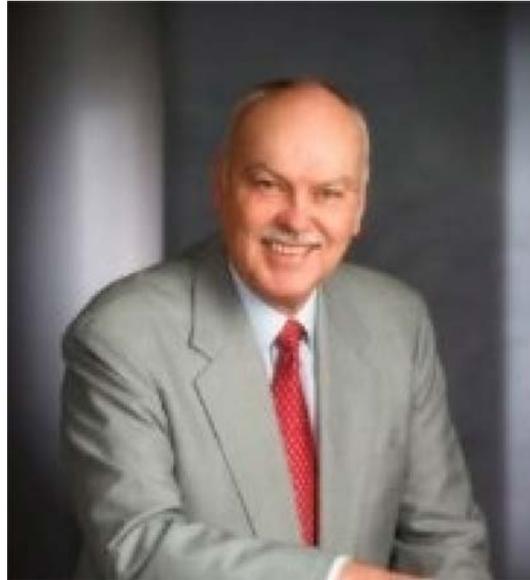


In Memoriam

Professor Leif BJØRNØ



1937–2015

On 24 October 2015 Professor Leif Bjørnø died. Professor Leif Bjørnø was a prominent scientist and a great friend of Polish acousticians.

He was born on the 30th of March, 1937, in Svendborg, Denmark. He graduated from the Technical University of Denmark in 1962 receiving an M.Sc. degree in Mechanical Engineering. Between 1962–1964 he served as a first lieutenant of National Service in the Royal Danish Navy and he became a research associate at the Royal Naval Dockyard and the Danish Defence Research Establishment where he worked on a project “Protection of ships against underwater explosions”.

From 1964 as a Ph.D. student, a teaching fellow and a research assistant in Department of Fluid Mechanics, Technical University of Denmark he focused on the following research projects: underwater shock waves, underwater acoustics, mechanical waveguides, ultrasonics. He also studied business administration at the Copenhagen School of Economics and Business Administration. In 1967 he received a PhD in Fluid Mechanics/Acoustics from Technical University of Denmark and in 1971 a DIC degree in Physics – Acoustics from the Imperial College of Science and Technology, London.

In the years 1967–1969 he was the assistant professor of Fluid Mechanics, Technical University of Denmark, specializing in: underwater acoustics, shock waves, transducer development, ultrasonics and oceanography.

As the visiting professor to the Department of Physical Acoustics at the Imperial College of Science and Technology, London (1969–1970) he conducted research on acoustical waveguides and taught underwater acoustics and finite-amplitude waves in liquids.

Continuing his university career, in the years 1970–1978 Professor Leif Bjørnø became an associate professor in Fluid Mechanics and Physical Acoustics in the Department of Fluid Mechanics, Technical University of Denmark, and soon after the head of the Physical Acoustics Research Group.

In 1975 in recognition of his achievements he was invited to Central Acoustics Laboratory, University of Cape Town in South Africa as a visiting professor, and from 1977 to 1978 to Applied Research Laboratories, University of Texas at Austin, Texas in USA.

Professor Leif Bjørnø was not only a prominent scientist but also a successful businessman. In 1976 he became one of the founders of the international indus-

trial company RESON A/S in Denmark and its co-owner until 2013, when the company was sold to the US company – Teledyne.

In the years 1978–2000 he was a Head of the Department of Industrial Acoustics, Technical University of Denmark. After that he worked as a managing director of UltraTech Holding.

As a scientist professor Leif Bjørnø undertook a variety of research projects. To mention only the most important: underwater acoustics (including: flow noise, parametric acoustic arrays, ambient noise in the sea, sound propagation modelling, underwater communication, transducers and arrays, calibration procedures, acoustical qualities of sediments, shock waves, acoustic wave propagation in inhomogeneous media, scattering and absorption, shallow water acoustics, structural vibrations (vibration and noise in ships), ocean engineering, rain produced noise in the sea, synthetic aperture sonar), high-power ultrasonics, nonlinear ultrasonics, focused ultrasonic fields, transducers and arrays, robotics, biomechanics.

During his long university career he taught many subjects, e.g. theoretical acoustics, underwater acoustics, nonlinear acoustics and high-power ultrasonics. He was also a highly regarded examiner of D.Sc. theses and Ph.D. theses at Technical University of Denmark; Technical University of Lund, Sweden; Royal Institute of Technology, Stockholm, Sweden; Norwegian University of Science and Technology, Trondheim and University of Bergen, Norway. R.W.T.H., Aachen, Germany; University of Cape Town, South Africa; University of Toronto, Canada; University of London, UK., Vrije Universiteit Brussel, Belgium and the Gdańsk University of Technology, Poland.

Due to his scientific achievements and a broad business experience he was a chairman and a member of boards of directors in several companies in Denmark and abroad.

Professor Leif Bjørnø was very active in many various fields including research, development and consultancies (underwater acoustics, transducer developments, high-power ultrasonics), knowledge transfer and international cooperation in R & D, investments, university – enterprise – funding agency interactions etc.

Professor Leif Bjørnø's wide variety of professional activities covers also being an editor and a member of Editorial Boards in many international journals including:

- ULTRASONICS, 1973–1994; 1985–1994;
- Soviet Physics – Acoustics, now Acoustical Physics, 1989–2002;
- ACUSTICA, (now merged with ACTA ACUSTICA) 1992–2000;
- Journal of the Acoustical Society of Japan, 1994–2000;

- Journal of Computational Acoustics, 1996–2010;
- Archives of Acoustics, since 1999;
- Journal of Sciences of the Polish Naval Academy, since 2012.

Professor Leif Bjørnø was the recipient of honours both from his own country and abroad, to mention only a few of the more important ones:

- Knight of the Order of Dannebrog;
- Professor honoris causa at the University of Harbin, China;
- Doctor honoris causa at the University of Crete, Greece;
- Member of the Danish Academy of Technical Science;
- Member of the Danish Academy of Natural Sciences;
- Fellow of the Acoustical Society of America;
- Fellow of the Institute of Acoustics, England;
- Fellow of the South African Acoustical Institute;
- Life Fellow of the Institute of Electronic and Electrical Engineers, U.S.A.;
- Honorary Member of the Spanish Acoustical Society;
- Honorary Member of the Polish Acoustical Society;
- Distinguished Corresponding Member of the Institute of Noise Control Engineers (INCE), U.S.A.;
- Member of SIGMA XI, the Scientific Research Society of North America, U.S.A.;
- Awarded the Foreign Acoustician Gold Medal by Société Française d'Acoustique, 1995;
- Awarded the Lord Rayleigh Gold Medal by the Institute of Acoustics, England, 1997;
- Awarded the Hartmann Prize by the Hartmann Foundation, Denmark, 1999;
- Awarded the Medal of Merit by Gdansk University of Technology, Poland, 2003;
- Awarded the first ICU Gold Whistle Award by the Board of the International Congresses on Ultrasonics, 2009;
- Awarded the Medal of Johannes Hevelius by Gdansk University of Technology, 2012;
- Stephens Lecturer 1985. Institute of Acoustics, England.

Professor Leif Bjørnø was also an author and co-author of 7 books and over 400 publications in world-class scientific journals; to mention only the most known from JCR list: Journal of the Acoustical Society of America, Acoustical Physics, Journal of Sound & Vibrations, IEEE Trans. Sonics & Ultrasonics, IEEE Journal of Ocean Engineering, ACTA ACUSTICA

united with ACUSTICA, Acoustic Letters, Ultrasonics, Ultrasonic Imaging, Akustitscheskii Schurnal, and Archives of Acoustics.

He also supervised more than 100 M.Sc. students and more than 40 Ph.D. students, including 12 Ph.D. students from abroad.

Professor Leif Bjørnø had a happy and close contact with the world community of Polish acousticians and was a great organizer of international scientific co-operation with the World and European acoustic institutions as ICA, INCE, ICU (after merging of UI and WCU – he was one of the initiators and originators of the process) and like EAA, FASE, SACLANT, NURC etc.

Many times he was a member of the Scientific Committees which organized the International Symposia on Hydroacoustics SHA, and he also helped

the Pan-European Conference 6th ECUA'2002, the 7th ICU'2011congress and the 7th Forum Acusticum'2014 ECUA in the Polish environment with his suggestions and experience. He was also a longstanding Advisory Editorial Board contributor to *Archives of Acoustics*, and on the Programme Committee of the annual *Hydroacoustics*. In 1999 he became an honorary member of the Polish Acoustics Society, and in 2013 received further recognition with a medal for Services to Gdansk University of Technology. For his outstanding work in the development of Acoustics, Prof. Bjørnø also received, in 2014 the Prof. Ignacy Malecki Medal, the first foreigner to do so.

Prof. Eugeniusz Kozaczka

Prof. Andrzej Stepnowski