



Current positions

Head of Imaging Group at HZB (since 2007)

Previous position (two selected)

Assistant Lecturer (TUB) and Coordinator Application Centre for Industry (HZB)
Senior Researcher at Fraunhofer Institute IZM

Scientific degree

Dr. rer. nat. in Solid State Physics (Microscopy, Quantum Dots)
Diploma in Experimental Physics (ST Microscopy, Semiconductors)

Recent research topics

Operando/In-Situ Imaging (Synchrotron, X-rays, Neutrons), Tomography, Energy-Related Materials, 3D Analytics, Machine Learning, Big Data, Structure Modelling

Publications (5 most important)

- **K. Dong**, M. Osenberg, F. Sun, H. Markötter, C.J. Jafta, et al., Non-destructive characterization of lithium deposition at the Li/separator and Li/carbon matrix interregion by synchrotron X-ray tomography, *Nano Energy*, 62, 11 (2019) [doi:10.1016/j.nanoen.2019.05.022](https://doi.org/10.1016/j.nanoen.2019.05.022)
- **F. Sun**, L. Zielke, H. Markötter, **A. Hilger**, et al., Morphological evolution of electrochemically plated/stripped lithium microstructures by synchrotron X-ray phase contrast tomography, *ACS Nano* 10, 8, 7990 (2016) [doi:10.1021/acs.nano.6b03939](https://doi.org/10.1021/acs.nano.6b03939)
- **A. Hilger**, **I. Manke**, **N. Kardjilov**, M. Osenberg, H. Markötter, et al., Tensorial neutron tomography of three-dimensional magnetic vector fields in bulk materials, *Nat. Commun.* 9, 4023 (2018) [doi:10.1038/s41467-018-06593-4](https://doi.org/10.1038/s41467-018-06593-4)
- **N. Kardjilov**, **I. Manke**, R. Woracek, **A. Hilger**, **J. Banhart**, Advances in neutron imaging, *Mater Today* 21, 6, 652 (2018) [doi:10.1016/j.mattod.2018.03.001](https://doi.org/10.1016/j.mattod.2018.03.001)
- **N. Kardjilov**, **I. Manke**, M. Strobl, **A. Hilger**, W. Treimer et al., Three-dimensional imaging of magnetic fields with polarised neutrons, *Nat. Phys.* 4, 399 (2008) [doi:10.1038/nphys912](https://doi.org/10.1038/nphys912)