



## Physikalisches Kolloquium

**Thomas F. Krauss, University of St. Andrews**  
**»Low loss and slow light photonic crystal waveguides in SOI«**  
*Einführung: K. Busch*

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Photonic crystal waveguides have made tremendous progress in recent years, and have evolved from an academic curiosity to an area where practical applications are beginning to appear feasible. Waveguides consisting of a single line of missing holes ("W1") have become the benchmark to assess fabrication quality, and losses of order 10 dB/cm and below are now possible. We will discuss fabrication and characterisation of such waveguides, made both by e-beam and by deep UV lithography.

While these results are very encouraging, achieving low losses is only the beginning. True functionality arises from the exploitation of dispersive effects, especially operation in the "slow wave" regime. Novel designs enabling non-dispersive slow wave operation with considerable bandwidth are being developed and will be discussed.

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**Freitag, 26.05.2006, 17 Uhr c.t.,**  
**Universität Karlsruhe (TH), Otto-Lehmann-Hörsaal, Physik-Flachbau (Geb. 30.22).**  
**Anschließend Nachsitzung im Gastdozentenhaus „Heinrich Hertz“**