

School of Physical Sciences Seminar

Speaker: Prof. Klaus Drese (HS Coburg, Germany)

Date: Thursday March 16th 2023 at 13:00

Location: N115, School of Physical Sciences, Marconi Building

Title: Acoustic Waves as a Tool for Sensing

Abstract:

Acoustic waves are like optical waves and non-relativistic quantum systems described by second order differential equations. Due to the plethora of the mechanical properties and the different geometries the acoustic waves provide an often-underestimated richness in signals and chance to characterize systems. In this talk some examples are show how acoustic waves can measure at locations that are optically and electrically hardly accessible. Also, examples are given that exemplify that especially guided waves add to the richness of the phenomena. Applications range from the destruction free hardness measurement via laser acoustics, over the biofilm detection in water pipes to the flow measurements in the microfluidics.

Bio:

Klaus Stefan Drese heads the Institute of Sensor and Actuator Technology (ISAT), University of Applied Sciences Coburg since 2016. He studied physics at the Julius Maximilian University in Wuerzburg and at the State University of New York at Stony Brook. He received his PhD in theoretical physics in the area of time-dependent quantum mechanics at the Phillips University in Marburg. He joined the simulation group of IMM in 1998, became head of the Fluidics and Simulation Department in early 2004 and was Scientific Director from 2004 to 2016. His main research topics are microfluidics, sensors, simulation and surface acoustic wave with applications ranging from industrial sensors to medical point of care testing.