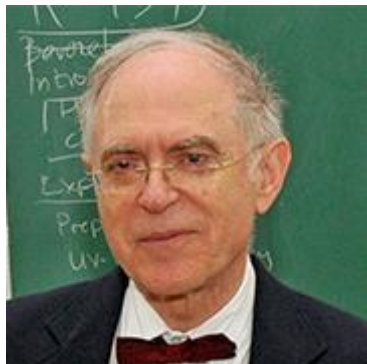


Gran Prize

Interdisciplinary
Innovative
Award



2015 Professor Noszticzius Zoltán

Prof. Noszticzius graduated as a chemical engineer at the Budapest University of Technology and Economics in 1965. He was a full professor at the same university between 1991 and 2012, when he retired and was awarded the title of Professor Emeritus by the university. He served as the head of the Department of Chemical Physics from 1994 to 2007, and as the head of the Group of Chemical Physics from 2007 to 2012.

He received his Candidate of Science degree – the then equivalent of Ph.D. – in 1981, and the subsequent Doctor of Science degree in 1990, both from the Scientific Qualification Committee. During his scientific career, he studied transport processes like diffusion and membrane transport, oscillatory chemical reactions, chemical waves and reaction-diffusion, or Turing patterns. For his achievements in these fields, he received the Széchenyi Prize in 1990 and the Polányi Prize in 2003.

He has spent several years abroad at various universities, among others, 4.5 years in Texas and one year in Germany, as a visiting scientist and professor.

He began dealing with chlorine dioxide during his research work on Turing patterns and nonlinear chemical dynamics. He soon learned that ClO_2 is far more than a simple “nonlinear” reactant; it is a highly effective disinfectant, or, in other words, the “ideal biocide”. When Professor Noszticzius realized in 2006 that this compound could be applied as a very effective, environment- and human-friendly disinfectant, he decided to initiate research on the highly beneficial properties of this substance. He and his co-workers achieved three major results in that work:

- Invention of a process to effectively produce high-purity chlorine dioxide (“Solumium”) solutions, patented in several countries, including the US and Sweden.
- Foundation of the SOLUMIUM Ltd. company – together with Professor Noszticzius’s son Vilmos – in 2007, to commercialise these solutions.
- The scientific discovery that ClO_2 is a size-selective disinfectant that guarantees the advantageous medical applications of Solumium. Most importantly, the theory explains why Solumium is completely harmless to humans while it kills bacteria, fungi, viruses, and protozoons practically at once. These results were published in the scientific journal Plos One at the end of 2013.

Nowadays, the fight against antimicrobial resistance is of global importance. Sweden accepted a leading role in this battle when initiating the global REACT network as early as 2004. In this respect, it is important to note that bacteria are not able to develop resistance against chlorine dioxide, as pointed out by Prof. Noszticzius and his co-authors in the publication mentioned above. As Solumium is a local disinfectant that can be used only on the outer and inner surfaces of the body (on skin and wounds, or on mucous membranes of the body like mouth or throat), it can replace antibiotics in these applications.

Professor Noszticzius and his team have provided a smart solution for humankind in the global fight against antimicrobial resistance. Solumium, we hope, will be helpful in this fight.



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