

WORKSHOP ON BLOCKCHAIN NETWORKS AND INFORMATION FLOW

ICCS 2018 Cambridge, MA, USA

July 26 2018 13:00-17:00



The last couple of years had seen a torrent of innovation focused on the creation of blockchain technologies and protocols. Fast adoption of this technology is already disrupting the financial and logistics industries, with effects that are expected to grow even further in the coming decade. The workshop aims to bring to the forefront innovative approaches that examine the design and analysis of blockchain networks and application through a network information-flow prism. The workshop will feature recent progress and challenges associated with the theory of decentralized collaborative systems, networking and engineering side.

For information on event registration and venue, please visit the [webpage](#) of the 2018 International Conference on Complex Systems.

ORGANIZERS



DR. YANIV
ALTSHULER
MIT Media Lab



PROF. ALEX
PENTLAND
MIT Media Lab



DR. EDUARDO
CASTELLO
FERRER
MIT Media Lab



SHAHAR
SOMIN
MIT Media Lab

DEADLINES

Paper Submission Deadline: May 31st, 2018

Author Notification: June 15th, 2018

Camera ready submission: July 1 st, 2018

SUBMISSION

For presentation at the workshop, authors should :

SUBMIT WITH EASYCHAIR

*Please be aware to include the workshop's name in your abstract.

Call for papers : [Download](#)

PROGRAM

13:00 - 13:10 Opening Session

13:10 - 13:30 Keynote lecture

Prof. Alex "Sandy" Pentland

13:30 - 13:50 Keynote lecture

Dr. Stuart Haber

13:50 - 14:10 Keynote lecture

Dr. Ori Rottenstreich

14:10 - 14:25 Keynote lecture

Prof. Alex Lipton

14:25 - 14:40 ERC20 tokens: a Network Perspective

Ms. Shahar Somin

14:40 - 14:55 Full METL Research to Faster Miracles:

The Biphasic Network Effects of Distributed

Science

Dr. Sean Manion

14:55 - 15:10 Coffee Break

**15:10 - 15:25 Learning Graph Representations Using Recurrent
Convolution Auto Encoder**

**Networks for Anomaly Based Forecasting Of
Ethereum Prices**

Mr. Yam Peleg

**15:25 - 15:40 Self-Sovereign Identity: Design Considerations and
Network Impact**

Mr. Zhijun William Zhang

15:40 - 15:55 Bot detection in Blockchain: a Network Approach

Ms. Morit Zwang

15:55 - 16:10 Evolution of Blockchain Consensus Models

Mr. Wang

**16:10 - 16:25 Social Valuation Dynamics for the Blockchain and
Cryptocurrency Era**

Dr. Lynette Shaw

16:25 - 16:50 Experts Panel

Guided by Dr. Yaniv Altshuler.

Hosting: Prof. Alex Lipton

Dr. Thomas Hardjono

Dr. Mihaela Ulieru

David Shrier

Leonid Beder

16:50 - 17:00 Closing Session

TOPICS OF INTEREST

Network effect in on-chain\off- chain interplay

Optimization of blockchain configurations based on social contexts groups (social-
prediction markets, liquidity providers, etc.)

Information flow and information leakage in blockchain services for resources
allocation (Golem, etc.)

Blockchain networks algorithms inspired by human social-cooperation interactions

Time series analysis and prediction;

Temporal correlations in blockchain traffic

Analysis of information flow and scale of dynamic processes in blockchain networks

Spatio-temporal patterns in blockchain networks

Collaborative detection of distributed network attacks

Peer-to- peer based security mechanisms

Adversarial abuse of blockchain protocols

Efficient implementation of security and privacy algorithms through sharing knowledge and resources

Use of low complexity property testing methods by decentralized blockchain agents

Novel collaborative network architectures for increased security and privacy

Socially inspired network security architectures

Collaboration aware network protocols: information flow and complexity aspects

Collaborative privacy management - access controls, permissions

Providing security and privacy for social overlay networks in blockchain protocols

Configuring blockchain protocols' parameters based on the networks' topology analysis

Integrating social information with traditional network layers: Integrating with the OSI model, cross-layered approaches, etc.