

Rana Ashkar, Ph.D.

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❖ Professional Appointments

- ♦ **Assistant Professor**, Department of Physics, Virginia Tech **Jan. 2018 – present**
- ♦ **Clifford G. Shull Fellow**, Oak Ridge National Lab **Oct. 2015 – Dec. 2017**
- ♦ **Postdoctoral Scholar**, National Institute of Standards and Technology & University of Maryland at College Park **Oct. 2012 – Sept. 2015**

❖ Education

- ♦ **Ph.D.** in Experimental Condensed Matter Physics **Sept. 2012**
Indiana University, Bloomington, IN (advisor: Prof. Roger Pynn)
Dissertation Title: “Dynamical theory applications to neutron scattering from periodic nanostructures” – received the 2013 Esther L. Kinsley Ph.D. dissertation award & was nominated for the Council of Graduate Schools distinguished dissertation award.
- ♦ **Masters** in Theoretical Particle Physics **Feb. 2007**
American University of Beirut, Lebanon (advisor: Prof. Ali Chamseddine)
Thesis Title: “Spontaneously Broken Supersymmetric Gauge Theories”
- ♦ **B.Sc.** in Physics “Summa Cum Laude” **July 2003**
Lebanese University, Beirut, Lebanon

❖ Select Awards, Honors & Leadership

- ♦ Alumni Award for Excellence in Graduate Academic Advising, VT **2024**
- ♦ Elected chair of the APS Committee on the Status of Women in Physics **2024**
- ♦ Elected member-at-large, APS-DBIO Executive Committee **2021-2024**
- ♦ Elected member-at-large, SNS/HFIR User Group Executive Committee **2021-2023**
- ♦ Named Soft Matter Emerging Investigator, Soft Matter Journal **2021**
- ♦ Invited member, Penn State Neutron Science Advisory Council **2020**
- ♦ Ralph E. Powe Junior Faculty Award, Oak Ridge Associated Universities **2019**
- ♦ Chair of the American Physical Society Climate Site Visits Program **2019-2020**
- ♦ AAAS-BPS Congressional Fellowship, Biophysical Society (declined) **2017**
- ♦ Chair of the Women in Neutron Sciences Group, Oak Ridge National Lab **2016-2017**
- ♦ Clifford G. Shull Fellowship, Oak Ridge National Lab **2015-2017**
- ♦ Service Accolade, NIST Materials Measurement Laboratory **2014**
- ♦ Esther L. Kinsley Ph.D. Dissertation Award, Indiana University **2013**
- ♦ Certificate of Appreciation, Office of Women Affairs, Indiana University **2011**
- ♦ 11th Surface X-ray and Neutron Scattering Fellowship Award **2010**

- ❖ **Refereed Publications** (* corresponding author, † equal authors, underline: Postdoc/research associate, Graduate student, Undergraduate student in the Ashkar Lab)
- ◆ “The Effects of Molecular and Nanoscopic Additives on Phospholipid Membranes”, †T. Kumarage, †N.B. Morris, and **R. Ashkar***, *Front. Phys., Soft Matter Physics* (2023). **Invited Review.** [doi: 10.3389/fphy.2023.1251146](https://doi.org/10.3389/fphy.2023.1251146)
 - ◆ “Synthesis and Characterization of Stimuli-Responsive Polymer Brushes in Nanofluidic Channels”, H. Rahmaminejad, A.J. Parnell, W.-L. Chen, N. Duzen, T. Sexton, G. Dunderdale, J.F. Ankner, W. Bras, C.K. Ober*, A.J. Ryan*, and **R. Ashkar***, *ACS Appl. Mater. Interfaces* (2023). doi.org/10.1021/acsami.3c12744
 - ◆ “Solution Structure and Scaling Laws of Cylindrical and Tapered Bottlebrush Polymers”, M. Alaboalirat, S. J. Scannelli, H. Rahmaminejad, J.-M. Carrillo. C. Do, J.B. Matson*, and **R. Ashkar***, *Macromolecules* (2023). doi.org/10.1021/acs.macromol.3c01412
 - ◆ “Biophysics of Membrane Stiffening by Cholesterol and Phosphatidylinositol 4,5-bisphosphate (PIP2)”, F.T. Doole, T. Kumarage, **R. Ashkar***, M.F. Brown*, **Invited Chapter** in the book titled *Cholesterol and PI(4,5)P2 in Vital Biological Functions*, edited by Avia Rosenhouse-Dantsker (Springer 2023). doi.org/10.1007/978-3-031-21547-6_2
 - ◆ “Neutron Scattering Studies of Nanoscale Polymer-Based Coatings”, H. Rahmaminejad and **R. Ashkar***, Invited Chapter in the book titled *Polymer-Based Nanoscale Materials for Surface Coatings*, edited by Sabu Thomas and Jesiya Susan George (Elsevier 2023). doi.org/10.1016/B978-0-32-390778-1.00024-4
 - ◆ “Cinematic reflectometry using QIKR, the quite intense kinetics reflectometer”, J.F. Ankner*, **R. Ashkar**, J.F. Browning, ..., E.B. Watkins, and D. Wilson, *Rev. Sci. Instrum.* (2023). doi.org/10.1063/5.0122279
 - ◆ "Cholesterol Stiffening of Lipid Membranes", F.T. Doole, T. Kumarage, **R. Ashkar***, M.F. Brown*, *J. Membr. Biol.* (2022). **Topical Review.** doi.org/10.1007/s00232-022-00263-9
 - ◆ "Molecular Simulations and NMR Reveal How Lipid Fluctuations Affect Membrane Mechanics", M. Doktorova*, G. Khelashvili, **R. Ashkar**, and M.F. Brown*, *Biophys. J.* (2023). doi.org/10.1016/j.bpj.2022.12.007
 - ◆ "EXPANSE: A time-of-flight EXPanded Angle Neutron Spin Echo spectrometer at the Second Target Station of the Spallation Neutron Source", C. Do*, **R. Ashkar**, C. Boone, ..., D. Wilson, Y Z, *Rev. Sci. Instr.* (2022). doi.org/10.1063/5.0089349
 - ◆ "Comparison of Bulk- vs Layer-by-Layer-Cured Stimuli-Responsive PNIPAM–Alginate Hydrogel Dynamic Viscoelastic Property Response via Embedded Sensors", Y. Liu, K. Bethel, M. Singh, J. Zhang, **R. Ashkar**, E.M. Davis, B.N. Johnson*, *ACS Appl. Polym. Mater.* (2022). doi.org/10.1021/acsapm.2c00634
 - ◆ “Molecular mechanisms of spontaneous curvature and softening in complex lipid bilayer mixtures”, H.J. Lessen, K.C. Sapp, A.H. Beaven, **R. Ashkar**, and A.J. Sodt*. *Biophys. J.* (2022). doi.org/10.1016/j.bpj.2022.07.036
 - ◆ “Cholesterol stiffening of lipid membranes and drug interactions: Insights from neutron spin echo and deuterium NMR spectroscopy”, †S. Gupta, †F.T. Doole, T. Kumarage, M. Doktorova, G. Khelashvili, **R. Ashkar***, and M.F. Brown*, **Invited Chapter** in the book titled *Cholesterol*, edited by Alex Dopico and Anna Bukiya (Elsevier 2022).

- ◆ “The dynamic face of lipid membranes”, S. Gupta and **R. Ashkar***, **Invited Review** in the **2021 Soft Matter Emerging Investigators Themed Collection**, *Soft Matter* (2021). **Back Cover** doi.org/10.1039/D1SM00646K
- ◆ “Neutron spin echo spectroscopy as a unique probe for lipid membrane dynamics and membrane-protein interactions”, †T. Kumarage, †J. Nguyen, and **R. Ashkar***, **Invited Paper** in the Special Issue titled: “Neutron scattering in the biological sciences: Techniques and applications” *J. Vis. Exp.* (2021) doi: [10.3791/62396](https://doi.org/10.3791/62396)
- ◆ “Biomembrane structure and material properties studied with neutron scattering”, J. Kinnun*, H.L. Scott*, **R. Ashkar***, and J. Katsaras*, *Front. Chem.* (2021). **Invited Review** doi.org/10.3389/fchem.2021.642851
- ◆ “Scaling relationships for the elastic moduli and viscosity of mixed lipid membranes”, E.G. Kelley*, P. Butler, **R. Ashkar**, R. Bradbury, and M. Nagao, *Proc. Natl. Acad. Sci.* (2020) doi.org/10.1073/pnas.2008789117
- ◆ “How cholesterol stiffens unsaturated lipid membranes”, S. Chakraborty, M. Doktorova, T.R. Molugu, F.A. Heberle, H.L. Scott, B. Dzikovski, M. Nagao, L.-R. Stingaciu, R.F. Standaert, F. Barrera, J. Katsaras, G. Khelashvili, M.F. Brown*, and **R. Ashkar***, *Proc. Natl. Acad. Sci.* (2020) doi.org/10.1073/pnas.2004807117
- ◆ “Selective Dynamics in Polymeric Materials: Insights from Quasi-Elastic Neutron Scattering Spectroscopy”, **R. Ashkar***, *J. Appl. Phys.* (2020). **Invited Tutorial & Featured Article** doi.org/10.1063/1.5144243
- ◆ “Profile retrieval of a buried periodic structure using spin echo grazing incidence neutron scattering”, **R. Ashkar***, R.M. Dalgliesh, R. Pynn, A.D.F. Dunbar, R.A.L. Jones, and A.J. Parnell*, *Appl. Phys. Lett.* (2020). doi.org/10.1063/1.5140616
- ◆ “The Influence of Curvature on Domain Distribution in Binary Mixture Membranes”, W. Li, J. M. Carrillo*, J. Katsaras, B. Sumpter, **R. Ashkar***, and R. Kumar*, *Soft Matter* (2019). **Back Cover** doi.org/10.1039/C9SM01262A
- ◆ “Neutron scattering in the biological sciences: Progress and prospects”, **R. Ashkar**, H.Z. Bilheux, H. Bordallo, R. Briber, D.J.E. Callaway, X. Cheng, . . . and J.C. Smith*, *Acta Cryst. D* (2018). **Lead article** doi.org/10.1107/S2059798318017503
- ◆ “Quantification of carbon nanotube liquid crystal morphology via neutron scattering”, †F. Mirri, †**R. Ashkar**, V. Jamali, L. Liberman, R.A. Pinnick, P. van der Schoot, Y. Talmon, P.D. Butler, and M. Pasquali*, *Macromolecules* (2018) doi.org/10.1021/acs.macromol.8b01017
- ◆ “Conformational change and suppression of the Θ -temperature for solutions of polymer-grafted nanoparticles”, †K.I. S. Mongcopa, †R. Poling-Skutvik, **R. Ashkar**, P. Butler, and R. Krishnamoorti*, *Soft Matter* (2018) doi.org/10.1039/C8SM00929E
- ◆ “Flexible approach to vibrational sum-frequency generation using shaped near-infrared light”, A. Chowdhury, F. Liu, B. Watson, **R. Ashkar**, J. Katsaras, C. Collier, D. Lutterman, Y.Z. Ma, T.R. Calhoun*, B. Doughty*, *Optics Lett.* (2018) doi.org/10.1364/OL.43.002038
- ◆ "Grating-based holographic diffraction methods for x-rays and neutrons: phase object approximation and dynamical theory", H. Feng, **R. Ashkar**, N. Steinke, R. Dalgliesh, N.V. Lavrik, I.I. Kravchenko, R. Pynn. *J. Appl. Cryst.* (2018) doi.org/10.1107/S1600576717016867

- ◆ “Probing elastic and viscous properties of phospholipid bilayers using neutron spin echo spectroscopy”, M. Nagao*, E. Kelley, **R. Ashkar**, R. Bradbury, and P. Butler, *J. Phys. Chem. Lett.* (2017) doi.org/10.1021/acs.jpcclett.7b01830
- ◆ “Rapid large-scale assembly and pattern transfer of one-dimensional gold nanorod superstructures”, **R. Ashkar***, M.J. Hore*, X. Ye, B. Natarajan, N.J. Greybush, T. Lam, C. Kagan, and C.B. Murray, *ACS Appl. Mater. Interfaces* (2017) doi.org/10.1021/acsami.7b06273
- ◆ “A computational approach to model neutron scattering data from lipid bilayers”, J.-M. Carrillo*, J. Katsaras, B.G. Sumpter, and **R. Ashkar***, *J. Chem. Theory Comput.* (2017) doi.org/10.1021/acs.jctc.6b00968
- ◆ “Unlocking the secrets of cell membranes”, **R. Ashkar***, *Editorial Piece – ACM SIGCAS Computers and Society Newsletter* (2016) doi.org/10.1145/2984071.2984072
- ◆ “Multiscale metrologies for process optimization of carbon nanotube polymer composites”, B. Natarajan, N. Orloff, **R. Ashkar**, S. Doshi, K. Twedt, A. Krishnamurthy, C. Davis, A.M. Forster, E. Thostenson, J. Obrzut, R. Sharma, J.A. Liddle*, *Carbon* (2016) doi.org/10.1016/j.carbon.2016.07.028
- ◆ “Spin echo modulated small-angle neutron scattering using superconducting magnetic Wollaston prisms”, F. Li, S. R. Parnell, H. Bai, W. Yang, W.A. Hamilton, B. B. Maranville, **R. Ashkar**, D.V. Baxter, J.T. Cremer and R. Pynn*, *J. Appl. Cryst.* (2016) doi.org/10.1107/S1600576715021573
- ◆ “Graphene nanocomposites with high molecular weight poly(ϵ -caprolactone) grafts: Controlled synthesis and accelerated crystallization”, †T. Mondal, †**R. Ashkar**, P. Butler, A. Bhowmick* and R. Krishnamoorti*, *ACS Macro Lett.* (2016) doi.org/10.1021/acsmacrolett.5b00930
- ◆ “Lightweight, flexible, high-performance carbon nanotube cables made by scalable flow coating”, Francesca Mirri, Nathan D. Orloff, **R. Ashkar**, A. Forster, C. Long, A. Bengio, A. Choi, Y. Luo, A. Hight Walker, P. Butler, K. Migler, and Matteo Pasquali*, *ACS Appl. Mater. Interfaces* (2016) doi.org/10.1021/acsami.5b11600
- ◆ “Wetting-dewetting and dispersion-aggregation transitions are distinct for polymer grafted nanoparticles in chemically dissimilar polymer matrix”, †T. B. Martin, † K. I. Mongcopa, **R. Ashkar**, P. Butler, R. Krishnamoorti*, and A. Jayaraman*, *J. Am. Chem. Soc.* (2015) doi.org/10.1021/jacs.5b05291
- ◆ “Tuning membrane thickness fluctuations in model lipid bilayers”, **R. Ashkar**, M. Nagao*, P. Butler, A. Woodka, M.K. Sen and T. Koga, *Biophys. J.* (2015) <https://doi.org/10.1016/j.bpj.2015.05.033>
- ◆ “Thermoresponsive PNIPAM coatings on nanostructured gratings for cell alignment and release”, †M. Zhernenkov*, †**R. Ashkar***, H. Feng, O. Akintewe, N.D. Gallant, R. Toomey, J.F. Ankner, and R. Pynn, *ACS Appl. Mater. Interfaces* (2015) doi.org/10.1021/acsami.5b01453
- ◆ “Kinetic polymer arrest in percolated SWNT networks”, **R. Ashkar***, M. Abdulbaki, M. Tyagi, A. Faraone, P. Butler and R. Krishnamoorti*, *ACS Macro Lett.* (2014). doi.org/10.1021/mz500636s

- ◆ “A new approach for probing matter in periodic nanoconfinements using neutron scattering”, **R. Ashkar***, R. Pynn, R. Dalgliesh, N. Lavrick, and I. Kravchenko. *J. Appl. Cryst.* (2014) doi.org/10.1107/S1600576714013387
- ◆ “Optimization of a solid-state polarizing bender for cold neutrons”, V.R. Shah, A.L. Washington, P. Stonaha, **R. Ashkar**, H. Kaiser, T. Krist and R. Pynn*. *Nucl. Instr. Meth. A* (2014) doi.org/10.1016/j.nima.2014.09.005
- ◆ “Dynamical Theory: Application to spin echo resolved grazing incidence scattering from periodic structures”, **R. Ashkar***, W.L. Schaich, V.O. de Haan, A.A. van Well, R. Dalgliesh, J. Plomp, R. Pynn*. *J. Appl. Phys.* (2011) doi.org/10.1063/1.3661162
- ◆ “Comparison of dynamical theory and phase-object approximation on neutron scattering from periodic structures”, **R. Ashkar***, V. de Haan, A.A. vanWell, R. Dalgliesh, J. Plomp, W.L. Schaich, and R. Pynn. *J. Appl. Cryst.* (2011) doi.org/10.1107/S0021889811032730
- ◆ “Some recent results using Spin Echo Resolved Grazing Incidence Scattering (SERGIS)”, Roger Pynn*, **R. Ashkar**, P. Stonaha, and A.L. Washington. *Physica B* (2011). doi.org/10.1016/j.physb.2010.10.085
- ◆ “Dynamical theory calculations of spin echo resolved grazing-incidence scattering from a diffraction grating”, **R. Ashkar***, P. Stonaha, A.L. Washington, V.R. Shah, M.R. Fitzsimmons, B. Maranville, C. F. Majkrzak, W.T. Lee, W.L. Schaich, and R. Pynn*. *J. Appl. Cryst.* (2010). doi.org/10.1107/S0021889810010642

❖ Presentations

Select Invited Talks (contributed talks and posters not listed)

- ◆ “*Predictive Laws of Membrane Elasticity: From Fundamental Principles to Practical Applications*”, **Invited** colloquium, University of Illinois, Urbana-Champaign (Jan. 29, 2024)
- ◆ “*Membrane Fluctuations and Elasticity Probed by NSE*”, **Invited** talk, Soft Materials Dynamics workshop, Oak Ridge National Lab (Sept. 26, 2023)
- ◆ “*Mesoscopic Membrane Mechanics: From Fundamental Principles to Health and Disease*”, **Invited** talk at the Virginia Soft Matter Workshop, Virginia Commonwealth University (April 22, 2023)
- ◆ “*Dynamic Signatures of Vital Functional Processes in Lipid Membranes*”, **Invited** colloquium in the Physics Department, Lehigh University, Bethlehem, PA (April 6, 2023)
- ◆ “*Lipid Membrane Mechanics: From Fundamental Physics to Health and Disease*”, **Invited** talk at the 89th Annual Meeting of the Southeastern Section of the American Physical Society (SESAPS), University of Mississippi (Nov. 5, 2022)
- ◆ “*Smart Polymer Interfaces: From Biologically Inspired to Biologically Applied*”, **Invited** talk at the Materials Research Society Meeting, Honolulu, HI (May 10, 2022)
- ◆ “*Membranes In Action: How Mesoscopic Membrane Mechanics Regulate Cellular Functions*”, **Invited** colloquium, Department of Chemistry and Biochemistry, University of Windsor, virtual (March 30, 2022)
- ◆ “*Cell membranes from the lens of neutron scattering and computer simulations*”, **Plenary** talk at the 2021 Joint Nanoscience and Neutron Scattering Virtual User Meeting, Oak Ridge National Lab, virtual (Aug. 11, 2021)

- ◆ “*The dynamic interplay between cell membranes and membrane proteins*”, **Invited** talk at the 71st American Crystallographic Association Annual Meeting, virtual (Aug. 3, 2021)
- ◆ “*Stiffening effect of cholesterol in saturated and unsaturated phosphatidylcholine membranes*”, **Invited** talk at the 257th ACS Annual Meeting, virtual (April 13, 2021)
- ◆ “*Collective dynamics in lipid membranes: from fundamental physics to health and disease*”, **Invited** colloquium, Department of Physics, College of William & Mary, virtual (March 12, 2021)
- ◆ “*Biomimetic lipid membranes from a neutron scattering and simulations perspective*”, **Invited** seminar, Department of Chemical and Biomedical Engineering, University of South Florida, virtual (Sept. 16, 2020)
- ◆ “*Elasticity and phase-separation in amphiphilic self-assemblies: From biology to nanotechnology*”, **Invited** talk at the 2020 American Conference on Neutron Scattering, virtual (July 13, 2020)
- ◆ “*Cholesterol stiffens saturated and unsaturated phosphocholine membranes*”, **Invited** talk at the 256th ACS Annual Meeting: Biomembrane Structure, Mechanics & Dynamics Symposium, virtual (March 25, 2020)
- ◆ “*Effects of domains on matrix dynamics in phase-separated model membranes*”, **Invited** talk at the 256th ACS Annual Meeting: Biomembrane Structure, Mechanics & Dynamics Symposium, virtual (March 25, 2020)
- ◆ “*Biomimetic lipid membranes: A neutron scattering and simulations perspective*”, **Invited** talk at the MRS Fall Meeting and Exhibit, Boston, MA (Dec. 5, 2019)
- ◆ “*Polymer dynamics in percolated polymer networks*”, **Keynote** at the 93rd ACS Colloid & Surface Science Symposium, Atlanta, GA (June 18, 2019)
- ◆ “*Effects of cholesterol on DOPC lipid membranes*”, **Invited** talk at the 255th ACS Annual Meeting: Biomembranes Symposium, Orlando, FL (April 3, 2019)
- ◆ “*Cholesterol affects the bending rigidity of DOPC membranes*”, **Platform** presentation at the Biophysical Society Meeting, Baltimore, MD (March 5, 2019)
- ◆ “*Interfacial structure and dynamics in nanoparticle-polymer composites*”, **Invited** talk at the APS March Meeting, Boston, MA (March 4, 2019)
- ◆ “*Playing hide-and-seek with neutrons*”, **Keynote** at the 10th Annual Conference for Undergraduate Women in Physical Sciences, Lincoln, NE (Oct. 12, 2018)
- ◆ “*Topography and fluctuations in biomimetic lipid bilayers*”, **Invited** talk at the 9th workshop on Neutron Scattering Applications in Structural Biology, Oak Ridge National Lab, TN (June 11, 2018)
- ◆ “*Response of membrane fluctuations to protein binding and insertion*”, **Invited** talk at the 2nd Soft Matter and Biophysics Symposium: Virginia Tech, Blacksburg (May 17, 2017)
- ◆ “*Topographic control of membrane functions*”, **Invited** talk at the 253rd ACS Annual Meeting: Biomembrane Structure, Mechanics & Dynamics Symposium, San Diego, CA (April 5, 2017)
- ◆ “*Interfacial properties in polymer nanocomposites – their significance and the role of neutron scattering in resolving them*”, **Invited** talk at the 2016 American Conference on Neutron Scattering, Long Beach, CA (July 13, 2016)
- ◆ “*En route to tunable membrane topography: Induced domain reorganization and switchable protein binding*”, **Invited** talk at the 251st ACS Annual Meeting: Biomembrane Symposium, San Diego (March 14, 2016)

❖ Outreach and Service Activities

- ◆ Chair, APS Committee on the Status of Women in Physics (2024)
- ◆ Chair, APS M. Hildred Blewett Fellowship selection committee (2024)
- ◆ Co-organizer of the “Biomembrane Synthesis, Structure, Mechanics, and Dynamics”, ACS Spring Meeting (2024)
- ◆ Organizer and chair of the “Biomembranes” session, APS March Meeting (2022-2024)
- ◆ Invited lecturer, National School on Neutron and X-Ray Scattering run by Oak Ridge National Lab and Argonne National Lab (2020-present)
- ◆ Chair, APS-DBIO Travel Award selection committee (2021-2023)
- ◆ Co-lead, NSF sponsored workshop on Instrumentation and Infrastructure for Soft Materials, Polymers and Biomaterials (2022)
- ◆ Member, APS-DBIO Fellowship selection committee (2021-2022)
- ◆ Elected member-at-large, Executive Committee of the American Physical Society, Division of Biological Physics (APS-DBIO) (2021-2024)
- ◆ Elected member-at-large, Executive Committee of the SNS/HFIR User Group (2021-2024)
- ◆ Chair, APS-DBIO Dissertation Award selection committee (2021)
- ◆ Representative of the American Physical Society on Congressional Visits (2021)
- ◆ Invited member of the advisory boards of the Quite Intense Kinetics Reflectometer (QIKR) and the EXpanded-Angle Neutron Spin Echo (EXPANSE) instruments for the Second Target Station (STS) at ORNL (2021-2023)
- ◆ Invited member, Penn State Neutron Science Advisory Council (2020-present)
- ◆ Chair, APS Climate Site Visits program, the flagship program of the APS Committee on the Status of Women in Physics (2019-2020). Responsibilities included:
 - Organizing (> 20) site visits to requesting departments, national labs, and research consortia for the assessment of their climate for women and minorities – this includes scheduling, assembling teams, running surveys, and managing visit logistics.
 - Reviewing reports of site visits, providing recommendations for required actions, and evaluating adopted measures for improving climate.
 - Leading efforts for the redesign of the site visit program to implement measurables of impact and effectiveness. The new program commenced in Summer 2021.
- ◆ Invited member, APS Committee on the Status of Women in Physics (2018-2020)
- ◆ Program co-chair, Soft Matter, American Conference on Neutron Scattering (2018)
- ◆ Physics editor, ACM Computers and Society Newsletter (2015-2017)
- ◆ Founder and chairperson, “Women in Neutron Sciences (WiNS)” group at Oak Ridge National Lab (Nov. 2015-2017)
- ◆ Member, NIST postdoc association leadership team (2014-2015)
- ◆ Member, Advisory Board of the “Women in Science Program” run by the Office of Women’s Affairs at Indiana University (2009-2012)

- ◆ Reviewer for NSF, NIH, DOE, and ACS PRF.
- ◆ Reviewer for SNS, HFIR, NCNR, SSRL, APS scattering facilities.
- ◆ Reviewer for multiple journals including Nature, Biophysical Journal, APS Journals, ACS Journals, RSC Journals, Elsevier Journals.
- ◆ Member of several professional societies including APS, ACS, BPS, NSSA, MRS, ACA.

❖ **Students/Scholars Advised**

- ◆ **Postdocs:** Suryabrahmam Buti, research associate (2023-present)
Sudipta Gupta, research associate (2021-2022) – now a scientist at Eurofins
Saptarshi Chakaraborty, postdoc assistant (2019-2020) – now an engineer at
Wacker Chemical Corp.
- ◆ **Graduate Students:** Hadi Rahmaninejad (Ph.D. 2022, now a postdoc at USC), Chi Chen (M.S. 2022), Teshani Kumarage (female, URM, Ph.D. candidate), Amirali Chizari (M.S. candidate), Narguess Alizade (female, URM, Ph.D. candidate), Dinidu Hathnagoda (Ph.D. candidate)
- ◆ **Undergraduate Students:** Julie Nguyen (Physics, URM, 1st generation college student), Vincent Vasudevan (Physics), Michael Kane (Mechanical Engineering), Alison Gaylord (Physics, URM), Liam Weston (Physics), Wallace Borden (Physics, African American, URM), Maria Ziu (Physics, URM), Eleni Ziu (Nanoscience, URM), Mayuk Sengupta (Nanomedicine), Nicholas Morris (Physics, 1st generation college student), Andrew Johnson (Physics), Cassell McMillian (Beckman Scholar), Alexandra Habibi (Nanomedicine), Justin Polcha (Materials Science and Engineering), Jacob DeGregoris (Physics), Jeffrey Pearson (Physics), Brannon Semp (Physics), Joshua Buontempo (Physics/Materials Science and Engineering), Jasmine Albert (Physics, URM), Emma Lee Kinsey (Biology), Al Mercedes Casado (Physics, African American, URM), Cecelia Cashin (Nanoscience), Eva Choberka (Engineering).