

Heather (Johnson) Meiring

EDUCATION

The University of Texas at Austin, *Department of Chemical Engineering, Austin, TX*

- Pursuing Ph.D. in Chemical Engineering with C. Grant Willson
- Expected Graduation: December 2005
- GPA: 3.82/4.00

The University of Texas at Austin, *Department of Chemical Engineering, Austin, TX*

- M.S. Chemical Engineering, 12/03
- B.S. Chemical Engineering, 08/01 GPA 3.51/4.00 Cum Laude

EXPERIENCE

08/01 – present

Graduate Research Assistant, The University of Texas at Austin, Austin, TX

Advisor: Prof. C. Grant Willson

- Developing a top-surface lithography process based on selectively grafted organosilicon polymers.
- Investigating low pressure, gas-phase diffusion and sorption properties of atmospheric ammonia and organosilicon monomers in polymer films.
- Probing photoresist developer solution structure to elucidate photoresist dissolution rate responses.
- Supervised two undergraduate research assistants.
- Served as teaching assistant for undergraduate Junior Fundamentals Lab.

07/99 – 07/01

Undergraduate Research Assistant, The University of Texas at Austin, Austin, TX

- Studied transport and kinetic processes involved in the graft polymerization of silane monomers for use as reactive ion etch barriers in microlithographic processes.
- Synthesized and analyzed custom silane monomers for use in the above process.
- Investigated an in-situ technique for measuring quantum efficiencies of photo-acid generators.

HONORS & AWARDS

- Semiconductor Research Corporation/IBM Fellow, 09/04 - present
- Semiconductor Research Corporation/IBM Master's Scholar, 09/02 – 12/03
- Virginia and Ernest Cockerell, Jr. Fellowship in Engineering, 2001 – 2005
- Semiconductor Research Corporation Undergraduate Fellow, 2001 – 2002

PUBLICATIONS & PRESENTATIONS

- Johnson, Heather F.; Jamieson, Andrew T.; Ozair, Sahban N.; Farmer, Terry; Hogan, Zach; MacDonald, Scott; Willson, C. Grant. "Material Design and Characterization for Cationic Graft Polymerization Lithography," *Transport Phenomena in Electronic Materials Processing, AICbE National Meeting*, San Francisco, California, U.S.A. (2003).
 - Johnson, Heather F.; Ozair, Sahban N.; Jamieson, Andrew T.; Trinke, Brian C.; Brodsky, Colin J.; Willson, C. Grant. "Cationic graft polymerization lithography," *Proc. SPIE*, **5037**, 943-951 (2003).
 - Burns, Sean D.; Medeiros, David R.; Johnson, Heather F.; Wallraff, Gregory M.; Hinsberg, William D.; Willson, C. Grant. "Effect of humidity on deprotection kinetics in chemically amplified resists," *Proc. SPIE*, **4690**, 321-331 (2002).
 - Brodsky, Colin J.; Trinke, Brian C.; Johnson, Heather F.; Willson, C. Grant. "Advances in Graft Polymerization Lithography," *Proc. SPIE*, **4342**, 415-420 (2001).
 - Brodsky, Colin J.; Johnson, Heather F.; Trinke, Brian C.; Willson, C. Grant. "Graft Polymerization Lithography: Extending Top Surface Imaging," *Forefront of Lithographic Materials Research, Proc. of the 12th International Conference on Photopolymers*, McAfee, New Jersey, U.S.A, 187-196 (2000).
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