

Ramesh Adhikari

Assistant Professor

Department of Physics & Astronomy

Colgate University ◊ 13 Oak Drive ◊ Hamilton, NY 13346

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EDUCATION

- **University of Massachusetts**, Amherst, MA September, 2016
Ph.D., Physics
Dissertation: Study of Charge Transport Mechanism in Microbial Nanowires.
Advisor: Prof. Mark Tuominen
- **University of Massachusetts**, Amherst, MA February, 2014
M.S., Physics
- **Berea College**, Berea, KY May, 2011
B.A., *magna cum laude*, Physics & Mathematics

PROFESSIONAL APPOINTMENTS

- **Assistant Professor** 2020 - Present
Department of Physics & Astronomy
Colgate University, Hamilton, NY
- **Assistant Professor** 2016 - 2020
Department of Physics
Jacksonville University, Jacksonville, FL
- **Graduate Teaching & Research Assistant** 2011-2016
Department of Physics
University of Massachusetts, Amherst, MA

PROFESSIONAL TEACHING EXPERIENCE

All the courses are taught with research based pedagogy for effective student-centered active learning such as peer-instruction, interactive lecture-demonstrations, interactive simulations, cooperative group problem solving whenever possible.

- **Assistant Professor**, Department of Physics & Astronomy 2020 - Present
Colgate University, Hamilton, NY.
Five-courses teaching load per year.

Courses Taught	Semesters
FSEM 133/ CORE 194: Electrons & Our Civilization (Self Developed)	Fall - 2021, 2022
PHYS 233: Introductory Electricity & Magnetism	Fall - 2020, 2021, 2022
PHYS 334: Intro. Quantum Mechanics & Special Relativity	Spring 2021, 2022
PHYS 410: Senior Capstone Research	Fall - 2020, 2022
PHYS 432: Electromagnetism	Spring - 2021, 2022
- **Assistant Professor**, Department of Physics, 2016 - 2020
Jacksonville University, Jacksonville, FL.
Eight-courses teaching load per year.

Courses Taught

JU 101: The Freshman Experience - STEM (Self Developed)

PHYS 101: Freshmen Physics Seminar (Team Taught)

PHYS 111: Principles of Physics I

PHYS 151: General Physics - Mechanics

PHYS 152: General Physics - Electricity & Magnetism

PHYS 250RI: Research Methods in Physics - Experimental (Self Developed)

PHYS 300: Modern Physics

PHYS 305: Classical Mechanics

PHYS 306: Statistical Mechanics

PHYS 310: Electromagnetic Theory

PHYS 410: Senior Physics Seminar

PHYS 413: Quantum Mechanics

Semesters

Fall - 2017, 2018, 2019

Fall - 2016, 2017, 2018, 2019

Summer - 2018, 2019

Fall - 2017

Fall - 2016, 2018, 2019

Spring - 2017, 2018, 2019, 2020

Fall - 2017

Fall - 2016

Spring - 2018, 2019

Fall - 2019

Spring - 2017, 2020

Fall - 2018

Spring - 2018, 2019

Spring - 2018

- **Teaching Assistant**, Department of Physics 2011-2016
University of Massachusetts, Amherst, MA.
 - Graduate Teaching Assistant: Lab instructor for electronics and introductory physics, tutoring and grading. 2011-2016
 - iCons Teaching Assistant: Facilitated student driven learning, multidisciplinary teamwork, peer-to-peer mentoring and problem solving at student centered Integrated Concentration of Science (iCons) class on renewable energy. 2013
 - Head Graduate Teaching Assistant: Supervised teaching assistants (TAs), planned and presented lesson plan for the introductory lab courses and ensured grading standards are consistent among TAs in charge of different sections. 2012

- **Teaching Assistant**, Department of Physics, 2007- 2011
Berea College, Berea, KY.
 - Independently carried out lab setup and instructed for introductory physics labs, along with grading and tutoring.

PROFESSIONAL RESEARCH EXPERIENCE**Colgate University**, Hamilton, NY

Assistant Professor, Department of Physics.

2020 - Present

- Development of plant-based electronic devices.
 - **Undergraduate Students Mentored (5)**: Jeisanelly Hernandez '24, Hadley Pade '24, Nick Poon '23, K. Paige Williams '22, Nicole E. Harmon '22.
- Self-assembled aromatic amino acid structures.
 - **Undergraduate Students Mentored (6)**: Ege Kutlubas '24, Noah Hann-Deschaine '24, Sarah Miller '24, Jeiko Pujols '23, Div Chamria '23, Muhammad Bin Awais '21.

Jacksonville University, Jacksonville, FL

Assistant Professor, Department of Physics.

2016 - 2020

- Development of plant-based electronic devices.

- **Undergraduate Students Mentored (5):** Jack Terrell '22, James Targos '22, Courtney Purcell '20, Kenneth Huffman '20, Misha Chalkley '18.
- Self-assembled aromatic amino acid structures.
 - **Undergraduate Students Mentored (2):** Blessing Akintunde '20, Jasmine Byard '18.

University of Massachusetts, Amherst, MA

Graduate Research Assistant, Department of Physics

2011- 2016

- Charge transport through microbial nanowires.
- Understanding mechanism of degradation of perovskite solar cells.
- Organic fluoropolymers for protection from corrosion.

Fermi National Accelerator Laboratory (Fermilab), Batavia, IL

Lee Teng Intern

June-August, 2010

- Quench localization in superconducting radio-frequency (SRF) cavities.

University of Kentucky, Lexington, KY

Summer Research Intern

June-August, 2009

- Magnetic shielding techniques for neutron electric dipole moment (EDM) experiment.

Berea College, Berea, KY

Summer Research Intern

June-August, 2008

- Study of periods of RR Lyrae variable stars.

PEER-REVIEWED PUBLISHED ARTICLES

(Undergraduate students are indicated by underline. Ramesh Adhikari (Ramesh Y. Adhikari) as the corresponding author is represented by *.) [Click here for Google Scholar Profile](#)

15. **Ramesh Y. Adhikari***, Jeiko J. Pujols “Highly rigid & transparent supramolecular fibrils of tyrosine”, *Nano Select*, 1 (2022).
14. **Ramesh Y. Adhikari***, Nicole E. Harmon, K. Paige Williams “Pristine leaf based electrochemical resistive switching device”, *Applied Materials Today*, 21, 101077 (2021).
13. Reuben Hudson, **Ramesh Y. Adhikari**, Mark T. Tuominen, Ilie Hanzu, Martin Wilkening, Sankaran Thayumanavan, Jeffrey L. Katz “Evaluation of carboxylic, phosphonic and sulfonic acid protogenic moieties on tunable poly(meta-phenylene oxide) ionomer scaffolds”, *Journal of Polymer Science, Part A: Polymer Chemistry*, 57 (22), 2209-2213 (2019).
12. **Ramesh Y. Adhikari***, Jack Terrell, James Targos, Kenneth A. Huffman, Huihui Wang, Joseph Cradlebaugh “Electrical Characterization of Leaf-based Wires & Supercapacitors”, *RSC Advances*, 9, 27289-27293 (2019).
11. W. Brian Lane, **Ramesh Y. Adhikari** “Evaluating the presence of response-shift bias in the CLASS with a two-pass survey”, *Physics Education Research (PER) Conference Proceedings*, DOI: 10.1119/perc.2018.pr.Lane (2018).
10. David J.F. Walker, **Ramesh Y. Adhikari**, Dawn E. Holmes, Joy E. Ward, Trevor L. Woodard, Kelly P. Nevin, and Derek R. Lovley “Electrically conductive pili from pilin genes of phylogenetically diverse microorganisms”, *The ISME Journal*, 12, 48-58 (2018).
9. Yang Tan, **Ramesh Y. Adhikari**, Nikhil S. Malvankar, Joy E. Ward, Trevor L. Woodard, Kelly P. Nevin, and Derek R. Lovley “Expressing the *Geobacter metallireducens* PilA in *Geobacter sulfurreducens* Yields Pili with Exceptional Conductivity”, *mBio*, 8(1), e02203-16 (2017).
8. Yang Tan*, **Ramesh Y. Adhikari***, Nikhil S. Malvankar, Shuang Pi, Joy E. Ward, Trevor L.

Woodard, Kelly P. Nevin, Qiangfei Xia, Mark T. Tuominen and Derek R. Lovley “Synthetic Biological Protein Nanowires with High Conductivity”, *Small*, 12 (33), 4481-4485 (2016). * **Co-first authors**.

7. Yang Tan, **Ramesh Y. Adhikari**, Nikhil S. Malvankar, Joy E. Ward, Kelly P. Nevin, Trevor L. Woodard, Jessica A. Smith, Oona L. Snoeyenbos-West, Ashlwy E. Franks, Mark T. Tuominen and Derek R. Lovley “Low Conductivity of *Geobacter uraniireducens* Pili Associated with Electron Shuttling Mechanism for Extracellular Electron Transfer”, *Frontiers in Microbiology*, 7, 980 (2016).
6. **Ramesh Y. Adhikari**, Nikhil S. Malvankar, Mark T. Tuominen and Derek R. Lovley “Conductivity of individual *Geobacter pili*”, *RSC Advances*, 6, 8354-8357 (2016).
5. Tamer C. Bayram, Nese Orbey, **Ramesh Y. Adhikari** and Mark T. Tuominen “Fluoropolymer Based Formulations as Protective Coatings in Oil/Gas Pipelines”, *Progress in Organic Coatings*, 88, 54-63 (2015).
4. Monojit Bag, Lawrence A. Renna, **Ramesh Y. Adhikari**, Supravat Karak, Feng Liu, Paul M. Lahti, Thomas P. Russell, Mark T. Tuominen and D. Venkataraman “Kinetics of Ion Transport in Perovskite Active Layers and its Implications for Active Layer Stability”, *Journal of the American Chemical Society (JACS)*, 137 (40), 13130-13137 (2015).
3. Ka-Kit Yee, Yan-Lung Wong, Meiqin Zha, **Ramesh Y. Adhikari**, Mark T. Tuominen, Jun Hec and Zhengtao Xu “Room-Temperature Acetylene Hydration by a Hg(II)-laced Metal-Organic Framework”, *Chemical Communications*, 51, 10941-10944 (2015).
2. Susan Malkowski, **Ramesh Y. Adhikari**, J. Boissevain, C. Daurer, B.W. Filippone, Binita Hona, Brad Plaster, Daniel Woods and H. Yan “Overlap Technique for End-Cap Seals on Cylindrical Magnetic Shields”, *IEEE Transactions on Magnetics*, 49(1), 651-653 (2013).
1. Susan Malkowski, **Ramesh Adhikari**, Binita Hona, C. Mattie, Daniel Woods, H. Yan and Brad Plaster “Technique for High Axial Shielding Factor Performance of Large-scale, Thin, Open-ended, Cylindrical Metglas Magnetic Shields”, *Review of Scientific Instruments*, 82, 075104 (2011).

ARTICLES IN PREPARATION

(*Undergraduate students are indicated by underline. Ramesh Adhikari (Ramesh Y. Adhikari) as the corresponding author is represented by **.)

2. Div Chamria, Christopher Alpha, **Ramesh Y. Adhikari***, “Aromatic amino acid enhanced conductivity of PEDOT:PSS.”
1. K. Paige Williams, Noah Hann-Deschaine, Hans T. Benz, **Ramesh Y. Adhikari***, “Paper and Natural Rubber as Low-Cost Eco-Friendly Materials for Triboelectric Nanogenerators.”

PATENT

- Microbial nanowires with increased conductivity and reduced diameters.(Patent No.: 11066449) Derek Lovley, Nikhil S. Malvankar, **Ramesh Adhikari**, Yang Tan, Joy Ward, Kelly Nevin (2021)

PRESENTATIONS

Invited Talks

1. **Ramesh Adhikari** “Self-assembled Aromatic Amino Acid Rich Structures.”, *APS & ICTP-SAIFR Young Physicists Forum on Biological Physics*, São Paulo State University, São Paulo, Brazil.

March, 2020

2. **Ramesh Adhikari** “Electron Transport in Microbial Nanowires: Things We Have Learned from Nature’s Electron Breathers.”, *Colloquium*, University of North Florida, Jacksonville, FL. November, 2017
3. **Ramesh Adhikari** “Could bacteria lead us to the frontiers of bionanoelectronics? Things that we can learn from bacteria that breathe out electrons.”, *Science and Engineering Lecture Series (SELS)*, Jacksonville University, Jacksonville, FL. April, 2017

Invited Public Talks

1. “Humanity Beyond Earth”, Regency Square Branch - Jacksonville Public Library, Jacksonville, FL. July, 2019
2. “Aiming for the Moon: Astronautics for Beginners”, Co-presented with Dr. Brian Lane (Jacksonville University Department of Physics), Regency Square Branch - Jacksonville Public Library, Jacksonville, FL. July, 2019
3. “Physics of Everyday Life”, Murray Hill Branch - Jacksonville Public Library, Jacksonville, FL. July, 2017

Contributed Talks

1. **Ramesh Adhikari**, Nicole E. Harmon, K. Paige Williams “Pristine Leaf-based Electrochemical Resistive Switching Device”, *Materials Research Society (MRS) Spring Meeting*, Honolulu, HI. May, 2022
2. **Ramesh Adhikari**, W. Brian Lane “Lessons from Students’ “Letters” in Introductory Physics Courses”, *American Association of Physics Teachers (AAPT) Summer Meeting*, Orlando, FL. January, 2020
3. **Ramesh Adhikari**, W. Brian Lane “Response-Shift Bias in the CLASS with Predicted and Retrospective Survey”, *American Association of Physics Teachers (AAPT) Summer Meeting*, Washington, DC. July, 2018
4. **Ramesh Adhikari**, W. Brian Lane “Studying Response-Shift Bias in the CLASS with a Retrospective Study”, *American Association of Physics Teachers (AAPT) Summer Meeting*, Cincinnati, OH. July, 2017
5. **Ramesh Adhikari**, W. Brian Lane “Student Confidence and Performance Outcomes in an Introductory Physics Class”, *American Association of Physics Teachers (AAPT) Winter Meeting*, Atlanta, GA. February, 2017
6. **Ramesh Adhikari**, Nikhil Malvankar, Derek Lovley, Mark Tuominen “Relevance of Aromatic Amino Acids for Electron Conduction along Geobacter Pili Protein.”, *American Physical Society (APS) Meeting*, Baltimore, MD. March, 2016
7. **Ramesh Adhikari**, Elvin Harms “Quench localization in Superconducting Radio-Frequency Cavities.”, *Kentucky Academy of Science (KAS) Annual Meeting*, Western Kentucky University, Bowling Green, KY. November, 2010
8. **Ramesh Adhikari**, Daniel Woods, Brad Plaster “Magnetic Shielding for Neutron EDM Experiments.”, *KAS Annual Meeting*, Northern Kentucky University, Highlands Height, KY. November 2009
9. **Ramesh Adhikari**, Jimmy Rop, Tracy Hodge “Study of the period of variable star at Berea College Observatory.”, *KAS Annual Meeting*, University of Kentucky, Lexington, KY. November,

2008

Posters

1. **Ramesh Adhikari**, Nikhil Malvankar, Mark Tuominen, Derek Lovley “Bioelectronics: Nanowires, Capacitors and Artificial Photosynthesis”, *North American Center for Research on Advanced Materials (NORA) meets BASF Challenges*, Cambridge, MA.
November, 2015
2. **Ramesh Adhikari**, Nikhil Malvankar, Mark Tuominen, Derek Lovley “Electrically Conducting Microbial Nanowires”, *Materials Research Science and Engineering Centers (MRSEC)*, UMass Amherst, MA.
October, 2015
3. **Ramesh Adhikari**, Nikhil Malvankar, Mark Tuominen, Derek Lovley “Conductivity Measurements on Individual *Geobacter sulfurreducens* Pili Reveal Conductivities Sufficient to Explain Rates of Extracellular Electron Transfer.”, *Gordon Research Conferences (GRC) - Applied & Environmental Microbiology*, Mt. Holyoke College, South Hadley, MA
July, 2015
4. **Ramesh Adhikari**, Nikhil Malvankar, Mark Tuominen, Derek Lovley “Electron Transport Along Individual Microbial Nanowires.”, *Center for Hierarchical Manufacturing (CHM)*, University of Massachusetts, Amherst, MA.
March, 2015
5. **Ramesh Adhikari**, Nikhil Malvankar, Mark Tuominen, Derek Lovley “High Mobility Transistor Based on a Single Protein Nanowire.”, *Gordon Research Conferences (GRC) - Nanostructure Fabrication*, University of New England, Biddeford, ME
July, 2014

Talks Presented by Undergraduate Research Students

(Undergraduate students represented by †.)

1. James Targos[†], Jack Terrell[†], **Ramesh Adhikari** “Developing Leaf-based Electronics”, *SPS Undergraduate Oral Talks at American Association of Physics Teachers (AAPT) Winter Meeting*, Orlando, FL.
January, 2020
2. Jack Terrell[†], James Targos[†], **Ramesh Adhikari**, “Electronic Characterization of Leaf-based Conducting Channels”, *National Conference on Undergraduate Research (NCUR)*, Kennesaw, GA.
April, 2019
3. Courtney Purcell[†], **Ramesh Adhikari** “Low-cost Triboelectric Device for Harvesting Residual Mechanical Energy”, *National Conference on Undergraduate Research (NCUR)*, Kennesaw, GA.
April, 2019

Posters Presented by Undergraduate Research Students

(Undergraduate students represented by †.)

1. Div Chamria[†], **Ramesh Adhikari** “Anomalous Conductive Behavior in a Polymer-Amino Acid Composite”, *Colgate Summer Research Symposium*, Hamilton, NY.
July, 2021
2. Jeiko Pujols[†], **R. Adhikari** “Mechanical Properties of Tyrosine Nanofibers”, *Colgate Summer Research Symposium*, Hamilton, NY.
July, 2021
3. Nick Poon[†], **Ramesh Adhikari**, “Optimizing Leaf-based Pseudocapacitors”, *Colgate Summer Research Symposium*, Hamilton, NY.
July, 2021
4. S. Miller[†], **Ramesh Adhikari**, “Self-assembled Diphenylalanine Nanostructures”, *Colgate Summer Research Symposium*, Hamilton, NY.
July, 2021

5. Blessing Akintunde[†], **Ramesh Adhikari** “Role of Solution pH on Self-assembly of Aromatic Amino Acids”, *Florida Undergraduate Research Conference (FURC)*, Fort Myers, FL.

February, 2020

GRANTS

External Grants:

- PI - National Science Foundation - NSF (\$199,834) August, 2022 - 2025
 Directorate for Engineering (ENG)
 Division of Electrical, Communications and Cyber Systems (ECCS)
 Project: RUI: Leaf as a Biodegradable Material for Electronic Components
- PI - The Eppley Foundation for Research (\$24,850) September, 2018 - August 2019
 Project: Developing Plant-based Electronics

Internal Grants:

At Colgate University

- Discretionary Grant (\$3000) 2021, 2022
 Faculty Research Council

At Jacksonville University

- PI - Florida Entrepreneurism, Policy, Innovation & Commerce (Florida EPIC) Fall 2018
 grant (\$6,302)
 Project: Exploratory Study on Self-assembly of Aromatic Amino Acid Nanowires.
 (Co-I: Dr. Joseph Cradlebaugh, Chemistry Department)
- Faculty Sponsor, Undergraduate Research Grant (\$1000) Spring 2018
 Project: Developing Low Cost Triboelectric Devices for Harvesting Residual Mechanical Energy
- Co-Investigator, Florida Entrepreneurism, Policy, Innovation & Commerce Fall 2017
 (Florida EPIC) grant (\$18,350)
 Project: Eye Tracking During Programming Activities
 (PI: Dr. W. Brian Lane, Physics Department, &
 Co-I: Dr. Daniel Furnas, Communication Sciences and Disorders Department)
- PI - Florida Entrepreneurism, Policy, Innovation & Commerce (Florida EPIC) Fall 2017
 grant (\$6,000)
 Project: An exploratory study of the use of plant based materials for sustainable electronics. (Co-I: Dr. Huihui Wang, Engineering Department)

AWARDS & HONORS

- **Faculty Fellowship Program in Israel**, Media Watch International & Jewish National Fund: Travel award to for an academic trip to Israel. January 2022
- **2020 Design Thinking Leadership Award**, Jacksonville University: Awarded to implement open ended projects in Statistical Mechanics course to stimulate active learning. Fall, 2019
- **Faculty Development Award**, Jacksonville University
 Awarded to travel and present or participate in workshop at:

- 2018 Partnership for Integration of Computation into Undergraduate Physics (PICUP) Workshop. 2018
- 2017 American Association of Physics Teacher (AAPT) Summer Meeting. 2017
- 2017 American Association of Physics Teacher (AAPT) Winter Meeting. 2017
- **Graduate Student Travel Grant**, University of Massachusetts, Amherst: Awarded to fund travel to recognized conferences for presentations of results of research conducted during graduate work. Maximum of six grants offered annually. 2016
- **Arthur Quinton TA Award**, University of Massachusetts, Amherst: Awarded annually to an outstanding Teaching Assistant. 2012
- **Waldemar Noll Prize in Physics**, Berea College, KY: Presented annually to the senior Physics major with the highest scholastic standing in the major field. 2011
- **Inducted in Phi Kappa Phi**: National collegiate honor society with invitation only membership for top 10% of graduating seniors across the nation. 2011
- **Lilli Brann Scholarship in Physical Sciences**, Berea College, KY: Awarded annually to a student in the physical sciences who has demonstrated superior scholarship in his or her chosen field. 2010
- **First position for oral presentation at Kentucky Academy of Sciences (KAS) Annual Meeting**, Western Kentucky University, Bowling Green, KY. 2010
- **Inducted in *Sigma Pi Sigma* and *Pi Mu Epsilon* National Honor Societies**: National honor societies that honor students with outstanding scholarship in Physics and Mathematics respectively. 2010
- **Second position for oral presentation at Kentucky Academy of Sciences (KAS) Annual Meeting**, University of Kentucky, Lexington, KY. 2008
- **Mahatma Gandhi Scholarship**, Embassy of India in Kathmandu, Nepal: Awarded annually as monthly stipends for up to two years to students selected on the basis of academic performance at national school leaving certificate (SLC) examinations in Nepal. 2004-2006

SERVICE

Professional Service

- American Physical Society (APS) Career Mentoring Fellow 2022-2023
- Journal Reviewer:
 - RSC Advances 2021, 2022
 - Physics Education Research Conference Proceedings (PERC Proceedings) 2018
- Paper sorter - 2019 American Association of Physics Teachers (AAPT) Summer Meeting Spring, 2019
- Presider - Session: Writing in the Physics Curriculum: Objectives, Implementation, and Assessment, 2018 American Association of Physics Teachers (AAPT) Summer Meeting July, 2018

At Colgate University

University-wide Service

- Academic Advisor
 - Major Advisees - 5, Non-major Advisees: 14 2022-2023
 - Major Advisees - 4, Non-major Advisees: 17 2021-2022
- Developed and offered a new FSEM course - Electrons & Our Civilization Fall 2021

Departmental Service - Department of Physics & Astronomy

- Departmental Website Manager. Spring, 2021 - Current

- Create, update and add contents in pages on the departmental website.
- Colgate University Society of Physics Students (CUSPS) Advisor. Spring, 2021 - Current
 - Oversee the functions of the student organization and coordinate logistics with Colgate Campus Life for events.

At Jacksonville University

University-wide Committees

- Member - Student Success Committee Fall 2019 - Spring 2020
- Member - Academic Standards Committee Fall 2017 - Spring 2020
- Member - Experiential Learning Curriculum Committee Fall 2017 - Spring 2019
- Member - STEAM (Science, Technology, Engineering, Arts & Math) Initiatives Planning Subcommittee Spring, 2019
- Member - Grade Appeals Committee January, 2018

Faculty-In-Residence, North Hall

Fall 2017- Spring 2019

- Carried out monthly educational programs such as “Breakfast with Bulletins” & “Pizza & Ponder.”
- Interacted with resident students and developed rapport with them.
- Brought faculty members to residential hall to interact with students through programs.
- Organized larger programs for residential students such as boat trip in collaboration with Marine Science Research Institute, trivia nights and game nights.
- Provided support systems such as office hours and help sessions before exams for the resident students.
- Met periodically with the Director of Residential Life with the summary and feedback about the position and student experience.
- Met periodically with the representatives from Residential Life, Academic Advising, Student Life, Student Counseling and Student Life offices about designing efficient support systems for students.
- Helped incoming freshmen move in.

Search Committees

- Chair - Physics Faculty Search Committee Fall 2019
- Member - Math Faculty Search Committee Spring 2018
- Member - Resource Faculty: Access Services Librarian Search Committee Spring 2018
- Member - Resource Faculty: Emerging Technologies and Health Sciences Librarian Search Committee Fall 2017

Other Services

- Advisor: Society of Physics Students (SPS) Jacksonville University Chapter. August, 2017 - April, 2020
 - Meet with the SPS leadership to plan events and outreach.
 - Be a liaison between the University, Physics Department, and SPS.
 - Organize *Sigma Pi Sigma* Honor Society induction ceremony and nominate honorees.
- Faculty mentor to a new faculty member in Computer Science Department. Fall 2019

OTHER SERVICES AND OUTREACH

University of Massachusetts, Amherst, MA

- Trained graduate students in the department to use various equipment such as Stratasys 3D printer, impedance spectrometer, thermal evaporator and AFM for their research. 2011 - 2016
- Mentored and held discussion sessions for REU students,

- and new graduate students. 2011 - 2016
- Organize annual lab tours and perform nanotechnology demonstrations for: 2011 - 2016
 - ScienceQuest: Annual event for 10 - 12th graders from across Northeast.
 - Nanotechnology Institute: Summer institute for high school STEM teachers.
- Member of experimental High Energy Physics Faculty Search Committee Spring, 2016
- Admission Committee Member in Physics Department Spring, 2015
- Member of experimental Condensed Matter Physics Faculty Search Committee Spring, 2014

Berea College, Berea, KY

- From a member to President, Berea College chapter of Society of Physics Students (SPS) 2008 - 2011
 - Developed and executed organization operation skills such as managing accounts, fund-raising, engaging members, organizing visits to research universities, and promoting public understanding of science through participatory activities while leading Society of Physics Students chapter for multiple years with service in various positions starting from a member to a president.
- International Student Orientation Team Leader 2009, 2010
 - Organized group activities to promote social interaction between the members of incoming class and adjustment to their life to new academic and social culture.

PROFESSIONAL DEVELOPMENT

- AAPT New Faculty Workshop. (Virtual) July, 2021
- AAPT New Faculty Workshop, College Park, MD. July, 2018
- U.S. News STEM Solutions Presents: Workforce of Tomorrow, Washington, DC. April, 2018
- Partnership for Integration of Computation into Undergraduate Physics (PICUP) Summer Faculty Development Workshop on Integrating Computation into Undergraduate Physics Courses, University of Wisconsin, River Falls, WI. July 2017
- Advanced Laboratory Physics Association (ALPhA) Laboratory Immersions Program, California Institute of Technology, Pasadena, CA. June, 2017

PROFESSIONAL ASSOCIATIONS

- Materials Research Society (MRS), Member
- American Physical Society (APS), Member