Title, Name and surname

Professor Jacek Leszczyński

Faculty and Department

Faculty of Energy and Fuels, Department of Thermal and Fluid Flow Machines

Keywords.

complex systems, energy efficiency, energy harvesting systems, compressed air storage, control systems, granular mechanics/flows, DEM, population balance, mathematical modelling, fractional calculus, industrial mathematics, industrial energy systems, programming



Scientific profile.

Jacek Leszczynski is a Full Professor at AGH University of Technology, Faculty of Energy and Fuels, Department of Thermal and Fluid Flow Machines, Cracow, Poland. He worked over thirty years in project grants, industrial applications and academic programs that concern the following main scientific activities like modelling of complex systems and energy efficiency. He has been Principal Investigator and Research Coordinator on applied research and development projects at around 35 M€ including three successful EU project grants. His scientific activity includes modelling techniques of complex systems involving fractional derivatives, mechanics/flows of granular materials, energy efficiency, energy harvesting systems and devices, population balance and DEM techniques, soft magnetic materials and inductive elements operating in high frequency bandwidth, as well as management of R&D groups oriented industrially. Summarizing educational background, he supervised many MSc theses from Energy Engineering, Computational Science, Mathematics and Environmental Protection and two PhD theses from Mechanical Engineering. He is an active member and expert of many scientific organizations, like National Centre of Research and Development, IEEE and the EU. He acts as Subject Editor of Applied Mathematical Modelling Journal (USA).

Exemplary thesis titles

- The dynamics of hygrothermal comfort in rooms of a reference building
- Compressed air storage
- Reduction of dust concentrations in polluted air
- Granular flows in small and large scale systems

The form of conducting master's theses

Students participate in weekly meetings where the research progress and plans for the next week's are presented. The meeting is organized together with Ph.D. students and young staff members.