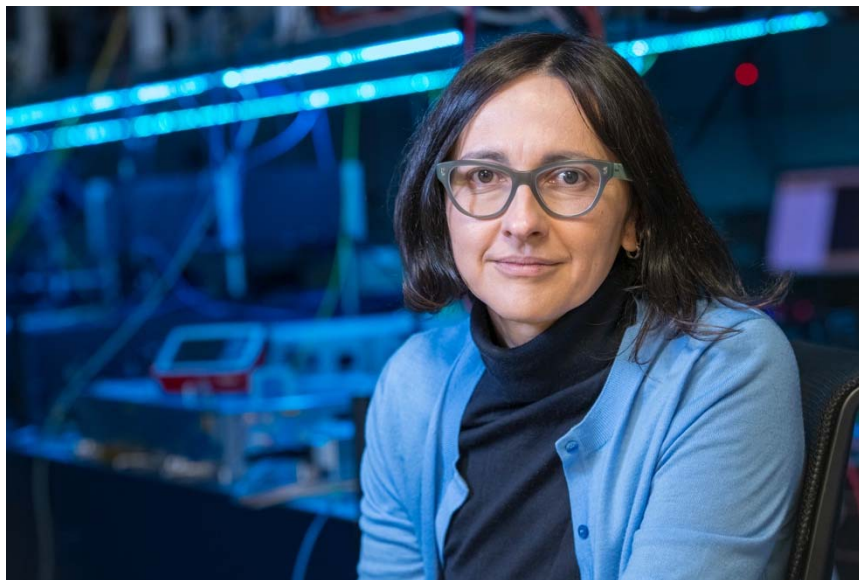


Invitation to IQST Seminar

on Thursday, April 4th, 2019, 1pm
University of Stuttgart
Pfaffenwaldring 57, Room 2.136



Jelena Vuckovic

Department of Electrical Engineering, Stanford University

Optimized quantum photonics

At the core of most quantum technologies, including quantum networks and quantum simulators, is the development of homogeneous, long lived qubits with excellent optical interfaces, and the development of high efficiency and robust optical interconnects for such qubits. To achieve this goal, we have been studying color centers in diamond (SiV, SnV) and silicon carbide (VSi in 4H SiC), in combination with novel fabrication techniques, and relying on the powerful and fast photonics inverse design approach that we have developed.

Our inverse design approach offers a powerful tool to implement classical and quantum photonic circuits with superior properties, including robustness to errors in fabrication and temperature, compact footprints, novel functionalities, and high efficiencies. We illustrate this with a number of demonstrated devices, including efficient quantum emitter-photon interfaces for color centers in diamond and in SiC.

Host: Prof. Dr. Jörg Wrachtrup, 3rd Institute of Physics, University of Stuttgart