



The following are biographical sketches and candidacy statements of the nominated candidates for the annual election of officers for ECS. Ballots (and instructions for voting either online or by mail) will be sent in January 2016 to all members of the Society. The office not affected by this election is that of the Treasurer.

## Candidate for President



**KRISHNAN RAJESHWAR** is a Distinguished University Professor at the University of Texas at Arlington. He is also the founding director of the Center for Renewable Energy Science & Technology (CREST) on campus. He is currently the Senior Vice President

of The Electrochemical Society and has served as an elected officer for the last two years. Dr. Rajeshwar has served as Editor of *Interface*, the Society's authoritative yet accessible quarterly publication for those in the field of solid-state and electrochemical science and technology. Currently, he serves on the editorial boards of several electrochemical journals.

After post-doctoral training at Colorado State University, he joined UT Arlington in 1983. His research interests span a wide spectrum and include photoelectrochemistry; solar energy conversion; renewable energy; materials chemistry; semiconductor electrochemistry; and environmental chemistry. Dr. Rajeshwar is a Fellow of The Electrochemical Society and received the Energy Technology Division Research Award in 2009. He has authored monographs and edited books, special issues of journals, and conference proceedings on energy conversion. He is the author of over 350 refereed and well-cited publications. ■

## Candidates for Vice-President



**CHRISTINA BOCK** is a senior research officer at the National Research Council of Canada. She received a doctoral degree from the University of Calgary, Canada in 1997. Afterward, she joined the National Research Council of

Canada as an Assistant Research Officer. During her career she has worked on many aspects of electrocatalysis, including the oxidation of organics for waste water treatment, and electrocatalysts for direct methanol and proton exchange membrane fuel cells, as well as H<sub>2</sub> and O<sub>2</sub> evolution catalysts in alkaline media and is currently involved in a research project on organic super-capacitors. She has carried out classic research projects and also conducted many projects in collaboration with numerous international laboratories and industry like the Forschungszentrum Juelich, AFCC, Ballard, and Hydrogenics. She has co-supervised PhD students jointly with the University of Ottawa. She has published over 60 research articles (including invited contributions and review papers), five book chapters and one U.S. and Canadian patent, and has presented numerous presentations and lectures nationally and internationally. She served on many committees for the evaluation of National Laboratories as well as the funding of new University Programs outside of Canada and served as an external expert for numerous PhD and Master students' thesis examinations.

Dr. Bock has been an ECS member for more than twenty-two years. She has served on numerous committees including Ways and Means, Technical Affairs, Education, and served as chair of the Canada section. She served on the ECS Board of Directors as chair of Council of Sections, chair of the Sponsorship Subcommittee, and chair of New Technology Subcommittee. She also served as Treasurer of the Society. She has presented many papers at ECS meetings, published in ECS journals, organized symposia, and chaired sessions. She also initiated and co-organized the first ECS E2S electrochemical summit in Boston in 2011.

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**THOMAS P. MOFFAT** is with the Functional Nano-structured Materials group in the Material Measurement Laboratory at NIST. He began his research career as an undergraduate student working part-time in the laboratory of Barry Lichter and

William Flanagan at Vanderbilt University. After receiving his BE in 1982 and MSc in 1984, he joined Ron Latanision's group in the H. H. Uhlig Laboratory at MIT. In 1989, he received a ScD degree for his work exploring the chemical passivity of chromium-based metallic glasses. This was followed by a two-year stint as a postdoctoral associate in Allen Bard's chemistry laboratory at the University of Texas, Austin studying the corrosion and passivation of metals using scanning tunneling microscopy. Since joining NIST in 1991, Dr. Moffat's efforts have focused on using electroanalytical and surface science methods to understand the structure, composition, and electrochemical performance of thin films. Exploration into surfactant mediated electrochemical deposition of microelectronic interconnects and, more recently, electrocatalysts have been of particular interest. For his work on superconformal electrodeposition, he received NIST's Samuel Wesley Stratton Award (2011), named after the first director of the Institute, the Research Award of the ECS Electrodeposition Division (2006) and the U.S. Department of Commerce Gold Medal (2001). To date, he has authored or co-authored more than 150 technical papers, the majority of which are published in the *Journal of The Electrochemical Society* or *Electrochemical and Solid-State Letters*. He was elected a Fellow of the Society in 2009.

Dr. Moffat joined The Electrochemical Society as a student in 1982 and has been an actively engaged member ever since. He has helped co-organize 10 symposia, served as an Associate Editor of the *Journal of The Electrochemical Society* and *Electrochemical and Solid-State Letters* (1997-2001), and served on the Executive Committee of the Electrodeposition Division (1993-1998), as well as a number of other committees. Dr. Moffat is also an active member of the International Society of Electrochemistry having served on the Executive Committee of the Electrochemical Materials Science Division (2007-2012),

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## Candidates for Secretary



**JAMES M. FENTON** is the director of the University of Central Florida's Florida Solar Energy Center (FSEC), where he leads a staff of more than 100 in the research, development, and education of energy technologies that enhance Florida's

and the U.S.'s economy and environment. Research technologies and education at FSEC include: high-performance homes; photovoltaic (PV) manufacturing; large-scale, hot-humid climate, PV testing; "train-the-trainer" education and soft-costs reduction for solar installations; electric vehicles, and smart-grid education for university power electrical engineering students. Work derived from these programs led to the five articles published in the spring 2015 issue of *Interface*, "PV, EV and Your Home," that examine EVs, energy efficient homes, photovoltaics, the smart grid, and EV charging. Prof. Fenton is an Electrochemical Society Fellow and received the Research Award of The Electrochemical Society's Energy Technology Division in May 2014 for his work on Proton Exchange Membrane Fuel Cells. Prior to joining FSEC in 2005, he spent 20 years as a chemical engineering professor at the University of Connecticut. He received his PhD in chemical engineering from the University of Illinois in 1984, and his BS from UCLA in 1979.

Prof. Fenton has more than 30 years of experience in electrochemical engineering and education topics, which include: redox flow batteries, PEM fuel cells, fuel processing, high temperature corrosion, oxidizing agent generation, and metal recycling. He has been a member of ECS for 30 years, attending his first meeting as a student in 1982. He has served the ECS in many capacities, including all offices of the Boston Section (now the New England Section) and all offices of the Industrial Electrolysis and Electrochemical Engineering Division. He has served as a member on many Society committees: Council of Local Sections, Individual Membership, New Technology, Publication, Education, Technical Affairs, and Ways and Means. Prof. Fenton has also chaired the ECS student poster sessions for four years, and he has chaired the Polymer Electrolyte Fuel Cells Student Poster Session Competition since its inception in 2011.

### Candidacy Statement

It is an honor to be a candidate for the Secretary of The Electrochemical Society, and if elected, I look forward to the opportunity to serve our "member-driven" society of world-class researchers from industry, academia, and government. Since 1902, ECS has carried out national, and then international, meetings and published journals that have provided for the exchange of electrochemical and solid-state science research. Today, the meetings and increased number of high-quality journal publications are still the primary way many of us communicate with each other. As the technologies founded on our research have improved, so have the ways that we communicate our research through social networking sites, open access journal articles, videos, webinars, and podcasts. It is through all these communication platforms—old, new, and future—that the members of ECS will inspire our future members (college students, both at the undergraduate and graduate level, and pre-college students) to choose careers in electrochemical and solid-state research so they may develop the technologies that tackle important problems related to energy, health, education, the environment, national security, and global development. To promote awareness of technical developments in electrochemistry and solid-state science at the pre-college level, I will encourage Divisions and local Sections, Student Chapters and corporate affiliate members to work with regional education systems to provide educational tools for K-12 teachers. It is through this type of service that knowledge of electrochemistry and solid-state science research carried out by members of ECS can be disseminated to the general public to: cure health issues such as brain disorders, lower the cost of solar energy, develop energy storage, develop electric and autonomous vehicles, provide clean drinking water, and prevent the effects of climate change.

As Secretary of ECS, my commitment is to cooperatively work with each of you, the officers, and our outstanding professional staff to define and implement new visions and new initiatives so as to enable our members and future members to solve the global grand challenges. ■



**DOUGLAS C. HANSEN** is currently a Senior Research Scientist with the University of Dayton Research Institute and holds joint faculty appointments as Professor in the Graduate Materials Engineering and Bioengineering Programs within the

University of Dayton, School of Engineering. He received a BS in Marine Biology from Stockton State College (1982) and an MS (1990) and PhD (1993) in Marine Biology/Biochemistry from the University of Delaware. He completed an NRC post-doctoral fellowship at the U.S. Naval Research Laboratory (NRL) before joining the research staff there as a Research Chemist in the Materials Division in 1995. He joined Princeton Applied Research in 1997 and was in charge of Technical Product Development and Training. Dr. Hansen pioneered the first use of the scanning Kelvin probe as a tool for screening of DNA biomolecules with internal mismatches in an array format.

At the University of Dayton Research Institute, Dr. Hansen established a Materials Degradation & Electrochemical Engineering Research Group. His research group continues to focus on natural biopolymers as corrosion inhibitors; development of non-destructive evaluation of metal surfaces using scanning probe techniques; accelerated atmospheric corrosion chemistry and electrochemistry; biomaterials and biomimetic processes for novel composite materials and applications; and biomedical corrosion. Dr. Hansen is the author of more than 60 publications and 1 patent, has given more than 30 presentations and invited lectures, and has organized numerous technical symposia for the Corrosion Division over the years. He has edited several *ECS Transactions* volumes and Proceedings Volumes for those symposia. Dr. Hansen has served as Treasurer of the National Capital Section (1996-1997), within the Corrosion Division Executive Committee for ten years, Chair of the Sponsorship Committee, and member of Finance, Development, Nominating, Education, Honors and Awards Committees, and Interdisciplinary Science and Technology Subcommittee, as well as a member of the Board of Directors. Dr. Hansen is an established journal peer reviewer and member of the American Chemical Society, NACE International, and ASTM.

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**CHRISTINA BOCK**

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## Statement of Candidacy

This prestigious society was formed by its members and has continued to grow through the significant contributions made by them. Over its more than 100 years of existence, ECS has had many successes. The Society has seen an increase in its attendance at bi-annual meetings and is now starting to hold regular joint meetings with sister societies. New and Society-wide symposia have become regular occurrences over the past years, which allows ECS to expand its outreach and attractiveness. It will be essential to continue to add new symposia of various sizes to ensure member interest and to strengthen outreach and growth.

ECS has many publications that traditionally stand out for their quality. In recent years, scientific publishing has faced many challenges. ECS has successfully removed page charges and tackled the concept of open access publishing, while retaining a timely, and most importantly, a rigorous review process. The ECS open-access publishing initiative is a significant undertaking, which has been strongly supported by its members and will lead to broad attention of open access articles published in the journals. Many challenges remain to reach the ultimate goal of full open access publishing, but ECS as a not-for-profit society, is well positioned to achieve this.

It is essential that ECS continues its engagement with younger and new members of the Society. ECS is well aware of this and its structure allows for the active involvement for new members and encourages the involvement of younger members through grants, fellowships, and awards. It is essential to actively pursue these involvements and encourage new and young members into not only attending the meetings, but to also actively publish in the journals and be involved in the shaping of ECS meetings and its future.

A strength of ECS also lies in the fact that members from industry, government, and academia shape the Society. I consider it as a must to encourage strong involvement with members from industry and have industry members actively involved in shaping symposia and the content of the journals including *Interface*. In science, quality and originality are features of utmost importance; relevance is also an important feature, which can be greatly assisted through interactions with industry.

I am honoured to have been nominated to run as a Vice-Presidential candidate of this prestigious society. I believe that I have a thorough understanding of the structure and functioning of the Society, having been involved actively with ECS for many years and having served on numerous committees as a member and a chair, as well as Treasurer of the Society. If elected I will work to advance ECS in order to allow this society to continue to achieve its mission: "The Dissemination of Solid State Science and Electrochemical Knowledge." ■

**THOMAS P. MOFFAT**

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co-organized 4 symposia and participated on various award committees. In 2008, he chaired the Gordon Research Conference on Electrodeposition.

## Statement of Candidacy

The last few years have seen remarkable changes at ECS motivated by the ever-accelerating information revolution and global competition. The Society has responded by experimenting (something we all love to do!), and exciting developments are evident on numerous fronts. Disruptive challenges to our traditional publication model have been confronted with a bold initiative in open access publishing brought to fruition by recent ECS leadership. This forward looking enterprise was recently evaluated by a "blue ribbon panel" and its progress will be watched closely by many both within and beyond the Society. ECS has taken a strong position in the OA movement and we need to give it our full support.

The planning and execution of the biannual meetings continue to evolve with an on-going effort to sort out what works well and what we can do better. Beyond this tradition, the Society has just expanded its portfolio by initiating a series of focused biennial joint meetings, built upon synergies between electrochemical energy conversion and storage materials, as captured by the event held in Glasgow, Scotland this past summer. At the same time the Society will continue to constructively interact with other organizations with which we have common interests and objectives. Certainly, one of the most exciting ECS initiatives is the effort to develop innovative forums and funding mechanisms that bring together non-traditional partners to facilitate the development of solutions to important societal problems that are central to securing our future. We must continue to draw young scientists into our important enterprise, both building upon our outreach to institutions of higher learning, expanding support for participation in international meetings, and developing new funding opportunities for electrochemical research.

The rapid pace of many of these developments requires timely and yet measured actions. Modern communications have provided much needed flexibility and we need to ensure that the Society has agile procedures and tools in place to respond most effectively to the challenges ahead.

I have been very fortunate in my own interactions with ECS. From my student years forward, I've had the great pleasure of learning from remarkable individuals while attending meetings rich with insight into emerging opportunities in electrochemistry, all complemented by the collegial can-do volunteer spirit that characterizes the ECS landscape.

It is an honor and privilege to be considered for this position in our Society and if elected I will be delighted to serve in this capacity. ■

**DOUGLAS C. HANSEN**

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## Statement of Candidacy

It is a great honor to be nominated for the position of Secretary of ECS. Having been a member of ECS for 22 years (since 1993) and involved at the local Section, Division, and Society level, I have experienced the benefits of interacting with researchers from all fields of electrochemistry. These benefits include professional growth and networking with international researchers, establishment of collaborative interdisciplinary research efforts, increased knowledge of the advancing research that is presented both by graduate students at poster sessions and scientists at technical symposia. It never ceases to amaze me how broad the technical reach is of the Society and how supportive it is of all of its members. The technical and professional aspects of the Society are at the heart of its continued growth and success. Indeed, The Electrochemical Society is the premier professional society for those involved in electrochemical science, engineering, and technology.

According to the Society's Bylaws, "The Secretary shall perform the duties specifically designated in these Bylaws or by the Board of Directors, and will be primarily responsible for the governance structure of ECS including the volunteer leadership hierarchy and Bylaws, which is the primary governance document, and for the compilation and preservation of the critical records of ECS." This is a responsibility that, if elected, I will embrace and commit to execute at the highest level with the elected officers and Board of Directors, ensuring the continued success and growth of the Society. Having worked in government, industrial, and academic research, I have experienced, and therefore am well aware of, how important the Society is to each member and their respective technical and professional needs. This knowledge is critical to the "operation of the Society so that it can meet its stated mission of advancing the theory and practice of electrochemical and solid-state science and technology while encouraging research, discussion, critical assessment, and dissemination of knowledge in these fields."

The strength of the Society relies on the membership that voluntarily participates in the many leadership and organizational positions, from symposium organizers to Committees to the Board of Directors, as well as the members who present their leading edge research to their peers at our meetings. It is this connection, between the governance and organization of the Society and its members, that can enhance the interaction and the interdisciplinary exchange of research knowledge that is so important to our members and the outside community. It is this strength that I would help to guide and grow so that our Society and our membership can continue to be the leading professional organization that it is. ■