



Current positions

Co-Institute Director at both Institute of Microstructure Technology and Light Technology Institute, KIT (since 2014)
W3 Professor, KIT (since 2014)

Previous positions (two selected)

Visiting professor, Nelson Mandela African Institute of Science & Technology, Tanzania (2013–2014)
Professor, Heriot-Watt University, Edinburgh, United Kingdom (2008–2014)

Scientific degrees

Graduate Certificate in University Learning & Teaching, Univ. New South Wales (UNSW), Australia (2005)
Doctor of Philosophy in Electrical Engineering, UNSW, Australia (2002)

Recent research topics

Third generation PV: i) Spectral conversion for solar energy harvesting, incl. up- and down-conversion; ii) perovskite PV; Nanophotonic structures for enhanced light in-coupling and anti-soiling; Solar-driven water treatment processes

Awards, honors, memberships

Prizes: i) Best paper at PVSAT4 Conference, 2008, Bath, UK; ii) Mondialogo Engineering Award 2005, Germany; iii) 2nd prize at the Energy Globe Awards 2003, Austria; Member of IEEE (Senior Member), OSA (senior member), SPIE (member)

Publications (5 most important)

- **D. Hudry, I.A. Howard, R. Popescu, D. Gerthsen, B.S. Richards**, Structure-property relationships in lanthanide-doped upconverting nanocrystals: recent advances in understanding core-shell structures, *Adv. Mater.* (2019) 1900623 (invited review) [doi:10.1002/adma.201900623](https://doi.org/10.1002/adma.201900623)
- **S. Schlißke, F. Mathies, D. Busko, N. Strobel, T. Rödelmeier, et al.**, Design and color flexibility for inkjet-printed perovskite photovoltaics, *ACS Appl. Energy Mater.* (2019) 2, 764-769 [doi:10.1021/acsaem.8b01829](https://doi.org/10.1021/acsaem.8b01829)
- **A. Farooq, I.M. Hossain, S. Moghadamzadeh, J. Schwenzer, T. Abzieher, et al.**, Spectral dependence of degradation under ultraviolet light in perovskite solar cells, *ACS Appl. Mater. Inter.* (2018) 10, 21985-21990 [doi:10.1021/acsami.8b03024](https://doi.org/10.1021/acsami.8b03024)
- **A. Roslizar, S. Dottermusch, F. Füllers, M.N. Kavalenka, M. Guttmann, et al.**, Self-cleaning performance of superhydrophobic hot-embossed fluoropolymer films for photovoltaic modules, *Sol. Energ. Mat. Sol.. C.* (2019) 189, 188-196 [doi:10.1016/j.solmat.2018.09.017](https://doi.org/10.1016/j.solmat.2018.09.017)
- A.I. Schäfer, J. Shen, **B.S. Richards**, Renewable energy-powered membrane technology in Tanzanian communities, *npj Clean Water* (2018) 1, 24 [doi:10.1038/s41545-018-0026-6](https://doi.org/10.1038/s41545-018-0026-6)