UNIVERSITY OF CALIFORNIA, IRVINE

THE DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING

Is Proud to Host a Seminar by:

KEVIN ANDERSON,
SENIOR TECHNICAL FELLOW
Mercury Marine Division
For Brunswick Corporation

Thursday, May 25, 2023
2:00-3:20 PM
Location:
McDonnell Douglas Engineering Auditorium

What To Expect As A Materials Engineer In Industry

Abstract: There are numerous career pathways for materials engineers. This presentation will highlight many of the ways materials engineers contribute to a successful industrial company that manufactures real-world products. The speaker will discuss topics such as the value of education in industry, how companies organize into different functions (e.g., R&D, Manufacturing, Procurement, Quality, Marketing, Sales) and the interactions a materials engineer has with each of these functions throughout the "supply chain". Throughout this discussion, the speaker will give tips on how to best communicate with people in these distinct organizations.
Materials engineers are typically thought of as the people that design new materials and take them all the way from invention, to production, to their application in the end product. However, materials engineers, compared to the 11 other branches of engineering, are also highly regarded for their ability to solve problems. At some point in your career in industry, you will likely be assigned to determining why something failed in testing, the plant, or the field. You may also be called upon to determine why a manufacturing process is having issues with "productivity" or "quality". The speaker will give several examples of recent failures that he has solved or is presently "working on". Throughout the talk, the speaker will pass around real-world materials samples to facilitate understanding of the diversity of materials, the processes that make them, and the role they play in real-world products.
Following the talk there will be a short slide on career suggestions for materials engineers in industry and time for questions. Note: After the talk, there will be no tests, quizzes, or long equations to derive from first principles – just sit back and relax.

Bio: Dr. Kevin Anderson is the Senior Technical Fellow for Brunswick Corporation. He was previously the leader of aircraft materials and physical metallurgy at Reynolds Aluminum Research. He is a member of The U.S. National Academy of Engineering (NAE) for his work on sustainable aluminum alloy design. Dr. Anderson is an inventor of high damage tolerant diecasting alloys that are made from 100% recycled aluminum which saves 94% of the energy, and generates 25 times less CO_2, compared to alloys which are made from primary aluminum. These alloys are registered with the Aluminum Association. Dr. Anderson has taught aluminum metallurgy on an international level since 1999, has over 30 U.S. patents, is a fellow of ASM, the chairperson of the peer committee of NAE for materials, and is a member of TMS, the U.S. National Materials and Manufacturing Board, the Aluminum Association Technical Committee on Product Standards and Subcommittee on Alloy and Temper Registration. Dr. Anderson been the past chairperson of both the Advanced Casting Research Consortium and the Materials Innovation Committee of TMS.