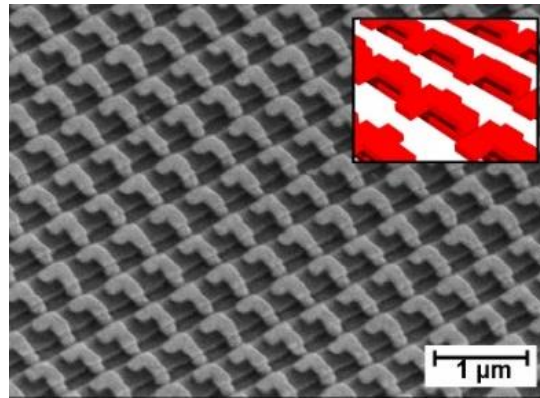
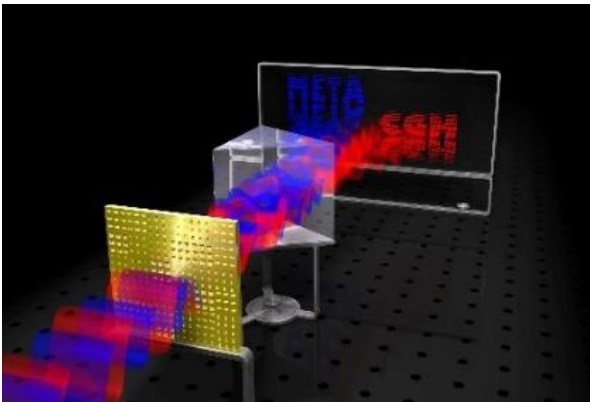


Metamaterial-based photonic neuromorphic computing

Theory and design:

- Machine learning algorithms and neural networks for inverse system design
- Rigorous numerical simulations of nanostructured surfaces on high-performance computing systems
- Analytical modelling of complex physical systems



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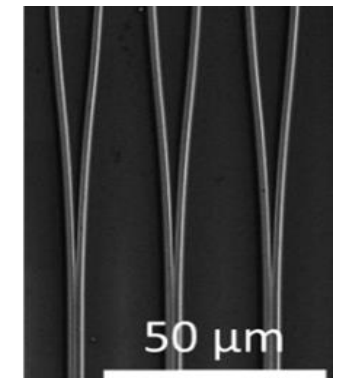
Integrated quantum photonics

Theory and design:

- Theoretical quantum optics and numerical simulations, e.g. design of integrated waveguides and circuits
- Development and demonstration of quantum computing applications

In the lab:

- Experimental characterization and demonstration of integrated circuits
- Nanofab in the cleanroom



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