Robert Matthew Ireland, Ph. D. student

Materials Science and Engineering, Johns Hopkins University
3400 North Charles Street, 206 Maryland Hall
Baltimore, MD 21218

E-mail: ireland.robert.m@gmail.com
Phone: 530 409 9706

PROFFESIONAL PREPARATION

Ph.D. in Materials Science and Engineering, Johns Hopkins University (expected 2015)

B.S. in Mechanical Engineering, University of California, Davis (June 2011)

B.S. in Materials Science and Engineering, University of California, Davis (June 2011)

APPOINTMENTS

2011- present	Graduate Research Assistant, Johns Hopkins University, Dr. Howard E. Katz
2009-2011	Research Assistant, Nano-Engineering & Smart Structures Technology Lab, UC D., Dr. Ken Loh
2009-2011	Processing Engineer, Northern California Nanotechnology Center, UC D., Dr. Frank Yaghmaie
2009-2011	Research Assistant, Advanced Composite Research Lab, UC D., Dr. Valeria La Saponara
2009-2011	Student Representative, Undergraduate Research Conference Committee, UC D., Tammy Hoyer
2008-2009	Lab Assistant, Land Air and Water Resources, UC D., Dr. James Richards
2007-2008	Research Assistant, Materials Processing and Characterization Lab, UC D., Dr. Joanna R. Groza

HONORS & DISTINCTIONS

2012- present	Safety Chair, JHU Graduate Representative Organization – executive board
Spring 2013	Teaching Assistant, *Introduction to Ceramics*, Johns Hopkins University, Dr. Patricia McQuiggen
March 2013	Alumni, professional development workshop, Stonybrook Center for Communicating Science
March 2011	Academic Scholarship, JHU Whiting School of Engineering
Feb. 2011	Leadership Grant, UC Davis Cross-Cultural Center
Oct. 2010	President's Undergraduate Fellowship, UC Davis Research Center
Aug. 2009	Alumni, professional development workshop, UC Davis Graduate School of Business
Summer 2009	REU, Nanostructured Functional Materials Lab, Iowa State Univ., Dr. Zhiqun Lin

JOURNAL PUBLICATIONS

1. S. Kola, K. Joo, R. M. Ireland, K. Smith, W. Guo, H. E. Katz, "Pyromellitic Diimide – Ethynylene Based Homopolymer Film as an N-Channel Organic Field-Effect Transistor Semiconductor," *ACS Macro Letters* (submitted April 2013).
2. J. F. Martínez Hardigree, T. J. Dawidczyk, R. M. Ireland, G. L. Johns, B.J. Jung, M. Nyman, R. Osterbacka, N. Marković, and H. E. Katz, "Reducing Leakage Currents in Organic Field-effect Transistors Using Molecular Dipole Monolayers," *ACS Applied Materials and Interfaces* (submitted April 2013).
3. J.Sinha, R. M. Ireland, S. Lee, and H. E. Katz, "Synergistic Thermoelectric Power Factor Increase in Films Incorporating Tellurium and Thiophene-based Semiconductors," *MRS Communications* (2013).

4. R. M. Ireland, T. J. Dawidczyk, P. Cottingham, T. McQueen, G. Johns, N. Markovic, L. Zhang, P. Gopalan, and H. E. Katz, "Effects of Pulsing and Interfacial Potentials on Tellurium-Organic Heterostructured Films," *ACS Applied Materials and Interfaces* (2012).
5. R. M. Ireland, L. Zhang, P. Gopalan, and Howard E. Katz, "Tellurium Thin Films in Hybrid Organic Electronics: Morphology and Mobility," *Advanced Materials* (2012).
6. R. M. Ireland, L. Arronche, V. La Saponara, "Electrochemical Investigation of Galvanic Corrosion between Aluminum 7075 and Glass Fiber/Epoxy Composites Modified with Carbon Nanotubes," *Composites Part B* (2011).
7. D. Ryu, R. M. Ireland, M. Karimzada, A. Gusman, F. Yaghmaie, K. J. Loh, "*In-Situ* Reduction of Gold Nanoparticles in PDMS Matrices and Applications for Large Strain Sensing," *Smart Structures and Systems* (2011).

CONFERENCE PUBLICATIONS

1. R. M. Ireland, L. Arronche, V. La Saponara, "Electrochemical investigation of galvanic corrosion between aluminum 7075 and multiscale glass fiber/epoxy composites," Proceedings of the XII Pan American Congress of Applied Mechanics, Port of Spain, Trinidad, 2012.
2. R. M. Ireland, D. Ryu, M. Karimzada, K. J. Loh, A. Gusman, and F. Yaghmaie, "Multifunctional Strain and Chemical Sensing using Gold Nanoparticle-based Polymer Composites," Proceedings of the International Conference on Smart Structures and Systems, Seoul, South Korea, 2011.

PRESENTATIONS

3. Talk, Tellurium thin-films in hybrid organic electronics, *American Physical Society Spring Meeting*, Baltimore Convention Center, March 2013.
4. Talk, Galvanic corrosion between aluminum 7075 and glass fiber/epoxy modified with carbon nanotubes, *National Conference of Undergraduate Research*, Ithaca College, April 2011.
5. Poster, Non-destructive health monitoring via multiscale fiber-reinforced composites, *22nd Annual Undergraduate Research Conference*, UC Davis, April 2011.
6. Talk, In-situ synthesis of organometallic polymer composites for optical sensing, *21st Annual Undergraduate Research Conference*, UC Davis, April 2010.
7. Talk, 10 minute pitch for one graduate student's agricultural widget to a panel of potential investors, *UC Davis Business School professional development workshop*, UC Davis, August 2009.
8. Poster, Dye-sensitized solar cell thin films utilizing TiO_2 nanotubes, *Department of Energy SULI program*, Ames Research Laboratory, July 2009.
9. Talk, Development and experiences of UC Davis's first integrated-design and green building class, *2nd Annual Sustainability Summit*, California Students for Sustainability Coalition, UC Davis, June 2009.
10. Talk, Dynamic recrystallization of alpha iron solid solutions, *19th Annual Undergraduate Research Conference*, UC Davis, April 2008.
11. Talk, Gave presentations on call, promoting significance and prospects of university research, *Undergraduate Research Center*, UC Davis, 2008-2011.