



IN MEMORIAM

Meinhard E. Mayer
Professor of Physics and Astronomy
UC Irvine
1929 – 2011

Meinhard Mayer, Professor Emeritus of Physics and Astronomy at the University of California, Irvine, died in Newport Beach, California on December 11, 2011 after a brief, but devastating bout with esophageal cancer. His nickname “Hardy,” by which he was known to all of his family, friends, and colleagues, is also an apt characterization of the personal qualities he brought to bear in overcoming an early life of oppression before, during, and after World War II to carve out a career as a mathematical physicist and a contributing scholar with broad intellectual and technological interests. His principal physics interests lay in the formal geometric aspects of gauge theories and statistical mechanics, but he also developed during his career an expertise in electrical engineering and in analog and digital electronics, as well as in computers and computer languages, and contributed to the use of the latter in physics education.

Hardy Mayer was born on March 18, 1929 in Czernowitz, capital of the Bukovina district (at the time under the control of Romania, and currently a part of Ukraine). His father was a doctor, and he grew up in a culturally stimulating home exposed to evenings filled with music and readings of literature, particularly featuring young Yiddish writers. However, living under the Romanian royal regime, he and his family experienced many forms and examples of anti- Semitic oppression.

With the Treaty of Non- Aggression between Germany and the Soviet Union (the Molotov- von Ribbentrop Pact of August, 1939), the region of Bukovina in which he lived came under control of the Soviet Union, and while the previous environment of anti- Semitism abated to some extent, Hardy soon found himself subjected to a new form of oppression and Soviet indoctrination. This was followed by a German takeover in July, 1941 leading to a move of all Jews to a ghetto in October of that year, and finally deportation to a concentration camp in Transnistria, a region of the Ukraine, in June, 1942. Hardy and his family were among the lucky few who survived the camp, possibly because his father served as one of the camp doctors. They returned to Czernowitz in March, 1944, after the city was liberated by the Red Army and incorporated into the Ukrainian SSR.

Despite the upheavals in his life, Hardy Mayer was able to complete high school in 1945 and enroll for a semester in medical school, before being (as he described it) “invited” to leave for Romania. He soon turned to physical sciences, earning an M.S. degree in Electrical Engineering from the Polytechnic Institute of Bucharest in 1952 and a Ph.D. in Mathematical Physics from Parhon University, Bucharest, in 1957. He served on the faculties of both institutions, and also held a postdoctoral research position at the Joint Institute for Nuclear Research at Dubna, Russia, before leaving for the West. With the help of cousins, he was able to buy his way out of Romania and together with his wife, Rita, and a 3 1/2 year old daughter, Elma, and two suitcases of belongings; he made his way to Vienna to visit Walter Thirring. He had previously met Thirring on the latter's visit to Bucharest for a conference.

In the best spirit of internationalism in physics, Thirring found a way to support Hardy for a year in Vienna, during which time Hardy was also able to visit other centers in Great Britain, Switzerland, and Israel. By chance, one of us (KWF) was in Vienna just days after Hardy's arrival there, and was so impressed by his command of many branches of physics, experimental as well as theoretical (as well as by his fluency in English, acquired through clandestine listening to the BBC), that arrangements were made to invite Hardy to Brandeis University for a visiting appointment the following year. After two years at Brandeis, Hardy was appointed to a faculty position at Indiana University, and in 1966 he moved to a joint professorship in physics and mathematics at the University of California, Irvine, where he remained for the balance of his career.

At Irvine Hardy continued to study mathematical properties of quantum field theory (QFT), a topic in which he had had a longstanding interest. More specifically, he worked on the application of differential geometric methods, as well as C^* - algebra results to QFT. He gave frequent lectures on these subjects at international meetings and at courses at the Collège de France, the Swiss Federal Institute (ETH) in Zurich, and the Institut des Hautes Etudes Scientifiques in France. Hardy's interest in these topics goes back to earlier days in Romania, where he published a book on field theory in the Romanian language. In time his interests shifted to the application of wavelets to the analysis of data on atmosphere- ocean interactions, work done in collaboration with faculty from the UC Irvine School of Engineering. During a sabbatical stay at MIT, Hardy returned to his interest in differential geometry and computer languages to collaborate on a book, "Structure and Interpretation of Classical Physics."

Hardy was fluent in at least half a dozen languages; he could speak, read and write in these and was knowledgeable on the literature of these languages. In addition to interest in and work on physics and mathematics, Hardy taught, both in the university and outside, courses on the Yiddish language and on Yiddish literature. And, despite the formal and abstract nature of his research, he successfully taught courses for nonscience students and clearly enjoyed that challenge.

Hardy Mayer will be missed and remembered by his friends and colleagues as a man of broad interests, with a wonderful sense of humor, always ready with a witty quip or remark to lighten a difficult situation. He was instantly willing and available to help others and to give advice on problems with incisive comments or suggestions, whether the issue at hand was a technical hardware or software problem or a complex theoretical puzzle. He is survived by his wife and daughter and a son, Niels, and three grandchildren.

Myron Bander
Jonas Schultz
Kenneth W. Ford