Krzysztof Tomasz Wojciechowski, PhD



Professor of Materials Science

AGH University of Krakow, Faculty of Materials Science and Ceramics,
Department of Inorganic Chemistry, Thermoelectric Research Laboratory
Al. Mickiewicza 30, 30- 059, Kraków, Poland
(+48) 126-173-442 (office); (+48) 668-377-616 (mobile)
wojciech@agh.edu.pl, http://www.thermlab.agh.edu.pl/

PROFILE

Professor of Materials Science at AGH University of Krakow, leading interdisciplinary research in thermoelectric materials, devices, and applications, with a strong track record in bridging fundamental science and industrial implementation. Experienced community leader, serving on the boards of the International and European Thermoelectric Societies and organizing major international conferences, committed to strengthening collaboration and developing early-career researchers.

ACADEMIC CARRIER

- Full professor, Head of Thermoelectric Research Laboratory, AGH University of Krakow, 2015 –
- Full professor, Head of The Centre of Thermoelectric Research, The Institute of Advanced Manufacturing Technologies, Cracow, 2018-2022
- D.Sc. (habilitation), AGH University of Krakow, materials science, December 2008
- Ph.D. degree, AGH University of Krakow, chemistry, December 1994

SELECTED GRANTS

- *Decoupling Structure and Composition with Zintl Phases,* Partners: Michigan State University, University of Lviv, National Agency for Academic Exchange (2024-2026)
- *Entropy engineering and interface optimization in materials for highly effective thermoelectric energy conversion,* Partners: German Aerospace Institute (DLR) and University of Duisburg-Essen (UDE), National Science Centre and German Research Foundation, (2024-2027)
- *Analysis of application of thermoelectric technologies in a power plant,* EDF Group, Poland – AGH UST, 2014-2015

SELECTED PUBLICATIONS

- T. Parashchuk, B. Wiendlocha, O. Cherniushok, K. Pryga, K. Ciesielski, E. Toberer**, K.T. Wojciechowski,** *Multiple defect states engineering towards high thermoelectric performance in GeTe-based materials,* J. Chem. Eng, (2024).
- O. Cherniushok, T. Parashchuk, R. Cardoso-Gil, Y. Grin, **K.T. Wojciechowski,** *Controlled Phonon Transport via Chemical Bond Stretching and Defect Engineering: The Case Study of Filled β-Mn-Type Phases*, Inorg. Chem. (2024).
- **K.T. Wojciechowski**, T. Parashchuk, B. Wiendlocha, O. Cherniushok, and Z. Dashevsky, *Highly efficient n-type PbTe developed by advanced electronic structure engineering*, J. Mater. Chem. (2020)
- O. Cherniushok, R. Cardoso-Gil, T. Parashchuk, R. Knura, Yu. Grin, and **K.T. Wojciechowski**, *Lone-Pair-Like Interaction and Bonding Inhomogeneity Induce Ultralow Lattice Thermal Conductivity in Filled β-Manganese-Type Phases*, Chem. Mater., (2022).

AWARDS

- Award of the Minister of Science and Higher Education of Poland for Significant Achievements in Scientific Research, 2025
- Golden award at International Invention Show & Technomart (INST) in Taipei, Taiwan, 2017
- Award of Polish Ministry of Science for the best invention, 2016
- Platinum award at the International Warsaw Invention Show, 2015

SOCIETY SERVICE AND LEADERSHIP

- Organizer of the International and European Conference on Thermoelectrics, ICT/ECT 2024, Krakow, Poland
- Organizer of the International Thermoelectric Workshop, *New materials for direct conversion of heat into electricity*, May 9-10, 2019, Kraków, Poland
- Organizer of the European Conference on Thermoelectric ECT 2004, Krakow, Poland
- International Thermoelectric Society, Board member (2019-2024)
- European Thermoelectric Society, Board member (2019-2024; 2014-2018; 2004-2009)
- International Thermoelectric Academy, Academician (2013-)

Statement of Candidacy to the ITS Board

Thermoelectric technologies offer broad and still underutilized potential. Their capability to combine solid-state energy conversion, cooling, and sensing enables diverse applications in future energy and thermal management systems. Fully realizing this potential depends on building a strong, well-connected research community bridging fundamental research, engineering, and industrial implementation.

I believe this requires strengthening links between research, device development, and industrial application, enhancing international coordination, increasing visibility of thermoelectrics, and supporting early-career researchers. This approach is reflected in my work, combining fundamental materials research with device development and industrial collaboration, as well as in my engagement in the community through service on the ITS and ETS boards, membership in the International Thermoelectric Academy, and organization of conferences such as ICT/ECT 2024 and ECT 2004.

I have built and led an interdisciplinary research group integrating chemistry, materials science, and engineering, within which multiple R&D projects and patented technologies have been developed. A key element of my work has been mentoring young researchers in both fundamental and application-oriented research.

If elected to the ITS Board, I will focus on:

- fostering the development of early-career researchers through education, mobility, and integration into international networks,
- supporting international collaboration and coordination within the community,
- strengthening interaction between academia and industry,
- promoting application-oriented research and increasing the visibility of thermoelectric technologies.

I am committed to supporting the continued evolution of thermoelectrics toward broader technological implementation and societal impact.