**Evan Anguish**

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**EDUCATION**

**University of Florida,** Gainesville, Florida

PhD Materials Science and Engineering May 2023

**The Ohio State University**, Columbus, Ohio

B.S., Materials Science and Engineering May 2018

**ENGINEERING AND RESEARCH EXPERIENCE**

**Graduate Research Assistant,** Gainesville Florida

Andrew Research Group (September 2018- Current)

* Fabrication of nanoparticle and nanoparticle composite films using drop casting and spin coating
* Use of Bruker Contour GT-I Optical Profilometer to characterize nanoparticle film thickness and roughness
* Characterization of nanoparticle film surface using FEI Nova Nano Scanning Electron Microscope
* Characterize crystallinity and phase of nanoparticles using Panalytical XPert Powder X-Ray Diffractometer
* Determined best combination of nanoparticle concentration, solvent, stabilizing agents, and ultrasonication to produce highest quality films

**Senior Design/Capstone,** Columbus Ohio

Project Member (August 2017-May 2018)

* Characterize nanostructures using Atomic Force Microscopy on yttria stabilized zirconia doped with rare earth oxide
* Presented first and second semester results in departmental poster session
* Presented first semester results at recruitment event to introduce undecided engineering students to MSE

**Undergraduate Research Assistant,** Columbus Ohio

Kawakami Group at The Ohio State University (Jan 2017-May 2018)

* **Semiconductor Research Corporation Intern Scholar** (May-August 2017)
* Presented research poster and research presentation at SRC’s TECHCON 2017 conference
* Use of molecular beam epitaxy to grow nanoscale heterostructures to observe spin torque and oxidation effects
* Growth of Ag/Bi heterostructure to observe spin orbit coupling due to Rashba Effect on different substrates
* Growth of Ag/Bi heterostructure with Ge and Cr cap to observe oxidation of Bi
* Growth of ultrathin Fe layers with perpendicular magnetic anisotropy in heterstructure
* Use of Reflective High Energy Electron Diffraction spectroscopy system to characterize material growth
* Ran tests, diagnosed, and minimized crystal monitor fluctuations that resulted in unstable deposition rates
* Performed basic maintenance and upkeep on ultra-high vacuum MBE system
* Helped train undergraduates new to group on MBE system

**Naval Research Enterprise Internship Program (NREIP) administered by the American Society for Engineering Education (ASEE) at the U.S, Naval Research Laboratory**, Washington DC

Engineering Research Intern (May-July 2016)

* Performed research with advanced piezoelectric PIN-PMN-PT to create more efficient transducers
* Designed and fabricated piston to facilitate Laser Doppler Vibrometry and acoustic measurements
* Used SOLIDWORKS to design a PIN-PMN-PT transducer and clamp for electromagnetic cracking
* Used OriginPro to analyze collected data, showed that new material was more efficient than alternatives
* Worked with technicians, machine shop, and multidisciplinary scientists to complete projects

**Ohio State Department of Anesthesiology**, Columbus, Ohio

Volunteer Research Assistant (June-September 2015)

* Paper search; Compiled list of relevant academic papers used as sources; paper submitted for application

**SUSTAINS Learning Community** Columbus, Ohio

Committee Chair and Member (2014-2016)

* Appointed to chair committee leading discussion and implementation of peer group sustainability project
* Presented project concept to peers and faculty members and was chosen to lead project

**Outreach**

* Student lead to creating teaching materials for local Gainesville school teachers informing them about nanotechnology and how it affects their everyday life for Nano-day 2019
* Planning committee for nano-day 2018 for NIMET institution at UF
* Led Nitinol wire demonstration to high schoolers from under-represented groups in engineering at The Ohio State University

**Awards**

* Nanoscience Institute for Medicine and Engineering Technology Research Institute Fellow at University of Florida
* Graduate School Preeminence Award at University of Florida
* Semiconductor Research Corporation Intern Scholar
* First place at Black and Decker Innovate-o-thon product development competition
* Naval Research Enterprise Internship Program at Naval Research Laboratory
* STEP Fellowship at Ohio State

**Presentations**

* E. Anguish,D. O'Hara, M. Newburger, K. Yunqiu, R. Kawakami, Magnetic/non-magnetic multilayered structures grown by MBE for spin orbit torque at TECHCON 2017 Austin, Tx, September 12, 2017