

Proceedings of the 10th Polish Symposium
of Physics in Economy and Social Sciences
(FENS)

Otwock-Świerk, Poland, July 3–5, 2019

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Preface

This issue is a collection of selected papers within the invited and contributed talks and posters that were presented at the 10th Symposium on Physics in Economy and Social Sciences (FENS 2019) organized by the section *Physics in Economy and Social Sciences* of the Polish Physical Society. The biannual symposium was hosted this time by the National Centre for Nuclear Research, at Otwock-Świerk, Poland, on July 3-5, 2019. We are thankful to the Polish Ministry of Science and Higher Education, Polish Physical Society, and the National Centre for Nuclear Research for their substantial financial support.

The aim of the conference is to show the possibilities of implementing tools common in physics in economy and social sciences. The application of physics in those fields has resulted in the creation of new branches of science, i.e., econophysics and social physics, which demonstrate its surprising openness and multidisciplinary abilities. Basic science's research potential directly contributes to the country's economic and social growth, helping to search solutions to particular socio-economic problems. Substantial progress in these areas opens up new possibilities of describing and understanding social and economic phenomena.

In Poland, sociophysics and econophysics are developing very rapidly. The position of the Polish community dealing with these topics is highly regarded all over the world, which is proven by the international character of periodic conferences FENS. The subject of the conference was not only to erect a bridge between basic science and their use in practical socio-economic matters. It was also to strengthen the multidisciplinary nature of the research, and popularize the achievements and tools originated in physics to social sciences. The conference served as an overview of socio- and econophysics research conducted worldwide, including, of course, Poland. A wide range of the best lecturers from national and international research institutes ensures the high conference impact. The previous, 9th edition of FENS conference was combined with Econophysics Colloquium (EC) 2017, which naturally concentrated the themes mainly around econophysics. However, in the case of FENS 2019, the programme was expanded to include interdisciplinary topics, and the invited speakers were outstanding experts in social sciences.

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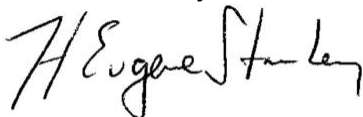
Good morning dear participants,

I feel deeply honored to address your esteemed group, the Jubilee International Symposium of Physics in Economics and Social Sciences created 15 years ago (Polish acronym FENS) organized by the Polish Physical Society. The current symposium is the tenth in this illustrious series. You are also on the eve of a great event, the 100th anniversary of the establishment of the Polish Physical Society.

How turbulent have been recent years: Examples include the previous 15 years (during which the world-wide economic crisis of 2007/08 occurred) as well as the last century (during which we suffered two monstrous world wars). The fruits of your work include long-lasting contacts and enduring friendships, vast fruitful scientific cooperation resulting in numerous excellent publications, and these Symposiaa permanent feature on the map of world scientific events. Each of your Symposia has produced post-conference materials published as refereed articles in Acta Physica Polonica A and B, two scientific journals that will soon also be celebrating their 100th anniversaries. The previous, 9th Symposium held at the University of Warsaw in 2017 in combination with the 13th Econophysics Colloquium was unforgettable as a participant in that Symposium and I am sure for all of you who also participated. Key presentations are included in a special issue Econophysics and Sociophysics in a Turbulent World. of the international journal Physica A.

I wish all participants an extremely fruitful 10th FENS Symposium. May we all meet the challenges that face our world, and may we never forget that our constant goal is to continue to serve not only science but also humanity. I so very much wish I could be with you, and I thank the organizers for proposing this opportunity to partially fulfill my wish.

Yours sincerely,



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