# **PEOPLE NEWS**



Kapoor Named President of The University of Toledo

Dr. Vik Kapoor has been named the 14th president of The University of Toledo (Toledo, Ohio), and assumed his role this past January. Since arriving at The University, Kapoor is credited with enhancing the status, enrollment, and quality of faculty and program offerings of the College of Engineering, and with being a driving force in attracting research funding to the College and the University.

Prior to his position at The University of Toledo (Ohio), Dr. Kapoor was department head and professor of electrical and computer engineering at the University of Cincinnati. Prior to that, he was a professor of electrical and computer engineering and director of graduate studies at the University of Cincinnati, and a professor of electrical engineering and director of the solidstate circuit laboratory at Case Western Reserve University in Cleveland. Dr. Kapoor earned a bachelor's degree and a master's in electronics from the University of New Delhi. He earned a master's degree and a PhD in solid-state physics from Lehigh University.

Kapoor has been actively involved with the Society, which he joined in 1975. He was instrumental in organizing the first silicon nitride thin insulating films symposium in 1983 and the first dielectric films on compound semiconductors symposia in 1986. He has served as a Divisional Editor, a member of the Technical Affairs Committee, and as a Division Advisor. Among other positions, he has also served as a member-at-large of several Divisions, and currently is a member of the Honors and Awards Committee. Dr. Kapoor received the Thomas D. Callinan Award of the DS&T Division in 1991, and was named a Fellow of the Society in 1993.

# The Kruger Symposium—Not a Passive One in the Bunch!



The ECS Corrosion Division seems to have a knack for giving a good party, and none better since it honored member Jerome Kruger this past fall at the ECS Meeting in Boston. The unofficial photographer of the evening's festivities was Jerry Frankel, who has posted his photo essay at http://kcgl1.eng.ohio-state.edu/ ~frankel/fcc/kruger.html. Shown here is one photo from that suite (seated, left to right): Bill Smyrl, Koji Hashimoto, Bob Frankenthal, The Man Himself, Joe Yahalom, and Bob Baboian; (standing, left to right): Dieter Landolt, Pat Moran, Bob Karpiuk, Martin Kendig, Ed McCafferty, and Barry MacDougall.

In Appreciation of Jerry Kruger On the Occasion of his 70th Birthday Symposium

Jerry Kruger has had a proclivity to study the phenomenon of passivity.

New insights he began to see when he first used ellipsometry,

soon under his careful scrutiny fell pitting, repassivation, and SCC.

Bit by bit he would take down the mystery of how films breakdown,

his research important, his output massive all centered about the thin film passive.

While leading his group at NBS he helped his colleagues to progress,

a trait he carried to academe where he became a mentor supreme.

Those he helped could fill a stadium, the Golden Rule for the Medalist Palladium

But far more important than what he has done is what he is—what kind of person.

We enjoy his gentlemanly way, he makes his points, he has his say, but offers more support than criticism done with a smile and witticism.

So U. R. Evans, Hoar, Pourbaix blazed the trail and led the way

until new generations appeared properly influenced, properly reared,

Uhlig, Cohen, Hackerman among them not a slacker one

Gwathmy, Leidheiser, Okamoto Rosenfeld, Smialowska, and Sato

Frankenthal, Epelboin, and Klaus Vetter and now this list gets even better when we add the name of Jerry Kruger.

Thank you, Jerry, for all you have done in advancing the science of corrosion,

yet more importantly in the end we all thank you for being our friend.

-Ed McCafferty

Not to be caught resting on his laurels, Dr. Kruger entertained a wider audience last November when he was heard on National Public Radio (NPR) talking about corrosion in everyday life. Contacted by Arun Rath, the producer of the "Sounds Like Science" program, Dr. Kruger said, "The next day I was in the NPR studio in Washington. The host, Joe Palca, asked me a few questions like 'What did you have for breakfast?' just to check my voice and we just talked about removing tarnish from silverware. The subject was being covered because of the upcoming Thanksgiving holiday." Dr. Kruger made the subject easy to understand, it's easy to see why his students hold him in such esteem; and it was a pleasure to hear one of ECS's own on a national broadcast.

People News (continued from previous page)



# Baboian Receives National Materials Advancement Award

Robert Baboian received the National Materials Advancement Award from the Federation of Materials Societies last December. The award "recognizes individuals who have demonstrated their outstanding capabilities in advancing the effective and economic use of materials and the multi-disciplinary field of materials science and engineering generally, and who contribute to the application of the materials profession to national problems and policy."

Currently a consultant, Dr. Baboian's career has been dedicated to the research and development of corrosion resistant materials and devices. He donated his services as a corrosion consultant to the National Park Service, from 1983-86, on the Statue of Liberty restoration program.

Dr. Baboian has been a member of ECS since 1965 and received the Society's Vittorio de Nora Award in 1996.

### **Other Member News**

**Stephen H. Jones,** member since 1986, (Electronics), recently became president of Virginia Semiconductor Inc. He has served as a chairman of the ECS National Capital Local Section.

# **JUST PUBLISHED**

# Fundamentals of Electrochemical Deposition

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# In Memoriam



# Marcel Pourbaix (1904-1998)

On September 28, 1998, Marcel Pourbaix passed away peacefully in the presence of his family. His outstanding work in thermodynamics provided one of the main underpinnings of electrochemistry, especially in corrosion science.

Marcel Pourbaix was born in

Russia, where his father, a Belgian engineer, was working at the time. He was an innovator from the very beginning of his career. In his thesis entitled "Thermodynamics of Dilute Aqueous Solutions. Graphical Representation of the Role of pH and Potential," submitted to the Université Libre de Bruxelles, he introduced a graphical representation now known the world over as a "Pourbaix Diagram." Marcel Pourbaix also developed in his early work another innovation, diagrams of chemical and electrochemical equilibria in the presence of a gaseous phase, which were the precursors to such diagrams as "Ellingham Diagrams." In 1996, he completed an atlas of such gaseous Pourbaix diagrams with many modern innovations.

The significance of Marcel Pourbaix's great achievement was pointed out by Ulick R. Evans, widely recognized as the "father of corrosion science," in his foreword to Pourbaix's *Thermodynamics of Dilute Aqueous Solutions:* "During the last decade (the 1940s) Dr. Marcel Pourbaix of Brussels has developed a graphical method, based on generalized thermodynamical equations, for the solution of many different kinds of scientific problems, involving numerous types of heterogeneous or homogeneous reactions and equilibria... Some of these problems have long been treated from the aspect of thermodynamics... The application of thermodynamics to typical corrosion reactions is a much newer development."

Thus, Pourbaix provided the brilliant means to utilize thermodynamics more effectively in corrosion science and electrochemistry in general. This development resulted in four important books that interpret his work: *Thermodynamics of Dilute Aqueous Solutions, Atlas of Electrochemical Equilibria in Aqueous Solutions* (solid-aqueous equilibria); *Lectures on Electrochemical Corrosion* (a teaching text); and, in his last years, *Atlas of Chemical and Electrochemical Equilibria in the Presence of a Gaseous Phase* (solid-gaseous equilibria). His diagrams benefit a broad range of chemical and electrochemical sciences and industries including geochemistry, batteries, electrocatalysis, electrodeposition and electrochemical refining—applications that were covered or mentioned in his first "Atlas."

Marcel Pourbaix decided to make corrosion, rather than batteries, geology or electrodeposition, his life's work. To foster this, he organized CEBELCOR (Belgian Center for Corrosion Study). CEBELCOR then served as the vehicle that enabled him, with the superb help of his colleagues, to make their enormous contribution to the corrosion community. As a good citizen in the corrosion and electrochemical world, Marcel Pourbaix helped found CITCE (now ISE) in 1949, as a means of fostering communication among electrochemists and thermodynamicists. He also contributed his organizational and administrative skills to other important bodies such as IUPAC, the European Federation of Corrosion, the International Corrosion Council and many others. For his many significant contributions Marcel Pourbaix was honored throughout the world, and received virtually all of the important prizes awarded in corrosion and electrochemistry. He made ECS a home and was a member for 50 years. The Society honored him in 1975 with the Olin Palladium Award; and the "Equilibrium Diagrams/Localized Corrosion" proceedings volume (PV # 84-9) was dedicated to him on the occasion of his 80th birthday.

One cannot end a discussion of the imprint Marcel Pourbaix has made by only describing his contributions to science. His human and personal side—for example, Pourbaix the friend—must also be mentioned. On the occasion of the awarding of the prestigious "U. R. Evans Award" to Marcel Pourbaix by the Institution of Corrosion Science and Technology of the U.K., Professor Graham Wood asked him which of all his activities he considered the most important. He answered without hesitation "…friendship and international relations." Marcel Pourbaix promoted friendship on a broad international basis, and everywhere had close friends for whom he did many favors and kindnesses.

Marcel Pourbaix leaves a marvelous family that includes, in his words, "my best friend and my best helper," his wife Marcelle, a lovely woman and a talented artist (sculptor); his three sons, Etienne, an architect, Phillipe, a physician and artist, and Antoine, an internationally renowned corrosionist who became Director of CEBELCOR upon his father's retirement; and many grandchildren and great grandchildren.

This notice was submitted by Jerome Kruger.

### In Memoriam

Harvey F. Haight (1921-1998), member since 1947, Electronics Division.

**Bruce W. Gonser** (1899-1998), member since 1943, Industrial Electrolysis & Electrochemical Engineering.

John K. Higgins (1927-1998), member since 1992, High Temperature Materials Division.

William C. O'Mara (1942-1999), member since 1979, Electronics Division.