ture of the trapped electron in disordered systems. Larry's early work in radiation chemistry led him into the study of ion–molecule reactions using tandem mass spectrometry and ion cyclotron resonance spectrometry on both positive and negative ions.

In recent years, he had turned to problems in heterogeneous catalysis, photoionization processes of molecules in micelles and vesicles, and bulk solvation geometry of paramagnetic species. In particular, his extensive EPR studies, coupled with the advances he made in the application and analysis of electron spin echo envelope modulation in disordered solids, were fundamental in elucidating transition metal-ion interactions with adsorbate molecules in mesoporous materials. Larry had an amazing ability to see the potential value of introducing a technique in one field into a new area of research.

As a reflection of Larry's positive influence, a great number of students, postdoctoral fellows, and scientists who were attracted to his laboratory were inspired by him to continue their own research in related fields. The tremendous impact that Larry had on chemical applications of EPR was clear: A rather large percentage of the participants at a small EPR meeting in Warsaw, Poland, in 1996 had worked in Larry's lab at one time or another. Participants gathered from Germany, Israel, Italy, Japan, Korea, Poland, Sweden, and the US, and were honored as we posed for photographs with our former mentor. The Warsaw meeting seemed to be a microcosm of the situation in the worldwide community of scientists who practice chemical applications of EPR. Larry's direct contributions were enormous, but the indirect benefits of the symbiotic relationships that developed among all who came under his tutelage have been great indeed in both breadth and depth.

Larry served on the editorial boards of many journals in the areas of chemical physics, radiation sciences, and magnetic resonance. In 2000, capping a career in which he received numerous awards, the International ESR Society gave him its Silver Award during a special symposium session in his honor.

Larry's phenomenal success may be traced in large part to his ability to nurture relationships with people from around the world. He was both approachable and open to new ideas, while still providing, at the same time, a steady course at the helm. He used his extraordinary capacity to undertake many tasks while making colleagues feel as if they were at the center of his research program. Larry was unsurpassed as a teacher, especially in one-on-one situations. He welcomed into his lab those who wished to learn, and inspired them to do their best.

Many of Larry's former colleagues have reported that they would not have achieved their full potential without his influence. By his example, he taught the crucial qualities of organization, perseverance, and hard work, and demanded more from himself than from us.

We remember Larry for his aggressive approach to all aspects of life and his dedication to many causes outside of science. He loved and appreciated music, live theater, art, and ballet, and he was an extremely knowledgeable student of literature. He could advise you which wine to buy after discussing how to solve a tough problem in physics or chemistry. A sportsman, he was an avid sailor and diver who led charters to island groups from the Adriatic Sea to the South Pacific and from the Caribbean Sea to the Gulf of California. He was a proud member of the Level-70 racing circuit, skippering weekly races and the tough yearly race from Galveston, Texas, to Veracruz, Mexico. He skied and played tennis, handball, or anything else that was proposed.

Larry was scrupulously honest and approached everything he did with the highest level of integrity. He lived life to the absolute fullest, even to that last moment on the treadmill. He was an inspiration to all of us who knew him. We miss him sorely, but remember him with joy.

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Jacques Pierre Friederich Sellschop

Jacques Pierre Friederich Sellschop

Jacques Pierre Friederich "Friedel" Sellschop, a leading figure in South African and international science and a pioneer in basic and applied nuclear physics, died peacefully at home in Greenside, Johannesburg, South Africa, on 8 August 2002.

Sellschop was born 8 June 1930 in Lüderitz in what is now Namibia (the photo shows him in front of the former hospital in which he was born). Sellschop completed his BSc in physics, mathematics, and geology in 1949 at the University of Pretoria and his MSc in physics in 1952 at the University of Stellenbosch. He then went to the University of Cambridge, where he earned his PhD in nuclear physics in 1958.

Another great South African scientist, Sellschop's friend and mentor Basil Schonland, encouraged him to return to South Africa. Even before Sellschop had completed his doctoral degree, he was appointed founding director of the nuclear physics research unit at the University of the Witwatersrand (Wits) in 1956 and thus began an association with Wits that would last more than 45 years. The research unit later became known as the Schonland Research Centre for Nuclear Sciences, in recognition by Sellschop of Schonland as one of the most eminent of South African scientists and in acknowledgment of Schonland's help and encouragement to Sellschop over the years.

At Wits, Sellschop had many administrative responsibilities. In 1959, he was appointed professor of nuclear physics and became the first holder of such a chair in South Africa. He was later appointed dean of the faculty of science (1979–83). He also served as deputy vice-chancellor of research (1984–96), his last position before retirement. In that position, he was responsible for all research and related activities at Wits and introduced systems of research evaluation and support in line with international norms.

Sellschop loyally remained in South Africa despite many temptations and offers to work abroad. That loyalty was recognized at an international conference on physics held in his honor on the occasion of his 70th

birthday. He also was recognized worldwide for his scientific achievements and was responsible for numerous international collaborations with scientists and technologists. His philosophy was to take advantage of the unique benefits of working in South Africa—particularly diamonds and the deep South African gold mines—and exploit them in such international collaborations.

Theory had predicted that neutrinos were prolific in nature, but demonstrating their presence was another problem. Fred Reines had detected manmade neutrinos from a nuclear reactor. The next step was to detect cosmic neutrinos. In the late 1950s, Sellschop contacted Reines and suggested that the deep gold mines might be used to isolate the neutrino signal from all the other competing signals present at Earth's surface. Reines took up the challenge, and together they began the hunt for the neutrino in nature. Sellschop could be most persuasive and his enthusiasm was catching. He used those talents to bring the mining magnates (chairman and senior directors of the East Rand Proprietary Mines) on board, and they agreed to blast out a space for the neutrino laboratory at the great depth of 3 km below the surface at the ERPM in Boksburg, east of Johannesburg. The experiment was a success, and on 23 February 1965, Sellschop and Reines unambiguously detected a naturally occurring neutrino for the first time.

Sellschop also realized the potential of using diamonds in his research, both in the study of the mineral itself and in the use of it for unique solid–beam interactions. In the late 1950s, he joined a small group of scientists working in the field of diamond physics. South Africa was diamond country, and he had a close working relationship with the De Beers Diamond Research Laboratory (DRL). He also had a career-long friendship with Henry Dyer, who held positions as DRL's director of research, managing director of De Beers Industrial Diamonds, and a director of the parent company, De Beers. Sellschop was able to get samples of this precious mineral, both natural and synthetic, more easily than any other scientist. He also persuaded De Beers to support his research, with both funding and the purchase of equipment. Together with Mik Rebak, his most able assistant, he developed special techniques for processing diamond samples into various shapes and sizes (including plates a few microns in thickness). With those specially processed diamond samples in hand, Sellschop traveled the world, setting up collaborative experiments at research centers with much more advanced equipment than any South African laboratory could hope to have. Diamonds and specialized diamond knowledge became his passport to international science: He formed collaborations with groups in Canada, Germany, the UK, the US, and elsewhere, and worked at CERN, the Rutherford Appleton Laboratory, Oak Ridge National Laboratory, and the European Synchrotron Radiation Facility in Grenoble, France, for example.

Sellschop's administrative responsibilities at Wits did not deter his enthusiasm for both his research and his teaching. Well into his tenure as deputy vice-chancellor, he continued lecturing undergraduate students in the physics department; such was his dedication to ensuring continuity in this discipline. But research remained his first love, and he found the time to continue his own research, the supervision of research students, and his international collaborations, despite the tremendous time pressure on him. He worked until late at night and over weekends as well. Research students watching over a particle accelerator, for example, knew they could telephone Sellschop at any hour of the day or night if they encountered a problem or obtained an exciting result. At his home, Sellschop had a sitting and a standing desk, and he would alternate between the two to retain concentration. If sleep was overcoming him in the middle of an important task, he would dive into his swimming pool and then return to work, awake and refreshed.

A prolific publisher of scientific publications, Sellschop was a contributor to two books edited by John Field, *The Properties of Diamond* (Academic Press, 1979) and *The Properties of Natural and Synthetic Diamond* (Academic Press, 1992). That both chapters are the longest in the books reflects his enthusiasm and dedication. Field says he had an impossible job keeping the Sellschop contributions down to the required length. Until his retirement, Sellschop's research on diamonds was primarily of a basic nature, but in his last years, he focused on the potential advanced and high-technological applications of diamonds. That work involved either modification of diamond properties using nuclear techniques or using diamonds in nuclear physics–related applications. De Beers and the National Research Foundation of South Africa collaborated and supported this work, which resulted in the filing of several patent applications.

Sellschop's lifelong research has been recognized by many awards, including the Max Planck Society Research Prize, which he received in 1992, and in honorary doctorates conferred by both South African and German universities.

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