biomass
- Materials, Chemicals & Energy from Forest Biomass, Pacifichem 2005, Honolulu, Hawaii, December 15- 20 2005
- Primary nominator & organizer of the Anselme Payen Award symposium honoring Prof. R. St. J. Manley, Cellulose & Renewable Materials Division, 225th National Meeting, New Orleans, LA, March 23-27, 2003.
- Organized a symposium on “*Fundamentals and Catalysis of Oxidative Delignification Processes.*” American Chemical Society, National Meeting , San Francisco, CA, March 2000.
- Organized a Workshop on “*Advances in Microscopy and NMR Spectroscopy of Lignocellulosic Materials,*” Quebec City Hilton, June 5-6 1997.
- Member of the organizing committee for the 9th International Symposium on Wood and Pulping Chemistry, Montreal, Canada. June 9-12, (1997).
- Organized a symposium entitled: “*Structure and Properties of Lignocellulosic Materials*” at the 5th Chemical Congress of North America, Cancun, Mexico, Nov. 11-15 1997.

EXTRACURRICULAR ACTIVITIES

Director, Hellenic Scholarships Foundation 1992-1995.

President of McGill Hellenic Association, 1983-1984.

Radio Program Producer for Radio Centre Ville Cinq FM 102.3 working with the Hellenic Group, May 1986 - April 1987.

PUBLICATIONS STATISTICS

<http://scholar.google.com/citations?user=yifxsicAAAAJ&hl=en>

Papers in International Refereed Journals: 186

Book chapters, refereed: 17

Combined Science Citation Index as of May 2015 ; 5881

h Index =42 May 2015; Sept 2014 40; as of (2013) 39; (2008); 20; (2010): 23 ,

Books Edited: 3

Proceedings (4 pages or more): 234

Patents: 7

Invited Lectures: 94

Plenary/Keynote Lectures: 22; Popular Papers/Extensive Technical Reports/Theses: 8

PUBLICATIONS

Books Edited

1. *Oxidative Delignification Chemistry: Fundamentals and Catalysis*. ACS Symposium Series no. 785, Argyropoulos, D. S., Ed.; Washington, ACS Books, 2001. Containing 31 Chapters in 533 pages. ISBN: 0-8412-3738.
2. *Advances in Lignocellulosics Characterization*, Argyropoulos, D. S., Ed. Atlanta, Tappi Press, 1999. Containing 15 Chapters in 382 pages. ISBN: 0-89852-3575.
3. *Materials, Chemicals and Energy from Forest Biomass*, ACS Symposium Series No. 954, Argyropoulos, D. S., Ed.; Washington, ACS Books, 2006. Containing 33 Chapters, ISBN: 978-0-8412-3981-4, February 2007)

Journal Special Issues

4. *Wood to Energy: "Energies"* Special Issue Series no (ISSN 1996-1073). Argyropoulos, D. S., Editor, August 2014 see : http://www.mdpi.com/journal/energies/special_issues/wood_to_energy
5. *Advances & Challenges for Cellulosic Ethanol*; Energies; Special Issue Series no ISSN 1996-1073; Argyropoulos, D. S., Editor , September 2014 see: http://www.mdpi.com/journal/energies/special_issues/cellulosic_ethanol

Patents

7. Dimitris S. Argyropoulos,. "High Value Lignin Derivatives, Polymers, & Copolymers & Use Thereof in Thermoplastic, Thermoset, Composite and Carbon Fiber Applications. " US Pub. No. : US 2013/0255216A1, Pub Date : Oct.3rd 2013, US Patent Application No,61/601,181, Granted Jan. 6 2016.
6. Dimitris S. Argyropoulos and Haibo Xie, "Polymer Derivatives & Composites From the Dissolution of Lignocellulosics in Ionic Liquids",US Patent Application No,12/026,998,World Patent Application No. PCT/US2008/053151, Filed Feb 6 2008, U.S. Pat. Appl. Publ. (2008), 30pp. CODEN: USXXCO US 2008188636 A1 20080807 CAN 149:225172 AN 2008:945510
5. Dimitris S. Argyropoulos, "Use of Lignocellulosics Solvated in Ionic Liquids for Production of Biofuels", US Patent Application No, 12/026,997 US2008190013-A1, World Patent No. WO2008098032-A2, WO2008098032-A3, 2008-08-14, PCT Int. Appl. (2008), 44pp. CODEN: PIXXD2 A2 20080814 AN 2008:973672 U.S. Pat. Appl. Publ. (2008), 30pp. CODEN: USXXCO US 2008188636 A1 20080807 CAN 149:225172 AN 2008:945510
4. Dimitris S. Argyropoulos, "Product Preparation & Recovery From Thermolysis of Lignocellulosics in Ionic Liquids", US Patent Application No, 7959765, Patent granded 14 July 2011
3. Krishna Narasimhan, Jennifer L. Hostetler and James A. Madea, Dimitris S. Argyropoulos, Armindo R. Gaspar, "Metal/N-Hydroxyphthalimide-Catalyzed Oxygen Delignification", US Patent Application, 60,820,676, submitted July 28 2006;
2. Krishna Narasimhan, Jennifer L. Hostetler, James A. Madea and Drucilla D. Knutsen, Dimitris S. Argyropoulos, Armindo R. Gaspar, "Delignification and Bleaching of Wood Pulp with Water-Soluble, Mixed Metal Catalyst Formulations and Peroxide", US Patent Application, 60,820,684, submitted July 28 2006;
1. Krishna Narasimhan, Jennifer L. Hostetler and James A. Madea, Dimitris S. Argyropoulos, Armindo R. Gaspar, "Delignification and Bleaching of Wood Pulp with Metal-Organic Catalyst Formulations and Peroxide", US Patent Application, 60,820,696, submitted July 28 2006;

Other Publications

1. Argyropoulos, D. S. "Cellulose and Renewable Materials Division: a Renewed Outlook for the Future", *Cellulose*, 9 (2): 103-104 June 2002

2. Argyropoulos, D. S. What's in a Name? *Chemical & Engineering News*, 20, 51, (2002)
3. Argyropoulos, D. S. Book Review. "Wood and Cellulose Chemistry: Second Edition, Revised and Expanded." *Journal of the American Chemical Society*, 123(36), 8880-8881, 2001

Refereed Book Chapters

190. Timo Leskinen, Alistair W. T. King, Dimitris S. Argyropoulos, "Fractionation of lignocellulosic materials with ionic liquids"; in : Production of biofuels and chemicals with Ionic liquids", Springer Book Series - Biofuels and Biorefineries, Editors: Zhen Fang, Richard L. Smith, Jr., Xinhua Qi, chapter 8 , 2013.
189. Fu, Q., Xie, H. and Argyropoulos, D. S., "Pyrolysis of Biomass & Their Upgrading" In The Role of Green Chemistry in Biomass Processing and Conversion, by Xie, H. and Gathergood, N. Editors. pp 245–265, ISBN 978-1-57444-486-5 Hardback, John Wiley & Sons, 2012.
188. Argyropoulos, D. S., "Heteronuclear NMR Spectroscopy of Lignins"; In Lignin & Lignans; Advances in Chemistry, by Heitner, C., Dimmel, D. Schmidt, J., Editors. pp 245–265, ISBN 978-1-57444-486-5 Hardback, CRC Press, 2010.
187. Xie, H., Kilpeläinen, I., King, A., W., T., Järvi, P., Argyropoulos, D. S., "Opportunities with Dissolved Wood"; In Cellulose Solvents; For Analysis, Shaping and Chemical Modification; ACS Symposium Series, May 2009 Chapter 19, pp 343–363 Chapter DOI: 10.1021/bk-2010-1033.ch019, ACS Symposium Series, Vol. 1033 ISBN13: 9780841200067eISBN: 9780841200074, Publication Date (Web): February 23, 2010
186. Saladino, R., Crestini, C., Argyropoulos, D. S. "Recent Advances in the Oxidative Valorisation of Low Molecular Weight Cellulose Derivatives" *Materials, Chemicals and Energy from Forest Biomass*, ACS Symposium Series No. 954, Argyropoulos, D. S., Ed.; Chapter 17, pp.262-279, 2007.
185. Rojas, O. J., Jheong, C., Turon, X., Argyropoulos, D. S., "Measurement of Cellulase Activity with Piezoelectric Resonators". *Materials, Chemicals and Energy from Forest Biomass*, Argyropoulos, D. S., Ed., ACS Symposium Series, No. 954, Chapter 30, pp. 478-494, 2007
184. Rojas, O. J., Bullón, J., Ysambertt, F. Forgiarini, A., Argyropoulos, D. S., Salager, J-L., "Lignin as Emulsion Stabilizers". *Materials, Chemicals and Energy from Forest Biomass*, Argyropoulos, D. S., Ed., ACS Symposium Series, No. 954, Chapter 12 , pp. 182-199, 2007
183. Lucian, A. L., Argyropoulos, D. S., Adamopoulos, L., Gaspar, A. R., "Chemicals & Energy from Forest Biomass: A Review". *Materials, Chemicals and Energy from Forest Biomass*, Argyropoulos, D. S., Ed., ACS Symposium Series, No. 954, Washington, DC. Chapter 1, pp.2-30, 2007
181. Lucian A. L., Argyropoulos, D. S. Ban, W., Song, J., "Modifying the Functionality of Starch Films with Natural Polymers" *Materials, Chemicals and Energy from Forest Biomass*, Argyropoulos, D. S., Ed., ACS Symposium Series, No. 954, Washington, DC. Chapter 13, pp.200-218, 2007.
180. Argyropoulos, D. S.; Saquing, C. D.; Gaspar, A. R.; Soriano, N. U.; Lucia, L. A.; Rojas, O. J., "Oxidative Chemistry Of Lignin In Supercritical Carbon Dioxide & Expanded Liquids" *Materials, Chemicals and Energy from Forest Biomass*, Argyropoulos, D. S., Ed., ACS Symposium Series, No.954, .Washington, DC. Chapter 20, pp.311-331, 2007.
179. Suchy, M., and Argyropoulos, D. S. "Catalysis and Activation of Oxygen and Peroxide Delignification of Chemical Pulps: A Review." *Oxidative Delignification Chemistry: Fundamentals and Catalysis*, ACS Symposium Series no. 785, Argyropoulos, D. S., Ed.; Washington, ACS Books, 2001, Chapter 1, pp. 2-48.
178. Jurasek, L., and Argyropoulos, D. S. "A Detailed Study of the Alkaline Oxidative Degradation of A Residual Kraft Lignin Model Compound." *Oxidative Delignification Chemistry: Fundamentals and Catalysis*, ACS Symposium Series no. 785, Argyropoulos, D. S., Ed.; Washington, ACS Books, 2001, Chapter 7, pp. 130-148.
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COMPANY REPORTS

1. Argyropoulos, D. S. "Avenues Toward Lattices with Improved Stress/Strain Properties." Report No. 480.00R#0001. Polysar Latex Research Department, August 20 1987.
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KEYNOTE & PLENARY PRESENTATIONS

31. **Keynote Invited Lecture** Argyropoulos* D. S. “Correlations of the Antioxidant Properties of Kraft Lignin Fractions Argyropoulos*, D. S., C. Cui, Sun, R, “Our Industry’s Need to Refine Lignin Prior to Use in a Way Similar to Crude” Chemistry of Clean Energy Conversion, Storage & Production; Pacificchem Dec. 15-20 2015 Honolulu, Hawaii
30. **Keynote Lecture** Argyropoulos, D. S*, Sadheghifar, H., Dickerson, “Wood Anatomy & Quantitative ³¹P NMR Analysis of Solid Wood”; 6th Wood Coatings & Substrates, Sept. 18-19 2014, University of North Carolina ,Greensboro, NC, 2014.
29. **Keynote Invited Lecture** Argyropoulos* D. S. “Towards the Utilization of Technical Lignins; Limitations and Opportunities”. COST Action FP1105: University of Thessaloniki, Greece, November 11th-12th, 2014.
28. **Invited Lecture** Argyropoulos*, D. S., Filponnen, I. “The Use of Cellulose Nanocrystals as Scaffolds for Nanodevises” ; 22nd International Conference on Composites & Nanoengineering, 13-19 July 2014, Malta, 2014.
27. **Keynote Invited Lecture** Argyropoulos* D. S. “Our Industry Needs to Refine Lignin Prior to Use in a Manner Similar to Crude”. COST Action FP1105: University of Coimbra, Coimbra, Portugal, May 8th-9th, 2014.
26. **Invited Plenary Lecture** Argyropoulos*, H. Sadeghfifar², S. Sen, ² C. Cui, ² R. Sun² Towards Thermoplastic Lignin Polymers; Progress in the Utilization of Kraft Lignin for the Synthesis of Heat Stable Polymer Melts, 5th International Nordic Wood Biorefinery Conference, Stockholm, Sweden, March 25th -27th, 2014.
25. **Keynote Invited Lecture** Argyropoulos D. S. “Kraft Lignin Chain Extension Chemistry via Propargylation, Oxidative Coupling & Claisen Rearrangement”. COST Action FP1105: Karadeniz Technical University Trabzon, October 8-9, Trabzon, Turkey, 2013
24. **Invited Plenary Lecture** Argyropoulos D. S. “Toward Thermoplastic Lignin Polymers; Synthesis & Analysis” COST Action FP 0901 “Biorefinery Analytics –COST Action FP0901” Åbo Akademi University, Department of Chemical Engineering Biskopsgatan 8, Sept 17th -18 2013 , Åbo, Finland
23. **Keynote Invited Lecture** Argyropoulos D. S. “Our Philosophy & Approach Toward the Creation of Kraft Lignin Heat Stable Copolymers”; Walenberg Wood Science Foundation, “New Materials From Trees”, Stockholm Sweden, June 17-19, 2013.
22. **Keynote Lecture** “Towards Thermoplastic Lignin Polymers ; Synthesis & Characterization of Poly(aryl ether sulfone) Kraft Lignin Heat Stable Copolymers” Cost Action FP1105 Understanding wood cell wall structure, biopolymer interaction and composition: implications for current products and new material innovation; May 13-14, 2013, Edinburgh, Scotland,
21. **Keynote Lecture** “Issues of Self-Assembly Operating in the Cell Wall & Supramolecular Chemistry Based on It” Cost Action FP1105 Understanding wood cell wall structure, biopolymer interaction and composition: implications for current products and new material innovation; December 3-4, 2012, Inventia, Stockholm Sweden,
20. **Plenary Lecture** “Chemistry Aimed at Upgrading Lignin” 2012 Member Summit, International Research Institute, October 15-18, 2012, Indianapolis IN.
19. **Keynote Session Lecture** “Structural Chemistry of Lignin that Points to the Challenges of the Lignin Biorefinery & A Review of ³¹P NMR Spin Trapping” 10th International Symposium on Biocatalysis “ October 2-6 2011, Giardini di Naxos, (ME) Sicily.
18. **Opening Plenary Lecture** “Creating Supramolecular Structures with Cellulose Nanocrystals” 4th International Symposium on Emerging Technologies of Pulping & Papermaking, November 8-10 2010, Guangzhou, China.
17. **Keynote Session Lecture** “Supramolecular Chemistry Using Nature’s Most Abundant Template; The Cellulose Nanocrystal” International Workshop on Wood Biorefinery & Tree Biotechnology 21-24 June 2010, Ornskoldsvik, Sweden.
16. **Keynote Session Lecture** “Analytical and Other Opportunities With Dissolved Wood” Italian Lignin Chemistry Symposium, Italic5, 1-4.Sept..2009, Symp. Proceedings ISBN 978-88-95688-18-3 pp. 81-84, Varenna, Italy, 2009.
15. **Opening Lecture** “Development & Applications of ³¹P- NMR Spin Trapping; Toward a Detailed Understanding of the Radical Mechanism of Action of Oxidative Enzymes”, Symposium on

- Advances in Natural Substances Chemistry & Biology, Sala del Consiglio del Dipartimento ABAC-Vecchio Edificio di Agraria-Università della Tuscia, Italy, November 19th 2009.
14. **Plenary Keynote Lecture** "Opportunities with Dissolved Wood for the Forest Biorefinery" 2nd Annual Biorefinery for the Pulp & Paper Industry, Dec 1-3, 2008, Radisson SAS Royal Hotel, Helsinki, Finland.
 13. **Keynote Lecture** "Towards Probing the Structure of Lignin Without its Prior Isolation Using Quantitative ³¹P NMR in Ionic Liquids" COST Action E41 Analytical Tools with Applications to Wood and Pulping Chemistry, May 19-21, 2008, Turku / Åbo, Finland.
 12. **Plenary Lecture**, Society for Wood & Polymer Chemistry in Finland, 50 Year Anniversary, Helsinki, Kirkkokatu 6, May 21 2008, "Ionic Liquids, Opportunities for Wood Science and Technology".
 11. **Plenary Lecture** "*On the Propensity of Lignin to Associate*". Italian Meeting on Lignin Chemistry, *Italic 4*, University of Rome, Tor Vergata University, May 8-10, 2007
 10. **Keynote Lecture** "*New Insights into Eucalyptus Lignin & Pulping Chemistry*", 3rd International Colloquium on Eucalyptus Kraft Pulp, Bello Horizonte, Brazil March 4-7 2007.
 9. **Plenary Lecture** "Understanding the Role of Mediators in the oxidation of Kraft Lignin by Laccase", Iberoamerican Congress on Pulp & Paper Research, Madrid-Cordoba, Nov. 10-12, 2004
 8. **Keynote Lecture**, "Supercritical CO₂ Oxidation of Lignin for High Value Added Products" 3rd Italian Meeting on Lignin Chemistry, June 23-24, Università Degli Studi, L'Aquila, pp. 2-11, 2005.
 7. **Plenary Lecture** "The Significance of Lignin Research to the Pulp and Paper Industry" COST Action E41 "Analytical Tools with Applications to Wood and Pulping Chemistry" Dipoli Conference Centre, Helsinki, Finland, Oct 20, 2004.
 6. **Keynote Lecture**, "New Lignin Insights into Pulping and Bleaching.", 2nd International Symp. Emerging Technologies of Pulping and Papermaking, Guangzhou, PR., China, Oct. 9-11, 2002.
 5. **Keynote Lecture**, "Recent Advances in Wood Chemistry.", Seventh Brazilian Symposium on the Chemistry of Lignins and Other Wood Components, Uro Minas Hotel, Bello Horizonte, PR. Brazil, Sept. 1- 4 (2001), Oral Presentations Volume, pp. 43-51.
 4. **Distinguished Lecture Series**, University of British Columbia, Dept. of Chemical Engineering, "*Recent Advances in Lignin Chemistry*," Advanced Papermaking Initiative, November 23, 2001.
 3. **Plenary Lecture**, From Organic Chemistry to Organic Chemical Technologies, A Symposium In Memory of Professor G. Valkanas "*New Lignin Reactions and Future Research Directions*," National Technical University of Athens, February 21, 2001.
 2. Otaniemi Symposium on Lignin Chemistry 1999, VTT Chemical Technology, Espoo, Finland, **Plenary Lecture**, "Understanding Pulping, Bleaching and Yellowing Using Novel NMR Techniques; A Review of our Work at McGill." November 9, 1999.
 1. **Plenary Lecture**, "Fundamental NMR Studies of Lignins: Emerging Answers to Issues of Concern in Relation to Pulping, TCF Bleaching and Yellowing.", Fifth Brazilian Symposium on the Chemistry of Lignins and Other Wood Components/Workshop of the International Energy Agency on Biotechnology Applied to Lignocellulosic Materials, Bourbon Hotel, Curitiba, Brazil, Aug. 31-Sept. 4 1997.

CONFERENCE PRESENTATIONS

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247. Sadeghifar, H. Argyropoulos*, D. S. "Correlations of the Antioxidant Properties of Kraft Lignin Fractions with the Thermal Stability of its Blends with Polyethylene"; COST Action FP1105 Principles of cell wall assembly – Understanding and Implementation. 26-27/May/2015 San Sebastian, Spain
246. Argyropoulos*, D. S., C. Cui, Sun, R, "Our Industry's Need to Refine Lignin Prior to Use in a Way Similar to Crude. International Symposium on Wood Fiber & Pulp Chemistry, Septemebr 9-11 ; 2015, Vienna , Austria
245. Argyropoulos*, D. S., Sen, S.; C. Cui, Sadeghifar, H "Homogeneous Technical Lignins as Phenolic Precursors to Heat Stable Polymers & Carbon Fibers"; Joint meeting WG1 & WG3 COST Action FP1306, Litvínov, Czech Republic, October 14-15th^o 2015

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244. B. L. Carpenter*, H. Sadeghifar, F. Scholle, A. Francis, W. W. Weare, D. S. Argyropoulos and R. A. Ghiladi. "New cellulose-based materials for antimicrobial photodynamic inactivation" Oral presentation at the 66th Southeastern Regional Meeting of the American Chemical Society, Nashville, TN, October 16th-19th, 2014.
243. B. L. Carpenter* and R. A. Ghiladi. "Antimicrobial photodynamic inactivation using cellulose based materials" Poster presentation at the 2014 NC PhotoChem Symposium, Raleigh, NC, October 11, 2014.
242. Argyropoulos*, D. S., Sen, S.; C. Cui, Sadeghifar, H.; "Towards thermoplastic lignin polymers; progress in utilizing kraft lignin as precursor to carbon fibers, heat stable melts & narrow polyphenols"; 2nd International Conference on Bio-Based Polymers & Composites, Chemistry: August 24-28, Visegrad, Hungary.
241. Argyropoulos*, D. S., Sen, S.; Sadeghifar, H.; Chain Extension of Kraft Lignin Using Propargylation, Oxidative Coupling and Claisen Rearrangement Methods; 2nd International Conference on Chemistry; Athens Institute for Education & Research; July 21-24, Athens, Greece.
240. Argyropoulos*, D. S. H. Sadeghifar, S. Sen, C. Cui, R. Sun; Progress in the Utilization of Kraft Lignin for the Synthesis of Heat Stable Polymer Melts, 13th Euroean Workshop on Lignocellulosics & Pulp, Seville, Spain, June 24th -27th, 2014.
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238. Hasan Sadeghifar*, James P. Dickerson, Dimitris S. Argyropoulos, Determination of the degree of functionalization in wood components by quantitative ³¹P NMR as a function of wood density, earlywood & latewood. 7th European Conference on Wood Modification, Lisbon, Portugal March 10-12, 2014.

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237. Sun*, R.; Argyropoulos, D. S.; Sadeghifar, H.; Cui, C.; Sen, S.; Synthesis & characterization of poly(arylene ether sulfone) kraft lignin heat stable copolymers. Abstracts of Papers, 65th Southeast Regional Meeting of the American Chemical Society, Atlanta, GA, United States, November 12-16, 2013.
236. Leskinen*, T.; Kelley, S.; Argyropoulos, D. S.; Improved methodology for observing the molecular weight distributions of wood components in original and processed wood. Abstracts of

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235. Argyropoulos*, D.S. Sen, S., C. Cui, "Towards Thermoplastic Lignin Polymers ; Synthesis & Characterization of Poly(aryl ether sulfone) Kraft Lignin Heat Stable Copolymers" 9th European Technical Symposium on Polyimides & High Performance Functional Polymers, Universite Montpellier June 3-5 2013.
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234. Argyropoulos*, D. S. "High Value Lignin Polymers & Co-Polymers for Use in Thermoplastic & Thermoset Applications" Cost Action CM0903, Utilization of Biomass for Sustainable Fuels and Chemicals, UBIOCHEM III, Presentation O-15, p. 25, November 1-3, Thessaloniki, Greece 2012.
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226. Dimitris S. Argyropoulos*Hasan Sadeghifar, , High Value Lignin Polymers & Copolymers for Use in Thermoplastics & Thermoset Applications, 12th European Workshop on Lignocellulosics & Pulp, Espoo, Finland, Haasanari Cultural Centre, O29, pp. 126-129, August 27-30 2012.
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57. Argyropoulos, D. S. and Sun, Y*., "Photochemically Induced Degradation, Condensation and Rearrangement Reactions in Lignin Model Compounds and Milled Wood Lignin." 9th International Symposium on Wood and Pulping Chemistry, Oral presentations volume, pp. K5-1toK5-6 June 9-12, (1997). Montreal, Canada.
56. Crestini, C*., G. G. Sermani, and Argyropoulos, D. S."The Biodegradation of Wheat Straw Lignins by the White-Rot Fungus *Lentinus Edodes*." 9th International Symposium on Wood and Pulping Chemistry Posters volume pp. 16-1 to 16-4, June 9-12, (1997). Montreal, Canada.
55. Ahvazi, B*, Argyropoulos, D. S. "Quantitative Detection of Carbonyl Groups in Native and Technical Lignins." 9th International Symposium on Wood and Pulping Chemistry, Posters volume pp. 7-1 to 7-5, June 9-12, (1997). Montreal, Canada.
54. Crestini*, C., Argyropoulos, D. S., "The Early Biodegradation Pathways of Residual Kraft Lignin Model Compounds with Laccase." 9th International Symposium on Wood and Pulping Chemistry, Posters volume pp. 20-1 to 20-5, June 9-12, (1997). Montreal, Canada.
53. Billa, E*., Argyropoulos, D. S. and Koukios, E., "Correlating Residual Kraft Lignins ³¹P NMR and Fluorescence Spectroscopy Data by Multivariate Chemometric Analysis." Advances in Microscopy and NMR Spectroscopy of Lignocellulosic Materials, Pre-symposium Workshop to the 9th International Symposium on Wood and Pulping Chemistry, June 5-6, (1997).
52. Argyropoulos, D. S*., "Quantitative Phosphorus and Fluorine NMR Spectroscopies for the Structural Elucidation of Lignin." Advances in Microscopy and NMR Spectroscopy of Lignocellulosic Materials, **Invited Presentation**, Pre-symposium Workshop to the 9th International Symposium on Wood and Pulping Chemistry, June 5-6, (1997).
51. Liu, J., and Argyropoulos, D. S*. "Bleaching out The Yellow While it Forms During Reversion with Solid-State Bleaching." *CPPA Pacific and Western Branches Joint Technical Conference*, Whistler, BC, Session 3A, paper no. 2, May 14-17 1997.
50. Puring*, P. Halevy, P., Argyropoulos, D. S. "Photoyellowing Inhibition of BCTMP Using Water Soluble UV Screens." *83rd Annual Meeting of the Technical Section of the Canadian Pulp and Paper Association*, Feb. 1997.

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49. Sun, Y., and Argyropoulos, D.S*. "Fundamentals of High Pressure and Low Pressure Oxygen-Peroxide (Eop) Delignification of Softwood and Hardwood Kraft Pulps." Book 1, pp. 457-463, Tappi Pulping Conference, Nashville, TN, 1996.
48. Billa, E*., Argyropoulos, D. S., and Koukios, E., "Multivariate Chemometrics Approach for the Fluorescence of Residual Kraft Lignins." Workshop on Bioproducts from Lignocellulosics-Progress in Developing Feasible Bio/Chemical Pathways," Sounion, Greece, September, 25-27, 1996.
47. Crestini, C, and Argyropoulos, D. S*. "Biodegradation of Kraft Lignin Model Compounds by Laccase from *Trametes Versicolor*." Invited presentation, Workshop on Bioproducts from Lignocellulosics-Progress in Developing Feasible Bio/Chemical Pathways, Sounion, Greece, September, 25-27, 1996.
46. Argyropoulos, D.S*., "Recent Advances on Lignin Characterization." **Invited Presentation**, Workshop on Bioproducts from Lignocellulosics-Progress in Developing Feasible Bio/Chemical Pathways, Sounion, Greece, September, 25-27, 1996.
45. Crestini, C* and Argyropoulos, D. S. "Structural Analysis of Wheat Straw Lignin by Quantitative ³¹P-NMR and 2D NMR Spectroscopy; The Occurrence of Ester Bonds and beta-O-4 Substructures."

- Fourth European Workshop on Lignocellulosics and Pulp, on Advances in Characterization and Processing of Wood, Non-woody and Secondary Fibres, Stresa, Italy, Sept. 8-11, pp. 51-55, 1996.
44. Billa, E., Argyropoulos, D.S* and Koukios, E. "A Multivariate Chemometrics Approach for the Fluorescence of Residual Kraft Lignins." Fourth European Workshop on Lignocellulosics and Pulp, on Advances in Characterization and Processing of Wood, Non-woody and Secondary Fibres, Stresa, Italy, Sept. 8-11, pp. 304- 308, 1996.
 43. A. Spyros*, D. S. Argyropoulos and R.H. Marchessault, "³¹P NMR, A New and Efficient Tool for Determining Molecular Weights and Studying Degradation of PHA's." International Symposium on Bacterial Polyhydroxyalkanoates 1996, Davos Switzerland, 18-23 August 1996.
 42. Mazur*, M., and Argyropoulos, D. S., "Relaxation Mechanisms of Phosphitylated Lignins." 11th NMR Valtice 15-17, Slovakia, April 1996.
 41. Bouchard, J*, Maine, C., Argyropoulos, D. S. and Berry, R. M., "Kraft Pulp Bleaching Using *In-Situ* Dimethyldioxirane: Mechanism and Reactivity of the Oxidants." *CPPA Pacific and Western Branches Joint Technical Conference*, Jasper, Alberta, May 15-18 1996.
 40. Y. Sun, D. S. Argyropoulos* "A Comparison of the Reactivity and Efficiency of Ozone, Chlorine Dioxide, Dimethyldioxirane and Hydrogen Peroxide with Residual Kraft Lignin." *CPPA Pacific and Western Branches Joint Technical Conference*, Jasper, Alberta, May 15-18 1996.
 39. Bouchard*, J, Chen, J. and Argyropoulos, D. S. "Bleaching With Dimethyldioxirane: A Review of its Fundamentals." Cellulose Paper and Textile Division Paper no. 220, *211st American Chemical Society Meeting*, New Orleans LA, March 24-28 1996.
 38. Ahvazi*, B., Borbaruah, M., Argyropoulos, D. S. "¹⁹F NMR Spectroscopy for the Elucidation of Carbonyl-Groups in Lignins; Part I, Lignin Model Compounds." *37th Experimental NMR Conference*, Asilomar, CA March 19-22, Paper WP140, p.292, 1996.
 37. Ahvazi, B*, Argyropoulos, D. S. "Quantitative Detection of Carbonyl Groups in Native and Technical lignins by ¹⁹F NMR Spectroscopy." Cellulose Paper and Textile Division Paper no. 114, *211st American Chemical Society Meeting*, New Orleans LA, March 24-28 1996.
 36. Ahvazi, B*, Borbaruah, M., Argyropoulos, D. S. "¹⁹F NMR Spectroscopy for the Elucidation of Carbonyl-Groups in Lignins; Part I, Lignin Model Compounds." *82nd Annual Meeting of the Technical Section of the Canadian Pulp and Paper Association*, Feb. 1996.
 35. Zhang, L*. Argyropoulos, D. S. "Quantification of Quinonoid Structures in Soluble Lignins by Phosphorus NMR." *82nd Annual Meeting of the Technical Section of the Canadian Pulp and Paper Association*, Feb. 1996.

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34. Argyropoulos, D. S*. "The Development of Condensed Structures in Lignin During Kraft Pulping." International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, Paper, O1E-183, Dec. 19, 1995.
33. Argyropoulos, D. S*, Hortling, B., Poppius-Levlin, K., Sun, Y, Mazur, M., "MILOX Pulping, Lignin Characterization by ³¹P NMR Spectroscopy and Oxidative Degradation." *8th International Symposium of Wood & Pulping Chemistry*, Helsinki, Finland, June 6-9, Vol. 1 495-502, 1995.
32. Y. Sun, D. S. Argyropoulos* "A Comparison of the Reactivity and Efficiency of Ozone, Chlorine Dioxide, Dimethyldioxirane and Hydrogen Peroxide with Residual Kraft Lignin." *8th International Symposium of Wood & Pulping Chemistry*, Helsinki, Finland, June 6-9, Vol. 1 361-368, 1995.
31. Z. Jiang and D. S. Argyropoulos* "The Application of the Mannich Reaction Toward the Quantitative Analysis of Lignins." *8th International Symposium of Wood & Pulping Chemistry*, Helsinki, Finland, June 6-9, Vol. 1 511-518, 1995.
30. Faix*, O., Andersons, B., Argyropoulos, D. S. and Robert, D. "Determination of Total Phenolic Hydroxyl and Carbonyl Groups of Lignins. A Critical Overview." *8th International Symposium of Wood & Pulping Chemistry*, Helsinki, Finland, June 6-9, Vol. 1 559-566, 1995.
29. Jiang, Z.H*, Argyropoulos, D. S. and Granata, A. "Correlation Analysis of ³¹P NMR Chemical Shifts with Substituent Effects of Phenols." paper no. 249, *36th Experimental NMR Conference*, Copley Place, Boston MA, March 26-30, 1995.
28. Argyropoulos, D. S*. "Fundamental NMR Studies of Lignins: Emerging Answers to Issues of Concern in Relation to Pulping, TCF Bleaching and Yellowing." *81st Annual Meeting of the Technical Section of the Canadian Pulp and Paper Association*, A-209-A214, Feb. 1995.

27. Argyropoulos, D. S. and Luo*, S. G. "Structural Investigations of lignin During the Bleaching of Sulphonated Mechanical Pulps." *81st Annual Meeting of the Technical Section of the Canadian Pulp and Paper Association*, Poster Session, Feb. 1995.
26. Jiang, Z.H., Sun, Y*., Argyropoulos, D. S. "Correlation Analysis in ³¹P NMR Spectroscopy Aimed at Understanding Photochemical Events in Lignin." *81st Annual Meeting of the Technical Section of the Canadian Pulp and Paper Association*, Poster Session, Feb. 1995.

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25. Argyropoulos, D. S*., Sun, Y, Berry, R. M. and Bouchard, J. "On the Reactivity of Dimethyldioxirane with Lignin Model Compounds." *Third European Workshop on Lignocellulosics and Pulp*, Hasseludden, Stockholm, Sweden, August 29-31, pp. 266-271, 1994.
24. B. Saake*, D. S. Argyropoulos, O. Faix, "Structural Investigations of Synthetic Lignins (DHP's) as a Function of Molar Mass and Mode of Preparation." *Third European Workshop on Lignocellulosics and Pulp*, Hasseludden, Stockholm, Sweden, August 29-31, pp. 210-214, 1994.
23. Argyropoulos, D. S*., Heitner, C. and Schmidt, J. A. "Observation of Quinonoid Groups During the Light-Induced Yellowing of Softwood Mechanical Pulp." *Third European Workshop on Lignocellulosics and Pulp*, Hasseludden, Stockholm, Sweden, August 29-31, pp. 154-158, 1994.
22. Argyropoulos, D. S*., Sun, Y, Berry, R. M. and Bouchard, J. "Reactions of Dimethyldioxirane with Lignin Model Compounds." *1994 International Pulp Bleaching Conference*. Hyatt Regency Hotel, Vancouver B.C. June 13-16, Posters vol., p.p. 83-91, 1994.
21. Sun, Y*., and Argyropoulos, D. S. "Fundamentals of High Pressure Oxygen and Low Pressure Oxygen-Peroxide (EOP) Delignification of Softwood and Hardwood Kraft Pulps; A Comparison." *"New Developments in Pulp Bleaching and Brightening."* American Institute of Chemical Engineers, Spring National Meeting, Atlanta Georgia, Paper no. 30d, April 17-24 1994. **Invited Contribution.**

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20. Argyropoulos D.S*. "Phosphorus-31 NMR Analysis of Lignins: A Novel Quantitative Method to Follow Structural Changes in Lignins." *Proceedings International Conference on Emerging Technologies in the Pulp and Paper Industry*, Taipei Taiwan, pp. 8-12, May 18-20 1993. **Invited Contribution.**
19. Argyropoulos D. S*. and Morin, F. "Probing the Macromolecular Structure of Wood and Pulps with Proton Spin-Lattice Relaxation Time Measurements in the Solid State." *American Chemical Society National Meeting*, Cellulose Paper and Textiles Division, Paper No. 78, Denver Colorado, March 28-April 2 1993, **Invited Contribution.**
18. Argyropoulos, D. S*. "Quantitative Phosphorus-31 NMR Analysis of Lignins; A New Tool for the Lignin Chemist." *American Chemical Society National Meeting*, Symposium on "NMR of Biomaterials." Cellulose Paper and Textiles Division, Paper No. 152, Denver Colorado, March 28-April 2 1993, **Invited Contribution.**
17. Argyropoulos, D. S*. "³¹P NMR in Wood Chemistry, A Review of Recent Progress." *Proceedings 7th International Symposium of Wood & Pulping Chemistry*, Beijing, China, May 25-28, Vol. 2. pp 776-787, 1993.
16. Argyropoulos, D. S*., Bolker, H. I., Heitner, C., Archipov, Y., "The Structural Elucidation of Lignins Using ³¹P NMR Spectroscopy." *Emerging Science and Technology for the Pulp and paper Industry*, McMaster University, Hamilton Ontario, Sept. 2 1993.

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15. Argyropoulos, D.S*. "Phosphorus-31 NMR Spectroscopy as Applied to Wood Biopolymers." *33rd Experimental Nuclear Magnetic Resonance Conference*, March 29-April 2, 1992, Asilomar Conference Center, Pacific Grove California.
14. Argyropoulos, D. S*., "Phosphorus-31 NMR Analysis of Steam Explosion Lignins." *Advances in Thermochemical Biomass Conversion*, May 11-15, 1992, Interlaken Switzerland.

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13. Argyropoulos, D.S*. "New NMR Methods." *Modern Methods of Analysis of Wood, Annual Plants and Lignins*, Monteleone Hotel, New Orleans, November 29 - December 1, 1991, **Invited Contribution.**

12. Argyropoulos, D.S*. "Phosphorus-31 NMR Analysis of Six Soluble Lignins. A Novel Method for Functional Group Quantitation." *Modern Methods of Analysis of Wood, Annual Plants and Lignins*, Monteleone Hotel, New Orleans, November 29 - December 1, 1991, **Invited Contribution**.
11. Argyropoulos, D.S*. and Heitner C. "Ultra High Yield Pulping Part VII. The Effect of pH During Impregnation on the Quality of Lightly Sulphonated TMP." *International Mechanical Pulping Conference*, Minneapolis, Minnesota, pp.191-197, June 1-6, 1991.
10. Heitner, C., Argyropoulos, D.S*., Miles, K., Karnis, A. and Kerr, B. "Alkaline Sulphite Ultra-High Yield Pulping of Aspen Chips - A Comparison of Steam Explosion and Conventional Chemimechanical Pulping." *International Mechanical Pulping Conference*, Minneapolis, Minnesota, pp.151-164, June 1-6, 1991.
9. Archipov, Y., Argyropoulos, D.S*., Bolker, H. I., and Heitner, C. "³¹P NMR Spectroscopy in Wood Chemistry." *International Symposium of Wood & Pulping Chemistry*, Melbourne Australia, 1, pp.359-366 April 30-May 4, 1991.
8. Argyropoulos, D.S*., Archipov, Y., Bolker, H. I., and Heitner, C. The Potential of "³¹P NMR Spectroscopy in Wood Chemistry." *Workshop on Methods of Analysis of Wood and Environmental Samples*, Rotorua, New Zealand , May 7-8, 1991.
7. Fillppov, V., Archipov, Y*., and Argyropoulos, D. S., "4,4,5,5-Tetramethyl-1,3,2-dioxaphospholanyl Chloride-Derivatizing Reagent for Lignin Functional Group Analysis." *Materials 7th International Conference of Young Scientists*, Riga, Latvia, (1991).

1987-1982

6. Argyropoulos, D.S*. and Bolker, H. I. "The Gel Degradation Theory of Wood Delignification; Experimental Confirmation with a Model Polymer." *Proceedings of the 4th International Symposium of Wood and Pulping Chemistry*, 1, 399-405, Paris, France, April 1987.
5. Argyropoulos, D.S*. and Bolker, H. I. "Species Distribution in the Sol Phase Beyond the Gel Point." *Macromolecular Reprints, Royal Society of Chemistry*, Oxford, England, Vol, 1, 111-114, (1986).
4. Argyropoulos, D.S*., Bolker, H. I., "A Facile Synthesis of Monodisperse Carboxylated Polystyrene." *Polymer Preprints* 27(1), 457, (1986). ACS National Meeting, New York, April 1986.
3. Argyropoulos, D.S*. and Bolker, H. I. "Synthesis and Degradation of Polymer Networks." *Polymer Preprints*, 25(2), 130 (1984), ACS National Meeting, Philadelphia, PA., August 1984.
2. Argyropoulos, D.S*. and Bolker, H. I. "Breaking Crosslinks to Solubilize Lignin." *Cellulose, Paper and Textile Division*, Paper No. 133 ACS National Meeting, Philadelphia, PA., August 1984.
1. Argyropoulos, D. S*., Hodd, K.,A., and Wright, W., W., "The influence of Crosslink Density on Thermal Properties of Some Epoxy Resins Based on 4,4'-Diaminodiphenyl Methane." 7th International Conference on Thermal Analysis, Paper no. IV-FF-5, Kingston, Ontario, August 22-28, 1982.

INVITED LECTURES / SEMINARS

93. Lord Polymer Corporation, Raleigh, North Carolina January 16th 2012, "Toward Heat Stable Thermoplastic Polymers from Lignin",
92. Department of Forest Biomaterials, North Carolina State University, February 16th 2012, "High Value Lignin Derivatives, Polymers & Copolymers for Use in Thermoplastic & Thermoset Applications,
91. Symposium on Lignin Biorefinery, "Structure of Lignin & Lignin Fragments" Pacificchem 2010, Honolulu, Hawaii, December 15-20 2010
90. Peking University, Beijing China, Department of Chemistry, November 2 2010, "Opportunities with Dissolved Wood for the Forest Biorefinery" & "Supramolecular Chemistry Using Nature's Most Abundant Template; The Cellulose Nanocrystal"
89. Chinese Academy of Sciences, Laboratory of Process Engineering, November 3 2010, "Use of Ionic Liquids in the Green Processing of Biomass"
88. Department of Biotechnology; National Laboratory for Clean Energy, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, November 4 2010, "Opportunities with Dissolved Wood for the Forest Biorefinery" & "Supramolecular Chemistry Using Nature's Most Abundant Template; The Cellulose Nanocrystal"
87. University of Helsinki, Department of Applied Chemistry & Microbiology, October 20th 2009, Helsinki, Finland. "Development & Applications ³¹P NMR Spin Trapping; Toward a Detailed Understanding of the Radical Mechanism of Action of Oxidative Enzymes with the Lignocellulosic Substrate",
86. Helsinki Technical University, October 19th 2009, Helsinki, Finland "The Use of Cellulose Nanocrystals as Scaffolds for Nanodevices; Supramolecular Chemistry using Nature's most Abundant Template",
85. Department of Chemistry, Dublin University of Technology, October 16th 2009, Dublin, Ireland. "The Modern Forest Biorefinery",
84. Department of Chemistry, Dublin University of Technology, October 16th 2009, Dublin, Ireland. "Supercritical CO₂ as a Novel Processing Platform for the Oxidation of Kraft Lignin",
83. Dublin University of Technology, October 15th 2009, Dublin, Ireland "Development of Heteronuclear NMR and Diverse Applications", Department of Chemistry,.
82. Department of Chemistry, Dublin University of Technology, October 14th 2009, Dublin, Ireland. "Green Chemistry as Applied to the Forest Biorefinery",
81. Department of Agrochemistry & Agrobiology, University of Tuscia, Viterbo, Italy July 14th, 2009 "The Research & Education Program at the Dept of Forest Biomaterials at NCSU".
80. Department of Agrochemistry & Agrobiology, University of Tuscia, Viterbo, Italy July 15th, 2009 "The Chemistry Oxidative Enzymes as Probed by Novel ³¹P NMR Spin Trapping Techniques",
79. Department of Agrochemistry & Agrobiology, University of Tuscia, Viterbo, Italy July 10th, 2009 "Ionic Liquids as Solvents of Wood for Technology & Science",
78. Eastman Chemical Co., Focus School Lecture Series, October 6th, 2008, Kingsport Tennessee, USA. "Opportunities with Dissolved Wood for Green Materials & Chemicals",
77. "Green Chemistry of Wood & Wood Components", BioRefine 2007-2012, September 22nd 2008, Lahti, Finland.
76. "Global Warming and the Need for Green Chemistry Biomass Processing Platforms", University of Helsinki May 27th, 2008, Finland.
75. Florida International University, Dept. of Chemistry, November 30th 2007 "Technology Platforms for the Forest Biorefinery"
74. Pöyry Forest Industry Tekes Focus Group, Kemira Oyj Espoo Research Center Luoteisrinne 2 02270 Espoo, Sept 6th 2007 "The Chemical Biorefinery"
73. Durban University of Technology, June 28th 2007 "New Technology Platforms for use in Tomorrow's Forest Biorefinery"
72. Novozymes Research Centre, Franklinton, North Carolina, May 31st 2007 "Novel Methods of Analysis and Pretreatments for Lignocellulosic Substrates"
71. University of Helsinki, November 10th 2006 "Toward the Forest Biorefinery with New Chemistry & New Tools"
70. Helsinki University of Technology, October 4th 2006 "The Concept of Forest Biorefinery".

69. Helsinki University of Technology , October 4th 2006 “The Research & Education Program at the Wood & Paper Science Dept. at NCSU”.
68. Centre Technique du Papier (CTP), Grenoble, France, April 11th 2006 “Advances in Oxidation Chemistry of Biomass “
67. North Carolina State University – Department of Wood & Paper Science – Forest Biomaterials and Cellulose Nanorods”, Oct. 1, 2005.
66. North Carolina State University – Department of Wood & Paper Science – An Activity Profile Related to Biomaterials Research”, OMG Americas Inc. Technology Seminar Series, Cleveland, Ohio, Jan 4, 2005.
65. Plenary Lecture “Understanding the Role of Mediators in the oxidation of Kraft Lignin by Laccase”;Iberoamerican Congress on Pulp & Paper Research, Madrid-Cordoba, Nov. 10-12, 2004
64. Plenary Lecture ”The Significance of Lignin Research to the Pulp and Paper Industry” COST Action E41 “Analytical Tools with Applications to Wood and Pulping Chemistry”Dipoli Conference Centre, Helsinki, Finland , Oct 20,2004.
63. North Carolina State University, Department of Chemistry “*Advances in Lignin Chemistry*,” May 2, 2002.
62. University of Sherbrooke, Department of Chemistry, “New Insights in Lignin and Future Research Directions,” November 28, 2001.
61. University of British Columbia, Dept. of Chemical Engineering, “*Recent Advances in Lignin Chemistry*,” Distinguished Lecture Series, Advanced Papermaking Initiative, November 23, 2001.
60. Université Du Quebec A Trois Rivieres, Pulp and Paper Research Centre, “*Insights in Lignin Structure*,” March 16, 2001.
59. Plenary Lecture, From Organic Chemistry to Organic Chemical Technologies, A Symposium In Memory of Professor G. Valkanas “*New Lignin Reactions and Future Research Directions*,” National Technical University of Athens, February 21, 2001.
58. Opening Invited Lecture, Italian Meeting on Lignin Chemistry, *Italic 1*, University of Rome, “*Novel Aspects of Lignin Chemistry*,” February 16-17, 2001.
57. McGill University, Dept. of Chemistry, “*Salient Lignin Reactions*,” January 9, 2001.
56. Alberta Research Council, Edmonton, Alberta, “*Lignin Reactions Operating Under Industrial Conditions*,” February 16, 2000.
55. Otaniemi Symposium on Lignin Chemistry 1999, VTT Chemical Technology, Espoo, Finland, Plenary Lecture, “Understanding Pulping, Bleaching and Yellowing Using Novel NMR Techniques; A Review of our Work at McGill.” November 9, 1999.
54. White Martins Inc., Dunque de Caxias, RJ, Brazil, “Why Oxygen Fails to Fully Delignify Kraft Pulps,” October 29, 1999.
53. Université Bordeaux 1, Sciences Technologies, Bordeaux, France, “Probing the Macromolecular Structure of Wood and Pulps with Proton Spin Lattice Relaxation Time Measurements in the Solid State,” July 20, 1999.
52. Université Bordeaux 1, Sciences Technologies, Bordeaux, France, “The Development and Elimination of Condensed Structures in Lignin During Pulping and Oxygen Delignification,” July 12, 1999.
51. Université Bordeaux 1, Sciences Technologies, Bordeaux, France, “Development and Applications of Heteronuclear NMR for the Structural Elucidation of Lignins, Carbohydrates, and Synthetic Polymers,” July 7, 1999.
50. Institut de Chemie Moleculaire Paul Sabatier, Université Toulouse III, “Development and Applications of Heteronuclear NMR for the Structural Elucidation of Lignins, Carbohydrates, and Synthetic Polymers,” July 5, 1999.
49. Université Bordeaux 1, Sciences Technologies, Bordeaux, France, “Maintaining the Brightness of Mechanical Pulps with Solid State Perborate Bleaching,” July 1, 1999
48. Forestry and Forest Products Research Institute, Tsukuba Science Cty, Japan, “Development and Application,” June 4, 1999.
47. American Chemical Society, 217th National Meeting, Tutorial on Analytical Methods in Lignocellulosics, Cellulose Paper and Textiles Division, “Quantitative ³¹P and ¹⁹F NMR Spectroscopies for the Structural Analysis of Lignins,” Invited Presentation, March 21-25, 1999, Anaheim, Ca.

46. Pulp and Paper Research Institute of Canada, Pointe Claire Laboratory, "On the Formation of Diphenylmethane Structures in Lignin Under Kraft, Soda and EMCC Pulping of Heteronuclear NMR for the Analysis of Lignins Conditions," November 9, 1998.
45. National Technical University of Athens, Department of Chemical Engineering, "Development and Applications of Novel NMR Techniques for the Study of Lignocellulosic Materials," May 27, 1998.
44. University of Hamburg, Wood Chemistry Laboratory, "Kinetic Aspects of Lignin Degradation During Oxygen Delignification," April 22, 1998.
43. University of Rome, 'La Sapienza', Department of Chemistry, "Analytical Issues Relevant to The Canadian Pulp and Paper Industry," February 25, 1998.
42. University of Maine, Departments of Chemical Engineering and Chemistry, Distinguished Lecture Series, "Looking at Modified Pulping and TCF Bleaching with Novel NMR Techniques," October 3, 1997.
41. Weldwood of Canada, Hinton Division, Hinton Alberta, "*Changes in Residual Kraft Lignin During Oxygen Delignification*," and "Functional Group Changes of Residual and Solubilized Lignins Induced in the Various Stages of the Hinton Bleach Plant," July 28, 1997.
40. Mechanical and Chemimechanical Wood Pulps Network, National Network Centre of Excellence Annual Meeting, "*Milestones in Our Reversion Research at McGill; Past, Present and Future*," University of Toronto, May 29, 1997.
39. Repap Technologies Inc., "*Kinetics of Functional Group Formation/Elimination from Residual Kraft Lignin During Oxygen Delignification*," "*The Influence of Metal Ions in the Decomposition and Radical Coupling Reactions of Alkaline Hydrogen Peroxide with Residual Kraft Lignin Model Compounds*," "*A Comparison of the Fundamental Lignin Chemistry Between the Alcell and the Kraft Pulping Processes*," Valley Forge, PA, April 2, 1997.
38. Alberta Research Council, "*Photoyellowing Inhibition of Mechanical Pulps with Water-Soluble UV Screens*," Industry Workshop on Bleaching and Yellowing Inhibition, Edmonton, Alberta, October 2, 1996.
37. Alberta Research Council, "*Maintaining the Brightness of Mechanical Pulp Solid-State Perborate Bleaching*," Industry Workshop on Bleaching and Yellowing Inhibition, Edmonton, Alberta, October 2, 1996.
36. Pulp and Paper Research Institute of Canada, Pointe Claire Laboratories, "*Biodegradation of Kraft Lignin Model Compounds with Laccase*," October 7, 1996.
36. University of Montana, Department of Chemistry "*Probing Wood Biopolymers with New NMR Techniques*," August 5, 1996.
35. Howe Sound Pulp and Paper, Port Melon BC. "*Kinetic Aspects of Lignin Chemistry During Oxygen Delignification*," July 18, 1996.
34. University of Toronto, Department of Chemical Engineering, "*Fundamental NMR Studies of Lignins: Emerging Answers to Issues of Concern in Relation to Pulping, TCF Bleaching and Yellowing*," May 1, 1996.
33. Ecole Polytechnique, Department of Chemical Engineering, "*Magnetic Resonance as Applied to Pulp and Paper Research*," March 21, 1996.
32. International Lignin Institute, Fribourg Switzerland, Third International Forum, "*Probing the Biopolymers of Wood with ³¹P NMR, A Review of Recent Progress and Applications*," February 29 - March 1 1996 .
31. University of Ioannina, Greece, "*Applications of ³¹P NMR, in Wood Chemistry, Polymer Science and Cyclosporin Chemistry*," February 20, 1996.
30. Universita degli Studi della Tuscia, Italy, Dept. of Agrochemistry and Agrobiology, "*Probing the Biopolymers of Wood with ³¹P NMR, A Review of Recent Progress and Applications*," February 13 1996.
29. CANFOR Research and Development Centre, Vancouver, BC, "*Lignin Condensation Reactions*," Jan. 3, 1996.
28. Pulp and Paper Research Institute of Canada, Vancouver Laboratory, "*Lignin Condensation Reactions*," January 3, 1996.
27. University of New Brunswick, Department of Chemistry, "*Probing Natural Polymers with NMR*," Oct. 27, 1995.
26. Pulp and Paper Research Institute of Canada, Pointe Claire Laboratory "*NMR Applications to Issues of Practical Concern*," October 16, 1995.

25. DuPont, Wilmington, Delaware, "*Bleaching with Different Oxidants*," September 19, 1995.
24. FMC Corporation, Princeton, New Jersey, "*Bleaching with Different Oxidants*," September 18, 1995.
23. CANFOR Research and Development Centre, Vancouver B.C. "*A Comparison of the Reactivity and Efficiency of Ozone, Chlorine Dioxide, Dimethyldioxirane Hydrogen Peroxide with Residual Kraft Lignin*." May 8, 1995.
22. REPAP Technologies, "*Probing the Biopolymers of Wood with ³¹P NMR*." Valley Forge PA October 28, 1994.
21. CANFOR Research and Development Centre, Vancouver B.C. "*Probing the Biopolymers of Wood with ³¹P NMR, A Review of Recent Progress and Applications*." April 22, 1994.
20. Pulp and Paper Research Institute of Canada, Vancouver Laboratory "*Fundamentals of Oxygen and EoP Delignification of Kraft Pulps*." April 22 1994.
19. NORANDA Technology Centre, Montreal, Que. "*On the Reactivity of Dimethyldioxirane with Lignin Model Compounds*." March 15, 1994.
18. Pulp and Paper Research Institute of Canada, Pointe Claire Laboratory "*Reactions of Dimethyldioxirane with Lignin Model Compounds*." February 7 1994.
17. BASF Aktiengesellschaft, Ludwigshafen, Germany, "*Probing the Biopolymers of Wood with ³¹P NMR, A Review of Recent Progress*." January 10 1994.
16. BASF, Aktiengesellschaft, Ludwigshafen, Germany, "*Synthesis and Degradation of Model Network Polymers*." January 11 1994.
15. National Technical University of Athens, Department of Chemical Engineering, Bioresource Technology Unit, "*Applications of ³¹P NMR to Wood Chemistry*." January 7 1994.
14. University of Athens, Department of Chemistry, "*The Potential of ³¹P NMR in Lignin, Polymer and Cyclosporin Chemistry*." December 20 1993.
13. Argyropoulos, D. S. "*Phosphorus-31 NMR in Wood Chemistry: A New Tool for the Lignin Chemist*," Fall Meeting and Symposium: Newer Methods in Wood, Pulp and Paper Analysis, Empire State Paper Research Associates, October 26-29 1993.
12. Pulp and Paper Research Institute of Canada, Pointe Claire Laboratory "*Probing Wood and Kraft Pulps with Solid State NMR*." Pointe Claire, November 17 1992.
11. Pulp and Paper Research Institute of Canada, "*Identifying Chromophores in Mechanical Pulps Using NMR*," Lecture Delivered for the Chief Executives of the Canadian Pulp and Paper Industry, Montreal, Dec. 2, 1991.
10. Pulp and Paper Research Institute of Canada, Vancouver Laboratory "*Applications of Nuclear Magnetic Resonance Spectroscopy to Wood Chemistry*." Vancouver, April 22 1991.
9. Lakehead University, Department of Chemistry, Thunderbay Ontario Canada, "*³¹P Nuclear Magnetic Resonance Spectroscopy in Wood Chemistry*." Thunderbay, February 25 1991.
8. National Network of Excellence on Mechanical and Chemimechanical Wood Pulps, "*Methods of Nuclear Magnetic Resonance Spectroscopy in Wood Chemistry*." Palais de Congress de Montreal, January 28 1991.
7. Pulp and Paper Research Institute of Canada "*Alkaline Sulphite Ultra-High Yield Pulping of Aspen Chips - A Comparison of Steam Explosion and Conventional Chemimechanical Pulping*," Repeat of Mill Manager's Seminar, Montreal, December 10 1990.
6. Tufts University, Department of Chemical Engineering, "*The Gel Degradation Theory of Crosslinked Polymer Networks*." Medford, Massachusetts December 3 1990,.
5. National Research Council of Canada, Division of Chemistry, "*The Formation of Model Networks and the Gel Degradation Theory*," Ottawa, Ontario, February 19, 1988.
4. Ecole Polytechnique, Department of Chemical Engineering, "*Structural Correlations Governing Water Absorption on Epoxy Resin Systems*." Montreal, December 11, 1986,.
3. MacMillan Bloedel Research Ltd., "*Delignification and Degradation of Polymer Networks*." Vancouver, B.C., September 5, 1984,.
2. University of Washington, Department of Chemical Engineering and Division of Forest Products, "*Delignification and Degradation of Polymer Networks*." Seattle, September 3, 1984.
1. Polysar Research Laboratories, "*The Chemistry of New Epoxides and the Synthesis and Degradation of Model Network Systems*." Sarnia, Ontario, January 10, 1984.

RESEARCH GRANTS AWARDED

Granting Agency/Company & Title of Research Program	Amount Awarded (\$ US)	Period of Award
Eastman Chemical Company "Determination of the Degree of Functionalization Within Wood Components as a Function of its Various Morphological Regions and Acetylation Process Conditions"	93,251	2012-2013
Solvay Specialty Polymers, Alfaretta, Atlanta "Fundamental Lignin Chemistry aimed at Heat Stable Polymers"	160,000	2013-2014
Domtar "Value Added Kraft Lignin Derivatives and Copolymers for Use in Automotive, Carbon Fibre & Textile Fibre Markets; and Use of Ionic Liquids to Deconstruct Kraft Lignin Aimed at Fuel Additives";	381,118	2012-2014
Industrial Research Institute/National Science Foundation "Catalytic Oxidation Chemistry Aimed at Upgrading Lignin" in Collaboration with E. Ison, Dept of Chemistry NCSU	500,000	2011-2012
National Technology Agency of Finland " <i>Lignin Valorization</i> " In collaboration with: Technical Research Center of Finland (VTT), Pulp & Paper Research Center of Finland (KCL), Technical University of Tampere (TKK), Abo Academy University of Helsinki (TY).	1,500.000	2008-2011
National Technology Agency of Finland " <i>Lipid Modifying Enzymes</i> " In collaboration with: Biotechnology Research Institute of Finland (VTT), Helsinki University of Technology (TKK), University of Turku (TY)	2,000.000	2008-2010
National Technology Agency of Finland " <i>Green Chemistry of Wood & Wood Components</i> " with Ikka Kilpelainen	1,600.000	2007-2010
US Department of Energy " <i>Highly Energy Efficient Pulping</i> " with L. Lucia, S. Banerjee & C. E. Courchene	2,850.000	2004-2009
North Carolina Biotechnology Center and Novozymes Inc. <i>Enzymatic Activity of Cellulases Studied by the Quartz Crystal Microbalance</i> " with Orlando., J. Rojas.	130,000	2005-2007
OMG Americas Corporation " <i>Oxidative Catalysts as Applied to the Pulp and Paper Industry</i> "	135,050	2005-2006
Consortium for Plant Biotechnology Research " <i>Supercritical Fluid Extraction Systems to Obtain High Value Products from Thermally Labile Agricultural Materials</i> "	110,000	2005-2007
USDA CRESS Competitive Grants Program ' <i>Structure-Property Relations in Amphoteric Polymers for Papermaking and Non-Food Fiber Applications</i> ' with M. Hubbe, O. Rojas	300,000	2004-2006
Environmental Water Corporation " <i>Development of Peroxyglycolic Acid as Bleaching Agent for the Use of the Pulp and Paper Industry</i> "	132,519	2004-2005
OMG Americas Corporation " <i>Development of Oxidation Catalysts for the Use of the Pulp and Paper Industry</i> "	115,000	2004-2005

Granting Agency/Company & Title of Research Program	Amount Awarded (\$ US)	Period of Award
Portugese Ministry of Science & Technology “Supercritical Oxidation Technologies for Biomass Conversion”	50,000	2004-2006
Natural Sciences and Engineering Research Council of Canada (NSERC), Operating Grant, “ ³¹ P NMR in Wood Chemistry”	Can \$ 55,600	1992-1994
National Networks Centres of Excellence (NCE) “Chromophores in Wood Pulps”	Can \$ 58,000	1992-1994
Industry Science and Technology Canada “Fundamentals of Chemical Pulp Bleaching”	Can \$ 193,500	1992-1993
Industry Canada “Fundamentals of Delignification and Bleaching”	Can \$185,500	1994-1995
McGill University “Ozone Generator”	Can \$ 8,000	1994
Natural Sciences and Engineering Research Council of Canada (NSERC) with T.H. Chan, D.N. Harpp, M.J. Damha, A. Hay “Broadband NMR Accessory for 300 MHz NMR Instrument”	Can \$ 33,639	1994
Natural Sciences and Engineering Research Council of Canada (NSERC), Research Grant “P NMR in Wood Chemistry”	Can \$ 53,400	1994-1996
National Networks of Excellence (NCE), Mechanical and Chemimechanical Wood Pulps Network “Bleaching and Inhibition of Yellowing of Pulps”	Can \$ 403,350	1994-1997
National Networks of Excellence, Protein Engineering Network Centre of Excellence (PENCE) “Lignin Degrading Enzymes”	Can \$ 43,740	1994-1995
Natural Sciences and Engineering Research Council of Canada (NSERC), Individual Strategic Grant, “Fundamentals and Catalysis of Oxygen and Peroxide Reinforced (EOP) Oxygen Delignification”	Can \$ 277,700	1996-1998
Natural Sciences and Engineering Research Council of Canada (NSERC), Research Grant “ ³¹ P NMR in Wood Chemistry”	Can \$ 110,800	1996-1999
Natural Sciences and Engineering Research Council of Canada (NSERC), Research Grant “Heteronuclear NMR in Wood Chemistry”	Can \$ 120,000	2000-2003
Natural Sciences and Engineering Research Council of Canada (NSERC), Equipment Grant with B. Lennox, A. Eisenberg, T.H. Chan, R.H. Marchessault, A. Hay, “300 MHz NMR Spectrometer”	Can \$ 270,000 \$	1998
Natural Sciences and Engineering Research Council of Canada (NSERC), Equipment Grant with L. Reven, A. Eisenberg, R.H. Marchessault, “Fluorine Probe for Solid State NMR spectrometer”	Can \$ 38,000	1998
National Networks of Excellence (NCE), Mechanical and Chemimechanical Wood Pulps Network “Bleaching and Inhibition of Yellowing of Pulps”	Can \$ 264,000	1998-2001
White Martins Gases Industriais, S.A. Brazil	Can \$ 73,000	1998-1999
McGill University, NSERC Seed Grant	Can \$ 10,000	1999-2000
Us Borax Inc. Grant in Aid	Can \$ 30,000	1999-2000
Natural Sciences and Engineering Research Council of Canada (NSERC), Strategic Grant, with P. Englezos, Dept. Chem. Eng.	Can \$ 339,900	2000-2004

Granting Agency/Company & Title of Research Program	AmountAwarded (\$ US)	Period of Award
UBC, " <i>Metal Fibre Interactions</i> "		
Natural Sciences and Engineering Research Council of Canada (NSERC), Equipment Grant with B. Lennox, D.F.R. Gilson, R.H. Marchessault, C.J. Barrett, A. Hay, L. G. Reven " <i>Thermal Analysis Instrumentation</i> "	Can \$ 108,119	2000
Natural Sciences and Engineering Research Council of Canada (NSERC), Equipment Grant with A. Eisenberg, R.H. Marchessault, C.J., Barrett, A. Hay, H., F., Sleiman, and T.G.M. Van de Ven " <i>Multi Angle Static Light Scattering Photometer</i> "	Can \$ 125,854	2000
Us Borax Inc. Grant in Aid	Can \$ 30,000 2001 Can \$ 20,000 2001	2001-2002

