302G STARR SCIENCE BLDG, DEPT. OF MATHEMATICS, COMPUTER SCIENCE AND PHSYICS •
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DEEPSHIKHA SHUKLA

EDUCATION

Ph.D. (Physics), 2006, Ohio University, Athens, OH

- Dissertation: "*Investigating Neutron Polarizabilities and NN Scattering in Heavy-Baryon Chiral Perturbation Theory*"
- 2008 APS Dissertation Award for Nuclear Physics.

M.Sc. (Physics), 1997, Indian Institute of Technology, New Delhi, India

- Thesis: "*Precision rotation measurements using fiber optics*"

B.Sc.-Hons (Physics), 1995, Cotton College, Guwahati, India

- 3rd position in Gauhati University (~300 students)
- State Merit Scholarship.

PROFESSIONAL APPOINTMENTS

8/2015 – present, Rockford University, Rockford, IL

Dean of the College of Science, Math and Nursing; Associate Professor of Physics

- Vice President & Secretary, Sigma Xi – Rockford Chapter: 3/2016 – present
- Served on the Planning Committee for 2019 Annual Sigma Xi meeting and Student Research Conference held in Madison, WI in November 2019
- Member of Partnership for Integration of Computation in Undergraduate Curriculum (PICUP): 8/2016 – present
- Member of Next Gen PET – Faculty Online Learning Community: 8/2018 – present
- Global Faculty Fellow: 1/2016 – present, Rockford University, Rockford, IL
- Chair, Student Opportunity Fund Committee: 8/2018 – present
- First Year Seminar Leader: 1/2018 – present
- President: Illinois Section of American Association of Physics Teachers (ISAAPT) Term: Fall meeting 2018 – Fall meeting 2019
- Editor, "The Illinois Physics Teacher" – newsletter of ISAAPT: 4/2016 – present
- Board member, AAUW – Rockford Branch, Rockford, IL: 8/2015 – present

Visiting Assistant Professor: 8/2012 – 7/2015, University of North Carolina, Greensboro, NC

Instructor: 8/2011 – 5/2012, James Madison University, Harrisonburg, VA

Postdoctoral Research Associate: 8/2009 – 8/2011, University of North Carolina, Chapel Hill, NC

Postdoctoral Research Scientist: 11/2006 – 8/2009, The George Washington University, Washington, DC

Research Assistant: 6/2002 – 11/2006, Ohio University, Athens, OH

Teaching Assistant: 9/2001 – 5/2002, Ohio University, Athens, OH

Consulting Faculty for Physics: 12/2000 – 8/2001 , Learning Universe Ltd., New Delhi, India

Faculty (Physics)/Vice Principal: 9/1997 – 11/2000, MIIT (India) Pvt. Ltd., New Delhi, India

VISITING APPOINTMENTS:

5/2019 – 6/2019 Visiting Faculty for Emory-Tibet Science Initiative, Gaden Monastery, Mundgod, India

11/2006 – 1/2008 Ohio University, Athens, OH

4/2007 – 5/2007 Indian Institute of Technology, Kanpur, India

TEACHING-RELATED EXPERIENCE

STAND-ALONE COURSES:

At Rockford University:

- **PHYS 315:** Atomic & Nuclear Physics –Spring 2019
- **PHYS 350:** Computational Physics –Fall 2018
- **FYS 101:** Mars: Are We There Yet? –Fall 2018, Fall 2019
- **PHYS 352:** Circuits & Electronics Lab –Fall 2018
- **PHYS 102:** Physical Science & Everyday Thinking –Fall 2018, Fall 2019
- **PHYS 351:** Classical Physics Lab –Spring 2017, Fall 2019
- **PHYS 301:** University Physics III (Optics & Modern Physics) –Fall 2017
- **PHYS 101:** Physics for Poets and Non-Poets – Summer 2016; Fall 2016, Summer 2017, Summer 2018, Summer 2019
- **PHYS 201 & 202:** Calculus-based introductory Physics – Fall 2016, Spring 2017, Fall 2017, Spring 2018, Spring 2019, Fall 2019
- **PHYS 176:** Physics and Everyday Thinking – Fall 2016, Spring 2017
- **PHYS 105 & 106:** Algebra-based introductory Physics – Fall 2015, Spring 2016, Fall 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019, Fall 2019
- **PHYS 103:** Medical Physics – Spring 2016
- **PHYS 110:** Introductory Astronomy – Fall 2015, Spring 2016, Fall 2016, Spring 2019

At UNCG:

- **PHYS 425:** Upper-level Optics course – Fall 2014 at UNCG.
- **PHYS 321:** Introductory Modern Physics – Spring 2015 at UNCG.
- **PHYS 211 & PHYS 212:** Algebra-based introductory Physics – several sections between 2012 – 15 at UNCG.

At James Madison University:

- **GSCI 101:** General education course for non-science majors – several sections in Fall 2011/Spring 2012 at JMU.

At George Washington University:

- **PHYS 213/214 and PHYS 209:** Graduate Electrodynamics and Math methods – substitute-lectured at GWU.

In India:

- Taught calculus-based Physics courses to pre-engineering students at MIIT in India (these are of the level of calculus-based introductory Physics in the US)

STUDENT RESEARCH:

At Rockford University:

- **Natalia Kucharczyk**, Rockford University, Fall 2019 – : "Collisions in College Football – A Study"
- **Juliana Theodorakis**, Rockford University, Summer 2018 – Spring 2019: "Measuring Rotational Inertia of a Manual Wheelchair"
- **YaMin (Ben) Xu**, Northern Illinois University, Fall 2017 & Spring 2018: "A Low-cost Doppler Velocimeter"
- **Juliana Theodorakis**, Rockford University, Summer 2017: "An Accessible Online Course on Projectile Motion"
- **Justin Spickler**, Rockford University, Summer 2017: "Smartphone Physics Labs"
- **Stephanie George**, St. Louis University, Summer 2016: "Linear Programming and Optimization"

At UNCG:

- **Jason Howard**, Fall 2013 – Summer 2014: "Compton Scattering in Light Nuclei" & "Charge independence breaking in the strong nuclear force".
- **Jonathan Meacham**, Spring 2014: "Electrostatics of soft matter"
- **Nicholas Ptak,** Fall 2013**:** "Charge independence breaking in the strong nuclear force".

At James Madison University:

- **Joseph Walton**, Fall 2011**:** Independent study that explored the relation between Physics and Martial Arts.

At George Washington University:

- **Johannes Kirscher** – mentored him in certain areas in his Ph. D. dissertation research at GWU.

LABS:

At Rockford University:

- **PHYS 301L:** University Physics III (Optics & Modern Physics) lab at RU in Fall 2017
- **PHYS 201L & 202L:** Calculus-based introductory Physics lab at RU in Fall 2016, Spring 2017, Fall 2017, Spring 2018
- **PHYS 176L:** Physics and Everyday Thinking lab at RU in Fall 2016, Spring 2017
- **PHYS 105L & 106L:** Algebra-based introductory Physics lab at RU in Fall 2015 & Spring 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018

At UNCG:

- **PHYS 211L & 212L:** Algebra-based introductory Physics labs – several sections since Fall 2012 at UNCG.

At Ohio University:

- **PHYS 200 & 250** series: Algebra- and calculus-based Introductory Physics labs – several sections between Fall 2001/Spring 2003 at Ohio University

GRADING: Graduate Electrodynamics (**PHY 607/608**) and Mathematical Methods (**PHY 615**) at Ohio University.

CURRICULUM/COURSE DEVELOPMENT:

At Rockford University:

- Restructured the Physics minor at Rockford University in Summer 2016.
- Redesigned the Physics curriculum to intentionally integrate computation and modeling.
- Designed the following courses from scratch–
    - FYS 101 Mars: Are we there yet?
    - PHYS 315 Atomic and Nuclear Physics
    - PHYS 350 Computational Physics
    - PHYS 351 Classical Physics Lab
    - PHYS 352 Circuits & Electronics Lab
    - PHYS 102 Physical Science & Everyday Thinking with Next Generation Physics Development team
    - FYS 101 in collaboration with First Year Seminar Leaders
    - PHYS 301 + PHYS 301-L University Physics III
    - PHYS 202 + PHYS 202-L University Physics II
    - PHYS 103 Medical Physics
    - PHYS 110 Introduction to Astronomy
    - PHYS 201 + PHYS 201-L University Physics I
    - PHYS 176 + PHYS 176-L Physics and Everyday Thinking for education majors with an integrated Community-based learning component.
- Designing the algebra-based introductory Physics sequence to adapt it for the life sciences curriculum.

Previously:

- Designed the Optics course (PHYS 425) to integrate research elements into the curriculum.
- Introduced recitation/discussion sessions in algebra-based introductory Physics (**PHYS 211/212**) to scaffold and aid the learning process.

- Developed a "Readiness test" for algebra-based introductory Physics to create an early-warning system. The goal is to look at correlation between the performance in this test vis-à-vis satisfactory performance in the course overall.
- Currently redesigning the algebra-based introductory labs to include active-learning components.
- Designed and wrote course material at MIIT in India. Also designed curriculum for different tracks of study.
- Validated Physics content of educational website www.egurucool.com while at Learning Universe Ltd.

RESEARCH INTERESTS

- Physics Pedagogy: Intentional integration of computation into the undergraduate curriculum.
- Effective field theory techniques as applied to –

Electromagnetic properties of nucleons (neutrons); Few- and many-nucleon systems; Neutrino Physics.

- Electrostatics in Soft Matter
- Video Analysis in Physics Instruction

❖ *A list of publications is included on pages 5 & 6*

REVIEWER

- American Journal of Physics
- Journal of Physics G.
- Elsevier group of open access journals for Physics.
- W W Norton

GRANTS

At Rockford University:

- Travel and conference/workshop participation external grants:
  - Next Gen PET travel award for **USD 500** to attend and present at the AAPT Winter Meeting in Houston, TX
  - PICUP Faculty development workshops at River Falls, WI in Summer 2016 and Summer 2018: **USD 300** for travel + food & lodging expenses for both years
  - AAPT New Faculty Development Workshop at Bethesda, MD in October 2016: **USD 500** for travel + food & lodging expenses
  - Next Gen Physics Faculty Online Learning Community (NGP FOLC): **USD 500** travel award per year for three years toward any NGP FOLC related conference.
  - Sigma Xi Annual Research Conference at San Francisco in October 2018: **USD 400** toward registration
- Sigma Xi Diversity Chapter Grant 2019-20; **USD 1000**
- Sigma Xi External Speaker Award 2017-18, 2018-19, and 2019-20; **USD 400 each year**
- Rockford University Faculty Development Grant **USD 1000** each year from 2015-16, 2016-17, 2017-18 and 2018-19
- Rockford University Individual Faculty Grant **USD 250** each year from 2015-16, 2016-17 and 2017-18
- Rockford University Starter Grant **USD 500** in Spring 2017
- Rockford University Capital request**: USD 1,251** for Lab Display and **USD 3,376** for equipment
- Student Opportunity Fund (SoF) grants:
  - 2017 Total Solar eclipse Trip with RU students: **USD 560.31**
  - 2018 Two trips to UIUC for alternate lab experience for students in PHYS 202 and PHYS 351: USD **64.01** from SoF and **USD 50** from Department
- Rockford University Community Based Learning Innovation grant: **USD 500** used for supplies for CBL projects in PHYS 176.

Previously:

- **Grant as PI**: Deepshikha Shukla, Lakshmi Iyer and Mary Fran Schickedantz; **USD 4,000** outreach grant from American Association of University Women (AAUW) for TECH-SAVVY 2015 event for girls (grades 6-9)

- Matching grant of **USD 4000** from Matel Toys; **USD 2000** from HondaJet; **USD 3400** From Syngenta; **USD 1000** from Evonik; **USD 500** from WellsFargo.
- **USD 8,000** outreach grant from American Association of University Women (AAUW) for TECH-SAVVY 2014 event for girls (grades 6-9) – **member of Planning Committee**.
- **Grant as PI:** Deepshikha Shukla**;** 100,000 CPU hours on **TeraGrid** awarded in 2010 as a start-up computation grant.
- Fall 2004 Graduate Student Senate Travel Grant - **USD 300**.
- 2004 Ohio University Student Enhancement Award, an individual grant for research - **USD 4,450**.

AWARDS & HONORS

At Rockford University:

- **Community-Based Learning Award** Spring 2017 at Rockford University.
- **Nominee – Excellence in Teaching Award at Rockford University for 2016-17, 2017-18, and 2018-19.**
- **October 2016** Employee of the month at Rockford University.

Previously:

- **2015 Sherry Walker Award** from AAUW-GSO for outstanding contribution from a new member.
  - Commendation for STEM outreach efforts.
- **2008 American Physical Society Division of Nuclear Physics DISSERTATION AWARD** – included a citation, an invited talk at the 2008 April Meeting of the APS and cash award of **USD 1,000**.
- **FEATURED ARTICLE: J. Phys. G: Nucl. Part. Phys. 35** (2008) 115009.
- **FEATURED ARTICLE:** Proceedings of the Fifth International Workshop on Chiral Dynamics: Theory and Experiment (2006), **published by World Scientific** in 2007.
- 1st place in the 2005 Student Research and Creativity fair - **USD 500 Prize and a certificate**.
- 1992-1995 State Merit Scholarship, Assam, India.
- 1990-1992 National and State (Assam, India) Merit Scholarship.

PROFESSIONAL MEMBERSHIPS

- Sigma Xi (2015 –).
- American Physical Society (2002 –).
- American Association of Physics Teachers (2011 –).
- American Association of University Women (AAUW) (2013 –)
- Women in Physics at The George Washington University and Ohio University (2001-2009).

SERVICE-RELATED ACTIVITIES

Positions:

- President of ISAAPT for 2018-19
- Member, planning committee for Sigma Xi Annual Meeting and Student Conference in November 2019 in Madison, WI
- Chair, Joint Fall Meeting of ISAAPT and WAPT: Oct 20 & 21, 2017
- Chair of Student Opportunity Fund committee at RU: Fall 2018 – present
  - Member since Fall 2015
- Board member of AAUW-Rockford Branch: Fall 2015 – present
- Member of AAUW Scholarship committee: Fall 2016 – present
- Member of University Budget Committee: Fall 2018 – present
- Chair of the Council of Global Affairs at RU: Spring 2016 – present
  - Member since Fall 2015.

- Advisor to the "Robotics Club" at RU: Spring 2016 – 2018
- Member of PICUP collaboration: Summer 2016 - present
- Member of the leadership team for the Illinois Girls Collaborative Project: Spring 2016 – Fall 2017
- Member of the Curriculum committee at RU: Fall 2016 – Spring 2018
- Head Faculty Marshal: Fall 2016 – Spring 2017
- Member, Advisory Board for the Jane Addams Center for Civic Engagement, Fall 2016
- Committee member – "Integrating Research into Undergraduate Curriculum" at UNCG.
- Member of the Postdoc Advisory Board of the Office of Postdoctoral Affairs at the UNC – Chapel Hill.
- Graduate Student Senator (2005-2006) and a member of the Health Insurance Committee.

Activities:

- Formed a peer-mentoring group for new faculty members called "RU Tenure Bound!"
- Member of the search committee for Tenure-track CSCI faculty – Spring 2018.
- Member of the search committee for Tenure-track EBA faculty Spring – 2018.
- Global Dialogue between department and RU ESL students – Mar 2018.
- Introductory Physics for Life Sciences portal tester – Mar 2018.
- Member of the search committee for CSCI Visiting Faculty position – Summer 2017.
- Member of the search committee for Vice President of Academic Affairs and Provost 2016 – 2017.
- Delivered Scholarship Day Lecture on 2/11/2017.
- Judge for the semi-final round of the "Conrad Spirit of Innovation Challenge": Jan – Feb 2017.
- Edited newsletters of the Illinois Section of AAPT since Fall 2016.
- Organized Faculty Development Workshop focused on pedagogy for Non-Native English Speakers
- Developed the "Global Leadership Program" for RU students.
- Organizer of STEM outreach programs:
    - Washington Park Community center in Rockford, IL (for elementary school children) and at Rockford University (for middle and high school students): Feb 2016 – Oct 2016
    - After-school program at Carlson Elementary School: Spring 2017
    - Spectrum Progressive School: Spring 2018, Fall 2018
    - 75th Anniversary Celebration of Rockford Peaches: Jun 2018
- Other Outreach/Volunteer Activities:
    - Meltfest 2017, 2019
    - NIATM Math Competition 2018, 2019
    - STEM session for students from East High School (these students were displaced from their home countries)
- Organized "Around the world in 50 mins": Apr 2016 and has been continued annually thereafter
- Organized peer-support group for new faculty members at Rockford University: Fall 2015 – Spring 2016
- Judge for "Conrad Spirit of Innovation Challenge": Jan – Mar 2016
- Judge for Sigma Xi "Student Research Showcase": Apr 2016
- AAUW sponsored outreach programs for middle/high school female students.
- Formed a discussion group on "Topics in QCD" at the GWU to discuss current research in Nuclear Physics.
- Formed the graduate students' club in the Department of Physics and Astronomy at Ohio University to encourage interaction among the graduate students, have scientific discussions etc.
- Liaison between the graduate student body and the strategic planning body of the Department of Physics and Astronomy at Ohio University between 2005 and 2006.
- Contributed articles for Ohio University Nanospintronics and Nanomagnetics (http://nsnm.phy.ohiou.edu), a K-12 outreach program in 2004
- Judge at the Regional Science Fair on a number of occasions between 2002 and 2005 at Ohio University.

TALKS/POSTERS

STUDENT PRESENTATIONS:

- **Juliana Theodorakis** and Deepshikha Shukla: "Moment of Inertia of a Manual Wheelchair" at the 2018 Sigma Xi Annual Meeting and Student Research Conference in San Francisco, CA
    - Won the **1st place award** – Medal, $150 + annual membership to Sigma Xi.
- **YaMin (Ben) Xu** and Deepshikha Shukla: "Low-cost Doppler velocimeter" at the Joint Fall meeting of ISAAPT and WAPT meeting at Rockford University in Oct 2017.
- **Justin Spickler** and Deepshikha Shukla: "Smartphone Physics Lab on Doppler Effect" at the Joint Fall meeting of ISAAPT and WAPT meeting at Rockford University in Oct 2017.
- **Juliana Theodorakis** and Deepshikha Shukla: "Accessible trinket course on projectile motion" at the Joint Fall meeting of ISAAPT and WAPT meeting at Rockford University in Oct 2017.
- **Jason Howard** and Deepshikha Shukla: "Exploring charge-dependence of the strong force by modeling neutron-proton scattering"
    - UNCG Research and creativity fair, Spring 2014 (**Honorable mention**)
    - North Carolina Academy of Sciences meeting, Spring 2014
    - Spring meeting of the AAPT – North Carolina Section, Spring 2014

CONFERENCES/MEETINGS and WORKSHOPS:

- **Contributed talk** – 2019 Winter meeting of the American Association of Physics Teachers (AAPT) in Houston, TX. Talk title: "*Teaching the Next Gen PET Curriculum at a Small Liberal Arts Institution*".
- **Poster** - 2018 Sigma Xi Annual Meeting and Student Research Conference in San Francisco, CA. Title: "*Intentional Integration of Computation into the Undergraduate Physics Curriculum*".
- Jul 2018, 2018 PICUP Summer Faculty Development Workshop at UW River Falls, River Falls, WI.
- Series of Assessment workshops by Joe Petrella at Rockford University: Fall 2017 – Spring 2018.
- Teaching Non-native English Speakers workshop by Paul-Kei Matsuda: Nov 2017.
- Sigma Xi Assembly of Delegates: Nov 2017.
- Oct 2017, Joint Fall meeting of ISAAPT and WAPT meeting at Rockford University.
- Dec 2016, Webinar on Smartphone Physics – how to use sensors in smartphones for Physics experiments.
- Nov 2016, Fall workshop for New Faculty in Physics and Astronomy organized by the American Association of Physics Teachers, College park, MD.
- Oct 2016, Illinois Section of the AAPT meeting in Peoria, IL
    - **Contributed Talk**: "Using Computation in Introductory Physics"
- Aug 2016, 2016 PICUP Summer Faculty Development Workshop at UW River Falls, River Falls, WI.
- Feb/Mar 2016 Faculty Development Workshops –
    - "Designing Effective Research Assignments" – 2/17/16
    - "Preventing and Responding to Plagiarism" – 3/16/16
- Mar 2016, Webinar on "FlipIt Physics" by Macmillian
- Oct 2015, Illinois Section of the AAPT meeting at Decatur, IL
    - **Contributed Talk**: "*Introducing research problems in theoretical Physics to undergraduates - My experience*"
    - Workshop: "*I/O Lab - a multi-sensor device*"
- Jan 2014, AAPT Winter Meeting, Orlando, FL
- Nov 2011, Teaching and learning workshop, James Madison University, Harrisonburg, VA
- 2011 TIBBS teaching workshop, University of North Carolina, Chapel Hill, NC
- **Poster** - 2010 International Nuclear Physics Conference, Vancouver, Canada. Title: "*Constructing a Neutrinoless Double-beta Decay Operator in the Shell Model*".
- **Invited talk** - 2009 19th IUPAP conference on Few-body Physics, Bonn, Germany. Talk title: "*Compton Scattering on d and He-3*".

- **Contributed talk** - 2009 April Meeting of the APS, Denver, CO. Talk title: "*Chiral Potentials, perturbation theory and the $^1S_0$ channel of NN scattering*".
- **Contributed talk** - 2008 Divison of Nuclear Physics of the APS, Oakland, CA. Talk title: "*Neutron Polarizabilities though Compton Scattering on Light Nuclei*".
- **Invited talk** - 2008 Gordon Research Conference, Tilton, NH. Talk title: "*Compton Scattering on the d and He-3*".
- **Invited talk** - 2008 Institute for Nuclear Theory Workshop on Soft Photons and Light Nuclei, Institute for Nuclear Theory, University of Washington, Seattle, WA. Talk title: "*Compton Scattering on He-3*".
- **Invited talk** - 2008 American Physics Society April Meeting, St. Louis, MO. Talk title: "*Investigating Neutron Polarizabilities and NN Scattering in Heavy- Baryon Chiral Perturbation Theory*"
- **Contributed talk** - 2007 Institute for Nuclear Theory Program on Fundamental Neutron Physics, Institute for Nuclear Theory, University of Washington, Seattle, WA. Talk title: "*Manifestations of Neutron Spin-Polarizabilities in Compton Scattering on d and He-3*".
- Attended the 2007 Workshop on Level Density and Gamma Strength in Continuum, Oslo Cyclotron Laboratory, Oslo, Norway.
- **Invited talk** - 2006 5th International Workshop on Chiral Dynamics: Theory and Experiment, Durham, NC. Talk title: "*Compton Scattering on He-3*".
- Attended the 2006 School on Tools and Toys in Nuclear Astrophysics, Joint Institute of Nuclear Astrophysics (JINA), Michigan State University, Michigan.
- **Contributed talk** - 2005 Midwest Theory Get-together, Argonne National Laboratory, Chicago, IL. Talk title: "*Compton Scattering on the Deuteron in Chiral Perturbation Theory*".
- **Contributed talk** - 2005 Joint Meeting of the of the nuclear physics divisions of the American Physics Society (APS) and the Japanese Physics Society (JPS), Maui, HI. Talk title: "*Of Neutron Polarizabilities and Polarization Observables in Compton Scattering on Deuteron and Heium-3*".
- **Contributed talk** - 2004 INT Program on Microscopic Nuclear Structure Theory, Institute for Nuclear Theory, University of Washington, Seattle, WA. Talk title: "*Compton Scattering on the Deuteron in Chiral Perturbation Theory*".
- **Poster:** 2004 Gordon Research Conference on Photonuclear Reactions, Tilton, NH. Poster title: "*Of Neutron Polarizabilities and Polarization Observables in Compton Scattering on Deuteron*".
- **Contributed talk** - 2004 Spring meeting of the Ohio Section of the APS, Athens, OH. Talk Title: "*Compton Scattering on the Deuteron in Chiral Perturbation Theory*"
- **Contributed talk** - 2002 Fall Meeting of the Ohio Section of the APS, Columbus, OH. Talk title: "*Constraining the short-range NN force using the Nijmegen PWA93 $^1S_0$ phase shift solution*".

COLLOQUIUA/SEMINARS/INVITED TALKS/WORKSHOPS GIVEN:

2019:

- September, "*Writing a Successful (Global Learning) General Education Proposal: A How-to Workshop*" at Rockford University, workshop led by Ron Lee, Sharon Bartlett, Deepshikha Shukla, and Maria Diemer.
- April, "*Gamification of Learning*" at Rockford University, Faculty Brown Bag Series Talk, Rockford, IL.

2018:

- September, "*Intercultural Approaches to Teaching: A Culture-General Approach*" at Rockford University, workshop led by Deepshikha Shukla, Samuel Bandy and Maria Diemer.
- February, "*LAB GIRL by Hope Jahren … or not!"* AAUW-Rockford talk, Rockford University, Rockford, IL.

2017:

- October, "*What can a Physics degree do?"* at Auburn High School, Rockford, IL.
- August , "*Careers in Physics"* at University of Science and Technology, Meghalaya, India
- April, "*Diversity and Instruction at Rockford University*", workshop led by Deepshikha Shukla, Kyle Stedman and Tara Wood
- April, "*Business Model in India*", guest lecturer in Dr. Ina Freeman's International Business MBA course.

2016:

- April, MCSP career talk – Title: "Opportunities, Possibilities and Challenges of an MCSP degree – our experiences in Physics."
- January, "*Innovative pedagogical strategies in current instruction"* at University of Science and Technology, Meghalaya, India.
- January, "*Building effective Nuclear transition operators for neutrinoless double-beta decay "* at Indian Institute of Technology, Guwahati, India

2015:

- March, "*Impressionism in Nuclear Physics*", Physics & Astronomy Colloquium, University of Minnesota, Duluth, MN **and** Wittenberg University, Springfield, OH.

2013:

- November, "*Impressionism in Nuclear Physics*", Physics & Astronomy Colloquium, NC A&T University, Greensboro, NC.
- May, "*Impressionism in Nuclear Physics*", Physics & Astronomy Colloquium, Gettysburg College, Gettysburg, PA.

2012:

- November, "*Compton Scattering and Neutron Polarizabilities*", Physics & Astronomy Colloquium, UNC – Greensboro.
- February, "*Impressionism in Nuclear Physics*", Physics & Astronomy Colloquium, JMU, Harrisonburg, VA.

2011:

- March, "*Constructing a Neutrinoless Double-beta Decay Operator for Shell-Model through Non-Perturbative Renormlization*", Nuclear Physics Seminar, University of North Carolina, Chapel Hill, NC.

2010:

- March, "*Renormalizing the Neutrinoless Double-beta Decay Operator for Shell-Model*", Nuclear Physics Seminar, UNC – Chapel Hill, NC.
- March, "*Compton Scattering off He-3*", He-3 Photodisintegration Workshop, Duke University, Durham, NC.

2009:

- December, "*Investigating Neutron Polarizabilities through Compton Scattering on Light Nuclei*", National Superconducting Cyclotron Laboratory (NSCL) Theory Seminar, East Lansing, MI.
- June, "*Investigating Neutron Polarizabilities Using Chiral Perturbation Theory*", Indiana University - Purdue University, Fort Wayne, IN.
- February, "*Compton Scattering on Light Nuclei: A Probe for Neutron Polarizabilities*", Argonne National Laboratory Theory Seminar, Argonne, IL.

2007:

- October, "*Chiral Effective Theory Calculations of Compton Scattering on He-3*", THQN Seminar, University of Maryland, College Park, MD.
- May, "*Investigating Neutron Polarizabilities in Chiral Perturbation Theory*", Department of Physics Colloquium, Harischandra Research Institute, Allahabad India.
- April, "*Effective Field Theory Techniques in Compton Scattering on Light Nuclei*", Department of Physics Colloquium, Indian Institute of Technology, Kanpur, India.
- April, "*Investigating Neutron Polarizabilities in Chiral Perturbation Theory*", Department of Physics Colloquium, Indian Institute of Technology, Delhi, New Delhi, India.

2006:

- February, "*An 'Effective' Perspective on Neutron Polarizabilities*", Center for Nuclear Studies Seminar, GWU, Washington, DC.
- February, "*Of Neutron Polarizabilities and Compton Scattering on Deuteron*", Department of Physics Colloquium, Marietta College, Marietta, OH.

2004:

- May, "*Investigation of Roadmaps to Measure Neutron Electromagnetic Polarizabilities using Compton Scattering on Deuteron*", Triangle Universities Nuclear Laboratory Seminar, Duke University, Durham, NC.

PUBLICATIONS

1. Deepshikha Choudhury and Daniel R. Phillips, "*Predictions for Polarized-Beam/Vector-Polarized-Target Observables in Elastic Compton Scattering on the Deuteron*", **Phys. Rev. C71** (2005) 044002.
2. Deepshikha Choudhury, Andreas Nogga and Daniel R. Phillips, "*Investigating Neutron Polarizabilities through Compton Scattering on ^3He*", **Phys. Rev. Lett. 98**, 232303 (2007).
3. D. Choudhury, D. R. Phillips and A. Nogga, "*Compton Scattering on He-3*", Proceedings of the Fifth International Workshop on Chiral Dynamics: Theory and Experiment (2006), **published by World Scientific** in 2007. **FEATURED ARTICLE**

4. Deepshikha Shukla, Daniel R. Phillips and Eric Mortenson, "*Chiral potentials, perturbation theory, and the $^1S_0$ channel of NN scattering*", **J. Phys. G: Nucl. Part. Phys. 35** (2008) 115009. **FEATURED ARTICLE**
5. Deepshikha Shukla, Andreas Nogga and Daniel R. Phillips, "*Analyzing the effects of Neutron Polarizabilities in Elastic Compton Scattering off ^{3}He*", **Nucl. Phys. A819** (2009) 98.
6. Johannes Kirscher, Harald W. Griesshammer, Deepshikha Shukla, Hartmut M. Hofmann, "*Universal Correlations in Pion-less EFT with the Resonating Group Model: Three and Four Nucleons*", **Eur. Phys. Jour. A44** (2010) 239.
7. Johannes Kirscher, Harald W. Griesshammer, Deepshikha Shukla, Hartmut M. Hofmann, "*Universal Correlations in Pion-less EFT with the Resonating Group Model: Three, Four, and Six Nucleons.*", Proceedings of 6th International Workshop on Chiral Dynamics, Bern, Switzerland, Jul 6-10, 2009, **PoS(CD09) 105, arXiv.org:0909.5606**.
8. Harald W. Griesshammer and Deepshikha Shukla,, "*Nucleon Spin Polarisabilities from Polarised Deuteron Compton Scattering.*", Proceedings of 6th International Workshop on Chiral Dynamics, Bern, Switzerland, Jul 6-10, 2009, **PoS(CD09) 060, arXiv.org:0910.0053**.
9. Harald W. Griesshammer, Judith McGovern, Daniel R. Phillips and Deepshikha Shukla, "*Compton scattering from the proton: An analysis using the delta expansion up to N3LO.*", Proceedings of 6th International Workshop on Chiral Dynamics, Bern, Switzerland, Jul 6-10, 2009, **PoS(CD09) 059**, **arXiv.org:0910.1184**.
10. Deepshikha Shukla, "*Compton Scattering on Light Nuclei*", Proceedings of 19th International IUPAP Conference on Few-Body Problems in Physics, Bonn, Germany, Aug 31- Sep 5, 2009, **EPJ Web of Conferences, Vol. 3 (2010), arXiv.org:0912.4454**.
11. Johannes Kirscher, Harald W. Griesshammer, Deepshikha Shukla, Hartmut M. Hofmann, "*Universal Correlations in Pion-less EFT with the Resonating Group Model: Three and Four Nucleons*", Proceedings of 19th International IUPAP Conference on Few-Body Problems in Physics, Bonn, Germany, Aug 31- Sep 5, 2009, **EPJ Web of Conferences, Vol. 3 (2010).**
12. Deepshikha Shukla and Harald W. Griesshammer, "*Effect of the Δ-isobar and Low-energy resummation on Polarization Observables in Deuteron Compton Scattering*", **Eur. Phys. J A46 (2010) 249**.
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