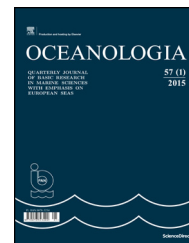


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IN MEMORIAM

## Professor Bogdan Woźniak (1946–2014)



It is with deep regret that we announce the passing away on 30 December 2014, after a long illness, of **Professor Bogdan Woźniak**, a distinguished specialist in Marine Optics, the initiator and leader of research programmes at the Department of Marine Physics, Institute of Oceanology (Polish Academy of Sciences – PAN), Sopot. He was the author or co-author of over 150 scientific papers and several books, e.g. *Light absorption in sea water*, Springer, New York, 2007, 452 pp. and *Die Absorptionseigenschaften des marinen Phytoplanktons*, GKSS 92/E/105, Geesthacht GmbH, 104 pp. Among other things, he derived a series of bio-optical models of the sea, on the basis of which remote methods of exploring and monitoring the Baltic Sea were initiated and developed.

These methods are being implemented by the inter-institutional research group, the work of which he coordinated.

Professor Bogdan Woźniak was born at Izbica Kujawska (Poland) in 1946. He studied theoretical physics (specialising in astrophysics) at the Faculty of Physics, University of Warsaw, where in 1970 he was awarded his MSc in physics. From that time he devoted his professional life to science. His first post was at the Institute of Physics at the Gdańsk Polytechnic (now the Gdańsk University of Technology). From 1971, as a PhD student, he became associated with the Department of Oceanology (now the Institute of Oceanology, Polish Academy of Sciences (IO PAN)) in Sopot, where he explored the problems of marine optics. The first stage of his research culminated in his PhD thesis *The effect of seawater components on the underwater light field in the sea*, which he defended at the Institute of Geophysics (Polish Academy of Sciences), Warsaw, in 1979. His later scientific work focused on how solar light energy entering the sea was utilised in different processes occurring in the water, in particular bio-optical ones like photosynthesis. The results of this research he wrote up and analysed in his second doctoral dissertation entitled *Bio-optical models of photosynthetic primary production in the sea*, for which he received his second doctorate in Earth Sciences (Oceanology) (1993). His subsequent fundamental work in hydro- and bio-optics led to his being awarded the title of Professor of Earth Sciences by the State Council and President of the Republic of Poland (2002). This work involved meticulous theoretical and empirical studies, carried on at home and abroad, and during many research cruises, e.g. in the Baltic Sea, the Atlantic and Pacific Oceans, and Antarctica.

At IO PAN Professor Woźniak headed the Marine Biophysics Laboratory and the Department of Marine Physics, where he initiated and then coordinated a number of large-scale scientific projects. In this latter role he gathered groups of co-workers who looked up to him as master and teacher; he supervised the PhD theses of five of these colleagues, two of whom have since been awarded their second doctoral degree. With the passage of time he expanded his fields of interest: together with his research team, he initiated and

developed the modelling of bio- and hydro-optical processes in the sea and in the atmosphere above it. He derived a number of original models of processes taking place in the sea, for example, a model of the photosynthesis quantum yield in the sea (Woźniak et al., 2002, *Dependence of the photosynthesis quantum yield in oceans on environmental factors*, *Oceanologia*, 44(4), 439–459) and algorithms enabling remote sensing techniques to be used in the monitoring of Baltic Sea ecosystems (Woźniak et al., 2008, *Algorithm for the remote sensing of the Baltic ecosystem (DESAMBEM), Part 1: Mathematical apparatus*, *Oceanologia*, 50(4), 451–508).

Professor Woźniak was involved in education: since 1995 he lectured and held laboratory classes at the Pomeranian Academy in Słupsk. It was he who initiated the extensive collaboration among groups from several universities and scientific institutes situated along the Polish coast of the Baltic Sea; these institutions have since formed a consortium developing remote sensing techniques and the monitoring of the Baltic environment. To all the people involved in this work, Professor Woźniak was the unquestioned leader, always ready to assist, suggest new lines of research or offer new challenges. He coordinated many research projects and sea-going expeditions, as well as reviewing many PhD dissertations and habilitation theses, proposals for professorial titles and articles submitted for publication.

Professor Woźniak initiated and organised many national and international scientific conferences and symposia on marine bio-optics and remote methods of exploring the marine environment. He delivered invited lectures at many such events. For a long time he was an active member of various scientific organisations and expert groups, such as the

Marine Research Committee of PAN, the Editorial Board of the journal *Oceanologia*, the Scientific Council of the Institute of Oceanology PAN and the Polish Physical Society.

For his outstanding achievements in science Professor Woźniak received many awards, including the Gold Cross of Merit (2013), as well as numerous scientific awards, e.g. the Prize of the Scientific Secretary of PAN for *The development of optical methods of monitoring bioproductivity in the sea* (1979). The superlative quality of his work ensured that he was highly esteemed within the national and international scientific community. But the publication of scientific papers and his scientific, organisational and educational activities were just one aspect of this man of many talents. He will be remembered by his colleagues not only as a distinguished scientist, generously sharing his vast knowledge, ideas and initiatives, but also as an unfailing friend, always happy to offer a helping hand or a willing ear to his students and colleagues. In his rich, scientifically fulfilling life he found time for other interests; above all, however, he was a proud, loving husband, father and grandfather. Together with his wife he raised two sons and found joy in their three grandchildren.

Professor Bogdan Woźniak will forever remain in our memories as a wonderful person, an outstanding scientist and irreplaceable friend, as well as a colleague to very many people involved in the science of the sea.

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