

## Frankenthal Named Editor of JMR



Robert P. Frankenthal, long-time ECS member, was recently named Editor-in-Chief of the *Journal of Materials Research*. JMR is an interdisciplinary journal containing original research articles and published by the Materials Research Society.

Dr. Frankenthal has received numerous honors and awards including the H. H. Uhlig Award in Corrosion Science from the ECS Corrosion Division (1989) and the W. R. Whitney Award from NACE (1997). He is a Fellow of The Electrochemical Society and NACE and was a T. H. Krenzel Fellow at the Technion in Haifa, Israel (1998). He has served on numerous government, university, and other advisory panels. Active in ECS for more than 40 years, he served as president (1993-94), vice-president (1990-93), and treasurer (1986-90); he currently is chairman of the Society's Centennial celebration committee.

Frankenthal is a consultant on corrosion and reliability of electronic materials and devices. He was a Distinguished Member of Technical Staff at Bell Laboratories, Lucent Technologies (formerly AT&T) in Murray Hill, New Jersey, before retiring in 1996. His research interests have included the corrosion and reliability of electronic materials and devices; the corrosion, passivation, and other surface properties of metals; physical and analytical electrochemistry; and surface analysis. Frankenthal's work has resulted in more than 100 publications and eight patents, and he is the co-editor of six books. ■

## Lockwood Elected as Fellow of the Royal Society of Canada



David J. Lockwood, of the Institute for Microstructural Sciences, National Research Council of Canada, Ottawa, has been elected as a Fellow of the Royal Society of Canada, the highest distinction accorded scientists in Canada. He was elected for his "outstanding work on optical emission due to quantum confinement in semiconductor nanostructures and his use of inelastic light scattering to elucidate

the dynamic properties of superlattices, magnets, and phase transitions."

Dr. Lockwood has served on the Executive Committee of the Luminescence and Display Materials Division since 1995 and has organized a number of symposia at Society Meetings in recent years. ■

## Neal S. Berke Receives ASTM Award of Merit

Neal S. Berke, ECS member since 1978, is the recipient of the 1999 American Society for Testing and Materials (ASTM) Award of Merit from ASTM Committee G-1 on Corrosion of Metals. The title of Fellow accompanies the award, which is the highest ASTM award granted to an individual member for

distinguished service and outstanding participation in ASTM technical committee activities. He is currently principal scientist for W. R. Grace & Company (Cambridge, MA). Berke has pioneered efforts in the development of test procedures and evaluation of mitigating techniques to address the problem of corrosion of reinforcing steel in concrete. ■

## Scherson Delivers Plenary Address to Mexican Society of Electrochemistry



The XIV National Congress of the Cinvestav (Mexican Society of Electrochemistry) took place in Merida, Mexico this past summer at the National Polytechnic Center of Investigation and Advanced Studies. Prof. Daniel A. Scherson, of Case Western Reserve University, and Associate Editor for the ECS's journals, attended on behalf of the Society. Dr. Scherson presented the plenary lecture, entitled "Integrated

*In Situ* Spectroscopic, Structural, Microgravimetric and Electrochemical Characterization of Nickel Hydrous Oxide Films in Alkaline Electrolytes," co-authored by Yibo Mo, Yuriy Tolmachev, Yining Hu, and In Tae Bae.

This congress was the first to take place outside of Mexico City. It involved the participation of about 100 researchers from Mexico and the U.S., who met to exchange knowledge and experiences, and in the hopes of increasing this type of communication.

Dr. Yunny Meas Vong, president of the Mexican Society, presented the inaugural session address, in which he stated that electrochemistry in Mexico has already reached levels which are comparable to those in many more developed countries. About 20 institutions in Mexico offer courses in electrochemistry. He added that the main objectives of those working in the field are the development of alternative energy sources, the formulation of anticorrosive agents, and wastewater treatment.

Dr. Meas Vong pointed out that the human resources and infrastructure of most of the country's laboratories are equal to those of the most advanced countries. The only difference is the capacity for organizing events like this in order to exchange information and share experiences. Dr. Meas Vong concluded by saying that, to avoid equipment damage in times of power surges or outages, alternative energy sources such as batteries and fuel cells could potentially serve as substitutes for the energy generated by the Federal Commission of Electricity. ■

## Abner Brenner 1908-1999



Abner Brenner, retired Chief of the Electrodeposition Section of the National Bureau of Standards (now the National Institute of Science and Technology), died August 13, just one week after his 91<sup>st</sup> birthday. Dr. Brenner was born August 5, 1908, in Kansas City, Missouri. He studied at the Universities of Missouri, Wisconsin, Maryland, and received his doctorate from Maryland. In 1930, he joined the staff of the National Bureau

of Standards, from which he retired in 1971.

After leaving government service, he set up a one-man laboratory where he continued his researches on the electrochemistry of nonaqueous systems. Among other projects, he developed a protective coating for acrylic paintings. He was the author of over 100 papers and the recipient of more than 30 patents, the last of which he received at the age of 90. His two-volume "Electrodeposition of Alloys" is in itself a major contribution to the field. Published in 1963, it is still frequently referred to by electrochemists.

Dr. Brenner was the recipient of no fewer than 15 awards from the leading scientific societies in his field: The Electrochemical Society, the Institute of Metal Finishing, and the American Electroplaters and Surface Finishers Society. These awards were for his contributions to the field of electrochemistry. In honor of his many contributions, the American Electroplaters and Surface Finishers Society established the Abner Brenner Awards, which are honoraria for the best papers published each year in that society's journal. Dr. Brenner was the first recipient (1974) of the Society's prestigious Vittorio de Nora Award.

Although many of his colleagues thought of him as an inventor and discoverer, he thought of himself as a "basic scientist; more specifically, as an explorative researcher—a person interested in investigating new phenomena." He was not bound by accepted doctrine or theory, but kept his mind open

to the careful observation of his own creative experiments.

Dr. Brenner's influence was much more than intellectual in nature. His influence extended into the industrial and commercial world, not directly, but as others capitalized on his discoveries. Following his invention of a coating thickness gauge, many of these gauges came into extensive industrial use. Two additional well-known and useful instruments invented by Brenner were the spiral contractometer, and the eddy-current thickness gauge. Of greater significance was his discovery of what is known as electroless nickel. This process was quickly taken over by electroplaters, and there is now a whole industry dependent upon it.

In addition to his interest in his own and his colleagues' researches, he was active in the affairs of the pertinent technical societies, serving on many advisory and editorial boards.

Dr. Brenner was married in 1936 to Sonia Persky, and after her death in 1964, he married Marcella Siegel Bernstein. He has four sons, all of whom became scientists. He is survived by his wife of 35 years; his sons David, Douglas, Michael, and Alan; ten grandchildren; and one great-grandchild.

Respected not only by the members of the electrochemistry community, Dr. Brenner was especially respected by his colleagues. Working with him was not only fruitful, but also a great pleasure. He was at all times helpful and thoughtful—leading, not directing his colleagues to think through the various problems of the particular research being explored. This was done with wisdom and good humor. His generosity in helping his associates was unbounded. ■

**Ed. Note:** Thank you to Dr. Fielding Ogburn for preparing this memorial notice. The above photo of Dr. Brenner appeared in the April 1958 issue of the *Journal of The Electrochemical Society* to announce that Dr. Brenner would deliver the J. W. Richards Memorial Lecture at the Society's spring meeting that year.

## Guenter Schwuttke 1922-1998



The materials science community lost one of its eminent members, Guenter Schwuttke, professor emeritus of the College of Engineering and Applied Sciences and Director of the Semiconductor Materials Research Laboratory at Arizona State University. He died on November 4, 1998 in Scottsdale, Arizona.

Dr. Schwuttke was born in Breslau, Germany. Although his studies at the Technische Hochschule Breslau were interrupted during World War II, he continued his studies at the Ludwig Maximilian University in Munich in 1947, earning the Diplom Physiker degree (MS) in 1949 and a PhD in Physics, magna cum laude, in 1952. From 1950 on, he was also a research associate at the Max Planck Institute for Physics in Munich, which was headed by Werner Heisenberg.

After three years as a research physicist and manager at Siemens in Munich, he was invited to become a consultant for the U.S. Department of Defense. The direction of his

future work, as one of the outstanding experimental solid-state physicists of basic studies of defects in semiconductor crystals, was initiated in 1957 at Sylvania Research Laboratories, later the GTE Laboratories. Dr. Schwuttke joined IBM in 1963 as a senior physicist. During his twenty year tenure at IBM, he managed a variety of basic research and development groups in semiconductor materials science and semiconductor device processing.

The achievements and contributions of Dr. Schwuttke were numerous and he was an internationally recognized authority on defects in semiconductor materials, their characterization, and impact on device performance, yield, and reliability. He spearheaded the introduction of X-ray topography, which he advanced by inventing sophisticated scanning cameras to enhance his basic investigations of the nature of defects in silicon.

Dr. Schwuttke served the scientific community unselfishly as a reviewer for a number of scientific journals and advised several national as well as international scientific organizations. Since the late 1950s, Dr. Schwuttke was very active in presenting his materials research on semiconductors at ECS meetings and in publishing his work in the *Journal*. While

converting his creative achievements in the applied sciences into new technologies, Dr. Schwuttke was awarded more than 56 U.S. patents. He also received seven IBM Invention Achievement Awards, several certificates of recognition from NASA, and the 1958 SEMI Award in the area of materials.

After his retirement from IBM and industrial research in 1982, he devoted himself to building a new semiconductor materials laboratory in an academic environment. He became Distinguished Research Professor and the Director of the Semiconductor Materials Research Laboratory at Arizona State University in Tempe, AZ. The system developed by Dr. Schwuttke and his group enabled the growth of the largest Gallium Arsenide crystals grown at a university. Dr. Schwuttke became Professor Emeritus of the College of Engineering and Applied Sciences at the Arizona State University in December 1988.

Dr. Schwuttke's last presentation was an invited paper at the Eighth International Symposium on Silicon Materials Science and Technology at the ECS

Meeting in San Diego, CA., in May 1998. The Symposium commemorated the fiftieth anniversary of the commercialization of the point-contact transistor. While Dr. Schwuttke was unable to present his paper himself, it was read by the Symposium Co-Chair and published in the proceedings, "Semiconductor Silicon/1998."

Dr. Schwuttke was a true scientist who lived for and with his science. He will be missed by his friends, colleagues, and students who valued his enthusiasm and patience. Dr. Schwuttke's extensive knowledge and strong character set the standard for his many colleagues to emulate in both those early years, and subsequently, in the burgeoning IC industry. ■

**Ed. Note:** This memorial contribution was recently submitted by Alfred E. Feursanger and Howard R. Huff.