

## **2017 Young Researcher Award in Optical Technologies**

In 2017, for the tenth time, the Erlangen Graduate School in Advanced Optical Technologies (SAOT) will present the Young Researcher Award in Optical Technologies (YRA) to a young scientist with an excellent proven record in optics and optical technologies.

The 2017 designated laureate is Dr. Roarke Horstmeyer, Einstein International Postdoctoral Fellow at Charité Medical School and Humboldt University of Berlin. During the award celebration ceremony on July 14<sup>th</sup>, 2017, the award will be conferred on him in recognition of his outstanding contributions related to “3D microscopy imaging and classification with 4Pi Ptychography”.

Dr. Horstmeyer will work on improving the achievable resolution of 3D Fourier ptychography using both reflected and transmitted light, and to explore how such an information-rich dataset may improve the accuracy of the image classification via machine learning. The first main application of this work will be aimed towards lithographic mask inspection. However, its findings will also directly apply to biological samples that both reflect and transmit light (e.g. collagen fibers, lymph nodes, or samples functionalized on semi-reflective substrates).

The expertise of Dr. Horstmeyer fits well to establish a fruitful collaboration between SAOT researchers and him. He will especially work with the group of PD Andreas Erdmann, with Prof. Sandoghar and the Nano-Optics group and Prof. Hornegger and Prof. Maier of the Pattern Recognition Lab.

As award winner he will have the status of a guest professor during his visits at the SAOT when he spends the prize money of 100,000 Euros in close collaborations with several SAOT scientists. For the next few years he will set up a small working group in Erlangen to pursue optical investigations in his area of expertise.

The award underlines SAOT's objective to improve interdisciplinary research and education in development and application of optics and optical technologies, particularly at the interfaces between natural sciences, engineering and medicine in the six SAOT research areas: optical metrology, optical material processing, optics in medicine, optical material and systems, optics in communication and information technologies and computational optics. The Young Researcher Award in Optical Technologies strengthens the international networking of distinguished experts and provides a platform for the interdisciplinary exchange of innovative scientific ideas.

Further information:

Dr. Andreas Bräuer  
SAOT Director of Administration  
+49 9131 8525853  
andreas.braeuer@fau.de