

MIT researcher to deliver McMahon Lecture at Alfred University

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Harry Tuller

Dr. Harry L. Tuller, professor of ceramics and electronic materials in the Department of Materials Science and Engineering, and head of the Crystal Physics and Electroceramics Laboratory at the Massachusetts Institute of Technology, Cambridge, MA, will deliver the annual John F. McMahon Memorial Lecture at the Kazuo Inamori School of Engineering at Alfred University. His talk, entitled "Electroceramics: Technology for the Future," will be held at 11:20 a.m. Thursday, Oct. 22, in Holmes Auditorium, Harder Hall on the Alfred University campus. Each year, the Kazuo Inamori School of Engineering invites a distinguished ceramic scientist or engineer to deliver the lecture and receive the award, created in memory of McMahon, who was dean of New York State College of Ceramics at Alfred University and affiliated with the University for 68 years as a student, researcher, professor, division head, dean, curator and dean emeritus. McMahon, who delivered the first lecture in the series in 1980, focused national and international attention on Alfred's programs in ceramic engineering, ceramic science, and glass science engineering. "The past 50 years have witnessed enormous advances in technology, most dramatically in information technology impacting communications, computation and automation," according to Tuller. "Future developments in this field will depend, in large part, on the ability to integrate highly functional and versatile materials, providing improved performance in information collection and display, signal processing, data storage, and power delivery. Clean renewable energy sources, means for storing them, and sensor technologies capable of detecting and monitoring a wide range of analytes must be developed to insure a sustainable environment." In his presentation, Tuller will examine what makes electroceramics particularly attractive and/or essential for insuring rapid progress in all of these areas, focusing on their high figures of merit in information and energy transduction and in their thermal, mechanical, and chemical stability. Examples are provided to illustrate where electroceramics are likely to play a particularly strategic role in the future. Tuller received B.S. and M.S. degrees in electrical engineering and a doctoral degree in solid state science and engineering from Columbia University, NY. He served as postdoctoral research associate in physics at Technion, Israel 1974-75 and then joined the MIT faculty. He was promoted to full professor in 1986. His research focuses on sensors, fuel cells; solar energy, electroceramic thin films; microphotonics; organic transistors and MEMS devices. He has published over 335 articles, co-edited 14 books and awarded 22 patents. He is editor-in-chief of the *Journal of Electroceramics* and series editor of *Electronic Materials: Science and Technology* published by Springer. His honors include: elected fellow of the American Ceramic Society (ACERS) (1984); recipient of Fulbright (1989-1990) and von Humboldt (Germany) Awards (1997-2002); docteur honoris causa, University Provence, Marseilles (2004); ACERS F.H. Norton Award (2005); elected to World Academy of Ceramics (2006); ACERS Edward Orton Jr. award (2007); The Joseph Meyerhoff Visiting Professor, Weizmann Institute of Science (2008); Honorable Guest Professor (HGP) of Shizuoka University, Japan (2009); and technics doctor honoris causa, University of Oulu, Finland (2009). Tuller is co-founder of Boston MicroSystems, a pioneer in silicon carbide-based MEMS technology and devices.