

Understanding Quantum Computing

Computing Model and Algorithms

Presenter: Prof. Dr. Jörg Lässig

Affiliation: University of Applied Sciences Zittau/Görlitz, Görlitz, Germany, Full Professor

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合肥学院 计算机科学与技术系 合肥市 230601 蜀山区 经济技术开发区
南 2 区/南艳湖校区 锦绣大道 99 号 35 栋 308 教室

Currently a second quantum revolution is taking place. In the last century -in a first quantum revolution- the fundamental laws of quantum science were discovered and further evolved. Ground breaking technologies such as the transistor and the laser have been developed, utilizing the new physics and its principles. Now, on the next level, technologies that explicitly address individual states with quantum properties such as superposition and entanglement are developed and established. Quantum communication and cryptography are vivid research areas as well as quantum information processing and quantum computing. In an initial lecture and subsequent additional workshops we want to get access to the field of quantum computing by reviewing the model behind as well as fundamental algorithms and shed light in the current state of quantum computing technologies.



Jörg Lässig is a Full Professor at the Department of Computer Science at the University of Applied Sciences Zittau/ Görlitz (HSZG). He studied Computer Science and Computational Physics and received his Ph.D. for work on efficient algorithms and models for the generation and control of cooperation networks at Chemnitz University of Technology. As postdoc he worked in projects at the International Computer Science Institute at Berkeley, California and at the Università della Svizzera italiana in Lugano, Switzerland. His EAD research group at HSZG and his IT security group with the Fraunhofer Society are focusing on topics concerned with intelligent data driven technologies for state-of-the-art IT infrastructures and services.

Prof. Lässig is also Co-Chair of the International Workshop on Benchmarking of Computational Intelligence Algorithms (BOCIA, <http://iao.hfuu.edu.cn/bocia18>, EI-indexed, submission deadline November 15, 2017) and the related Special Issue on Benchmarking of Computational Intelligence Algorithms in the Computational Intelligence Journal (<http://iao.hfuu.edu.cn/bocia-ci-si>, published by Wiley Periodicals, Inc., EI and SCI indexed, open CfP + invited extended selected papers from BOCIA).