

## Curriculum Vitae of Dietmar Hömberg

Position: Full Professor at TU Berlin  
Head of RG Nonlinear Optimization and Inverse Problems  
at WIAS and  
adjunct Professor at NTNU Trondheim

Affiliation: Weierstrass Institute for Applied Analysis and Stochastics  
Mohrenstrasse 39, 10117 Berlin, Germany



### Research interests

Phase transitions, optimal control of PDEs, optimal shape design, nonlinear optimization

### Employment

since 2014 adjunct professor, Norwegian University of Science  
and Technology, Trondheim

since 2003 Full professor, Technische Universität Berlin  
and head of research group “Nonlinear Optimization and Inverse Problems” of WIAS

1994–2003 Research associate, WIAS Berlin

1988–1994 Research assistant, University of Essen

### Academic degrees

2002 Habilitation, Technische Universität Berlin

1993 Ph.D. University of Essen

1988 Diploma, University of Münster

### Funding

- more than 15 third-party funded research projects (German Science Foundation, German Ministry of Research and Education, direct industry funding, Horizon 2020 and COST)

### Honors, awards, service

- Chair of ECMI Research and Innovation Committee
- Vice-chair of Technical Committee 7, International Federation for Information Processing (IFIP)
- Chair of Cost Action TD1409 (Mathematics for Industry Network), 2018–2019
- President of European Consortium for Mathematics in Industry (ECMI), 2016–2017
- Coordinator of European Industrial Doctorate (EID) project “MIMESIS – Mathematics and Materials Science for Steel Production and Manufacturing”, 2015–2019

### Research and supervision

- more than 50 Journal articles
- 1200 Citations, h-index 20 (Google Scholar)
- Supervision of 9 PhD students and 12 MSc students at TU Berlin since 2012

## Selected publications

1. Hömberg, D., Meyer, Ch., Rehberg, J., Ring, W.: Optimal control for the thermistor problem, *SIAM J. Control Optim.*, 48 (2010), 3449–3481.
2. Chełmński, K., Hömberg, D., Rott, O.: On a thermomechanical milling model, *Nonlinear Anal. Real World Appl.*, 12 (2011), 615–632.
3. Hömberg, D., Liu, J., Togobytska, N.: Identification of the thermal growth characteristics of coagulated tumor tissue in laser-induced thermotherapy, *Math. Methods Appl. Sci.*, 35 (2012), 497–509.
4. Hömberg, D., Krumbiegel, K., Rehberg, J.: Boundary coefficient control — A maximal parabolic regularity approach, *Appl. Math. Optim.*, 67 (2013), 3–31.
5. Hömberg, D., Lu, S., Sakamoto, K., Yamamoto, M.: Parameter identification in non-isothermal nucleation and growth processes, *Inverse Problems*, 30 (2014), 035003/1–035003/24.
6. Hömberg, D., Petzold, T., Rocca, E.: Analysis and simulations of multifrequency induction hardening, *Nonlinear Anal. Real World Appl.*, 22 (2015), 84–97.
7. Sturm, K., Hintermüller, M., Hömberg, D.: Distortion compensation as a shape optimisation problem for a sharp interface model, *Comput. Optim. Appl.*, 64 (2016), pp. 557–588.
8. Hömberg, D., Patachini, F.S., Sakamoto, K., Zimmer, J.: A revisited Johnson–Mehl–Avrami–Kolmogorov model and the evolution of grain-size distributions in steel, *IMA J. Appl. Math.*, 82 (2017), pp. 763–780.
9. Farshbaf Shaker, M.H., Henrion, R., Hömberg, D.: Properties of chance constraints in infinite dimensions with an application to PDE constrained optimization, *Set-Valued Var. Anal.*, 26 (2018), pp. 821–841.
10. Hömberg, D., Lu, S., Yamamoto, M.: Uniqueness for an inverse problem for a nonlinear parabolic system with an integral term by one-point Dirichlet data, *J. Differential Equations*, 266 (2019), pp. 7525–7544.