

*This issue is dedicated to Editor-in-Chief
of the International Journal "Baltica"*

**Some thoughts to modern researchers of the Baltic Sea sciences
(Professor Algimantas Grigelis – 85)**

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Professor Academician Algimantas Grigelis took over in 1993 the coordination and edition of the *Baltica* Yearbook from its original founder, coryphaeus of the Baltic Sea geological and coastal sciences, Academician Vytautas Gudelis. During the last 23 years A. Grigelis successfully navigated *Baltica* through the mysterious waters of Baltic Sea science.

Being an experienced geologist and palaeontologist, Professor Algimantas Grigelis has focused on Baltic Sea research since 1979. By taking part in the scientific expeditions on the research vessels ("Professor Dobrynin" and "Shelf") of the Atlantic Branch of the Institute of Oceanology, he investigated the grab samples of different age of pre-Quaternary sedimentary rocks. When the first deep-sea drillings were made, he carried out the micropalaeontological analysis and made the stratigraphic subdivision of the core logs. By summarizing the factual material of deep wells as well as other expeditionary research data collected during more than a decade the base of seismic stratigraphy was developed for further analysis and mapping of geological data.

In 1989, a collective monograph "Geology and Geomorphology of the Baltic Sea" (Explanatory note of the geological maps, scale 1: 500 000, edited by A. Grigelis) was published. The monograph provided detailed description of Baltic Sea geological structure, tectonics, magmatism, bottom geomorphology, origin and development of the water basin. In 1993, a set of Baltic Sea geological maps was released: geological, geomorphological and Quaternary.

New opportunities for pan-Baltic cross-border cooperation have emerged after the opening of state borders around the Baltic Sea. From 1989 to 2009 several marine geology expeditions were arranged and carried out with the scientific staff from Russia, Estonia, Finland, Sweden, Denmark, Germany, Poland using the R/V „Shelf“, „Vējas“, „Professor Multanovsky“, „Arnold Veimer“, „Petr Kottsov“, „Aranda-2“, „Helmsand“ and others. The investiga-



tions of the Central Baltic Sea (Lithuanian, Latvian, Estonian, Swedish waters) carried out in 1992–1995 with Stockholm University scientists led by Professor Tom Flodén are noteworthy. Nearly 10 000 km of seismic record profiles were obtained and analyzed, helping to mark the borders of pre-Quaternary geological systems and distinguish seismic-stratigraphic and seismic units. These studies led to the development of the fundamental idea on peneplains, surfaces that are perfectly recorded on the seabed with the help of seismic acoustic methods.

Upon the restoration of Lithuanian independence, since 1992 Algimantas Grigelis initiated a systematic geological survey of the Lithuanian marine area of the Baltic Sea. Being the Head of the Department of Baltic Marine Geology at the Institute of Geology, A. Grigelis initiated and successfully implemented the National Marine Geology mapping programme. Detailed geological mapping (at a scale of 1:50 000) has covered the Klaipėda–Šventoji and Nida–Klaipėda polygons as well as the Curonian Lagoon.

Since the development of Baltic Sea research, the involvement in marine environment geological, geo-physical and ecogeological research projects has intensified. As a continuation, large-scale international projects were implemented: GOBEX (1994); NERP (1995-1996); INCO COPERNICUS (1995-1997); GEOBALT (1996-1999); BASYS (1997-1999); KAMO (2001 2003); ASTRA (2006-2007). Results of the projects contributed to the improvement of the scientific knowledge of the formation of the Baltic Sea as natural ecosystem, current state and development forecasts. The research has covered the Gdansk Basin, Gotland Deep, south-eastern part of the Baltic Sea, Gulf of Riga and the Curonian Lagoon. The investigations involved the analysis of the Quaternary cover, palaeogeomorphological surfaces, water level fluctuations as well as special investigations of the palaeo-incisions.

Important work on the mentioned topics was carried in the framework of the Lithuanian-Swedish GEOBALT project (1996-1999). As part of the project available data from the eastern and western parts of the Baltic Sea were revised and summarized for the first time and further used as a base for the development of digital bathymetric and bottom sediment maps of the Central Baltic Sea as well as a data

management system (Bottom topography and sediment maps of the central Baltic Sea, Scale 1: 500 000). Projects EUROSEISMIC (2001-2004), SURVAS (2007-2009), GEO-SEAS (2009-2013), EMODNET (2009-2011) were focused on the creation and management of geological and geophysical databases.

In recent years, due to the increased topicality of coastal erosion and coastal management problems, the Baltic Sea coasts were emphasized. The publication “Geodynamic environment and protection of the Curonian Spit coasts” prepared in 2007, later on the study “The analysis of Baltic Sea coastal erosion problems and solutions” was completed in 2015. Results of the mentioned works were already applied practically when planning coastal management measures in Lithuania.

Needless to say, in all the research projects the Professor was aided by his closest colleagues and friends. Therefore, today we would like to particularly mention Dr. Leonora Živilė Gelumbauskaitė, joining him during this beautiful journey through science and life.

This nice spring day in the name of the Baltica Journal Editorial Board and Authors let us express our warmest welcome to the honourable jubilarian and wish him good health, and long and creative years!