



Current positions

Director of the DLR-Institute of Engineering Thermodynamics (since 2014) and Professor of Energy Storage at the University of Stuttgart (since 2014)

Previous positions (two selected)

Professor of Engineering Thermodynamics at Ilmenau University of Technology (from 1998 to 2014)

Assistant Professor (Dozent) at Dresden University of Technology (from 1995 to 1998)

Scientific degrees

PhD in Theoretical Physics, Dresden University of Technology (1990)

Habilitation, Dresden University of Technology (1995)

Recent research topics

Thermal energy storage, Carnot Batteries, Energy storage simulation

Awards, honors, memberships

Lifetime Member of the American Physical Society (APS)

Member of the Think Tank of the Helmholtz Society (since 2018)

Member of the Scientific Board (Fachkollegium) of the DFG (from 2008 to 2016)

Publications/Patents (5 most important)

- **A. Thess**, Thermodynamic Efficiency of Pumped Heat Electricity Storage, *Phys. Rev. Lett.*, 111, 110602 (2013) [doi:10.1103/PhysRevLett.111.110602](https://doi.org/10.1103/PhysRevLett.111.110602)
- **X. Wang, A. Thess** et al, Lorentz Force Particle Analyser, *J. Appl. Phys.*, 120, 014903 (2016), [doi:10.1063/1.4956842](https://doi.org/10.1063/1.4956842)
- **K.K. Cao, A. Nitto, E. Sperber, A. Thess**, Expanding the horizons of power-to-heat: Cost assessment for new space heating concepts with Wind Powered Thermal Energy Systems, *Energy*, 164, 925-936 (2018), [doi:10.1016/j.energy.2018.08.173](https://doi.org/10.1016/j.energy.2018.08.173)
- **M. Schäfer, A. Thess**, Simulation of a closed low-pressure honeycomb adsorber for thermal energy storage; *Int. J. Heat Mass Transf.*, 126, 796–807 (2018), [doi:10.1016/j.ijheatmasstransfer.2018.05.0520017-9310/2018](https://doi.org/10.1016/j.ijheatmasstransfer.2018.05.0520017-9310/2018)
- **T. Fröhlich, A. Thess**, Verfahren und Vorrichtung zur berührungslosen Messung eines Massen- oder Volumenstroms eines elektrisch leitfähigen Fluids. DE 11 2012 003 952 (2019).