The Neutron Scattering Society of America

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The Neutron Scattering Society of America is pleased to announce the 2026 recipient of the Clifford G. Shull Prize in Neutron Science.

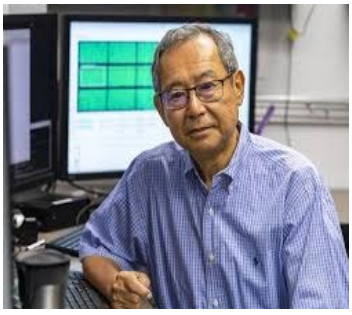
Professor Takeshi Egami
University of Tennessee / Oak Ridge National Laboratory

is the recipient of the

2026 Clifford G. Shull Prize in Neutron Science

of the Neutron Scattering Society of America (NSSA) with the citation:

"For outstanding contributions to the use of neutrons to study local correlations in materials with disorder, the development of novel methods to use neutrons for this purpose, and the mentorship of the next generation of neutron scientists."



Prof. Takeshi Egami

The Neutron Scattering Society of America (NSSA) created this prize in honor of Clifford G. Shull, who received the 1994 Nobel Prize in Physics, together with Bertram N. Brockhouse, for seminal developments in neutron science. The prize recognizes outstanding research in neutron science, as well as leadership that promotes and strengthens the North American neutron scattering community. Consideration is given to exceptional research accomplishments and contributions to the advancement of neutron science, including teaching, research, technical leadership, and scientific writing. Preference is given to nominees whose work was carried out predominantly in North America.

This biennial award consists of a plaque and a $5,000 honorarium, to be presented at the American Conference on Neutron Scattering (ACNS) in Detroit, MI, where the recipient will deliver a plenary lecture.

An independent selection committee chartered by the NSSA Executive Committee has elected to award Professor Takeshi Egami the Clifford G. Shull Prize in Neutron Science.

Professor Egami is a UT-ORNL Distinguished Scientist/Professor at the University of Tennessee, Knoxville and Oak Ridge National Laboratory. Over a career spanning more than five decades, he has helped transform how scientists understand disorder, dynamics, and local structure in materials. His work has been central to the development and broad adoption of atomic pair-distribution function analysis, including neutron PDF methods, as a powerful tool for studying local correlations in materials where conventional crystallography is incomplete. These approaches have opened new windows onto insights on the behaviors of liquids, glasses, metallic glasses, complex oxides, superconductors, ferroelectrics, catalytic materials, magnetic materials, and other systems in which local structure governs macroscopic behavior.

A defining feature of Professor Egami's contributions is his view that disorder is not merely a complication to be averaged away, but a source of essential physics. By combining neutron scattering, synchrotron x-ray scattering, theory, simulation, and new analysis methods, he has advanced real-space and real-time descriptions of materials through static and dynamic PDF methods and van Hove correlation-function approaches. These developments connect atomic-scale disorder and motion with phenomena such as viscoelasticity, glass formation, lattice dynamics, quantum coherence, and strongly correlated materials.

Professor Egami has also played a major role in building the infrastructure and community needed for these advances to flourish. He served as Director of the Shull–Wollan Center, a Joint Institute for Neutron Sciences, from 2008 to 2015 and now holds the title of Director Emeritus. He contributed to neutron capabilities in the United States, including the Neutron Powder Diffractometer at the Lujan Center at Los Alamos National Laboratory, and helped expand neutron scattering across materials science, chemistry, biology, engineering, and physics.

Equally important is Professor Egami's legacy as a mentor and educator. He has supervised more than 30 Ph.D. students, many of whom have gone on to leadership roles in academia, national laboratories, user facilities, and industry. His 34 book chapters and review articles, along with the widely used monograph *Underneath the Bragg Peaks: Structural Analysis of Complex Materials*, have helped train generations of researchers.

The NSSA Executive Committee congratulates Professor Egami on this well-deserved recognition and looks forward to celebrating his scientific vision, methodological innovation, and enduring influence on the neutron scattering community.

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The Neutron Scattering Society of America (NSSA is pleased to announce the 2026 recipient of the Sustained Research Prize.

Dr. Raymond Osborn
Argonne National Laboratory

is the recipient of the

2026 Sustained Research Prize

of the Neutron Scattering Society of America (NSSA) with the citation:

"For seminal and sustained contributions to our understanding of strongly correlated materials and the development of novel techniques and advocacy of neutron scattering worldwide."

Dr. Raymond Osborn

The NSSA Sustained Research Prize recognizes a career of outstanding, long-term contributions to neutron scattering science and honors individuals whose work has had lasting impact on the field. The Society is delighted to honor Dr. Ray Osborn of Argonne National Laboratory as the 2026 recipient of this award.

Following a rigorous review by a committee of experts in neutron science, the NSSA is pleased to award the 2026 Sustained Research Prize to Dr. Ray Osborn *for seminal and sustained contributions to our understanding of strongly correlated materials and the development of novel techniques and advocacy of neutron scattering worldwide.* The award includes an honorarium and an invitation to deliver a plenary lecture at the 2026 American Conference on Neutron Scattering (ACNS), where the prize will be formally presented.

Dr. Osborn has had a distinguished career spanning more than three decades at Argonne National Laboratory. He is internationally recognized for pioneering neutron and x-ray scattering studies of strongly correlated electron systems, advancing our understanding of complex phenomena such as quantum criticality, unconventional superconductivity, electron–phonon coupling, and competing spin, charge, and orbital order. His work has provided deep insight into the microscopic

mechanisms governing materials ranging from colossal magnetoresistive oxides to iron-based superconductors and charge-density-wave systems.

In addition to his scientific discoveries, Dr. Osborn has made transformative contributions to neutron scattering instrumentation and methodology. Notably, he played a central role in proposing and developing the conceptual design of the CORELLI diffractometer at the Spallation Neutron Source, enabling new capabilities for measuring diffuse scattering and probing correlated disorder in materials. He has also contributed to the development of innovative approaches for single-crystal diffuse scattering and real-space mapping of structural correlations, significantly expanding the reach of neutron techniques to complex and disordered systems.

Dr. Osborn has further demonstrated outstanding leadership and service to the global neutron community. He was a founding contributor to the NeXus data format, now an international standard for neutron and X-ray scattering data, and served as the founding chair of the NeXus International Advisory Committee. He also served for many years as Scientific Director of the National School of Neutron and X-ray Scattering, where he helped train and inspire generations of students and early-career researchers. His sustained advocacy has played a key role in strengthening international collaboration and advancing the impact of neutron scattering worldwide.

A Fellow of both the American Physical Society and the Neutron Scattering Society of America, Dr. Osborn is widely regarded as a leading figure in the field whose work bridges fundamental science, instrumentation, and community leadership. These contributions exemplify the impact and leadership recognized by the NSSA Sustained Research Prize.

The Neutron Scattering Society of America is proud to recognize Dr. Ray Osborn with the 2026 Sustained Research Prize for his exceptional contributions to science and to the neutron scattering community. His plenary lecture at the ACNS is highly anticipated.

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The Neutron Scattering Society of America is pleased to announce the 2026 recipient of the Science Prize.

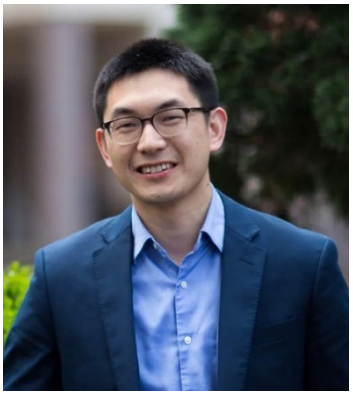
Professor Xiaodan Gu
University of Southern Mississippi

is the recipient of the

2026 Science Prize

of the Neutron Scattering Society of America (NSSA) with the citation:

"For his significant contributions to the understanding of chain conformations of electronically active conjugated polymers combining selective labelling and neutron scattering."



Prof. Xiaodan Gu

Established to recognize major scientific accomplishments and contributions, the Neutron Scattering Society of America (NSSA) Science Prize recognizes an individual who has significantly impacted their field using neutron scattering techniques within the last 5 years. The NSSA Science Award also requires that the nominees be within 12 years of receiving their Ph.D. degree.

The nominations for The NSSA Science Prize were reviewed by a collection of experts in scientific areas relevant to neutron scattering. Under recommendation of the selection committee, the NSSA is pleased to announce the recipient of the 2026 Science Prize: Professor Xiaodan Gu of the University of Southern Mississippi in the School of Polymer Science and Engineering. Along with the prize, a $2,500 honorarium will be awarded at the 2026 American Conference on Neutron Scattering (ACNS) in Detroit, MI 12-16 July.

Professor Gu is a leader in understanding complex soft matter systems, particularly those derived from polymeric materials. Since the beginning of his independent research career at the University of Southern Mississippi, Professor Gu has established a leading research program at the forefront of conjugated polymer physics. A key area of Professor Gu's research is in probing nanoscale morphologies of conjugated polymers and elucidating the impact of these morphologies on the

polymer electrical and mechanical properties towards enabling their use in organic electronics. Through this research, Professor Gu has extensively demonstrated the use of both neutron and x-ray scattering techniques to provide critical insights into polymer chain conformations in conjugated polymers.

Professor Gu has developed and led a research program, which frequently employs deuteration chemistry and contrast-matching techniques to selectively highlight scattering contributions from the backbone and side chains in multiple different conjugated polymer systems. More specifically, Professor Gu and his collaborators have developed methods for synthesizing conjugated polymers with deuterated side chains in order to determine solution state, single molecule conformations of the polymers. These studies were first focused on rigorously studied conjugated polymers, like poly(3-alkylthiophenes), but have recently been extended to emergent, more complex, polymers like donor-acceptor diketopyrrolopyrrole polymers and conjugated ladder-like polymers. These collective works have decoupled the contributions from polymer backbone and sidechain conformations in numerous polymer systems, providing key information regarding their solution state behaviors.

These results directly impact conjugated polymer research and potentially provide insight into similar polymeric materials like bottlebrush or comb polymers. Through developing neutron scattering techniques to probe the properties of conjugated polymers, and extending these techniques to highly complex systems, Professor Gu's research has provided crucial information regarding conjugated polymer conformations in the solution state. In turn, this information can be vital for the development of new polymers with solid-state morphologies that enhance their performance in organic electronic devices.

Professor Gu earned his Ph.D. in Polymer Science and Engineering from the University of Massachusetts Amherst in 2014 under direction of his advisor, Professor Thomas Russell. After completing his graduate work, Professor Gu joined Stanford University and the SLAC National Accelerator Laboratory as a postdoctoral researcher where he was advised by Professor Zhenan Bao and Professor Mike Toney. Professor Gu began his independent research career at the University of Southern Mississippi where he is now an associate professor and director of the Center for Optoelectronic Materials and Devices. He has received numerous awards recognizing his research efforts including the NSF CAREER Award, the DOE Early Career Award, and the ACS PMSE Young Investigator Award, among many others.

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The Neutron Scattering Society of America is pleased to announce the 2026 recipient of the Outstanding Student Research Prize.

Dr. Samin Chowdhury
Purdue University

is the recipient of the

2026 Outstanding Student Research Prize

of the Neutron Scattering Society of America (NSSA) with the citation:

"For the development of statistical algorithms to accelerate hyperspectral neutron CT, and the development of algorithms for solutions of 3D strain mapping."

Dr. Samin Chowdhury

The Neutron Scattering Society of America (NSSA) is proud to highlight the NSSA Prize for Outstanding Student Research, a prestigious biennial award recognizing the next generation of leaders in neutron science. The prize is designed to honor early-career scientists who have made significant contributions to the field, specifically through research conducted at North American neutron scattering facilities.

An independent selection committee chartered by the NSSA Executive Committee has elected to award Dr. Mohammad Samin Nur Chowdhury the NSSA Outstanding Student Research Prize *for the development of statistical algorithms to accelerate hyperspectral neutron CT, and the development of algorithms for solutions of 3D strain mapping.*

Dr. Mohammad Samin Nur Chowdhury recently defended his Ph.D. in Electrical and Computer Engineering at Purdue University under the guidance of Professors Charles A. Bouman and Gregery T. Buzzard. With over eight years of expertise spanning inverse problems and machine learning, his research focuses on the integration of physics-informed AI with large-scale scientific

imaging. By bridging the gap between advanced signal processing and experimental physics, Dr. Chowdhury has developed scalable computational methods that address the inherent noise and data-intensive challenges of modern neutron facilities, earning him recognition at international conferences such as ICIP and ICASSP.

During his Ph.D. candidacy, Dr. Chowdhury developed the MONSTR and FHR algorithms, which have collectively revolutionized 3D material analysis. Through the Model-Oriented Neutron Strain Tomographic Reconstruction (MONSTR) algorithm, Dr. Chowdhury achieved a breakthrough in reconstructing 3D residual strain tensors with nearly 99% accuracy by harmonizing detector physics with continuum mechanics. Simultaneously, his Fast Hyperspectral Reconstruction (FHR) method utilized subspace decomposition to provide order-of-magnitude efficiency gains, allowing for real-time 3D analysis of material kinetics. These innovations not only accelerate the utility of high-flux beamlines like VENUS at Oak Ridge National Laboratory but also set a new standard for quantitative, high-fidelity imaging in the broader scientific community.

NSSA Outstanding Student Research Prize Selection Committee

- Despina Louca (chair), University of Virginia
- Nayomi Plaza, US Forest Service, Department of Agriculture
- Elizabeth Kelley, NIST Center for Neutron Research
- Hassina Bilheux, Oak Ridge National Laboratory
- Daniel Shoemaker, University of Illinois at Urbana Champaign

The NSSA EC hereby congratulates Dr. Chowdhury for this amazing early career achievement and will officially present the award at the 2026 American Conference on Neutron Scattering (ACNS) in Detroit, Michigan on 16 July 2026. The prize consists of an honorarium and a plaque. Further, Dr. Chowdhury has been invited to present a keynote lecture at the ACNS 2026 Conference We eagerly await his seminar and many future contributions to the neutron scattering and imaging community.