

Seung Min Yeo

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<http://mechse.illinois.edu/research/microtribodynamics/index.html>

Home:

303 Paddock Drive West Apt. B2
Savoy, IL 61874

Campus:

158 MEB, M/C 244
1206 West Green Street
Urbana, IL 61801

EDUCATION:

University of Illinois at Urbana-Champaign

Champaign, IL

Ph.D. in Mechanical Engineering, December 2012 (expected)

M.S. in Mechanical Engineering, August 2009 (GPA: 3.8/4.0)

Thesis: Contact Surface Analysis of RF MEMS Switches to Investigate Performance Deterioration and Adhesion Failure with Cycling

Korea Advanced Institute of Science and Technology (KAIST)

South Korea

B.S. in Mechanical Engineering, February 2007 (GPA: 3.7/4.0)

EXPERIENCE:

University of Illinois at Urbana-Champaign

Champaign, IL

August 2009

- present

Air Conditioning and Refrigeration Center – Graduate Research Assistant

- Tribology of advanced **coating materials for oil-less compressor** applications
- Perform tribo-testing of hard and polymeric coatings under harsh compressor conditions
- Chemical, nano-mechanical and morphological characterization of thin film coating surfaces

August 2007

- August 2009

IMPACT Center for Advancement of MEMS/NEMS VLSI – Graduate Research Assistant

- Tribological investigation of performance deterioration and failure of RF MEMS switches
- **Cycling test of RF MEMS switches** and manipulation of MEMS devices for surface analysis
- AFM, nano-indentation and TOF-SIMS measurements on MEMS device surfaces

Satellite Technology Research Center

South Korea

June 2006

- August 2006

Practical Training Student

- Assisted in assembling PFM (Proto Flight Model) of Korean **Science and Technology Satellite-2 (STSAT-2)**
- Conducted ultra-high-vacuum experiments simulating space environment
- Practiced part modeling and FEM simulations using I-DEAS software

Republic of Korea Army (ROKA)

South Korea

June 2002

- July 2004

Human Resource Staff and Military Driver

- Performed personnel management of 31 officers and 160 privates
- Drove sedans to 2.5-ton trucks

ACTIVITIES:

- Society of Tribologists and Lubrication Engineers (**STLE**)
- American Society of Mechanical Engineers (**ASME**)

HONORS:

- **3rd Place Award** in 2009 ASME/STLE International Joint Tribology Conference (IJTC) Student Poster Competition, Memphis, TN
Title: Contact Surface Characterization of Capacitive RF MEMS Switches with Cycling
- **Academic Merit-based** Scholarship, Freshman – Senior (KAIST)

SKILLS:

- Techniques: AFM, TOF-SIMS
- Software: MATLAB, I-DEAS, AutoCAD and Origin
- Languages: Korean (native)

**JOURNAL
PUBLICATIONS:**

- **Seung Min Yeo**, Andreas A. Polycarpou, Spyros I. Tseregounis, Negar Tavassolian and John Papapolymerou, 2009, “Characterization and Adhesion of Interacting Surfaces in Capacitive RF MEMS Switches Undergoing Cycling,” *Journal of Adhesion Science and Technology* (accepted)

**CONFERENCE
PROCEEDINGS:**

- **Seung Min Yeo**, Spyros I. Tseregounis, Andreas A. Polycarpou, Dimitrios Peroulis and Adam Fruehling, 2009, “Analysis of Topographical Changes and Adhesion Failures in Gold-to-Gold Metal RF MEMS Switches With Cycling,” in: *Proceedings of 2009 ASME/STLE International Joint Tribology Conference, IJTC2009-15120*, Memphis, TN