



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 2008 to all Voting Members of the Society. The office not affected by this election is that of the Treasurer.

Candidate for President



DENIS N. (NOEL) BUCKLEY is Chair of Physics at the University of Limerick, Ireland. He received his BSc (1971) and PhD (1975) from the National University of Ireland. His thesis work in physical electro-

chemistry under Professor Declan Burke resulted in the first observation of electrochromism in anodic iridium oxide films. He subsequently pursued postdoctoral research at the University of Pennsylvania where he worked under the direction of Professor Wayne Worrell on the high temperature sulphidation/oxidation of nickel.

In 1979, he joined Bell Laboratories (Murray Hill, NJ) where he remained for seventeen years. Initially, he worked on the development of rechargeable lithium batteries and subsequently on the epitaxial crystal growth and characterization of compound semiconductor films and their application to high performance optoelectronic devices. This period saw an explosive growth in optical fiber communications and Dr. Buckley's work played a key role in the development of the underlying technology, particularly in high performance photodetectors. He also did considerable work on the development of safer precursors for III-V epitaxy. He held teaching positions as an adjunct professor at the Cooper Union (New York City) and the College of St. Elizabeth (Morristown, NJ). In 1996, Professor Buckley assumed his present position at the University of Limerick to pursue teaching and research. Currently, his research focuses on the electrical and optical properties of compound semiconductors, particularly indium phosphide and gallium nitride, for photonic and electronic devices, processes at the semiconductor/electrolyte interface, and the electrodeposition and nanostructural characterization of copper metallization.

Professor Buckley has been a member of ECS since 1979 and was elected a Fellow in 1997. He is currently Senior Vice-President. He has served as an Associate Editor of the *Journal of The Electrochemical Society* (1995-2004) and

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Candidates for Vice-President



PETER S. FEDKIW is a professor of chemical engineering at North Carolina State University, Raleigh, NC. He received his BChE degree in 1974 from the University of Delaware and completed in 1978 his PhD

studies at the University of California, Berkeley. He joined the NCSU faculty in 1979 as an assistant professor and was promoted to associate and full professor in 1983 and 1989, respectively. He has been Associate Department Head of Chemical Engineering since 2000. Dr. Fedkiw was named a Guest Professor in the College of Materials Science and Chemical Engineering, Zhejiang University, China, in 2007. In 1995 Dr. Fedkiw became a part-time Inter-governmental Personnel Act (IPA) employee of the Chemical Sciences Division, U.S. Army Research Office (ARO), in Research Triangle Park, NC. He assists the ARO Advanced Energy Conversion program manager in formulating and managing basic research programs in the science and technology that underpins portable power systems. As an NCSU faculty member, he has advised 13 postdoctoral research associates and directed the theses of 39 graduate students, the majority of which were PhD candidates.

Dr. Fedkiw's research expertise is electrochemical engineering, and in his 28-year career at NCSU he has published in a variety of areas including theoretical studies of current-distribution problems and methods to analyze such; electrochemical-based mass-transfer separation processes; optimal control of electrochemical reactors; polymer electrolyte membrane reactors for electrosyntheses as well as fuel cells; electrodeposition of nanocrystalline metals and nanocrystalline composites; and, composite electrolytes for rechargeable lithium batteries, among others. Dr. Fedkiw has published 94 peer-reviewed papers, and he has 10 patents issued or pending. His students and he have presented 122 papers, posters, and talks, the majority of which have been at ECS meetings. He has been a consultant to a variety of companies,

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ESTHER S. TAKEUCHI holds the rank of professor at the State University of New York at Buffalo in the Departments of Chemical and Biological Engineering and Electrical Engineering. Her interests focus on materials, electro-

chemical power sources, and medical devices. She recently joined the University after a 22-year career at Greatbatch, Inc., where she was involved in power source research and development. She was a key contributor to the lithium/SVO battery system that is used still to power the vast majority of life-saving implantable cardiac defibrillators. She received her bachelor's degree from the University of Pennsylvania with a double major in chemistry and history. In 1981, she completed her PhD at The Ohio State University in organic chemistry. She subsequently conducted postdoctoral work at the University of North Carolina and at the State University of New York at Buffalo in electrochemistry. She is author of over 60 publications, editor or author of 5 books or book chapters, has delivered over 100 presentations, and is inventor on over 130 patents. She is active in several professional organizations including the American Chemical Society (ACS), the American Association for Medical Instrumentation (AAMI), and most notably ECS where she has been a member since 1984. Her activities with ECS have included Secretary, Treasurer, and then Chair of the Battery Division, and Chair of the Battery Division Research Award Committee. She has organized several symposia and edited their proceedings volumes. In addition, has served on the Technical Affairs, Development, and Ways and Means committees of ECS.

Dr. Takeuchi's work has been honored by several organizations. These include the Jacob F. Schoellkopf Award given by the WNY American Chemical Society, the ECS Battery Division Technology Award (1995) and the Community Advisory Council of the State University of New York at Buffalo for outstanding achievement in science. Dr. Takeuchi was inducted into the WNY Women's Hall of Fame and

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Candidates for Secretary



JOHNA LEDDY is an associate professor of chemistry at the University of Iowa. She received her BA from Rice University in 1978 and her PhD at the University of Texas, Austin in 1984. After a postdoctoral appointment in the Fuel Cell Program at Los Alamos National Laboratories, she joined the faculty of the Graduate Program of City University of New York and Queens College in 1986. In 1991, she moved to the University of Iowa.

Dr. Leddy's research interests range from fundamental electrochemistry through voltammetric methodologies and modeling to the technology of power sources. She has developed methodologies and models for voltammetric characterization of films and composites on electrodes. One major focus is magnetic effects on electron transfer processes. Her group's incorporation of magnetic microparticles into ion exchange polymers such as Nafion® and other viscous matrices has lead to improved PEM fuel cells and higher capacity, rechargeable alkaline batteries. Leddy and her group have generated 17 U.S. patents on power sources and breath sensors and approximately 50 publications. Leddy's students, who have produced ten doctoral dissertations and five masters theses, have assumed positions in large corporations, small start-up companies, academia, and national labs.

As a member of ECS for over 25 years, Leddy has served on various committees including the Publication and Education Committees. She has been appointed to several Society and Division award and nominating subcommittees and the New Technology Subcommittee (1997-2006). Tenure on the Education Committee (1993-2000 and 2006-present), includes two terms as Chair, 1998-2000 and at present. Leddy organized the Society Student Poster Session several times and currently works on a joint task force of ECS and the International Society of Electrochemistry to promote education and understanding of electrochemistry. She initiated the Sunday evening series, "XYZ for the Rest of Us," which is intended to bridge the information gap between the "wet" and "dry" sides; and a new venue, under the auspices of the New Technology Subcommittee, IDEAS—Intriguing Disclosures on Electrochemical Advances Symposium, that will bring novel and new ideas to the Society in a more timely fashion. Dr. Leddy was a Member-at-Large, Secretary-Treasurer, Vice-Chair, and Chair of the Physical and Analytical Electrochemistry Division (1993-2003). Leddy organized 12 symposia on various topics for ECS; edited four symposium volumes; and twice served as a guest editor of *Interface*. Leddy is a member of the International Society of Electrochemistry and the Society for Electroanalytical Chemistry, where she has served as a member of the Board of Directors and has been Treasurer since 2002.

Candidate's Statement

Like electrochemistry, ECS has proven an interesting subject for study. ECS is an organism, a whole of interdependent parts, that integrates technology with the fundamentals of science and engineering. The Society is dynamic but respects its history and experience. Its publications and meetings



GAUTAM PILLAY is Vice-President for Research and a professor of chemical and biological engineering at the South Dakota School of Mines and Technology (SDSM&T). With more than 15 years of academic, technical, and managerial experience, he has organized and directed complex, interdisciplinary research programs with multimillion-dollar budgets to enhance the intellectual and financial capital of a diverse array of institutions.

At SDSM&T, he spearheaded development and execution of the university's research mission, including oversight of all university research centers and institutes, and boosted overall external funding by 45% over three years, from \$11.9M to \$17.2M. He attracted external funding for multimillion-dollar programs by collaborating with peers throughout the country in creation of joint ventures and authoring proposals for government-funded projects. He designed and implemented university policies on research, funding proposals, intellectual property, technology transfer, commercialization, licensing, and regulatory compliance.

Dr. Pillay was previously Executive Director of the Inland Northwest Research Alliance, a non-profit 501(c)3 consortium of eight research universities in five states that co-managed the Department of Energy's Idaho National Laboratory with corporate partners Bechtel, Inc., and BWXT, Inc. He coordinated efforts of university vice-presidents of research, deans of graduate education, public relations officers, and governmental relations officers across the eight institutions. He oversaw the generation of new programs, consortium research policy, proposals, budgets, and financial performance, and he cultivated business opportunities and relationships with members of Congress.

Dr. Pillay also held senior management and research positions at Los Alamos National Laboratory, as Special Assistant to the Deputy Laboratory Director, and at Pacific Northwest National Laboratory, as a senior research engineer. His research areas included: electrochemical waste treatment; transport phenomena in ion-exchange membranes used as fuel-cell separators; development of micro-machined fuel cells; electrochemical destruction of chemical and biological warfare agents; and materials processing technologies for defense applications. He successfully commercialized an electrochemical oxidation process for fuel waste elimination and received the Federal Laboratory Consortium Award for Excellence in Technology Transfer. He has over 45 publications and presentations at technical society symposia.

His ECS service began in 1989 as a student member, when he served as editor of the South Texas Section's newsletter. Since then, he served as Secretary/Treasurer, Vice-Chair, and Chair of the Industrial Electrochemistry and Electrochemical Engineering Division, serving for two years on the ECS Board of Directors, and he continues to serve on the Division's Executive Committee. He was also Vice-Chair and Chair of the New Technology Subcommittee and Chair of the ECS Pacific Northwest Section. He is currently a member of the Education Committee and has served on the Development, Honors and Awards, Technical Affairs, and Long-Range Planning committees. He was a judge for the semiannual

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DENIS N. (NOEL) BUCKLEY

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of *Electrochemical and Solid-State Letters* (1998-2004). He has been a member and chair of many of the Society's committees and he currently chairs the Ways and Means Committee. He is serving his fifth year as a member of the Board of Directors. He has been a member of the Executive Committee of the Electronics and Photonics Division and its Compound Semiconductor Subcommittee for over 17 years and has served as Treasurer (1999-2001), Secretary (2001-2003), and Chair (2003-2005) of the Division. He has co-organized over 20 symposia, particularly in the SOTAPOCS series, and has co-edited sixteen Proceedings Volumes.

PETER S. FEDKIW

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and he sits on a number of government review and advisory panels.

Dr. Fedkiw is a 32-year member of ECS, joining in 1975 as a graduate student. In addition, he is a member of the American Chemical Society, American Institute of Chemical Engineers (AIChE), American Association for the Advancement of Science, Materials Research Society, and Sigma Xi. He was vice-chair and chair for the AIChE annual meetings programming area in electrochemical fundamentals, and he represents the AIChE to the Working Party on Electrochemical Engineering of the European Federation of Chemical Engineers. He has been an active participant in ECS; among symposia that he has chaired, he organized the highly successful General Student Poster Session for three years. He has been a member and/or chair of the following Society committees: Ad Hoc Gift Committee, Contributing Membership, Development, Education, Finance, Financial Policy, Society Meeting, and the New Technology Subcommittee. Within the ECS IE&EE Division, he has been a member of the New Electrochemical Technology Award Committee and the Student Awards Committee. Dr. Fedkiw was Society Treasurer and a member of the Executive Committee from 2002 to 2006.

Candidate's Statement

The Electrochemical Society is the premier organization for the collection and dissemination of knowledge in electrochemical and solid state science and technology. Because of the exemplary leadership of past ECS officers, the unselfish volunteer efforts from our members, and the professional and dedicated headquarters staff, the Society has grown into the world-

class organization that it is today. The 8,000 ECS members encompass approximately 72 countries, and it is our members that are the Society's most valuable asset. It is imperative that Society leadership continues to conduct ECS business with a mindset that serves our members' interests and professional needs. By maintaining excellence in the technical presentations at our meetings and publications in the *Journal*, *Letters*, and *ECS Transactions*, we continue to provide value to our members.

The Society must be a fluid organization, poised to respond to opportunities that benefit our members and support the Society's mission. In this regard, leadership must sustain and support initiatives that expand our international presence. For example, the Cooperation Agreement with the ISE executed in 2007 advances the Society's goal of providing professionally-relevant information to our members. The recent establishment of ECS Sections in India and China, along with our established Japan and Korean Sections, supports the growth of Society membership in this important segment of the world. Growth in student membership and student chapters will be a focus of my efforts as Vice-President and member of the Executive Committee. The students of today are the members of tomorrow and investment now in this human resource will ensure a healthy and vitalized ECS. I will work to grow the number of student chapters both within and outside of North America.

Challenges confront the Society's publications from competition with commercial for-profit publishers. Society leadership must assure the viability and growth of our publications in this competitive environment. I will work with publication editors and staff to define and implement creative approaches to continue ECS publications as the preeminent source of scientific and engineering knowledge in electrochemical and solid-state science and technology without compromise in quality and scholarly content.

Clearly, new Society programs or activities come at a financial cost and some risk; we should not be timid in new undertakings but we must be fiscally prudent. As past ECS Treasurer, I am attuned to these issues, and I will work with headquarters staff, Society officers, and the Board of Directors to assure that our Society remains fiscally sound and that our resources are marshaled wisely for the benefit of our members.

I am honored to be a candidate for Vice-President of our ECS and to be given the opportunity to help lead this venerable organization in its second century of service to the electrochemical and solid-state science and engineering community. I will dedicate myself

to the ECS mission of advancing the theory and practice of electrochemistry and solid-state science and providing world-class forums for the sharing and distribution of knowledge in these areas.

ESTHER S. TAKEUCHI

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she is a Fellow of the American Institute for Medical and Biological Engineering (AIMBE). In 2000, she was selected for the Inventor of the Year Award, Physical Sciences, presented by The Technical Societies Council and the Niagara Frontier Intellectual Property Law Association. In 2003, she was presented the Achievement in Healthcare Award by D'Youville College and received the Woman of Distinction Award presented by the Buffalo Branch of the American Association of University Women. In 2004, Dr. Takeuchi was elected a member of the National Academy of Engineering. She also received the Pioneers of Science Award, presented by Hauptman-Woodward Medical Research Institute. In 2005, she again received the Inventor of the Year Award, Physical Sciences. *USA Today* noted in the December 13, 2005 issue, in an article by Kevin Maney, "You Really Can Find Identities of Top Patent Holders," she (Esther Takeuchi) is indeed the most prolific female inventor. In 2006, the Lincoln Gries Distinguished Alumni Award was presented by Old Trail School, Bath, Ohio, in recognition of outstanding alumni. In 2007, Dr. Takeuchi was recognized by a Lifetime Achievement Award presented by The Technical Societies Council and the Niagara Frontier Intellectual Property Law Association for contributions to advancement of science through intellectual property.

Candidate's Statement

I am honored to be selected as a candidate for Vice-President of The Electrochemical Society. It is an organization that has brought me significant benefit over my 23-year membership and I strongly believe it will continue to do so. My role as a new leader in ECS would be to ensure that it continues to do well what it already does well and to address the challenges that arise in a timely and effective manner. ECS does an outstanding job of bringing together both academic and industrial representatives with broad international participation who are interested in electrochemical science. Both the "wet" and "dry" sides of electrochemistry are represented in the same organization, thus bringing scientific diversity to the membership. The ECS biannual meetings continue to prosper, providing an opportunity to present one's work, discuss technical information, and generate intellectual stimulation for anyone who attends.

As with any organization, it must remain dynamic to be at the forefront and there are several approaches that can be used to make this continue. I would encourage participation by young professionals and students to build the future of ECS. Existing incentive programs can be enhanced by expanding both travel and summer fellowship opportunities for those groups. The transition of ECS to largely electronic publishing format has been very successful. As a next step the Society must make every effort to provide facile access to publications for both authors and readers and that the journals have the national and international impact that is desired. Finally, it is critical to maintain the financial well being of the Society. Fiscally responsible decision making and expanded development efforts will continue to ensure the success of the Society well into the future. ■

JOHNA LEDDY

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serve the membership well. Its principal assets, however, are the staff and members, who volunteer their energy, resources, and fecundity of ideas to promote electrochemical science, engineering, and technology. ECS is a remarkably effective organization. The members come from industry, national labs, and academia; they are researchers and students with deep understanding of fundamentals and technologies. It is at this interface of the fundamental and the applied that ECS can be most effective, where ideas promote better technologies that in turn promote better fundamental science and engineering.

The Society advances as it better promotes the interplay of science and technology. This is accomplished by building yet stronger links between researchers with interests in the fundamental and the applied; by recruiting and retaining a diverse membership; by broadening venues beyond publications and meetings that enhance interactions between researchers in diverse fields; and by promoting electrochemistry outside the organization. It is in the public interest to appreciate how electrochemical science and engineering serves society and its many technologies. Activities that promote the participation of students and young researchers advance the objectives of the Society. Discourse between industrial and academic researchers introduces interesting questions that lead to novel and creative solutions.

It is an honor to be a candidate for Secretary of ECS. As Secretary, I would promote these objectives. I would work with the excellent staff of ECS to broaden the Society's effectiveness for its members and society. And, in the

tradition of ECS, I would continue to be responsive to the needs and ideas of our members. ■

GAUTAM PILLAY

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student poster sessions and a peer reviewer for the *Journal of The Electrochemical Society*. He has organized over 15 symposia for ECS and edited proceedings and *ECS Transactions* volumes for several of these sessions.

Dr. Pillay earned a PhD in chemical engineering from Texas A&M University.

Candidate's Statement

I am greatly honored to be a candidate for ECS Secretary. The Secretary functions as a primary operating officer of the Society, working in close coordination with the Executive Director and headquarters staff and serving as liaison between the staff, the ECS Board of Directors, and the heart of the Society: its members. I will bring my experiences as a former ECS Division chair, ECS Board member, Section chair, and member of numerous committees to this position to serve the Society's diverse body of members. My professional background also provides me with broad relevant experience to serve the Society in this position, since I have directed multidisciplinary teams, managed complex budgets, and led a non-profit research consortium. If elected, I would use what I have learned from these responsibilities to support the highly qualified ECS staff in their daily work with the members and Board, to secure the needed resources for the staff to continue to perform at the highest level of service, and to advocate to the Board the interests and priorities of the membership.

To ensure ECS maintains its outstanding ability to serve its members, we can turn to the 2006 Annual Report, "Expanding Our Reach," to obtain direction. I would work with the Board, ECS staff, and members to: (1.) encourage expansion and availability of the ECS Digital Library; (2.) use all available technology to streamline publication processing time; (3.) secure desirable meeting locations and provide novel content to benefit members from all technical backgrounds; (4.) pursue active collaborations with corporate members to sponsor Society endeavors; (5.) reach out to potential "partner" technical societies, funding agencies, and foundations for co-sponsorship of unique technical symposia; (6.) provide programs for students to respond to their technical interests and to encourage membership and participation in ECS activities; (7.) expand ECS-sponsored outreach functions at semiannual and Section meetings by recruiting

more member and potential-member volunteers; (8.) encourage establishment of additional student chapters and encourage Division and ECS officers to work with Sections on programming and activities for members; and (9.) engage with ECS leadership in continued fundraising actions for awards and fellowships and lay the groundwork for another significant campaign.

I seek your support for my candidacy, but, more importantly, I would greatly appreciate your participation in this election and your continued support of ECS professional activities by your attendance at meetings, your contributions to ECS publications, and your financial assistance to ensure a sustainable future for your Society. ■

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