

Amir A. Bahadori

Curriculum Vitae

Educational Background

2010
2012

PhD Biomedical Engineering/Medical Physics, *J. Crayton Pruitt Family Department of Biomedical Engineering - University of Florida, Gainesville, FL, US.*

2008
2010

MS Nuclear Engineering Sciences/Medical Physics, *Department of Nuclear and Radiological Engineering - University of Florida, Gainesville, FL, US.*

2003
2008

BS Mechanical Engineering with Nuclear Engineering Option, *Department of Mechanical and Nuclear Engineering - Kansas State University, Manhattan, KS, US.*

Summa Cum Laude, with Honors

2003
2008

BS Mathematics, *Department of Mathematics - Kansas State University, Manhattan, KS, US.*

Summa Cum Laude

Experience

2015

Assistant Professor, *Department of Mechanical and Nuclear Engineering - Kansas State University, Manhattan, KS, US.*

Affiliate Researcher, Kansas State University Johnson Cancer Research Center
June - December 2017, KSU TRIGA Mark II Nuclear Reactor Facility Manager

2013
2015

Physical Scientist, *Space Radiation Analysis Group - NASA Johnson Space Center, Houston, TX, US.*

Principal Scientist, NASA Advanced Exploration Systems RadWorks Radiation Environment Monitor Project

2010
2013

Radiation Scientist, *University of Houston System, Houston, TX, US.*

Contractor for Radiation Health Officer Group - NASA Johnson Space Center

2008
2012

Graduate Assistant, *Advanced Laboratory for Radiation Dosimetry Studies - University of Florida, Gainesville, FL, US.*

2005
2008

Licensed Reactor Operator, *Kansas State University TRIGA Mark II Nuclear Reactor Facility, Manhattan, KS, US.*

USNRC License No. OP-70720

Publications

Refereed Publications

- [1] **A. A. Bahadori**, J. A. Roberts, M. Kroupa, and D. J. Fry. Reconstructing solar particle event spectra from absorbed dose measurements. *Transactions of the American Nuclear Society*, 116(1):909–912, 2017.
- [2] **A. Bahadori**, E. Semones, M. Ewert, J. Broyan, and S. Walker. Measuring space radiation shielding effectiveness. *EPJ Web Conf.*, 153:04001, 2017.
- [3] T. C. Slaba, **A. A. Bahadori**, B. D. Reddell, R. C. Singleterry, M. S. Cloudsley, and S. R. Blattnig. Optimal shielding thickness for galactic cosmic ray environments. *Life Sciences in Space Research*, 12:1 – 15, 2017.
- [4] M. M. Sands, D. Borrego, M. R. Maynard, **A. A. Bahadori**, and W. E. Bolch. Comparison of methods for individualized astronaut organ dosimetry: Morphometry-based phantom library versus body contour autoscaling of a reference phantom. *Life Sciences in Space Research*, 15:23 – 31, 2017.
- [5] M. Kroupa, T. Campbell-Ricketts, **A. Bahadori**, and A. Empl. Techniques for precise energy calibration of particle pixel detectors. *Review of Scientific Instruments*, 88(3):033301, 2017.
- [6] J. W. Wilson, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. Solar proton exposure of an ICRU sphere within a complex structure part I: Combinatorial geometry. *Life Sciences in Space Research*, 9:69–76, 2016.
- [7] T. C. Slaba, J. W. Wilson, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. Solar proton exposure of an ICRU sphere within a complex structure part II: Ray-trace geometry. *Life Sciences in Space Research*, 9:77–83, 2016.
- [8] J. W. Wilson, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. 3DHZETRN: Shielded ICRU spherical phantom. *Life Sciences in Space Research*, 4:46–61, 2015.
- [9] J. W. Wilson, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. 3DHZETRN: Neutron leakage in finite objects. *Life Sciences in Space Research*, 7:27–38, 2015.
- [10] **A. Bahadori**, D. Miglioretti, R. Kruger, M. Flynn, S. Weinmann, R. Smith-Bindman, and C. Lee. Calculation of organ doses for a large number of patients undergoing CT examinations. *American Journal of Roentgenology*, 205(4):827–833, 2015.
- [11] N. Stoffle, L. Pinsky, M. Kroupa, S. Hoang, J. Idarraga, C. Amberboy, R. Rios, J. Hauss, J. Keller, **A. Bahadori**, et al. Timepix-based radiation environment monitor measurements aboard the International Space Station. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 782:143–148, 2015.

- [12] M. Kroupa, **A. Bahadori**, T. Campbell-Ricketts, A. Empl, S. M. Hoang, J. Idarraga-Munoz, R. Rios, E. Semones, N. Stoffle, L. Tlustos, et al. A semiconductor radiation imaging pixel detector for space radiation dosimetry. *Life Sciences in Space Research*, 6:69–78, 2015.
- [13] J. W. Wilson, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. Advances in NASA radiation transport research: 3DHZETRN. *Life Sciences in Space Research*, 2:6–22, 2014.
- [14] L. S. Pinsky, J. Idarraga-Munoz, M. Kroupa, H. Son, N. Stoffle, E. Semones, **A. A. Bahadori**, D. Turecek, S. Pospíšil, J. Jakubek, Z. Vykydal, H. Kitamura, and Y. Uchihori. Medipix in space on-board the ISS. *Journal of Radiation Research*, 55(S1):i62–i63, 2014.
- [15] L. Pinsky, S. M. Hoang, J. Idarraga-Munoz, M. Kroupa, N. Stoffle, **A. Bahadori**, E. Semones, H. Kitamura, S. Kodaira, J. Jakubek, et al. Summary of the first year of Medipix-based space radiation monitors on the ISS. In *2014 IEEE Aerospace Conference*, pages 1–8. IEEE, 2014.
- [16] **A. A. Bahadori**, T. Sato, T. C. Slaba, M. R. Shavers, E. J. Semones, M. Van Baalen, and W. E. Bolch. A comparative study of space radiation organ doses and associated cancer risks using PHITS and HZETRN. *Physics in Medicine and Biology*, 58(20):7183, 2013.
- [17] T. C. Slaba, S. R. Blattnig, B. Reddell, **A. Bahadori**, R. B. Norman, and F. F. Badavi. Pion and electromagnetic contribution to dose: Comparisons of HZETRN to Monte Carlo results and ISS data. *Advances in Space Research*, 52(1):62–78, 2013.
- [18] **A. A. Bahadori**, M. Van Baalen, M. R. Shavers, E. J. Semones, and W. E. Bolch. Dosimetric impacts of microgravity: an analysis of 5th, 50th and 95th percentile male and female astronauts. *Physics in Medicine and Biology*, 57(4):1047, 2012.
- [19] **A. A. Bahadori**, M. Van Baalen, M. R. Shavers, C. Dodge, E. J. Semones, and W. E. Bolch. The effect of anatomical modeling on space radiation dose estimates: a comparison of doses for NASA phantoms and the 5th, 50th, and 95th percentile male and female astronauts. *Physics in Medicine and Biology*, 56(6):1671, 2011.
- [20] **A. A. Bahadori**, P. Johnson, D. W. Jokisch, K. F. Eckerman, and W. E. Bolch. Response functions for computing absorbed dose to skeletal tissues from neutron irradiation. *Physics in Medicine and Biology*, 56(21):6873, 2011.
- [21] D. Jokisch, D. Rajon, **A. A. Bahadori**, and W. Bolch. An image-based skeletal model for the ICRP reference adult male—specific absorbed fractions for neutron-generated recoil protons. *Physics in Medicine and Biology*, 56(21):6857, 2011.
- [22] P. B. Johnson, **A. A. Bahadori**, K. F. Eckerman, C. Lee, and W. E. Bolch. Response functions for computing absorbed dose to skeletal tissues from photon irradiation—an update. *Physics in Medicine and Biology*, 56(8):2347, 2011.

- [23] A. Cebula, D. Gilland, L.-M. Su, D. Wagenaar, and **A. Bahadori**. A novel SPECT camera for molecular imaging of the prostate. In *SPIE Proceedings*, volume 8143. SPIE, 2011.

Technical Papers

- [1] J. W. Wilson, C. M. Werneth, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. Neutron Angular Scatter Effects in 3DHZETRN: Quasi-Elastic. NASA/TP-2017-219597, NASA Langley Research Center, Hampton, VA, 2017.
- [2] J. W. Wilson, T. C. Slaba, C. M. Werneth, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. Advances in NASA Radiation Transport: 3DHZETRN-v2. NASA/TP-2017-219665, NASA Langley Research Center, Hampton, VA, 2017.
- [3] N. Stoffle, H. Nounu, K. Lee, and **A. Bahadori**. Comparison of Passive and Active Exploration Flight Test 1 Radiation Detector Measurements with Trapped Proton and Vehicle Shielding Model Calculations. NASA/TP-2016-218599, NASA Johnson Space Center, Houston, TX, 2016.
- [4] J. W. Wilson, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. Solar Proton Transport within an ICRU Sphere Surrounded by a Complex Shield: Combinatorial Geometry. NASA/TP-2015-218980, NASA Langley Research Center, Hampton, VA, 2015.
- [5] J. W. Wilson, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. A Study of Neutron Leakage in Finite Objects. NASA/TP-2015-218692, NASA Langley Research Center, Hampton, VA, 2015.
- [6] **A. A. Bahadori**, E. J. Semones, R. Gaza, M. Kroupa, R. R. Rios, N. N. Stoffle, T. Campbell-Ricketts, L. S. Pinsky, and D. Turecek. Battery-operated Independent Radiation Detector Data Report from Exploration Flight Test 1. NASA/TP-2015-218575, NASA Johnson Space Center, Houston, TX, 2015.
- [7] T. C. Slaba, J. W. Wilson, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. Solar Proton Transport within an ICRU Sphere Surrounded by a Complex Shield: Ray-Trace Geometry. NASA/TP-2015-218994, NASA Langley Research Center, Hampton, VA, 2015.
- [8] J. W. Wilson, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. A 3DHZETRN Code in a Spherical Uniform Sphere with Monte Carlo Verification. NASA/TP-2014-218271, NASA Langley Research Center, Hampton, VA, 2014.
- [9] J. W. Wilson, T. C. Slaba, F. F. Badavi, B. D. Reddell, and **A. A. Bahadori**. 3D Space Radiation Transport in a Shielded ICRU Tissue Sphere. NASA/TP-2014-218530, NASA Langley Research Center, Hampton, VA, 2014.

Thesis/Dissertation

PhD Dissertation

TITLE NASA Astronaut Dosimetry: Implementation of Scalable Human Phantoms and Benchmark Comparisons of Deterministic versus Monte Carlo Radiation Transport

ADVISOR Professor Wesley E. Bolch

FUNDING SOURCE National Aeronautics and Space Administration (NASA)

MS Thesis

TITLE Skeletal Neutron Dose Response Functions: A New Protocol for Evaluating Dose to Active Marrow and Bone Endosteum

ADVISOR Professor Wesley E. Bolch

FUNDING SOURCE University of Florida

Invited Talks

Extramural

2017

NASA Timepix-based Radiation Monitoring: Past and Current Projects, *Physics Talk*, Wichita State University, Wichita, KS, USA.
29 March 2017

2016

Bahadori Research Summary, *Rensselaer Radiation Measurement & Dosimetry Group*, Rensselaer Polytechnic Institute, Troy, NY, US.
5 February 2016

2015

Space Radiation Protection: An Evolving Field, *Department of Mechanical and Nuclear Engineering*, Kansas State University, Manhattan, KS, US.
23 January 2015

2011

Mathematics in Space Radiation Protection, *Department of Mathematics*, Kansas State University, Manhattan, KS, US.
31 October 2011

2009

Skeletal Neutron Absorbed Dose Response Functions, *Committee 2 Task Group on Dose Calculations*, International Commission on Radiological Protection, Ottawa, ON, CA.
20 April 2009

Intramural

2016

Nuclear Engineering at Kansas State University, *ME 101: Introduction to Mechanical Engineering*, Kansas State University, Manhattan, KS, US.
29 November 2016

2016

Bahadori Research Summary, *Student Chapter of the American Society of Mechanical Engineers*, Kansas State University, Manhattan, KS, US.
27 April 2016

2016

Bahadori Research Summary, *Student Chapter of the American Nuclear Society*, Kansas State University, Manhattan, KS, US.

11 February 2016

Contributed Talks

2017

Slowing and Stopping Charged Particles Cause Angular Dependence for Absorbed Dose Measurements, *10th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA X)*, Chicago, IL, US.

9–13 July 2017

2017

Reconstructing Solar Particle Event Spectra from Absorbed Dose Measurements, *2017 American Nuclear Society Annual Meeting*, San Francisco, CA, US.

11–15 June 2017

2017

Validation of Voxel Based Ray Tracer Code with 3D-HZETRN, *American Nuclear Society Student Conference 2017*, Presented by R. Pal Chowdhury, Pittsburgh, PA, US.

6–9 April 2017

2016

Measuring Space Radiation Shielding Effectiveness, *13th International Conference on Radiation Shielding – Radiation Protection & Shielding Division Topical Meeting 2016 of American Nuclear Society*, Paris, FR.

3–6 October 2016

2016

Penetrating Heavy Charged Particle Dose Measurements are Invariant with Angle of Incidence, *Health Physics Society 61st Annual Meeting*, Spokane, WA, US.

17–21 July 2016

2014

Development of the Battery-operated Independent Radiation Detector, *The 19th Annual Workshop on Radiation Monitoring for the International Space Station*, Krakow, PL.

9–11 September 2014

2012

Medipix-Based Space Dosimetry at NASA: An Overview of Current Projects, *The 17th Annual Workshop on Radiation Monitoring for the International Space Station*, Austin, TX, US.

4–6 September 2012

2011

Improvements to the Ionizing Radiation Risk Assessment Program for NASA Astronauts, *Space Forum 2011*, Moscow, RU.

18–21 October 2011

2011

Automation of PCXMC and ImpACT for NASA Astronaut Medical Imaging Dose and Risk Tracking, *2011 Joint AAPM/COMP Meeting*, Vancouver, BC, CA.

31 July–4 August 2011

2011

Comparison of Organ Dosimetry for Astronaut Phantoms: Earth-Based vs. Microgravity-Based Anthropometry and Body Positioning, *2011 Joint AAPM/COMP Meeting*, Vancouver, BC, CA.
31 July–4 August 2011

2010

Effect of Anatomical Modeling on Space Radiation Dose Estimates: A Comparison of Doses for NASA Dosimetry Phantoms and University of Florida Hybrid Phantoms, *Health Physics Society 55th Annual Meeting*, Salt Lake City, UT, US.
27 June–1 July 2010

2009

Skeletal Neutron Dose Response Function Development for Hydrogen, *2009 American Nuclear Society Student Conference*, Best presentation in Medical Physics Therapy Section, Gainesville, FL, US.
2–5 April 2009

Poster Presentations

2017

Modelling Thermoregulatory Blood Flow in a Voxelized Human Phantom, *1st IEEE EMBS International Summer School on Computer Modeling in Medicine*, Presented by R. Amare, Graduate Research Assistant, Charleston, SC, US.
11–17 June 2017

2017

Predicting Organ Morphometry from External Measurements: A Pilot Study, *Kansas State University College of Engineering Undergraduate Research Poster Forum*, Presented by E. Stallbaumer, Undergraduate Researcher, Manhattan, KS, US.
27 April 2017

2017

Probability Modeling for Total Event Integrated Fluence of Solar Proton Events: SEP-EM Server Data Adjustments, *Kansas State University College of Engineering Undergraduate Research Poster Forum*, Presented by B. Bombardier, Undergraduate Researcher, Manhattan, KS, US.
27 April 2017

2017

Investigating Secondary Cancer Risk Using a Water Phantom Simulation, *Kansas State University Developing Scholars Program Research Poster Symposium*, Presented by E. Abamegal, Undergraduate Researcher, Manhattan, KS, US.
9 April 2017

2017

Variance reduction using HZETRN2015 for solar particle event transport: Response function comparison, *2017 NASA Human Research Program Investigators' Workshop*, Co-authored by M. Pfeifer, Graduate Research Assistant, Galveston, TX, US.
23–26 January 2017

2009

Skeletal Neutron Dose Response Function Development for Use in Proton Therapy, *American Association of Physicists in Medicine 51st Annual Meeting*, Anaheim, CA, US.
26–30 July 2009

Other Conference and Workshop Participation

2017

Test, Research, and Training Reactors (TRTR) 2017, San Diego, CA, US.
17–21 September 2017

2017

Solar Heliospheric and INterplanetary Environment (SHINE) Conference 2017, Saint-Sauveur, QU, CA.
24–28 July 2017

2017

Solar Energetic Particles (SEP), Solar Modulation and Space Radiation: New Opportunities in the AMS-02 Era #2, Washington, DC, US.
24–26 April 2017

2016

2016 Marshall Space Flight Center NASA EPSCoR Technical Interchange Meeting, Huntsville, AL, US.
9 September 2016

2016

1st MSL RAD Mars Space Radiation Modeling Workshop, Boulder, CO, US.
28–30 June 2016

2015

2015 NASA Human Research Program Investigators' Workshop, Galveston, TX, US.
13–15 January 2015

2014

2014 NASA Human Research Program Investigators' Workshop, Galveston, TX, US.
12–13 February 2014

2013

2013 NASA Human Research Program Investigators' Workshop, Galveston, TX, US.
12–14 February 2013

2012

23rd Annual NASA Space Radiation Investigators' Workshop, Durham, NC, US.
8–11 July 2012

Funding

Extramural

2018

Co-Investigator, Neutron Interrogation Imaging, *US Department of Energy/Honeywell FM&T*, \$90,620.
5 January 2018 - 30 September 2018

2018

Co-Investigator, Enhanced Gamma-Ray Diagnostics and Imaging, *US Department of Energy/Honeywell FM&T*, \$56,137.
5 January 2018 - 30 September 2018

2018 **Principal Investigator, Solid State Dual Neutron/X-Ray Imager**, *US Department of Energy/Honeywell FM&T*, \$109,350.
4 January 2018 - 30 September 2018

2017 **Principal Investigator, Electronics X-Ray Inspection Shielding and Prediction Simulation**, *US Department of Energy/Honeywell FM&T*, \$124,544.
12 December 2017 - 15 September 2018

2017 **Principal Investigator, Radiation Transport Simulations in Support of Active Shielding Measurement Campaign**, *US National Aeronautics and Space Administration/KBRWyle*, \$100,000.
13 October 2017 - 30 September 2018

2017 **Co-Investigator, Kansas State University Nuclear Research Fellowship Program**, *US Nuclear Regulatory Commission*, \$393,820.
30 June 2017 - 29 June 2021

2017 **Co-Investigator, Radiological Systems Research for Detection, Localization, and Isotope Identification**, *US Department of Defense/Space and Naval Warfare Systems Command (SPAWAR)*, Contract maximum value \$2,241,004.
1 April 2017 - 31 March 2022

2017 **Principal Investigator (replacement for J. Geuther), Control Panel Modernization at the KSU TRIGA Reactor Facility**, *US Department of Energy*, \$1,495,945.
10 September 2015 – 9 September 2018.
Assumed PI on 1 June 2017; transferred PI to new Reactor Manager on 12 January 2018

Intramural

2017 **Principal Investigator, Miniaturized Neutron Spectrometer for Characterizing Cancer Risk**, *KSU Johnson Cancer Research Center*, \$20,000.
21 December 2017 - 20 December 2018

2017 **Mentor, KSU Johnson Cancer Research Center Graduate Student Travel Award**, *Student: Rohan Amare*, \$985.

2016 **Mentor, KSU Johnson Cancer Research Center Cancer Research Award**, *Student: Elshaddai Abamegal*, \$1,000.

Research Advisees

Graduate

2018 **Sanchit Sharma**, *PhD Student*, Graduate Research Assistant, Honeywell Neutron Interrogation Imaging.

2016 **Rohan Amare**, *PhD Student (Co-Advised with S. Eckels)*, Graduate Research Assistant, Human Thermal Modeling using Advanced Computational Phantoms.
2017 KSU Johnson Cancer Research Center Graduate Student Travel Award

2016

Rajarshi Pal Chowdhury, *PhD Student*, Graduate Research Assistant, NASA Active Radiation Shielding Simulation.
2016-2017, Graduate Teaching Assistant

2016

Michael Pfeifer, *MS Student*, Graduate Research Assistant, Modeling the Martian Radiation Environment; Honeywell Electronics X-Ray Simulation.
2017–Present, US Nuclear Regulatory Commission Graduate Fellowship

Undergraduate

2018

Prerona Kundu, Modeling Output of Photon Radiotherapy Machines.

2018

Eric Giunta, MSND-Timepix Modeling with PHITS and MCNP.

2017

Quentin Pease, Simulation and Construction of a Novel, Miniaturized Fast Neutron Spectrometer.

2017

Luke Stegeman, Human Body Shielding of Neutron Detectors; Neutron Beam Chopper Simulation; NASA Active Radiation Shielding Simulation.
2017 NUSIK Program Participant (US Nuclear Regulatory Commission)

2017
2018

Faisal Alghamdi, Exploring Relationships Among Energy Channels in Solar Particle Events.

2017

Lucas Wodrich, Space Nuclear Reactor Perturbation from Solar Activity.
2017 NUSIK Program Participant (US Nuclear Regulatory Commission)

2016
2017

Elshaddai Abamegal, Application of NASA Quality Factor to Charged Particle Radiotherapy.
2016 KSU Johnson Cancer Research Center Cancer Research Award
KSU Developing Scholars Program Participant

2016
2017

Blake Bombardier, Probability Modeling for Total Event Integrated Fluence of Solar Proton Events: SEP-EM Data Server Adjustments.

2016
2017

Emily Stallbaumer, Predicting Organ Morphometry from External Measurements: A Pilot Study.
KSU Women in Engineering Laboratory Experience Participant

Honors and Awards

2017

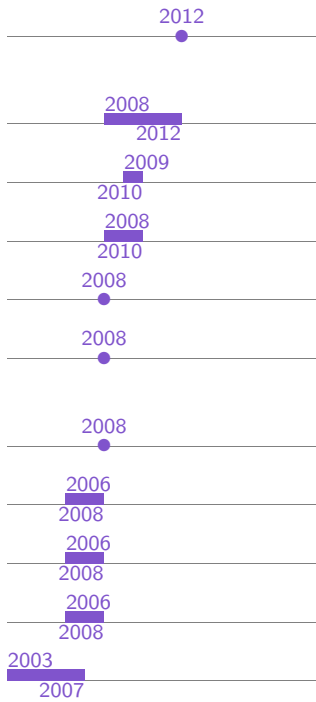
Highly Regarded Nuclear Engineering Professor, *Recognized by OnlineEngineeringPrograms.com.*

2017

Kansas State University College of Engineering Research Proposal Teamwork Award.

2015

NASA Group Achievement Award, *Advanced Exploration Systems RadWorks Project.*



NASA Group Achievement Award, *Advanced Exploration Systems Deep Space Habitat Project.*

University of Florida Alumni Graduate Award.

NASA Graduate Student Research Program Fellowship.

American Nuclear Society Graduate Scholarship.

Honorable Mention, *National Science Foundation Graduate Fellowship.*

Outstanding Senior, *Kansas State University Department of Mechanical and Nuclear Engineering.*

Outstanding Senior, *Kansas State University Department of Mathematics.*

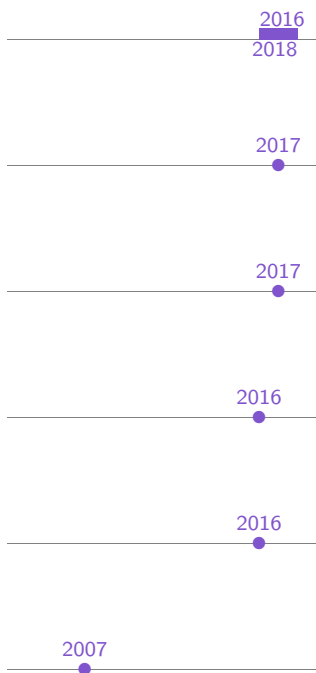
American Nuclear Society Undergraduate Scholarship.

Department of Energy Nuclear Engineering/Health Physics Scholarship.

National Academy for Nuclear Training Scholarship.

Kansas State University Putnam Scholarship.

Teaching Experience



NE 648, Nuclear Reactor Laboratory, KSU Department of Mechanical and Nuclear Engineering.

Spring 2016, Spring 2017, Spring 2018

NE 690, Radiation Protection and Shielding, KSU Department of Mechanical and Nuclear Engineering.

Fall 2017

ME 575, Interdisciplinary Industrial Design Projects 2, KSU Department of Mechanical and Nuclear Engineering.

Spring 2017

NE 495, Elements of Nuclear Engineering, *Guest Lecturer*, KSU Department of Mechanical and Nuclear Engineering.

Fall 2016

ME 574, Interdisciplinary Industrial Design Projects 1, KSU Department of Mechanical and Nuclear Engineering.

Fall 2016

NE 250, Reactor Operations Laboratory, *Undergraduate Laboratory Instructor*, KSU Department of Mechanical and Nuclear Engineering.

Spring 2007, Fall 2007

Service

Scientific



Associate Member, ANS-6.4.2 Working Group, Specification for Radiation Shielding Material, *American Nuclear Society.*

2017
Session Chair, Dosimetry and Detector Applications II, *10th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA X)*.

2017
Session Judge, Radiation Protection and Shielding, Biology and Medicine, Accelerator Applications, *American Nuclear Society Student Conference 2017*.

2017
Reviewer, *Radiation & Environmental Biophysics*.

2017
Reviewer, *NASA Experimental Program to Stimulate Competitive Research (EPSCoR)*.

2017
Reviewer, *IEEE Transactions on Radiation and Plasma Medical Sciences*.

2017
Reviewer, *Life Sciences in Space Research*.

2016
Reviewer, *NASA Space Technology Research Fellowship Program*.

2016
Judge, *KSU Research and the State Graduate Poster Forum*.

2016
Judge, *KSU College of Engineering Undergraduate Research Poster Forum*.

Institutional

2017
Faculty Advisor, *Kansas State University Alpha Nu Sigma*.

2016
Faculty Advisor, *Kansas State University American Nuclear Society Student Chapter*.

2017
Senior Design Sponsor, *KSU Department of Mechanical and Nuclear Engineering*.

2017
Ex Officio Member, *KSU Reactor Safeguards Committee*.

2017
Chairman, *KSU TRIGA Mark II Nuclear Reactor Facility Manager and Supervisor Search Committees*.

2007
Student Mentor, *KSU Department of Mechanical and Nuclear Engineering, ME 101, Introduction to Mechanical Engineering*.

Affiliations

2017
Vice Treasurer, *International Radiation Physics Society*.

2016
Member, *American Nuclear Society*.
2005–2011, Student Member

2015
Member, *American Academy of Health Physics*.

2011
Life Member, *Kansas State University Alumni Association*.

2009
Member, *Health Physics Society*.
2016–Present, Member, Mid-America Chapter of the Health Physics Society

2007
Member, *Alpha Nu Sigma*.

2004
Member, *Tau Beta Pi*.

2008
Member, *American Association of Physicists in Medicine*.
2014

2010
2011

Treasurer, University of Florida Society of Health and Medical Physics Students.

Professional Development

2017

KSU TRIGA Mark II Nuclear Reactor Facility Unescorted Access.

Previously held from 2005–2008

2015

Diplomate of the American Board of Health Physics.

Certified in the comprehensive practice of Health Physics

2013

Security Clearance at SECRET Level.

2012

Attended 12th FLUKA Course, Thomas Jefferson National Accelerator Facility, Newport News, VA, US.

2010

Passed American Board of Radiology Part I Examination in Radiologic Physics.

2007

Passed Fundamentals of Engineering Examination.