



Biophysics Austria celebrates its 60th anniversary – a brief retrospect and outlook

by Klaus Groschner

It's time to celebrate! A party acclaiming the 60th anniversary of our Society would be most appropriate, but is disappointingly impossible these days. Nonetheless, celebrations might hopefully become an option later in the year. The perfect occasion to do so would be the upcoming EBSA 2021 Meeting¹ in Vienna. Fifty years back, in September 1971, the first European Biophysics Societies' Association Conference (EBSA Meeting) took place in Austria, precisely in Baden by Vienna, organized by a 10 years young Society, that at the time changed its name to "Austrian Biophysical Society". This Society represents one of the first, hence currently oldest, Austrian Academic Societies in the area of life sciences, founded as early as **1961**. The trigger to establish a national scientific association, originally designated as "**Austrian Society for Pure and Applied Biophysics**", was the first gathering of the International Union for Pure and Applied Biophysics, which was also founded in the same year. From the very beginning, Austria's affiliated Society was committed to interdisciplinary research, interconnecting Biology, Medicine, Physics and Chemistry.

We are proud to commemorate the 60th anniversary of the Austrian Biophysical Society this year. The society has seen ups and downs, but over time grew into a stable platform that supports biophysical research and fosters communication between Biophysicists all over Austria and beyond. This is now a fitting occasion to take a look back on the history of our Society, and to highlight some of those who contributed to shape and advance our Society. First and foremost, it was the initiative of the Drs. **Karl Kaindl** and **Helmut Knötig**, who in 1961 sparked the formation of an initiative committee, which elaborated the first constitution and elected Prof. Dr. Hans Bornschein as its first President. **Hans Bornschein** was the founder of the Institute of General and Comparative Physiology at the University of Vienna. He was internationally recognized for his pioneering research in the fields of Biological Cybernetics and Sensory Physiology, specifically for his analysis of signal transduction mechanisms in the retina (see Figure below). Revisiting the disciplines and research activities of the Societies' presidents (see Table) reveals the amazing diversity in research fields addressed by our Society. Beyond science, some of our past presidents also played a quite outstanding role in politics, and were also recognized for contributions to the countries developments in public health and economy. The most intriguing personality in terms of political attitude and activity was certainly **Engelbert Broda**, who was an opinion leader in national discussions on the safety of nuclear power plants in the 1970ies. Back in the 1930ies, he was part of the resistance against fascism and emigrated to the UK in 1938. With his expertise in Nuclear Physics, he was appointed at the prestigious Cavendish Laboratory in Cambridge, but also came in focus of MI5 (documentation KV 2/2349-235) as one of many suspected for spy activity. After returning to Austria, many decades later, his role as a *scientist spy*² during the cold war was indeed uncovered. Notwithstanding and importantly, Engelbert Broda was a pioneer of Austrians peace- and environmental movements.

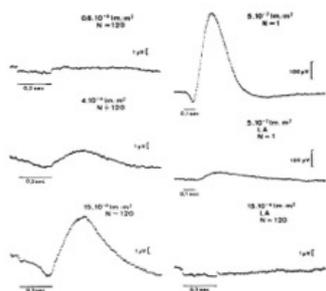
Over the years, the members of the Austrian Biophysical Society had a diverse scientific background that changed in a well-balanced manner between Physics, Biology and Medicine. Research interests embraced by the Society ranged from Bioinformatics, Environmental Physics, Biotechnology, Bioenergetics, and Pharmacology to more recently, aspects of Molecular Biophysics and Computational Biology. This diversity may be taken as a reflection of the firm understanding of Biophysics as a genuinely multidisciplinary field. Importantly, in the 70ies and 80ies of the past millennium, Biophysics emerged as a discipline in its own rights, commonly seen as a branching off from Physics. Consequently, new Institutes and/or Divisions for Biophysics were installed. In parallel to this development in Biophysics, new academic societies were founded for almost all fields of life science in which the Austrian Biophysical Society was active. Unfortunately, the Society missed to attract some of the excellent Biophysicists, who established their laboratories and Institutions at this time in Austria. Examples are **Hansgeorg Schindler**, the founder of the very first Institute of Biophysics in Linz and initiator of single molecule research in Austria, as well as **Peter Laggner**, a pioneer in small-angle X-ray scattering and LDL research. Later on, the Society compensate for this earlier neglect by systematically addressing and supporting researchers within the wider field of Biophysics, putting the focus on excellence in research rather than discipline boundaries. Moreover, the outreach of our Society was enhanced by appealing researchers at an international level, such as Austrians that made their career abroad as well as colleagues who received their PhD or postdoctoral training in Austria. Hence, Biophysics Austria has developed into an open Society that understands itself as part of the global biophysical community. This development was essentially promoted during presidencies of **Georg Pabst** and **Gerhard Schütz**, by a consequent and continuous improvement of the digital Society-Member communication, initiation of a fairly regular update of our members on Society issues via a Newsletter and, may be even more, by installing an annual international event that has emerged over the past decade as currently one of the most attractive get-together of the Biophysics Austria family – the **Biophysics Austria Mixer** integrated in in US Biophysical Society Meeting. From my personal point of view, it is a particularly sad aspect of this Anniversary that the current pandemic prevents us from celebrating with all our biophysicist friends (national and international) at the already traditional Biophysics Austria Mixer at the 65th BPS Annual meeting. Nonetheless, to conclude this appraisal with some positive aspects and outlook: Currently, Biophysics Austria is headed and managed by the first female president, **Birgit Plochberger** supported by vice-president **Elena Pohl**, showing that Biophysics Austria has shifted gears and accelerated the process towards an appropriate gender balance. Recently, the Austrian Biophysical Society won the bid for hosting EBSA 2021 in Vienna, which will be chaired by Elena Pohl. Moreover, it is clear that, above all, the Austrian Biophysical Society has always been and is committed to highest quality in biophysical research (exemplified below/Figure). In view of this spirit - the best is yet to come!

Happy anniversary Biophysics Austria!

Research in the Austrian Biophysical Society NOW and THEN

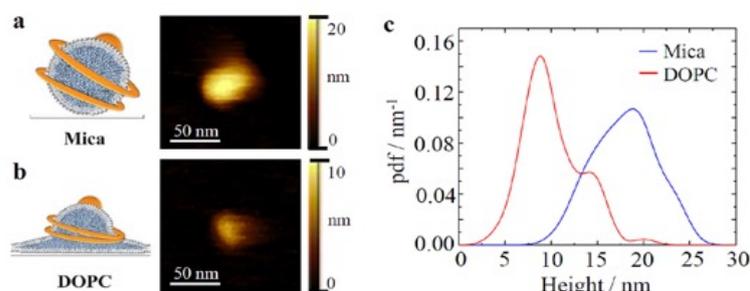
1967 Bornschein & Lützoff

Electroretinogramm published in **Nature**³



2019 Axmann et al. & Plochberger

LDL interaction with planar lipid bilayers published in **NanoLett**⁴



- 1) <https://www.ebsa2021.org/general-information/vienna>
- 2) https://www.univie.ac.at/zbph/broda/dokumente/Geheimnis_des_Atomspiens.pdf
- 3) <https://pubmed.ncbi.nlm.nih.gov/6055459/>
- 4) <https://pubmed.ncbi.nlm.nih.gov/30848605/>

Presidents of Biophysics Austria

Acting period	Presidents	Institution	Discipline, research focus and activities
1961 - 1967	Hans Bornschein	Inst. f. Physiologie, Uni-Wien	Physiology; Signaltransduction in the Retina, Biological Cybernetics and Bioinformatics
1967 - 1970	Johann Schedling	Inst. f. Med. Physik, Uni-Wien	Environmental Physics , air pollution, radioactivity and environment
1970 - 1972	Engelbert Broda	Inst. f. Physik. Chemie, Uni-Wien	Nuclear Physics, Bioenergetics; Environmental- and Peace activist and “scientist spy”
1972 - 1981	Richard Brunner	Inst. f. Chemie, TU-Wien	Biotechnology , Microbiology, Fermentation, brewing science, Antibiotics
1981 - 1987	Maximilian Hohenegger	Inst. f. Exp. Pathologie, Uni-Wien	Experimental Pathology , Ion homeostasis, Metabolism
1987 - 1998	Wolfgang Seiler	Inst. f. Med. Physik, Uni-Wien	Physics; Radioactivity
1998 - 2004	Helmuth Horvath	Inst. f. Experimentalphysik, Uni-Wien	Environmental Physics , aerosoles
2004 - 2010	Martin Hohenegger	Inst. f. Pharmakologie, MedUniWien	Pharmacology , Muscle Physiology , Ryanodine Receptors

2010 - 2013	Georg Pabst	Inst. f. Biophysik Austrian Academy of Sciences	Membrane Biophysics , Lipid organization in Membranes, Protein-Lipid interactions
2013 - 2015	Gerhard Schütz	Inst. f. Angew. Physik & Biophys, TU-Wien	Biophysics, Single Molecule Spectroscopy and Imaging , Plasma membrane nanostructures
2015 - 2017	Klaus Groschner	Inst. f. Biophysik, Med-Uni Graz	Pharmacology, Ion channel Biophysics , TRP channels, Photopharmacology
2017 - 2019	Thomas Stockner	Inst. f. Pharmakologie, MedUniWien	Pharmacology, MD-simulation structure-function relations in ion channels and transporters
2019 - present	Birgit Plochberger	FH Oberösterreich	Physical Biochemistry , Fluorescence- and Atomic Force Microscopy, Lipoproteins

Acknowledgement: Thanks for providing valuable information on the early days of our Society to **Martin Hohenegger** (President 2004-10).

Homepage:

<https://www.biophysics-austria.at>