

MARILYN L. MINUS

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OBJECTIVE

Obtain an academic or industrial position that involves project development, management, and scientific research

EDUCATION

Georgia Institute of Technology, Atlanta, GA, *May 2003-Present*

Ph.D. Student in Polymer Engineering (*Projected Graduation Date December 2007*)

Research: The study of crystallization and interfacial morphology in polymer/carbon nanotube composites

(Advisor: Dr. Satish Kumar)

Minor: Material Science

Georgia Institute of Technology, Atlanta, GA, *August 1999-May 2002*

Bachelor of Science in Textile and Fiber Engineering (Major GPA: 3.6/4.0)

Georgia Perimeter College, Clarkston, GA, *September 1996-May 1999*

Associate of Science in Engineering (Major GPA: 3.7/4.0)

WORK AND RESEARCH EXPERIENCE

Georgia Institute of Technology, Atlanta, GA, *January 2003-Present*

Lab Coordinator/Graduate Research Assistant, School of Polymer, Textile and Fiber Engineering

- Gel spinning of poly (vinyl alcohol)/ single wall nanotubes (SWNT) fibers.
- Determine dispersion techniques for SWNT in a polymer matrix.
- Characterize the mechanical/chemical Properties of SWNT/polymer composite materials.
- Maintain lab upkeep, safety, and equipment.
- Provide training on laboratory instruments.
- Update lab website.

Georgia Institute of Technology, Atlanta, GA, *January 2003-January 2005*

Recruitment Assistant, Enrollment Office, School of Polymer, Textile and Fiber Engineering

- Plan, organize, and coordinate recruitment events for incoming freshmen students to Georgia Tech.
- Assist high school teachers with science projects.
- Give promotional talks about polymer, textile, and fiber engineering school to surrounding high schools and recruitment events.

Georgia Institute of Technology, Atlanta, GA, *August 1999- May 2002*

Student Assistant, Office of Student Integrity

- Assist the Dean of Student with confidential matters.
- Update Dean of Students general website.
- Provide help to student needing special assistance.

Georgia Institute of Technology, Atlanta, GA, *May 2000- May 2002*

Lab Assistant, System Realization laboratory – Mechanical Engineering

- Design online interface for graduate courses.
- Create electronic library.
- Coordinator for distance students taking courses ME6102: Designing Open Engineering Systems and ME6101: Engineering Design.

Georgia Perimeter College, Clarkston, GA, *September 1996-May 1999*

Library Assistant, Learning Resource Center

- Assist Student with all library functions, and Galileo search system.

JOURNAL PUBLICATIONS

1. **Marilyn L. Minus**, and Satish Kumar, "Carbon Fibers", *Kirk-Othmer ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY CONCISE*, John Wiley & Sons, Inc., Hoboken, NJ (In press).
2. Han Gi Chae, **Marilyn L. Minus**, Asif Rasheed, and Satish Kumar, "Stabilization and Carbonization Studies of Polyacrylonitrile/Single Wall Carbon Nanotube Composite Fibers", *Polymer*, **48** (13), pp. 3781-3789 (2007).
3. **Marilyn L. Minus**, and Satish Kumar, "Carbon Fibers", *Kirk-Othmer ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY Online Edition*, **5**, John Wiley & Sons, Inc., Hoboken, NJ (2007).
4. **Marilyn L. Minus**, Han Gi Chae, and Satish Kumar, "Single Wall Carbon Nanotube Templated Oriented Crystallization of Poly(vinyl alcohol)", *Polymer*, **47** (11), pp. 3705-3710 (2006).
5. Han Gi Chae, **Marilyn L. Minus**, and Satish Kumar, "Oriented and Exfoliated Single Wall Carbon Nanotubes in Polyacrylonitrile", *Polymer*, **47** (10), pp 3494-3504 (2006).
6. Tetsuya Uchida^a, D. P. Anderson^b, **Marilyn Minus**, Satish Kumar, "Morphology and Modulus of Vapor Grown Carbon Nano Fibers", *Journal of Material Science*, **41** (18), pp 5851-5856 (2006).
7. **Marilyn L. Minus**, and Satish Kumar, "The Processing, Properties and Structure of Carbon", *Journal of Metals* **57**(2), pp. 52-58 (2005).
8. Huina Guo, T.V. Sreekumar, Tao Liu, **Marilyn Minus**, and Satish Kumar, "Structure and Properties of Polyacrylonitrile/Single Wall Carbon Nanotube Composite Films", *Polymer* **46**, pp. 3001-3005 (2005).

CONFERENCE PROCEEDINGS

1. Mary Lynn Reaff, and **Marilyn L. Minus**, "Student Session: Advisor-Student Relationships" NSF Design, Service and Manufacturing Grantees and Research Conference, St. Louis, Mo., United States, July 24-27, (2006).
2. **Marilyn L. Minus**, and Satish Kumar, "Single wall carbon nanotube templated crystallization and orientation of poly(vinyl alcohol)" *Abstracts of Papers, 231st ACS National Meeting*, Atlanta, GA., United States, March 26-30, Polymer Chemistry (2006).
3. Wanting Ren, Philip J. McMullan, **Marilyn Minus**, Satish Kumar, and Anselm C. Griffin III, "Main chain liquid crystalline polymers with an unusual transverse rod architecture" *Abstracts of Papers, 231st ACS National Meeting*, Atlanta, GA., United States, March 26-30, Polymer Chemistry (2006).
4. **Marilyn Minus**, and Satish Kumar, "Solution Formed Poly(vinyl alcohol)/Single Wall Carbon Nanotube Composite Fibers", *SAMPE '05 Technical Conference and Exhibition*, Long Beach, CA., United States, May 1-5 (2005)
5. **Marilyn Minus**, and Satish Kumar, "Shear induced poly(vinyl alcohol)/single wall carbon nanotube composite fiber formation in solution" *Abstracts of Papers, 229th ACS National Meeting*, San Diego, CA., United States, March 13-17, Polymeric Materials: Science & Engineering 92, pp. 149-150 (2005).
6. **Marilyn Minus**, and Satish Kumar, "Shear Induced Polyvinyl Alcohol/Single Wall Nanotube Composite Fibril Formation in Solution", *ASC/ASTM-D30 Joint 19th Annual Technical Conference*, Atlanta, GA., United States, October 17-20 (2004).

TECHNICAL SKILLS

- **Software:** Windows XP, Office 2000, Office 98, Office 95, Windows NT, Outlook, Microsoft Frontpage, Dreamweaver, Flash 4, Adobe Acrobat, Acrobat Distiller, Acrobat PDF writer, Adobe Page Illustrator, Adobe Photoshop, Adobe Illustrator, Adobe Premier, Corel Draw 8, Visio Professional 2000, Solidworks 98, AutoCAD, Ideas, Netscape Composer, Eudora, Netscape Communicator, Internet Explorer, WS FTP
- **Programming Language:** XHTML, HTML, SQL, PASCAL, C++, MATLAB, JAVA
- **Scripts:** PERL, PHP
- **Material Characterization Equipment:** Rigaku Micro Max 002 WAXS/SAXS X-ray System; JEOL 4000EX Transmission Electron Microscope (TEM); Hitachi HF2000 Field Emission Gun (FEG) TEM; JEOL 100CX II TEM; Hitachi S800 FEG Scanning Electron Microscope (SEM); LEO 1530 Thermally-Assisted Field Emission SEM; Hologram Raman Spectroscope; FT-IR AutoImage Microscope; Thermal analysis Thermal Gravimetric Analysis (TGA), Differential Scanning Calorimetry (DSC), and Thermal Mechanical Analyzer (TMA); Rheometrics Dynamic Mechanical Analyzer (DMA); HAAKE Rheometer; Fiber spinning equipment.

TEACHING EXPERIENCE

Georgia Institute of Technology, Atlanta, GA

Spring 2006 - Teaching Assistant, Mentor: Dr. Satish Kumar

- Design, prepare, lecture slides for graduate students to become acquainted with the field of carbon nanotubes “Carbon Nanotube Enabled Materials (PTFE8803).”

Fall 2005 - Teaching Assistant, Mentor Dr. Satish Kumar

- Prepare lectures slides, coordinate assignments and lab activities for incoming freshmen “Introduction to Polymer, Fiber, and Textile Engineering (PTFE1100).”

Fall 2004 - Coordinator/ Lab Teaching Assistant, Mentor: Dr. Satish Kumar and Dr. Mary Lynn Realf

- Design and coordinate lab for incoming freshmen to become acquainted with lab practices and procedures “Introduction to Polymer, Fiber, and Textile Engineering (PTFE1001).”

Spring 2004 - Instructor, Mentor: Dr. Satish Kumar, and Dr. Karl Jacob

- One lecture in senior level course “Polymer and Fiber Processing (PTFE 4004).”

Fall 2004/2005 - Lab Teaching Assistant, Mentor: Dr. Satish Kumar

- Experiment setup, demonstration, report grading and managing office hours for x-ray diffraction laboratory for graduate level course “Polymer Characterization (PTFE 6752).”

ACADEMIC SERVICE

- **Student Volunteer for National Nanotechnology Infrastructure Network (NNIN)**, Georgia Institute of Technology, Atlanta, GA., 2005-2006 - (1) Give lab tours to high school students; (2) Give research talks to high school students educating them about Nanotechnology.
- **Planned, Organized, and Directed – *Imagination Science Camp***, Alpha Omega Christian School, Freeport, Grand Bahama, Bahamas, July 2004 & 2006 – (1) Taught engineering sciences to high school students; (2) Designed hands-on high school level experiments for students to become familiar with typical engineering projects; (3) Introduced nanotechnology to students and performed relevant group activities

PROFESSIONAL AFFILIATIONS

- American Chemical Society (ACS)

HONORS AND ACTIVITIES

- Technical Presentation for Excellence in Graduate Polymer Science Research Symposium at 231st American Chemical Society National Meeting, Atlanta, GA. (March 2006)
- 1st Place winner – University Research Symposium at SAMPE '05 Technical Conference and Exhibition (May 2005)
- 1st Place winner – Student Speaking Competition at 13th National Textile Center Forum (March 2005)
- 1st Place winner – Graduate Research Oral Presentation at Techsymposium 2005 (February 2005)
- 1st place winner – Poster competition at 19th annual American Society for Composites meeting (October 2004)
- President's Honor – Outstanding achievement in Polymer Engineering Department (May 2002)
- Faculty Award for exceptional academic leadership (given by the American Association for Textile Technologists) (May 2002)
- Volunteer for Hope Worldwide (1997-Present)
- Member of Hope Worldwide Youth Corp to Moscow (worked in orphanages) (June 1998)
- First place in Arthur Anderson Business consulting challenging - Atlanta, GA (April 2001)
- Served as captain of varsity soccer and softball teams at Georgia Perimeter College (September 1996-May 1999)
- Served as Vice President and President for the International Students Club (September 1998-May 1999)
- Dean's List (August 1999- May 2002)