

EDUCATION

Massachusetts Institute of Technology, Cambridge, Massachusetts USA

- Pursuing a Ph.D. in Mechanical Engineering under Dr. Kostya Turitsyn
- Research focused on Power System Stability and Forced Oscillation Tracking

University of Vermont, Burlington, Vermont USA

- M.S. in Electrical Engineering; Research focused on Voltage Stability with Dr. Paul Hines
- B.S. in Electrical Engineering; Minor in Mathematics: Graduated *Magna Cum Laude* in 2015; Cumulative GPA of 3.94 on 4.0 Scale

Champlain Valley Union High School, Hinesburg, Vermont USA

- Graduated in 2011 with 18 College Credits; Cumulative GPA of 3.93 on 4.0 Scale

RELEVANT EMPLOYMENT HISTORY

Graduate Research Assistant (UVM and MIT)

Winter 2014 to Date

- Worked as a research assistant in Dr. Paul Hines' lab
- Worked as a research assistant in Dr. Kostya Turitsyn's research group

Teaching Assistant

Spring 2014 to 2016

- Introduction to Electrical Energy Systems; ran labs and graded reports (15 & 10 students)
- Linear Circuits; ran labs and graded reports (30 students)

LORD MicroStrain (Wireless Sensing Department)

Summer 2013 and 2014

- Intern; completed wireless transmission testing; built a data packet parsing project in LabVIEW; sensor prototype assembly; updated calibration software

Miscellaneous

2010 through 2013

- UVM Resident Advisor; Chevalier Well Drilling; Liquid Measurement Systems intern

RESEARCH, PROJECTS, & PUBLICATIONS

Detection Methods for Forced Oscillations

Fall 2016 to Date

- Graduate Research Assistant for Dr. Kostya Turitsyn; investigating methods for tracing forced oscillations in transmission networks

Statistical Warning Signs of Voltage Stability

2015 to 2016

- Graduate Research Assistant for Dr. Paul Hines; investigating system wide voltage stability of power systems through dynamical simulation and analytical derivations
- Submitted a publication (pending acceptance) for the IEEE PES 2016 General Meeting: "System-Wide Early Warning Signs of Instability in Stochastically Forced Power Systems"

DC to AC Inverter Circuit Project**Spring 2015**

- Designed and built a 12VDC to 120VAC (RMS) 100W true sine wave Inverter Circuit for an advanced circuit design course
- Circuit provided regulated 120V power for a 100W load; device sampled the output voltage and printed a true RMS voltage to a digital seven segment display screen

Wireless Cross Country Skiing Force Measurement System**2014 to 2015**

- Interdisciplinary Senior Design Project; Designed, built and tested a bio-feedback device for cross country skiing athletes; created custom circuits, PCBs, and software
- Device measures force applied to poles and acceleration of the athletes; provides real-time feedback for performance enhancement and data aggregation for post workout analysis

Real Time Demand Response**2013 to 2014**

- Provided research assistance in a DOE funded demand response study; worked with industry partners to collect and analyze data from thousands of customers
- Listed as a technical assistant in the project's final report: "Load Impact Analysis of Green Mountain Power Critical Events, 2012 and 2013", SmartGrid.gov

SKILLS & EXPERIENCES

Computational Tools and Relevant Courses

- Proficient in LabVIEW, MATLAB, Python, PSpice, and PowerWorld
- System Theory, Electric Energy System Analysis, Electrical Energy Systems, Smart Grid, Solid State Physics, Transmission Lines, Advanced Engineering Mathematics, Electromagnetic Field Theory, Digital Signal Processing, Capstone Engineering Design, Introduction to Data Science

Track and Field

- Four year member of UVM Varsity Track Team (Pole Vault); elected Captain Senior Year
- Volunteer Coach at CVU High School (3 years); Head Coach at Mansfield Pole Vault Club

UVM Leadership Roles

- Served on a School of Engineering lecturer search committee with other Faculty members
- Served for one year as the Co-Program Director for a 20 person Engineering based Residential Learning Community at UVM; chose applicants, hosted weekly meetings, planned monthly events
- Acted as a student group leader for Chi Alpha student ministry at UVM for three years

HONORS & AWARDS

- 2015 America East Presidential Scholar Recipient
- Tau Beta Pi Honor Society Inductee
- 2015 Senior Electrical Engineering Award: Atwater-Kent Award for Excellence of Judgment and Understanding of the Principles of Electrical Engineering
- 2014 American Public Power Association Scholarship
- 2013 and 2014 Recipient of the Richard A. Swenson Endowed Scholarship
- 2013 Sophomore Electrical Engineering Award: Excellence and Greatest Promise
- 2011 through 2014 recipient of the Vermont Scholar's Award Scholarship