

Dr. Daniel P. Dennies, FASM President-Elect (2026-2027)



**Dr. Daniel P. Dennies, FASM
Principal and CEO
DMS, Inc.
Foothill Ranch, CA**

Dr. Daniel P. Dennies was privileged to have contributed to most of the iconic aerospace projects between 1980 and 2010, including the Space Shuttle Main Engine, the Space Shuttle, the National Launch System, the National Aerospace Plane, Delta and Titan rockets, the Constellation program, and the International Space Station. His experience also includes commercial aircraft, military aircraft, and numerous proprietary programs.

As a consultant, Dennies has supported various successful legal cases and industrial projects in construction, plumbing, food processing, land-based turbines, biomedical devices, fasteners, additive manufacturing, and power generation/energy.

Dennies is a licensed metallurgical professional engineer (P.E.) in the state of California. He has 47 years of experience working in various raw material, forging, aerospace, and aircraft-related industries with the last 16 years as a consultant. His industry roles have included working as a technical specialist supporting design, manufacturing and research, technical manager, and program manager.

His academic credentials include a B.S. in metallurgical engineering from the California State Polytechnic University at San Luis Obispo, an M.S. in materials engineering from the University of Southern California, an MBA from Pepperdine University, and a Ph.D. in materials science from the University of California at Davis.

Dennies' passion is for failure analysis, in which he is an internationally recognized expert. He finished a long career with Boeing as a Technical Fellow in failure analysis and metallurgy supporting programs across nearly every Boeing facility in the U.S.

As an active member of ASM for 49 years, he served on the ASM Board of Trustees (2006-2009) and was an ASM Materials Education Foundation trustee (2004-2006). Dennies has participated in a leadership role in more than 50 of the Foundation's Materials Camps including the first Eisenman Materials Camp in 2000.

Dennies has also been an instructor and developer of ASM courses for over 25 years, generating over \$2M in revenue for the Society. He is an active contributor to ASM's IMAT and AeroMat events and organized the first Failure Analysis Society Summit on Fatigue and Fracture.

Dennies has been a member of three of ASM's affiliate societies for decades: the International Metallographic Society (IMS), the Failure Analysis Society (FAS), and the Heat Treat Society (HTS). He is a past president of both IMS and FAS, and was a handbook editor and author to the ASM Handbooks on Failure Analysis Volume 11 and 11A.

At the local level, Dennies has served on the LA Chapter executive committee for over 35 years and organized the LA Chapter Materials Camp for Teachers for 13 years.

Dennies has received numerous technical and volunteer awards including the William Hunt Eisenman Award (2024), George A. Roberts Award (2011), Allan Ray Putnam Service Award (2004), ASM Fellow (2002), and ASM Instructor of Merit Award (2002). He is also a recipient of the NASA Silver Snoopy Award for his contributions to the International Space Station.

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Abstract

The Critical Aspect of Understanding Material Behavior in Failure Analysis

Failure analysis requires intelligence, imagination and creativity. Just as important is the knowledge of the first principles of materials science, which are absolute. This presentation will discuss various aspects of design, material selection and manufacturing processes such as heat treating. The presentation will also cover various aspects of failure analysis in which critical thinking is required.

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Abstract

Using Fracture Mechanics in Failure Analysis, Proceedings, FAS Summit on Failure Analysis and Prevention: Fatigue and Fracture

Hardware subject to cyclic loading is usually designed using one of two methods, the classical SN curve or fracture mechanics. Due to preexisting flaws created during fabrication many SN curve designs will fail early because they become a fracture mechanics problem. The use of fracture mechanics can validate early failure.

The failure of a large steel column that was subjected to cyclic loading over many years will be presented as an example. Fracture mechanics was employed and then compared to the fractographic features noted on the fracture surface.

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Abstract

The Moves We Make: Career Transitions for an Engineer

As engineers we leave college and enter the professional world. We continue to develop and hone our technical skills. At the same time, engineers begin to develop other engineering skills and soft skills required in a professional environment. Some engineers also develop what I call "revolutionary" skills. With the development of these skills opportunities arise for career advancement or transition. The question becomes, "do I make this transition." This presentation shall discuss the career development and transitions of the speaker as well as the paths not taken.