



Quantum Computing Pioneer

Head of IBM Research Quantum Europe

Heike Riel researches on endless computing power. She is an IBM Fellow, Head of Science & Technology and Lead IBM Research Quantum Europe. Her goal is to create scientific and technological breakthroughs in quantum computing, artificial intelligence physics, nanoscience and nanotechnology, precision diagnostics and smart system integration.

She is a recognized expert in nanotechnology and nanoscience and has contributed significantly to advances in the technology. In her research, Dr. Heike Riel focuses on advancing the frontiers of information technology through the physical sciences. Her current research interests include new materials and device concepts for future nanoelectronics for applications in quantum computing and neuromorphic computing.

Heike Riel (*1971) completed an apprenticeship as a cabinetmaker, then studied physics at the Friedrich-Alexander University of Erlangen-Nuremberg and received her PhD from the University of Bayreuth in 2003 with a thesis on "Optimization of multilayer OLED systems". After an internship at the Hewlett-Packard Research Laboratory in Palo Alto, she joined the IBM Zurich Research Lab as a PhD student in 1998 and became a member of the research staff in 2003. From 2008 to 2014 she led the Nanoscale Electronics Group and since 2014 she has been head of the MIND group. In 2011, she completed her studies at Henley Business School with an MBA. In 2013, Heike Riel was named an IBM Fellow, the company's highest technical honor. She is a member of the IBM Academy of Technology and Deputy Director of the new Swiss National Competence Center for Research on Silicon Spin Qubits.

She has been Chair of the Scientific Advisory Board and the Research Supervisory Board of Forschungszentrum Jülich, Germany, since 2013, a member of SATW (Swiss Academy of Engineering Sciences) since 2014, and a member of the Leopoldina since 2015. She is a member of numerous committees and advisory boards and has received several awards for her research.

A top researcher, Heike Riel is the author of more than 140 peer-reviewed publications and holds more than 50 patents. As a much sought-after keynote speaker, she is a frequent guest at renowned international conferences.

Topics (Selection):

- The Future of Computing
- Quantum Computing - Status and Where Are We Heading?