

[MIL112@psu.edu](mailto:MIL112@psu.edu) | 328 MSC, University Park, PA 16802 | (260) 437-5264

*Advancing research and education in Optofluidics, Microfluidics, Bioengineering, and MEMS.*

## Education

**Doctor of Philosophy in Engineering Science – Expected in May 2013**

The Pennsylvania State University, University Park, PA - **GPA: 3.9/4.00**

**Bachelor of Science in Biomedical Engineering - Graduated cum laude in March 2007**

Rose-Hulman Institute of Technology, Terre Haute, IN

**Minor: Electrical Engineering; Concentration: Bioinstrumentation - GPA: 3.57/4.00**

## Work Experience

**Graduate Research Assistant at Penn State** **09/27/2007 – Present**

Acquired skills in chemistry, photonics, microfabrication, electronics, fluids and biology (See Publications).  
Proficient with matlab, image J, AutoCAD, and other design and data analysis tools and techniques.

**Research Engineer at TRS Technologies, State Collage, PA** **05/07/2009 – 08/01/2011**

Developed technical reports, proposals and presentations for NASA and DoD SBIR programs.  
Conducted electrical design of logic and high-voltage circuits for driving piezoelectric actuators and motors.  
Designed devices and testing systems for high temperature and cryogenic piezoelectric devices.

**Graduate Teaching Assistant at Penn State** **08/27/2007 – 05/07/2009**

**MEMS Laboratory Technician at Rose-Hulman IT, Terre Haute, IN** **03/05/2007 – 08/10/2007**

**Systems Engineer at ICTT, Terre Haute, IN** **06/01/2006 – 08/20/2006**

## Peer-reviewed Journal Publications

**Michael Ian Lapsley**, Anaram Shahravan, Qingzhen Hao, Bala Krishna Juluri, Stephen Giardinelli, Mengqian Lu, Themis Matsoukas, and Tony Jun Huang, *Shifts in plasmon resonance due to charging of a nanodisk array in argon plasma*, Applied Physics Letters, (Submitted)

**Michael Ian Lapsley**, I-Kao Chiang, Yue Bing Zheng, Xiaoyun Ding, Xiaole Mao and Tony Jun Huang. *A single-layer, planar, optofluidic Mach-Zehnder interferometer for label-free detection*, Lab on a Chip, **2011**, DOI: 10.1039/c0lc00707b.

**Michael Ian Lapsley**, Xiaole Mao, Sz-Chin Lin and Tony Jun Huang. *In plane, variable optical fiber attenuator using a tunable reflective interface*, Applied Physics Letters, **2009**, 95, 083507.

Xiaole Mao, Sz-Chin Lin, Jinjie Shi, **Michael Ian Lapsley**, Bala Juluri, and Tony Jun Huang. *Tunable Liquid Gradient Refractive Index (L-GRIN) lens with two degrees of freedom*, Lab on a Chip, **2009**, 9, 2050 - 2058, DOI: 10.1039/b822982a.

Xiaole Mao, Bala Juluri, **Michael Ian Lapsley**, and Tony Jun Huang. *Microseconds microfluidic chaotic bubble mixer*, Microfluidics and Nanofluidics, **2010**, 8, 139-144, DOI: 10.1007/s10404-009-0496-4.

S. Zhang; Xiaoning Jiang, **Michael Lapsley**, Paul Moses and Thomas Shrout, *Piezoelectric accelerometers for ultrahigh temperature application*, Applied Physics Letters, **2010**, 96, 013506

## To be Submitted

**Michael Ian Lapsley**, et al, *Fluorescent activated cell sorting using drift-based hydrodynamic focusing and acoustic sorting*.

**Michael Ian Lapsley**, et al, *Acoustic bubble resonance characterization using an optofluidic interferometer*.

**Michael Ian Lapsley**, et al, *Measuring diffusivity and refractive index of concentrated solutions of calcium chloride with and in-plane, steady state, optofluidic device*.

**Fellowships:** 2010-2012: NASA PSGC Fellowship -- 2008: Harry G. Miller Fellowship -- 2007: Paul H. Schweitzer Memorial Graduate Fellowship

**Leadership/Outreach:** Lab Manager for BioNEMS lab (2011); President of Delta Sigma Phi Fraternity (2006); Presentations to encourage undergraduates to attend graduate school (2010 - 2011); Church class teaching high school students religion and ethics (2011).