University of Jena
One PhD position in theoretical solid state physics

One PhD position (4 years) in theoretical solid state physics funded by the H2020 FET-Open Research and Innovation action via the project SiLAS is open in the group of Prof. Silvana Botti at the Friedrich-Schiller University of Jena, Germany.

* The FET-Open Project SiLAS *
The exciting project SiLAS proposes an interdisciplinary research effort intended to demonstrate efficient light emission from direct bandgap SiGe, followed by the development of a SiGe nanolaser. Possible applications include silicon-based on-chip optical interconnects and a silicon-compatible quantum light source. SiLAS brings together partners from the Netherlands, United Kingdom, Germany, Austria and Switzerland.

* PhD profile *
The PhD student will work on first-principles calculations of structural and optical properties of SiGe nanowires to support and guide the experimental effort of the other partners. The person to hire should have a background in physics and/or material science. A sound knowledge of quantum mechanics and a basic understanding of density functional theory and/or many-body physics is also requested. We will favor candidates with programming capabilities.

* The University of Jena *
The successful applicant will become part of the research group of Prof. Silvana Botti at the Institute of Condensed Matter Theory and Solid State Optics (IFTO) of the almost 500 year-old Friedrich-Schiller University of Jena. IFTO is known as a center for the development of theoretical and numerical methods and their application in condensed matter/materials science, linear and nonlinear optics and plasmonics. The research activities comprise novel effects in traditional and new materials, including nano- and metamaterials. Most research activities are devoted to the comprehensive understanding of light-matter interactions on both microscopic and macroscopic levels. There is a long-standing experience in the inclusion of many-body effects, nanostructuring, and functionalization of surfaces and interfaces and in nonlinear and nano-optics.

* Jena, city of light *
With about 1,000 researchers in the fields of optics and photonics as well as more than 9,000 employees in the high-tech industries Jena is an European centre in the field of light-based technologies. There are more than 100 companies in Jena that belong to the optoelectronic industry and precision engineering. Among them well established companies of Carl Zeiss AG, JENOPTIK AG and SCHOTT AG.

* How to apply *
The position is for 4 years and must start on January 1, 2017. Applications should include: (1) Curriculum Vitae, (2) List of courses followed during bachelor and master studies, (3) one or more reference letters, and are to be sent by email to silvana.botti@uni-jena.de. For further information please contact Prof. Silvana Botti.