

W8: Resource Allocation and Spectrum Management in Internet of Things (IoT) Heterogeneous Networks

Internet of Things (IoT) is defined as an interconnection of smart objects/things having seamless connectivity with heterogeneous quality of service requirements. Therefore, classical methods of communication, allocation and connectivity will not work well, and there is need of improved resource allocation and network management techniques. Design and analysis of new techniques will enhance and optimize the network performance, by admitting maximum machines\ users into the network, with varying capabilities.

Various resource management approaches across protocol layers are the intended target for this workshop. It will cover resource allocation issues for IoT networks for different applications; such as from device centric to information centric services/networks.

This workshop aims to comprehend thorough, and unified vision of the resource allocation issue in complex multi-user, multi-machine and multi-operator IoT heterogeneous networks. It aims to bring together researchers, academics, individuals working on selected areas of resource allocation and spectrum management in IoT networks, and share their new ideas, latest findings, and results in the said area.

Workshop Chairs and Organisers:

Fatima Hussain, University of Guelph and Ryerson University
Syed Ali Hassan, National University of Sciences and Technology
Javaid Talib, Amazon

Steering Committee and Honorary Chairs:

Alexander Ferworn, Ryerson University
Xavier Fernando, Ryerson University
Charlie Obimabo, University of Guelph

Technical Program Committee:

Markku Juntti, University of Oulu
Tadashi Matsumo, Japan Advance Institute of Science and Technology
Des McLernon, University of Leeds

Mark Flanagan, University College Dublin
Ali Imran, Oklahoma University
Sajid Saleem, National University of Sciences and Technology
Shahid Mumtaz, Institute of Telecommunications
Aravind Kailas, Volvo Inc
Ali Arhsad Nasir, King Faisal University of Petroleum and Engineering
Xiliang Luo, ShanghaiTech University
Hesham ElSawy, King Abdullah University of Science and Technology
Vitaly Skachek, University of Tartu
Yonghui Li, University of Sydney
Zihuai Lin, University of Sydney
Eirik Rosnes, University of Bergen, Norway

Program

Opening Remarks

Fatima Hussain, University of Guelph, Ryerson University

Welcome

Xavier Fernando, Ryerson University

Keynote

Catherine Rosenberg, University of Waterloo

1 Adaptive Switching for Efficient Energy Harvesting in Energy Constraint IoT Devices

Arif Obaid, Ryerson University; Fatima Hussain, University of Guelph; Xavier Fernando, Ryerson University

2 A Voyage-Based Cooperative Resource Allocation Scheme in Maritime Broadband Access Network

Ailing Xiao, Ning Ge, Liuguo Yin, Chuan'ao Jiang, Tsinghua University

3 C-V2X based basic safety related ITS spectrum requirement analysis

Lu Gao, Yan Li, Jim Misener, Shailesh Patil, Qualcomm

4 Optimal Network Selection Based on Software Defined Wireless Networks of 5G

Haiqi Jiang, Huazhong University of Science and Technology

5 Optimal Power Allocation for Cognitive Radios with Multiple Status Changes in Primary User Traffic

Mian Qin, Shouyi Yang, Ruizhe Zhang, Fang Wang, Zhengzhou University

6 Wireless Information and Power Transfer: Issues, Advances and Challenges

Tharindu Perera, Tomsk Polytechnic University; Dushantha Nalin K. Jayakody, National Research Tomsk Polytechnic University; Symeon Chatzinotas, SnT, University of Luxembourg; Vishal Sharma, Soonchunhyang University