

# Welcome to **Optopub** in Stockholm!

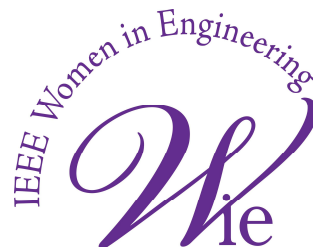
**Thursday 26th September-2019 17.30 – 20.30**

**RISE-Acreo, Electrum at Kista, Kistagången 16 / Isafjordsgatan 22  
Room Knuth, Elevator B to Level 6**

## **Transparent wood in Photonics – peculiar finding or future technology**

**Elena Vasileva, PhD, Photonics group,  
Department of Applied Physics, KTH**

Traditionally, wood has been considered as a material mainly utilized in construction and paper industry. During recent years, however, it gained more functionalities. Intensive research on wood technology is going on in Wallenberg Wood Science Center, where they make wood transparent. This center is a collaborative research effort between the Royal Institute of Technology, Chalmers University of Technology, and Linköping University. Even though this bio composite material was initially developed for the study of the internal structure of wood a few decades ago, the interest for its application in optics/photonics has only recently attracted the attention of researchers. Besides the anisotropy, the structure of transparent wood (TW) has a hierarchical arrangement with features ranging from nanometers to micrometer sizes. The main interest in TW within the field of optics is due to its remarkable combination of the unique morphology and optical transparency. In this presentation, we will discuss TW structure, specific features of light interaction with the material, and a particular example of an application of transparent wood as a platform for integrating organic dyes. The combination of residual scattering in TW with optical gain of a dye leads to the generation of laser emission, or simply speaking, to a wood laser.



## **SiC MEMS based pressure sensors operating in harsh environment**

**Qin Wang, PhD, Senior Expert, RISE Acreo AB**

In automotive industry and especially in the combustion engine development and management there is a need to measure the pressure in the combustion process. In one of ongoing projects with industrial partners at RISE Acreo, we have designed/fabricated Fabry-Perot based SiC MEMS devices as core of pressure sensors. The fabricated devices have been verified at the desired pressure conditions up to 350 bar and demonstrated withstanding in a temperature range of about -200 °C to 1000 °C.

**followed by Optopub 18:30-20:30,  
IEEE Women in Engineering & IEEE Photonics Society Sweden  
Chapter invites everyone who pre-registered for food and drinks.**

**Please, register here: <https://doodle.com/poll/ftpkwg3cn65n2kyv>**

**No later than Tuesday 24<sup>th</sup> Sep. before kl.16:00 !**

**Welcome!**

**Lennart BM Svensson (PS) & Elena Vasileva (IEEE) & Qin Wang (RISE)**

*Optopubs are co-arranged with*



**SOS**

Svenska OptikSällskapet  
Swedish Optical Society  
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