

Preface

The 2017 International Conference on Information Science and Technology [IST2017] was held in Wuhan, China, from March 24th to March 26th, 2017. IST2017 aims to bring researchers, engineers, and students to the areas of Information Science and Technology. IST2017 features unique mixed topics of Information Theory and Application, Intelligent Sensing Technology, Computational Intelligence, Computer Vision and Image Processing, Network and Communication, Speech and Natural Language Processing, High Performance Computation, Bioinformatics and Biomedical Engineering, Theoretical Computer Science, Control and Automation, Signal Processing, Automotive Electronics and Electric Vehicles, Robotics, Big Data Processing and Management. We received a total of 100 submissions from various parts of the world. The Technical Program Committee worked very hard to have all papers reviewed before the review deadline. The final technical program consists of 66 papers. There are five keynote speeches and oral sessions. All the keynote speakers are internationally recognized leading experts in their research fields, who have demonstrated outstanding proficiency and have achieved distinction in their profession. The proceedings were published as a volume in EDP Sciences on ITM Web of Conferences Publishing Company series. Some excellent papers were selected and recommended to the Engineering Index and Science Citation Index Expanded Journal. We would like to mention that, due to the limitation of the conference venue capacity, we are not able to include many fine papers in the technical program. Our apology goes to those authors.

We would like to express our sincere gratitude to all the members of Technical Program Committee and organizers for their enthusiasm, time, and expertise. Our deep thanks also go to many volunteers and staffs for the long hours and hard work they have generously given to IST2017. We are very grateful to EDP Sciences on ITM Web of Conferences Publishing Company for their support in making IST2017 possible. Finally, we would like to thank all the authors, speakers, and participants of this conference for their contributions to IST2017.

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Chair I

Jie-Tai JING

Professor, East China Normal University, China

Academic Appointments and Employment

1999/9-2004/7 State Key Laboratory of Quantum Optics and Quantum Optics Devices, Institute of Opto-Electronics, Shanxi University, Taiyuan, China

2004/7- Ph.D. in Optics

1995/9-1999/7 National Training Base for Physics Researchers and Teachers, Department of Physics, Shanxi University, Taiyuan, China

1999/7-B.S. in Physics

Professional Experience

2008/4- Present Department of Physics, State Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai, P. R. China

2006/9-2008/4 University of Maryland, College Park, MD 20740, USA.

Postdoctoral Research Associate

2004/8-2006/9 Lab of Quantum Optics and Quantum Information, Department of Physics, University of Virginia, Charlottesville, VA 22903, USA.

Selected Recent Publications

Zhongzhong Qin, Leiming Cao, Hailong Wang, A. M. Marino, Weiping Zhang and Jietai Jing*, “Experimental generation of multiple quantum correlated beams from hot rubidium vapor”, Physical Review Letters 113, 023602 (2014)

F. Hudelist, J. Kong, C. Liu, Jietai Jing, Z. Y. Ou and W. Zhang, “Quantum metrology with parametric amplifier based photon correlation interferometers”, Nature Communications. 5, 3049 (2014)

Jietai Jing, Zhifan Zhou, Cunjin Liu, Zhongzhong Qin, Yami Fang, Jun Zhou and Weiping Zhang, “Ultralow-light-level all-optical transistor in rubidium vapor”, Appl. Phys. Lett. , 104, 151103 (2014)

Jietai Jing, Cunjin Liu, Zhifan Zhou, Z.Y.Ou, and Weiping Zhang, “Realization of nonlinear interferometer with parametric amplifiers”, Appl. Phys. Lett. , 99, 011110 (2011)

Jia Kong, Jietai Jing*, Hailong Wang, F. Hudelist, Cunjin Liu, and Weiping Zhang, Experimental investigation of the visibility dependence in a nonlinear interferometer using parametric amplifiers, Appl. Phys. Lett. ,102, 011130(2013)

Zhifan Zhou, Cunjin Liu, Yami Fang, Jun Zhou, Ryan T. Glasser, Liqing Chen, Jietai Jing*, and Weiping Zhang, “Optical logic gates using coherent feedback”, Appl. Phys. Lett., 101, 191113(2012)

Zhongzhong Qin, Jietai Jing*, Jun Zhou, Cunjin Liu, Raphael Pooser, Zhifan Zhou, and Weiping Zhang, “A compact diode-laser-pumped quantum light source based on four wave mixing in hot rubidium vapor”, Optics Letters, 37, 3141(2012)

Cunjin Liu, Jietai Jing*, Zhifan Zhou, R. C. Pooser, F. Hudelist, Lu Zhou and Weiping Zhang, “Realization of low frequency and controllable squeezing based on a four-wave-mixing amplifier in rubidium vapor”, Optics Letters, 36, 2979(2011)

Co- Chair I / Editor I

Hui YANG

Assistant Professor, Beijing University of Posts and Telecommunications, China

Biography

Hui YANG received B.E and Ph. D degree in communication and information systems from Beijing University of Posts and Telecommunications (BUPT), Beijing, China, in 2009 and 2014. He is currently an assistant professor of Institute of Information Photonics and Optical Communications at BUPT, working on many China national (including NSFC, 973, 863, etc.) and international projects regarding optical networking and communication technologies. His main research interests include network architecture, software defined optical network (SDON), dynamic optical network, flexible and wide optical network, cross-stratum optimization (CSO) and network protocols and algorithms. He has authored or coauthored more than 60 peer-reviewed papers related to the previously mentioned research topics in prestigious international journals and conferences, and he is the first author of more than 30 of them. He presented several invited papers in international journals and conferences, including many prestigious ones such as Scientific Reports, IEEE Communications Magazine, Optics Express, IEEE JOCN, Optical Switching and Networking, INFOCOM, OFC, ECOC and GLOBECOM etc. He got the Best Paper Award in NCCA 2015. Also, he is an active reviewer for several international journals, and I have previously reviewed more than 30 manuscripts in the following journals.

Co- Chair II

Jing-lei TANG

Associate Professor, Northwest A&F University, China

Dr. Jinglei Tang received her PhD from Northwest A&F University (NWSUAF), Shaanxi, China, in 2010. She is currently associate professor at College of Information Engineering (CIE), Northwest A&F University (NWSUAF). Her research interests include decision support, information management, computer vision, pattern recognition, machine learning, image analysis, etc. She is reviewer for Natural Science Foundation of China (NSFC) proposals, and reviewer for a lot of journals such as Computers and Electronics in Agriculture, etc. She also is TPC member for a lot of International conferences. Dr. Tang have published more than 40 papers in recently five years, including 16 papers in the international journal of Science Citation Index (SCI).

Education

2006.03–2010.12: PhD in Electronic Engineering, National Key Lab on ISN, College of Mechanical and Electronic Engineering, Northwest A&F University, Yangling, China.

2003.09–2006.06: MEng in Computer technology application. School of Computer Science and Technology, Southwest University of Science and Technology, Mianyang, China.

1993.09–1997.06: BEng in agricultural mechanization, College of Mechanical Electrical and Engineering, Hebei Normal University of Science & Technology, Qinhuangdao, China.

Professional Experiences

2012.01–now: Asso professor and MEng tutor (since Oct, 2010), College of Information Engineering (CIE), Northwest A&F University (NWSUAF).

2009.04–2010.04: Visiting Scholar, School of Information, University of Sydney, sponsored by the China Scholarship Council (CSC).

2006.06–2009.02: Lecturer, College of Information Engineering (CIE), Northwest A&F University (NWSUAF).

1997.07–2003.09: Technician, Shijiazhuang Aircraft Industry Co., Ltd. Shijiazhuang, China.

Co- Chair III

S.GANESH KUMAR

Assistant Professor, DEEE, College of Engineering Guindy, Anna University, Sardar Patel Road, Chennai. India

Biography

S. Ganesh Kumar was born on May 25, 1977 in India. He completed his B.E., M.E. and Ph.D. degrees from Madras University and Anna University in 1998, 2005 and 2014 respectively. He has seventeen years of teaching and research experience. He has delivered lecture through satellite on the subject Electrical Machines I. He has published many number of papers in referred journals and prestigious conferences (IEEE PEDS, IECON, APEC etc..). He has delivered many number of lectures in various engineering colleges in Tamilnadu, India. He has chaired the two national and one international conferences.

He is an Editorial Board member in The Journal of Engineering and Fundamentals, International Journal of Electrical Machines & Drives, International Journal of Analysis of Electrical Machines, International Journals Power Electronics Controllers and Converters, International Institute of Engineers ,VSRD international journal of Electrical, Electronics & Communication Engineering, Journal of Electrical and Power System Engineering, Journal of Digital Integrated Circuits in Electrical Devices, Journal of Advances in Electrical Devices, International Journal of Electrical Components an Energy Conversion, International Journal of Research Studies in Electrical and Electronics Engineering, International Journal of Electronic Design and Test (JEDT),

He has reviewed papers in IEEE transactions on Industrial Electronics, IET power Electronics, ISA transactions, Electric Power Components and Systems, Journal of Circuits Systems and Computers, Journal of Electrical Engineering & Technology, Universal Journal of Mechanical Engineering. Universal Journal of Electrical & Electronic Engg, WSEAS, Maejo International Journal of Science and Technology, Advances in Electrical and Electronic Engineering, British Journal of Applied Science & Technology, International Journal of Measurement Technologies and Instrumentation Engineering (IJMTIE), IECON,APEC, PEDSTC, EESED, ICCA and EDEP.

He has organized three Faculty Development Training Programmes (Solid State Drives, Design of Electrical Machines and Power Electronics. He was served as a member of conferences held in DEEE, Anna University (ICPCS-2010, ICPCS-2014, NCEEE'08, NCSGRES-2015)

He is presently working at Anna University, Chennai as Assistant Professor in Department of Electrical and Electronics Engineering. His areas of interest are Electrical Machines and Drives. He is a member of ISTE, IE and IAENG.

Keynote Speaker I

Prof. Wen-Tsai Sung

The Department of Electrical Engineering, National Chin-Yi University of Technology, Taiwan

Wen-Tsai Sung is working with the Department of Electrical Engineering, National Chin-Yi University of Technology as a professor and Vice-Dean of Academic Affairs. He received a PhD and MS degree from the Department of Electrical Engineering, National Central University, Taiwan in 2007 and 2000. He has won the 2009 JMBE Best Annual Excellent Paper Award and the dragon thesis award that sponsor is Acer Foundation. His research interests include Wireless Sensors Network, Data Fusion, System Biology, System on Chip, Computer-Aided Design for Learning, Bioinformatics, and Biomedical Engineering. He has published a number of international journal and conferences article related to these areas. Currently, he is the chief of Wireless Sensors Networks Laboratory. At present, he serves as the Editor-in-Chief in three international journals: International Journal of Communications (IJC), Communications in Information Science and Management Engineering (CISME) and Journal of Vibration Analysis, Measurement, and Control (JVAMC), he also serves as the other international journals in Associate-Editor and Guest Editor (IET Systems Biology).

Keynote Speaker II

Dr. Amol R. Madane

Tata Consultancy Services Ltd., India

Dr. Amol R. Madane has completed Doctorate of Philosophy (PhD) under the guidance of Dr. Uttam D. Kolekar in Image/ Video Security area in Jan 2015. He holds Masters of Engineering degree in Electronics Engineering from Mumbai University, India. He is an associate of Tata Consultancy Services Ltd. from last 9+ years. His main area of research is Image Watermarking, Object Detection and Tracking, Body Segmentation and Pose Estimation, Activity Recognition, Semantic Interpretation, Advanced Driver Assistance System (ADAS). He has published research papers in international journals, conference. He has published technical book on "Design and Performance Evaluation of Image Encoders in View of 4G Applications" by Lulu book publishers, Raleigh, NC 27607, United States. He is working as Editorial Board Member, Reviewer of various international and national journals, conferences etc. He is member of professional institutes such as IEEE, IETE, ISTE, IEI, ISTD, CSI, ACM etc.