Foreword about Professor Adam Szelag, a member of the International Scientific Editorial Board of "Advances in Electrical and Electronic Engineering" journal and the Professor at Warsaw University of Technology, Faculty of Electrical Engineering, Electric Traction Division:

Adam Szelag

Professor Adam Szelag, born in 1958, is a Polish researcher and lecturer, graduated from Electrical Engineering Faculty, Warsaw University of Technology (WUT), in 1982; he received a Ph.D. and a D.Sc. degree in electric traction in 1990 and 2003 respectively; married, two adult children, a granddaughter. He was a post-graduate research fellow at the University of Bath (UK) (1992-1993). Current position held: since 1982 at the Electric Traction Division of the WUT, Head of the Division (2005-2008), Vice-Director of the Institute of Electric Machines (2006-2008), Director of the Institute of Electric Machines (2008-2012, 2012-2016), a WUT professor (since 2005) and a full professor of technical sciences (2015). Membership of scientific and professional bodies: member (2005-2011) and Chairman of the Electric Traction Section of the Electrotechnical Committee (EC) of the Polish Academy of Sciences – PAN (2012-2020), Vice-Chairman of EC PAN (since 2016), member of IET, member of Scientific-Technical Council of Warsaw Underground. Institute of Electrotechnical Eng., Railway Research Institute (IK), and others.

He is a specialist in electrical engineering in transport, namely: electric traction systems, electric rolling stock, modelling and simulation, electromagnetic compatibility of traction systems (harmonics, flickers, stray currents, signalling and control), designing the electric traction systems for urban, suburban and railway traffic, using CAD methods, economic and financial evaluation of engineering projects in mass transport, environmental aspects of transport and energy utilisation, research, teaching and industry experience. He also has a wide knowledge in mass urban transport and electric traction systems utilised, both, in Poland and abroad. He is a co-author of 3 applied patents and new technical solutions implemented in mass transport. He has been widely published in periodicals, journals (over 220 papers and articles), he is a co-author of 3 student handbooks, 4 research monographs and a reviewer of 13 as well as a supervisor of 4 completed Ph.D. theses.

He was a co-organiser and member of Scientific Committee and Chairman of international conferences, including Modern Electric Transport-MET organized every second year from 1993 by the Warsaw University of Technology.

As a specialist in electric traction I would like to point out importance of research in this area. If compared with a road system, electric traction is more environmentally friendly and competitive. The strategic role of electric traction in the countries that do not have their own resources of liquid fuels stems from electric transport capability of providing means necessary for economy, even in the absence of liquid fuel supply (electricity can be generated from other sources, including renewable ones). Hence, it is extremely important to expand properly the existing electric transport networks and develop new ones in the areas, where it can compete effectively with other transport means, i.e. in the cities and on high speed rail lines. One should not forget how important it is to employ state-of-the-art technologies and solutions posing a major challenge for development of science, innovation, but also for the environmental aspects of transport, which on the other hand enables utilisation of EU funds in expansion of electric traction.

Preferred development and research directions shall include the following: decrease in energy consumption; changes in construction and equipment of rolling stock; reduction of energy conversion and transmission in both a supply system and rolling stock; effective use of regenerative braking energy (energy storage) – technical solutions and legislative changes, including development of a billing system for braking energy fed back into a catenary and introduction of a preferential system for electric transport system operators who employ energy efficient solutions, improvement of electric transport reliability; highly-efficient and safe energy sources for autonomous vehicles; construction of high-speed rail.

Such issues were and are still being raised in Advances in Electrical and Electronic Engineering journal, but also are being dealt with by many scientists across Europe and the whole world. AEEE should be used as an amazing tool for disseminating new scientific solutions and implementations. Exchanging ideas, concepts, but also sharing problems and their solutions on the pages of AEEE allows not only for the promotion of knowledge and achievements of individual authors, but also creates an opportunity for establishing – around AEEE – a centre that brings together a group of international specialists from the broadly understood field of electrical engineering.

Using this opportunity, thanks to AEEE journal editorial board, I would like to encourage researchers, current and future readers of AEEE to publish their papers, but also to promote the magazine among fellow engineers, researchers and people from their professional environment, by spreading the news on the topics discussed in AEEE, citing fellow colleagues and developing the current issues.