The University of Michigan Department of Materials Science & Engineering
is proud to present

"Materials Design and Discovery"

with

Susan Sinnott

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A driving force for research is the discovery and design of new materials to improve existing technologies or enable new applications. Material modeling methods are now widely applied in pursuit of this objective. This presentation will review the evolution of some common material modeling methods and their integration with cutting-edge experimental techniques. Illustrative applications will be discussed within the context of layered or two-dimensional materials and porous aromatic framework materials. The presentation will conclude with a discussion of the future outlook of materials modeling within the context of material design and discovery.

LAWRENCE H. VAN VLACK LECTURESHIP
in
MATERIALS SCIENCE & ENGINEERING

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Susan Sinnott

Department Head and Professor, Materials Science and Engineering and Chemistry

Pennsylvania State University

Susan Sinnott received her B.S. in chemistry from UT-Austin and her Ph.D. in physical chemistry from Iowa State University. In 2015 Susan joined The Pennsylvania State University as Professor and Department Head of Materials Science and Engineering. Her scholarly work is focused on computational materials science, with an emphasis on the development and utilization of atomic-scale methods to investigate the structure-property relationships of material systems, especially those that contain heterogeneous interfaces, surfaces, or defects. Dr. Sinnott is the author of 290+ technical publications, including 270+ refereed journal publications and is a Fellow of the Materials Research Society, American Physical Society, American Ceramic Society, American Vacuum Society, and of the American Association for the Advancement of Science. She received the Penn State Faculty Scholar Metal in Physical Sciences in 2022, is a past President of the American Vacuum Society, and is the Editor-in-Chief of Computational Materials Science.MSA, RMS and AVS.

Lawrence H. Van Vlack

Founder of first U.S. graduate program in materials engineering

Author of 12 materials science & engineering textbooks

Lawrence and Frances Van Vlack and their children, Laura and Bruce, came to Ann Arbor in 1953 when Larry began a long and distinguished academic career with the U-M College of Engineering.

Before joining the U-M faculty ranks, Van Vlack earned a B.S.E. in Ceramic Engineering in 1942 at Iowa State University and a Ph.D. in Geology in 1950 at the University of Chicago. He was employed by the U.S. Steel Corporation from 1942-1953 as a ceramist, petrographer and later as a process metallurgist.

At Michigan Engineering, he served as associate professor, professor, and chairman of the Department of Chemical and Metallurgical Engineering (1967-1970), and was instrumental in establishing what would eventually become the Department of Materials Science and Engineering. Prior to that, he oversaw the accreditation of the oldest existing undergraduate curriculum in materials engineering, as well as the establishment of the first U.S. graduate program in materials engineering.

Van Vlack authored 12 books, including the iconic textbook *Elements of Materials Science and Engineering*, which, through its more than 25 foreign editions and translations, has introduced millions of students worldwide to the discipline of materials science and engineering. Van Vlack's professional honors include the ASM International Gold Medal (1984), ASM A.E. White Distinguished Teaching Award (1985), U-M College of Engineering Distinguished Faculty Award (1981), Tau Beta Pi R.C. Porter Award (1988), and the Iowa State University PACE Award (1993).

Van Vlack retired from U-M as Professor Emeritus of Materials Engineering in 1988. He and his family endowed the L.H. and F.E. Van Vlack Professorship in Materials Science & Engineering in 1997 and the Lawrence H. Van Vlack Lectureship in 2001.

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