



### **Prof. Dr. Janko Jamnik, Director of the National Institute of Chemistry, Slovenia 1964–2014**

The scientific career of Prof. Jamnik began three decades ago as a high school student when he, on his own initiative, contacted a small group that was working on lithium-thionyl chloride batteries in the Faculty of Chemistry and Chemical Technology at the University of Ljubljana. His first project was the development of a methanol/air fuel cell model, with which he entered the popular field of energy storage and conversion that he would never leave for the rest of his career. Before his undergraduate studies in physics he also worked on setting up the first impedance spectrometer and helped to develop an improved Li/SOCl<sub>2</sub> battery. He received Presern's award for his undergraduate research in 1988 and continued his studies of physics, receiving a Master of Science in 1991 and Doctor of Philosophy in 1994. Most of his Ph.D. thesis as well as his post-doctoral research were done at the Max Planck Institute for Solid State Research; however, he also worked as a post-doctoral research associate at Cornell University and Los Alamos National Laboratory. These career experiences distinguished him as a world-class researcher, and his peer-reviewed research papers from this era are still well-regarded as some of the most cited from the solid state chemistry field. His primary focus throughout his career was understanding transport processes in heterogeneous solids in various electrochemical systems, and later in his career he made significant advances in developing state-of-the-art battery systems. He was internationally recognized for his development and understanding of impedance spectrometry,

which is the main focus of more than 30 scientific articles authored or co-authored by him. With the introduction of the transport-reaction equations, he developed analytical solutions with a unique physico-chemical meaning that enabled advances in the understanding of special transport phenomena in solid nanomaterials. He furthered these advances to develop new circuit elements, which enabled the modeling of impedance spectra even by those who are not skilled in the underlying physics behind them. These advances were characteristic of Prof. Jamnik's unique mentality, as he always strove to find a link between theory and practical experiments.

Prof. Jamnik was a highly respected scientist and was an invited speaker at numerous top-tier research universities and international conferences in the solid state field. He had numerous offers to pursue his research career abroad, but he chose the National Institute of Chemistry in Slovenia, where he was appointed group leader of the Materials Chemistry Laboratory in 2000. Interestingly, Prof. Jamnik purposely avoided administrative work as much as he could, dismissing it as "paper-shuffling." This made his application to become the Director of the National Institute of Chemistry all the more surprising. When he was elected director, however, everyone could feel the spirit of the Max-Planck institute. He was aware of the importance of being involved in international research as well as the need for excellent research equipment, and under his leadership the National Institute of

Chemistry has won three centers of excellence awards, the number of publications has increased significantly and today the Institute is recognized internationally as one of the most prominent Slovenian research organizations. In 2007 he received the Zois award for his excellent research accomplishments, which is a testament to his achievements at the Institute.

He was also devoted to mentoring and transferring his knowledge to undergraduate and graduate students. Although Prof. Jamnik was a demanding mentor, he always appreciated intelligence and hard work. He knew and wanted to transfer knowledge into industry, and recognized that all of this required the knowledge of how to motivate and reward the best researchers. Whenever we

discussed Slovenian science policy, he warned us that young people are not given enough opportunities to engage in serious research work. Through his dedication to mentoring, all of his students have gone on to very successful careers in academia or in industry across the world from Chicago to Hong Kong.

Dear friend, Janez. We are very sad writing these lines. You were not just a top researcher, but also a remarkable man, a loving husband and above all, a caring father. Your parents are rightfully proud of you and we understand their immense sorrow at the unreasonable event that has ripped you out of our lives. Janez, we are proud of everything you have achieved. We will never forget you, and you will always remain in our minds and our hearts.

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