

Lee Ann Goetz

Education

Georgia Institute of Technology, Atlanta, GA

Ph.D. Candidate in Paper Science and Engineering from the School of Chemistry, Institute of Paper Science and Technology, August 2003 – present (May 2009)
Thesis: Crosslinking cellulose nanowhiskers and lignocellulosic fibers to enhance water absorption (Prof. Arthur Ragauskas)

Hood College, Frederick, MD

Bachelor of Arts in Chemistry, May 2003, GPA: 3.67/4.0
Coastal Studies Semester, 01/02 – 04/02
Minor in Business Management

Academic Honors

National Science Foundation Fellowship – Center for Innovative Biomaterials Education and Research Supplemental International Research and Education in Engineering (NSF-CIBER-IREE), May – November 2007
PhD Fellowship and Full Tuition Scholarship, IPST at Georgia Tech, 2003-present
Hood College Dean's List, 8 semesters
Pi Sigma Alpha Mortar Board National Honor Society, 2002 – 2003
Pi Mu Epsilon National Mathematics Honor Society, Inducted April 2003
Girl Scouts of America Gold Award

Research and Work Experiences

Lulea University of Technology, Division of Wood and Bionanocomposites, Skelleftea, Sweden – May 2007 – October 2007

- Prepared and characterized films of chemically crosslinked cellulose whiskers – SEM, DMTA, TGA, tensile, water absorption characteristics
- Invited to present poster at the BIOPOL Conference, Alicante, Spain, October 2007
- Funded through the NSF-CIBER IREE grant
- Invited participant in the NSF-CIBER meeting (Washington, DC – October 2007) and presented poster of results and experiences at the NSF-CIBER IREE Workshop (Purdue University, October – November 2007)

Hercules Corporation, Pulp and Paper Sales Division, Canton, NC – Intern, 5/04 – 7/04

- Compared three macro/micro-biological count methods for various water streams throughout paper mill (gel-agar Petri plates, Petri film, and ATP counts)
- Responsible for the daily monitoring and ordering of water quality chemical inventory throughout paper mill

Contact Technologies, Inc., St. Marys, PA – Intern – Academic Breaks, 6/99 – 8/03

- Developed and verified copper and silver test method for QA Lab for on-site analysis of electrical contacts using the Perkin-Elmer (PE) 1100(B) Flame atomic absorption spectrometer (previously had been using a lab 30 miles from company);
- Trained lab technician, Chief Engineer, and QA Manager on use of AA and procedure; Wrote the QA documentation papers, work instructions for maintenance, sample preparation, and operation of Perkin-Elmer 1100(B) Flame AA, and in-house manual;
- Independently learned operation and test method requirements of Perkin-Elmer 1100(B) Flame AA. (05/03-08/03)
- Installed PE 1100(B) Flame AA, established lab and purchased lab supplies necessary for operation of the AA. (12/02-01/03)
- Created MS Access database for the calculation of company production mix costs; trained senior production engineer on use of database. Independently learned how to use MS Access to create multi-level database. (04/02-06/02)
- Assisted QA manager in company registration for ISO 9000 – 2000 (05/03 – 08/03) and for initial ISO 9002 – 1994 registration (05/01- 08/01); developed and wrote various ISO

documents and databases, edited ISO work instructions and standard operating procedures, wrote company Quality Manual.

- Updated and created new Material Safety Data Sheets database with new documentation procedures and distribution procedures. (05/01 – 08/01)
- Compiled MSDS sheets on all chemicals used at CTI; created and distributed company-wide MSDS binders; created database for quick MSDS updateability; CTI had no previous MSDS system. (06/99 – 08/99)
- Production worker in Secondary/Assembly department; Responsible for product quality while maintaining production time schedule. (05/00-08/00)

Schering-Plough, Corp., S-P Research Institute, Analytical Development Div., Kenilworth, NJ – Intern, 6/02 – 8/02

- Compared current QA HPLC method for analysis of pseudo-ephedrine and derivatives using the current HPLC chromatography columns with newer technology HPLC chromatography columns and various solvents; Selected from pool of 6,000 applicants;

Hood College Lab Assistant and Independent Research, 8/99 – 5/03

- Biology and Chemistry department lab assistant: Prepared solutions, media and other necessary materials for biology and chemistry laboratory classes; Maintained greenhouse plants.
- Investigated concentrations of heavy metals along several sites of Elk Creek, PA and tributaries; Presented research at Intercollegiate Student Chemist's Convention, Baltimore, MD (8/00 – 5/01).
- Investigated effects of periphyton growth in different locations within intercoastal canals as part of the Hood College "Coastal Studies Semester" and Presented "Best Undergraduate Poster" at the Atlantic Estuarine Research Society meeting.

Specialty Lab Instrument Experience

SEM	TEM	TGA	DMTA	NMR
Universal materials testing (Tensile)		Flame AA	Graphite Furnace AA	
Gas Chromatography	Liquid Chromatography			

Publications, Presentations, and Funded Grant Proposals

Goetz, L., Mathew, A., Gatenholm, P., Oksman, K., Ragauskas, A.J. *A novel nanocomposite film prepared from crosslinked cellulosic whiskers.* Accepted in Press – available online. Carbohydrate Polymers.

Goetz, Lee. ; Ragauskas, Art J.; Mathew, Aji; Oksman, Kristiina. *Tying cellulose whiskers together.* Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008, CELL-229.

Goetz, L., Sladky, J., Ragauskas, A.J. *Analysis of microwave vs. thermally assisted grafting of poly(methyl-vinyl ether co – maleic acid)-polyethylene glycol to birch kraft pulp.* Submitted August 2008.

Goetz, L., Ragauskas, A.J. *Engineering pulp fines into a superabsorbent hydrogel.* Institute of Paper Science and Technology Industrial Consortium Exploratory Project Grant. Funded July 2007 - June 2008.

Goetz, L., Mathew, A., Gatenholm, P., Oksman, K., Ragauskas, A.J. *Characterization of crosslinked cellulose films prepared by solution casting.* Manuscript in preparation.

Goetz, L., Sladky, J., Felder, K., Ragauskas, A.J. *Preparation of microwave assisted grafted pulp fibers and their enhanced water absorbency.* Manuscript in preparation.

Goetz, L., Mathew, A., Gatenholm, P., Oksman, K., Ragauskas, A.J. *Sorption and Diffusion of water through crosslinked cellulose whisker-poly(methyl vinyl ether – co – maleic acid) – polyethylene glycol film gels.* Manuscript in preparation.