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Andrew McAllister

Résumé

Summary

Goal — A career where I can use my technical expertise to work on understand complicated problems facing society and then communicate those efforts (and possible solutions) to a wide variety of audiences.

Analytical Thinking — A PhD in applied physics with specific expertise in materials science, nanotechnology, energy efficiency, and high performance computing.

Communication — Sought out specific training and experiences presenting to, writing for and working with diverse audiences throughout my PhD.

Education

Expected: August 2018 — **PhD in Applied Physics**, *University of Michigan*, Ann Arbor, MI.
Relevant Coursework:
- Public Policy 650 – Introduction to Science and Technology Policy Analysis
- Engineering 580 – Teaching Engineering

2012 — **B.S. in Physics**, *Rensselaer Polytechnic Institute*, Troy, NY.
Magna cum laude, dual major in mathematics

Work Experience

June-August 2013 — **Computational Chemistry and Materials Science Fellow**, *Lawrence Livermore National Laboratory*, Livermore, CA.

Awards

2014 National Science Foundation Graduate Research Fellowship Program

2012 Nadia Trinkala Service Award, Rensselaer Physics Department

2010 Rensselaer Polytechnic Institute Founder's Award of Excellence

2008 Boy Scouts of America, Eagle Scout

Leadership

2017-Present — **Senior Editor**, *Applied Physics Student Council, Students of Applied Physics Project*, Ann Arbor, MI.

2014-2015 — **President**, *Local Chapter of American Society for Engineering Education*, Ann Arbor, MI.

2009-2011 — **President**, *Local Chapter of Society of Physics Students*, Troy, NY.

Communication Training

August 2017 **ComSciCon Chicago**, *Chicago, IL*.

2016 **Researchers Expanding Lay-Audience Teaching and Engagement (RELATE) Workshops**.

- Over 3 months, worked on crafting messages and narratives, considering different audiences and making visual aids.
- Developed and produced a YouTube video highlighting my research.

Selected Communication Experience

General Audience Writing

1. **Atomistic Calculations Predict That Boron Incorporation Increases The Efficiency Of LEDs**, *2017*.
   Press release for research group. Picked up by the DOE, NERSC, and Semiconductor Today.
2. **Senior Editor**, *Students of Applied Physics , Applied Physics Student Council*.
   I work with PhD students to develop understandable and engaging articles about research in the applied physics department. Example article

Public Engagement

1. **Andrew McAllister**, LED Light Bulbs: Why Do They Cost an Arm and a Leg?, Nerd Nite 2017, Ann Arbor, MI

Technical Publications

1. **Andrew McAllister**, Dylan Bayerl, Emmanouil Kioupakis, Auger and radiative recombination in indium nitride, *Applied Physics Letters*, **112**, 251108 (2018) doi:10.1063/1.5038106
2. Kyeongwoon Chung, **Andrew McAllister**, David Bilby, Bong-Gi Kim, Min Sang Kwon, Emmanouil Kioupakis, Jinsang Kim, Designing interchain and intrachain properties of conjugated polymers for latent optical information encoding, *Chemical Science* **6**, 6980-6985 (2015) doi:10.1039/c5sc02403j

Contributed Technical Presentations

1. **Andrew McAllister**, Dylan Bayerl, Christina Jones, Emmanouil Kioupakis, Auger Recombination From First-principles in Group-III Nitride Alloys, American Physical Society March Meeting 2018, Los Angeles, CA
2. **Andrew McAllister**, Dylan Bayerl, Emmanouil Kioupakis, Radiative and Auger Recombination of Degenerate Carriers in InN American Physical Society March Meeting, 2017, New Orleans, LA
3. **Andrew McAllister**, Predictive modeling of quantum processes for optoelectronic devices, Physics Graduate Student Symposium, 2014, Ann Arbor, MI