Devin M. Rourke

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EDUCATION

University of Colorado, Boulder

Teacher Certification, Secondary Science, Mathematics — expected 2017
Ph.D., Electrical, Computer, and Energy Engineering — expected 2018
M.S., Physics — 2014
B.S., Engineering Physics — 2009
Applied Mathematics Minor
Summa Cum Laude Honors in Physics

PROFESSIONAL and RESEARCH EXPERIENCE

University of Colorado, Boulder — **2011 - present**

Graduate Research Assistant - *Department of Electrical, Computer & Energy Engineering*
Developing photonic devices using nanoscale materials. Numerically modeling and optically characterizing nanostructures to demonstrate novel phenomena, with applications in medicine and renewable energy. Research advisor: Dr. Wounjhang Park

GK-12 Fellow - *College of Engineering and Applied Science* — **2015 - present**
Collaborating with teachers and underrepresented students in K-12 schools to enrich STEM education.

Boulder Valley School District — **2010 - present**

Head Coach - *Centaurus High School*
Coaching co-ed rosters of ~100 (Track & Field) and ~50 (Cross Country) student-athletes to be academically engaged, socially responsible and physically and mentally healthy young adults. Writing training plans; scheduling transportation; building and maintaining website and email list. Athletic Director: Rich Affleck

National Institute of Standards Technology (NIST), Boulder — **2006 - 2011**

Research Contractor - *Optoelectronics Manufacturing Division*
Research focused on semiconductor device processing, and optical and electrical characterization of nanoscale quantum optoelectronic devices. Principal Investigator: Dr. Kristine Bertness

TEACHING

Department of Physics, University of Colorado, Boulder — **2011 - 2015**

Instructor - Fundamentals of Scientific Inquiry (PHYS 1400)
Teaching Assistant - Calculus-based General Physics 2 (PHYS 1120), Algebra-based General Physics 2 (PHYS 2020), Algebra-based General Physics 1 (PHYS 2010), Energy and the Environment (PHYS/ENVS 3070)

DATA PROJECTS and CODE

Milesplit: Performed multiple linear regression on over 20 million web-scraped data points dating back 17 years to determine altitude conversion rates for running races, plotted trends with Python + Pandas/Matplotlib.
Colorado Water: Aggregated NOAA data from 1900 to Present to visualize Colorado precipitation patterns.
AppThis: Performed logistic regression to determine click-through-rate (CTR).
Website: devinrourke.github.io
Languages and Software Tools: COMSOL, Matlab, Python, IPython/Jupyter, AWS/EC2, LabView, Mathematica, Tex, Solidworks/Inventor, Xic, Google Apps, Microsoft Office.

HONORS and AWARDS

Teaching Award, Department of Electrical, Computer, and Energy Engineering — **2016**
Outstanding contributions to advancing the teaching mission of the department.

School of Education Scholarship (Anthony & Judith Cuzzucolli) — **2014**
Recognition as part of the new-generation of teachers devoting their lives to teaching.

All-Colorado High School Coach of the Year — **2011**

Statewide recognition as an inspirational and influential coach.

Active Learning Award **2009**

Pursuits in Discovery, Service, and Professional learning.

SERVICE and GRANTS

Founding member and mentor, CU-Prime at University of Colorado, which aims to increase inclusion in Physics/STEM fields, especially among traditionally underrepresented groups, through mentorship and community building.

Project lead for Engineers Without Borders (EWB), which performed clean water and sanitation projects in collaboration with non-governmental organizations operating in rural Nepal.

Grants awarded:

Lead author: $18,000 (IEEE- Engineers without Borders Teach Sustainable Technology) **2010 - 2011**

Co-author: $34,526 (Engineering Excellence Fund- Engineers without Borders) **2009 - 2010**

PUBLICATIONS and CONFERENCE PRESENTATIONS

Authored or co-authored 10 published papers, including:

D Rourke et. al., 2014. Integrated optical and electrical modeling of plasmon-enhanced thin film photovoltaics: A case-study on organic devices. *Journal of Applied Physics.* 116 (11). 114510.

Gave multiple conference talks and poster presentations, including:

D Rourke. A Case Study Using Extracurricular Activities for Interactive Physics Engagement. BJ01. 2014 American Association of Physics Teachers (AAPT) Summer Meeting. Minneapolis, MN. July 28, 2014.

D Rourke, S Ahn, AM Nardes, J van de Lagemaat, N Kopidakis, W Park. Comprehensive device modeling of plasmon-enhanced and optical field-dependent photocurrent generation in organic bulk heterojunctions. Oral presentation. Photovoltaic Specialist Conference (PVSC), 2014 IEEE 40th, 0147-0150.

PROFESSIONAL AFFILIATIONS

American Association of Physics Teachers (AAPT), Colorado High School Coaches Association (CHSCA), American Physical Society (APS)- Four Corners Section, Sigma Pi Sigma (SPS) Physics Honor Society

INTERESTS

distance running, coaching, reading, travel