



## »SENSING WITH QUANTUM LIGHT« WORKSHOP 2019

**SUNDAY, SEPTEMBER 15 TO WEDNESDAY, SEPTEMBER 18**

Sensing with quantum light aims at utilizing the properties of quantum optical states to overcome classical limitations, for example with respect to resolution and sensitivity. In addition, it is expected to offer the potential for new measurement modalities, for example by linking different wavelength regions. The program of the workshop will consist of invited talks and poster sessions with contributed papers, covering theoretical and experimental aspects of sensing with quantum light. Topics will include:

- modalities like sensing with undetected photons via nonlinear interferometers
- induced coherence without stimulated emission
- spectroscopy with entangled light
- the generation of highly non-degenerate photons
- ghost imaging
- application potentials

Participants are encouraged to submit contributed papers to the workshop to be presented as posters. Based on the submitted abstracts, the organizers will select up to three papers for an oral presentation at the workshop.

The deadline for poster submission is July 31st.

### Speakers

Werner Brockherde (Fraunhofer IMS, Duisburg): »SPAD detector arrays for imaging applications«  
 Hugo Defienne (University of Glasgow, UK): »New methods of imaging physics«  
 Gaetano Frascella (MPL, Erlangen): » $SU(1,1)$  interferometry and enhanced quantum imaging«  
 Daniel Molter (Fraunhofer ITWM, Kaiserslautern): »Terahertz imaging«  
 Marco Genovese, (INRIM, Turin, Italy): »Quantum-enhanced imaging and sensing«  
 Markus Gräfe (Fraunhofer IOF, Jena): »Quantum Imaging«  
 Leonid Krivitzky (A\*STAR, Singapur): »Spectroscopy and Sensing with quantum optical nonlinear interferometry«  
 Radek Lapkiewicz (Warsaw University, Poland): »Quantum Imaging with Image Intensifiers«  
 Gabriella Lemos (UMass, Boston): »Quantum Imaging with Undetected Photons and its classical analogy«  
 Fabiano Lever (University of Potsdam): »Two-photon-spectroscopy with entangled light«  
 Sven Ramelow (HU Berlin): »Mid-Infrared Quantum Imaging and Spectroscopy«  
 Frank Setzpfandt (Friedrich Schiller University Jena): »Quantum imaging and sensing«  
 Frank Schlawin (Oxford University, UK): »Spectroscopy with entangled light«  
 Joachim von Zanthier (University Erlangen): »Quantum Imaging with incoherent X-rays«

### Location

Physikzentrum Bad Honnef,  
Germany



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### Program Committee

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### Registration

[www.iof.fraunhofer.de/SQL](http://www.iof.fraunhofer.de/SQL)

Information about acceptance by August 10th. Please note that the capacity is limited and rooms are assigned on a first come, first serve basis.