



German Rose prize laureate Janis Koester (Ulm University, middle), Prof. Max Haider (Director of CEOS GmbH, left), Prof. Michael Weber (President of Ulm University, right).

## ***SALVE graduate receives Rose Price***

The price was awarded as part of the celebration of the 52<sup>nd</sup> anniversary of the University of Ulm

July 22<sup>nd</sup>, 2019 - This year's winner of the German Rose prize is Janis Koester from the University of Ulm. The Prize was awarded as part of the celebration of Uni Ulm's 52<sup>nd</sup> anniversary.

Every year at the end of the summer term, the University celebrates its anniversary with a lecture and honors - including junior researchers. This year, the president of the University, Prof. Michael Weber, and the founder of CEOS company, Prof. Max Haider, awarded the Harald Rose-Prize, endowed with 3,000 Euros, to Janis Köster.

Janis Köster's Master thesis under the supervision of SALVE director Professor Ute Kaiser bears the name „Electron beam induced radiation damage in 2D MoTe<sub>2</sub>“. The young scientist studied defects in the two-dimensional material using high-resolution electron microscopy (HRTEM) and carried out accompanying calculations. The combination of HRTEM and Electron energy loss spectroscopy (EELS) on the one hand and image calculations on the other hand has established the electron microscope as a top tool in materials science.

Max Haider, chairman of the CEOS company emphasizes the importance of the thesis. „It is always fascinating to see how far the breakthrough in aberration correction has advanced materials science in the last 20 years.“

Some of the defects that Köster observed at an electron energy of 40 keV had never been reported before. The formation of various nanoscale structures results in materials changes, which may allow prospective control of optical and electronic properties of two-dimensional materials.

“In his master studies he has really done an exceptional work“, says Professor Ute Kaiser. “We are applying electron

diffraction and imaging studies as well as calculations using the very recent progress made in aberration correction, namely the correction of the chromatic aberration at very low voltages. His work led directly to several important publications in this field.”

### **Background Info**

The exact title of the dissertation of Janis Köster is: „Electron beam induced radiation damage in 2D MoTe<sub>2</sub>“. The experiments have been carried out in the FEI Titan and the SALVE microscope. He is currently continuing his studies at the group of Electron Microscopy for Materials Science, now as PhD student.

The Rose Prize recalls the scientific achievements in the development of electron microscopy by Professor Harald Rose. The company CEOS GmbH, donated the prize in 2015 with 30,000 euros. The prize is awarded in alternation at the former and the present place of work of Harald Rose, Technical University Darmstadt and Ulm University. It recognizes outstanding master's theses in the areas of imaging or analytical techniques, applied physics, materials science or chemistry, which are related to electron microscopy.



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