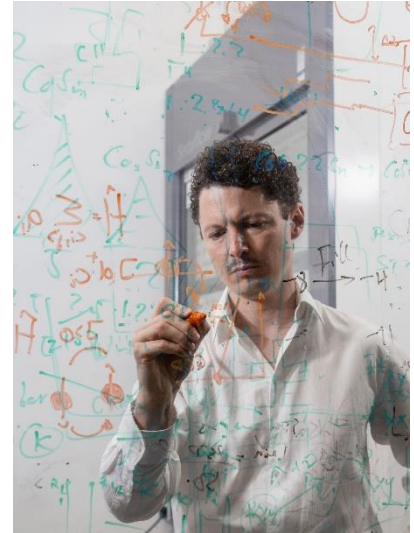


Dr Berthold Jäck
Assistant Professor, Department of Physics
The Hong Kong University of Science and Technology

Biography

Dr. Berthold Jäck obtained his diploma degree in applied physics from Würzburg University, Germany in 2011 and was an undergraduate fellow of the German Academic Exchange Association at UC Berkeley, USA in 2008-2009. He completed his doctoral studies in physics under the supervision of Prof. Klaus Kern at the Ecole Polytechnique Fédérale de Lausanne, Switzerland in 2015. Dr. Jäck then joined the laboratory of Prof. Ali Yazdani at Princeton University, USA as a postdoctoral fellow of the Alexander-von-Humboldt foundation. Since January 2021, Dr. Berthold Jäck is an Assistant Professor in the Department of Physics at the Hong Kong University of Science and Technology, where he is leading the laboratory for quantum matter and microscopy.



Research Areas

Dr. Jäck's research interest is centered around the microscopic investigation of correlated and topological electronic phases in low-dimensional quantum materials. Examples include Majorana zero modes in topological superconductors, quantum spin liquids in frustrated magnets, and many-body ground states in moiré superlattices, which show promising potential for applications in information technology and energy-efficient electronic devices. To this end, his laboratory combines low-temperature scanning tunneling microscopy investigations and electrical transport measurements with the fabrication of designer quantum materials. Another focus of his research activities is devoted to the development of novel quantum microscopies for the spatially and temporally resolved study of electronic quantum phases of matter.

Awards

- 2022 Croucher Innovation Award
- 2020 Humboldt Return Fellowship
- 2016 Humboldt Postdoctoral Fellow
- 2011 Diploma degree with distinction
- 2008 Undergraduate Fellow of the German Academic Exchange Association