

Guest editor's note

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I am immensely fortunate to dedicate this special volume of the “Journal of Solid State Electrochemistry” as a Guest Editor to the occasion of 85th birthday (January 5, 2008) celebration of Professor John O’M. Bockris. I would like to express my heartiest gratitude to Professor Dr. Scholz for inviting me to this propitious task. I am also fortunate to have the opportunity to outline in this note the outstanding contributions that Prof. Bockris made in the last 60 years, which opened up unknown scientific frontiers in the vast fields of Electrochemistry. In fact, Prof. Bockris’s contributions encompassed all facets of Electrochemistry including theory of electric double layer, theory of adsorption on electrode surfaces, theory of electron and proton transfer reactions, hydrogen and oxygen evolution reactions, quantum electrochemistry, photoelectrochemistry, organic electrochemistry, bioelectrochemistry, environmental electrochemis-

try, nuclear electrochemistry, corrosion, passivity, hydrogen embrittlement, ellipsometry, electrocrystallization, dendrite formation, fuel cell, batteries, structure of molten salts, electrocatalysis, and photoelectrocatalysis.

In the present day context of world’s energy scenario, Professor Bockris’ fundamental and visionary contributions in the fields of energy, solar energy utilization, hydrogen economy, and environment will become a reality in the very near future if the world’s advanced nations’ governments realize now that modern civilization will be on the verge of collapse unless they invest heavily for the development of environmentally clean alternative sources of energy to facilitate hydrogen-based economy and society.

I met Prof. Bockris in Adelaide as a graduate student at Flinders University of South Australia in the year 1972. It still resonates in my mind how uniquely he trained his graduate students to learn how to think, explore scientific unknowns with great fascination, and develop extreme tenacity in solving scientific problems with great interest. In Adelaide, I was fortunate to meet professor Bockris’s very successful former students like Prof. Mathews of Flinders university, Prof. Conway (who used to come to visit him for scientific discussions all the way from the University of Ottawa, Canada and stay in his beautiful house on top of a wooded mountain in Adelaide). I found Prof. Bockris highly interested in other cultures and he had students and co-workers from all over the world such as India, China, Bangladesh, Egypt, USA, England, Ireland, Canada, Germany, Switzerland, Japan, Australia, New Zealand, Iran, and Turkey. On a personal level, I found Prof. Bockris extremely helpful, friendly, kind, and hospitable, and his wife Lily Bockris was a great person with a kind, caring, and hospitable heart as well.

Prof. Bockris introduced me to Prof. Wolfgang Schmickler of the University of Bonn to work with him in my post

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doctoral years. Prof. Schmickler has high regards for Prof. Bockris and contributed an article in this special issue. He is a well-known electrochemical theorist, an originator of quantum mechanical theory of double layer in terms of electron spillover model and resonance transitions of electrons across oxide covered electrodes. In the University of Bonn, I also met Prof. Vielsch, a well-known electrochemist who expressed high regards for Prof. Bockris' contributions. In Bonn, I also met well-known electrochemical theorists, Professor Dogonadze and Professor Kuznetsov, of the then USSR who were highly appreciative of Prof. Bockris' immense scientific contributions in the field of electrochemistry. I highly appreciate important contributions from Professor Tributsch and Professor Vijn in this volume who are admirers of Professor Bockris' for his excellent contributions to the nascent field of Electrochemistry. My deep appreciation goes to Professor Bockris' former student Professor Roger Parsons, Dr. McBreen, Professor Uosaki, Dr. Kim, Dr. Sidik, colleague Dr. Appleby and coworkers, Dr. Dhar, Dr. Murphy, and Dr. Revie for their valuable contributions in this special volume.

I am in contact with Professor Bockris for many years doing scientific collaborations as a graduate student in Adelaide as well as post-doc and colleague at Texas A&M University. I was fortunate to be able to co-author with him many seminal scientific papers in the field of photo-electrochemistry and electron transfer reaction in condensed media, two books (one on "Quantum Electrochemistry" and another on "Surface Electrochemistry"), and co-editor of one volume on "Comprehensive Treatise of Electrochemistry, Vol. 7." A book entitled "Modern Electrochemistry, Vol. 1 and 2" by Bockris and Reddy is considered as the Bible of electrochemistry.

I and Editor-in-Chief Professor Dr. Scholz of "Journal of Solid State Electrochemistry" are highly impressed to have so many excellent scientific articles from Prof. Bockris' former students, co-workers, and admirers. I highly appreciate each contributor's deep eagerness to honor Prof. Bockris in this auspicious occasion of his 85th birthday. We must realize that to honor Prof. Bockris is not only to honor him but also to honor all great minds like him of the past and future whose contributions will greatly facilitate humanity's life on this planet.

Professor Bockris was born on January 5, 1923 in Johannesburg, South Africa. He received his B.Sc (1943) from Brighton Technical College, Ph.D. (1945) and D.Sc. (1952) degrees in electrochemistry from Imperial College, London. After graduation, Professor Bockris worked as a Lecturer in chemistry in Imperial College London (1945–1953). He moved to USA in 1953 to join the University of Pennsylvania as Professor of Chemistry (1953–1971). Professor Bockris joined Flinders University of South Australia (1971–1978) and came back to USA to join Texas A&M University as a professor and distinguish Professor of Chemistry (1978–1997).

I would like to congratulate Professor J.O'M. Bockris on this occasion of his 85th birthday for his infinite drive and tireless hours to fathom the unknown ocean of scientific knowledge and share them extremely successfully to the world's scientific community, his students, and co-workers from all over the world. The numerous contributions of Professor Bockris (more than 720 scientific papers, 22 books, 300 students and coworkers) will have a far-reaching affect for the benefit of science, society, and humanity at large for years to come.