

## In Memoriam

### Professor Stefan ERNST



1934 – 2014

It is with great sadness that we inform our readers about the recent death of Professor Stefan Ernst.

Prof. Stefan Ernst had been a member of the Editorial Advisory Board for Archives of Acoustics journal for a long time since the first volume was issued in 1976. For the readers of this journal, he is probably best known for his work in the field of molecular acoustics. Prof. Ernst has served on numerous editorial advisory boards and as a reviewer of the Archives of Acoustics journal for more than a quarter-century – he was still our reviewer at the time of his death. He was a strong supporter of the journal and cultivated effective relationships with many authors and reviewers.

Professor Stefan Ernst was a linguist, a polyglot, a renowned thermodynamisist and a researcher of molecular acoustics. With great regret and shock we have learned of his sudden and unexpected death on August 03, 2014, in a hospital in Cracow.

Stefan Ernst was born in Piaśniki, Upper Silesia, on November 03, 1934, to parents of Polish-German descent. His primary education started during the war at a German-speaking school in Wirek and continued

in Olesno, where he also got his secondary education. As chemistry studies were not yet available at the University of Wrocław in 1953, he started studying biology and switched to chemistry a year later. He received his master's degree in chemistry in 1959, as one of the first graduates in that major. Then, he started his work on application of thermodynamics and molecular acoustics in investigation of liquid phases under the guidance of the Prof. Bogusława Jeżowska-Trzebiatowska. On 28 November 1967, he defended his PhD thesis entitled “*Association-Dissociation Equilibria and the Structure of Uranyl Compounds in Organic Solvents*” at the University of Wrocław.

A pivotal point in Stefan Ernst's career was an invitation from the University of Kansas (USA) for a scholarship in the period of 1970–1971. During the following academic year, he was a postdoctoral fellow and visiting lecturer at the University of Salford (United of Kingdom). For the next year, he worked with Professor Mike Blandamer and has started research works in the field involving the application of measurements of ultrasonic waves' propagation and their attenuation for

evaluating thermodynamic properties of liquid phase. After his return to Poland in 1973, he was a Lecturer at the University of Wrocław.

On 18 June 1980 he received habilitation (D.Sc. degree) in the field of Chemistry at the University of Wrocław and became an independent senior research leader. Shortly after that, he moved to the University of Silesia in Katowice. That year, as a professor of the University, he was appointed the head of the Department of Physical Chemistry at the Institute of Chemistry, Faculty of Mathematics, Physics and Chemistry. He began to develop his research program on applying speed of sound propagation and absorption techniques to the study of single- and multicomponent liquid phases. In the years 1986–2005, he was appointed the Deputy Director at the Institute of Chemistry University of Silesia. In 1989, he gave lectures during his visit to Cambridge University.

He, his collaborators, and co-workers very efficiently developed and organized laboratories of ultrasound and molecular acoustics. That allowed construction of precise meters of phase and group speeds of sound, based on the pulse-echo-overlap and sing-around principles. One of the major achievements is the construction of a high-pressure apparatus for measuring the speed of sound propagation in liquids under elevated pressure.

His laboratory is highly productive, and many excellent researchers either trained or collaborated closely with Prof. Stefan Ernst. He initiated cooperation with the Institute of Aviation in Warsaw, the Institute of Fundamental Technological Research of the Polish Academy of Sciences, Pedagogical University Erfurt-Mühlhausen, Germany, University of Rostock, Germany and University of Blaise Pascal, France, as well as other renowned research centres. Moreover, he was a strong advocate of his *Alma Mater*, the University of Wrocław, and maintained personal relationships and scientific co-operation with his colleagues there.

Research in Prof. Ernst's laboratory has resulted in more than 100 peer-reviewed publications, and 3 issued patents. He was an author and co-author of publications in Polish and foreign journals: *Acustica*, *Archives of Acoustics*, *Fluid Phase Equilibria*, *Journal of Chemical and Engineering Data*, *Molecular and Quantum Acoustics*, *Review of Scientific Instruments*, *Zeitschrift für Physikalische Chemie* and others, as well as numerous reports in conference proceedings.

Highlights of his research cover a wide range of subjects, and include studies of the aqueous solutions of electrolytes, rheological studies of liquids by ultrasound shear waves, in particular viscoelastic relaxation, association in non-aqueous binary mixtures of hydroxyl compounds, water-organic binary mixtures, and most recently experimental and theoretical aspects of pure liquids and liquid mixtures under ele-

vated pressures. Moreover, he is the author of several monographs in Polish.

During his outstanding scientific tenure, Prof. Ernst has supervised 8 Ph.D. students, three of whom have already habilitated. He earned his reputation as a recognized pioneer in molecular acoustics and thermodynamics of solutions.

The list of cultural and academic awards of Prof. Stefan Ernst provides some insight into the breadth of his approach to science and to life in general. He was awarded the Third Class Prize of the Minister of Education and Higher Schools (1969), the Third Class Prize of the Chairman of the State Council for Peaceful Utilization of Nuclear Energy, the Prize of the Scientific Secretary of the Polish Academy of Sciences (1981), and other distinctions. He was a member of the Polish Acoustical Society and the Polish Chemical Society.

In spite of all his impressive academic achievements, Prof. Stefan Ernst never looked like a “classic” professor, completely immersed in his science. Quite opposite, thanks to his charisma and broad erudition, he would become the center of attention in any gathering. In addition to his native Polish, he was fluent in German and English, knew Russian, and knew the poems of Goethe in German by heart. Prof. Stefan Ernst's interests were not restricted only to chemistry. He loved literature, art, music and, though hardly anyone knows about it, he was an enthusiast of computer news and gadgets, in particular Apple devices. I have been fortunate to personally learn about these interests during many occasions, when we discussed a lot about state-of-the-art computer technologies.

Prof. Ernst was an exceptionally gifted teacher and lecturer. Everybody at the Institute, students and staff alike, assembled to attend his lectures, which ranged from physical chemistry, statistical thermodynamics to thermodynamics of irreversible processes.

Being with him and discussing science was always an inspiring experience, and at the numerous Winter Workshops on Molecular and Quantum Acoustics meetings he attended, Stefan Ernst was always ready with penetrating and visionary questions.

His sudden death came as a shock to all of us, and that is also a tribute to Prof. Stefan Ernst. He had suffered serious health problems twice before, but came through them both with a smile and not a hint of anxiety. He remained vigorous and engaged until the end. Those of us who knew Professor Stefan Ernst will remember him as a great scientist and human being. The guild of molecular acoustics and chemical thermodynamicists has lost an esteemed scientist, and those like us who had the honor of being his disciples and friends, have also suffered a great loss. His wisdom, great spirit, foresight, and warmth will be deeply missed.

Miroslaw Chorazewski