Spring 2026 Colloquium
Materials Department

Jonathan W. Arenberg

Northrop Grumman

Friday, May 1, 2026

11:00 am | ESB 1001

My Engineering Journey: From Lasers to the Event Horizon, Other Worlds and the Edge of Time

This talk will cover a curated set of engineering anecdotes from my career. These examples will come from the flashlamp pumped lasers of the 1980's, the Chandra X-ray Observatory, the James Webb Space telescope and future missions. I will use these stories to illustrate the fundamental importance of developing a deep understanding of how a system works. This talk will concentrate on the central role that materials properties in quantifying and therefore understanding a system's behavior. Finally, we will discuss the importance of understanding how a system will be built, manufactured, assembled and verified to a viable integrated design.

Bio

Jonathan Arenberg the Chief Mission Architect for Science and Robotic Exploration at Northrop Grumman. His work experience includes optical, space and laser systems, astronomical programs such as the Chandra X-ray Observatory, James Webb Space Telescope and the Starshade concept in development for the direct imaging of extra-solar planets, which he co-invented. His current assignment includes technology and architecture for the Habitable Worlds Observatory and other missions in development. Dr. Arenberg holds a BS in physics and an MS and PhD in engineering, all from the University of California, Los Angeles. He is widely published and holds 15 European and U.S. Patents. Dr. Arenberg is an SPIE Fellow and an Associate Fellow of the AIAA.

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Hosted by Daniel Oropeza.