

# Candidates for Society Office

The following are biographical sketches and candidacy statements of the nominated candidates for the annual election of officers for the Society. Ballots will be mailed, in January 2002, to all Voting Members of the Society. Offices not affected by this election are those of the other Vice-Presidents—Bruno Scrosati and Robin Susko, and of the Secretary—Paul Natishan.

## Candidate for President



**KARL SPEAR** is Professor of Materials Science and Engineering at The Pennsylvania State University (Penn State). He received a BS (mathematics) from Baker University, a PhD

(physical chemistry) from the University of Kansas, and studied 15 months at the University of Münster, Germany on an NSF Graduate Fellowship. He worked at Oak Ridge National Laboratory for three years prior to joining Penn State in 1970. From 1986-91 he was chair of PSU's Ceramic Science and Engineering Program. Sabbaticals were spent at the University of Oxford, AERE Harwell, and the University of Uppsala, Sweden.

Dr. Spear is a Fellow of The Electrochemical Society and the American Ceramic Society. He received the ECS Solid State Science and Technology Award in 1997, and has been a member of the executive committee of the High Temperature Materials Division for fourteen years, serving all of the officer positions. He has co-organized and co-edited the proceedings of a number of Society symposia and proceedings. He has been a member and chair of many of the Society's committees, and has been a member of its Board of Directors for the past six years.

Dr. Spear was a titular member of the International Union of Pure and Applied Chemistry (IUPAC), and served as the chair of its Commission IL.3 on High Temperature Materials and Solid-State Chemistry. He organized and edited the proceedings of the IUPAC-sponsored Ninth International Conference on High Temperature Materials Chemistry in May of 1997. The proceedings were published by the ECS, and the meeting was co-sponsored by the ECS High Temperature Materials Division. He also chaired the Gordon Research Conference on High Temperature Chemistry.

Dr. Spear has served on external review committees for Los Alamos National Laboratory, Oak Ridge National Laboratory, the National Science Foundation, the Swedish National Research Council, and has served on numerous other boards/councils of professional organizations. He has been a

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## Candidates for Vice-President



**JAMES FENTON** is Professor of Chemical Engineering and Associate Director of the Environmental Research Institute, which he co-founded, at the University of Connecticut. He also founded the

Connecticut Institute of Fuel Cell Innovations and is part owner of a University of Connecticut spin-off company, Ionomem Corp., which will manufacture high temperature membrane electrode assemblies for fuel cells. He has a BS degree (1979) in Chemical Engineering from the University of California, Los Angeles and MS and PhD degrees in Chemical Engineering from the University of Illinois, Champaign-Urbana. Upon completion of his PhD degree in 1984 he was hired as an Assistant Professor at the University of Connecticut. He has spent sabbaticals at IBM, working on electrochemical deposition and micromachining and at the University of California, San Diego, where he developed an "Industrial Ecology Course." He is grateful to his academic advisors, Douglas Bennion and Richard Alkire, for their guidance and support and to Robert Karpiuk for engaging him in service to the ECS.

Professor Fenton has been a member of ECS for 20 years. He has served the Society in many capacities: chairman, vice-chairman, secretary, and treasurer of the Boston Section (now the New England Section); chairman, vice-chairman, treasurer-secretary of the Industrial Electrolysis and Electrochemical Engineering Division; as a member of the Council of Local Sections; as a member of the Individual Membership Committee; as a member of the New Technology Subcommittee; as a member of the Publication Committee; as a member of the Education Committee; as a member of the Technical Affairs Committee; and as Divisional advisor to the Energy Technology Division. He has organized and chaired over 20 Electrochemical Society symposia and co-edited 8 conference proceedings. He currently chairs the student poster sessions at the Electrochemical Society Meetings.

His major research interests are in fuel cells, electrochemical engineering, environmental engineering and pollution prevention. He is most proud of his role in the pro-

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**WILLIAM H. "BILL" SMYRL** is Professor of Chemical Engineering and Materials Science at the University of Minnesota, a position he has held since 1983. He was Director of the Corrosion Center

from 1987-1995. He received his BS from Texas Tech University and his PhD from the University of California, Berkeley, and both degrees were in chemistry. He has taught at the University of California, San Francisco, in the School of Pharmacy, then went to the Boeing Scientific Research Laboratory as a Member of the Technical Staff, and then joined the Sandia National Laboratory in Albuquerque, NM in 1971 as a Member of the Technical Staff. He has enjoyed participating in the Society while in each of these positions.

Professor Smyrl has been a member of The Electrochemical Society for over 30 years, and is a Fellow of the Society. He received the H. H. Uhlig Award of the Corrosion Division in 1995. During his membership in ECS, he has served on all positions of the executive board of the Corrosion Division, and was Chairman of the Division from 1990-1992. He has served as a member for several committees of this Division, including the H. H. Uhlig Award Committee and the Morris Cohen Graduate Student Award. He has served on the Technical Affairs Committee of the Society and as Advisor to two Divisions, as a member of the Palladium Award Committee, as a member of the Education Committee, and as a Divisional Editor for the *Journal*. He has been an organizer and co-organizer of meetings symposia, and an editor of proceedings volumes for these symposia. He has been active in the Twin Cities Section where he has collaborated in teaching several short courses that were very successful. The most recent Section short course was in Applied Electrochemistry, taught jointly with Professor David Shores (University of Minnesota) and Professor Henry White (University of Utah). He is also a member of the American Chemical Society, American Institute of Chemical Engineers, and Sigma Xi. He is currently North American Editor for *Corrosion Science*.

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## Candidates for Treasurer



PETER FEDKIW is Professor of Chemical Engineering at North Carolina State University, Raleigh, NC. He received his BChE degree in 1974 from the University of Delaware and com-

pleted his PhD studies at the University of California, Berkeley, in 1978. He joined the NCSU faculty as an Assistant Professor immediately thereafter and was promoted to Associate and Full Professor in 1983 and 1989, respectively. He was appointed Associate Department Head of Chemical Engineering in 2000. In 1995, Dr. Fedkiw became a part-time Intergovernmental Personnel Act (IPA) employee of the Chemical Sciences Division, U.S. Army Research Office (ARO) in Research Triangle Park, NC. At ARO he formulates and manages basic research programs in the science and technology underpinning soldier-portable advanced-energy-conversion systems. As an NCSU faculty member, he has directed the theses of 35 graduate students, the majority of which were PhD candidates.

Dr. Fedkiw's research expertise is electrochemical engineering, and in his 23 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 73 peer-reviewed papers, and he has seven patents issued or pending. His students and he have presented nearly 100 papers at conferences, the majority of which have been ECS meetings. He has been a consultant to a variety of companies, and he sits on a number of government review and advisory panels.

Dr. Fedkiw has been a member of ECS since joining in 1975 as a student member. In addition to the Society, 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-chairman and chairman 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 other symposia that he has chaired, he organized the highly successful General Student Poster Session at

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PETR VANÝSEK received his undergraduate and graduate degrees in Prague, from the Charles University and the Czechoslovak Academy of Sciences, respectively. After graduation, he made the

USA his home, first as a postdoctoral fellow at the University of North Carolina at Chapel Hill, then as a faculty at large at the University of New Hampshire, and then as a tenured faculty at Northern Illinois University. During his recent sabbatical year, he has made the transition from the academic environment to industrial, currently employed as a principal scientist at ACLARA BioSciences, Inc. in Mountain View, CA.

Vanysek's academic interests were initially focused on the electrochemical behavior of the interface between two immiscible phases. His research focused both on the analytical applications of such interfaces as well as on achieving a deeper understanding of their properties. He also developed particular expertise in analytical instrumentation and in electrochemical impedance techniques. His research spans both sides of the electrochemical interests, the "wet" in electroanalysis and the "dry" in materials science. These skills led him later to the parallel investigation of corrosion inhibition and oxide formation on noble and valve metals. He also studied various sensors and their applications. At Aclara BioSciences, Vanysek is applying his analytical chemistry skills to the development of new detection schemes, data interpretation, and instrumentation.

Vanysek has to his credit about 70 journal publications, several edited and co-edited books, and a monograph on the electrochemistry of liquid/liquid interfaces. His interests in electrochemistry are reflected by his activities in The Electrochemical Society. Locally, he has served for many years on the executive committee of the Chicago Section. He has been also the Vice-Chairman and then the Chairman of the Sensor Division. His interests in fundamental science have led to his recent election to the executive committee of the Physical Electrochemistry Division. At the Society level, he is also serving on the Technical Affairs Committee, the New Technology Subcommittee and he is currently the Vice-Chairman of the Council of Sections. A member of the Society since 1986, he has organized or co-organized many symposia, five of which generated successful proceedings volumes. His most recent contribution to Society activities were three articles related to Society history of the Sensor Division, the Chicago Section

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## Spear

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consultant with a number of government laboratories and companies.

Dr. Spear has authored or co-authored more than 175 publications and three patents, primarily on experimental and theoretical research concerned with the synthesis and chemical behavior of materials at high temperatures. Major research topics have included nuclear fuel materials, metal boride systems, theory and practice of crystal growth and CVD, vapor deposition of diamond, oxidation and corrosion of advanced ceramics, interface reactions in composites, and the thermodynamic modeling of oxide phase diagrams and complex glass systems. A common thread in his research has been the application of high temperature chemistry principles, phase equilibria, and thermodynamics to predict and understand materials behavior. Partial equilibrium concepts used in the thermochemical modeling of dynamically reacting CVD systems were later applied to a wide variety of interface reactions such as those occurring in composite systems, in oxidation and corrosion processes, and in modeling the behavior of glass processing and systems. ■

## Fenton

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professional development of his students. Together they have authored more than 70 scientific publications, four book chapters, three patents and his students have given more than 50 seminars at national/international meetings.

### Candidacy Statement

*To be a candidate for the Vice-President of The Electrochemical Society is a tremendous honor. I have great pride in our "member driven" Society and will provide leadership to support the Society's growth and outreach, both internationally and regionally. To maintain its vitality, the society must continue to recruit new members at semi-annual meetings and in regional sections, develop new international sections and student chapters, increase public awareness of the society, and strengthen the corporate affiliates program.*

*The members are the backbone of the society. For this reason, recruiting new members and retaining current members are key to the Society's future. Today's college students, both at the undergraduate and graduate level, will make up a large fraction of our future members. We must develop long-term initiatives to attract young talent to our profession and to our society. One way to do this is to have student competitions where the regional section winner receives an expenses paid trip to the semi-annual meeting's competition. Membership can also be increased via the international technical community by developing additional international sections and by organizing or co-sponsoring worldwide topical symposia. Membership*

*services will be enhanced by continued use of satisfaction surveys and by improved access to technical and professional development information.*

*To promote awareness of technical developments in electrochemistry and solid-state science at the pre-college level, I will encourage 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, solid-state science and The Electrochemical Society can be disseminated to the general public.*

*My ability to execute significant initiatives is proven. As we approach our centennial in 2002, my commitment is to cooperatively work with each of you, the other officers, and our outstanding professional staff to define and implement new visions. ■*

## Smyrl

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Professor Smyrl was Chairman of the Panel on Electrochemical Corrosion, convened by the National Materials Advisory Board in 1987, which issued a report entitled *Agenda for Advancing Electrochemical Corrosion Science and Technology*. He was Chairman of the Gordon Conference on Aqueous Corrosion in 1996. He was host and principal organizer for the 2<sup>nd</sup> International Conference on Conducting Polymers, held in Minneapolis in August 1999.

Professor Smyrl has over 180 publications in journals and books. His research interests have been dominated by electrochemical engineering, corrosion science, microscopic imaging of reactive surfaces, and mathematical modeling. Recent interests have also included intercalation into oxide materials, high rate intercalation of lithium ions into porous aerogels and nanocomposites, and in polymer electrolyte fuel cells.

### Candidacy Statement

*It has been a pleasure to have served in the Society as outlined above, and it is an honor to be a candidate for Vice-President. I consider ECS to be the preeminent society for solid-state and materials science, and for electrochemical science and technology. Its excellent reputation has been earned by developing outstanding meetings and by publishing a valuable Journal with high standards and scientific merit. The Journal is now complemented by Letters for short communications, and by the Interface members magazine. The success of the new publications has been the result of excellent planning and by an outstanding editorial staff. It would be a pleasure to help to build for the future with other officers and fellow members.*

*Our Society has the well deserved reputation for excellence as a "members friendly" organization for the more than 7,000 members world wide. As members, we have an equal opportunity to participate in the affairs of the Society and to shape its growth through technical meetings and organizational affairs. We have benefited in the past from the hard*

*work of dedicated officers, organizers, and editors, and together we can build on that collaboration by recognizing opportunities for growth in new and relevant technical areas and then integrating them into Society symposia and publications. This will depend on the vision of all of our academic, government, and industrial members and organizations. We can thereby advance the goals of the Society, which are to serve its members and to promote progress in solid-state and electrochemical science.*

*Our Society has become an international body with members from more than 70 countries. Both our meetings and publications reflect the strong participation of this broad membership. We should actively encourage this global growth by making the organization more accessible and member friendly at all levels. The posting of Society publications on the Web has been successful, and it serves international members best of all because of immediate access to the latest scientific studies. Further development of electronic communications will allow wider participation even at great distances. Other activities such as web-based short courses may also serve our members and others who wish to expand their background and professional training. Because I have found educational initiatives such as Section Short Courses to be successful, I would encourage expansion of these efforts. We should continue to expand our international meetings at convenient and attractive locations, and to encourage joint sponsorship with sister organizations in addition to those in Japan and Europe.*

*We are approaching the Centennial Celebration of the Society's founding. This event will recognize the evolution of the organization and its traditions of growth by member-led initiatives. I intend to encourage continued growth and service, and if elected I would expand my efforts to develop wider collaboration among my fellow members and supporters of the Society. ■*

## Fedkiw

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Society meetings from spring 1999 to fall 2001. He has been a member of the New Technology Subcommittee, Contributing Membership Committee, and the New Electrochemical Technology Award Committee of the IEEE Division. Dr. Fedkiw is currently serving his third appointment on the Education Committee, of which he is presently chair.

### Candidate Statement

*Thanks to the exemplary leadership of past ECS officers, the unselfish volunteer efforts from our members, and the professional and dedicated Pennington staff, the Society has grown into the world-class organization that it is today. The nearly 8,000 ECS members encompass approximately 75 countries, and it is these 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 profession-*

al needs. By maintaining a high standard of excellence in the technical presentations at our meetings and publications in the *Journal and Letters*, we continue to provide value to our membership. In recent history, the Society has ventured into new undertakings (e.g., international meetings, a members magazine, and electronic publications) that have proven successful; we must continue to support these initiatives and be alert to occasions for their enhancement.

The Society must continue to be a sufficiently fluid organization, poised to respond to opportunities that benefit our members and support the Society's objective to be the premiere organization for authoritative dissemination of information in electrochemical and solid-state science. Opportunities exist, for example, for the Society to undertake a more significant role in a public advisory capacity. Our members possess expertise and knowledge in areas that are strategically important to our nation and the world economy, and, in general, we are a relatively untapped resource of advice for our elected officials. In a similar regard, the Society's first-rate website could be enhanced through additional content that provides peer-reviewed educational materials for K-12, as well as resource material for the industrial, government, and university research communities. Clearly, new Society programs or activities come at a financial cost and some risk; we should not be timid in engaging in new undertakings but we must be fiscally pru-

dent. As Treasurer, I would work with Society officers, the Finance and Financial Policy Advisory Committees, and the Pennington staff to assure that our Society remains fiscally sound and that our resources are marshaled for the benefit of our members.

I am honored to be a candidate for Treasurer of your ECS and to be given the opportunity to help lead this venerable organization into its second century of service to the electrochemical and solid-state science and engineering community. ■

### Vanysek

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and the Council of Sections, prepared for the Centennial celebration in Philadelphia.

### Candidacy Statement

Being a candidate for the treasurer of the Society is a distinct honor; it is also a demonstration of trust in my capabilities by the nominating committee. The treasurer's primary duty is to make recommendations leading to the safeguarding or improvement of the finances of the Society. To do so, I would look to the past and retain conservatism in protecting the assets of the Society. As well, I would look to the future to predict how anticipated economic tribulations would affect the stability of the Society. I would also make appropriate recommendations to embrace new

areas of science and technology, to maintain the dynamics and interest in the life of the Society.

The assets of the Society go beyond the treasury. The most important is the membership itself, i.e., its vast technical and scientific knowledge and its willingness to contribute time and resources to maintain high quality publications and high quality symposia. I have been with the Society long enough to understand the importance of tradition and value in preserving past inventions, ideas, and initiatives. I would push for maintaining historical data on symposia and their attendance. As well, I would take guidance from the successes associated with the publication of proceedings volumes, the recruitment of student and new members, and the retention of existing members. All of this would be done in the interest of financial stability and growth of the Society. I would recommend making efforts to attract people from the fields of solid-state and electrochemical science not traditionally hosted in our journals and meetings. At the same time, the Society must remain attractive for our present membership.

With my scientific interests both in the "wet" and "dry" sides of the Society and with my experience in both the academic and industrial environment, I believe that I have the needed background and skills for this important task. If elected, I will use these to do the most responsible and innovative work possible as the treasurer of the Society. ■