

## Erwin Kreyszig 1922-2008

Erwin Kreyszig, who died unexpectedly on December 12, 2008, during a trip to Europe, was active in the affairs of CSHPM for several years, speaking on a variety of subjects in nearly every annual meeting from 1983 to 2003. But Kreyszig's lifetime also included multiple careers as researcher, supervisor, textbook author and academic administrator in several institutions in four countries. His mathematical interests were unusually broad and his 163 publications include papers in partial differential equations, mathematical physics, numerics, differential geometry, applied statistics and the history of mathematics. He worked with renowned 20th century mathematicians including Stefan Bergman, Tibor Radó, John Todd and Garret Birkhoff.

Erwin was born in Pirna (near Dresden), Germany on January 6, 1922. He studied Physics and Mathematics at the University of Darmstadt, obtaining a doctorate in Mathematics (1949) under the supervision of A. Walther. His dissertation on the generalized sine integral [1] deals with a special function of two complex variables, much of it concerning the question of how the zeros with respect to one variable vary with the other variable. This work already illustrates some of the qualities which were to characterize his later work: information to the history of the subject, attention to detail, use of diagrams and visual aids, and unification of earlier results.

After further work in Germany on complex analysis and differential geometry, Kreyszig moved to the United States in 1954. His first position was at Stanford University where he interacted especially with Stefan Bergman and started to work on complex theoretic methods in partial differential equations, one of his main areas of activity for several subsequent years. During 1956-60 he was at Ohio State University where he was promoted to the rank of Professor in 1957. One of his activities during this period was the writing of "Advanced Engineering Mathematics" [2], a textbook now in 9th edition in English, not to mention the various translations that have appeared over the years. Wiley was to publish several of his other books including his textbook on functional analysis [3], now in the Wiley Classics series.

Those were the days when, for even senior academics, openings were more available than at any time before or since. Kreyszig was much in demand and was able to leave his mark on several institutions (Graz, Düsseldorf, Karlsruhe) as well as holding various visiting positions! Amazingly, as well as performing administrative tasks and continuing his mathematical researches, he found the time to become involved in writing textbooks in statistics.

In 1973, Kreyszig returned to North America where he took a position at the University of Windsor, moving to Carleton University in 1984. After retirement from Carleton he was given the title of Distinguished Research Professor and continued to play an active role in the Department, maintaining his office and continuing his research.

Erwin was quick to become involved in the Canadian mathematical community. He served as a member of the Board of Directors of the Canadian Mathematical Society in the years 1977-83 and 1987-89 and throughout the 1980s on Committees of the Society related to publications.

Our Society was to profit from his increasing interest in the history of mathematics. One of his first major projects in this area was the early history of functional analysis, joint work with Garrett Birkhoff [4]. The topics of his lectures at CSHPM meetings were very varied: development of the concept of function, history of the calculus of variations,

Leonhard Euler, evolution of engineering mathematics, and history of numerical analysis were some of the areas on which he spoke. But we also had some overview topics: “Surfaces and Manifolds their general impact”, “Curves and their influence on the development of mathematics”, “On the concept of space in analysis, geometry and physics” and “ ‘Modern’ starts: Formative period of 20th century mathematics”, his contribution to the 2000 session History of Mathematics at the Dawn of a New Millennium. But Erwin was no dilettante. Every one of his talks was meticulously prepared as were the written versions in the annual proceedings.

Erwin Kreyszig was pre-deceased by his wife Herta (née Lied) in 1996. She had obtained a doctorate in geography for the University of Mainz. They had two sons, Walter, who is Professor of Music at the University of Saskatchewan and Herbert, a New York based consultant in finance and business strategies for investment banks and private corporations.

Much of the biographical information here was taken from [5] which contains many more details of Erwins life and career. I am grateful to Herbert Kreyszig for further information and comments and the photo, taken by Michael Hale in 2007.

## References

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- [4] G. Birkhoff and E. Kreyszig, The establishment of functional analysis, *Historia Mathematica* **11** (1984), 258–321.
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