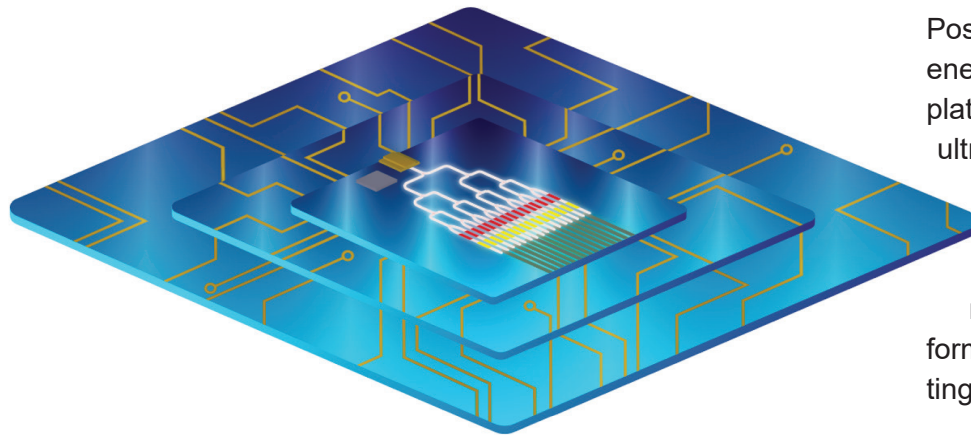


<https://uni-due.zoom-x.de/j/64228670246?pwd=RjVQeFNIUkRKRkpiNVpKYXhJaFNLdz09> (gilt für alle Vorträge)

Post-CMOS Photonics for optical computing systems

Prof. Dr. Anna Lena Schall-Giesecke, Integrated Photonics, Faculty of Engineering, University of Duisburg-Essen and Fraunhofer Institute of Microelectronic Circuits and Systems (IMS), Duisburg, Germany



Post-CMOS photonic technologies provide a pathway toward scalable and energy-efficient optical computing systems. By leveraging advanced material platforms such as silicon nitride and hybrid photonic integration, they enable ultra-fast data processing beyond the limits of electronic interconnects. This talk presents recent progress in integrated photonic circuits that combine passive, active, and nonlinear components for computing applications. We discuss novel approaches for optical signal processing, matrix multiplication, and neuromorphic architectures realized on post-CMOS platforms. Finally, the talk outlines future challenges and opportunities for implementing large-scale optical computing infrastructures.