

Battery Division Technology Award



KHALIL AMINE is a Senior Scientist and the Manager of the Advanced Battery Technology group at Argonne National Laboratory. He is responsible for directing the research and development of advanced materials and battery systems for HEV, PHEV, EV, satellite, military, and medical applications. His main interest lies on the development of advanced cathodes, anodes, polymers, electrolytes, electrolyte

additives, and redox shuttles for use in lithium batteries for automotive applications. Dr. Amine currently serves as an Advisor to the U.S. National Research Council on battery related technologies.

Dr. Amine is the founder and the lead organizer of the International Conference on Advanced Lithium Batteries for Automotive Applications. Among his many awards, Dr. Amine is a 2003 recipient of Scientific American's Top 50 Worldwide Research Leader Award, he is a 2010 recipient of the International Battery Association award, and a 2009 recipient of the U.S. Federal Laboratory Award for Excellence in Technology Transfer. He is also a three-time recipient of the R&D 100 Award. He holds or has filed over 130 patents, patent applications, and inventions and has over 200 publications. According to Science Watch, Dr. Amine was the most cited scientist in the field of battery technology from 1998-2008 (<http://sciencewatch.com/ana/fea/08novdecFea/>).

Corrosion Division H. H. Uhlig Award



GERALD S. FRANKEL is the DNV Chair, Professor of Materials Science and Engineering, and Director of the Fontana Corrosion Center at the Ohio State University. He earned the ScB degree in materials science engineering from Brown University and the ScD degree in materials science and engineering from MIT. Prior to joining OSU, he was a post-doctoral researcher at the Swiss Federal Technical

Institute in Zurich and then a Research Staff Member at the IBM Watson Research Center in Yorktown Heights, NY.

Dr. Frankel's primary research interests are in the passivation and localized corrosion of metals and alloys, corrosion inhibition, and protective coatings. He is past chair of the ECS Corrosion Division, past chair of the Research Committee of NACE, and a member of the editorial board of the journals *Corrosion*, *Materials and Corrosion*, and *Corrosion Reviews*.

Dr. Frankel is a fellow of ECS, NACE International, and ASM International. He has received the OSU Distinguished Scholar Award, the Alexander von Humboldt Foundation Research Award for Senior U.S. Scientists, the 2007 T. P. Hoar Prize from the UK Institute of Corrosion, the Uhlig Award from NACE, and the Harrison Faculty Award from the OSU College of Engineering. He was on sabbatical at the Max Planck Institute for Iron Research in Dusseldorf in 2005 and a visiting professor at the University of Paris in 2008. In 2009 he was named adjunct professor, Pohang Institute of Science and Technology, Graduate Institute of Ferrous Technology, Pohang, Korea.

Electrodeposition Division Research Award



TAKAYUKI HOMMA is Professor of Applied Chemistry and Associate Dean of the Faculty of Science and Engineering at Waseda University, Tokyo, Japan. He received his BE, ME, and PhD degrees in applied physical chemistry from Waseda University in 1987, 1989, and 1992, respectively. He has been a member of the faculty of that university since 1991. From 1997 to 1998, he was a Visiting

Associate Professor at Stanford University. He is an active member of ECS (currently serving as an Associate Editor of *Journal of The Electrochemical Society*), the International Society of Electrochemistry (Chair-Elect of Division 5: Electrochemical Process Engineering and Technology), The Electrochemical Society of Japan (a member of the executive board), the Surface Finishing Society of Japan (a councilor), and the Japan Institute of Electronics Packaging (a member of the executive board).

Prof. Homma's current research interests include creating thin films and nanostructured surfaces with novel electronic/magnetic properties by utilizing electrochemical approaches, investigating their deposition processes and reaction mechanisms, performing *ab initio* molecular orbital (MO) and density functional theory (DFT) studies of those processes, developing new methods for evaluating structural and functional properties of nanostructured surfaces, and applying such surfaces to the development of devices and systems such as sensing devices, electrochemical micro reactors, and ultra high-density data storage systems. In addition, Prof. Homma conducts research to obtain atomistic and electrochemical understanding of the surface chemistry of silicon under device processing conditions. He has published 142 original papers, thirty-five review papers, and fifteen book chapters.

High Temperature Materials Division Outstanding Achievement Award



HARRY L. TULLER is a member of the faculty of the Department of Materials Science and Engineering at MIT, where he serves as Professor of Ceramics and Electronic Materials and Director of the Crystal Physics and Electroceramics Laboratory. He obtained his BS and MS in electrical engineering and his EngScD in solid state science and engineering at Columbia University School of Engineering. His research

has emphasized the modeling, processing, characterization, and optimization of energy related devices (sensors, batteries, fuel cells, solar/photolysis cells); and the integration of sensor, actuator, and photonic materials into microelectromechanical (MEMS) systems. This work has been extensively published in the form of 335 articles, twelve co-edited books, and 22 patents.

Prof. Tuller has received many honors including Docteur Honoris Causa Univ. Oulu, Finland (2009) and Université Aix-Marseille (2004); Fellow of American Ceramic Society; Fulbright-Awardee/Visiting Professor Univ. Paris; von Humboldt Fellow (Germany); and member of World Academy of Ceramics. Prof. Tuller is Editor-in-Chief of the *Journal of Electroceramics* and co-founder of Boston MicroSystems, Inc. with a focus on development of MEMS-based harsh environment compatible devices to detect explosives, toxic chemicals, and automotive emissions.