



ADROIT Systems



ISADS 2015 Workshop on Agile Decentralized Resilient Operation of Internet of Things Systems

March 25-27, 2015, Taichung, Taiwan

ISADS 2015: <http://isads2015.asia.edu.tw/>

ADROIT Systems Advisory Committee:

- Richard Mark Soley, OMG, USA

ADROIT Systems General Co-Chairs:

- William Chu, Tunghai U., Taiwan
- Farokh Bastani, UT Dallas

ADROIT Systems Program Co-Chairs:

- Ing-Ray Chen, Virginia Tech
- Yingxu Lai, Beijing U. of Technology

ADROIT Systems Program Committee:

- Hamid Al-Hamadi, Kuwait University
- Fenyao Bao, LinkedIn, USA
- Rong N. Chang, IBM, USA
- Xiang Cui, Chinese Academy of Sciences
- Yunchuan Guo, Chinese Academy of Sciences
- Jinhua Guo, U. of Michigan-Dearborn
- Deqiang Han, Beijing University of Technology
- Yao-Nan Lien, National Chengchi University, Taiwan
- Zenghui Liu, Beijing Polytechnic
- Robert Mitchell, Boeing, USA
- Wu Peng, China Academy of Electronics and Information Technology
- Limin Sun, Chinese Academy of Sciences
- Jie Xu, University of Leeds, UK
- Ruzhi Xu, Qilu U. of Technology
- Li-Hsing Yen, National University of Kaohsiung, Taiwan

ISADS 2015 Honorary chairs:

- Chung-Laung Liu, NTHU, Taiwan
- Qiang Lu, Academy of Sc., China
- Qingquan Qian, Acad of Eng., China

ISADS 2015 General Chair:

- Jeffrey Tsai, Asia Univ., Taiwan

ISADS 2015 Program Co-Chairs:

- Min-Shiang Hwang, Asia U., Taiwan
- Yinong Chen, Arizona State U., USA
- Hidenori Nakazato, Waseda U., Japan
- Ilja Radusch, Fraunhofer, Germany

ISADS 2015 Steering Committee

- Kinji Mori, Waseda U., Japan (Chair)
- Farokh Bastani, UT-Dallas, USA
- Masaki Ogata, JR East, Japan
- Radu Popescu-Zeletin, Fraunhofer FOKUS / Tech. U. Berlin, Germany
- Richard Mark Soley, OMG, USA

The emerging paradigm of Internet of Things (IoT) has recently become increasingly important and the US National Intelligence Council (NIC) has included it in the list of six most “Disruptive Civil Technologies”. IoT represents a global infrastructure of networked physical things and objects which pervasively surround us to provide a variety of services that may significantly enhance the quality of our daily lives, including smart environments (buildings, cities, etc.), assisted living, enhanced medical processes, improved manufacturing, industrial control, automated business processes, intelligent transportation, etc.

Major enabling technologies for IoT include identification and tracking technologies such as Radio-Frequency Identification (RFID) technologies, wireless sensors and actuators, unique addressing schemes, novel communication protocols, Industry Control Systems (ICS), Cyber Physical Systems (CPS), industry internet, etc. Though these technologies are fundamental to IoT, additional technologies are needed to widely deploy IoT systems. For example, scalability is still a concern in IoT to support globalized identification and management of the vast number of “things”. Semantic computing, service technologies, peer-to-peer algorithms, etc., may be enhanced to potentially provide globalized discovery and management capabilities for IoT. Research in global-scale intelligent and autonomous composition and cooperation of a large number of widely distributed “things” is needed to enable IoT systems to achieve challenging tasks and adapt to environmental changes. In the IoT world, information will flow through everyday and everywhere objects, which may pose severe security risks. Also, with the increasing reliance on the information carried by these small objects to provide services, fabrication and malicious manipulation of information can create widespread threats. Thus, security, dependability, and trustworthiness are major challenges in IoT systems. There are many other issues that still need to be explored to effectively deploy resilient IoT systems.

The ADROIT Systems workshop intends to provide a forum for researchers and practitioners to present their findings and exchange ideas to facilitate the development of IoT systems. A major focus of the workshop is on secure and dependable IoT systems. The topics of interest include, but are not limited to:

- IoT, ICS, CPS, industry internet, and associated technologies;
- Architecture and framework for robust management of “things” in IoT systems;
- Autonomous intelligence for IoT, ICS, CPS, and industry internet;
- New technologies, enhanced semantic and service computing paradigms for smart specification, composition and execution of IoT, industrial control, and CPS;
- Dependability assurance techniques for IoT, ICS, CPS, and industry internet;
- Cyber security for IoT, ICS, CPS, and industry internet, such as security for embedded software, security for industrial control systems, new access control paradigms, malware analysis, and abnormal event detection;
- Security for low power and industrial networks, such as deep packet inspection, secure communication protocols, security analysis for low power and industrial network protocols, industrial network firewalls, industrial network and field bus security;
- New challenges and technologies for critical IoT, ICS, CPS, and industry internet.

Submissions. Original research works that have not been published previously or submitted elsewhere are welcome. Papers should be within 6 pages in IEEE standard format. All accepted papers will be published in the Proceedings of the 12th International Symposium on Autonomous Decentralized Systems (ISADS 2015). At least one of the authors of each accepted paper must register and present the paper at the workshop session at ISADS 2015. Manuscripts should be submitted electronically choosing the ADROIT Systems workshop at:

<https://www.easychair.org/conferences/?conf=isads2015>

Important Dates.

- September 24, 2014: All papers due.
- November 15, 2014: Acceptance notification for paper authors.
- December 31, 2014: Camera-ready copies of accepted papers due.