Dr. Ing. Nan Du

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Dr. Nan Du is a Senior Scientist and Group Leader at the Leibniz Institute of Photonic Technology (Leibniz-IPHT), Germany, and holds a parallel group leadership position at the Institute of Solid-State Physics, Friedrich Schiller University Jena. She maintains close collaboration with industry, including TECHiFAB GmbH, enabling efficient translation of laboratory-scale nanodevices into scalable and manufacturing-ready technologies.

Dr. Du received her Doctorate in Engineering (Dr.-Ing.) from Technische Universität Chemnitz and has more than 15 years of research experience in nanotechnology spanning materials, devices, and system-level integration. She is internationally recognized for her contributions to advanced memristive nanodevices and their applications in neuromorphic and in-memory computing, addressing key challenges in manufacturability, reliability, and energy efficiency.

Her research adopts a physics-aware, device–circuit co-design philosophy, leading to highly efficient and robust mixed-mode computing architectures. She has demonstrated brain-inspired synaptic functionalities enabling advanced learning capabilities beyond conventional CMOS approaches. In parallel, she leads projects on security in emerging nanotechnologies, where her work has revealed fundamental physical mechanisms underlying side-channel leakage in nanomemory devices.

Dr. Du has authored over 60 peer-reviewed publications, holds multiple international patents, and serves as Principal Investigator on several projects funded by the German Research Foundation (DFG), including Priority Programs on nano-security and energy-efficient computing.