

## Paul J. Jones

### Professional Preparation

University of Mississippi Oxford, MS	Chemical Engineering	B.S. 2003
University of Southern Mississippi Hattiesburg, MS	Polymer Science and Engineering Hearin Fellowship	PhD. Candidate

### Appointments

2004 – present	Ph.D. candidate, Department of Polymer Science and Engineering, University of Southern Mississippi, Hattiesburg, MS
Summer 2003	Student intern, NASA Undergraduate Student Research Program, Stennis Space Center, MS
Summer 2002	Student intern, NASA Undergraduate Student Research Program, Stennis Space Center, MS
2001 – 2002	NASA Space Grant Scholar, University of Mississippi, University, MS
2000 – 2001	Physical science aid, USDA Agricultural Research Service, University, MS

### Representative Publications

Morgan, S. E.; Misra, R.; Jones, P. J. “Nanomechanical and Surface Frictional Characteristics of a Copolymer Based on Benzoyl-1,4-phenylene and 1,3-phenylene” *Polymer* **2006**, 47(8) 2865.

Jones, P.; Wahl, L.; Morgan, S. E. “Nanoindentation of Poly(benzoyl paraffinylene), Polycarbonate and Polyetherimide Engineering Thermoplastics” *Polymer Preprints* **2006**, 47(1), 185.

Jones, P. J.; Malkovich, N.; Thomas, D. B.; Morgan, S. E. “Dielectric Properties of Self-Reinforced Polymers” Annual Technical Conference, Society of Plastics Engineers, **2005**.

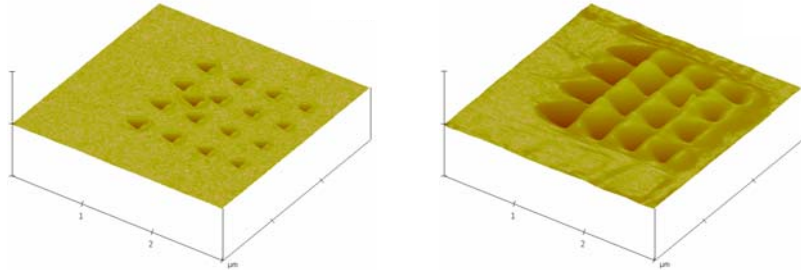
Misra, R.; Jones, P. J.; Morgan, S. E. “Nanotribological Studies of Polymer Surfaces via Atomic Force Microscopy” *J Mississippi Academy of Sciences* **2005**, 50(1), 54.

Misra, R.; Jones, P. J.; Morgan, S. E. “Surface Characterization & Friction Studies of Polymers via Atomic Force Microscopy” CNSI- VEECO Polymer Summer Workshop, U. California, Santa Barbara, **2004**.

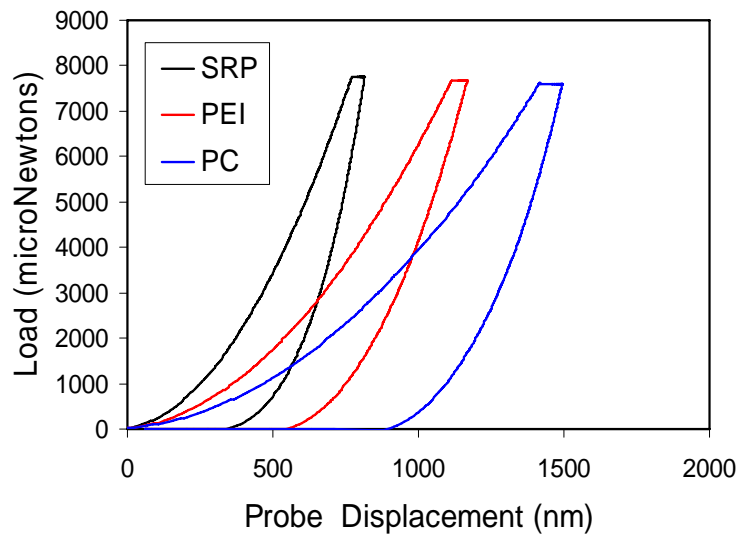
### Current Research Activities

My primary research involves the solution blending of poly(paraphenylene) high performance self reinforced polymers (SRPs) and polyphenylsulfone. SRPs are novel polymers that were developed by a high-tech start-up company, Mississippi Polymer Technologies (MPT), in Bay St. Louis, MS. Recently, the company was acquired by Solvay in order to expand their specialty chemicals product line. SRP high performance polymers exhibit excellent strength to weight ratios, scratch and solvent resistance, and excellent transparency, optical properties, and dielectric properties, making the materials ideal candidates for advanced electronics applications such as next-generation microchips. My research will involve preparation of SRP copolymers and blends and characterization of fundamental properties of

these materials, with specific focus on evaluation of nanomechanical properties in our Nanoprobe Instrumentation Center.



The above images are atomic force micrographs of nanoindented surfaces of SRP and polycarbonate. The left image is SRP, and the right is polycarbonate.



The above chart contains forces curves for SRP, polyetherimide (PEI), and polycarbonate (PC). These curves are used to obtain local mechanical information about each material.

### Honors and Awards

Hearin Fellowship  
NSF Fellowship to Nanomechanics and Materials Workshop