



# **ECC 2019**

*The Sixth Euro-China Conference on  
Intelligent Data Analysis and Applications  
(ECC2019) Arad-Romania*

<https://www.ecc2019.ro/>

## **PROGRAM**

**October 15-18 ARAD - ROMANIA**

## **WELCOME MESSAGE**

ECC 2019 hosted by Aurel Vlaicu University is the sixth Euro-China Conference on Intelligent Data Analysis and Applications. The aim of this conference is to provide an internationally respected forum for scientific research in the broad area of intelligent data analysis, computational intelligences, signal processing, and all associated applications of AI.

Our pleasant duty is to gratefully acknowledge the support provided by the sponsors and co-sponsors of the ECC 2019 conference to thank the reviewers for their work and all those involved in the preparation of the workshop and the program. Last but not least, we would like to thank the authors for their valuable contribution!

The General Co-Chairs wish all participants a pleasant stay in Arad and a successful workshop!

# CHAIRS

## HOSTING CHAIRS

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State Secretary to the Ministry of National Education,

**Prof. Ramona Lile** (Romania)  
Rector of "Aurel Vlaicu" University of Arad, Romania

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## PUBLICATION CHAIR

**Dr. Chien-Ming Chen** (China)  
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### **International Program Committee and other Committees**

<https://www.ecc2019.ro/committees/>

# GENERAL INFORMATION

## Venue

The 6<sup>th</sup> edition of the Euro-China Conference on Intelligent Data Analysis and Applications (ECC 2019) will take place at Hotel Continental, in Arad, Romania. The conference room will be in the hotel mezzanine.

## Registration desk

A registration desk will be open all throughout the event where participants can register and receive information on the event.

## Language

The official language of the workshop is English.

## Presentations

Presentations can be made by using data projectors. All authors are kindly requested to take their presentation on a USB and upload it on the workshop laptop during the break before their session. Each presentation will be a maximum of 15 minutes, plus 5 minutes for discussions.

## Internet

There will be free of charge internet facilities.

## Social programs

- A **Welcome Conference Dinner** will take place on the evening of the 1<sup>st</sup> day at Ratio Restaurant, <https://ratio.ro/>  
Address: [Piata Avram Iancu 10, Arad](#)
- The **Conference Dinner** will take place in the evening of the 2<sup>nd</sup> day in Arad at Restaurant Ratio Beach, <http://www.ratiobeach.ro/>. Address: Str. Malul Muresului, Arad, Strandul Neptun.

- Wine Tasting and Dinner in the Vineyards of Aramic, Timis, <http://crama-aramic.ro/> will take place on the afternoon of the 3<sup>rd</sup> day

### **Insurance**

The Organizers of the workshop do not provide insurance and do not take responsibility for any loss, accident or illness that might occur during the workshop or in the course of travel to or from the meeting site. It is therefore the responsibility of the participants to check their coverage with their insurance provider.

### **Voltage**

The electricity supply is 220 V AC (50 Hz).

### **Weather**

Weather in October is pleasant, ranging between 10 and 26 °C.

### **Taxi companies**

Taxi Verbita: 004 0741 200 300

Taxi Europa: 004 0257 275 555

# Program

## ECC 2019

*Tuesday, October 15<sup>th</sup>*

### **08:30–09:00 Registration**

Hotel Continental, mezzanine

*The registration desk will be open all throughout the conference*

### **09:00 – 09:10 Opening**

Opening address by the general co-chairs.

### **09:10 – 11:00 Keynote presentations I, II & III**

*Chair: Valentina E. Bălaș*

**Kuo-Hui Yeh** (Taiwan)

*Trusted IoT Framework*

**Praveen Kumar Khosla** (India)

*Data Analytics for Cyber Security*

**Guojun Wang** (China)

*Cleanroom Computing – Building Efficient and Secure  
Network Services*

### **11:00 – 11:30 Coffee break**

### **11:30 – 13:00 Keynote presentations IV & V**

*Chair: Valeriu Beiu*

**Jerry Chun-Wei Lin** (Norway)

*Utility-Oriented Pattern Analytic and Mining  
Techniques*

**Oana Geman** (Romania)

*Big Data Analysis and Applications in Biomedical Field*



**13:00 – 14:30 Lunch break**

*Restaurant – ground floor, Hotel Continental*

**14:30 – 14:50 Session**

*Chair: Vlad Dragoi*

**Shou-Ching Hsiao, PrivGRU:**

*A Privacy-preserving GRU Inference System using  
Additive Secret Sharing*

**14:50 – 16:00 Keynote presentation VI**

*Chair: Oana Geman*

**Vlad Dragoi (Romania)**

*Discrete mathematics applied in error correcting  
codes, and network reliability*

**16:00–16:45 Keynote presentation VII**

*Chair: Marius Bălaș*

**Shahnaz Shahbazova (Azerbaijan)**

*Models and methods of design of knowledge based  
fuzzy neural networks*

**16:45-17:00 Coffee break**

*Hotel Continental, mezzanine*

**17:00 – 18:00 Keynote presentation VIII**

*Chair: Shahnaz Shahbazova*

**Marius M. Balas (Romania)**

*Green Skyline Cities by Intelligent Rooftop  
Greenhouses*

**18.30 Departure for the Welcome Conference Dinner**

*Meeting point: Conference Registration Desk*

**The Welcome Conference Dinner will take place at:**

*Ratio Restaurant – Address: Piața Avram Iancu 10, Arad*

## ***Wednesday, October 16<sup>th</sup>***

### **09:00 – 11:00 Keynote presentation IX**

*Chair:* Marius Balas

**Valeriu Beiu** (Romania)

*Why AI Hardware (Makes Perfect Sense) Now -  
The Fourth AI Wave*

### **11:00–11:15 Session**

*Chair:* Marius Balas

**Maria Visan and Angela Ionita**, *Myths and facts about  
Smart City Development*

### **11:15–11:30 Coffee break**

Hotel Continental, mezzanine

### **11:30 – 13:30**

#### **Doctor Honoris Causa awarding to the Professors:**

- **Lakhmi C. Jain**, Sidney University of Technology  
(Australia)
- **Mircea A. Ciugudean**, Politehnica University  
Timisoara (Romania)

### **13:30 – 14:45 Lunch break**

*Restaurant – ground floor, Hotel Continental*

**14:45 – 16:00 Session**

*Chair: Simon Cowell*

**Vito Santarcangelo, Muhammad Imran Tariq, Antonio Ruoto, Giacinto Marchionna, Diego Carmine Sinitò, Emilio Massa and Massimiliano Giacalone, *Innovative Approaches for Customer Satisfaction and Quality Service Evaluation in Matera 2019***

**Jimmy Rocha Rocha, Gabriel Piñeres-Espitia, Shariq Aziz Butt, Emiro De-La-Hoz- Franco, Muhammad Imran Tariq, Diego Carmine Sinito and Zhoe Comas González, *Human activity recognition through wireless body sensor networks (WBSN) applying data mining techniques***

**Vito Santarcangelo, Muhammed Imran Tariq, Michele Di Lecce, Emilio Massa, Nicolo Montesano, Antonio Notarnicola and Massimiliano Giacalone, *Blockchain Fuzzy as Innovative Tool for the certification of Corporate Social Responsibility***

**Muhammad Naem, Tauseef Jamal, Jorge Diaz Martinez, Muhammad Imran Tariq, Emiro De-La-Hoz-Franco, Nicolo Montesano, Fouad Hadjselem and De-La-Hoz-Valdiris Ethel, *Trends and future perspective challenges in Big Data***

**Muhammad Imran Tariq, Shahzadi Tayyaba, Emiro De-la-Hoz-Franco, Muhammad Waseem Ashraf, Dana V. Rad, Shariq Aziz Butt and Vito Santarcangelo, *Evaluation and Prioritization of Information Security Controls of ISO/IEC 27002: 2013 for SMEs through Fuzzy TOPSIS***

**16:00 Departure for the trip to Basilica Maria Radna**

**19:30 Banquet at Ratio Beach:**

*Ratio Beach Restaurant – Address: Str. Malul Muresului, Arad, Strandul Neptun.*

***Thursday, October 17<sup>th</sup>***

**09:00 – 11:00 Keynote presentations X, XI & XII**

*Chair: Marius Mircea Balas*

**Florin G. Filip** (Romania)

*Evolution in DSS Domain: from Model-Oriented to Data-Driven Solutions*

**Anca L. Ralescu** (Romania)

*On Context-dependent measures of similarity*

**Robert Howlett** (UK)

*Smart Microgrids: Artificial Intelligence in a Low Carbon Energy Future*

**11:00 – 11:15 Coffee break**

**11:15 – 13:00 Session**

*Chair: Anca Ralescu*

**Gabor Kiss**, *Manchurian Artificial Intelligence in Autonomous Vehicles*

**Muhammad Touqeer, Salma Jabeen and Rida Irfan**, *A grey relational method for multi attribute decision making based on three trapezoidal fuzzy numbers*

**Muhammad Touqeer, Salma Jabeen and Rida Irfan**, *Evaluation model for manufacturing plants with linguistic information in terms of three trapezoidal fuzzy numbers*

**Muhammad Touqeer, Abid Hafeez**, *Multi-attribute decision making using grey relational projection method based on interval type-2 trapezoidal fuzzy numbers*

**Muhammad Ilyas Yasin, Muhammad Javaid Afzal, Shahzadi Tayyaba, Muhammad Waseem Ashraf, Cornel Barna and Marius Balas**, *Fuzzy Parametric estimation of Curvilinear Microchannel for Retinal Vein Occlusion (RVO)*

**Maham Akhlaq, Saher Manzoor, Shahzadi Tayyaba, Muhammad Waseem Ashraf and Ali Asif, *Fabrication and Characterization of Nano-Porous Anodic Aluminium oxide Membrane for Bio-MEMS***

**13:00 – 14:00 Lunch break**

*Restaurant – ground floor, Hotel Continental*

**14:00 – 15:00 Keynote presentation XIII**

*Chair: Anca L. Ralescu*

**Dana V Rad (Romania)**

*The effect of internet content awareness on online aggressiveness*

**15:30: Departure for the Conference Dinner**

Meeting point: Conference Registration Desk

The Conference Dinner will take place at Crama Aramic

***Friday, October 18<sup>th</sup>***

**09:00 – 11:00 Keynote presentations XIV & XV**

*Chair: Marius Mircea Balas*

**Simon R. Cowell (Romania)**

*The Unreasonable Effectiveness of Moore-Shannon Hammocks*

**Duma F. Virgil (Romania)**

*Biomedical Imaging using Optical Coherence Tomography (OCT). An Insight into Technology, Devices, and Applications*

**11:15 – 11:45 Coffee break**

**11:45-12:45 Tutorial**

**Roxana-Mariana Beiu**

*Designing Optical Sensors for the Internet Era.*

**12:45 – 14:00 Lunch break**

*Restaurant – ground floor, Hotel Continental*

**14:00 – 14:30 Keynote presentation XVI**

**Barnali Dey (India)**

*Fuzzy Logic based cognition in RF sensing: A case study to vehicular communication*

**14:30 – 15:30 Award Session**

## POSTER SESSION

**Ankit Mundra and Shikha Mundra**, Optimized Deep Neural Network for Cryptanalysis of DES

**Ankit Mundra**, Biogeography-Based Meta Heuristic Optimization for Resource Allocation in Cloud for E-Health Services

**Ankit Mundra, Shikha Mundra and Vivek Kumar Verma**, A Deep Learning based Hybrid Framework for Stock Price Prediction

**Chang Kuo-Chi, Chu Kai-Chun, Lin Yuh-Chung, Nguyen Trong-The, Sung Tien-Wen and Pan Jeng-Shyang**, Study on Energy-Saving Optimization and Simulation of Wireless Sensor Networks using Ant Colony Algorithm

**Chao-Fan Xie, Lu-Xiong Xu, Ruobin Wang, Fuquan Zhang**, Application of Fuzzy Neural Network in Chromatographic Separation

**Chao-Fan Xie, Lu-Xiong Xu, Ruobin Wang, Fuquan Zhang**, Concentration Control of SMB System Based on Hierarchical Fuzzy Controller

**Chih-Yuan Ye and Mu-En Wu**, Using Support Vector Machine for Option Trading on Settlement Day

**Chunjie Yang, Bingchun Jiao, Hongbo Kang, Yifan Wu and Yanwei Li**, Contribution Title Design of Production Field Intelligent Temperature Acquisition System based on Digital Filtering Algorithm

**Donglai Jiang, Juan Zhang**, Association analysis of case data oriented to legal texts

**Feng Zhou, Xiaonan Hu, Sheng Yan, Lina Zhu, Xia Fang**, A Meteorological Public Opinion Method Research Base on Deep Random Forest

**Fengna Liang, Xiufang Zhang, Hui Li, Hua Yu, Qiuyan Lin, Miaohua Jiang, Jinxin Zhang**, Land Use Classification Based on Maximum Likelihood Method

**Fuquan Zhang, Yiou Wang, Guifen Zhao**, A Fuzzy Creative Works Generation Algorithm Based on Graph Neural Network

**Hao Li, Jiancong Fan**, Chinese Text Emotional Analysis Based on Bi-LSTM Model Fusing Emotional Features

**Hongbo Kang, Yanwei Li, Chunjie Yang, Yifan Wu, Yan Liu and Bingchun Jiao**, Temporary Communication System Based on Tethered Unmanned Aerial Vehicle

**Hua Yu, Kaiwen Zheng, Hui Li, Fengna Liang, Jinxin Zhang, Fuquan Zhang**, Temporal and Spatial Changes of Forest Leaf Area Index Based on MODIS: A Case Study of Fujian Province

**Hui Li, Fengna Liang, Zijun Qin, Jinxin Zhang, Ku Wang, Miaohua Jiang**, Spatial Distribution of Heavy Metals in Soil Based on Kriging Interpolation

**Huo Yunyan**, Prediction of credit risk in Electronic Commerce financial industry based on Decision Tree Method

**Jian Chen, Han Zhu, Tsu-Yang Wu, Li Lin**, An Improved Median Filter Method based on Multi-directional Template combined with Image Feature

**Jinxin Zhang, Hui Li, Xiufang Zhang, Hua Yu, Min Wang, Yazhi Shen, Miaohua Jiang, Fuquan Zhang**, A Sensitivity Analysis Method of Soil Erosion Based on Land Use Type

**Long Zhao, Yongquan Liang and Jiancong Fan**, Adaptive density peak algorithm based on K-nearest neighbors with pre-screening strategy

**Mai-Hao Gao And Kun Meng**, A Survey of Anomaly Traffic Detection Based on Machine Learning

**Mu-En Wu, Sheng-Hao Lin, Jia-Ching Wang**, Draw-down Constraint Embedded in Ensemble Learning for Stock Trading

**Qingda Zhao, Fuquan Zhang, Linjuan Ma**, Lung Detec-



tion Based on YOLOv3

**San Zhang, Hongbo Kang, Xiangkui Jiang, G. H. Tang, Junsuo Qu,** Experimental investigation on warm incremental sheet forming assisted with oil bath heating

**San Zhang, Kejie Li, Zhen Li, G. H. Tang, Junsuo Qu,** The effect of process parameters on the springback of AZ31B Mg alloy in warm incremental sheet forming assisted with oil bath heating

**Sanjiban Sekhar Roy, Valentina E Balas, Mihaela Popa, Ramona Lile and Ishan Nagtode,** Prediction of Air-Pollutant Concentrations using Hybrid Model of Regression and Genetic Algorithm

**Shou-Ching Hsiao, Zi-Yuan Liu, Raylin Tso, Da-Yu Kao, and Chien-Ming Chen,** A Privacy-preserving GRU Inference System using Additive Secret Sharing

**Shou-Ching Hsiao, Zi-Yuan Liu, Raylin Tso, Da-Yu Kao, And Chien-Ming Chen,** PrivGRU: A Privacy-preserving GRU Inference System using Additive Secret Sharing

**Shu-Chuan Chu, Yuxin Chen, Jeng-Shyangpan, And Chen Yang,** Internal Search of the Evolution Matrix in Quasi-Affine TRansformation Evolution (QUATRE) algorithm

**Shujuan Ji, Chunxiao Bao and Guanguan Sun,** Research on Seller's Honest Game Based on Evolution Theory

**Shujuan Ji, Chunxiao Bao, and Guanguan Sun,** Research on Seller's Honest Game Based on Evolution Theory

**Tai-Li Luo And Mu-En Wu,** Using Deep Reinforcement Learning to Construct Evaluation Function on Stock Trading

**Viviane Gal, Soumya Banerjee and Dana V. Rad,** Investigation of Emotion Instances and Class Analysis from Physiological Sensors by Unsupervised Hybrid EMDeep Model

**Wei Liu, Yu Mao, Linlin Ci, Fuquan Zhang,** A New Approach of Intrusion Detection with Command Sequence-to-Sequence model

**Wenpeng Li, Haonan Shi, Hailong Zhang, Shuyong Gao, Yanjun Hao, Junsuo Qu,** Design of UHV transmission line selection line

**Wenqing Wang, Yan Liu and Chunjie Yang,** Design of Intelligent Human Sign Monitoring System Based on Internet of Things

**Wenqing Wang, Yifan Wu, Hongbo Kang, Yan Liu, Bingchun Jiao and Yanwei Li,** Design of Intelligent Unmanned Vehicle Handling Simulation System

**Ximing Lv, Chun-Yan Liu,** Inner Mongolia Big Data Industry's Development status and Its Active Promotion to the Construction of China-Mongolia-Russia Economic Corridor

**Ximing Lv,** Distributed finite-time consensus tracking control for the multi-agent systems under the fixed directed topology graph

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**Xingsi Xue and Xiaojing Wu,** Optimizing Ontology Alignment in Vector Space

**Xipu Yu, Linjuan Ma, Fuquan Zhang,** Hand Detection Based on YOLOv3

**Yuqing Wan, Yaoxin Nie,** A Case Knowledge Extraction Method for Chinese Legal Texts

**Zhan Li, Qian Li, Yongkun Zhu, Zhongyu Hao, Yanjun Hao, Junsuo Qu,** Analysis of Power Grid Security Access Protection Based on Internet Technology

**Zhanhui Li, Jiancong Fan, Yande Ren, Leiyu Tan,** A Novel Feature Extraction Method Based on Neighborhood

Rough Set and PCA for Migraine rs-fMRI

**Zhenyu Meng, Cheng Yang, Yuxin Chen, Yuxin Zhong,  
Jeng-Shyang Pan and Fang Lin,** A Parameter adaptive  
Differential Evolution based on Depth Information

**CONFERENCE SECRETARIAT**

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