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Education

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (M.I.T.) — **CAMBRIDGE, MA**

Candidate for Bachelor of Science degree in Materials Science and Engineering, GPA: 4.9/5.0 — *June 2014*

- Minor in Anthropology with a focus on health, disease, medicine and biology in global and local settings.
- Relevant Coursework: Structure and Thermodynamics; Electronic, Optical, and Magnetic Properties of Materials; Mechanical Behavior of Materials; Organic & Biomaterials Chemistry.

Experience

MIT BIOELECTRONICS GROUP — **CAMBRIDGE, MA**

Undergraduate Researcher under the advisement of Polina Anikeeva — *Feb. 2012 – Present*

- Developed technique for remote stimulation of neurons with heat sensitive ion channel receptors using nanoparticles that achieve local heating upon RF stimulation for application in non-invasive treatments of neurological disorders.
- Performed DNA amplification, purification, and cloning techniques to develop DNA constructs for a thermo genetic toolbox. Operated confocal microscope for optical and calcium fluorescence imaging.

APPLIED PHYSICS RESEARCH AT CALIFORNIA INSTITUTE OF TECHNOLOGY — **PASADENA, CA**

Summer Undergraduate Research Fellow under the advisement of Julia R. Greer — *June 2012 – Aug. 2012*

- Investigated size dependent deformation of nanocrystalline platinum nanopillars.
- Developed a small-cell template-assisted electroplating technique to make 60 nm diameter Pt pillars.
- Discovered a 60% weakening in 60 nm compression pillars compared to the bulk yield strength due to unique deformation mechanisms at this small external length scale, such as grain boundary sliding and rotation.

CHEMICAL ENGINEERING RESEARCH AT UCLA — **LOS ANGELES, CA**

Researcher at University of California, Los Angeles under the advisement of Jane P. Chang — *June 2011 – Aug. 2011*

- Examined thin film electrolyte materials for solid oxide fuel cells.
- Studied yttria-stabilized zirconia (YSZ) thin films deposited by atomic layer deposition (ALD) and assessed the effect of elemental distribution in complex metal oxides on the ionic conductivity of the electrolytes.
- Analyzed data from ALD, X-ray Photoelectron Spectroscopy, and Impedance Spectroscopy. Designed an ALD reactor in SolidWorks. Modeled YSZ crystal structure in CrystalMaker.

CHILDREN'S HOSPITAL LOS ANGELES — **LOS ANGELES, CA**

Researcher at the Saban Research Institute under the advisement of Henri R. Ford, MD, MHA — *June 2009 – Aug. 2010*

- Examined the various proteins that may be involved in inducible nitric oxide synthase regulation in the gut, in order to determine a pathway that may be inhibited to prevent Necrotizing Enterocolitis (NEC).
- Prepared cell cultures and performed Western Blot (gel electrophoresis, wet and semi-dry transfer).

Leadership

GIRLS' ANGLE: A MATH CLUB FOR GIRLS — **CAMBRIDGE, MA**

Mentor and Tutor — *Sept. 2012 – Present*

- Mentored middle and high school girls through a community service organization that fosters girls' interest in mathematics and empowers them to be able to tackle any field no matter the level of mathematical sophistication.

MIT SOCIETY OF UNDERGRADUATE MATERIALS SCIENTISTS (SUMS) — *May 2012 – Present*

- Organized social and career development events for the Department of Materials Science and Engineering (DMSE) as Secretary & Historian of SUMS Executive Board.

MIT CONCOURSE PROGRAM TUTOR — *Sept. 2011 – May 2012*

- Assisted students on problem sets and conceptual understanding of Multivariable Calculus and Differential Equations.

MIT MASEEH HALL SOCIAL CHAIR — *Jan. 2011 – Sept. 2012*

- Coordinated social and community events for 462 students living in the largest undergraduate dorm at MIT.

Skills, Interests & Awards

- *Skills:* Mathematica, Microsoft Office – Word, Excel, PowerPoint, Adobe InDesign CS4, and SolidWorks.
- *Lab Techniques:* DNA cloning techniques, Electroplating, and SEM.
- *Interests:* Society of Women Engineers (SWE), Kappa Alpha Theta sorority, journalism, photography, tap dance, crew, and live music event coordination (Live Nation employee).
- *Awards:* MIT DMSE Outstanding Sophomore Award, June 2012.
- *Publications:* Second author on paper with Greer Group at CalTech submitted Sept. 2012; Presenter at Fall 2012 Materials Research Society (MRS) conference with Bioelectronics Group at MIT.