

## **Stimulated Brillouin scattering – a strong nonlinear effect in guided optics**

Optical and traveling acoustic waves can interact in optical fibers over the coherent process of stimulated Brillouin scattering (SBS). SBS has been of crucial importance for applications in optical fiber sensing, microwave photonics, Brillouin lasers and signal processing. In this lecture, I will talk about the fundamentals of light-sound interactions, their applications in optical fibers and integrated circuits and give an overview on recent advances of Brillouin interactions in waveguides, bulk resonators, liquid-core fibers and chiral structures.



Lecturer: Birgit Stiller is an experimental physicist and the leader of an independent Max Planck Research Group at the Max Planck Institute for the Science of Light (MPL) in Erlangen, Germany. Her group's interest is on Brillouin scattering and optoacoustic interactions in waveguides and optical fibers at the classical and quantum level. Her wider research background is in nonlinear optics, quantum communications and integrated optics. Before she held a position as Postdoctoral Research Fellow at the University of Sydney, Australia, and was a Postdoctoral Researcher in the field of quantum cryptography in Erlangen. She received her PhD from the CNRS Institute FEMTO-ST Besançon, France.