COREY OSES

Ph.D. Candidate in Materials Science, Duke University

PERSONAL INFORMATION

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OBJECTIVE

To obtain a graduate degree and perform research relevant to Materials Science and Engineering in order to develop my technical and managerial skills and make significant contributions to Duke University.

EDUCATION

Doctor of Philosophy

2013–Present Duke University

GPA: 3.7/4.0 · Department: Mechanical Engineering and Materials Science
Thesis: *Advanced Techniques in High-Throughput Computational Materials Science*
Advisor: Stefano Curtarolo

Bachelor of Science

2009–2013 Cornell University

GPA: 3.3/4.0 · Department: Applied and Engineering Physics
Thesis: *Plume Propagation Simulation for Pulsed Laser Deposition*
Advisor: Joel Brock

High School Diploma

2005-2009 Bloomfield High School

GPA: 3.9/4.0 · *Graduated fifth in class of 428*

RESEARCH

Duke University

2015–2018 Advanced Techniques in High-Throughput Computational Materials Science

Advisor: Stefano Curtarolo

Duke University

2014–2016 Modeling Off-Stochiometry Materials

Developed and implemented a robust framework for modeling off-stoichiometry and aperiodic materials in a high-throughput fashion.

- Presented at APS March Meeting 2016.

Advisor: Stefano Curtarolo

Duke University

2014 Materials Cartography

Developed novel fingerprinting method for electronic properties of materials that enabled the construction of similarity maps. · Collaborative effort between UNC-Chapel Hill and Duke University.

- Presented at BYU Condensed Matter Physics Seminar — February 18, 2016.
- Presented at Duke MEMS Department Graduate Student Seminar — September 25, 2015.
- Presented at APS March Meeting 2015.

Advisor: Stefano Curtarolo

Fall 2012–Spring 2013 — Plume Propagation Simulation for Pulsed Laser Deposition

Cornell University

Developed a robust, three-dimensional Monte-Carlo simulation of the Pulsed Laser Deposition material growth technique used at the Cornell High Energy Synchrotron Source.

- Presented at NSF / AAAS / EHR Emerging Researchers National Conference 2014.
- Technical poster presentation, MRS / ASM / AVS / AReMS Meeting at NC State University — November 15, 2013.
- Technical Poster and Paper Finalist, SHPE Conference 2013.
- Best Presentation Award, Duke MEMS Department Retreat 2013.

Advisor: Joel Brock

Summer 2012 — Synchrotron Radiation Focusing Optics — Capillary Beam Stop Design

Cornell High Energy Synchrotron Source

Designed and implemented a beam stop assembly to eliminate parasitic X-Ray beams and improve focusing capabilities of the ellipsoidal glass capillary optic.

- First Place in Nanoscience and Physics Research Presentation, NSF / AAAS / EHR Emerging Researchers National Conference 2013.
- Technical poster and research presentation, Cornell University LSAMP Research Symposium — August 7, 2012.

Advisors: Ernest Fontes & Rong Huang

Fall 2011–Spring 2012 — Conductivity Behavior in Strontium Titanate

Cornell University

Developed and supported a model that characterizes the conductivity of annealed Strontium Titanate samples. · Further investigated conductivity behavior of annealed Strontium Titanate samples under varying electric potentials.
Advisor: Joel Brock

2009–2011 — Cornell University Autonomous Flight Team

Cornell University

Constructed an autonomous plane with capabilities to navigate waypoints, survey areas, and retrieve visual information about the surfaces below as part of a team effort for AUVSI's (Association for Unmanned Vehicle Systems International) Student Unmanned Air Systems Competition.

- Served as team's safety officer and head system manager, AUVSI Student Unmanned Air System (SUAS) 2010 Competition.
- Won a $1,000 grant, AUVSI Student Unmanned Air System (SUAS) 2010 Competition.

Advisor: Ashutosh Saxena

2009–2010 — Meinig Family Cornell National Scholars

Cornell University

Collaborated with MFCNS, scholarship fund director, and the Cornell Alumni Association for the 2009–2010 annual research project, Academic Integrity, culminating with group presentation and discussion with relevant Cornell faculty and professors.
Advisor: Kristine M. DeLuca

TEACHING EXPERIENCE

Fall 2014–Spring 2015 — ME 221: Structure and Properties of Solids, Duke University

Teaching Assistant

Introduction to materials science and engineering, emphasizing the relationships between the structure of a solid and its properties. Atomic and molecular origins of electrical, mechanical, and chemical behavior are treated in some detail for metals, alloys, polymers, ceramics, glasses, and composite materials.

- Best Spring Teaching Assistant Award 2015

Press and News Releases

Computational Chemistry Highlights — *January 2015* — *"Materials Cartography: Representing and Mining Materials Space Using Structural and Electronic Fingerprints"*

"This paper is a *tour de force* for computational materials science" — Prof. Alán Aspuru-Guzik, Harvard University.http://www.compchemhighlights.org/2015/01/materials-cartography-representing-and.html

Duke University — *June 2014* — *"Pratt Profiles: Corey Oses"*

http://pratt.duke.edu/graduate/diversity/pratt-profiles-corey-oses

New York Kiwanis — *February 2013* — *"New York Kiwanis Mid-Winter Conference 2013"*

http://www.kiwanis-ny.org/1213/midyear.htm

New York Kiwanis — *June 2012* — *"K-Kids Show Talent for Fundraising"*

http://www.kiwanis-ny.org/1213/midyear.htm

New York Kiwanis — *March 2012* — *"Past Circle K Governors Help Celebrate 50th Convention"*

Elected Governor of New York Circle K.http://www.kiwanis-ny.org/news/view_news.php?nid=618

Cornell University — *March 2011* — *"Undergraduate Student of the Month"*

https://www.engineering.cornell.edu/diversity/about/honors/students/2011-03.cfm

Work Experience and Skills

Internship — *Summer 2013* — Cornell High Energy Sychrotron Source (BioSAXS on F2 and G Beamlines)

Supervisors: Richard Edward Gillilan & Ernest Fontes

Graduate — *May 2011* — *The LeaderShape Institute*

Student Employee — *Summer 2011* — ILR Budget Office, Cornell University

Supervisor: Renee Laree Monroe

Technician License — *July 2010* — American Radio Relay League (ARRL)

Internship — *March 2010* — Supreme Court of New York

Supervisors: Ariel E. Belen & Allen Hurkin-Torres

Math Tutor — *Fall 2008* — Graduate Record Exam (GRE)

Office Assistant — *Summer 2008* — SOS Security, LLC in Parsippany, NJ

Supervisor: James Flanagan

Proficient Coder — *Present* — Python, LaTeX, C++, Matlab, and R