

Yu, Hyeonggeun

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Education

- **B.S. in Metallurgical Engineering, Yonsei University, Korea (Feb. 2008)**
 - GPA: 3.5/4.0
- **M.S. in Materials Science and Engineering, Yonsei University, Korea (Feb. 2010)**
 - GPA: 4.0/4.0
 - Thesis title: Modeling for Laser-Direct Photoetching of Nanocrystalline Metal Thin Films
 - Research advisor: Prof. Myeongkyu Lee, MSE Department, Yonsei University
 - Teaching assistant (Spring semester, 2008 and 2009)
- **Ph.D. candidate in Materials Science and Engineering, University of Florida, USA**
 - GPA: 4.0/4.0 (Certificates of outstanding achievement for maintaining 4.0 GPA, 2012 and 2013)
 - Research advisor: Prof. Franky So
 - Teaching assistant (Spring semester, 2014)

Research Experiences

- **Photonic Materials and Devices Lab at Yonsei University (M.S. program, 2008–2010)**
 - Involved Research Projects
 - 1) “Photoresist-Free Lithographic Patterning of Thin Films” sponsored by the Korea Research Foundation (July 2008 – June 2009)
 - 2) “Laser-Direct Fabrication of Transparent Thin Films for Transparent Devices” sponsored by KOSEF (May 2009 – Feb. 2010)
 - 3) “Laser-Processed Metallization for Electronic Devices” sponsored by the Metropolitan City of Seoul (Sep. 2009 – Feb. 2010)
- **Samsung Corning Precision Materials Co. (Researcher in Glass Technology Lab, 2010– 2011)**
 - Research on the large area fabrication of nano-porous, anti-reflective films on generation 5-sized photovoltaic cover glasses by selective etching of the alkali ions
- **Organic Electronic Materials and Devices Lab at University of Florida (Ph.D. candidate, 2011 – present)**
 - Involved Research Projects: High gain permeable metal-base transistor for active matrix display (Mar. 2011– July 2012)
 - Research Topic: Vertical field-effect transistor for high gain current amplifier, for light-emitting transistor, for infrared photodetector, and for infrared-to-visible up-conversion device

Publications

1. **H. Yu**, J. Kim, W. Chen, D. Kim, J. Guo, and F. So, "Effect of nano-porosity on high gain permeable metal-base transistors" *Advanced Functional Materials*, accepted (2014)
2. J. Kim, **H. Yu**, R. Liu, D. Kim, and F. So, "All solution-processed inorganic/organic hybrid permeable metal-base transistor", *small*, accepted (2014)
3. **H. Yoo**, H. Shin, B. Sim, S. Kim, and M. Lee, "Parallelized laser-direct patterning of nanocrystalline metal thin films by use of a pulsed laser-induced thermo-elastic force" *Nanotechnology* **20**, 245301 (2009)
4. **H. Yoo**, H. Shin, and M. Lee, "Direct patterning of double-layered metal thin films by a pulsed Nd:YAG laser beam" *Thin Solid Films* **518** (2010)
5. **H. Yu**, H. Lee, J. Lee, H. Shin, and M. Lee, "Laser-assisted patterning of solution-processed oxide semiconductor thin film using a metal absorption layer." *Microelectronic Engineering* **88** (2011)
6. **H. Yu**, H. Shin, and M. Lee, "Single-step fabrication of double-layered metal thin film pattern for the electrodes of electronic devices" *Current Applied Physics* **11** (2011)
6. H. Shin, **H. Yoo**, and M. Lee, "Fabrication of Au thin film gratings by pulsed laser interference" *Applied Surface Science* **256** (2010)
7. N. Zhaogang, H. Lee, **H. Yoo**, M. Lee, Y. Lee, Y. Kim, and K. Lim, "Multilayered optical bit memory with a high signal-to-noise ratio in fluorescent polymethylmethacrylate" *Applied Physics letters* **94**, 111912 (2009)
8. H. Shin, H. Kim, H. Lee, **H. Yoo**, J. Kim, and M. Lee, "Photoresist-Free Lithographic Patterning of Solution-Processed Nanostructured Metal Thin Films" *Adv. Materials* **20**, 3457 (2008)
9. H. Shin, H. Lee, **H. Yoo**, and M. Lee, "Laser-direct patterning of nanostructured metal thin films" *Journal of the Korean Institute of Metals and Materials* **48**, 163-168(2010)

Conference Presentations

1. **H. Yu**, J. Kim, W. Chen, D. Kim, J. Guo, and F. So, "Effect of nano-porosity on high gain permeable metal-base transistors" *Materials and Research Society*, spring conference in San Francisco (2014)
2. **H. Yoo**, H. Shin, and M. Lee, "Photoetching modeling of nanocrystalline thin films", European Materials Research Society Spring Meeting (2009)
3. **H. Yoo**, H. Shin, and M. Lee, "Laser-direct patterning of nanostructured metal thin Films", Fall Conference of the Korean Institute of Metals and Materials (2009)

Other Activities

- **Military service** (2004-2006)

- Worked as a medic in the Army of the Republic of Korea at the border between North Korea and South Korea

* Please note that "Yoo" instead of "Yu" was marked as the author's family name in the papers before 2011. Since 2011, I have been using "Yu" as the official name in the publication.