

MRS MOVERS & SHAKERS

Spread the good news!

David L. Allara (The Pennsylvania State University), **Ralph G. Nuzzo** (University of Illinois at Urbana-Champaign), **Jacob Sagiv** (Weizmann Institute of Science, Israel), and **George Whitesides** (Harvard University) have each received the 2022 Kavli Prize in Nanoscience for transforming surface science with molecular scale coatings. Sagiv is cited for the fabrication of functionalized and mixed monolayer self-assembled molecules (SAMs) covalently bonded to oxide surfaces. Nuzzo is cited for the invention of SAMs strongly bound to bare metal surfaces and subsequent experiments exploiting that invention. Allara is cited for determining the molecular structure of SAMs using optical spectroscopies and other characterization techniques. Whitesides is cited for leading the development of multiple applications and innovations of SAMs, in particular, the invention of patterning of, with, and using SAMs. The laureates will share the prize of USD\$1 million, and are invited to the Award Ceremony in Oslo, Norway, in September 2022. More details on the prize can be accessed at www.kavliprize.org.



Deblina Sarkar, an assistant professor at the Massachusetts Institute of Technology (MIT) and the AT&T Career Development Chair Professor at the MIT Media Lab, has been awarded the IEEE Nanotechnology Council Early Career Award in Nanotechnology. This award recognizes individuals who have made contributions with a major impact on the field of nanotechnology. She received this award for her innovative work in the development of energy-efficient next-generation computing technology and fusion of nanotechnology with biology toward understanding the brain.

The Alexander von Humboldt Foundation awarded **Ji-Cheng (JC)**

Zhao, Minta Martin Professor of Engineering and chair of the Department of Materials Science and Engineering at the University of Maryland, a Humboldt Research Award. With this award, Zhao will foster his collaborations mainly with professors Dierk Raabe, managing director of the Max-Planck-Institut für Eisenforschung and Peter Gumbsch at the Karlsruhe Institute of Technology and the Fraunhofer Institute for Mechanics of Materials IWM. Zhao is a leading expert in combinatorial alloy design with highest relevance for a wide range of game-changing topics such as sustainable energy supply, hydrogen-based economy solutions, lightweight design in transportation and high-temperature alloys for efficient gas turbines. Before joining the University of Maryland in July 2019, Zhao was a professor at The Ohio State University.



Vasilis Fthenakis, a pioneer in the studies of large-scale deployment of solar power and the founding director of the Center for Life Cycle Analysis at Columbia University, was selected for the 15th Karl Böer Solar Energy Medal of Merit. **Anke Weidenkaff**, executive director of the Fraunhofer Research Institution for Materials Recycling and Resource Strategies (IWKS), and a professor at Technische Universität Darmstadt, Germany, was selected for the first Karl Böer Renewable Energy Mid-Career Award.

The University System of Maryland (USM) Board of Regents has appointed **Valerie Sheares Ashby** as the next president of UMBC. She will become UMBC's sixth chief executive. Ashby will be the first woman to serve in this role. She joins UMBC from her current position as dean of Duke University's Trinity College of Arts & Sciences, where she has served since 2015. She received her BA and PhD degrees in

chemistry from the University of North Carolina at Chapel Hill and completed postdoctoral research at Universität Mainz, Germany.

The Kenneth P. Dietrich School of Arts and Sciences at the University of Pittsburgh honored **Jennifer Laaser**, **Dana Och**, and **Ellen Smith** with the 2022 Tina and David Bellet Teaching Excellence Awards. Established in 1998 and named after alumnus David Bellet (A&S'67) and his wife, the annual award recognizes outstanding and innovative teaching in undergraduate studies.



Elvira Fortunato, professor at the NOVA School of Science and Technology, Portugal, has been named the new Minister of Science, Technology, and Higher Education of the XXIII Government of the Portuguese Republic. This new position continues the long journey of the scientist and academic who has consistently played an active role in raising public awareness of the importance of science and has contributed to the influence of science among policymakers.



Martina Cihova, a research associate in the Department of Materials at Imperial College London, UK, and Fellow of the Swiss National Science Foundation received a L'Oréal-UNESCO 2022 Rising Talent Fellowship Award. Her research looks to improve the way medical equipment interacts with human tissue and give a fundamental understanding into the materials' durability with the aim to maximize the equipment's functionality and ultimately improve patient care. She received a MEng degree in bioengineering from KIT Karlsruhe and a PhD degree in materials science from ETH Zürich, Germany.



Jenny Zhang, a University of Cambridge Marie Skłodowska-Curie Fellow, UK, received a L'Oréal-UNESCO 2022 Rising Talent Fellowship Award. Her research uses plants to create energy through photosynthesis. Zhang's research proposal focuses on building a platform that will accelerate the usage of successful biohybrid energy-conversion products. She obtained her PhD degree in chemistry from the University of Sydney, Australia. She holds a David Phillips Fellowship to research how living photosynthetic cells can be rewired to materials to deliver innovative solutions for sustainable chemical and power generation.



Suresh Narayanan is the 2022 recipient of the Gopal K. Shenoy Excellence in Beamline Science Award. He is a group leader in the X-ray Science Division at the US Department of Energy's (DOE) Argonne National Laboratory. This award recognizes active beamline scientists at the Advanced Photon Source (APS), a DOE Office of Science user facility, for significant contributions to research or instrumentation and support of the beamline user community. The APS Users Office, which grants the award, renamed it in 2017 in honor of the late Gopal K. Shenoy, who was an accomplished materials scientist closely involved in the inception of the APS as well as an enthusiastic supporter of scientists who researched there.

The German Materials Society awarded **Huan Zhao**, postdoctoral researcher at the Max-Planck-Institut für Eisenforschung, Germany, with the Masing Memorial Prize. The prize recognizes her independent research work in the field of materials science and engineering. Zhao is specialized on exploring the structure–property relation in aluminum alloys. Her work advances the mechanistic understanding of environmental degradation and provides insights to mitigate hydrogen embrittlement, thus improving

the lifetime and sustainability of high-strength lightweight engineering components.

The German Materials Society awarded **Yan Ma**, head of the Sustainable Synthesis of Materials Group at the Max-Planck-Institut für Eisenforschung, Germany, with the DGM Prize for Young Talent. His research includes the carbon-free synthesis of iron and steel, focusing on how iron ores can be reduced with hydrogen, hydrogen plasma, and ammonia. His research is significant for the production of green steel, which, if successfully applied, would cut worldwide carbon emissions by 8 percent.



Pieter Cullis, a professor of biochemistry and molecular biology at The University of British Columbia, is among the recipients of the 2022 Tang Prize in Biopharmaceutical Science. The laureates, Katalin Karikó, Drew Weissman, and Pieter Cullis, were recognized “for the discovery of key vaccinology concepts and approaches, leading to the successful development of mRNA-based COVID-19 vaccines,” according to the Tang Prize Foundation. They have credited curiosity, collaboration, and finding joy in their work as critical to their efforts that laid the foundation for messenger RNA (mRNA) COVID-19 vaccines. Cullis is a pioneer in delivery systems for mRNA to human cells through the use of lipid nanoparticles, which are bubbles of fat that wrap around and protect mRNA.



Donald Sadoway, the John F. Elliott Professor of Materials Chemistry in the Department of Materials Science and Engineering at the Massachusetts Institute of Technology, received the 2022 European Inventor Award, in the category for Non-European Patent Office Countries, for his work on liquid–metal batteries that could enable the long-term storage of renewable energy. He is a longtime-supporter and friend of the Materials

Research Laboratory. The award is one of Europe's most prestigious innovation prizes, and is presented annually to outstanding inventors from Europe and beyond who have made an exceptional contribution to society, technological progress, and economic growth.



Nicola Spaldin will receive the 2022 Hamburg Prize for Theoretical Physics. She is a professor of materials theory at ETH Zürich, Switzerland. Spaldin is a trailblazer in the development of a new class of materials known as multiferroics. These could facilitate groundbreaking microelectronics applications, such as the building of ultrafast data repositories or supersensitive sensors. This award will be conferred jointly by the Joachim Herz Foundation, the Wolfgang Pauli Centre of DESY and Universität Hamburg, the Deutsches Elektronen-Synchrotron DESY and the Clusters of Excellence “CUI: Advanced Imaging of Matter” and “Quantum Universe” at Universität Hamburg.



Laura Gagliardi has been elected to the German National Academy of Sciences Leopoldina, one of the world's oldest existing learned societies. Gagliardi is the Richard and Kathy Leventhal Professor in the Department of Chemistry and the Pritzker School of Molecular Engineering at The University of Chicago, with a joint appointment at the James Franck Institute. She is also the director of the Chicago Center for Theoretical Chemistry and the Inorganometallic Catalyst Design Center. Her research aims to develop novel quantum chemical methods and apply them to study phenomena related to sustainable energies, with a special focus on chemical systems relevant to catalysis, spectroscopy, photochemistry, and gas separation.



Ben Bin Xu, a professor of materials science in the Department of Mechanical and Construction Engineering at

Northumbria University Newcastle, UK, will lead the Materials Characterization and Property Group of the prestigious Institute of Materials, Minerals and Mining, where members are globally recognized technical specialists in materials and manufacturing. Xu will work with academics and industrial partners to tackle technical challenges to advancements within the

field of materials properties research, such as the circular economy and Net Zero targets.



John Ballato, the J.E. Sirrine Endowed Chair of Optical Fiber in the Department of Materials Science and Engineering at Clemson University is the recipient of the 2022 William Streifer Scientific

Academics Achievement Award from the IEEE Photonics Society. The award recognizes “an exceptional single scientific contribution which has had a significant impact in the field of lasers and electro-optics in the past 10 years.” The award helps solidify his position as an influential pioneer in the advancement of semiconductor optical fibers.



The Materials Research Society Series

The Materials Research Society Series covers the multidisciplinary field of materials research and technology, publishing across chemistry, physics, biology, and engineering. The Series focuses on premium textbooks, professional books, monographs, references, and other works that serve the broad materials science and engineering community worldwide. Connecting the principles of structure, properties, processing, and performance and employing tools of characterization, computation, and fabrication the Series addresses established, novel, and emerging topics.

springer.com

Published in partnership by the Springer

New Book Series - Submit a Proposal!

Recently Published:

R. LAPIERRE
Introduction to Quantum Computing

Springer books available as



Printed book from springer.com/shop

Submission information at
springer.com/series/16655 and springer.com/authors

- ▶ Order online at springer.com
- ▶ For the Americas call (toll free)
1-800-SPRINGER
- ▶ Outside the Americas call
+49 (0) 6221-345-4301
- ▶ Email us at:
customerservice@springer.com

