



## Electrochemical Energy

The Society's 3<sup>rd</sup> Electrochemical Energy Summit (E2S) will be held in San Francisco, CA on October 27 & 28. The focus of this Summit will be on the Energy–Water Nexus, with a special symposium focused on the increasing global

demands for both energy and water, which pose formidable challenges to these interconnected infrastructure systems.<sup>1</sup> It will be a very exciting and important event with several excellent invited speakers talking about policy and funding in these areas including Congressman Jerry McNerney, 9<sup>th</sup> District of California. He is the only renewable energy expert in Congress and sits on the House Committee on Energy & Commerce. There will also be a showcase of electrochemical energy activities from research groups in industry, academia, and government laboratories, and a student poster session. The complete schedule can be found on pages 34-35.

The 1<sup>st</sup> Electrochemical Energy Summit was held at the Boston Meeting in October 2011, and it was conceived by the Society leadership to promote the important scientific developments in electrochemical energy. This has always been an important part of the Society's technical interest areas and activities, but the world's energy problems have placed a higher level of importance on this discipline and the role the Society plays in its advancement. The Summits were created because ECS leadership felt that it was time to take stock in our role of this increasingly-relevant science and how we should contribute to, and advocate for, the development of new technologies that help the sustainability of our planet.

The worldwide relevance of our science is having a major impact on ECS and the future of electrochemistry. There has never been a more significant period of development for electrochemical science and technology, and the science has never had a greater role in "making the world a better place." Electrochemistry has been an important science since Alessandro Volta conducted his frog experiments in 1799 on the shore of Lake Como, Italy.<sup>2</sup> Since then, advances in electrochemical and solid state science have dramatically influenced technological advancements in new materials, communications, transportation, and microelectronics. Now, advancements at the energy–water nexus have pushed electrochemistry to the forefront because they represent solutions for mankind's most difficult environmental and societal challenges.

One of the greatest scientists of the modern era recognized the importance of electrochemistry in the early part of the 20<sup>th</sup> century. In conversation with Henry Ford in 1931, Thomas Edison<sup>3</sup> said, "We are like tenant farmers chopping down the fence around our house for fuel when we should be using

Nature's inexhaustible sources of energy—sun, wind and tide. ... I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait until oil and coal run out before we tackle that." We are not in imminent danger of running out of oil and coal at this time, but these energy sources have created immeasurable environmental and socio-economic problems, which can be resolved with electrochemical processes that capture the power of the inexhaustible sources of energy that Edison described.

Electrochemical processes can create clean energy and water, which are probably the two greatest challenges of the new millennium and also the most perplexing challenges because of their interconnectivity. Clean water is needed for energy production even for renewable energy resources, and energy is in turn needed to produce and transport clean water. It is a true conundrum that requires our best and brightest to find answers and a sustainable balance. Recognizing these needs, ECS has been very progressive in restructuring our meetings, publications, and membership programs to advance these increasingly-important areas of science, and which we

hope will stimulate ideas and scientific exchange to assist scientists and engineers to find solutions for our future. By taking a leadership role, ECS and its members truly have an opportunity to play a major role in bettering the human condition.

The Electrochemical Society



electrochemical energy  
summit 2013

Roque J. Calvo  
ECS Executive Director

1. 3<sup>rd</sup> Electrochemical Energy Summit—The Energy–Water Nexus, organizers: Christina Bock (National Research Council - Canada), Jim Burgess (Case Western Reserve Univ.), Michael Carter (KWJ Engineering, Inc.), Robert Glass (Lawrence Livermore National Lab), Carl Hensman (Bill & Melinda Gates Foundation), Bor Yann Liaw (Hawaii Natural Energy Inst.), Shelley Minteer (Univ. of Utah), Paul Natishan (U.S. Naval Research Lab), Brian Stoner (RTI International), and Eric Wachsman (Univ. of Maryland Energy Research Center).
2. Lake Como is the location of the 17<sup>th</sup> International Meeting on Lithium Batteries (June 10-14, 2014).
3. Thomas Edison joined ECS in 1903 and enjoyed membership for 28 years. A true technological genius, he held patents for more than 1,000 inventions, including the incandescent electric lamp, the phonograph, and the motion picture projector.