

**Current positions**

Head of the Division “Renewable Energy” at HZB (since 2017, deputy head since 2013)

Director of Institute Competence Center Thin Film and Nanotechnology for Photovoltaics Berlin (PVcomB), Full Professor at HTW Berlin (since 2012)

Previous positions

Scientist Akzo Nobel (1996 – 1999)

R&D Manager at solar cell company Helianthos, part of Akzo Nobel/Shell Solar/Nuon (2000 – 2008)

Scientific degree

PhD in physics / Fom Institute AMOLF/VU Amsterdam(1995)

Recent research topics

Si and compound semiconductor based single junction and tandem solar cells, infrastructure integrated PV, solar fuels, technology transfer to industry

Awards, honors, memberships

Member Executive Committee European Technology and Innovation Platform Photovoltaics (since 2014), Vice President Berlin Brandenburg Energy Network (since 2010)

Publications/Patents (5 most important)

- **M. Jost, T Bertram, D. Koushik, J. Marquez, M. Verheijen, et al.**, 21.6%-Efficient Monolithic Perovskite/Cu(In,Ga)Se₂ Tandem Solar Cells with Thin Conformal Hole Transport Layers for Integration on Rough Bottom Cell Surfaces *ACS Energy Lett.* (2019) [doi:10.1021/acsenergylett.9b00135](https://doi.org/10.1021/acsenergylett.9b00135)
- **A.B. Morales-Vilches, A. Cruz, S. Pingel, S. Neubert, L. Mazzarella, et al.**, ITO-Free Silicon Heterojunction Solar Cells With ZnO:Al/SiO₂ Front Electrodes Reaching a Conversion Efficiency of 23% *IEEE J. Photovolt.* 9 (1), 34-39 (2019) [doi:10.1109/JPHOTOV.2018.2873307](https://doi.org/10.1109/JPHOTOV.2018.2873307)
- **S.S. Schmidt, C. Wolf, H. Rodriguez-Alvarez, J.-P. Bäcker, C.A. Kaufmann, et al.**, Adjusting the Ga grading during fast atmospheric processing of Cu(In,Ga)Se₂ solar cell absorber layers using elemental selenium vapor *Prog. Photovoltaics* [doi:10.1002/ppp.2865](https://doi.org/10.1002/ppp.2865)
- **L. Mazzarella, Y.-H. Lin, S. Kirner, A. B. Morales-Vilches, L. Korte, et al.**, Infrared Light Management Using a Nanocrystalline Silicon Oxide Interlayer in Monolithic Perovskite/Silicon Heterojunction Tandem Solar Cells with Efficiency above 25% *Adv. Energy Mat.* 9, 1803241 (2019) [doi:10.1002/aenm.201803241](https://doi.org/10.1002/aenm.201803241)
- **S. Kirner, P. Bogdanoff, B. Stannowski, R. van de Krol, B. Rech, et al.**, Architectures for scalable integrated photo driven catalytic devices-A concept study *Int. J. Hydrogen Energ.* 41 (2016) [doi:10.1016/j.ijhydene.2016.05.088](https://doi.org/10.1016/j.ijhydene.2016.05.088)