

## Mechanical Engineering Seminar Series

April 28th, 2026, 11:00AM

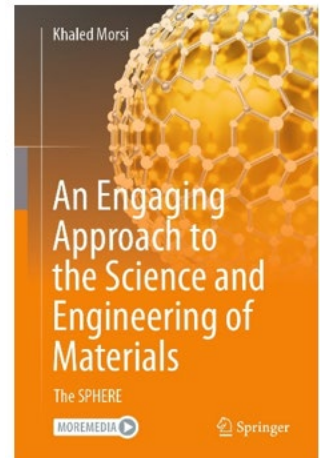
Dean's Conference Room, E-203E

### **Title: A Novel Approach to Teaching Materials Science and Engineering**

**Dr. Khaled Morsi**  
**San Diego State University**

**Abstract:** The presentation discusses Dr. Morsi's new book, on Materials Science and Engineering, which signifies a novel shift in Materials education, emphasizing engagement. The book provides students with the essentials needed for a semester-long, introductory course in materials science presented in a novel way. It is designed to introduce students to the fundamentals of materials science and engineering, as well as current topics of high technological importance, in an easy-to-understand and engaging manner. An Engaging Approach to the Science and Engineering of Materials: The SPHERE, differs from conventional textbooks in several ways:

- It incorporates a devoted chapter on nanomaterials, a current area of major technological importance;
- It introduces materials science and engineering in a novel, immersive, and engaging manner involving a journey of discovery. In essence, it is a traditional textbook that is packaged within a *novel-like* storyline of discovery. Instructors can easily teach out of the traditional textbook;
- Throughout its pages, it provides a recurring dialogue between the student and the professor on all topics to answer many common questions and misconceptions that students tend to have;
- It also provides historical and ethical insights into materials throughout its pages.



**Bio:** Dr. Khaled Morsi is a Professor of Mechanical Engineering at the Department of Mechanical Engineering, San Diego State University, US. He earned his D.Phil. in 1996 from the Department of Materials, University of Oxford, UK, after which he spent three years as postdoctoral research associate at the Department of Materials, Imperial College, UK. He joined SDSU as an Associate Professor in 2003 after joining the Department of Mechanical and Aerospace Engineering, University of Missouri, as an Assistant Professor in 1999. He has taught various topics, including Materials Science and Engineering, Nanomaterials, Powder metallurgy, Materials, Design and Manufacturing, Advanced Materials Processing, Thermodynamics and Heat Transfer. Dr. Morsi has received multiple awards for his teaching and mentorship of students. He strongly believes that research and teaching are two sides of the same coin. As such, he has advised/advising over 70 Ph.D., MS students, and 100 undergraduate students in materials research. His research focuses on the processing and properties of metals, intermetallics, nanomaterials, and their composites. Dr. Morsi has published extensively in the field and is among the top 1 % most cited scientists in Materials according to the Stanford/Elsevier top 2% Scientists in Materials. He has served as Associate Editor for the ASME Journal-Engineering Materials and Technology (JEMT) and is on the editorial board of other materials journals.