

Resistivity to corrosion via corrosionphilia Professor Rimantas Ramanauskas turned 70

Lithuanian writer and poet Justinas Marcinkevičius said: 'If there is a vocation at all, then the noblest vocation is work.' These words well characterise Prof. Rimantas Ramanauskas, whose diligent work and dedication to science had a great impact on electrochemical research in Lithuania and the Center for Physical Sciences and Technology (FTMC).

During his scientific carrier, Ramanauskas has published over 100 papers and his works were cited more than 1 300 times [1]. The main area of academic research was corrosion protection; however, he is also actively engaged in other fields, such as metal deposition, electrocatalysis and materials science. This short review overviews Prof. R. Ramanauskas' scientific carrier.

Prof. Rimantas Ramanauskas is a second-generation scientist, his father Prof. Edvardas Ramanauskas was also a well-known chemist and dean of the Faculty of Chemistry at Vilnius University [2, 3]. On the one hand, Rimantas and his brother were raised with a scientific spirit in the family, on the other hand, it was not easy to become a recognised researcher in the shadow of his famous father. Nevertheless, Rimantas succeeded in establishing himself as an active and distinguished electrochemist.

Rimantas graduated from the Faculty of Chemistry at Vilnius University with honours in 1975. During the studies, he already started his scientific carrier at the Institute of Chemistry, Vilnius (now Center for Physical Sciences and Technology, FTMC) obtaining PhD in 1981 under the supervision of academician Prof. Juozas Matulis and R. D. Jankauskienė. During this period, his research activities focused on electroless metallisation of various surfaces and the investigation of the electrocatalytic properties of metallic surfaces. In 1999, Ramanauskas prepared the habilitation thesis and obtained a degree of habilitated doctor of Physical Sciences. The major part of his scientific carrier was at the former Institute of Chemistry and FTMC: senior researcher (1981–1999), scientific secretary (1990–1992), chief researcher (from 1999),



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head of a laboratory (2000–2005), head of the Department of Electrochemical Material Science (since 2005), deputy director of the Institute of Chemistry (2001–2010), deputy director of FTMC (since 2010) [2], head of the Department of Chemical Engineering and Technology (since 2019). Having started in the strong group led by academician J. Matulis, Ramanauskas became part of this school and continues to share his experience and knowledge as a great researcher and a very skilled group leader.

Ramanauskas improved his scientific skills in internships at the International Metal Corrosion Testing laboratory, Havana, Cuba (1987–1989) and the Research and Advanced Study Center in Merida, Mexico (1994–1998) [4]. These internships not only

advanced the knowledge in the field of metal alloy coatings for corrosion protection in seawater but also resulted in his fluent Spanish.

The majority of Ramanauskas works deal with the fabrication of Zn and Zn alloy films, their characterisation and application for corrosion protection. Though metal coating and corrosion protection are the most studied subjects, Ramanauskas as open-minded person shares his experience in electrochemistry with colleagues from various fields and has participated in various projects related to energy storage, inorganic synthesis and even archaeology [5]. In 2007, Prof. Ramanauskas together with Prof. E. Juzeliūnas was awarded the most prestigious Lithuanian Science Prize for their work series 'Electrochemical Materials Science – from Nanostructures to Ecology'.

Prof. Ramanauskas is active in other academic areas as well. He is a member of the Lithuanian Academy of Science since 2014. He obtained the professorship in 2000 and gave lectures on metal corrosion and chemical kinetics at Vilnius University and Pedagogical University. Ramanauskas is an active member of the Lithuanian Society of Chemistry and the International Society of Electrochemistry (ISE), where he served as Regional Representative of Lithuania in 2010–2014. He was the organiser of the ISE Annual Meeting in Vilnius in 1986, ISE Topical Meeting in 2018 and quite a number of other international and national conferences. R. Ramanauskas is a connoisseur of the history of electrochemical science development in Lithuania. He has written a chapter 'The Development of Electrochemistry in Lithuania' in the book *Electrochemistry in a Divided World* published by Springer in 2015 [6]. As a member of the Theodor von Grotthuss Foundation and a keen promoter of scientific and cultural heritage, Ramanauskas has contributed significantly to the erection of a monument to Theodor von Grotthuss in the Lithuanian town of Žeimelis, where this prominent scholar conducted his experiments.

It seems that Rimantas's knowledge of corrosion protection helps to preserve the charm of his personality as witnessed by thoughts and congratulations of his friends and colleagues below.

Prof. Christopher M. A. Brett (PT): *'It is a pleasure for me to congratulate Professor Rimantas Ramanauskas on his 70th birthday whom I first met through our activities in the ISE. He was a member of the ISE Council from 2009–2014. He is an internationally-recognised scientist for his research. It has always been a pleasure to talk to him and discuss the latest advances in electrochemistry research, particularly related to the electrochemistry of materials,*

to which has made important and significant contributions in various aspects.'

Prof. Richard G. Compton (UK): *'Theodor von Grotthuss, who carried out pioneering experiments at the start of the 19th century in his family home in Northern Lithuania, describes a broad and rich diversity of original, technically demanding, highly innovative electrical experiments all of which are the direct result of his own hands on work. This tradition of innovative, careful, well planned experimentation allied to thoughtful and insightful analysis, interpretation and application is preserved in the work of Rimantas Ramanauskas who's 70th anniversary we are celebrating in this special issue. Rimantas is known widely as an internationally leading expert in corrosion and its prevention via surface coatings bringing a deep and insightful knowledge of electrochemistry and its applications to an area of immense practical, real world impact including the prevention of corrosion of automobiles in countries with tropical climates including Cuba. I send my very best wishes for Rimantas's anniversary and congratulations on an outstanding scientific career.'*

Prof. Eimutis Juzeliūnas: *'Rimantas and I got together due to zinc-cobalt alloys for corrosion protection of metal structures. We successfully carried out a series of papers on the influence of microorganisms on metal corrosion, and published a number of papers together in the best electrochemistry journals in the world. Together we were awarded the Lithuanian Science Prize. We have presented our research results at international forums in Canada, Germany, China, Spain, Brazil, Finland, etc. It was a pleasure travelling with Rimas. Our duo was multilingual: Rimas speaks English, Spanish and Lithuanian Vilnius dialect, and I also speak German and Samogitian. Rimas is a big basketball enthusiast and connoisseur, and he used to train seriously as a child and young man. So he used to give me the latest news about basketball. Rimas is a high-level culinary 'ace', a good expert on drinks (especially wine). If you are lucky, I suggest you see for yourself. Happy anniversary, dear friend and colleague!'*

Prof. Aivaras Kareiva (Vilnius University): *'Rimas is a person, which one can trust in any situation. He is a nice person to talk to, and sometimes it's nice to be with him and not talk. A great sense of humour, a family man, hard-working and responsible – these are his main qualities in my eyes.'*

Acad. Gediminas Niaura: *'I am very glad that fate brought me together with Rimantas in the windswept corridors of the Institute of Chemistry in that gloomy spring of 1983, when I started to prepare for my PhD examinations. Over the years, I realised that I had a close friend at the Institute, someone to consult on*

various issues and share challenges with. I try to learn from him not only academic professionalism, but also goodwill, understanding and positive problem-solving. I wish Rimantas an inspiring and interesting scientific work and a successful interaction with students and postgraduates in sharing his knowledge and experience.

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