

Subtopic 2.3: Batteries in Application

Dr. Gunter Gerbeth



Current position

Head of Institute of Fluid Dynamics, HZDR (since 2012)

Previous positions (two selected)

Acting head of Institute of Safety Research, HZDR (2010-2011)

Head of Division Magnetohydrodynamics at Forschungszentrum Dresden-Rossendorf (1996-2010)

Scientific degrees

PhD in Physics / Academy of Science GDR (1988)

Diploma in Physics / TU Dresden (1984)

Recent research topics

Fluid Dynamics, Magnetohydrodynamics, Metallurgy, Crystal growth, Geo- and astrophysical fluid dynamics, Thermal fluid dynamics, measurement techniques

Awards, honors, memberships

Doctor Honoris Causa, University of Latvia (2017), Williams award (UK, 2014), Associate editor journals "Magnetohydrodynamics" and "Metals"

Publications/Patents (5 most important)

- A. Gailitis, **G. Gerbeth**, **Th. Gundrum**, O. Lielausis, G. Lipsbergs, et al., Self-excitation in a helical liquid metal flow: the Riga dynamo experiments, *J. Plasma Phys.* 84, 735840301 (2018) [doi:10.1017/S0022377818000363](https://doi.org/10.1017/S0022377818000363)
- **M. Seilmayer**, **V. Galindo**, **G. Gerbeth**, **Th. Gundrum**, **F. Stefani**, et al., Experimental evidence for nonaxisymmetric instability in a rotating liquid metal exposed to an azimuthal magnetic field, *Phys. Rev. Lett.* 113, 024505 (2014) [doi:10.1103/PhysRevLett.113.024505](https://doi.org/10.1103/PhysRevLett.113.024505)
- **K. Timmel**, **N. Shevchenko**, M. Röder, M. Andernhuber, **G. Gerbeth**, et al., Visualization of liquid metal two-phase flows in a physical model of the continuous casting process of steel, *Met. Mat. Trans. B* 46, 700 (2015) [doi:10.1007/s11663-014-0231-8](https://doi.org/10.1007/s11663-014-0231-8)
- I. Grants, **G. Gerbeth**, A. Bojarevics, Contactless magnetic excitation of acoustic cavitation in liquid metals, *J. Applied Physics* 117, 204901 (2015) [doi:10.1063/1.4921164](https://doi.org/10.1063/1.4921164)
- I. Grants, **J. Pal**, **G. Gerbeth**, Physical modelling of Czochralski crystal growth in horizontal magnetic field, *J. Cryst. Growth* 470, 58 (2017) [doi:10.1016/j.crysgro.2017.04.021](https://doi.org/10.1016/j.crysgro.2017.04.021)