

YEE LAM

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EDUCATION

Duke University Durham, NC
Candidate for Ph.D. Mechanical Engineering and Materials Science, June 2006 expected
Certificate Program in Center for Biomolecular and Tissue Engineering
Atomic force microscopy to investigate forces involved in molecular recognition.
Advisor Stefan Zauscher.

Massachusetts Institute of Technology Cambridge, MA
S.M. Materials Science and Engineering, June 2002
Thesis: A comparative study of metrology techniques for porous organic thin films.
Advisor Eugene Fitzgerald.

Massachusetts Institute of Technology Cambridge, MA
S.B. Materials Science and Engineering, June 2001
Minor in Biomedical Engineering

PUBLICATIONS

S.D. Williamson, Y. Lam, H.F. Younis, H. Huang, S. Patel, M.R. Kaazempur-Mofrad and R.D. Kamm. "On the Sensitivity of Wall Stresses in Diseased Arteries to Variable Material Properties." *Journal of Biomechanical Engineering* 125 (147). February, 2003. Pages 147-155.

Y. Lam. A comparative study of metrology techniques for porous organic thin films. S.M. Thesis, Department of Materials Science and Engineering, Massachusetts Institute of Technology, 2002.

CONFERENCES / POSTER PRESENTATIONS:

Y. Lam, W.K. Lee, P. Marszalek, S.M. Alam, R. Clark, B. Haynes, S. Zauscher. "Force Spectroscopy Investigation of HIV Envelope Glycoprotein and Dual Antibody Complex using Atomic Force Microscopy." AVS Science and Technology Symposium: Biomaterials Interfaces, Baltimore, MD, November 6, 2003.

Y. Lam, W.K. Lee, P. Marszalek, S.M. Alam, S. Zauscher. "HIV Detection Using AFM-Protein-Dual Antibody System." Graduate Student Research Day, Duke University, Durham, NC, March 21, 2003.

HONORS / AWARDS

George H. Hitchings New Investigator Award in Health Research (2004).
National Institutes of Health Biomolecular and Tissue Engineering Training Grant (2002-present)

ACADEMIC EXPERIENCE

- Duke University** Durham, NC
Department of Mechanical Engineering and Materials Science (*August, 2002 – present*)
Graduate researcher: Single molecule analysis of HIV envelope glycoprotein gp120 and antibodies using Atomic Force Microscopy and Surface Plasmon Resonance.
- Massachusetts Institute of Technology** Cambridge, MA
Department of Mechanical Engineering: Fluid Mechanics Laboratory (Nov 2000 – June 2001)
Undergraduate researcher: employing mathematical models to simulate and measure mechanical effects of blood flow through diseased arterial segments. Gained experience with finite element analysis package (ADINA v7.4). Advisor Roger Kamm.
- KTH Royal Institute of Technology** Stockholm, Sweden
Department of Metallurgy, Division of Heat and Furnace Technology (Summer, 1999)
Research assistant: working with computer generated Computational Fluid Dynamics (Fluent) models to optimize fuel efficiency while minimizing pollutant output. Gained experience with 3-D computer simulations and mathematical modeling.

TEACHING EXPERIENCE

- Duke University** Durham, NC
Department of Mechanical Engineering and Materials Science (Spring, 2003, Fall 2003)
Laboratory Teaching Assistant: Structure and Properties of Solids - introduced students to polymer and metal characterization. Professor Stefan Zauscher.
- Massachusetts Institute of Technology** Cambridge, MA
Department of Materials Science and Engineering (Spring, 2002)
Teaching Assistant: Nanomechanics of Materials and Biomaterials - focused on techniques, mainly AFM, to measure atomistic aspects of adhesion, nanoindentation, elasticity of single macromolecular chains, intermolecular interactions in polymers, and biomolecular bond strength. Professor Christine Ortiz.

INDUSTRIAL EXPERIENCE

- Advanced Micro Devices** Sunnyvale, CA
(June, 2001 – January, 2002) Co-op: processing and characterizing porosity in low dielectric constant thin films for use in semiconductor device fabrication. Gained experience with SEM, TEM, PALS, ellipsometry, AFM, and XRR.
- LifeScan, Inc. a Johnson and Johnson Company** Milpitas, CA
(Summer, 2000) Intern: optimizing packaging for an enzyme coated metal / polymer reagent strip. Also characterizing cold creep of pressure sensitive and heat activated adhesives. Gained experience with enzyme processes, electrochemistry, and polymer properties concerning moisture and temperature.

VOLUNTEER EXPERIENCE

- Teach for America**, Washington, D.C (1998, 2000): Worked with teachers for one week in Teach for America program in lower income school districts.
- Habitat for Humanity**, Richmond, VA (1999): Worked to build homes in urban area.

OTHER INTERESTS

- MIT Fall 2000 Career Fair Organizing Committee; Career Fair Co-Chair, MIT Society of Women Engineers; MIT Alternative Spring Break, vice president (2001); Society of Undergraduates in Materials Science; Women's Club Water Polo Team.