Preface

The year 2010 was again very fruitful for the Institute of Optoelectronics. Research in the VCSELs and Optical Interconnects Group dealt with vertical-cavity lasers with polarization-stable single-mode light output for integration with atomic clocks, bidirectional optical interconnects over standard multimode fibers, densely packed VCSEL arrays, VECSEL-type devices for particle sensing in microfluidics, as well as ultracompact optical traps.

The GaN group continued their studies of non- and semipolar structures in the frame of the transregional research group "PolarCoN". In October, we could host again more than 50 scientists at a summer school in Schloss Reisensburg near Günzburg. The research group could additionally find special attention on the occasion of a symposium at the Annual Meeting of the Deutsche Physikalische Gesellschaft in Regensburg. Besides many excellent quantum well and device structures grown by MOVPE, our HVPE-grown thick GaN layers improved further, as documented on the title page of this report. Our fairly new engagement in graphene research within the project SALVE has been stabilized by another 3-years funding period approved by the DFG.

In the High-Power Semiconductor Laser Group, the temperature management of optically pumped semiconductor disk lasers has been further investigated. Novel double-band Bragg reflector mirror designs have been evaluated showing optimized thermal resistance.

Four members of the Institute, namely Abdel-Sattar Gadallah, Andrea Kroner, Sarad Bahadur Thapa, and Thomas Wunderer received their Ph.D. degrees. Furthermore, six Diploma Theses, five Master Theses, four Bachelor Theses, and two Semester Projects have been carried out in 2010.

In April 2010, Ahmed Al-Samaneh received the Best Student Paper Award at the Conf. on *Semiconductor Lasers and Laser Dynamics IV*, as part of *SPIE Photonics Europe* in Brussels, Belgium for his work on VCSELs for atomic clocks.

In May 2010, Rainer Michalzik was offered to become the Director of the Institute of Optoelectronics at the University of Duisburg-Essen in Duisburg, Germany.

Rainer Michalzik
Ferdinand Scholz
Peter Unger Ulm, March 2011