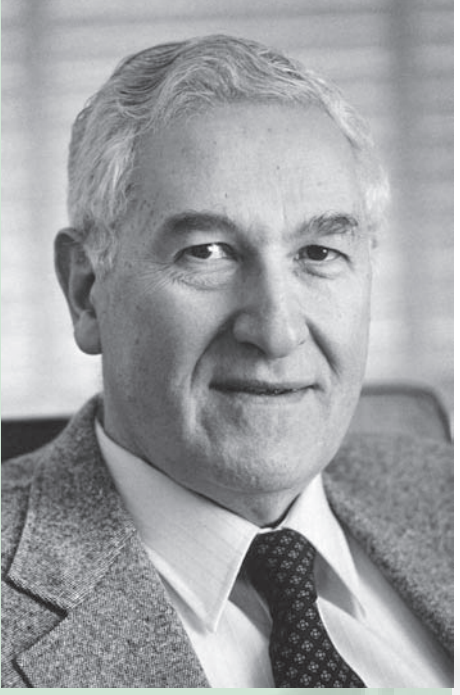

The Irving Shain and the Irving Shain Research Tower photo source: UW Chemistry Department

Building Named for Irving Shain

Irving Shain, Chancellor Emeritus and Professor Emeritus, University of Wisconsin-Madison, and a long time member of ECS, was recently honored when the University and its Chemistry Department celebrated the dedication of the Irving Shain Research Tower of the Chemistry Building. Shain was recognized for his leadership, service, and achievement as an educator, researcher, administrator, and business executive.

During his career, according to the dedication invitation, "Dr. Shain earned the respect of his colleagues, the affection of his students, the gratitude of the campus community, and the friendship of many." Professor Dennis Evans noted at the dedication celebration that the 1964 paper by Nicholson and Shain, "Theory of Stationary Electrode Polarography: Single Scan and Cyclic Methods Applied to Reversible, Irreversible and Kinetic Systems," has been one of the most highly cited papers in the history of electrochemistry. Chancellor J. C. Wiley of the University of Wisconsin-Madison called Shain "one of the most consistently influential figures in the history of the University of Wisconsin;" and Governor Jim Doyle, while unveiling the name on the building, cited Shain's outstanding leadership and extraordinary vision. A former graduate student of Shain said "fame and fortune have not changed Irv or his relations with people."

Dr. Shain earned his BS (1949) and PhD (1952) in chemistry from the University of Washington after serving in the U.S. Army (1943-1946). He began his academic career in 1952 as an instructor in the Chemistry Department at the University of Wisconsin-Madison and rose to professor and then chair of the department (1967). As a teacher he brought an enthusiasm to his courses that simultaneously excited and challenged students; he transmitted a similar enthusiasm when mentoring graduate students in their research. As an administrator his talents were quickly recognized, and in 1970 he was promoted to Vice Chancellor for Academic Affairs. It was a time of unrest, protests and demonstrations, some violent, against the war in Vietnam. Shain assumed much of the responsibility for handling the crisis and keeping the university functioning smoothly. In 1975 he left Madison to return to his home town of Seattle to assume the position of Provost and Vice President at his alma mater, the University of Washington. However, in 1977 he was lured back to Madison when offered the position of Chancellor of the Madison campus. He responded to his new challenges with numerous initiatives that enhanced the university's stature in the academic world at home and overseas. Most notable were his exchange programs for faculty and graduate students with the People's Republic of China and the establishment of the University Research Park. The latter, it has been stated, was the result of "Shain's singular vision to develop an enterprise that accommodated the needs of private entrepreneurs at the same time it produced revenue to help underwrite research and related academic enterprises within the university." At present the University Research Park houses 110 high-technology companies with 5,300 employees.

After retiring from the university in 1986 Shain became Vice President and Chief Scientist of the Olin Corporation, a position he held until his retirement. While at Olin, Shain secured additional funding for the ECS Olin Palladium Medal endowment fund, allowing the Society to double the size of the award. Today he is still active in numerous endeavors including serving as a vice president and trustee of the University Research Park, a member of the College of Letters and Science board of visitors, and a member of the advisory board of the Kamehameha Schools for native children in Hawaii. He lives with his wife, Millie, in Madison.

The dedication celebration was a two-day affair that, in addition to the dedication ceremony, included a scientific symposium, a chamber music concert in recognition of Shain's contributions to and work on behalf of the School of Music, and a Chemistry Department open house including tours of the research and educational facilities and hands-on activities for adults and children. The featured speaker in the symposium was Allen Bard, ECS Olin-Palladium Medalist, and the closing keynote address was given by Larry Faulkner, ECS Past President and Acheson Medalist. ■

This notice was contributed by Bob Frankenthal, ECS Past President.

In Memoriam

Roger Taylor
1935-2006

It is with great regret that we report the passing on February 1, 2006 of Professor **Roger Taylor**, one of the pioneers of fullerene chemistry and a research collaborator and good friend of many working in our field.

Roger Taylor was born in 1935 in Edmonton, London. He graduated from Leicester University College (part of London University) in 1956, and obtained his PhD there in 1959 for research with Colin Eaborn on aromatic hydrogen exchange. After postdoctoral fellowships at Leicester, Washington State (as a Fulbright Scholar), and Oxford Universities (as a NATO Fellow), he was appointed Lecturer at Sussex University in 1963, where he stayed for the rest of his academic career. He became a Reader in 1981 and more recently a full professor and then emeritus professor, with a visiting senior research position in China. He was an author of some 350 papers and half a dozen books, winner of awards including the RSC Josef Loschmidt prize (2002); and during his time in Sussex, supervised in all over 60 project, MPhil, MSc and DPhil students and some 15 postdoctoral fellows.

His research for many years dealt with mechanistic studies of gas-phase thermal eliminations and of electrophilic aromatic substitutions, a topic on which he wrote an influential book. With the discovery of C60 and the other fullerenes, his research, like that of so many of us, entered an exciting new phase. It was Roger's expertise in chromatography that enabled him to become the first person to obtain pure samples of C60 and C70 and hence to make a decisive contribution to the Sussex group's "one-line proof" of the structure of C60 in the now-classic 1990 paper on "Isolation, Separation, and Characterisation of the Fullerenes C60 and C70: The Third Form of Carbon." [R. Taylor, J. P. Hare, A. K. Abdul-Sada, and H. W. Kroto , J. Chem. Soc., Chem. Commun., 1990, 1423.] With the availability of initially tiny amounts of the two fullerenes, it was possible to begin the exploration of the chemistry, spectroscopy, and properties of the fullerenes that has been such a major theme in chemistry in the last 15 years. Over that time Roger made a huge contribution to this area, specializing in the preparation and characterization of novel derivatives of fullerenes, especially those having fluorine, hydrogen, alkyl, and aryl group addends; and time and again producing novel structures such as the holey fullerenes, saturnene, triumphene, functionalized dimers and the fullerene trannulenes. His delight in working personally at the bench was obvious to all who knew him, and was passed on to his students and co-workers through his laboratory demonstrating and supervision activities. The teasing out of specific derivatives from complex mixtures often required him to perform chromatography on an epic scale, involving days of patient and painstaking laboratory work on his part, all to be reported with glee at fullerene conferences.

Roger was a prolific lecturer, highly cited author, and enthusiastic collaborator, who worked with colleagues across the world both on basic research and, through his teaching, editing, refereeing, conference organization and work for IUPAC committees, on maintaining and promoting the subject of chemistry. His books on Fullerene Chemistry (1995 and 1999) are important sources of basic information in this field, which will be quarried by theoreticians and experimentalists alike for years to come. ■

This notice was contributed by Jean-François Nierengarten (Toulouse), Nazario Martin (Madrid), and Patrick Fowler (Sheffield).

In Memoriam

Boris D. Cahan
1930-2006

Boris D. Cahan was born in 1930 in Philadelphia. He received his BS in 1951 from the University of Pennsylvania and soon thereafter joined the Electric Storage Battery Company and later the Philco Corporation. In 1963 he returned to University of Pennsylvania, where he was awarded a PhD degree in Chemistry under John O'M. Bockris. In 1969 he joined the research group of Prof. Ernest B. Yeager at Case Western Reserve University, who became his lifelong collaborator, and held the position of Adjunct Professor of Chemistry until his retirement in 2000. Among his many technical accomplishments, Dr. Cahan developed the rotating analyzer spectroscopic ellipsometer, which was commercialized by Rudolph Corporation and is used even today all over the world. He also developed a unique ultrafast potentiostat, known as the BC1200, which was commercialized by Stonehart Associates. During his long career, Dr. Cahan distinguished himself for contributions made in the area of optics, as applied to the study of electrochemical interfaces, including in addition to ellipsometry, electroreflectance, and much later in impedance spectroscopy, a technique he helped to popularize in the electrochemical field, including both experimental and theoretical aspects. He can also be credited with the implementation of the hanging meniscus rotating disk electrode for studies involving single crystal surfaces, a device that proved essential for fundamental studies of heterogeneous catalysis under forced convection. During his years at Case, Dr. Cahan established the Workshop on Electrochemical Measurements, a series of lectures and laboratory practices given over a five-day period, which was regarded by most of his graduates as a tour de force, which continues to be offered every year at Case under the auspices of the Ernest B. Yeager Center for Electrochemical Sciences. Prof. Cahan was a highly gifted individual, not only as a scientist, but also as a pilot and a jewelry maker. He will be fondly remembered by all of us, his students, colleagues, and friends. ■

In Memoriam

Philip C. Symons (1939-2005) — member since 1969, Battery

In Memoriam

J. Bruce Wagner, Jr. in 1983, when he served as ECS President.

J. Bruce Wagner, Jr.
1927-2006

ECS Past President **J. Bruce Wagner, Jr.** died this past April. Prof. Wagner was very active in Society affairs since he joined in 1965. He served on, and chaired, many ECS committees; and worked his way up through the Society's Executive Committee to become President for the 1983-84 term. He served on the Editorial Committee and was a Divisional Editor for the *Journal of The Electrochemical Society* from 1972 to 1988. He was named the first recipient of the Outstanding Achievement Award of the High Temperature Materials (HTM) Division in 1986. In 1990, he was named an ECS Fellow; and in 1991, Dr. Wagner was made an Honorary Member of ECS. In 1994, he received one of the Society's most prestigious awards, the Edward G. Acheson Medal, given for distinguished contributions to the advancement of any of the objects, purposes, or activities of ECS. In his honor, the HTM Division created a new award in 1998, named for Dr. Wagner, given to recognize a young member of the Society who has demonstrated exceptional promise for a successful career in science and/or technology in the field of high temperature materials.

Karl Spear, a past president of ECS, said, "I remember interacting with Bruce beginning with my first professional meetings in high temperature materials chemistry. I remember this because Bruce always made new young scientist/engineers feel like welcome and important participants in these meetings. In ECS and other societies, he encouraged and facilitated the involvement of young professionals in their organizational structures. Bruce was well known as an excellent researcher and teacher, but above all, he was a special person with a warm heart who will be missed by all of his colleagues."

Bob Rapp, of The Ohio State University, also shared some reminiscences. "As a good friend and professional colleague, I was very sad to learn about the death of Bruce Wagner, a/k/a 'Carl Wagner Junior.' I know that Parkinson's disease had taken a heavy toll over many years, but did not stop his attendance at ECS meetings. We jointly participated in dozens of meetings all over the world for several decades, and I enjoyed the high-quality presentations of his interesting scientific research. Bruce was always proud and supportive of his many fine students. He sought 'Truth in Science,' not to defend his own opinion or stance. We will all miss Bruce, but we're grateful for the character model that he provided for us."

Dr. Wagner grew up in Hampton, Virginia. He was a WWII U.S. Navy veteran, after which he entered the University of Virginia where he earned his BS in chemistry and his PhD in physical chemistry in 1955. After completing his graduate studies, he accepted a research associate appointment to work with Professor Carl Wagner in the Department of Metallurgy at MIT (1954-56). He then taught metallurgy at The Pennsylvania State University (1956-58) and at Yale (1958-1962) as an assistant professor.

In 1962, he accepted a position as an associate professor in the Department of Materials Science at Northwestern University, and was promoted to full professor three years later. From 1972 to 1976, he was Director of the Materials Research Laboratory at Northwestern. During his 15-year tenure at Northwestern, Dr. Wagner spent a year as a Ford Foundation Resident in Engineering Practice at Motorola Semiconductor in Phoenix, Arizona (1968-69). In the summer of 1977, he participated in the Laboratory Research Cooperative Program at Fort Monmouth, New Jersey.

In 1977, he joined the Center for Solid State Science at Arizona State University. There he also had a joint appointment in the Department of Chemistry as well as affiliate professor appointments in the Department of Chemical, Biological, and Materials Engineering and in the Department of Physics. From 1982 to 1986, he was Director of the Center for Solid State Science. He was named Regents Professor in 1989. Dr. Wagner was the author or co-author of over 170 papers and book chapters, and guided the career of more than 75 students and postdoctoral students.

Dr. Wagner is survived by his wife, Phyllis M. Wagner; daughter Rebecca B. Wagner; sons James B. Wagner III and Ashley S. Wagner; and grandchildren. ■