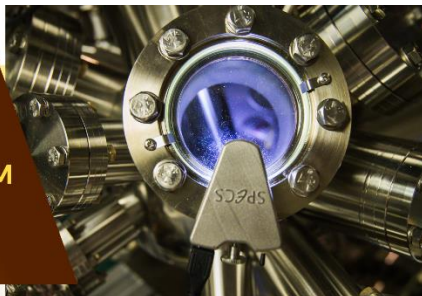


LEHIGH
2023

MATERIALS SYMPOSIUM
& OPEN HOUSE



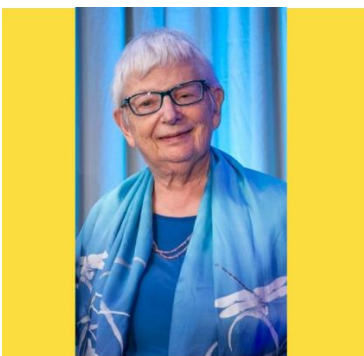
Keynote speakers



David LaVan

Materials Scientist
NIST and the CHIPS program

David LaVan is a Materials Scientist on the Department of Commerce CHIPS R&D team. He is also a Group Leader in the Material Measurement Laboratory at the National Institute of Standards and Technology (NIST). When not working on CHIPS, he works on the development of microfabricated thermal sensors for materials characterization, including high-speed and high-throughput approaches. He was a Meeting co-Chair for the Fall 2018 MRS Meeting and was awarded the Department of Commerce Bronze Medal in 2018. He was selected for the U.S. National Academy of Engineering Frontiers of Engineering in 2006 and Keck Futures Initiatives in 2009 on Synthetic Biology and in 2004 on Nanostructures. He received his B.S. in Materials Science and Engineering from the University of Florida and his Ph.D. from The Johns Hopkins University. Before joining NIST, he was a post-doctoral fellow at Sandia National Labs, a research affiliate/associate in the MIT-Harvard Health Sciences & Technology program, and an assistant professor at Yale University.



Alexandra Navrotsky

Professor, and Director, Center for materials of the
universe
Arizona State University

Alexandra Navrotsky is a Regents Professor in the School of Molecular Sciences and the School for Engineering of Matter, Transport and Energy and Affiliated Faculty Member of the School of Earth and Space Exploration. She is also the Director of the Navrotsky Eyring Center for Materials of the Universe.

Alexandra Navrotsky was educated at the Bronx High School of Science and the [University of Chicago](#) (B.S., M.S., and Ph.D. in physical chemistry). After postdoctoral work in Germany and

at [Penn State University](#), she joined the faculty in chemistry at [Arizona State University](#), where she remained until her move to the [Department of Geological and Geophysical Sciences at Princeton University](#) in 1985. She chaired that department from 1988 to 1991 and was active in the [Princeton Materials Institute](#). In 1997, she became an interdisciplinary professor of ceramic, earth, and environmental materials chemistry at the [University of California at Davis](#) and was appointed Edward Roessler Chair in Mathematical and Physical Sciences in 2001. She served as interim dean of the University of California Davis College of Letters and Sciences Department of Mathematical and Physical Sciences from 2013 to 2017. She organized the NEAT (Nano and New Materials in Energy, the Environment, Agriculture, and Technology) research group in 2002 and has directed the Peter A. Rock Thermochemistry Laboratory since her arrival in 1997.

Honors include an Alfred P. Sloan Fellowship (1973); Mineralogical Society of America Award (1981); American Geophysical Union Fellow (1988); Vice-President, Mineralogical Society of America (1991-1992), President (1992-1993); Geochemical Society Fellow (1997). She spent five years (1986-1991) as Editor, *Physics and Chemistry of Minerals*, and serves on numerous advisory committees and panels in both government and academe. She was elected to the National Academy of Sciences in 1993. In 1995 she received the Ross Coffin Purdy Award from the American Ceramic Society and was awarded the degree of Doctor Honoris Causa from Uppsala University, Sweden. In 2002 she was awarded the Benjamin Franklin Medal in Earth Science. In 2004, she was elected a Fellow of The Mineralogical Society (Great Britain) and awarded the Urey Medal (the highest career honor of the European Association of Geochemistry). In 2005, she received the Spriggs Phase Equilibria Award. In 2006, she received the Harry H. Hess Medal of the American Geophysical Union. In October 2009, she received the Roebling Medal (the highest honor of the Mineralogical Society of America). In 2011, she became a member of the American Philosophical Society. In 2016 she received the Victor M. Goldschmidt Award from the Geochemical Society and the W. David Kingery Award from the American Ceramic Society. The World Academy of Ceramics elected Prof. Navrotsky to Science Professional Member in 2017.

Recently, a newly discovered mineral $K_2Na_{10}(UO_2)_3(SO_4)_9 \cdot 2H_2O$ was named Navrotskyite in her honor.



Mike Aghajanian

Chief Scientist

M Cubed Technologies, Coherent Corp.

Mr. Aghajanian is Chief Scientist at M Cubed Technologies in Newark, DE, a division of Coherent Corp, since 1998. He is responsible for the development, characterization, and manufacturing scale-up of advanced ceramic and metal matrix composite materials for semiconductor, optics, defense and industrial applications. His areas of focus are reaction bonded ceramic processing, Al/SiC MMC casting, diamond-based composite fabrication, and advanced laser machining of ultra-hard materials. Prior to joining M Cubed Technologies, Mr. Aghajanian functioned in similar roles at Lanxide Corporation and Westinghouse.

Mr. Aghajanian has a BS in Mechanical Engineering from the University of Rochester (1982) and a MS in Engineering Mechanics from the Pennsylvania State University (1985). He is a member of the American Ceramic Society, the American Society of Mechanical Engineers, and the engineering honor society Tau Beta Pi. He has authored 26 technical publications in the areas of ceramics, metal matrix composites, armor, and advanced materials for automotive and semiconductor applications. In addition, he is inventor or co-inventor on 64 issued US patents.



Chris Heckle

Director, Materials manufacturing innovation center
Argonne National Laboratory

Chris Heckle is the first director of the Materials Manufacturing Innovation Center (MMIC) at the U.S. Department of Energy's (DOE) Argonne National Laboratory.

Heckle most recently served as research director for Inorganic Materials Research and Asia Research Labs for Corning Incorporated. She is a materials informatics champion who over a 25-year career has facilitated technology innovation across business units for multiple industries, generating hundreds of millions of dollars in revenue. She brings to Argonne experience in creating a manufacturing platform that opened new market opportunities for Corning in energy storage, as well as a demonstrated record of translating megatrends into technical thrusts and accelerating product timelines through introduction and adoption of new tools.



Kal Shastri

CEO
AAYUNA, Inc.

Kal Shastri is the Founding CEO of AAYUNA, Inc. – an Optical Interconnect Solution company.

Prior to that, Kal used to be a Distinguished Engineer at Cisco. Kal worked at AT&T Bell Laboratory from 1985 to 1996. He worked on the physical layer circuits for optical communication systems. He designed hardware accelerator micro-controller and system. He designed CMOS PLL and clock distribution architecture for multiple systems.

In 1997, Kal founded AANetcom – first company to design and commercialize multiple channel CMOS Serdes. AANetcom was acquired by PMC-Sierra in March, 2000.

In 2002, Kal founded Lightwire – with the goal of solving high speed optical interconnects, using CMOS Photonics. Lightwire was acquired by Cisco in March, 2012.

Kal has been an investor and on the board of multiple technology start-up companies – OptronX, Photoris, Smartbridges, Vidci, Nistica to name a few.

Kal received Ph.D. in Physics from Columbia University in 1985 & Masters in Physics from IIT, Kanpur, India in 1976.