

# Technical Program

(March 21-26, 2004)

## Sunday, 21 March

8:00 to 22:00

**Arrival and Registration**

## Monday, 22 March Opening Remarks and Plenary Sessions

(3<sup>rd</sup> Floor Multi-functional Hall, Building No. 8, Academic Exchange Center, HUST)

9:00	<b>Welcome Remarks</b>	<b>Page</b>
<b>Presider</b>	<b>Prof. Dr. Liu Deming</b>	
<b>9:30 to Noon</b>	<b>Plenary Sessions</b>	
<b>9:30</b>	<b>Microwave Photonics - Past, Present and Future</b>	
	<i>Prof. Dr.-Ing. D. Jüger, University of Duisburg, Germany</i>	
<b>10:00</b>	<b>Advance in Optical Technology of China</b>	
	<i>Prof. Liwei Zhou, Academician, Beijing Institute of Technology</i>	
<b>10:30</b>	<b>Coffee Break</b>	
<b>Presider</b>	<b>Prof. Dr. Jaeger</b>	
<b>11:00</b>	<b><u>Spatially Modulated Photodetector in an Unmodified 0.13 <math>\mu\text{m}</math> CMOS-Process</u></b>	<b>1</b>
	<i>M. Jutzi, E. Gaugler, M. Berroth, University of Stuttgart</i>	
<b>11:30</b>	<b>Wide bandgap semiconductor spinelectronics</b>	
	<i>Prof. Dr. Rong Zhang, Nanjing University</i>	
<b>Noon to 14:00</b>	<b>Lunch and Break</b>	
<b>Presider</b>	<b>Prof. Dr. M. Berroth</b>	
<b>14:00</b>	<b><u>ry Laser Diodes at 1.55 <math>\mu\text{m}</math></u></b>	<b>5</b>
	<i>W. Hofmann, N. H. Zhu, M. Ortsiefer, R. Shau, J. Roskopf, G. Böhm, C. Qian, F. Köhler, M. Maute, C. Lauer, and M. -C. Amann, Walter Schottky Institut, Technische Universität München</i>	
<b>14:30</b>	<b><u>Microelectronic Acquiring, Processing and Rebuilding of Central Neural Signals</u></b>	<b>7</b>
	<i>Prof. Dr. Zhi-Gong Wang, Xiaoying Lü, Xiao-Song Gu, Yu-Feng Wang, Fei Ding, Hui-Ling Wang: Southeast University</i>	
<b>15:00</b>	<b><u>InP-Based Waveguide Integrated Photodetectors for High-Speed Optical Communication Systems</u></b>	<b>11</b>
	<i>A. Beling, H.-G. Bach, D. Schmidt, G. G. Mekonnen, T. Eckhardt, R. Kunkel, W. Ebert, A. Seeger, M. Stollberg, and W. Schlaak, HHI</i>	
<b>15:30</b>	<b>Semiconductor lighting</b>	
	<i>Prof. Dr. Hui Yang, Institute of Semiconductors</i>	
<b>16:00</b>	<b>Coffee Break</b>	
<b>Presider</b>	<b>Prof. Dr. Shum Ping</b>	
<b>16:30</b>	<b><u>A Novel Single-Ended to Differential Converter in a High Bit Rate Clock and Data Recovery Input Circuit</u></b>	<b>15</b>
	<i>Norbert Michel, Norbert Weber, Jan Sundermeyer, Harald Humpfer, Ulrich Nowotny, Manfred Lang, Fraunhofer-Institute for Integrated Circuits</i>	

17:00	<b>Fiber Ring Lasers</b>	
	<i>Prof. Dr. Shum Ping, Nanyang University of technology</i>	
17:30	<b><u><a href="#">Design of High-Speed CMOS Ics for 10 Gbit/s Optical Communication System</a></u></b>	19
	<i>Zheng Gu, Andreas Thiede, Rui Tao, University of Paderborn</i>	
18:00	<b><u><a href="#">SOI-based Photodetectors and Optical Waveguide Devices</a></u></b>	24
	<i>Prof. Dr. Jinzhong Yu, Institute of Semiconductors</i>	
18:00	<b>Welcome Banquet</b>	

## Tuesday, 23 March Plenary Sessions

(3<sup>rd</sup> Floor Multi-functional Hall, Building No. 8, Academic Exchange Center, HUST)

<b>Presider</b>	<b>Prof. Dr. Jinzhong Yu</b>	
8:00	<b><u><a href="#">Tunnelling Diodes for Compact Very High Speed Circuits</a></u></b>	28
	<i>E. Khorenko, W. Prost, and F.-J. Tegude, University Duisburg-Essen</i>	
8:30	<b>High Technology Development Project (863) in China</b>	
	<i>Prof. Jiang Shan, Wuhan Institute of Posts and Telecommunications</i>	
9:00	<b><u><a href="#">Simulation, Design and Fabrication of Integrated Optical Devices</a></u></b>	33
	<i>Chris Poulton, Jan Brosi, Christian Koos, Felix Glöckler, Jin Wang, Masafumi Fujii, and Wolfgang Freude, University of Karlsruhe, Karlsruhe, Germany</i>	
9:30	<b><u><a href="#">Stereoscopic Vision System Using on Sensor Pre-Processing</a></u></b>	36
	<i>Falk Roewer, Ulrich Kleine, Otto-von-Guericke University of Magdeburg</i>	
10:00	<b>Coffee Break</b>	
<b>Presider</b>	<b>Prof. Dr. F.J. Tegude</b>	
10:30	<b>Fiber to the Home (FTTH)</b>	
	<i>Prof. Zhao Zisen, Academician, Wuhan Institute of Posts and telecommunications</i>	
11:00	<b><u><a href="#">Improved Method of Image Suppression for Integrated Direct Down Conversion Receivers</a></u></b>	40
	<i>T. Bitzer, T. Bohn, F. Endress, A. Pascht, M. Schreiter and G. Schwoerer: Alcatel SEL AG</i>	
11:30	<b>Semiconductor Optical Amplifier and Its Applications</b>	
	<i>Prof. Huang Dexiu, Huazhong University of Science and Technology</i>	
Noon to 14:00	<b>Lunch and Break</b>	
<b>Presider</b>	<b>Prof. Shan Jiang</b>	
14:00	<b><u><a href="#">Coarse Wavelength Division Multiplexing for the Joint Transmission of 622Mbit/s- and CATV Signals in the Optical Network of a City Carrier</a></u></b>	43
	<i>Bernhard Enning, Flensburg University of Applied Sciences</i>	
14:30	<b><u><a href="#">Adaptive Integrated Optical FIR-filters for Automatic Compensation of Fiber Channel Impairments</a></u></b>	46
	<i>Marc Bohn, Werner Rosenkranz, Peter Krummrich, University of Kiel</i>	
15:00	<b><u><a href="#">Modelling and Simulation of Multichannel DWDM Transmission Links Including All Relevant FWM Products</a></u></b>	51
	<i>Prof. Dr.-Ing. R. Zengerle, University of Kaiserslautern</i>	
15:30	<b><u><a href="#">REFLECTION-TYPE EAT FOR FULL DUPLEX WIRELESS/WIRELINE ACCESS NETWORKS</a></u></b>	56
	<i>ANDREAS STOEHR, University of Duisburg, Germany</i>	

16:00	<b>Coffee break</b>	
<b>Presider</b>	<b>Prof. Dr. A. Thiede</b>	
16:30	<a href="#"><u>Sources for fibre optic communication networks - recent OEIC developments</u></a>	<b>59</b>
	<i>H. Venghaus, H. Heidrich, D. Hoffmann, B. Hüttl, M. Möhrle, R. Kaiser, J. Kreißl, S. Staroske, K.O. Velthaus</i>	
17:00	<a href="#"><u>Investigation of the high-frequency performance of monolithic integrated laser modulators</u></a>	<b>63</b>
	<i>Christian Hanke, Infineon Technologies AG</i>	
17:30	<a href="#"><u>Characteristics of AlGaIn/GaN-HFETs on 111-Silicon</u></a>	<b>67</b>
	<i>M. Neuburger, T. Zimmermann, I. Daumiller, M. Kunze, A. Dadgar, A. Krost, E. Kohn, University of Ulm</i>	
18:00	<a href="#"><u>PMD/OEP-Technologies for 3D-Imaging and Ultra-fast Analog and Digital OE-Multi-channel Signal Processing</u></a>	<b>72</b>
	<i>Z. Xu, Z. Zhang, R. Schwarte, PMD Technologies, GmbH</i>	
18:30	<b>Flavor Dish and Evening Travel in Wuhan City</b>	

## Wednesday, 24 March Topical Sessions

### Session 1 (Room 211, Building No. 1, Academic Exchange Center, HUST)

<b>Presider</b>	<b>Prof. Dexiu Huang</b>	<b>79</b>
8:00	<a href="#"><u>Enhanced Carrier Lifetime for the Tuning Region in Tunable Laser Diodes Based on Type-II Quantum Wells</u></a>	
	<i>Thomas Jacke, Gerhard Rösel, Markus Grau, Ralf Meyer, and Markus-Christian Amann, Walter Schottky Institut, Technische Universität München</i>	
8:15	<a href="#"><u>CMOS Wideband Amplifier with an Active Shunt Peaking Technique</u></a>	<b>86</b>
	<i>Zheng Gu, Andreas Thiede, University of Paderborn</i>	
8:30	<a href="#"><u>InP-based HBTs with InGaAs and GaAsSb Base Layers for Ultra High Speed Applications</u></a>	<b>89</b>
	<i>Z. Jin, S. Neumann, S. Topaloglu, J. Driesen, S. Ehrlich, W. Prost, and F.-J. Tegude, University Duisburg-Essen</i>	
8:45	<a href="#"><u>Monolithically Integrated 10 Gb/s Fully Differential CMOS Transimpedance Preamplifier</u></a>	<b>90</b>
	<i>Rui Tao, Manfred Berroth, Zheng Gu, ZhiGong Wang, University of Stuttgart</i>	
9:00	<a href="#"><u>Investigation on microstructure evolution of oxidized Ni/Au ohmic contacts to p-GaN by XRD</u></a>	<b>93</b>
	<i>Chengyu Hu, Z.X. Qin, Q.Wang, Z.Z. Chen, F. Ming, H.B. Lin, Z.J.Yang, T.J. Yu, X.T. Hu, G.Y. Zhang, Peking University</i>	
9:15	<a href="#"><u>Growth and Characterization of Crack-free AlGaIn on AlN Interlayer</u></a>	<b>100</b>
	<i>Z. X.Qin, Z. Z. Chen, T.J.Yu, Z.J.Yang, X.D. Hu, G. Y. Zhang, Peking University</i>	
9:30	<a href="#"><u>The Study of Deep-level Emission Center in ZnO Films Grown on c-Al<sub>2</sub>O<sub>3</sub> Substrates</u></a>	<b>112</b>
	<i>Guotong Du, Yuantao Zhang, Jilin University</i>	
9:45	<a href="#"><u>Enhanced Electrical Properties of p-type GaN by Mg Delta Doping</u></a>	<b>125</b>
	<i>Y. B. Pan, Z. J. Yang, Y. Lu, M. Lu, C.Y. Hu, T. J. YU, Z. X. Qin, Y. Z. Tong, X. D. Hu, G. Y.Zhang, Peking University</i>	

10:00	<b>Coffee Break</b>	
<b>Presider</b>	<b>Prof. Dr. R. Schwarte</b>	
10:30	<a href="#"><u>A silicon LED in standard CMOS technology for optical interconnection</u></a>	<b>129</b>
	<i>H.D. Chen, Institute of Semiconductors</i>	
10:45	<a href="#"><u>Multiple Dose He Ion Implantation into n-GaN for Electrical Isolation</u></a>	<b>134</b>
	<i>Yu Lu, Zhijian Yang, Yaobo Pan, Pei Zhang, Guoyi Zhang, Peking University</i>	
11:00	<a href="#"><u>Optoelectronic Property of single Semiconductor Quantum Wire</u></a>	<b>138</b>
	<i>Guanghui Zhou, Xianbo Xiao, and Yuan Li, Hunan Normal University</i>	
11:15	<a href="#"><u>Novel All-optical AND Gate Based on Cascaded Single-port-coupled SOA</u></a>	<b>142</b>
	<i>Xinliang Zhang, Ying Wang, Dexiu Huang, Huazhong University of Science and Technology</i>	
11:30	<a href="#"><u>Study of a novel deformable mirror based on MEMS technology</u></a>	<b>148</b>
	<i>Hongbin Yu, Haiqing Chen, Jun Li, Jie Li, Huazhong University of Science and Technology</i>	
11:45	<a href="#"><u>Probabilistic teleportation via rotation operating and computation basis measuring</u></a>	<b>156</b>
	<i>Libing Chen, Foshan University</i>	

## Session 2(Room 212, Building No. 1, Academic Exchange Center, HUST)

<b>Presider</b>	<b>Prof. Dr. W. Freude</b>	
8:00	<a href="#"><u>An Improved Decision Feedback Loop for Optical Communications</u></a>	<b>165</b>
	<i>Li Wang, Zheng Gu, Andreas Thiede, Gang Wang, Lothar Moeller, University of Paderborn</i>	
8:15	<a href="#"><u>A 16/17 Dual-Modulus Prescaler in SiGe HBT technology</u></a>	<b>168</b>
	<i>Li Wang, Kai Boris Schad, Hermann Schumacher, University of Paderborn</i>	
8:30	<a href="#"><u>High Power and Low Coherence Fiber-optic Source for Incoherent Photonic Signal Processing</u></a>	<b>172</b>
	<i>Yuan Li and Robert A. Minasian, University of Sydney</i>	
8:45	<a href="#"><u>Two Simple All-Optical Logic Gates Based on TOAD</u></a>	<b>177</b>
	<i>Yunfeng Zhou, Yumei Yan, Jian Wu, Jintong Lin, Beijing University of Posts &amp; Telecommunications</i>	
9:00	<a href="#"><u>MBE Growth of Ge/Si Quantum Dots for Long Wavelength RCE (Resonant Cavity Enhanced) Photodetector</u></a>	<b>27</b>
	<i>Jinzhong YU, Chuanbo Li, Michael Oehme, Gerd Wöhl, Erich Kasper, Institute of Semiconductors</i>	
9:15	<a href="#"><u>Fabrication of SOI Optical Waveguide Devices by Anisotropic Chemical Etching</u></a>	<b>182</b>
	<i>Jinsong Xia, Jinzhong Yu, Shaowu Chen, Zhongchao Fan, Zhangtao Wang, and Zhongli Liu, Institute of Semiconductors</i>	
9:30	<a href="#"><u>Spin Filtering Application in Open Quantum Dots</u></a>	<b>187</b>
	<i>J.-F. Song, G.-T. Du, Y. Ochiai, and J. P. Bird, Jilin University</i>	
9:45	<a href="#"><u>30 Gb/s Parallel Optic-Fiber Receiver ICs Design</u></a>	<b>188</b>
	<i>Zhiqun Li, Zhigong Wang, Yan Hu, Jun Feng, Jie Jin, Southeast University</i>	
10:00	<b>Coffee Break</b>	
<b>Presider</b>	<b>Prof. Dr. Deming Liu</b>	
10:30	<a href="#"><u>Return Loss Analysis and Experimental Study of Semiconductor Optical Amplifiers</u></a>	<b>192</b>
	<i>Zigang Duan, Shenzhen University</i>	

10:45	<a href="#"><u>Analysis of Signal Integrity on PCB and Design of SFP Optic Transceiver Circuit</u></a>	195
	<i>Qi Yan, Chen Wei, Wuhan University of Technology</i>	
11:00	<a href="#"><u>Device Simulation of Double Photo-diodes</u></a>	200
	<i>Yongquan Chen, Luhong Mao, Wei Li, Min Chen, Huilai Liang, Shilin Zhang, Weilian Guo, Tianjin University</i>	
11:15	<a href="#"><u>Analysis on SOI(Silicon-on-Insulator)-based MMICs(Multimode Interference Couplers) with different thickness of upper Silicon layer</u></a>	205
	<i>Yanping Li, Jinzhong Yu, Jinsong Xia, Shaowu Chen, Institute of Semiconductors</i>	
11:30	<a href="#"><u>Transmission Function of Cascaded Multilayer Medium Thin Film Filter</u></a>	209
	<i>Haiyan Chen, Yongzhi Liu, Jizhi Dai, Xiaoxia Zhang, Yangtze University</i>	

### Session 3(Room 311, Building No. 1, Academic Exchange Center, HUST)

<b>Presider</b>	<b>Prof. Dr. Junqiang Sun</b>	
8:00	<b>Optical Access based on WDM-EPON and Its Applications</b>	
	<i>Deming Liu, Huazhong University of Science and Technology</i>	
8:15	<a href="#"><u>Routing and Wavelength Assignment Based on Variable-Rate Genetic Algorithm</u></a>	212
	<i>Jun He, Deming Liu, Wei Li, Chunyong Yang, Huazhong University of Science and Technology</i>	
8:30	<a href="#"><u>Application of ACL Technology in the Security of IP DSLAM Network</u></a>	221
	<i>Liu Li, Wei Zhi, Fiberhome Corp.</i>	
8:45	<a href="#"><u>Blocking Performance Evaluation of a Proposed Wavelength Cross Connect Architecture</u></a>	225
	<i>Chunyong Yang, Deming Liu, Wei Li, Jun He, Huazhong University of Science and Technology</i>	
9:00	<a href="#"><u>Analysis of Random Phase Error and Its Effects on Non-adjacent Channels Crosstalk of AWG Device</u></a>	238
	<i>Wei Li, Deming Liu, Dexiu Huang, Huazhong University of Science and Technology</i>	
9:15	<a href="#"><u>A Portable and Extendable CAD for Microlens Design</u></a>	244
	<i>Jun Li, Haiqing Chen, Hongbin Yu, Jie Li, Huazhong University of Science and Technology</i>	
9:30	<a href="#"><u>On the Synthesis of Superstructure Fiber Bragg Grating Comb Filter by Ameliorated Layer-peeling Algorithm</u></a>	248
	<i>Hui Cao, Junqiang Sun, Huazhong University of Science and Technology</i>	
9:45	<a href="#"><u>Behavioral Modeling for Simulation of MOEMS Systems</u></a>	257
	<i>Jie Li, Haiqing Chen, Hongbin Yu, Jun Li, Huazhong University of Science and Technology</i>	
10:00	<a href="#"><u>Theoretic analysis of all-optical wavelength converter based on single-port-coupled SOA</u></a>	263
	<i>Jianji DONG, Xinliang ZHANG, Dexiu HUANG, Huazhong University of Science and Technology</i>	
10:15	<a href="#"><u>Properties analysis and solutions of light power equalization for free space communication system using semiconductor laser</u></a>	268
	<i>Yuan Xiuhua, Huang Dexiu, Wang Jin, Jin Sihua and Cheng Xi, Huazhong University of Science and Technology</i>	
<b>March 24</b>	<b>Sightseeing in <a href="#"><u>Wuhan City</u></a> (Museum of Hubei Province and Tower of Yellow Crane)</b>	

March 25

Sightseeing in [Great Dam of Three Gorges](#)