

About the Author



MANAN PATHAK is currently pursuing his PhD with Professor Venkat Subramanian at the University of Washington, Seattle, where he is a Clean Energy Institute Fellow. He is actively involved with the recently formed University of Washington ECS Student Chapter, and serves as the vice chair for education and outreach. Manan completed his undergraduate degree in Chemical Engineering at IIT Bombay in India. He is also one of the co-founders of a

start-up called Battery Informatics where they are trying to commercialize their research on electrochemical and thermal physics model based Battery Management Systems (BMS). More details about the same can be found on www.batteryinformatics.com.

a rich, strong network of scientists across the globe. With OA, I can publish my work on next-generation electrochemical systems and ANYONE with an internet connection will have access to it—FREE. This is how we have breakthroughs; we can't save the modern world without help of experts across the globe. More eyes, more readers, more communication means we can solve these large-scale issues faster. OA has also given me so much freedom. The knowledge I've gained because of 100% free, accessible articles is invaluable, I wouldn't have made it this far in my PhD otherwise. I look forward to the ever growing bonds within the OA scientific community. I hope that this becomes the standard, and that all articles are free to the public. I think it's critical to show the future generations of scientists that the goal is to solve the challenges our world faces, not to be known as the one person who solved a world-problem. Knowledge is power, but communication is key. Let's spread the knowledge and make the breakthroughs together. #Freethescience

Knowledge is Power, but Communication is Key

by Caitlin Dillard

Knowledge is power. The individual scientist, engineer, or researcher is very knowledgeable, thus has the potential to be very powerful. But what is power without communication? One of the most important lessons I've learned during my education is that being "intelligent" didn't matter if you couldn't communicate intelligently. Communication is key. Communication is as powerful as knowledge itself, but our global scientific community lacks a strong network to disseminate discoveries. The developed world has open access to vital things: water, shelter, healthcare, education. What the scientific world needs is open access to knowledge. To me, OA is the ideal model for the scientific community. OA means the right to knowledge through

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CAITLIN DILLARD is a 5th year PhD candidate at Drexel University in the Chemical and Biological Engineering Department. She graduated with her BS in chemical engineering at Rowan University in 2012 (Cum Laude). During her undergraduate career, she was heavily involved in SWE student chapter (VP), interned with Boeing for 2 summers, and enjoyed a Research Experience for Undergraduates internship at Harvard

University (School of Engineering and Applied Sciences). Her graduate research interests include materials-structure-property correlations in electrospun nanofibers for energy applications. Outside of her graduate research fellowship, she has enjoyed teaching, volunteering, and community outreach programs.

Focus on Focus Issues ...



ECS publishes special focus issues of the *Journal of The Electrochemical Society* (JES) and the *ECS Journal of Solid State Science and Technology* (JSS) that highlight scientific and technological areas of current interest and future promise. These issues are handled by a prestigious group of ECS Technical Editors and guest editors, and all submissions undergo the same rigorous peer review as papers in the regular issues.

Beginning with issue 1 of the 2017 volume of JES and issue 3 of the 2017 volume of JSS, all focus issue papers will be published as Open Access at no cost to the authors. ECS will waive the Article Processing Charge (APC) for all authors of future focus issue papers as part of the Society's ongoing *Free the Science* initiative. (See page 36 in this issue for more information about this important initiative.)

The following focus issues are now open for submissions:

- JES Focus Issue on Progress in Molten Salts and Ionic Liquids
- JES Focus Issue on Mathematical Modeling of Electrochemical Systems at Multiple Scales in Honor of John Newman

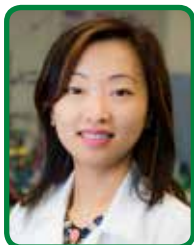
To see the Calls for Papers for these issues and for links to all the JES and JSS focus issues, check the following page: www.electrochem.org/focus.

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ECS Society Awards Winners

Charles W. Tobias Young Investigator Award



Y. SHIRLEY MENG is the Associate Professor of NanoEngineering at the University of California, San Diego. Her cutting-edge work focuses on the direct integration of experimental techniques with first principles computation modeling for developing new intercalation compounds for electrochemical energy storage.

Meng received her PhD in Advanced Materials for Micro & Nano Systems from the Singapore-MIT Alliance in 2005. Since then, she has founded the Sustainable Power and Energy Center, which consists of faculty members from interdisciplinary fields that focus on making breakthroughs in energy generation, storage, and the accompanying integration-management systems.

She is also the principle investigator of the research group called Laboratory for Energy Storage and Conversion (LESC). The more recent programs include the design, synthesis, processing, and operando characterization of electrode materials in advanced rechargeable batteries; novel intercalation materials for sodium ion batteries; and advanced flow batteries for grids large scale storage. Meng is the author and co-author of more than 100 peer-reviewed journal articles, one book chapter, and two patents.

Edward Goodrich Acheson Award



BARRY MILLER served as President of ECS (1997-1998) and as Editor of the Journal of The Electrochemical Society (1990-1995). He is a graduate of Princeton University (AB, 1955) and MIT (PhD, 1959). Throughout his career, Miller has held positions at Harvard University (1959-1962), AT&T Bell Laboratories (1962-1993), and Case Western University (1993-2000) – where he has held the title of Emeritus Professor since his

retirement in 2000.

Miller has been highly involved with ECS over the years: from his position on the Board of Directors, to leadership within the Physical and Analytical Electrochemistry Division, to co-organizing various Society symposia. Outside of ECS, Miller has served as President of the Society for Electroanalytical Chemistry, Chair of the Gordon Conference on Electrochemistry, Associate Member of the IUPAC Commission of Electrochemistry, and as National Secretary of the International Society of Electrochemistry. Additionally, he has been a member of U.S. Government Panels including the Panel on the U.S. Advanced Battery Consortium of the National Research Council and the Cold Fusion Panel of the Department of Energy.

He has been awarded the David C. Grahame Award from the ECS PAED Division (1991), Fellow of the Electrochemical Society (1992), Charles N. Reilley Award from the Society of Electroanalytical Chemistry (1994), Honorary Member of the ECS (1999), and the Ernest B. Yeager Award of the Cleveland Section of the ECS (2004).

Honorary Member



DENNIS W. HESS is the Thomas C. DeLoach Jr., Professor of Chemical and Biomolecular Engineering at Georgia Institute of Technology. Over the course of his career, Hess has focused his impactful research on thin films, surfaces, interfaces, and plasma processing.

Previously, Hess was Supervisor of Process Development at Fairchild Semiconductor (1973-1977) where he worked with Bruce Deal. He then joined the University of California, Berkeley in 1977, eventually becoming the Assistant Dean of the College of Chemistry and Vice Chair of the ChE Department. Hess then served as the Chair of the Chemical Engineering Department at Lehigh University before obtaining his current position in 1996.

Hess has served on various editorial boards, including the *ECS Journal of Solid State Science and Technology* (2012-present), *Electrochemical and Solid State Letters* (2004-2012), and *Chemistry Materials* (1988-1996). He was President of ECS from 1996-1997. Hess has been presented with many awards throughout his career, including the ECS Edward Goodrich Acheson and Henry B. Linford Distinguished Teaching Awards and AIChE's Charles M.A. Stine Award. He holds Fellow status in the following professional societies: ACS, AAAS, AIChE, and ECS.

Norman Hackerman Young Author Award



TREVOR M. BRAUN received his PhD in chemical engineering in 2016 from the University of Washington, performing research in the Electrochemical Materials & Interfaces Laboratory under the supervision of Daniel T. Schwartz. Braun's research efforts include both computational and experimental design for local bipolar electrochemistry on conductive substrates without direct electrical connections. While

at the University of Washington, he was awarded a GAANN fellowship from the Department of Education and received a departmental Outstanding Teaching Assistant award voted on by undergraduate students.

Prior to graduate school, Trevor received his BS in chemical engineering at the Colorado School of Mines in 2011, where he was a four-year NCAA DII collegiate soccer athlete. Trevor was awarded a National Research Council Research Associateship Program Postdoctoral Fellowship in 2016 to continue research in the field of electrodeposition under the supervision of Tom Moffat at the National Institute for Standards and Technology, where he currently works.

His broader research interests include bipolar electrochemistry for indirect deposition of materials, scanning probe electrochemical methods, characterization of electrodeposited thin films, and electrochemical additive manufacturing.