

CURRICULUM VITAE

Basic data:

Name, gender, citizenship: Péter Ván, male, Hungarian
Born: Kiskunhalas, Hungary, 1964.10.31.
Family: Married, two children.



Education and degrees:

1970-1983 Elementary and secondary schools in Kiskunhalas, Hungary.
1984-85 Military service, electrical engineering student at BME.
1985-1990 Physicist student at the Eötvös Loránd University, Budapest, Hungary. Hungarian Society of Physics Students, International Association of Physics Students founding member, Ortway competition, I. and II. MSc degree; thesis on stability of thermodynamic processes (supervisor: Tamás Matolcsi). First class honours with distinction.
1994 dr. univ. doctoral degree in applied physics, Technical University of Budapest, Hungary; thesis on dissipative processes in magnetohydrodynamics (supervisor: István Gyarmati)
1998 research scholarship in ENEA, Casaccia, Italy;
2001 PhD degree in physics, Budapest University of Technology and Economics; thesis on non-equilibrium thermodynamics.
2020 Doctor of Science, Hungarian Academy of Sciences, dissertation on nonequilibrium thermomechanics.

Positions:

1990–2005 Department of Chemical Physics, Budapest University of Technology and Economics, Budapest, Hungary; doctoral scholarship, assistant professor, associate professor
2005-2012 Department of Theoretical Physics, Research Institute of Particle and Nuclear Physics of the Hungarian Academy of Sciences, Budapest, senior research fellow.
2012- Department of Theoretical Physics, Wigner Research Centre for Physics, Institute of Particle and Nuclear Physics, Budapest, senior research fellow, scientific advisor (2020-), deputy director (2022-)
2010- Department of Energy Engineering, Budapest University of Technology and Economics, senior research fellow, scientific advisor (2020-).

Teaching:

1990–2005: calculation and laboratory exercises in physics for chemical engineering students; lectures in biophysics for students in biomedical engineering; exercises in mathematical analysis for physics students (1996-98 ELTE);
2008- lectures in advanced thermodynamics and nonequilibrium thermodynamics (in English and in Hungarian) and exercises in various thermodynamics subjects for mechanical engineering students. BSC and MSC students in mathematics, physics and mechanical engineering. Supervising several scientific student projects (TDK).

Research interest:

Current main research area: nonequilibrium thermodynamics, classical and relativistic continua, theory and applications of thermodynamics.

Theory:

- thermodynamic origin of the differential equations of physics, e.g. structure of variational principles;
- second law of thermodynamics and the stability of processes;
- memory and nonlocal extensions of nonequilibrium thermodynamics and their experimental predictions and verification;
- space-time consistency of constitutive relations and thermodynamic theories.

Applications:

- plasma physics and magnetohydrodynamics;
- rheology, damage and failure criteria of rigid materials in particular rocks;
- theoretical prediction and experimental verification of non-Fourier Guyer-Krumhansl type heat conduction in various heterogeneous materials at room temperature;
- relativistic thermodynamics and stability of relativistic fluids;
- no-additive statistical physics of heavy-ion collisions;
- thermodynamical extension of Newtonian gravity and its consequences.

Industrial research:

- lamps for GE Tungstam; core sample analysis for MOL, tunnel convergence evaluation at Bataapáti NWD site; Einstein Telescope site preparation measurements;

Awards, titles:

- Bolyai János Fellowship of the Hungarian Academy of Sciences
- 2005 Honorary member of IAPS (International Association of Physics Students);
- 2015 Gold level of Montavid Research Medal;
- 2016 Foreign member of Accademia Peloritana dei Pericolanti;

Grants:

Principal investigator of 1 normal and 3 consortial Hungarian National Research Fund grants. 2005-2009, 2010-2015, 2015-2019, 2017-21.

Longer international visits:

- guest researcher in Messina, Italy (2 months); Tallinn University, Estonia (3 months); Bergen University, Norway (6 months), Earthquake Research Institute, Tokyo, Japan (1.5 months),
- guest professor in Messina University, Italy (2 months); Huaqiao University, Xiamen, China (1 month).

Other professional activities:

- member of the editorial board in Continuum Mechanics and Thermodynamics, Journal of Non-Equilibrium Thermodynamics, Entropy,
- Founding member of the Society for the Unity of Science and Technology,
- 2019- President of the Steering Committee of Joint European Thermodynamic Conference series.

Numbers:

2 books, 94 journal articles, 43 conference papers, 16 book chapters. The full record is [HERE](#).