

## Professor Zbigniew Pruszek (1947 – 2018)



Professor Zbigniew Pruszek, a distinguished Polish scientist, died on 2 May 2018 at the age of 71. He made outstanding contributions to hydraulic engineering, physical oceanography and civil engineering, including mechanics of water flow in rivers, sea and coastal zone, lithodynamics and morphodynamics of nearshore regions, as well as protection of sea shore against erosion and flooding. The field of coastal engineering has lost in him an eminent and very creative researcher.

### Scientific Career

Zbigniew Pruszek was born on 6 March 1947 in Mała Komorza, Poland. For most of his life and career he was based in Gdańsk. In 1970 he graduated from the Gdańsk University of Technology (GUT) with an MSc degree in civil engineering. In 1977 he completed his doctoral thesis *Procesy formowania się rozwoju i zanikania małych form dennych w oscylacyjnym ruchu cieczy* (*Processes of appearance, development and decay of small bed forms in the oscillatory flow of a liquid*) and was awarded a PhD at the Institute of Hydro-Engineering of the Polish Academy of Sciences (IBW PAN) in Gdańsk, where he worked until his death. In 1990 he obtained a DSc degree (habilitation) at GUT for his thesis *Ruch rumowiska oraz przebudowa dna morskiego*

w kierunku poprzecznym do brzegu (*Sediment transport and the cross-shore profile evolution*). In 2000 the President of the Republic of Poland awarded him the state title of Professor. For almost two decades Prof. Pruszek was the Head of the Department of Coastal Engineering and Dynamics at IBW PAN.

### Memberships and Honours

Professor Zbigniew Pruszek was a member of the Polish Scientific Committee on Oceanic Research, the Scientific Society of Gdańsk and the Scientific Council of the Institute of Oceanology of the Polish Academy of Sciences in Sopot. He was also the editor of the *Inżynieria Brzegowa i Pełnomorska (Coastal and Offshore Engineering)* section in the Polish scientific journal *Inżynieria Morska i Geotechnika (Marine Engineering and Geotechnics)*, as well as a member of the Programme Board of another Polish scientific journal *Geoinżynieria: Drogi, Mosty, Tunele (Geo-Engineering: Roads, Bridges, Tunnels)*. As an expression of high regard for the scientific achievements of Prof. Pruszek, he received a number of Polish state awards, including the Knight's Cross of the Order of Polonia Restituta and an award from the Minister of Environment for the co-authorship of the handbook *Zasady dokumentowania geologiczno-inżynierskich warunków posadowienia obiektów budownictwa morskiego i zabezpieczeń brzegu morskiego (Documentation rules for geological-engineering conditions of foundation of marine structures and shore protection measures)*.

### Research

Professor Pruszek was active in many research fields. Throughout his career he was a very prolific writer who authored or co-authored about 150 research papers, 8 books as well as dozens of engineering analyses and expert opinions. His numerous articles were published in prestigious peer-reviewed journals, such as *Coastal Engineering, Journal of Waterway, Port, Coastal, and Ocean Engineering, Journal of Coastal Research, Estuarine, Coastal and Shelf Science, Oceanologia* and many others. Scientific interest of Professor Zbigniew Pruszek comprised a very broad spectrum of problems related to motion of water and sediments in rivers, transitional waters and the sea. He developed novel theoretical solutions, as well as conducted laboratory and field experiments. Results of his research were presented during the most important domestic and international conferences. Deeply engaged in scientific work, Professor Pruszek maintained close collaboration with the community of civil engineering, in particular, marine engineering. As an undisputed authority in the domain of coastal engineering, he was the author of numerous valuable analyses and expert opinions concerning sea shore protection against erosion and flooding. His high level of competence resulted, among others, from many years of cooperation with renowned research institutions and leading university centres in Poland and abroad. This cooperation enabled him not only to gain extensive professional knowledge, but also to participate in important

research and engineering projects (he headed many of them) in which his knowledge was fruitfully applied. Recently retired, Professor Pruszek was continuously busy at IBW PAN, conducting research and publishing scientific papers. Almost until death, he continued to inspire his co-workers with research ideas and supported them with his know-how and experience.

This special issue of Archives of Hydro-Engineering and Environmental Mechanics is devoted to the memory of Prof. Zbigniew Pruszek and contains research papers written by his colleagues and co-workers from the Institute of Hydro-Engineering in Gdańsk, as well as from the Institute of Oceanology of the Russian Academy of Sciences (Atlantic Branch in Kaliningrad, Lomonosov Moscow State University) and the State Agency of the Kaliningrad District “Baltberegozashchita”, for whom he was a true example and by whom he is greatly missed.

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