

2018 IEEE International Conference on Blockchain (Blockchain 2018)

<http://cse.stfx.ca/~blockchain2018/index.php>

Halifax, Canada, July 30-August 03, 2018

Introduction

As a promising technique to achieve decentralized consensus, blockchain has been successfully applied into digital currency - bitcoin for serving as a public ledger for transactions. Its secure design for supporting a distributed computing system with high Byzantine fault tolerance is attracting wide attention all over the world. Blockchain has a great potential for event recording, identity management, fault provenance, behaviour tracking, and so on, especially in a distributed system without a trusted authority or central server. On one hand, blockchain will play an important role for secure decentralization in such emerging fields as Internet of Things, Cyber Physical Systems, edge computing, social networking, crowdsourcing and next generation wireless communications, and even more other fields. On the other hand, its advance should be further evolved in terms of scalability, privacy, efficiency, flexibility and high dependability.

The 2018 IEEE International Conference on Blockchain (Blockchain-2018) will provide a high-profile, leading-edge forum for researchers, engineers, and practitioners to present latest advances and innovations in key theories, infrastructure, schemes, and significant applications for the blockchain, as well as to identify emerging research topics and define the future.

Topics

The emergence and popularity of blockchain techniques will significantly change the way of digital system operation and management. In the meantime, the application of blockchain will exhibit a variety of complicated problems and new requirements, which brings more open issues and challenges for research communities.

IEEE Blockchain-2018 will be held on July 30 – August 03, 2018 in Halifax, Canada. The goal of this conference is to promote community-wide discussion identifying the advanced applications, technologies and theories for blockchain. We seek submissions of papers that invent novel techniques, investigate new applications, introduce advanced methodologies, propose promising research directions and discuss approaches for unsolved issues.

Topics of interest include, but are not limited to:

- Theories of blockchain and its evolution
- Smart contract and distributed ledger
- Blockchain and Bitcoin security
- Distributed consensus and fault tolerance mechanisms
- Blockchain schemes for decentralization
- Security, privacy and trust of blockchain and decentralized schemes
- Performance optimization of blockchain and decentralized schemes
- Applications with blockchain technique
- Protocols and algorithms based on blockchain
- Blockchain based lightweight data structures for IoT data
- Blockchain based IoT security solutions

- Blockchain in cyber physical systems
- Blockchain in social networking
- Blockchain in crowdsourcing and crowdsensing
- Blockchain in 5G
- Blockchain in edge and cloud computing
- Blockchain and trust management
- Attacks on blockchain based systems

Special Issues:

- IEEE Transactions on Systems, Man, and Cybernetics (IF: 6.22), SI on Blockchain and Knowledge Automation https://mp.weixin.qq.com/s/GU7u3E2kZ-S35xvQV-_Rhg
- Future Generation Computer Systems, Elsevier (IF: 3.997), Special Issue on Blockchain and Decentralization for Internet of Things <https://www.journals.elsevier.com/future-generation-computer-systems/call-for-papers/special-issue-on-blockchain-and-decentralization-for-internet-of-things>
- IEEE Transactions on Big Data, Special Issue on Blockchain and Big Data Fusion
- Digital Communications and Networks, SI on Blockchain and Communication Networks <http://www.keaipublishing.com/en/journals/digital-communications-and-networks/call-for-papers/blockchain-and-communication-networks/>
- Information Fusion, Elsevier (IF: 5.667), Special Issue on Data Fusion in Heterogeneous Networks
- Information Sciences, Elsevier (IF: 4.832), Special Issue on Big Data Privacy
- Information Sciences, Elsevier (IF: 4.832), Special Issue on Privacy Computing: Principles and Applications <https://www.journals.elsevier.com/information-sciences/call-for-papers/special-issue-on-privacy-computing-principles-and-applications>
- Journal of Network and Computer Applications, Elsevier (IF: 3.50)

Submissions

All papers need to be submitted electronically through the conference website (<http://edas.info/N24471>) with PDF format. Submitted papers must not substantially overlap with papers that have been published or that are simultaneously submitted to a journal or a conference with proceedings. Papers must be clearly presented in English, must not exceed 8 pages in IEEE Computer Society proceedings format (or up to 10 pages with the pages over length charge), including tables, figures, references and appendices. Papers will be selected based on their originality, significance, relevance, and clarity of presentation assessed by at least three reviewers. Submission of a paper should be regarded as a commitment that, should the paper be accepted, at least one of the authors will register and attend the conference to present the work. Blockchain 2018 reserves the right to exclude a paper from distribution after the conference (e.g., removal from the digital library and indexing services), if the paper is not presented at the conference. All accepted papers will be published in IEEE CPS proceedings (EI Indexed) and collected by IEEE Xplorer Digital Library. One outstanding paper will be selected to receive the Best Paper Awards.

Important Dates

Workshop Proposal Due:	February 15, 2018
Paper Submission Deadline:	March 15, 2018
Author Notification:	April 15, 2018
Final Manuscript Due:	May 15, 2018

Organization Committee

General Chairs

Vijay Varadharajan, The University of Newcastle, Australia
Dinesh C. Verma, IBM, USA
Zheng Yan, Xidian University, China and Aalto University, Finland

Program Chairs

Mohammed Atiquzzaman, University of Oklahoma, USA
Jin Li, Guangzhou University, China
Weizhi Meng, Technical University of Denmark, Denmark

Special Session and Workshop Chairs

Xin Huang, University of Xi'an Jiaotong Liverpool, China
Qinghua Lu, CSIRO, Australia
Ruppa Thulasiram, University of Manitoba, Canada
Hongsheng Zhou, Virginia Commonwealth University, USA

Technical Program Committee

Ashiq Anjum, University of Derby, UK
Giuseppe Ateniese, Stevens Institute of Technology, USA
Man Ho Au, Hong Kong Polytechnic University, Hong Kong
Natalia Beloff, University of Sussex, UK
Yu Chen, University of California, Irvine, USA
Fei Chen, Shenzhen University, China
Alexander Chepurnoy, IOHK Research, Hong Kong
Kostas Christidis, North Carolina State University, USA
Tiziana Cimoli, University of Cagliari, Italy
Shlomi Dolev, Ben-Gurion University, Israel
Zeki Erkin, Delft University of Technology, Netherlands
Wei Feng, Xidian University, China
Christopher Frantz, Norwegian University of Science and Technology, Norway
Antonio Faonio, IMDEA Software Institute, Spain
Rosario Gennaro, City University of New York, USA
Vincent Gramoli, University of Sydney, Australia
Feng Hao, Newcastle University, UK
Debiao He, Wuhan University, China
Xin Huang, University of Xi'an Jiaotong Liverpool, China
Praveen Jayachandran, IBM Research, India
Raja Jurdak, CSIRO, Australia
Salil S. Kanhere, University of New South Wales (Sydney), Australia
Ghassan Karame, NEC Laboratories Europe, Germany
Dilip Krishnaswamy, IBM Research, India
Anthony Krzesinski, Stellenbosch University, South Africa
Mario Larangeira, Tokyo Institute of Technology, Japan
Wenjuan Li, City University of Hong Kong, Hong Kong
Jian Liu, Aalto University, Finland
Zhiqiang Liu, Shanghai Jiao Tong University, China
Erwu Liu, Tongji University, China
Xueqin Liang, Xidian University, China
Qinghua Lu, CSIRO, Australia
Federico Maggi, Trend Micro, Inc., Italy
Breno de Medeiros, Google Inc., USA

Pedro Moreno-Sanchez, Purdue University, USA
Guillermo Navarro, Universitat Autònoma de Barcelona, Spain
Christopher Natoli, The University of Sydney, Australia
Petr Novotny, IBM T. J. Watson Research Center, USA
Mariusz Nowostawski, Norwegian University of Science and Technology, Norway
Zhonghong Ou, Beijing University of Posts and Telecommunications, China
Claudio Orlandi, Aarhus University, Denmark
John Palfreyman, IBM&Palfreyman Ventures, UK
Cristina Pérez-Solà, Universitat Autònoma de Barcelona, Spain
Laura Ricci, University of Pisa, Italy
Na Ruan, Shanghai Jiaotong University, China
Kouichi Sakurai, Kyushu University, Japan
Rei Safavi-Naini, The University of Calgary, Canada
Bjorn Scheuermann, Humboldt University of Berlin, Germany
Alessandro Sorniotti, IBM Research, Zurich
Pawel Szalachowski, Singapore University of Technology and Design, Singapore
Peter Taylor, University of Melbourne, Australia
Qiang Tang, New Jersey Institute of Technology University, USA
Paolo Tasca, University College London, UK
Stefan Tai, TU Berlin, Germany
Shruti Tople, National University of Singapore, Singapore
Hoang Tam Vo, IBM Research, Australia
Qianhong Wu, Beihang University, China
Danny Yang, BlockSeer, USA
Anjia Yang, Jinan University, China
Dengpan Ye, Wuhan University, China
Kuo-Hui Yeh, National Dong Hwa University, Taiwan
Qi Zhang, IBM Thomas J. Research Center, USA
Yunhui Zhuang, City University of Hong Kong, Hong Kong
Jan Ziegeldorf, RWTH Aachen University, Germany
Dionysis Zindros, University of Athens, Greece

Steering Committee

Elisa Bertino, Purdue University, USA
Jinjun Chen, Swinburne University of Technology, Australia
Robert H. Deng, Singapore Management University, Singapore
Victor C. M. Leung, University of British Columbia, Canada
Fenghua Li, Chinese Academy of Sciences, China
Wenjing Lou, Virginia Polytechnic Institute and State University, USA
Pierangela Samarati, Università degli Studi di Milano, Italy
Vijay Varadharajan, University of Newcastle, Australia
Chonggang Wang, InterDigital, USA
Yang Xiang, Swinburne University of Technology, Australia
Zheng Yan, Xidian University, China and Aalto University, Finland (chair)
Laurence T. Yang, St. Francis Xavier University, Canada (chair)
Qinghua Zheng, Xi'an Jiaotong University, China

Publicity chairs

Entao Luo, Hunan university of science and engineering, China
Wei Wang, Huazhong University of Science and Technology, China

Xiaokang Wang, St Francis Xavier University, Canada