3559 Burbank Drive
Ann Arbor, MI 48105
732-275-5051
mcala@umich.edu
www.mcallister.science
McAllisterSci
McAllisterSci

Andrew McAllister

Résumé

Summary

Goal — A career where I can use my technical expertise to understand complicated problems and 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. Relentlessly purses context when doing science communication.

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

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 — Founder's Award of Excellence, Rensselaer Polytechnic Institute

2008 — Boy Scouts of America, Eagle Scout

Leadership

2018-Present — **Organizer**, *ComSciCon Michigan*, Ann Arbor, MI.
Work with other graduate students to organize, publicize and run a conference devoted to science communication in Ann Arbor Michigan.

2017-Present — **Senior Editor**, *Students of Applied Physics Project, Applied Physics Student Council*, Ann Arbor, MI.
Develop story ideas and edit articles that PhD students write about each other's research. Example article

2014-2015 — **President**, *Local Chapter of American Society for Engineering Education*, Ann Arbor, MI.
Organize and run meetings, ensure that skill workshops have teachers, plan future workshops based on the needs of University of Michigan students.

2009-2011 — **President**, *Local Chapter of Society of Physics Students*, Troy, NY.
Organize meetings and social events, foster a community of physics students, act as intermediary between faculty and students, help organize and run engagement events in local area.

Selected 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
3. **Andrew McAllister**, Daniel Åberg, André Schleife, and Emmanouil Kioupakis, Auger recombination in sodium-iodide scintillators from first principles, *Applied Physics Letters* **106**, 141901 (2015) doi:10.1063/1.4914500

Selected General Audience Writing

2017 **Atomistic Calculations Predict That Boron Incorporation Increases The Efficiency Of LEDs**.
Press release for research group. Picked up by the DOE, NERSC, and Semiconductor Today.

Selected Presentations

Contributed Oral 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**, Emmanouil Kioupakis, Daniel Åberg, Andreé Schleife, Auger recombination in scintillator materials from first principles, American Physical Society March Meeting, 2015, San Antonio, TX
4. **Andrew McAllister**, Predictive modeling of quantum processes for optoelectronic devices, Physics Graduate Student Symposium, 2014, Ann Arbor, MI

Public Engagement

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

Programming Skills

Languages: Fortran, Python, C++, Matlab, Shell, Git

Materials Science Codes: QuantumEspresso, Wannier90, BerkeleyGW, VASP

Further details and proficiencies available on request.

High-Performance Computing Awards

2015-2018 Electronic and optical properties of novel photovoltaic and thermoelectric materials from first-principles, National Energy Research Scientific Computing Center
PI: Emmanouil Kioupakis

- **2018:** 5,000,000 CPU Hours
- **2017:** 7,300,000 CPU Hours
- **2016:** 2,301,200 CPU Hours
- **2015:** 8,000,000 CPU Hours