International Interdisciplinary Workshop-
"FACTOR OF SCALE IN COMPLEX NETWORKS (FASCACON' 2020) "

Scientific Program

Date: *20/04/2020*

Plenary Speaker: *Ljupco Kocarev, PhD, Professor, President, Macedonian Academy of Sciences and Arts, Skopje, Republic of North Macedonia*
Plenary Speaker: *Rafael Capurro, PhD, Prof(Em.), Information Management and Information Ethics , Stuttgart Media University Stuttgart, Germany*

Session 1. Global and local communities
The session is dedicated to how to search and study communities of various sizes in complex networks. The session concentrates on the following issues:
Communities, modules and large-scale structure in networks : new window on system behavior;
Network communities from local and global perspectives; Analysis of the structure of complex networks at different resolution levels;
Communities in Social Networks;
Analysis of social networks on text, user and group levels
General Session Speaker: *Alexandre Pauchet, PhD, Assoc. Prof, Normandy University - INSA Rouen Normandy,France*
Session Chair : *Sukhbaatar Ivshinkhorloo, PhD, Prof. , Mongolian University of Science and Technology, (MUST), Ulaanbaatar, Mongolia*

Session 2. Scales for Multiplexes
Aspects of the session are related to the issues of scale in multilayer complex networks:
Detection of dense node communities in multilayer networks;
Effect of multiple relations on structure and stability of a large-scale social network;
Quantitative measures for multidimensionality of human relationships;
Global, national and corporative features of entity identification - an approach based on multiplex networks;
All-scales approaches to comparing multilayer networks
General Session Speaker: *Petr Klyucharev,PhD, Assoc. Prof., Bauman Moscow State Technical University, Moscow, RF*
Session Chair: *Seunghwan Myeong, PhD, Prof. , Inha University, Incheon, Republic of Korea)*

Date: *21/04/2020*

Plenary Speaker: *Igor Evin, DSc, Prof., Moscow Institute of Physics and Technology (State University), Dolgoprudny, Moscow Region, RF*
Plenary Speaker: *Massimiliano Zanin, PhD, Principal Researcher , Innaxis Foundation & Research Institute, Madrid, Spain*

Session 3.   Intermediate-scale (meso- scale) Network features
The following issues are expected to be taken into consideration:
Unified formulation for algorithmic detection and analysis of different meso-scale structures;
Core-Periphery Structure in Networks : friendship, collaboration, transportation, etc. examples;
Building resilient interdependent networks: factor of core-periphery structure;
Quantifications of meso-scale structures of complex networks;
Multiple meso-scale structures
General Session Speaker: *Ljupco Kocarev, PhD, Professor, President, Macedonian Academy of Sciences and Arts, Skopje, Republic of North Macedonia*
Session Chair: *Alexey Markov, Dsc, Prof., Bauman Moscow State Technical University, Moscow. RF*

Session 4. Large Scale (global or gestalt) Networks
It is proposed to discuss such problems as :
Modeling complex networks at macroscopic scales;
Influences of Complex Network Effects on Recovering Large Scale Multiagent systems;
Network approaches for inferring interrelationships within macroscopic regions of the Earth's climate system;
Examples of massive networks;
Global Brain conception
General Session Speaker: *Altangerel Khuder, PhD, Associate Prof., Computer Science Department, Mongolian University of Science and Technology (MUST), Ulaanbaatar, Mongolia*
Session Chair: *Anatoliy Durakovskiy, PhD, Assoc. Prof., National Research Nuclear University MEPhI , Moscow,RF*

Date: *22/04/2020*

Plenary Speaker: *Brian Sauser, PhD,Prof., Jim McNatt Institute for Logistics Research, University of North Texas, Denton, TX,USA*
Plenary Speaker: *Rodolfo Baggio, PhD, Prof. , Dondena Centre for Research on Social Dynamics and Public Policy, Bocconi University, Milan Italy*

Session 5. Spatio-temporal networks of multiple scales
The session is dedicated to studying real and synthetic networks and concomitant relationships of scales with their properties. Within the session it is planned to clarify the next topics:
Identifying qualitative transitions in observational data for spatio-temporal systems;
Spatial Networks: Multilateral migratory relationships at global, regional, and local scales;
Local, regional and global tourism services: network view;
Network description of multiple natural landscapes;
Spatio-temporal paths in time-varying spatially embedded networks
General Session Speaker: *Andrey Pechnikov, DSc, Principal Researcher , Institute of Applied Mathematical Research of the Karelian Research Centre ,RAS (IAMR), Petrozavodsk, RF*
Session Chair: *Alessandra Rossodivita, MD, Clinical Risk Manager, ASST Fatebenefratelli Sacco- Luigi Sacco Academic Hospital, Milan, Italy*

Session 6. "Networkalization" scales of Time and Spatial Data
The issues of converting, transforming and presenting time and spatial series and other data by means of complex networks are in the focus.
It is envisaged to consider wide spectrum of issues concomitant to the session:
Algorithms for converting data into networks;
Analysis of network imprints of images in natural and humanitarian studies: the role of scale;
tools for complex network based time and spatial series studies;
Visualization of multi-scale networks;
Applied examples;
Multiscale E-Governance: Comprehensive Networking
General Session Speaker: *Tatyana Progulova, PhD, Assoc. Prof., International University for Nature, Society and Man, Dubna, Moscow Region, RF*
Session Chair: Olga Berestneva, DSc, Prof., Tomsk Polytechnic University, Tomsk,RF

Date: *23/04/2020*

Plenary Speaker: *Boris Podobnik, PhD, Prof. , Physics Dept. ,University of Rijeka, Rijeka, Croatia*
Plenary Speaker: *Elena Arefyeva, DSc, Principal Researcher, FSBI "All-Russian civil defense and emergencies research institute of Emergency Control Ministry of Russia", Moscow , RF*

Session 7. Network modeling and analysis across scales
This session is dedicated to various issues of network modeling.
The session topics include:
Microscopic simulation methods and coarse graining approaches;
Network modeling and analysis across scales;
World economy : labor flow networking;
A large-scale crowd-sourced analysis;
Self-organized Networks with competition: effects of scale;
Network Modeling and Forecasting of Risks ;
Resource Networks with constraints
General Session Speaker: *Ludmila Zhilyakova , DSc, Leading Researcher V. A. Trapeznikov Institute of Control Sciences , RAS , Moscow , RF*
Session Chair*: Taewoo Nam , PhD , Assoc. Professor, Public Administration Dept., Sungkyunkwan University, Republic of Korea)*

Session 8.   Network dynamic changes on multiple time scales
Interest areas include research of evolving networks and their dynamics taking into account time scales :
Interdependent and competitive dynamics in multilayer networks;
Emotion spread in social networks;
Formation of social opinion in media with socbots;
Temporal networks: detecting sequences of system states;
Networks in Historical Science

General Session Speaker: *Udit Bhatia , PhD, Prof. , Indian Institute of Technology, Gandhinagar, India*
Session Chair: *Altangerel Ayush, PhD, Assoc. Prof., Mongolian University of Science and Technology (MUST), Ulaanbaatar, Mongolia*

Date: *24/04/2020*

Plenary Speaker: *Winn Schwartau, "The Civilian Architect of Information Warfare", CVO & Founder, The Security Awareness Company, LLC, a subsidiary of KnowBe4, Inc. , Clearwater, FL 33755 , USA*
Plenary Speaker: Vladimir Mazalov, PhD, Prof., St. Petersburg State University, St. Petersburg , RF, Director, Institute of Applied Mathematical Research of the Karelian Research Centre ,RAS (IAMR), Petrozavodsk, RF
Plenary Speaker: *Erdenebaatar Altangerel, PhD, Prof.,Head of Computer Science Dept., Mongolian University of Science and Technology (MUST), Ulaanbaatar, Mongolia*
Plenary Speaker: _Elisaveta Jasna Stikova MD, PhD, Prof. University "Sts. Cyril and Methodius", Skopje, Republic of North Macedonia_
Plenary Speaker: *Alexei A.Tikhomirov , DSc, Prof. , Inha University, Incheon , ex- Head of UN Project Office on Governance, Seoul, Republic of Korea*

Session 9. Scale-Dependent Resilience and Robustness
The session is devoted to vulnerabilities of complex networks, taking into account the impact of scale of networks and scale of threats both:
Modeling information spreading on complex networks of multiple scales;
Network Reconstruction and Prediction of Epidemic Outbreaks;
Network-based Threat Identification and object protection for Critical information infrastructures;
Defense Strategies for Networked Systems;
Analysis of vulnerabilities in wide-area networks;
Crawling of social networks : technical and legal aspects
General Session Speaker: *Andrey Trufanov, PhD, Assoc. Prof., Irkutsk National Research Technical University*
Session Chair: *Alexandr Afanasyev, DSc, Prof. , Irkutsk National Research Technical University, Irkutsk, RF*

Chair, Program Committee   Alexei Tikhomirov