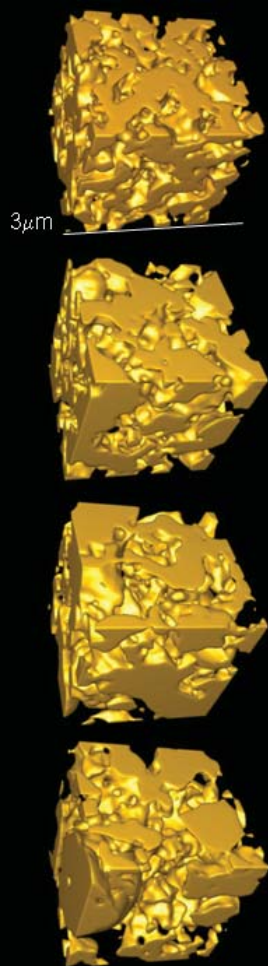


# David C. Dunand

## “Imaging Nanoporous Gold in 2 and 3 Dimensions”

Nanoporous gold, with large specific area and applications for catalysts, sensors, electrodes, and biomedical implants, can be created by a simple dealloying method, where silver from a silver-gold alloy is leached out in an acid solution. The resulting nanoporous gold consists of a network of struts, with a few nanometers in radius. This talk reports on recent synchrotron x-ray imaging, performed at the Advanced Photon Source (APS) in collaboration with APS scientists, using a transmission x-ray microscope with ~30-nm resolution, allowing three-dimensional tomographic reconstructions. The nanoporous gold architecture is studied as a function of time, during both dealloying in acid and coarsening at elevated temperature.

**David C. Dunand** is the James and Margie Krebs Professor of Materials Science and Engineering at Northwestern University and the co-director of the Initiative for Sustainability and Energy at Northwestern. His research focuses on the processing, structure, and properties of light-weight metallic alloys, composites, and foams. These new materials have uses spanning from energy-efficient transportation and power generation to biomedical implants. He has published more than 190 journal articles and holds 8 patents. Prior to joining Northwestern University in 1997, he was Assistant and then Associate Professor at the Massachusetts Institute of Technology, from which he also holds a Ph.D. degree. He is a Fellow of ASM-International (formerly the American Society for Metals), and received the 2009 Distinguished Structural Materials Scientist/Engineer Award from The Materials Society.



Wednesday, December 9, 2009

3:00 p.m.

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