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Daniel Fleischer

Education

2012–Present **M.S./Ph.D.**, *Columbia University*, New York, NY.

2008–2012 **B.S.E.**, *University of Pennsylvania*, Philadelphia, PA, *3.77*.

Ph.D. Research

title *Integrated, multiplexed high-frequency electronic analysis of DNA in nanopores*

supervisor Kenneth Shepard

description Our aim is to improve the noise-limited bandwidth of nanopore detection electronics and support parallelized architecture with multiple biological or synthetic nanopores per chip. Closed-loop sensing and actuation will allow for molecule holding and recapture.

Experience

May 2012 – Aug. 2012 **Summer Intern**, *OLEDWorks*, Rochester, NY.
- Analyzed and solved machine language problems preventing full automatic operation of an industrial machine operated via programmable logic controllers (PLCs);
- Improved LabVIEW programs for display testing equipment and wrote Visual Basic program for generating spectral plots from test data;
- Designed shadow masks and device substrates in SolidWorks for Organic Light Emitting Diode (OLED) manufacture.

May 2011 – Aug. 2011 **Summer Intern**, *Magna-Power Electronics*, Flemington, NJ.
- Organized inventory for electrical components used to manufacture 2 kW – 1000 kW DC power supplies.

June 2010 – June 2011 **Research Assistant**, *University of Pennsylvania Micro and Nanosystems Group*, Philadelphia, PA.
- Researched methods for functionalization of contour-mode MicroElectroMechanical Systems (MEMS) Resonant Sensors with single-strand DNA;
- Demonstrated viability of Fujifilm Dimatix Materials Printer as a method to functionalize MEMS Sensors.

May 2009 – Nov. 2009 **Summer Intern**, *Eastman Kodak Company*, Rochester, NY.
- Created searchable database for OLED coating parameters;
- Developed programs to create coating sheets, to analyze image stick in OLED displays, and to implement a Power/Life model on an OLED device.

June 2008 – Aug. 2008 **Summer Intern**, *University of Rochester Laboratory for Laser Energetics*, Rochester, NY.
- Designed alignment fixture for assembly of Ultraviolet Diodes in Graphite CAD program;
- Designed device to input controlled UV and visible light for testing and alignment of diodes;
- Created 3D prototype of alignment fixture.

June 2007 – Aug. 2007 **Summer Intern**, *University of Rochester Laboratory for Laser Energetics*, Rochester, NY.
- Developed understanding of the Rochester Optical Streak System (ROSS);
- Wrote scripts to optimize the image resolution and focus of the ROSS.

June 2006 – Aug. 2006 **Summer Intern**, *Eastman Kodak*, Rochester, NY.
- Built experimental OLED devices and tested performance of UV plasma cleaner;
- Programmed inventory database in Visual Basic for tracking organic materials usage.

Computer skills

Electronics Cadence, SPICE, EAGLE

Programming LabVIEW, Python, Java
MATLAB, VisualBasic, LaTeX

CAD SolidWorks, AutoCAD, Graphite

Technologies IBM 0.18μm