

IEEE CIT 2017 ICA3PP 2017 NSS 2017

AUGUST 21-23, 2017, HELSINKI FINLAND
Saturday August 19

With corrected schedule from

Conference Program



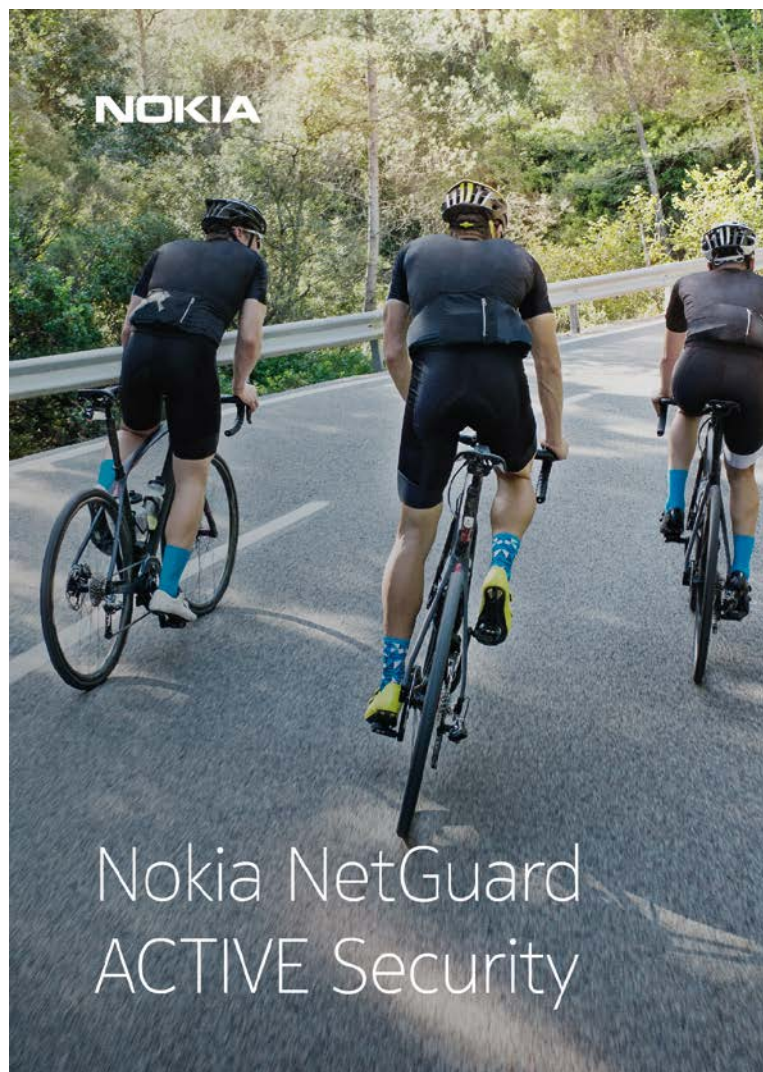
KUVA: PEKKA KERÄNEN

11th International Conference on Network and
System Security (NSS-2017)

17th International Conference on Algorithms and
Architectures for Parallel Processing
(ICA3PP-2017)

17th IEEE International Conference on Computer
and Information Technology (IEEE CIT-2017)





Cognitive security operation to reduce attack surface and response time.

NetGuard ACTIVE Security is a fusion of security analytics, threat intelligence, and security orchestration, which consolidates data and extracts actionable insights from a variety of intelligence sources and existing security technologies. This enables security teams to streamline processes, accelerate decision-making and optimize costs while preventing, identifying and addressing security threats before they result in breaches.

Nokia Oyj | Karaportti 3 | 02610 Espoo | Finland
networks.nokia.com/solutions/security

Organizers,
Patrons and
Partners,
Publishers

Organizer



Gold Patron



Partners



TIETEELLISTEN SEURAIN VALTUUSKUNTA
 VETENSKAPLIGA SAMFUNDENS DELEGATION
 FEDERATION OF FINNISH LEARNED SOCIETIES

Publishers



Contents

Organizers, Patrons and Partners, Publishers	2
Program at a Glance	4
Organizing Committees	6
Welcome Message from the NSS-ICA3PP-CIT2017 General Chairs	10
Conference Hosts	13
Aalto University	13
Xidian University.....	14
Keynote Speakers	15
Technical Symposia.....	24
Monday, August 21 st	24
Tuesday, August 22 nd	26
Wednesday, Aug 23 rd	31
Workshops	33
Monday, August 21 st	33
Tuesday, August 22 nd	34
Wednesday, August 23 rd	38
Tutorials	41
Monday, August 21 st	41
Tuesday, August 22 nd	41
Wednesday, August 23 rd	41
Panel	41
Tuesday, August 22 nd	41
NSS-ICA3PP-CIT 2017 General Information	42

Program at a Glance

Conferences

CIT	17th International IEEE Conference on Computer and Information Technology
ICA3PP	17 th International Conference on Algorithms and Architectures for Parallel Processing
NSS	International Conference on Network and Systems Security

Workshops

DACSC	International Workshop on Distributed Autonomous Computing in Smart City
DTWSM	4 th International Workshop on Data, Text, Web and Social Network Mining
IW5GS	3rd International Workshop on 5G Security and Machine Learning
Pbio	5 th International Workshop on Parallelism in Bioinformatics
RACIT	International Symposium on Recent Advances of Computer and IT
SECIOE	2nd International Workshop on Security of Internet of Everything
SecureEdge	International Workshop on Secure and Resource-Efficient Edge Computing
SMCN	International Workshop on Security Measurement in Cyber Nets
UCER	2nd International Workshop on Ultrascale Computing for Early Researchers

Tutorials

CSec	Tutorial on Cooperative Security Using Commodity Linux Tools
HPmPP	Tutorial on High Performance Multithreaded Packet Processing

Corrected schedule from Saturday August 19:

Monday, August 21st

Room	1	3	4	5	10	11	12
8:30-9:00	Opening of the Conference						
9:00-9:45	Keynote 1: Elisa Bertino, Professor, IEEE Fellow, Purdue University, USA						
9:45-10:15	Morning Coffee						
10:15-11:00	Keynote 2: Francisco Herrera, Professor, University of Granada, Spain						
11:00-12:00	Panel: Big Data and Analytics						
12:00-13:20	Lunch						
13:20-15:05	CIT 1	NSS 1	ICA3PP 1	UCER 1	CSec p1	SMCN 1	CIT 2
15:05-15:35	Afternoon Coffee						
15:35-17:20	CIT 3	NSS 2	ICA3PP 2	UCER 2	CSec p2	SMCN 2	CIT 4
18:30 -20:30	Welcome Reception City Hall						

Tuesday, August 22nd

Room	1	3	4	5	10	11	12
8:15-9:00	Keynote 3: Lauri Oksanen, VP, Nokia Bellabs						
9:00-9:45	Keynote 4: Tatu Ylönen, CEO of SSH Communications Security, Finland/USA						
9:45-10:15	Morning Coffee						
10:15-12:00	CIT 5	NSS 3	ICA3PP 3	SECIOE 1	IW5GS 1	SMCN 3	Pbio 1
12:00-13:20	Lunch						
13:20-15:10	CIT 6	NSS 4	ICA3PP 4-5	SECIOE 2	IW5GS 2	HPmPP1	Pbio 2
15:10-15:40	Afternoon Coffee						
15:40-17:30	CIT 7	NSS 5	ICA3PP 6	SECIOE 3	IW5GS 3	DACSC 1	Pbio 3
19:00 -22:30	Gala Dinner (Kalastajatorppa)						

Wednesday, August 23rd

Room	1	3	4	5	10	11	12
8:00-8:45	Keynote 5: Jinjun Chen, Professor, Swinburne University of Technology, Australia						
8:45-9:30	Keynote 6: Anand Prasad, Dr., NEC Corporation						
9:30-9:55	Morning Coffee						
9:55-10:40	Keynote 7: Shiwen Mao, Professor, Auburn University, USA						
10:45-12:30	CIT 8	NSS 6	ICA3PP 7	SecureEdge 1	RACIT 1	DACSC 2	DTWSM 1
12:30-13:45	Lunch						
13:45 - 15:25	CIT 9	HPmPP2	ICA3PP 8	SecureEdge 2	RACIT 2	DACSC 3	DTWSM 2
15:30-15:50	Closing of the Conference						
15:50 - 16:20	Afternoon Coffee						

Organizing Committees

NSS 2017

Honorary Chair

Hui Li, Xidian University, China

General Chairs

Raimo Kantola, Aalto University, Finland

Valtteri Niemi, University of Helsinki, Finland

Athanasios V. Vasilakos, Lulea University of Technology, Sweden

Program Chairs

Zheng Yan, Xidian University, China

Refik Molva, Eurecom, France

Wojciech Mazurczyk, Warsaw University of Technology, Poland

Panel Chair

Yan Zhang, University of Oslo, Norway

Workshop Chairs

Silke Holtmanns, Nokia, Finland

Xin Huang, Xi'an Jiaotong-Liverpool University, China

Yuqing Zhang, University of Chinese Academy of Sciences, China

Publicity Chair

Li Yang, Xidian University, China

Steering Committee

Elisa Bertino, Purdue University, USA

Robert H. Deng, Singapore Management University, Singapore

Dieter Gollmann, Hamburg University of Technology, Germany

Xinyi Huang, Fujian Normal University, China

Kui Ren, University at Buffalo, State University of New York, USA

Ravi Sandhu, University of Texas at San Antonio, USA

Yang Xiang, Deakin University, Australia

Wanlei Zhou, Deakin University, Australia

Web Chairs

Mingjun Wang, Xidian University, China

Mohsin Muhammad, Aalto University, Finland

ICA3PP 2017

Honorary chair

Xinbo Gao, Xidian University, China

General Chairs

Zheng Yan, Xidian University, China
Witold Pedrycz, Alberta University, Canada
Geoffrey Fox, Indiana University, USA

Program Chairs

Shadi Ibrahim, Inria, France
Kim-Kwang Raymond Choo, University of Texas at San Antonio, USA
Florin Pop, University Politehnica of Bucharest, Romania

Panel Chair

Yan Zhang, University of Oslo, Norway

Workshop Chairs

Jun Liu, Xi'an Jiaotong University, China
KP Lam, Keele University, UK

Publication Chair

Peng Zhang, Zalando, Finland

Publicity Chairs

Wenxiu Ding, Xidian University, China

Local and Finance Chair

Raimo Kantola, Aalto University, Finland

Steering Committee

Yang Xiang, Deakin University, Australia (Chair)
Weijia Jia, Shanghai Jiaotong University, China
Yi Pan, Georgia State University, USA
Laurence T. Yang, St. Francis Xavier University, Canada
Wanlei Zhou, Deakin University, Australia

Web Chairs

Mingjun Wang, Xidian University, China
Mohsin Muhammad, Aalto University, Finland

Track Chairs

Guillaume Aupy, Inria, France
Jing Chen, Wuhan University, China
Gene Cooperman, Northeastern University, USA
Marc Frîncu, West University of Timisoara, Romania
Javier Garcia-Blas, University Carlos III of Madrid, Spain
Julian Kunkel, German Climate Computing Center, Germany
Laurent Lefèvre, Inria, France
Haikun Liu, Huazhong University of Science and Technology, China
Ting Liu, Xi'an Jiaotong University, China
Yining Liu, Guilin University of Electronic Technology, China
Anne-Cécile Orgerie, CNRS, France
Zhonghong Ou, BUPT, China,
Etienne Rivière, Université de Neuchâtel, Switzerland

Domenico Talia, University of Calabria, Italy
Xueyan Tang, Nanyang Technological University, Singapore
Tomoaki Tsumura, Nagoya Institute of Technology, Japan
Yu Xiao, Aalto University, Finland
Yanjiang Yang, Huawei Research Center, Singapore

IEEE CIT 2017

Honorary chairs

Mohammed Atiquzzaman, University of Oklahoma, USA
Qinghua Zheng, Xi'an Jiaotong University, China

General Chairs

Raimo Kantola, Aalto University, Finland
Zheng Yan, Xidian University, China
Moncef Gabbouj, Tampere University of Technology, Finland

Program Chairs

Yulei Wu, University of Exeter, UK
Mika Ylianttila, University of Oulu, Finland
Hao Wang, Norwegian University of Science and Technology, Norway
Kai Zeng, George Mason University, USA

Panel Chair

Yan Zhang, University of Oslo, Norway

Workshop Chairs

Jun Liu, Xi'an Jiaotong University, China
Peng Zhang, Zalando, Finland

Steering Committee

Daming Wei (Chair), Professor Emeritus, University of Aizu and Tohoku University, Japan
Laurence T. Yang (Chair), St. Francis Xavier University, Canada
Goutam Chakrabarty, Iwate Prefectural University, Japan
Hai Jin, Huazhong University of Science and Technology, China
Xiangjian He, University of Technology Sydney, Australia
Chunming Qiao, The State University of New York, USA
Chang-Sung Jeong, Korea University, Korea
Incheon Paik, University of Aizu, Japan
Qun Jin, Waseda University, Japan
Xingang Liu, University of Electronic Science and Technology of China, China
Geyong Min, University of Exeter, UK
George A. Papadopoulos, University of Cyprus, Cyprus
Bofeng Zhang, Shanghai University, China
Jinjun Chen, University of Technology Sydney, Australia
Zheng Yan, Xidian University, China

Publicity Chair

Jing Chen, Wuhan University, China

Local and Finance Chair

Raimo Kantola, Aalto University, Finland

Web Chairs

Mingjun Wang, Xidian University, China
Mohsin Muhammad, Aalto University, Finland

Welcome Message from the NSS-ICA3PP-CIT2017 General Chairs

Welcome to the Joint Conference of

- 17th IEEE International Conference on Computer and Information Technology (CIT2017) sponsored by IEEE, IEEE Computer Society and IEEE Technical Committee on Scalable Computing (TCSC),
- 17th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP-2017)
- 11th International Conference on Network and System Security (NSS-2017)

held during August 21-23, 2017, in Helsinki, Finland. On behalf of the Organizing Committees of CIT, ICA3PP and NSS 2017 we would like to express our sincere and warm welcome to all participants!

The joint conferences are hosted by Aalto University and co-hosted by the following university, institutes and organizations. They are Xidian University, ISN - State Key Laboratory of Integrated Services Networks of Xidian University, Federation of Finnish Learned Societies, TEKES – the Finnish Funding Agency for Innovation, 111 - National 111 Project on Mobile Internet Security (Xidian University). We would like to express our sincere thanks to the above hosts and foundations for their great support. Special thanks go to Nokia for the Gold Patron support of the conference.

IEEE CIT 2017 conference is the 17th edition of the highly successful International Conference on Computer and Information Technology (CIT) previously held as CIT 2016, Fiji, CIT 2015, Liverpool, UK, Xi'an, China (2014), Sydney, Australia (2013), Chengdu, China (2012), Pafos, Cyprus (2011), Bradford, UK (2010), Xiamen, China (2009), Sydney, Australia (2008), Fukushima, Japan (2007), Seoul, Korea (2006), Shanghai, China (2005), Wuhan, China (2004), Fukusima, Japan (2002), Shanghai, China (2001), and Fukusima, Japan (2000). It provides a forum for engineers and scientists in academia, industry, and government to address the resulting profound challenges and to present and discuss their new ideas, research results, applications and experiences on all aspects of computer and information technology.

Started in 1995, ICA3PP 2017 is the 17th in this series of conferences that are devoted to algorithms and architectures for parallel processing. ICA3PP is now recognized as the main regular event of the world that is covering the many dimensions of parallel algorithms and architectures, encompassing fundamental theoretical approaches, practical experimental projects, and commercial components and systems. As applications of computing systems have permeated in every aspect of daily life, the power of computing system has become increasingly critical. This conference provides a forum for academics and practitioners from countries around the world to exchange ideas for improving the efficiency, performance, reliability, security and interoperability of computing systems and applications. ICA3PP 2017 was the next event in a series of highly successful international conferences on algorithms and architectures for parallel processing, previously held in Granada, Spain (2016), Zhangjiajie, China (2015), Dalian, China (2014), Vietri sul Mare, Italy (2013), Fukuoka, Japan (2012), Melbourne, Australia (2011), Busan, Korea (2010), Taipei, Taiwan (2009), Cyprus (2008), Hangzhou, China (2007), Melbourne, Australia (2005), Beijing, China (2002), Hong Kong, China (2000), Melbourne, Australia (1997), Singapore (1996), and Brisbane, Australia (1995).

The NSS conference series is an established forum that brings together researchers and practitioners to provide a confluence of network and system security technologies, including all theoretical and practical aspects. In previous years, NSS took place in Taipei (2016), New York City, USA (2015), Xi'an, China (2014), Madrid, Spain (2013), Wu Yi Shan, China (2012), Milan, Italy (2011), Melbourne, Australia; (2010), Gold Coast, Australia (2009), Shanghai, China (2008), and Dalian, China (2007).

Besides the three main conferences the joint conference has a total of 9 Workshops, 8 keynote speeches by prominent scientists, two tutorials and a Panel discussion. Having reviewed the submitted papers on the basis of their significance, novelty, technical quality, presentation, and practical impact, the Program Committees accepted a total of 180 papers to the technical sessions and workshops for presentation. The acceptance rate to the main conferences was from 28% to 29%. The papers cover topics ranging from security, privacy, big data, mobile networks and communication, 5th Generation mobile systems, algorithms and architectures for parallel processing and other topics in computer and information technology. The Proceedings of IEEE CIT 2017 are published by the IEEE Computer Society Publishing Services (CPS). The Proceedings of ICA3PP and NSS are published in the Lecture Notes in Computer Science (LNCS) by Springer.

Two of the workshops, namely IEEE International Workshop on Secure and Resource-Efficient Edge Computing 2017 (SecureEdge 2017) and the IEEE International Symposium on Recent Advances of Computer and Information Technologies (RACIT 2017) are in conjunction with IEEE CIT 2017.

Four of the workshops are in conjunction with ICA3PP 2017: the 4th International Workshop on Data, Text, Web, and Social Network Mining (DTWSM 2017), the 5th International Workshop on Parallelism in Bioinformatics (PBio 2017), the First International Workshop on Distributed Autonomous Computing in Smart City (DACSC 2017), and the 2nd International Workshop on Ultrascale Computing for Early Researchers (UCER 2017).

Three of the workshops are in conjunctions with the NSS 2017: the 3rd International Workshop on 5G Security and Machine Learning (IW5GS-2017), the International Workshop on Security Measurements of Cyber Networks (SMCN-2017), and the 2nd International Workshop on Security of the Internet of Everything (SecIoE-2017).

First of all, we would like to sincerely thank Prof. Daming Wei (University of Aizu and Tohoku University, Japan) and Prof. Laurence T. Yang (St. Francis Xavier University, Canada), the Steering Committee Chairs of CIT, for giving us the opportunity to organize the conference and for their support and guidance. We thank the honorary chairs Mohammed Atiquzzaman, University of Oklahoma, USA and Qinghua Zheng, Xi'an Jiaotong University, China and Prof. Xinbo Gao, Xidian University, China for their kind support on the conference organization. We thank the Honorary Chair Prof. Hui Li, Xidian University, China for his kind support on the NSS 2017 conference organization. We would like express our appreciation to Prof. Elisa Bertino of Purdue University, USA, Prof. Francisco Herrera of University of Granada, Spain, Prof. Laurence T. Yang of St. Francis Xavier University, Canada, Prof. Jinjun Chen of Swinburne University of Technology, Australia, Lauri Oksanen, Vice President of Research and Technology of Nokia Bell Labs, Tatu Ylönen, CEO and Inventor of SSH of SSH Communications Security USA, Dr. Anand Prasad of NEC Corporation, Japan, Prof. Shiwen Mao of Auburn University, USA for accepting our invitation to be the keynote speakers.

We would like to give our warm thanks to the CIT Program Chairs Prof. Yulei Wu (University of Exeter, UK), Prof. Hao Wang (Norwegian University of Science and Technology, Norway), Prof. Kai Zeng (George Mason University, USA), Mika Ylianttila (University of Oulu, Finland) for their excellent work and great efforts in organizing an outstanding program committee, conducting a rigorous reviewing process and selecting high quality papers from a large number of submissions, and for preparing an excellent conference program. We give our warm thanks to ICA3PP Program Chairs, Dr. Shadi Ibrahim, Prof. Kim-Kwang Raymond Choo, and Prof. Florin Pop, for their generous support and leadership to ensure the success of the conference.

We would like to emphasize our gratitude to the NSS 2017 General Chairs, Prof. Raimo Kantola, Prof. Valtteri Niemi and Prof. Athanasios V. Vasilakos, for their generous support and leadership to ensure the success of the conference. We deeply appreciate Miss Wenxiu Ding's assistance on NSS

conference organization. Thanks also go to: Panel Chair, Yan Zhang; Publicity Chair, Dr Li Yang; Steering Committee, Prof. Elisa Bertino, Prof. Robert H. Deng, Prof. Dieter Gollmann, Prof. Xinyi Huang, Prof. Kui Ren, Prof. Ravi Sandhu, Prof. Yang Xiang, Prof. Wanlei Zhou; Web Chairs, Mr. Mingjun Wang and Mr. Mohsin Muhammad.

We would like to emphasize our gratitude to the General Chairs, Prof. Zheng Yan, Prof. Witold Pedrycz, and Prof. Geoffrey Fox; and the. We deeply appreciate Miss Wenxiu Ding's assistance on conference organization. Thanks also go to: Panel Chair, Yan Zhang; Publicity Chair, Prof. Raimo Kantola; Steering Committee, Prof. Yang Xiang, Prof. Weijia Jia, Prof. Yi Pan, Prof. Laurence T. Yang, and Prof. Wanlei Zhou.

We are grateful to the Workshop/Symposium Chairs Prof. Jun Liu (Xi'an Jiaotong University, China), Dr. Peng Zhang (Zalando, Finland) and Panel chair Prof. Yan Zhang (University of Oslo, Norway) as well as other chairs, steering members, and PC members for their great supports. We would like to thank all reviewers for their hard work, for providing constructive feedback to authors and enabling an excellent selection of the papers.

Most importantly, our great appreciation to all authors, for submitting their high-quality papers to CIT 2017, to ICA3PP 2017, to NSS 2017 main conferences and their workshop/symposium. Last but not least, we would like to greatly thank the NSS-ICA3PP-CIT local organization team led by Prof. Raimo Kantola (Aalto University, Finland), the local and financial chair of CIT 2017, for the local arrangement of the conference, Mr. Mingjun Wang (Xidian University, China) and Mr. Mohsin Muhammad (Aalto University, Finland) for conference web management and Riikka Louhivuori of Confedent Oy for handling the registration and other organizational matters.

We thank all of you for participating in the joint conference. We sincerely hope NSS-ICA3PP-CIT 2017 can stimulate your innovation and future research and play as a platform for your professional activities.

Zheng Yan, Xidian University, China
Raimo Kantola, Aalto University, Finland
Moncef Gabbouj, Tampere University of Technology, Finland
Witold Pedrycz, Alberta University, Canada
Geoffrey Fox, Indiana University, USA
Valtteri Niemi, University of Helsinki, Finland
Athanasios V. Vasilakos, Lulea University of Technology, Sweden

General Chairs NSS, ICA3PP, IEEE CIT 2017

Conference Hosts

Aalto University

When founded in 2010, Aalto University was given a national mission to strengthen the innovative capacity of Finland through first-class research, art and education. The international recognition of Aalto University has risen quickly due to our unique profile and novel approaches to tackle the challenges posed by a rapidly evolving knowledge economy. We have restructured our Bachelor's curricula into a few broad programs, increased pedagogical education, and developed cross-disciplinary learning platforms, such as the Aalto Design Factory. Entrepreneurial education is now offered for all students. Our unique student- and alumni-driven entrepreneurial activities and a vibrant start-up ecosystem include the following internationally known brands: Aalto Entrepreneurship Society, Startup Sauna and SLUSH. We have increased the involvement of industry in our educational and research programs.

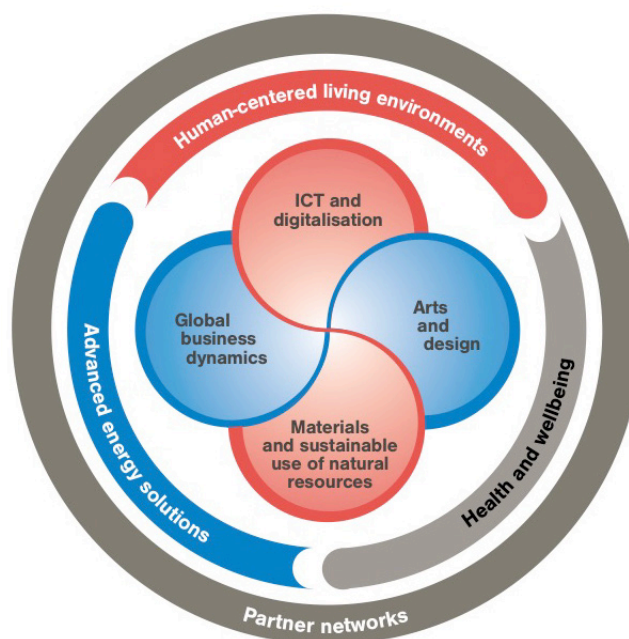
Key research areas

The cornerstones of Aalto University research are four fundamental competence areas:

1. ICT and digitalization
2. Materials and sustainable use of natural resources
3. Global business dynamics
4. Art and design knowledge building

In addition to these areas, Aalto University invests in three integrative multidisciplinary themes that focus on solving challenges that are important globally and for the Finnish economy.

5. Advanced energy solutions
6. Health and wellbeing
7. Human-centred living environments.



Xidian University

Xidian University has two campuses, occupying an area of 270 hectares, with the building area of over 1,300,000 square meters. Presently, the university has more than 31,000 students, of whom there are over 1700 doctoral candidates and 9000 master degree seeking students. It has set up 17 schools

— School of Telecommunications Engineering, School of Electronic Engineering, School of Computer Science and Technology, School of Mechatronic Engineering, School of Cyber Engineering, School of Physics and Opto-electronic Engineering, School of Economics and Management, School of Humanities, School of Foreign Languages, School of Software Engineering, School of Microelectronics, School of Life Science and Technology, School of Aerospace Science and Technology, School of Advanced Materials and Nanotechnology, School of International Education, and School of Network and Continuing Education.

The State Key Laboratory of Integrated Services Network (ISN) is the high-level scientific research base in the field of communications in China and the high-level talents training base.

Xidian University is one of the institutions of higher learning in China, which earliest established the specialties of information theory, information system engineering, radar, microwave, antenna, electronic, mechanical engineering, and electronic countermeasure, being the forerunner of the IT discipline of China and forming distinct characteristics and advantages of electronic and information disciplines.

Xidian University has established the ideas of “people---oriented” and “teachers being the core competitive ability of a university”, and forged a well---structured contingent of teachers with an innovative spirit. The university constantly brings forth teaching ideas, deepens the reform in the teaching content, the curriculum system and the practice teaching, and vigorously promotes quality education, with remarkable results.



Keynote Speakers

Monday,
August, 21st

9:00 – 9:45
**Security for the
Internet of Things**
Session Chair:
Zheng Yan



Elisa Bertino

Professor, Purdue University, IEEE Fellow, USA

Abstract: The Internet of Things (IoT) paradigm refers to the network of physical objects or "things" embedded with electronics, software, sensors, and connectivity to enable objects to exchange data with servers, centralized systems, and/or other connected devices based on a variety of communication infrastructures. IoT makes it possible to sense and control objects creating opportunities for more direct integration between the physical world and computer-based systems. IoT will usher automation in a large number of application domains, ranging from manufacturing and energy management (e.g. SmartGrid), to healthcare management and urban life (e.g. SmartCity). However, because of its fine-grained, continuous and pervasive data acquisition and control capabilities, IoT raises concerns about the security and privacy of data. Deploying existing data security solutions to IoT is not straightforward because of device heterogeneity, highly dynamic and possibly unprotected environments, and large scale. In this talk, after outlining key challenges in data security and privacy, we present initial approaches for profiling IoT devices with the goal of protecting them from being exploited by botnets.

Bio: Elisa Bertino is professor of computer science at Purdue University, and serves as Director of the CyberSpace Security Lab (Cyber2SLab). She is also an adjunct professor of Computer Science & Info tech at RMIT in Melbourne. Prior to joining Purdue in 2004, she was a professor and department head at the Department of Computer Science and Communication of the University of Milan. She has been a visiting researcher at the IBM Research Laboratory (now Almaden) in San Jose, at the Microelectronics and Computer Technology Corporation, at Rutgers University, at Telcordia Technologies. Her recent research focuses on database security, digital identity management, policy systems, and security for web services. She is a Fellow of ACM, of IEEE, and AAAS. She received the IEEE Computer Society 2002 Technical Achievement Award, the IEEE Computer Society 2005 Kanai Award, and the ACM SIGSAC Outstanding Contributions Award. She is currently serving as EiC of IEEE Transactions on Dependable and Secure Computing.

Monday,
August 21st

10:15 – 11:00

Big Data

Session Chair:
Shadi Ibrahim



Francisco Herrera

Professor, University of Granada, Spain

Abstract:

Bio: Francisco Herrera received his M.Sc. in Mathematics in 1988 and Ph.D. in Mathematics in 1991, both from the University of Granada, Spain. He is currently a Professor in the Department of Computer Science and Artificial Intelligence at the University of Granada. He has been the supervisor of 36 Ph.D. students. He has published more than 290 papers in international journals. He is coauthor of the books "Genetic Fuzzy Systems: Evolutionary Tuning and Learning of Fuzzy Knowledge Bases" (World Scientific, 2001) and "Data Preprocessing in Data Mining" (Springer, 2015).

He currently acts as Editor in Chief of the international journals "Information Fusion" (Elsevier) and "Progress in Artificial Intelligence" (Springer). He acts as an area editor of the International Journal of Computational Intelligence Systems and associated editor of the journals: IEEE Transactions on Fuzzy Systems, IEEE Transactions on Cybernetics, Information Sciences, Knowledge and Information Systems, Advances in Fuzzy Systems, and International Journal of Applied Metaheuristics Computing; and he serves as a member of several journal editorial boards, among others: Fuzzy Sets and Systems, Applied Intelligence, Information Fusion, Knowledge-Based Systems, Evolutionary Intelligence, International Journal of Hybrid Intelligent Systems, Memetic Computation, and Swarm and Evolutionary Computation.

He received the following honors and awards: ECCAI Fellow 2009, IFSA Fellow 2013, 2010 Spanish National Award on Computer Science ARITMEL to the "Spanish Engineer on Computer Science", International Cajastur "Mamdani" Prize for Soft Computing (Fourth Edition, 2010), IEEE Transactions on Fuzzy System Outstanding 2008 Paper Award (bestowed in 2011), and 2011 Lotfi A. Zadeh Prize Best paper Award of the International Fuzzy Systems Association, 2013 AEPIA (Spanish Association of Artificial Intelligence) Award to a scientific career in Artificial Intelligence (September 2013), 2014 University of Jaen Award "Natural de Jaén" (January 2015), and IEEE Transactions on Fuzzy System Outstanding 2012 Paper Award (bestowed in 2015).

His current research interests include bibliometrics, soft computing, computing with words in decision making, information fusion, evolutionary algorithms, evolutionary fuzzy systems, biometrics, data preprocessing, imperfect data, imbalanced classification, data science, biometrics, cloud computing and big data.

Tuesday,
August, 22nd

8:15 – 9:00
Security in 5G era
Session Chair:
Raimo Kantola



Lauri Oksanen
Vice President, Nokia Bellabs

Abstract: 5G will support a large range of new use cases. Many of those use cases are early in their evolution and their full impact regarding network security is today unclear. The network and the connections between people, devices and machines will be highly dynamic. Communication networks need to be able to react fast, flexibly, and reliably to new security situations, new attack vectors and upcoming technologies. Security needs to be automated to cope with the growth of data traffic and number of connections. Trust, a very human concept, needs to be digitalized to support the future use cases. Trust and security are not only a fundamental requirement from the user, but also a legal obligation to establish many of the new 5G use cases. The automation of security using machine learning to protect networks and the digitalization of trust in a virtual and highly dynamic network environment will be the focus of this presentation.

Bio: Lauri Oksanen is Vice President for Research and Technology in Nokia. He heads Technology, Architecture, Vision, and Standardization in Nokia Bell Labs. He started his industrial career 28 years ago in fiber optics in Nokia. Then Lauri moved to mobile networks where he has worked with all major wireless technologies from GSM to 5G. Lauri has worked in various advanced technology management positions covering fixed and wireless access, core, management and services, including also the HW and SW platforms and cloud and security technologies. Lauri has Master's and Licentiate degrees in Telecommunications from Helsinki University of Technology (now Aalto), where he also worked as a researcher before joining Nokia.

Tuesday,
August, 22nd

9:00 – 9:45

**Lessons on How
Hackers Really Break
into Systems**

Session Chair:
Raimo Kantola



Tatu Ylönen

CEO, SSH Communications Security, Finland/USA

Abstract: The talk explores lessons learned on how hackers really break into information systems, from broad Internet-based attacks to highly sophisticated attacks used by government-sponsored attackers. It looks at hardware, firmware, operating system, application, cryptographic, and operational vulnerabilities over the years, and how hackers circumvented designed-in security or exploited omissions. It looks at the history of SSH (Secure Shell) as a case study, and looks at how vulnerable some organizations today are because of operational issues around it. Finally, the talk seeks to provide concrete guidance for the R&D community on how to bring a lasting improvement in security.

Bio: Tatu Ylonen is a cybersecurity pioneer with over 20 years of experience from the field. He invented SSH (Secure Shell), which is the plumbing used to manage most networks, servers, and data centers and implement automation for cost-effective systems management and file transfers. He has also written several IETF standards, was the principal author of NIST IR 7966, and holds over 30 US patents - including some on the most widely used technologies in reliable telecommunications networks.

He takes a broad view on cybersecurity and its implications for business and society. At the same time, he still loves to code and can descend through all the layers from process to protocols, operating system internals, assembly, and hardware. He has also founded a NASDAQ OMX-listed security company (SSH Communications Security) and held various leadership roles in a public company (including CEO, CTO, and Chairman). Nowadays he focuses on advancing cybersecurity and permanently solving some of its biggest hurdles. Building better dams instead of just fixing new leaks.

Wednesday,
August 23rd

8:00 – 8:45
**Big Data - Big
Application**
Session Chair: Hui Li



Jinjun Chen

Professor, Swinburne University of Technology, Australia

Abstract: Right now, Big Data, Data Science or Data Analytics are being on wide interest in industry and academia. During this talk, we will discuss two questions based on my research industry engagement practice.

The first one is business gain from such buzz words. This is a practical question from business. Based on my research, big data can help business to identify big niche market opportunity which can grow up to become major markets. For example, by analyzing and generalizing potential weak connections between previously sparse data sources such as flight booking data and supermarket user data, we can better expand or enhance the market for personal recommendation on flight booking.

The second is about how researchers can make a full potential to business. A saying is "It's not who has the best algorithm that wins. It's who has the most data" by Andrew Ng (Coursera founder). Data is becoming a resource equally important to oil. While various public datasets are available to academics or researchers for research evaluation, those datasets may not be suitable or useful and timely for researchers. One way to make full potential of big data is to intensively work with industry because they have timely data. More or less, every industry is doing data analysis yet just for their specific purposes. We will brief our research and collaboration with specific industries.

Bio: Dr Jinjun Chen is a Professor at the Swinburne University of Technology, Australia. He is Deputy Director of Swinburne Data Science Research Institute, and Director of Data Science Platforms and Systems. He holds a PhD in Information Technology from Swinburne University of Technology, Australia. His research interests include scalability, big data, data science, software systems, cloud computing, data privacy and security, and related various research topics. His research results have been published in more than 140 papers in international journals and conferences, including various IEEE/ACM Transactions.

He received UTS Vice-Chancellor's Awards for Research Excellence Highly Commended (2014), UTS Vice-Chancellor's Awards for Research Excellence Finalist (2013), Swinburne Vice-Chancellor's Research Award (ECR) (2008), IEEE Computer Society Outstanding Leadership Award (2008-2009) and (2010-2011), IEEE Computer Society Service Award (2007), Swinburne Faculty of ICT Research Thesis Excellence Award (2007). He is an Associate Editor for ACM Computing Surveys, IEEE Transactions on Big Data, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Cloud Computing, as well as other journals such as Journal of Computer and System Sciences, JNCA. He is the Chair of IEEE Computer Society's Technical Committee on Scalable Computing (TCSC).

Wednesday,
August 23rd

8:45 – 9:30

**5G IoT Security:
Future Revealed**

Session Chair:
Valtteri Niemi



Anand Prasad
Dr. NEC Corporation, Japan

Abstract: Internet of Things (IoT) will be integral part of 5G unlike other generations of mobile communications systems. In this talk we will discuss how 5G is expected to be and security associated to 5G as well as IoT. The talk will cover all aspects from radio to core and services to users. Focus of the talk will be on 3GPP based 5G security solution.

Bio: Anand R. Prasad, Dr. & ir. (MScEngg) from Delft University of Technology, The Netherlands, is Chief Advanced Technologist, Executive Specialist, at NEC Corporation, Japan, where he leads the mobile communications security activity. Anand is the chairman of 3GPP SA3, founder chairman of the GISFI Security & Privacy group and member of the governing body / council member of GISFI and TSDSI. He has 20+ years of experience in networking, wireless and mobile communications product design, development and business development in companies around the globe.

Anand has published 6 books and authored 50+ peer reviewed papers in international journals and conferences. Two of the books he co-authored on security are “Security in Next Generation Mobile Networks SAE/LTE and WiMAX”, published by River Publishers, and “Security for Mobile Networks and Platforms”, published by Artech House. He is a series editor for standardization book series and editor-in-chief of the “Journal of ICT Standardization” published by River Publishers.

He is recipient of the 2014 ITU-AJ “Encouragement Award: ICT Accomplishment Field” and the 2012 (ISC)² “Asia Pacific Information Security Leadership Achievements (ISLA) Award as a Senior Information Security Professional”. Anand is a certified information systems security professional (CISSP).

Wednesday,
August 23rd

9:30 – 10:15
**RF Sensing for Vital
Sign Measurement in
healthcare Internet
of Things**
Session Chair:
Laurence T. Yang



Shiwen Mao
Professor, Auburn University, USA

Abstract: Vital signs, such as breathing and heartbeat, are useful to health monitoring since such signals provide important clues of medical conditions. Effective solutions are needed to provide contact-free, easy deployment, low-cost, and long-term vital sign monitoring. Exploiting wireless signals for contact-free vital sign monitoring will be an important part of the future healthcare Internet of Things (IoT). In this talk, we present our recent work on contact-free vital sign monitoring. The first part is to exploit channel state information (CSI) phase difference data to monitor breathing and heartbeat with commodity WiFi devices.

We will present PhaseBeat, a design, based on a discrete wavelet transform, and TensorBeat, a tensor decomposition based design, as well as our experimental study to validate their performance. The second part of this talk is to exploit the CSI tensor and tensor decomposition to distinguish the respiration rates of multiple persons. In the last part of the talk, we will present our smartphone App based solution that uses a 20KHz ultrasound signal for breathing rate detection. Our experimental study shows that the proposed systems can achieve high accuracy under different environments for vital sign monitoring.

Bio: Shiwen Mao [S'99-M'04-SM'09] received Ph.D. in electrical and computer engineering from Polytechnic University, Brooklyn, NY in 2004. He is the Samuel Ginn Distinguished Professor and Director of the Wireless Engineering Research and Education Center (WEREC) at Auburn University, Auburn, AL. His research interests include wireless networks and multimedia communications. He is a Distinguished Lecturer of the IEEE Vehicular Technology Society (VTS) for 2014-2018. He is on the Editorial Board of IEEE Transactions on Multimedia, IEEE Internet of Things Journal, IEEE Multimedia, ACM GetMobile, among others, and the Steering Committee of IEEE Transactions on Multimedia and IEEE Transactions on Network Science and Engineering.

He is a TPC/Symposium Co-Chair of IEEE INFOCOM 2018, IEEE ICC 2017, IEEE WCNC 2017, among others. He received the 2015 IEEE ComSoc TC-CSR Distinguished Service Award, the 2013 IEEE ComSoc MMTC Outstanding Leadership Award, and the NSF CAREER Award in 2010. He is a co-recipient of the Best Demo Award from IEEE SECON 2017, the Best Paper Awards from IEEE GLOBECOM 2016 & 2015, IEEE WCNC 2015, and IEEE ICC 2013, and the 2004 IEEE Communications Society Leonard G. Abraham Prize in the Field of Communications Systems.

Notes

[illegible]

Notes

[illegible]

Technical Symposia

Monday, August 21st

13:20 – 15:05

R1.1 – CIT 1: Machine Learning, Data Mining and Big Data Analytics

Chair: Rafael Valero Fernandez, Keele University, UK

Learning from Big Data: A Survey and Evaluation of Approximation Technologies for Large-scale Reinforcement Learning

Cheng Wu and Yiming Wang

Predicting the Popularity of Online News Based on Multivariate Analysis

Caiyun Liu, Wenjie Wang, Yuqing Zhang, Ying Dong, Fannv He and Chensi Wu

Efficient Strip-Mode Microwave Correlated Imaging Method with Data Fusion

Yuanyue Guo and Jie Deng

Sentiment classification: Feature selection based approaches versus deep learning

Alper Kursat Uysal and Yi Lu Murphey

13:20 – 15:05

R3.1 – NSS 1: Platform and Hardware Security

Chair: Roberto Saia, Ph.D, University of Cagliari, Italy

A Practical Method to Confine Sensitive API Invocations on Commodity Hardware

Donghai Tian, Dingjun Qi, Li Zhan, Yuhang Yin, Changzhen Hu and Jingfeng Xue

Hardware and Software Support for Transposition of Bit Matrices in High-Speed Encryption

Patrick Eitschberger, Jörg Keller and Simon Holmbacka

An Android Vulnerability Detection System

Jiayuan Zhang and Yao Yao

Exploring Energy Consumption of Juice Filing Charging Attack on Smartphones: A Pilot Study

Lijun Jiang, Weizhi Meng, Yu Wang and Chunhua Su

13:20 – 15:05

R4.1 – ICA3PP 1: Parallel and Distributed Architectures

Chair: Prof Valtteri Niemi, University of Helsinki, Finland

Workload Type-Aware Scheduling on big.LITTLE Platforms

Simon Holmbacka and Jörg Keller

Pipelining Computation and Data Reuse Strategies for Scaling GROMACS on the Sunway Many-core Processor

Yu Yang, Hong An, Junshi Chen, Weihao Liang, Qingqing Xu and Yong Chen

Exploring FPGA-GPU Heterogeneous Architecture for ADAS: Towards Performance and Energy

Xiebing Wang, Linlin Liu, Kai Huang and Alois Knoll

13:20 – 15:05

R12.1 – CIT 2: Social Networks and Optimization

Chair: Hao Wang, Norwegian University of Science & Technology, Norway

A Core Theory based Algorithm for Influence Maximization in Social Networks

Kan Zhang, Zichao Zhang and Yanlei Wu

A design towards personally identifiable information control and awareness in OpenID Connect identity providers

Rafael Weingärtner and Carla Merkle Westphall

ROBOMO: Effects of a Motivational Intervention to Address the Barriers During Science Learning

Khaoula Youssef, Walid Boukadida and Michio Okada

A multi-objective metaheuristic approach to search-based stress testing

Francisco Nauber Gois, Pedro Porfírio Muniz Farias and André Coelho

15:35 – 17:20

R1.2 – CIT 3: Wireless Networks and Communications I

Chair: Madhusanka Liyanage, University of Oulu, Finland

Robust Optimal Spectrum Patrolling for Passive Monitoring in Cognitive Radio Networks

Jiachen Li, Jing Xu, Wei Liu, Shimin Gong and Kai Zeng

Cooperative Multi-Relay Assisted Multicast Beamforming in Wirelessly Power Communications

Jiachen Li, Yue Mi, Shimin Gong, Jing Xu, Xiaoxia Huang and Yanyan Shen

Improved Presence detection for Occupancy Control in Multisensory Environments

Charikleia Papatsimpa and Jean Paul Linnartz

Subspace Decomposition Channel Estimation for Multiple Virtual MIMO SC-FDMA Systems

Ashraf Tahat, Claude D'Amours and Benoit Champagne

Dynamic MAC protocol for Tactical Data Links

Zhe Guo and Zheng Yan

15:35 – 17:20

R3.2 – NSS 2: Network Security I

Chair: Dr. Weizhi Meng, Technical University of Denmark, Denmark

Mixed Wavelet-based Neural Network Model for Cyber Security Situation Prediction using MODWT and Hurst Exponent Analysis

Fannv He, Yuqing Zhang, Donghang Liu, Ying Dong, Caiyun Liu and Chensi Wu

Detecting DNS Tunneling Using Ensemble Learning

Saeed Shafieian, Daniel Smith and Mohammad Zulkernine

CookiesWall: Preventing Session Hijacking Attacks Using Client Side Proxy

Somanath Tripathy and Praveen Kumar

15:35 – 17:20

R4.2 – ICA3PP 2: Software Systems and Programming Models

Chair: Stephan Sigg, Aalto University, Finland

H2mem: New Huge Page Allocator with Main Memory Compression
Guoxi Li, Wenzhi Chen, Kui Su, Zonghui Wang and Zhongyong Lu

An FPGA-Based Real-Time Moving Object Tracking Approach
Wenjie Chen, Yangyang Ma, Zhilei Chai, Mingsong Chen and Daojing He

Automatic Acceleration of Stencil Codes in Android
Sergio Afonso, Alejandro Acosta and Francisco Almeida

15:35 – 17:20

R12.2 – CIT 4: Video and Audio Transmission

Chair: Kimmo Järvinen, University of Helsinki

Fast Coding-Unit Mode Decision for HEVC Transrating
Shih-Hsuan Yang and Chong-Cheng Zhong

Multidimensional QoE Assessment of a Simultaneous Transmission Method in
Multi-View Video and Audio Transmission with MPEG-DASH
Yuki Maehara and Toshiro Nunome

Energy Efficient Event Driven Video Streaming Surveillance Using sleepyCAM
Tenager Mekonnen, Erkki Harjula, Arto Heikkinen, Timo Koskela and Mika Ylianttila

Fuzzy Analogy based Effort Estimation: An Empirical Comparative Study
Ali Idri and Ibtissam Abnane

Notes

Tuesday, August 22nd

10:15 – 12:00

R1.3 – CIT 5: Wireless Networks and Communications II

Chair: Ashraf A. Tahat, Princess Sumaya University for Technology, Jordan

A Simplified Massive MIMO Approach using Precoding

Mário Marques Da Silva and Rui Dinis

Indoor localization using ambient FM radio fingerprinting: A 9-month study

Andrei Popleteev

Assessment of TCP parameters for mobile devices concerning performance and energy consumption

Jonas Pontes, Demetrio Borges, Eric Borba and Eduardo Tavares

Antenna Array Based Localization Scheme for Vehicular Networks

Marco Antonio Marques Marinho, Alexey Vinel, Felix Antreich, Joao Paulo Carvalho Lustosa Da Costa and Edison Pignaton de Freitas

A New Method of Error Reduction for Affine Projection Algorithm

Shin'Ichi Koike

10:15 – 12:00

R3.3 – NSS 3: Cloud and IoT Security

Chair: Catalin Leordeanu, Lecturer, University Politehnica of Bucharest, Romania

A Generic Construction of Secure-Channel Free Searchable Encryption with Multiple Keywords

Keita Emura

Experiences in Trusted Cloud Computing

Silke Holtmanns, Ian Oliver, Yoan Miche, Aapo Kalliola, Shankar Lal, Leo Hippeläinen and Sowmya Ravidas

Private Membership Test Protocol with Low Communication Complexity

Sara Ramezani, Tommi Meskanen, Masoud Naderpour and Valtteri Niemi

Risk Modelling of Blockchain Ecosystem

Igor Kabashkin

Adaptively Secure Hierarchical Identity-based Encryption over Lattice

Leyou Zhang and Qing Wu

10:15 – 12:00

R4.3 – ICA3PP 3: Distributed and Network Based Computing

Chair: Llorente Santos Jesus, Aalto University

Optimizing Concurrent Evacuation Transfers for Geo-Distributed Datacenters in SDN

Xiaole Li, Hua Wang, Shanwen Yi, Xibo Yao, Fangjin Zhu and Linbo Zhai

Energy-Balanced and Depth-Controlled Routing Protocol for Underwater Wireless Sensor Networks

Hao Qin, Zhiyong Zhang, Rui Wang, Xiaojun Cai and Zhiping Jia

On the Energy Efficiency of Sleeping and Rate Adaptation for Network Devices
Timothée Haudebourg and Anne-Cécile Orgerie

13:20 – 15:10

R1.4 – CIT 6: Machine Learning, Data Mining and Big Data Analytics II

Chair: Kazuhiko Takahashi, Doshisha University, Japan

Remarks on Adaptive-type Hypercomplex-valued Neural Network-based
Feedforward Feedback Controller
Kazuhiko Takahashi

Towards Accurate Predictions of Customer Purchasing Patterns
K-P Lam, Rafael Valero-Fernandez, David Collins, Collin Rigby and James Bailey

Improving Performance for Geo-Distributed Data Process in Wide –Area
Ge Zhang, Zhongzhi Luan and Weiguo Wu

Predicting Student Performance in an ITS using Task-driven Features
Ritu Chaturvedi and Christie Ezeife

An adaptive visualization tool for high order discontinuous galerkin method with
quadratic elements
Liyang Xu, Xiaoguang Ren, Xinhai Xu, Hao Li, Yuhua Tang and Yongquan Feng

13:20 – 15:10

R3.4 – NSS 4: Crypto and other topics

Chair: Leyou Zhang, Prof., Xidian University, China

A Generic yet Efficient Method for Secure Inner Product
Lihua Wang, Takuya Hayashi, Yoshinori Aono and Le Trieu Phong

Randomization can't stop BPF JIT spray
Elena Reshetova, Filippo Bonazzi and N. Asokan

EEG-based Random Number Generators
Dang Nguyen, Dat Tran, Wanli Ma and Dharmendra Sharma

Safety of ABAC_ α is Decidable
Tahmina Ahmed and Ravi Sandhu

Implementation of Bitsliced AES Encryption on CUDA-Enabled GPU
Naoki Nishikawa, Hideharu Amano and Keisuke Iwai

13:20 – 14:20

R4.4 – ICA3PP 4: Big Data and its Applications

Chair: Dr. Yu Xiao, Aalto University, Finland

Private and Efficient Set Intersection Protocol for Big Data Analytics
Zakaria Gheid and Yacine Challal

A Topology-aware Framework for Graph Traversals
Jia Meng, Liang Cao and Huashan Yu

Adaptive Traffic Signal Control with Network-wide Coordination
Yong Chen, Juncheng Yao, Chunjiang He, Hanhua Chen and Hai Jin

14:20 – 15:10	ICA3PP 5: Parallel and Distributed Algorithms <hr/> <p>Chair: Shadi Ibrahim, Inria, France</p> <p>A Novel Parallel Dual-Character String Matching Algorithm on Graphical Processing Units <i>Chung-Yu Liao and Cheng-Hung Lin</i></p> <p>Distributed Nonnegative Matrix Factorization with HALS Algorithm on MapReduce <i>Rafal Zdunek and Krzysztof Fonal</i></p>
15:40 – 17:30	R1.5 – CIT 7: Network Security and Privacy <hr/> <p>Chair: Raimo Kantola, Aalto University, Finland</p> <p>A Software-Hardware Co-Designed Methodology for Efficient Thread Level Speculation <i>Qiong Wang, Jialong Wang, Li Shen and Zhiying Wang</i></p> <p>Fast Transmission Mechanism for Secure VPLS Architectures <i>Madhusanka Liyanage, Andrei Gurtov and Mika Ylianttila</i></p> <p>"You have a potential hacker's infection": A study on technical support scams <i>Sampsa Rauti and Ville Leppänen</i></p> <p>A New Approach to Utility-based Privacy Preserving in Data Publishing <i>Yilmaz Vural and Murat Aydos</i></p> <p>Best random codes construction for syndrome coding scheme <i>Ke Zhang, Martin Tomlinson and Mohammed Zaki Ahmed</i></p>
15:40 – 17:30	R3.5 – NSS 5: Authentication and Key Management <hr/> <p>Chair: Prof. Jayaprakash Kar, The LNM Institute of Information Technology, India</p> <p>Cryptanalysis and Improvement of an Identity-based Proxy Multi-signature scheme <i>Jayaprakash Kar</i></p> <p>The Time Will Tell on You: Exploring Information Leaks in SSH Public Key Authentication <i>Joona Kannisto and Jarmo Harju</i></p> <p>Lightweight Deterministic Non Interactive (ni) Hierarchical Key Agreement Scheme (KAS) <i>Pinaki Sarkar</i></p>
15:40 – 17:30	R4.5 – ICA3PP 6: Applications of Parallel and Distributed Computing <hr/> <p>Anne-Cécile Orgerie, CNRS, France</p> <p>GPU-Accelerated Block-Max Query Processing <i>Haibing Huang, Mingming Ren, Yue Zhao, Rebecca J. Stones, Rui Zhang, Gang Wang and Xiaoguang Liu</i></p>

Chen Li, Ce Yu, Jian Xiao, Xiaoteng Hu, Hao Fu, Kun Li and Yanyan Huang

Jingcheng Shen, Kentaro Shigeoka, Fumihiko Ino and Kenichi Hagihara

Yongquan Feng, Xinhai Xu, Yuhua Tang, Liyang Xu and Yongjun Zhang

[illegible]

Wednesday,
Aug 23rd

10:45 – 12:30

R1.6 – CIT 8: Cloud Computing and Data Centre Networks

Chair: KP Lam, Keele University, UK

A Sensitivity Approach to Energy-Efficient Mapping of Dependable Virtual Networks
Victor Lira, Eduardo Tavares, Meuse Oliveira Jr and Dennys Azevedo

CDController: A Cloud Data Access Control System based on Reputation
Huaqing Lin, Zheng Yan and Raimo Kantola

Cloud IEC 61850: DDS Performance in Virtualized Environment with OpenDDS
Roger D. F. Ferreira and Rômulo S. Oliveira

Using Game Theory To Solve the Fault Diagnosis Problem Under Symmetric Comparison Rules
Mourad Elhadef

10:45 – 12:30

R3.6 – NSS 6: Network Security II

Chair: Llorente Santos Jesus, Aalto University

Exploiting AUTOSAR Safety Mechanisms to Launch Security Attacks
Ahmad Nasser, Di Ma and Sam Lauzon

Survey on Big Data Analysis Algorithms for Network Security Measurement
Hanlu Chen, Yulong Fu and Zheng Yan

A State Recovery Attack on ACORN-v1 and ACORN-v2
Deepak Kumar Dalai and Dibyendu Roy

DNA-Droid: A Real-time Android Ransomware Detection Framework
Amirhossein Gharib and Ali Ghorbani

10:45 – 12:30

R4.6 – ICA3PP 7: Service Dependability and Security in Distributed and Parallel Systems

Chair: Zheng Yan, Xidian University, China/Aalto University, Finland

Leakage-Resilient Password-Based Authenticated Key Exchange
Ou Ruan, Mingwu Zhang and Jing Chen

Secure Encrypted Data Deduplication with Ownership Proof and User Revocation
Wenxiu Ding, Zheng Yan and Robert H. Deng

Optimally Selecting the Timing of Zero-Day Attack via Spatial Evolutionary Game
Yanwei Sun, Lihua Yin, Yunchuan Guo, Fenghua Li and Binxing Fang

13:45 – 15:25

R1.7 – CIT 9: Machine Learning, Data Mining and Big Data Analytics III

Chair: Ali Idri, Mohamed V University, Morocco

A data mining-based approach for cardiovascular dysautonomias diagnosis and treatment

Ali Idri and Ilham Kadi

Investigating the Agility Bias in DNS Graph Mining

Jukka Ruohonen and Ville Leppänen

The Enumeration of Flippable Edges in Maximal Planar Graphs

Dongyang Zhao, Yangyang Zhou and Jin Xu

Accurate Localization using LTE Signaling Data

Lei Ni, Yanming Shen, Yuxin Wang, Haoyang Tang and Zhao Yin

A Novel Model for Cybersecurity Economics and Analysis"

Paresh Rathod, Timo Hämäläinen

13:45 – 15:25

R4.7 – ICA3PP 8: Performance Modeling and Evaluation

Chair: KP Lam, Keele University, UK

Performance Analysis of a Ternary Optical Computer Based on M/M/1 Queueing System

Xianchao Wang, Sulan Zhang, Mian Zhang, Jia Zhao and Xiangyang Niu

Efficient Computation Offloading for Various Tasks of Multiple Users in Mobile Edge Clouds

Weiyu Liu, Xiangming Wen, Zhaoming Lu, Luning Liu and Xin Chen

A CNN-Based Supermarket Auto-Counting System

Zhonghong Ou, Changwei Lin, Meina Song and Haihong E

Research and Implementation of Question Classification Model in Q & A System

Haihong E, Yingxi Hu, Meina Song, Zhonghong Ou and Xinrui Wang

Notes

Workshops

Monday, August 21st

13:20 – 15:05

R5.1 – UCER 1:

Chair: Dr. Jiri Dokulil, University of Vienna, Austria

Probabilistic-based selection of alternate implementations for heterogeneous platforms

Javier Fernández, Jesús Sánchez Cuadrado, David del Rio Astorga, Manuel F. Dolz, and J. Daniel García

Accelerating processing of scale-free graphs on massively-parallel architectures
Mikhail Chernoskutov

A Hybrid Parallel Search Algorithm for Solving Combinatorial Optimization Problems on Multicore Clusters

Victoria Sanz, Armando De Giusti, and Marcelo Naiouf

13:20 – 15:05

R11.1 – SMCN 1:

Chair: Wenxiu Ding, Xidian University

A Quantitative method for evaluating Network Security based on Attack Graph
Lv Kun, Zheng Yukun and Hu Changzhen

SulleyEX: A Fuzzer for Stateful Network Protocol

Rui Ma, Tianbao Zhu, Changzhen Hu, Chun Shan and Xiaolin Zhao

A detecting method of array bounds defects based on symbolic execution
Chun Shan, Shiyong Sun, Jingfeng Xue, Changzhen Hu and Hongjin Zhu

Machine learning for Analyzing Malware

Dong Yajie, Liu Zhenyan, Yan Yida, Wang Yong, Xue Jingfeng and Zhang Ji

Optimal Attack Path Generation Based on Supervised Kohonen Neural Network
Yun Chen, Kun Lv and Changzhen Hu

15:35 – 17:20

R5.2 – UCER 2

Chair: Dr. Javier Fernández Muñoz, University Carlos III of Madrid, Spain

Concurrent Treaps

Praveen Alapati, Swamy Saranam, Madhu Mutyam

Survey on Energy-saving Technologies for Disk-based Storage Systems

Ce Yu, Jianmei Wang, Chao Sun, Xiaoxiao Lu, Jian Xiao and Jizhou Sun

The Open Community Runtime on the Intel Knights Landing Architecture

Jiri Dokulil, Siegfried Benkner and Jakub Yaghob

High-Performance Graphics in Racket with DirectX

Antoine Bossard

15:35 – 17:20

R11.2 – SMCN 2

Chair: Foukia Noria, HES, Switzerland

Defenses against Wormhole Attacks in Wireless Sensor Networks

Rui Ma, Siyu Chen, Ke Ma, Changzhen Hu and Xiajing Wang

A systematic analysis of random forest based social media spam classification

Mohammed Al-Janabi and Peter Andras

Application Research on Network Attack and Defense with Zachman Framework

Chensi Wu, Yuqing Zhang and Ying Dong

A Novel Approach to Network Security Situation Assessment Based on Attack Confidence

Donghang Liu, Lihua Dong, Shaoqing Lv, Ying Dong, Fannv He, Chensi Wu and Yuqing Zhang

A Discrete Wavelet Transform Approach to Fraud Detection

Roberto Saia

Tuesday, August 22nd

10:15 – 12:00

R5.3 – SECIOE 1

Chair: Dr. Somanath Tripathy, Associate Professor, IIT Patna, India

Improving Alert Accuracy for Smart Vehicles

Chia-Mei Chen, Gu-Hsin Lai and Tan-Ho Chang

Hardware Secured, Password-based Authentication for Smart Sensors for the Industrial Internet of Things

Thomas Wolfgang Pieber, Thomas Ulz, Christian Steger and Rainer Matischek

Towards Dependably Detecting Geolocation of Cloud Servers

Leo Hippeläinen, Ian Oliver and Shankar Lal

Tor de-anonymisation techniques

Juha Nurmi and Mikko Niemelä

10:15 – 12:00

R10.3 – IW5GS 1: Interconnection Security

Chair: Yoan Miche, Nokia Bellabs, Finland

10:15 -10:45 Jaakko Wallenius (CSO Elisa)

10:45 – 11:10 Stealthy SS7 Attacks

Sergey Puzankov (Positive Technologies)

11:10 – 11:35 Diameter Security: An Auditor's Viewpoint

Sergey Mashukov (Positive Technologies)

11:35 – 12:00	Subscriber Profile Extraction and Modification via Diameter Interconnection <i>Silke Holtmanns, Ian Oliver, Yoan Miche (Nokia Bell Labs)</i>
10:15 – 12:00	R11.3 – SMCN 3 <hr/> <p>Chair Tu Peng, Beijing Institute of Technology</p> <p>An Automatic Vulnerabilities Classification Method based on their Relevance <i>Hao Zhang, Kun Lv and Changzhen Hu</i></p> <p>A Novel Threat-Driven Data Collection Method for Resource-Constrained Networks <i>Jing Li, Lihua Yin, Yunchuan Guo, Chao Li, Fenghua Li, Lihua Chen</i></p> <p>OE-CP-ABE: Over-Encryption based CP-ABE Scheme for Efficient Policy Updating <i>Jialu Hao, Jian Liu, Hong Rong, Huimei Wang and Ming Xian</i></p> <p>Privacy-Preserving Stochastic Gradient Descent with Multiple Distributed Trainers <i>Le Trieu Phong</i></p>
10:15 – 12:00	R12.3 – PBio 1: Multicore and cluster computing in Bioinformatics <hr/> <p>Session Chair: José M. Granado-Criado</p> <p>A Resource Manager for Maximizing the Performance of Bioinformatics Workflows in Shared Clusters. <i>Ferran Badosa, Cesar Acevedo, Antonio Espinosa, Gonzalo Vera and Ana Ripoll.</i></p> <p>Massively Parallel Sequence Alignment with BLAST through Work Distribution Implemented using PCJ Library. <i>Marek Nowicki, Davit Bzhalava and Piotr Bala</i></p> <p>On the Use of Binary Trees for DNA Hydroxymethylation Analysis. <i>César González, Mariano Pérez, Juan M. Orduña, Javier Chaves and Ana-Bárbara García.</i></p> <p>Parallel Multi-Objective Optimization for High-Order Epistasis Detection. <i>Daniel Gallego-Sánchez, José M. Granado-Criado, Sergio Santander-Jiménez, Álvaro Rubio-Largo and Miguel A. Vega-Rodríguez.</i></p>
13:20 – 15:10	R5.4 – SECIOE 2 <hr/> <p>Chair: Todor Ginchev, Aalto University</p> <p>Coincer: Decentralised Trustless Platform for Exchanging Decentralised Cryptocurrencies <i>Michal Zima</i></p> <p>Enhancing Resilience of KPS Using Bidirectional Hash Chains and Application on SensorNet <i>Deepak Kumar Dalai and Pinaki Sarkar</i></p> <p>μShield: Configurable Code-Reuse Attacks Mitigation For Embedded Systems <i>Ali Abbasi, Jos Wetzels, Wouter Bokslag, Emmanuele Zambon and Sandro Etalle</i></p> <p>A Role-based Access Control System for Intelligent Buildings <i>Nian Xue, Xin Huang and Liu Dawei</i></p>

13:20 – 15:10	R10.4 – IW5GS 2: Virtualized and Software-Defined Network Security <hr/> <p>Chair: Ian Oliver, Nokia Bellabs, Finland</p>
13:20 – 13:50	<p>Bengt Sahlin (Ericsson) Invited talk: IOT and 5G; Security Considerations.</p>
13:50 – 14:10	<p>5G Slicing as a Tool to test User Equipment against Advanced Persistent Threats <i>Lauri Isotalo (Elisa)</i></p>
14:10 -14:30	<p>IPsec and IKE as Functions in SDN Controlled Network <i>Markku Vajaranta, Joona Kannisto and Jarmo Harju</i></p>
14:30 – 14:50	<p>Area-dividing Route Mutation in Moving Target Defense Based on SDN <i>Huiting Tan, Chaojing Tang, Chen Zhang and Shaolei Wang</i></p>
14:50 -15:10	<p>Probabilistic Transition-based Approach for Detecting Application-Layer DDoS attacks in Encrypted Software-Defined Networks <i>Elena Ivannikova, Mikhail Zolotukhin and Timo Hamalainen</i></p>
13:20 – 15:10	R12.4 – PBio 2: Hardware accelerators in Bioinformatics <hr/> <p>Session Chair: José M. Granado-Criado</p> <p>Configuring Concurrent Computation of Phylogenetic Partial Likelihoods: Accelerating Analyses using the BEAGLE Library. <i>Daniel L. Ayres and Michael P. Cummings.</i></p> <p>Accelerating FaST-LMM for Epistasis Tests. <i>Héctor Martínez, Sergio Barrachina, Maribel Castillo, Enrique S. Quintana-Ortí, Jordi Rambla De Argila, Xavier Farré and Arcadi Navarro.</i></p> <p>Pipelined Multi-FPGA Genomic Data Clustering. <i>Rick Wertenbroek, Enrico Petraglio and Yann Thoma.</i></p> <p>First Experiences Accelerating Smith-Waterman on Intel's Knights Landing Processor. <i>Enzo Rucci, Carlos Garcia, Guillermo Botella, Armando De Giusti, Marcelo Naiouf and Manuel Prieto-Matias.</i></p>
15:40 – 17:30	R5.5 – SECIOE 3 <hr/> <p>Chair: Michal Zima, Masaryk University, Brno, Czech Republic</p> <p>Access Control Model for AWS Internet of Things <i>Smriti Bhatt, Farhan Patwa and Ravi Sandhu</i></p> <p>Privacy Verification Chains for IoT <i>Noria Foukia, David Billard and Eduardo Solana</i></p> <p>Platform for detection of voids in the Bogotá D. C. road network and exposure of its information in a web environment <i>Angel Rendon, Octavio Salcedo and Lewys Correa</i></p>

A Denial of Service Attack Method for IoT System in Photovoltaic Energy System
Lulu Liang, Kai Zheng, Qiankun Sheng, Wei Wang, Xin Huang

15:40 – 17:30

R10.5 – IW5GS 3: New approaches for 5G Security

Chair: Silke Holtmanns, Nokia Bellabs, Finland

15:40 – 16:05

Concealing IMSI in 5G Network Using Identity Based Encryption
Md Mohsin Ali Khan and Valtteri Niemi

16:05 – 16:30

Mind Your Right to Know: On De-anonymization Auditability in V2X Communications
Tommi Meskanen, Masoud Naderpour, Valtteri Niemi

16:30 – 16:55

A formal approach for network security policy relevancy checking
Fakher Ben Ftima, Kamel Karoui and Henda Ben Ghezala

16:55 -

Covert Channels Implementation and Detection in Virtual Environments
Irina Mihai, Catalin Leordeanu and Alecsandru Patrascu

15:40 – 17:30

R11.5 – DACSC 1: Internet of Vehicles

Chair: Wendong Wang, BUPT, China

En-Eye: A Cooperative Video Fusion Framework for Traffic Safety in Intelligent Transportation Systems
Tianhao Wu and Lin Zhang

Security/Reliability-Aware Relay Selection with Connection Duration Constraints for Vehicular Networks
Zhenyu Liu and Lin Zhang

Research on Properties of Nodes Distribution on Internet of Vehicle
Jiujun Cheng, Zheng Shang, Hao Mi, Cheng Cheng and Zhenhua Huang

Application of Batch and Stream Collaborative Computing in Urban Traffic Data Processing
Tao Zhang and Shuai Zhao

15:40 – 17:30

R12.5 – PBio 3: Heterogeneous and distributed computing in Bioinformatics

Session Chair: José M. Granado-Criado

Power-performance Evaluation of Parallel Multi-objective EEG Feature Selection on CPU-GPU Platforms.
Juan José Escobar, Julio Ortega, Antonio Francisco Díaz, Jesús González and Miguel Damas.

Using Spark and GraphX to Parallelize Large-Scale Simulations of Bacterial Populations over Host Contact Networks.
Andreia Sofia Teixeira, Pedro T. Monteiro, João A. Carriço, Francisco C. Santos and Alexandre P. Francisco.

PPCAS: Implementation of a Probabilistic Pairwise Model for Consistency-based Multiple Alignment in Apache Spark.

Jordi Lladós, Fernando Guirado and Fernando Cores.

Accelerating Exhaustive Pairwise Metagenomic Comparisons.

Esteban Pérez-Wohlfeil, Oscar Torreno and Oswaldo Trelles.

Wednesday, August 23rd

10:45 – 12:30

R5.6 – SecureEdge 1: Secure and Resource-Efficient Edge Computing I

Chair: Mika Ylianttila, Professor, Oulu University, Finland

Some Cryptography Models Designed by Double Odd-edge Labelling of Trees

Hongyu Wang, Jin Xu and Bing Yao

Enhancing Security, Scalability and Flexibility of Virtual Private LAN Services

Madhusanka Liyanage, Mika Ylianttila and Andrei Gurtov

Horizontal Requirement Engineering in Integration of Multiple IoT Use Cases of City Platform as a Service

Toshihiko Yamakami

10:45 – 12:30

R10.6 – RACIT 1: Advances of Computer and Information Technologies I

Chair: Yongquan Feng, National University of Defense Technology, China

Investigation and Performance Evaluation of Scalable High Efficiency Video Coding

Wei-Lune Tang and Shih-Hsuan Yang

An Efficient Dynamic Ridesharing Algorithm

Jianren Gao, Yuxin Wang, Yanming Shen, Haoyang Tang and Zhao Yin

A Best Practice Based E-government Portals' Maturity Model – A Case Study

Ali Idri, Abdoullah Fath Allah, Laila Cheikhi and Rafa Al Qutaich

Security Assessment of a Distributed, Modbus-based Building Automation System

Tuomas Tenkanen and Timo Hamalainen

Practical Performance Models for High-order CFD Simulation

Hao Li, Xiaoguang Ren, Yufei Lin, Yuhua Tang, Shuai Ye and Chen Cui

10:45 – 12:30

R11.6 – DACSC 2: Big Data

Chair: Yu Xiao, Aalto University, Finland

Fine-grained Infer \$PM_{2.5}\$ Using Images from Crowdsourcing

Shuai Li, Teng Xi and Xirong Que, Wendong Wang

An Advanced Random Forest Algorithm Targeting the Big Data with Redundant Features

Ying Zhang, Bin Song, Yue Zhang and Sijia Chen

The Impact of International Inter-City Investment on Enterprises Performance:
Pluralistic Interpretation of Geographical Death
Yanghao Zhan, Yan Chen and Ruirui Zhai

Comparing Electricity Consumer Categories based on Load Pattern Clustering with
Their Natural Types
Zigui Jiang, Rongheng Lin, Fangchun Yang and Zhihan Liu

10:45 – 12:30

R12.6 – DTWSM 1

Chair: Zheng Yan, Professor, Xidian University, China/Aalto University, Finland

Cloud Multimedia Files Assured Deletion Based on Bit Stream Transformation with
Chaos
Wenbin Yao, Yijie Chen and Dongbin Wang

Interval Merging Binary Tree
István Finta, Lóránt Farkas, Sándor Szénási and Szabolcs Sergyán

Mining Suspicious Tax Evasion Groups in a Corporate Governance Network
Wenda Wei, Zheng Yan, Jianfei Ruan, Qinghua Zheng and Bo Dong

PerRec: A Permission Configuration Recommender System for Mobile Apps
Yanxiao Cheng and Zheng Yan

13:45 – 15:25

R5.7 – SecureEdge 2: Secure and Resource-Efficient Edge Computing II

Chair: Mika Ylianttila, Professor, Oulu University, Finland

Dynamic Malware Detection using API Similarity
Ehab Alkhateeb

Where Resources meet at the Edge
Klervie Toczé and Simin Nadjm-Tehrani

Software-Defined Edge Defense Against IoT-Based DDoS
Mert Özçelik, Niaz Chalabianloo and Gürkan Gür

13:45 – 15:25

R10.7 – RACIT 2: Advances of Computer and Information Technologies II

Chair: Leo Hippeläinen, Nokia Bell Labs, Finland

Dynamic Reconfiguration of Architecture in the Communication Network of Air
Traffic Management System
Igor Kabashkin

Changing for Win-Win
Guangyu Xiong, Timo R. Nyberg and Gang Xiong

3D matrix-based visualization system of association rules
Biying Wang, Tingting Zhang, Zheng Chang, Tapani Ristaniemi and Guohua Liu

On the performance of web services and Google cloud messaging
Waqar Hassan, Guido Albertengo, Fikru Getachew Debele and Dario Stramandino

13:45 – 15:25

R11.7 – DACSC 3: Smart City

Chair: Ye Tian, BUPT, China

Smart City Environmental perception from ambient cellular signals
Isha Singh and Stephan Sigg

When Clutter Reduction Meets Machine Learning for People Counting Using IR-UWB Radar
Xiuzhu Yang and Lin Zhang

ESD-WSN: An Efficient SDN-based Wireless Sensor Network Architecture for IoT Applications
Zhiwei Zhang, Zhiyong Zhang, Rui Wang, Zhiping Jia, Haijun Lei, and Xiaojun Cai

Energy Efficient Multicast Routing, Modulation Level and Spectrum Assignment in Elastic Optical Networks for Smart City Applications
Xiao Luo, Xue Chen and Lei Wang

A Multitask-Oriented Selection Strategy for Efficient Cooperation of Collocated Mobile Devices
Hui Gao, Jun Feng, Ruidong Wang and Wendong Wang

13:45 – 15:25

R12.7 – DTWSM 2

Chair: Hui Li, Professor, Xidian University

An Android Malware Detection System Based on Behavior Comparison Analysis
Jing Tao, Qiqi Zhao, Pengfei Cao, Zheng Wang and Yan Zhang

Stream-based Live Probabilistic Topic Computing and Matching
Kun Ma, Ziqiang Yu, Ke Ji and Bo Yang

Experiment for analysing the impact of financial events on Twitter
Ana Fernández Vilas, Lewis Evans, Majdi Owda, Rebeca P. Díaz Redondo and Keeley Crocket

APK-DFS: An Automatic interaction system based on Depth-First-Search for APK
Jing Tao, Qiqi Zhao, Pengfei Cao, Zheng Wang and Yan Zhang

Optimized Data Layout for Spatio-temporal Data in Time Domain Astronomy
Jie Yan, Ce Yu, Chao Sun, Zhaohui Shang, Yi Hu and Jinghua Feng

Tutorials

Monday, August 21st

13:20 – 15:05

R10.1 – Cooperative Security with Commodity Linux Tools (CSec)

Part 1: Introduction and motivation

Introduction to Cooperative Security

Raimo Kantola, Aalto University, Finland

Motivation for cooperation based on game theory

Hammad Kabir, Aalto University, Finland

15:35 – 17:20

R10.2 – CSec Tutorial Part 2: Firewalling and trust processing

Realm Gateway and Firewalling using Linux Kernel

Jesus Llorente, Aalto University, Finland

Homomorphic encryption in digital trust processing

Lifang Zhang, Aalto University, Finland

Tuesday, August 22nd

13:20 – 15:10

R11.4 – HPmPP1: Tutorial on High Performance Multithreaded Packet Processing

Juha-Matti Tilli, Nokia Bellabs, Finland

Part 1

Wednesday, August 23rd

13:45 – 15:25

R3.7 – HPmPP2: Tutorial on High Performance Multithreaded Packet Processing

Juha-Matti Tilli, Nokia Bellabs, Finland

Part 2

Panel

Monday, August 21st

11:00 – 12:00

Big Data and Analytics

Elisa Bertino, Professor, Purdue University, USA

Shadi Ibrahim, Inria, France

Francisco Herrera, Professor, University of Granada, Spain

NN

Hao Wang, Dr., Norwegian University of Science and Technology, Norway

NSS-ICA3PP-CIT 2017 General Information

Conference Venue

Hotel Crowne Plaza, Address: Mannerheimintie 50, 00260 Helsinki

Registration and Information Desk

The Registration and Information Desk at hotel Crowne Plaza is open as follows:

Sunday, 20 August	18:00 -20:00
Monday, 21 August	07:00-18:00
Tuesday, 22 August	07:30-18:00
Wednesday, 23 August	08:00-16:00

Registration fees include

- Admission to the three conferences
- Helsinki City Reception
- Conference Dinner (not included in Student non-author fees)
- Name badge
- Conference bag and material

Social Program

Helsinki City Reception

Venue: Helsinki City Hall
Address: Pohjois Esplanadi 11-13
Time: Monday, August 21st at 18:30 – 20:30

The City of Helsinki has the pleasure to invite all delegates to a cocktail reception taking place at the City Hall. A light buffet and drinks will be served. Kindly remember to bring your invitation card with you.

Gala Dinner

Venue: Hilton Helsinki Kalastajatorppa
Address: Kalastajatorpantie 1
Time: Tuesday, August 22nd at 19:00 – 22:30

The Gala Dinner will take place at the beautiful Hilton Helsinki Kalastajatorppa, only a 15-minute drive from the city center and overlooking the Gulf of Finland. Bus transportation from hotel Crowne Plaza to the Gala Dinner is provided at 18:30 and back to the hotel starting at 22:00.

Accompanying persons' meeting point

Room 13 will have coffee and refreshments available for accompanying persons in the morning 8:00 – 10:00.

Other Information

Badges

Wearing your personal name badge is compulsory in order to attend the sessions and other activities of the conference, including lunches and coffee breaks.

Certificates

A Certificate of Attendance will be provided to participants upon request at the Registration desk during the Conference.

Climate

The average day-time temperature in Finland in June-July is around 17-25°C (63-77°F). Evenings may be cooler. Fairly warm weather with occasional rain showers is likely. So, you might benefit from packing both lighter and warmer clothes and an umbrella!

Coffee Breaks and Lunch

Coffee, tea and snacks will be served in the Winter Garden area (see floor plan) during the coffee breaks indicated in the program. Lunch will be served in the Royal Hall.

Currency

The official currency in Finland is the euro (€). Most major credit cards are accepted in hotels and shops. VISA, MasterCard and Eurocard are accepted at the registration desk. Personal or company cheques will not be accepted at the registration desk or shops. Traveller's cheques can be cashed at banks and exchange bureaus.

Electricity

230 V (formerly 220 V), 50 Hz

Insurance

The Organizing Committee will take no liability for personal injuries sustained by, or for loss or damage to property belonging to conference participants, either during or as a result of the conference. All participants are recommended to have travel insurance to cover non-attendance due to illness or other unforeseen circumstances.

Internet access

Hotel Crowne Plaza has free Wireless Internet Access in the lobby area.
SSID and password are on a paper slip in your badge.

Language

The official language of the conference is English.

Mobile phones

As a courtesy towards other delegates, please ensure that your mobile telephone is turned off during all sessions.

Parking

Limited parking space is available at hotel Crowne Plaza. No parking space can be reserved in advance.

Smoking

Smoking inside is prohibited at all the venues

Time

Time zone in Finland: GMT + 3 hrs (during daylight saving/in August)

Tipping

All restaurant prices and taxi fares include service, but good service in the restaurant can be rewarded with a tip. Tipping is at the guest's discretion in hotels.

Notes

[illegible]

