2022 9th International Conference on Computers Communications and Control

ICCCC 2022

Felix & Oradea, Romania,
May 16-20, 2022

Conference Program

Contents

Day	Bucharest GMT (Hours)	Activity / Speakers	Place
Monday, May 16	**15:00 ÷ 20:00** *12:00÷17:00*	Registration (Business Corner – near to Reception) *Transfer from Oradea Airport to Hotel President (Baile Felix) - 10 km*	Hotel President Oradea-H. President
	20:00 ÷ 22:00 *17:00÷19:00*	Welcome dinner	Tavern Hotel President
Tuesday, May 17	**07:30 ÷ 08:20** *04:30 ÷ 05:20*	Breakfast + Registration	Restaurant 1+ Hotel President
	08:20 ÷ 08:50 *05:20 ÷ 05:50*	Transfer from Hotel President to Agora University of Oradea	Hotel President- Agora University (Bus)
	09:00 ÷ 09:30 *06:00 ÷ 06:30*	Official Opening Ceremony *Simona DZITAC - General Chair, Florin Gheorghe FILIP - PC Chair, Misu-Jan MANOLESCU - OC Chair, Domnica DZITAC - OC Chair.*	Agora University/ Blue Aula + ZOOM Pro
	09:30 ÷ 10:00 *06:30 ÷ 07:00*	*Keynote lecture Janusz KACPRZYK Polish Academy of Sciences, Poland Session chair: Florin Gheorghe FILIP*	Agora University/ Blue Aula + ZOOM Pro
	10:00 ÷ 10:45 *07:00 ÷ 07:45*	*Awarding the title of Doctor Honoris Causa of the Agora University of Oradea to Prof. Enrique Hererra-VIEDMA from the University of Granada, Spain / Reception speech Session chair: Misu-Jan MANOLESCU*	Agora University/ Blue Aula + ZOOM Pro
	10:45 ÷ 11:30 *07:45 ÷ 08:30*	*Awarding the title of Professor Honoris Causa of the Agora University of Oradea to Prof. Gaston LEFRANC H. from the Pontificia Universidad Católica de Valparaíso, Chile / Reception speech Session chair: Misu-Jan MANOLESCU*	Agora University/ Blue Aula + ZOOM Pro
	11:30 ÷ 11:45 *08:30 ÷ 08:45*	Artistic moment Agora International School *Session chair: Alina Angela MANOLESCU*	Agora University/ Green Aula
	11:45 ÷ 12:15 *08:45 ÷ 09:15*	A cup of champagne	Agora University/ Green Aula
	12:15 ÷ 13:45 *09:15 ÷ 10:45*	Oradea City Tour	-
	13:45 ÷ 14:15 *10:45 ÷ 11:15*	Transfer to Hotel President	Oradea – Hotel President (Bus)
	14:15 ÷ 15:30 *11:15 ÷ 12:30*	Lunch	Restaurant 1 Hotel President
	16:00 ÷ 16:30 *13:00 ÷ 13:30*	*Keynote lecture Gintautas DZEMYDA, Lithuanian Academy of Sciences, Vilnius University, Lithuania Session chair: Enrique Hererra-VIEDMA*	Hotel President/ Room S1 + ZOOM Pro
	16:30 ÷ 17:00 *13:30 ÷ 14:00*	*Invited talk Alfred M. BRUCKSTEIN Technion, Israel Session chair: Gintautas DZEMYDA*	Hotel President/ Room S1 + ZOOM Pro
	17:00 ÷ 17:30 *14:00 ÷ 14:30*	*Invited talk Valentina E. BALAS „Aurel Vlaicu" University of Arad, Romania Session chair: Gaston LEFRANC*	Hotel President/ Room S1 + ZOOM Pro
	17:30 ÷ 18:00 *14:30 ÷ 15:00*	Coffee break	Terrace restaurant Hotel President

	18:00 ÷ 18:30 / *15:00 ÷ 15:30*	*Invited talk Valeriu BEIU* / *„Aurel Vlaicu" University of Arad, Romania* / *Session chair: Alfred M. BRUCKSTEIN*	Hotel President/ Room S1 + ZOOM Pro
	18:30 ÷ 19:00 / *15:30 ÷ 16:00*	*Invited talk Yezid DONOSO* / *Universidad de los Andes, Colombia* / *Session chair: Misu-Jan MANOLESCU*	Hotel President/ Room S1 + ZOOM Pro
	19:00 ÷ 19:30 / *16:00 ÷ 16:30*	*Invited talk Razvan ANDONIE* / *Central Washington University, USA* / *Session chair: Domnica DZITAC*	Hotel President/ Room S1 + ZOOM Pro
	20:00 ÷ 23:00 / *17:00 ÷ 20:00*	"Romanian songs & dances" Romanian Welcome Dinner	Restaurant 2 Hotel President
Wednesday, May 18	**07:30 ÷ 09:00** / *04:30 ÷ 06:00*	Breakfast	Restaurant 1 Hotel President
	09:00 ÷ 11:00 / *06:00 ÷ 08:00*	Parallel Sessions	Hotel President/ Rooms S1, S2 + ZOOM Pro
	11:00 ÷ 11:30 / *08:00 ÷ 08:30*	Coffee break	Terrace restaurant Hotel President
	11:30 ÷ 14:45 / *08:30 ÷ 11:45*	Parallel Sessions	Hotel President/ Rooms S1, S2 + ZOOM Pro
	14:30 ÷ 15:30 / *11:30 ÷ 12:30*	Lunch	Restaurant 1 Hotel President
	16:00 ÷ 17:00 / *13:00 ÷ 14:00*	Round table in memory of Prof. Dziţac Ioan On this occasion, the Dziţac Family (wife Simona & daughter Domnica) will award the "Ioan Dziţac Prize" worth 500 EUR for the most appreciated scientific paper presented at ICCCC 2022 by a promising young researcher.	Hotel President/ Room S1 + ZOOM Pro
	17:00 ÷ 19:30 / *14:00 ÷ 16:30*	Free activities (Aqua park, walks through the forest, resort)	Aqua Park Hotel President Baile Felix Spa
	19:30 ÷ 20:00 / *16:30 ÷ 17:00*	Rememberance ceremony of the Prof. Ioan Dzitac	Church of the President Hotel
	20:00 ÷ 23:00 / *17:00 ÷ 20:00*	International Dinner Awarding diplomas of excellence & awards for the best works presented at ICCCC 2022	Restaurant 2 Hotel President
Thursday, May 19	**07:00 ÷ 08:30** / *04:00 ÷ 05:30*	Breakfast	Restaurant 1 Hotel President
	08:30 ÷ 20:00 / *05:30 ÷ 17:00*	Excursion (Bus)	Mountain-Bears' Cave, Ionele Cave, Onelia Pension
Friday, May 20	**07:30 ÷ 11:00** / *04:30 ÷ 08:00*	Breakfast	Restaurant 1 Hotel President
	→12:00 / *→09:00*	Departure of participants	-

*ICCCC 2022 will take place in hybrid system; for those present online, the conference will take place on the ZOOM Pro platform, the input details being posted on the conference website in due time.

PROGRAM FOR CHAPTERS

Wednesday, May 18 Room S1 (On-site) + ZOOM Pro (On-line)	09:00 ÷ 11:00 11:30 ÷ 11:45 *Bucharest*	Regular papers *Chairpersons:* **Alfred BRUCKSTEIN, Alexandra-Iulia SZEDLAK-STINEAN**	*Section 1. Integrated Solutions in Computer-Based Control*

Section 1. Integrated Solutions in Computer-Based Control

No.	On-site/ On-line	Authors / Affiliation	Title
1.1.	On-site	**Dan Noje, Radu Tarca, Nicolae Pop, Alin Moldovan, Ovidiu Moldovan** *University of Oradea, Romania*	*Automatic system based on Riesz MV-algebras, for predictive maintenance of bearings of industrial equipment using temperature sensors*
1.2.	On-site	**Maria Georgiana Stoica** *Bucharest University of Economic Studies, Romania*	*Smart contracts: A valuable technology in ERP e-commerce systems and for customer experience*
1.3.	On-site	**Víctor Lomas-Barrie[1], Mario Peña-Cabrera[1], Mauricio Reyes-Castillo[1], T. Alcantara-Concepcion[1], Gaston Lefranc[2]** *[1]Universidad Nacional Autonoma de México,México* *[2] Pontificia Universidad Católica de Valparaiso, Chile*	*A nursing mobile robot for COVID19 patients using a RPI and mobile device*
1.4.	On-site	**Razvan Marcus, Cosmin Rus, Monica Leba, Marius Risteiu** *University of Petrosani, Romania*	*Electric vehicles between recycling and sustainable development - @.ro*
1.5.	On-site	**Valente Váquez-Velazquez[1], Mario Mario Peña-Cabrera[1], Víctor Lomas-Barrié[1] and Gaston Lefranc[2]** *[1] Universidad Nacional Autónoma de México, México* *[2] Pontificia Universidad Católica de Valparaiso, Chile*	*Conversion of a Hybrid Flexible Manufacturing Cell to Industry 4.0* *(Keynote lecture)*
1.6.	On-site	**Nicolaie Popescu-Bodorin[1], Mariana Nagy[2]** *[1]Spiru Haret University, Bucharest* *[2]„Aurel Vlaicu" University of Arad, Romania*	*A new way of controlling traffic jams inside a Smart City based on IoT devices and communication protocols designed for preserving perfect anonymity*
1.7.	On-line	**Luiz Fernando Capretz[1], Saad Harous[2], Ali Bou Nassif[3]** *[1]Western University, Canada* *[2] UAE University, United Arab Emirates* *[3]University of Sharjah, United Arab Emirates*	*What UAE Software Students Think about Software Testing: A Replicated Study*
1.8.	On-line	**German A. Montoya, Carlos Lozano-Garzon, Yezid Donoso** *Universidad de Los Andes, Colombia*	*A Stochastic Mobility Prediction Algorithm for finding Delay and Energy Efficient Routing Paths considering Movement Patterns in Mobile IoT Networks*
1.9	On-line	**Sergey Shvydun** *[1]National Research University Higher School of Economics, Russia* *[2]V.A. Trapeznikov Institute of Control Sciences of Russian Academy of Science, Russia*	*The Impact of COVID-19 on the Air Transportation Network*

Wednesday, May 18 Room S2 (On-site) + ZOOM Pro (On-line)	13:15÷ 14:45 *Bucharest*	Regular papers *Chairpersons: Gintautas DZEMYDA, Valentina BALAS*	*Section 2. Advanced Control Systems Integrating Computers and Communications*

Section 2. Advanced Control Systems Integrating Computers and Communications

No.	On-site/ On-line	Authors / Affiliation	Title
2.1.	On-site	**Alexandra-Iulia Szedlak-Stinean, Radu-Emil Precup, Raul-Cristian Roman** *Politehnica University of Timisoara, Romania*	*Linear and nonlinear observers developed for direct current electric drive systems*
2.2.	On-site	**Attila Simo[1], Simona Dzitac[2]** *[1]Politehnica University Timisoara, [2]University of Oradea, Romania*	*Energy-Efficient Wireless Sensor Networks for Greenhouse Management*
2.3.	On-site	**Simona Dzitac[1] , Adrian Cheregi[1] , Daniel Alexuță[2] , Attila Simo[3] , Badea Gabriela Elena[1]** *[1]University of Oradea, Romania [2]„Aurel Vlaicu" University of Arad, Romania [3] Politehnica University Timisoara, Romania*	*Digitization of the characteristic parameters of a greenhouse in order to streamline energy consumption*
2.4.	On-line	**Catalin Dimon, Marius Teme, Dumitru Popescu** *University Politehnica of Bucharest, Romania*	*Optimization of road traffic using intelligent traffic light systems*
2.5.	On-line	**Bogdan Alexandru Radulescu, Victorita Radulescu** *University Politehnica of Bucharest, Romania*	*Artificial intelligence, solution in planning the electricity transactions*
2.6.	On-line	**Bogdan Alexandru Radulescu, Victorita Radulescu** *University Politehnica of Bucharest, Romania*	*Integrated Solutions and Computerized Human Gesture Control using Convolutional Architecture*
2.7.	On-line	**Chunxiang Sun, Dan Chang, Mincong Tang** *Beijing Jiaotong University, China*	*Research on the storage of integrated pipe corridor monitoring data based on blockchain technology*

	Wednesday, May 18 Room S2 (On-site) + ZOOM Pro (On-line)	09:00 ÷ 11:00 11:30÷ 11:45 *Bucharest*	Regular papers *Chairpersons: Attila SIMO, Sorin NADABAN*	*Section 3. Soft Computing Including Fuzzy System Approach*

Section 3. Soft Computing Including Fuzzy System Approach

No.	On-site/ On-line	Authors/ Affiliation	Title
3.1.	On-site	**Smaranda Belciug, Renato Constantin Ivanescu** *University of Craiova, Romania*	*Non-parametric rank correlation trained single-hidden layer feedforward neural networks for medical data*
3.2.	On-site	**Nadaban Sorin, Deac Dan** *„Aurel Vlaicu" University of Arad, Romania*	*Nonstandard Fuzzy Sets : A General View*
3.3.	On-line	**Bogdana Stanojević[1], Milan Stanojević[2]** *[1] Mathematical Institute of the Serbian Academy of Sciences and Arts, Serbia* *[2]University of Belgrade, Serbia*	*Extension-principle-based approach to least square fuzzy linear regression*
3.4.	On-line	**Victorita Radulescu** *University Politehnica of Bucharest, Romania*	*Fuzzy Logic Applied in Hierarchical Secondary Regulation Voltage-Reactive Power*
3.5.	On-line	**Victorita Radulescu** *University Politehnica of Bucharest, Romania*	*Modeling with Fuzzy Logic the Impact of Power Lines on the Environment*
3.6.	On-line	**Qianli Zhou[1], Chenhui Qiang[1,2], Yong Deng[1,3,4,5]** *[1] University of Electronic Science and Technology of China,* *[2]University of Electronic Science and Technology of China, China* *[3]School of Education Shaanxi Normal University,* *4 School of Knowledge Science, Japan* *5 ETH Zurich, Switzerland*	*Fuzzy Fractal: An Information Entropy View**
3.7.	On-line	**Jixiang Deng[1], Yong Deng[1,2,3,4]** *[1] University of Electronic Science and Technology of China, China* *[2]School of Education Shaanxi Normal University,* *[3]School of Knowledge Science, Japan* *[4] ETH Zurich, Switzerland*	*IV-FEC: Information Volume-Based Fuzzy Evidential Classifier **
3.8.	On-line	**Francisco Sepúlveda-Ortiz[1], Claudia Duran[1], Diego Fuentealba[1], Manuel Vargas[2], Raúl Carrasco[3]** *[1] Universidad Tecnológica Metropolitana, Chile* *[2] Universidad de Santiago de Chile,* *[3] Universidad de Las Américas, Santiago, Chile*	*Boosting data management using artificial neural networks*
3.9.	On-line	**Yangxue Li[1], Francisco Javier Cabrerizo[1], Enrique Herrera-Viedma[2,1], Juan Antonio Morente-Molinera[1]** *[1]University of Granada, Spain.* *[2] School of Business Administration, University of Finance and Economics, Chengdu, China*	*A Modified Uncertainty Measure of Z-numbers*

	Wednesday, May 18 Room S1 (On-site) + ZOOM Pro (On-line)	11:45 ÷ 14:15 *Bucharest*	Regular papers *Chairpersons: Florin Gheorghe FILIP, Radu BONCEA*	*Section 4. Decision Making and Support Systems*

Section 4. Decision Making and Support Systems

No.	On-site/On-line	Authors/ Affiliation	Title
4.1.	On-site	*Ionela Samuil, Andreea Ionica, Monica Leba* *University of Petrosani, Romania*	*Algorithmic Modeling to Individualize Touristic Experience in Petrila Theme Park*
4.2.	On-site	*Constanta Zoie Radulescu, Marius Radulescu, Radu Boncea* *National Institute for Research and Development in Informatics, Romania*	*A combined VIKOR-TOPSIS method with application in Cloud Services Provider selection*
4.3.	On-site	*Stefano Bonnini, Michela Borghesi* *University of Ferrara, Italy*	*Two-sample permutation test for comparing marginal probabilities of multivariate Bernoulli distributions*
4.4.	On-site	*J. M. Tapia[1], F. Chiclana[2], M. J. del Moral[1], E. Herrera–Viedma[1]* *[1] University of Granada, Spain,* *[2] De Montfort University, UK*	*Measuring Consensus in Group Decision-Making Problems through an inequality measure*
4.5.	On-site	*J.R. Trillo[1], F.J. Cabrerizo[1], F. Chiclana[2], M.A. Martınez[1], E.Herrera-Viedma[1]* *[1] University of Granada, Spain,* *[2] Montfort University, UK*	*Some Trends in Fuzzy Decision Making*
4.6.	On-line	*Fuad Aleskerov[1,2], Sergey Demin[1,2], Alexey Myachin[1,2], Vyacheslav Yakuba[1,2]* *[1] HSE University, [2] Institute of Control Science of Russian Academy of Science, Russia*	*Short-Term Covid-19 Incidence Prediction in Countries Using Clustering and Regression Analysis*
4.7.	On-line	*Claudio J. Macuada, Astrid M. Oddershede, Luis E. Quezada, Pedro I. Palominos* *University of Santiago of Chile, Chile*	*Decision support model for raw water availability for purification in a region in Chile*
4.8.	On-line	*Fabián Barrales[1], Claudia Duran[2], Diego Fuentealba[2], Raúl Carrasco[3]* *[1]Universidad de Santiago de Chile, Chile* *[2]Universidad Tecnológica Metropolitana, Chile* *[3] Universidad de Las Americas, Santiago Chile*	*Flexibility in Organizational Design A Decision Making Guide*
4.9.	On-line	*Maria Vișan[1], Sorin Lenus Negrea[2]* *[1] School of Advanced Studies of the Romanian Academy,* *[2] Romanian Association for Smart City and Mobility, Romania*	*Decision support systems for integrated land management and transport infrastructure in support of climate change mitigation and pandemic*
4.10.	On-line	*Yi Song, Dan Chang* *Beijing Jiaotong University, China*	*Research on Early-Warning of Financial Risks of Logistics Enterprises*

	Wednesday, May 18 Room S2 (On-site) + ZOOM Pro (On-line)	11:45÷ 13:15 _Bucharest_	Regular papers *Chairpersons: Valeriu BEIU, Simona DZITAC*	*Section 5. Trustworthy & Green Design*

Section 5. Trustworthy & Green Design

No.	On-site/ On-line	Authors/ Affiliation	Title
5.1.	On-site	**Valeriu Beiu[1], Sorin-Horatiu Hoara[2], Roxana-Mariana Beiu[1]** [1]*"Aurel Vlaicu" University of Arad,* [2] *Politehnica University of Timisoara, Romania*	*Bridging Reliability to Efficiency Consecutive Elegant and Simple Design*
5.2.	On-site	**Leonard Daus[1], Vlad-Florin Dragoi[2], Dominic Bucerzan[2], Valeriu Beiu[2]** [1]*Technical University of Civil Engineering Bucharest,* [2] *„Aurel Vlaicu" University of Arad, Romania*	*On the roots of certain reliability polynomials*
5.3.	On-line	**Marilena Jianu[1], Leonard Daus[1], Mariana Nagy[2], Roxana-Mariana Beiu[2]** [1]*Technical University of Civil Engineering Bucharest,* [2] *"Aurel Vlaicu" University of Arad, Romania*	*Approximating the Level Curves on Pascal's Surface*
5.4.	On-line	**Mihai Tache[1,2], Sorin-Horatiu Hoara[1], V.-F. Drăgoi[2], Roxana-Mariana Beiu[2]** [1]*University Politehnica of Bucharest, Romania* [2]*"Aurel Vlaicu" University of Arad, Romania*	*Green AI from Kirchhoff to Shannon*
5.5.	On-line	**Marilena Jianu[1], Leonard Daus[1], Sorin-Horatiu Hoara[2], Valeriu Beiu[3]** [1]*Technical University of Civil Engineering Bucharest,* [2]*Politehnica University of Timisoara,* [3]*„Aurel Vlaicu" University of Arad, Romania*	*Using Delta-Wye Transformations for Estimating Networks' Reliability*
5.6.	On-line	**Florentin Smarandache,** *University of New Mexico, USA*	*Extension of HyperAlgebra to SuperHyperAlgebra and Neutrosophic SuperHyperAlge-bra (revisited)*

2022 9ᵗʰ International Conference on Computers Communications and Control (ICCCC)

http://univagora.ro/en/icccc2022/

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Home

Place: *Hotel President (4 stars, aqua-park, spa), Băile Felix, Oradea, România*
Period: *May 16-20, 2022*
Organizers: Cercetare Dezvoltare Agora (Research & Development Center of Agora University), Agora University of Oradea under the aegis of the Romanian Academy- Information Science and Technology Section.
Partners: Springer (Advances in Intelligent Systems and Computing *Series*) , Association Cluster of Scientific Research, Innovation and European Studies from Oradea.
Dedication:

This edition is dedicated in memory of Prof. Univ. Dr. Habil. Dziţac Ioan – founder of the International Conference on Computers Communications and Control (ICCCC).

Photo Ioan Dziţac (14.02.1953 – 06.02.2021)

Post Conference Proceedings will be published by Springer ("Advances in Intelligent Systems and Computing" Series) - Intelligent Methods Systems and Applications in Computing, Communications and Control - 9ᵗʰ International Conference on Computers Communications and Control (ICCCC) 2022.

On the occasion of ICCCC 2022, *the title of Doctor Honoris Causa of the Agora University of Oradea* will be awarded to *Professor Enrique Hererra - Viedma* from the University of Granada, Spain, and *the title of Professor Honoris Causa of the Agora University of Oradea* will be awarded to *Prof. Gastón Lefranc H.* from the Pontificia Universidad Católica de Valparaíso, Chile.

Scope

The International Conference on Computers Communications and Control (ICCCC) has been founded in 2006 by I. Dzitac, F.G. Filip and M.-J. Manolescu and organized every even year by Agora University of Oradea, under the aegis of the Information Science and Technology Section of Romanian Academy.

The goal of this conference is to bring together international researchers, scientists in academia and industry to present and discuss in a friendly environment their latest research findings on a broad array of topics in computer networking and control.

The Program Committee is soliciting paper describing original, previously unpublished, completed research, not currently under review by another conference or journal, addressing state-of-the-art research and development in all areas related to computer networking and control.

Proceedings of ICCCC2022 will be published by Springer ("Advances in Intelligent Systems and Computing" Series) - Intelligent Methods Systems and Applications in Computing, Communications and Control - 9th International Conference on Computers Communications and Control (ICCCC) 2022, *Editors:* S . Dzitac, D. Dzitac, F.G. Filip, J. Kacprzyk, M.J. Manolescu, H. Oros.

Topics

Chapter 1. Integrated Solutions in Computer-Based Control;
Chapter 2. Advanced Control Systems Integrating Computers and Communications;
Chapter 3. Soft Computing Including Fuzzy System Approach;
Chapter 4. Decision Making and Support Systems;
Chapter 5. Trustworthy & Green Design.

Submission and Publications

Submission via EasyChair: https://easychair.org/conferences/?conf=icccc2022

Instruction to Authors

I. Length of paper and format
Each paper must consist of a minimum of 6 pages, **recommended** between 6 and 10 pages (maximum 20) and in LaTex format.

- **Information for Authors of Springer Proceedings:** https://www.springer.com/gp/authors-editors/conference-proceedings/conference-proceedings-guidelines
- A model for final paper format: PDF

II. Duplicate submission and plagiarism
The submissions to ICCCC 2022 must represent original material.

Papers are accepted for review with the understanding that the same work has been neither submitted to, nor published in, another conference or journal.

Concurrent submission is viewed as a serious breach of ethics and, if detected, will result in immediate rejection of the submission.

The author(s) warrants that the submitted paper is based on their original work. It is the author's responsibility to obtain written permission to quote material that has been previously published in any form.

All submissions will be scanned by software for detect the similarities.

Important

The papers accepted/presented at ICCCC 2022 will be uploaded in Easy Chair in the final format requested by Springer accompanied by ICCCC-2022-Copyright-Transfer-Statement between May 21, 2022 and June 17, 2022. Details: http://univagora.ro/en/icccc2022/submission/

Best paper award ICCCC2022

- The Dziţac Family (wife Simona & daughter Domnica) will award the "Ioan Dziţac Prize" worth 500 EURO for the most appreciated scientific paper presented at ICCCC 2022 by a promising young researcher.
- The editorial team of the International Journal of Computers Communications & Control (IJCCC) will award prizes (vouchers) consisting in the free publication in IJCCC of the most valuable 10% papers accepted / presented at ICCCC2022.

Presenter's Information

The time allocated to oral presentation will be following:

- Regular paper (parallel session): 15 minutes which include the time for discussion (usually 5 minutes);
- Invited paper (plenary session): 30 minutes which include the time for discussion (usually 5 minutes);
- PowerPoint (PPT or PPS) or Acrobat PDF slides (saved on CD, DVD, Memory Flash) for presentation on a data projector are recommended for your talk at ICCCC 2022.

Chairs and Committees

General Chair

Assoc. prof. Simona DZITAC
General Chair (Oradea, Romania)
University of Oradea / Software System Engineer & Researcher at R&D Agora, simona@dzitac.ro, rd.agora@univagora.ro

Dr. Simona Dzitac is an Associate Professor at Energy Engineering Department, Faculty of Energy Engineering and Industrial Management, University of Oradea, Romania and Software System Engineer & Researcher at R&D Agora. She received her B.Sc. in Mathematics (2000), Energy Engineering (2005), Economic Informatics (2007) and PhD in Energy Engineering (2008). Her current research interests include different aspects of reliability, modelling, simulation, quality management, IT management. She has published 11 books/courses and materials for students and more than 120 scientific papers in journals and conferences proceedings. Her research activity includes participation in 42 grants/projects. The impact of her published works are over 370 citations and h-index 11 in ISI Web of Science.

Program Committee Chair

Acad. Florin Gheorghe FILIP
PC Chair (Bucuresti, Romania)
President of "Information Science and Technology" Section of Romanian Academy, Romania, ffilip@acad.ro

Acad. Florin Gheorghe Filip was born in 1947 in Bucharest, Romania. He graduated in *Control Engineering* at Technical University of Bucharest in 1970 and received his PhD degree from the same university in 1982. He was elected as corresponding member of the Romanian Academy in 1991 and became full member of the Academy in 1999. During 2000-2010, he was vice-president of the Romanian Academy (elected in 2000, re-elected in 2004, and 2006). In 2010, he was elected president of the *Information Science and Technology* section of the Academy (re-elected in 2015, and 2019). He was the managing director of National Institute for R&D in Informatics-ICI Bucharest (1991-1997). He is honorary member of the Romanian Academy of Technical Sciences, and Academy of Sciences of Republic of Moldova. He was the chair of IFAC TC 5.4 (Large-scale Complex Systems) from 2002 to 2008. His main scientific interests include optimization and control of large-scale complex/collaborative systems, decision support systems, technology management and foresight, and IT applications in the cultural sector. He authored/co-authored over 350 papers published in international journals (IFAC J Automatica, IFAC J Control Engineering Practice, Annual Reviews in Control, Computers in Industry, Large-Scale Systems, Technological and Economic Development of Economy, and so on) and contributed to volumes printed by international publishing houses (Pergamon Press, Elsevier, Kluwer, Chapman & Hall and so on). He is also the author/co-author of thirteen monographs (published by Editura Tehnică, Hermès-Lavoisier, J. Wiley & Sons, Springer) and editor/co-editor of 30 volumes of contributions (published by Editura Academiei Române, Pergamon Press, North Holland, Elsevier, IEEE Computer Society, and so on). He presented invited lectures in universities and research institutes, and plenary papers at scientific conferences in Brazil, Chile, China, France, Germany, Lithuania, Poland, Portugal, Republic of Moldova, Romania, Spain, Sweden, Tunisia, and UK. More details can be found at: http://www.academiaromana.ro/sectii/sectia14_informatica/sti_FFilip.htm

Organizing Committee Chairs

Prof. Misu-Jan Manolescu is a Professor of Risk Management and President of Administration Council of Agora University. He is an Engineer, PhD in Energy Engineering, PhD in Management, president of Agora Foundation, Founder of Agora University and co-founder and Managing Editor of International Journal of Computers Communications & Control and co-founder of International Conference Computers Communications & Control.

His publications and research results consist in 10 books, over 60 papers and 2 inventions.

Prof. Misu-Jan MANOLESCU - OC Chair
(Oradea, Romania)
President of Agora University of Oradea, Romania, mmj@univagora.ro

Domnica Dzitac is a fresh graduate from New York University Abu Dhabi from where she obtained a degree in Computer Science with concentrations in Applied Mathematics and Political Science. Domnica conducted meaningful research and studied in global locations such as Abu Dhabi (UAE), Paris (France), Washington D.C. (USA) and New York City (USA). Her research interests consist of applying computational tools to answer questions about human behavior, contributing to fields such as Computational Social Science, Natural Language Understanding, Machine Learning, Data Science and Behavioural Economics.

Domnica DZITAC
OC Chair (Abu Dhabi, UAE)
Technical and Operational Coordinator of the Social Science Experimental Laboratory at New York University Abu Dhabi, domnica.dzitac@nyu.edu

Publication Chairs

1. Acad. Janusz KACPRZYK** (Warsaw, Poland),
2. Dr. Horea OROS (Oradea, Romania).

Horea Oros (b. August 22, 1977) received his PhD in Computer Science (2009) from "Babeș Bolyai" University of Cluj-Napoca, Romania. Since 2001 he is working within the Department of Mathematics and Computer Science, Faculty of Informatics and Sciences, University of Oradea, Romania, where currently he is a lecturer. He also was a former lecturer at Agora University of Oradea for several years. He co-authored five books in the field of computer science and published twenty-one articles in several journals and proceedings of international conferences. His main research interest is in the field of cryptology and computer security.

Lecturer Horea OROS
Publication Chair (Oradea, Romania)
horea.oros@gmail.com

Keynote speakers at ICCCC 2022

Acad. Janusz KACPRZYK**
Polish Academy of Sciences, Poland,
kacprzyk@ibspan.waw.pl

Janusz Kacprzyk is Professor of Computer Science at the Systems Research Institute, Polish Academy of Sciences, WIT – Warsaw School of Information Technology, and Chongqing Three Gorges University, Wanzhou, Chongqing, China, and Professor of Automatic Control at PIAP – Industrial Institute of Automation and Measurements in Warsaw, Poland. He is Honorary Foreign Professor at the Department of Mathematics, Yli Normal University, Xinjiang, China. He is Full Member of the Polish Academy of Sciences, Member of Academia Europaea, European Academy of Sciences and Arts, European Academy of Sciences, Foreign Member of the: Bulgarian Academy of Sciences, Spanish Royal Academy of Economic and Financial Sciences (RACEF), Finnish Society of Sciences and Letters, Flemish Royal Academy of Belgium of Sciences and the Arts (KVAB), National Academy of Sciences of Ukraine and Lithuanian Academy of Sciences. He was awarded with 6 honorary doctorates. He is Fellow of IEEE, IET, IFSA, EurAI, IFIP, AAIA, I2CICC, and SMIA.

His main research interests include the use of modern computation computational and artificial intelligence tools, notably fuzzy logic, in systems science, decision making, optimization, control, data analysis and data mining, with applications in mobile robotics, systems modeling, ICT etc.

He authored 7 books, (co)edited more than 150 volumes, (co)authored more than 650 papers, including ca. 150 in journals indexed by the WoS. He is listed in 2020 and 2021 "World's 2% Top Scientists" by Stanford University, Elsevier (Scopus) and ScieTech Strategies and published in PLOS Biology Journal.

He is the editor in chief of 8 book series at Springer, and of 2 journals, and is on the editorial boards of ca. 40 journals. He is President of the Polish Operational and Systems Research Society and Past President of International Fuzzy Systems Association.

Acad. Gintautas Dzemyda
Lithuanian Academy of Sciences,
Vilnius University, Lithuania
gintautas.dzemyda@mii.vu.lt

Prof. Gintautas Dzemyda was born in Vilnius, Lithuania. In 1984 he received the doctoral degree in technical sciences (Ph.D.), and in 1997 he received the degree of Doctor Habilius from the Kaunas University of Technology. Full member of the Lithuanian Academy of Sciences (2011), Head of Division of Technical Sciences of the Academy. Recent employment is at the Institute of Data Science and Digital Technologies of Vilnius University as a Director of the institute and a Head of Cognitive Computing Research Group.

The main area of scientific interest is the development and application of data science methods and technologies including artificial intelligence ones. Research includes the following main directions: reduction of data dimensionality and visualization; optimization theory and applications; visual multidimensional data analysis, artificial neural networks, parallel computing, multicriteria decision making, artificial intelligence, cognitive computing, image and signal analysis.

Medical applications include numerical and visual data of various origins - ophthalmologic, cardiological, physiological, thermovision. Computed tomography images are also being investigated. The author of more than 270 scientific publications, two monographs, five textbooks.

Editor in Chief of the international journals Informatica (http://www.mii.lt/informatica) and the Baltic Journal of Modern Computing (http://www.lu.lv/baltic-journal-of-modern-computing/), member of Editorial Board of the international journals: - Financial Innovation; - International Journal of Computers, Communications and Control; - Nonlinear Analysis: Modelling and Control; - Informatics in Education; - Journal of Civil Engineering and Management; - Applied Computer Systems; - Mathematics.

Member of ACM and IFIP Technical Committee 12 Artificial Intelligence.

Chairman of the annual international conference "Data Analysis Methods for Software Systems", every year starting from 2009 (www.mii.lt/damss/).

Prof. Enrique HERERRA - VIEDMA
University of Granada, Spain
viedma@decsai.ugr.es

Enrique Herrera-Viedma is Professor in Computer Science and A.I in University of Granada and Vice-President for Research and Knowlegde Transfer. He is also Vice-President for Publications in the IEEE System Man and Cybernetic Society. His current research interests include group decision making, consensus models, linguistic modeling, aggregation of information, information retrieval, bibliometrics, digital libraries, web quality evaluation, recommender systems, block chain and social media. In these topics he has published more than 250 papers in JCR journals and coordinated more than 22 research projects. Dr. Herrera-Viedma is EiC of the journal Frontiers in Artificial Intelligence and an Associate Editor of more than 10 JCR journals such as the IEEE Trans. On Syst. Man, and Cyb.: Systems, IEEE Trans. On Fuzzy Systems, IEEE Trans. On Intelligence Transportation Systems, Knowledge Based Systems, Soft Computing, Fuzzy Optimization and Decision Making, Applied Soft Computing, Journal of Intelligent and Fuzzy Systems, and Information Sciences. According to Web of Science his h-index is 77 with more than 17000 citations received and according to Google Scholar his h-index is 84 with more than 28000 citations. He has been identified by Clarivate Analytics as a Highly Cited Author in both scientific categories "Computer Science" and "Engineering" during the years 2014, 2015, 2016, 2017, 2018 and 2019.

Prof. Gaston LEFRANC H.
Pontificia Universidad Católica de Valparaíso, Chile
gaston.lefranc@gmail.com

Prof. Gastón Lefranc H. was born in Chile on 6 of January 1945. He received the title Electrical Engineer (bachelor) at Universidad Técnica Federico Santa María with Summa Cum Laude (1969); then the title of Civil Electrical Engineer at Universidad de Chile (1976). He obtained Master Degree at Northwestern University in Evanston, USA, 1979. He became professor and researcher at the Electrical Engineering Department of Universidad de Chile in 1968, where he worked until 1974. Then, he moved to Pontificia Universidad Católica de Valparaíso PUCV, Chile, where he became full professor in 1984.His fields of interest and work are: Automatic control, Robotics, Artificial Intelligence, Flexible Manufacturing Systems (FMS), Industry 4.0 and Biomedical Engineering. He has taught numerous disciplines such: Automatic Control, Advanced Topics of Automatic Control, Computer Structures, Artificial Intelligence, al Robotics and Artificial Vision; Pattern Recognition, Flexible Production Systems, , etc. He has been an advisor of more than 200 graduated engineers, six Master Degree thesis, and four PhD thesis. He has participated in several Research Projects in Chile, related with automatic control in copper mines and robotics. He is author/co-author of about 70 publications in international journals, two book chapters, and presented about 200 papers in international conferences. He has been editor/co-editor of 20 volumes printed by Elsevier, Springer, etc. He has invited as plenary speaker at about 40 conferences and to dictate courses in several universities abroad He has been visiting professor at Ecole Centrale de Lille, France ; UNAM Mexico; Santa Catarina University in Brazil, and many other ones. He has dictated courses in: Peru (5), Argentina (5), Brazil (2), Panama (3), Mexico (12), Tunisia (1), France (4), and Chilean Universities (9). He has been President of Asociación Chilena de Control Automatico ACCA, four-times Chair of IEEE Chile Section and 2 times President of IEEE Cono Sur Council (Argentina, Chile, Paraguay, Uruguay).

Invited speakers at ICCCC 2022

Prof. Alfred BRUCKSTEIN,
Technion, Haifa, Israel
freddy@cs.technion.ac.il

Alfred M. Bruckstein holds the Ollendorff Chair in Science at the Technion, IIT, in the Deppartment of Computer Science. A graduate of the Technion, with a BSc and an MSc in EE, he earned a PhD at Stanford University, in the EE Department, in 1984. Since then he is on faculty at the Technion, with long-term visiting professorship positions at Bell Laboratories at Murray Hill, NJ, USA (from 1987 to 2000), and at Nanayang Technological University, in Singapore (from 2009-present). His shorter visiting positions include Tsing-Hua University in Beijing, China (2002-2003), and visiting positions at Universite d'Evry, Paris France, at CEREMADE, University Dauphine, Paris, france, and Karlsruhe University in Germany. At the Technion, Professor Bruckstein served as the elected Dean of the Graduate School, from 2002 to 2005, and as the Head of the Technion Excellence Program for Undergraduates, from 2006 to 2012. He is a member of the MAA and AMS, and in 2014 he was elected Fellow of SIAM for contributions to Signal Processing, Image Analysis and Ant Robotic.

Prof. Razvan ANDONIE
Central Washington University
andonie@ cwu.edu

Razvan ANDONIE received the M.S. degree in mathematics and computer science from University of Cluj-Napoca, Romania, and the Ph.D. degree from University of Bucharest, Romania. His Ph.D. advisor was Solomon Marcus, Fellow of the Romanian Academy. He is currently a Professor of Computer Science at both Central Washington University and Transilvania University of Brasov, Romania. He has published more than 130 research papers and was an invited professor at many universities. His actual research interests are computational intelligence techniques and applications, parallel/distributed computing, machine learning, and big data analytics.

Prof. Valentina E. Balas,
Aurel Vlaicu University of Arad, Romania,balas@drbalas.ro

Valentina E. Balas is currently Full Professor in the Department of Automatics and Applied Software at the Faculty of Engineering, "Aurel Vlaicu" University of Arad, Romania.
She holds a Ph.D. Cum Laude, in Applied Electronics and Telecommunications from Polytechnic University of Timisoara. Dr. Balas is author of more than 400 research papers in refereed journals and International Conferences. Her research interests are in Intelligent Systems, Fuzzy Control, Soft Computing, Smart Sensors, Information Fusion, Modeling and Simulation.
She is the Editor-in Chief to International Journal of Advanced Intelligence Paradigms (IJAIP) and to International Journal of Computational Systems Engineering (IJCSysE), member in Editorial Board member of several national and international journals and is evaluator expert for national, international projects and PhD Thesis.

Dr. Balas is the director of Intelligent Systems Research Centre in „Aurel Vlaicu" University of Arad andDirector of the Department of International Relations, Programs and Projects in the same university.
She served as General Chair of the International Workshop Soft Computing and Applications (SOFA) in nine editions organized in the interval 2005-2020 and held in Romania and Hungary.
Dr. Balas participated in many international conferences as Organizer, Honorary Chair, Session Chair, member in Steering, Advisory or International Program Committees and Keynote Speaker.

Recently she was working in a national project with EU funding support: BioCell-NanoART = Novel Bio-inspired Cellular Nano-Architectures - For Digital Integrated Circuits, 3M Euro from National Authority for Scientific Research and Innovation.

She is a member of European Society for Fuzzy Logic and Technology (EUSFLAT), member of Society for Industrial and Applied Mathematics (SIAM) and a Senior Member IEEE, member in Technical Committee – Fuzzy Systems (IEEE Computational Intelligence Society), chair of the Task Force 14 in Technical Committee – Emergent Technologies (IEEE CIS), member in Technical Committee – Soft Computing (IEEE SMCS).

Dr. Balas was past Vice-president (responsible with Awards) of IFSA - International Fuzzy Systems Association Council (2013-2015), is a Joint Secretary of the Governing Council of Forum for Interdisciplinary Mathematics (FIM), - A Multidisciplinary Academic Body, India and recipient of the "Tudor Tanasescu" Prize from the Romanian Academy for contributions in the field of soft computing methods (2019).

Prof. Yezid DONOSO,
Universidad de los Andes, Colombia
ydonoso@uniandes.edu.co

Yezid Donoso received the System and Computing Engineering degree from Universidad del Norte, Barranquilla, Colombia, in 1996 (IEEE M'02 – SM'05) , M.S. degree from Universidad de los Andes, Bogotá, Colombia, in 1998, D.E.A. in Information Technology from Girona University, Girona, Spain, in 2002 and the Ph.D. (Cum Laude) in Information Technology from Girona University, Spain, in 2005. He is currently Full Professor at Universidad de los Andes, Colombia and Coordinator of the Information Security Master Program and Academic ViceDirector of the Department. He is Senior Member IEEE, DVP (Distinguished Visitor Professor) Computer Society IEEE from 2005 to 2009 and President IEEE Colombia Section 2013 – 2014. Dr. Donoso has several national and international awards and medals. Biography published in the books: "Who's Who in the World", edition 2006 and "Who's Who in Science and Engineering" by Marquis Who's Who in the World and "2000 Outstanding Intellectuals of the 21th Century" by International Biographical Centre. Cambridge, England, 2006. "Distinguished Professor", given by Universidad del Norte. Colombia. Octubre 2004. National Award of Operations research given by The Colombian Society of Operations Research. 2004. He is the co-author of several books, including Multi-Objective Optimization in Computer Networks Using Metaheuristics and Network Design for IP Convergence and He has more than 240 papers published between journals and conferences.

Dr. Valeriu BEIU
Aurel Vlaicu University of Arad, Romania,
valeriu.beiu@uav.ro

Valeriu Beiu (S'92–M'95–SM'96) received the MSc in CE from the University "Politehnica" Bucharest (UPB) in 1980, and the PhD summa cum laude in EE from the Katholieke Universiteit Leuven (KUL) in 1994.

Valeriu Beiu received the MSc in Computer Engineering from the University "Politehnica" Bucharest in 1980, and the PhD *summa cum laude* in Electrical Engineering from the Katholieke Universiteit Leuven in 1994.

Since graduating in 1980 he has been with the Research Institute for Computer Techniques, "Politehnica" University of Bucharest, Katholieke Universiteit Leuven, King's College London, Los Alamos National Laboratory, Rose Research, Washington State University, United Arab Emirates University, and currently is with the "Aurel Vlaicu" University of Arad. His research interests have constantly been on biological-/neural-inspired circuits and brain-inspired architectures (low-power, highly reliable, massively parallel), being funded at over US$ 51M, and publishing over 290 papers (over 50 invited and more than 10 patents) as well as giving over 220 invited talks, and organizing over 130 conferences.

Dr. Beiu has received five fellowships and nine best paper awards, and is a Senior Member of the IEEE as well as a member of: ACM, INNS, ENNS, and MCFA. He was a member of the SRC-NNI Working Group on Novel Nano-architectures, the IEEE CS Task Force on Nano-architectures, and the IEEE Emerging Technologies

Group on Nanoscale Communications, and has been an Associate Editor of the *IEEE Transactions on Neural Networks* (2005–2008), the *IEEE Transactions for Very Large Scale Integration Systems* (2011–2015), and the *Nano Communication Networks* (2010–2016), and since 2020 is on the Editorial Board of *Mathematics* (MDPI) and *Applied Sciences* (SpringerNature). Lately, based on his entire career record, he was included in the list of "top 2% scientists" by Stanford/Scopus (see 10.1371/journal.pbio.3000918).

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ICCCC 2022 statistics

Table 1. Affiliation of the authors of the invited/accepted works at ICCCC 2022

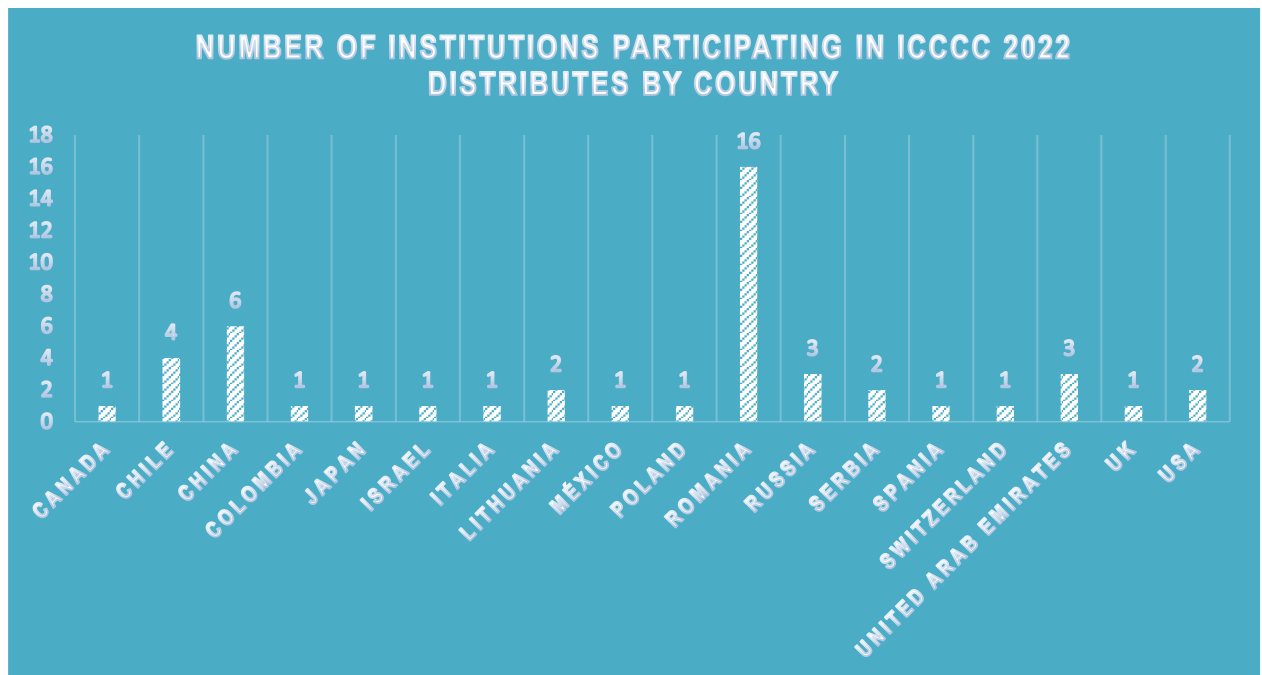| No. crt	Country	Institution
1.	Canada	Western University
2.	Chile	Universidad de Las Americas
		Universidad Tecnológica Metropolitana
		Universidad de Santiago de Chile
		Pontificia Universidad Católica de Valparaiso
3.	China	Institute of Fundamental and Frontier Science, University of Electronic Science and Technology of China
		School of Education Shaanxi Normal University
		Business School, Chengdu University
		College of Economics and Management, Inner Mongolia University
		Beijing Jiaotong University, China
		Yingcai Honors College, University of Electronic Science and Technology of China
4.	Colombia	Universidad de los Andes
5.	Japan	School of Knowledge Science, Japan Advanced Institute of Science and Technology
6.	Israel	Technion University
7.	Italia	University of Ferrara
8.	Lithuania	Lithuanian Academy of Sciences
		Vilnius University
9.	México	Universidad Nacional Autónoma de México
10.	Poland	Polish Academy of Sciences
11.	Romania	Romanian Academy
		School of Advanced Studies of the Romanian Academy
		"Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy
		Research & Development Center of Agora University
		National Institute for Research and Development in Informatics
		Romanian Association for Smart City and Mobility
		University of Oradea
		„Aurel Vlaicu" University of Arad
		Agora University of Oradea
		University of Craiova
		University Politehnica of Bucharest
		Bucharest University of Economic Studies
		University of Petrosani
		Politehnica University Timisoara
		Technical University of Civil Engineering Bucharest
		Spiru Haret University, Bucharest
12.	Russia	Institute of Control Science of Russian Academy of Science
		National Research University Higher School of Economics
		HSE University
13.	Serbia	University of Belgrade
		Mathematical Institute of the Serbian Academy of Sciences and Arts
14.	Spania	University of Granada
15.	Switzerland	ETH Zurich
16.	United Arab Emirates	UAE University
		University of Sharjah
		New York University Abu Dhabi
17.	UK	De Montfort University
18.	USA	Central Washington University
		University of New Mexico

Figure 1. Number of institutions participating in ICCCC 2022 distributes by country
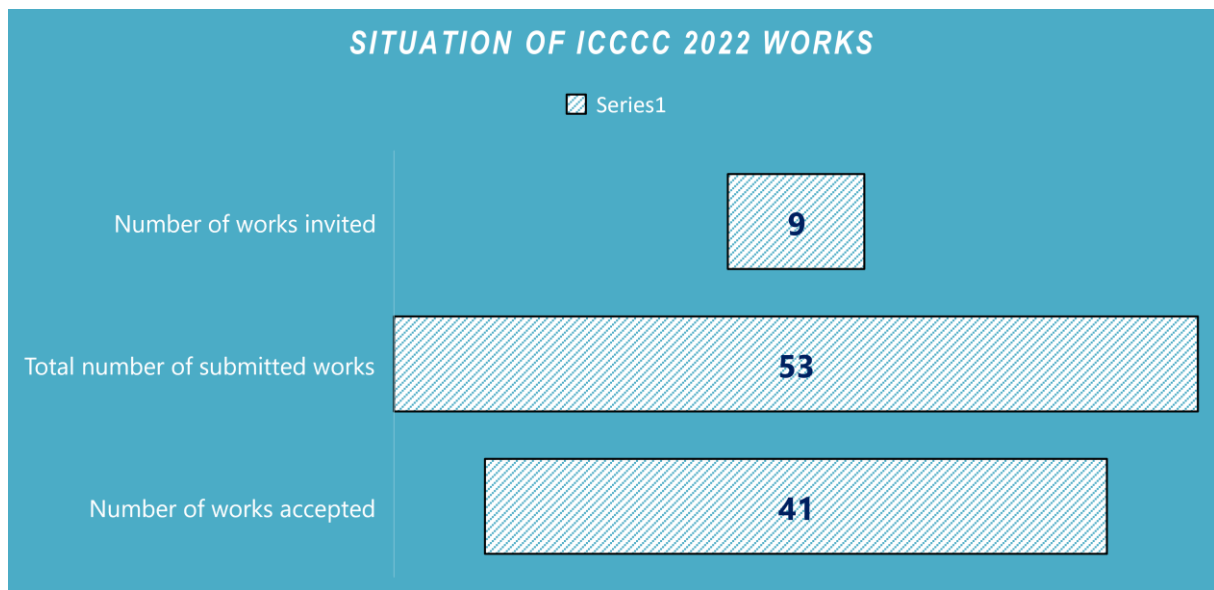

Figure 2. Situation of ICCCC 2022 works

Photo gallery previous editions ICCCC

ICCCC 2006

ICCCC 2008

ICCCC 2010

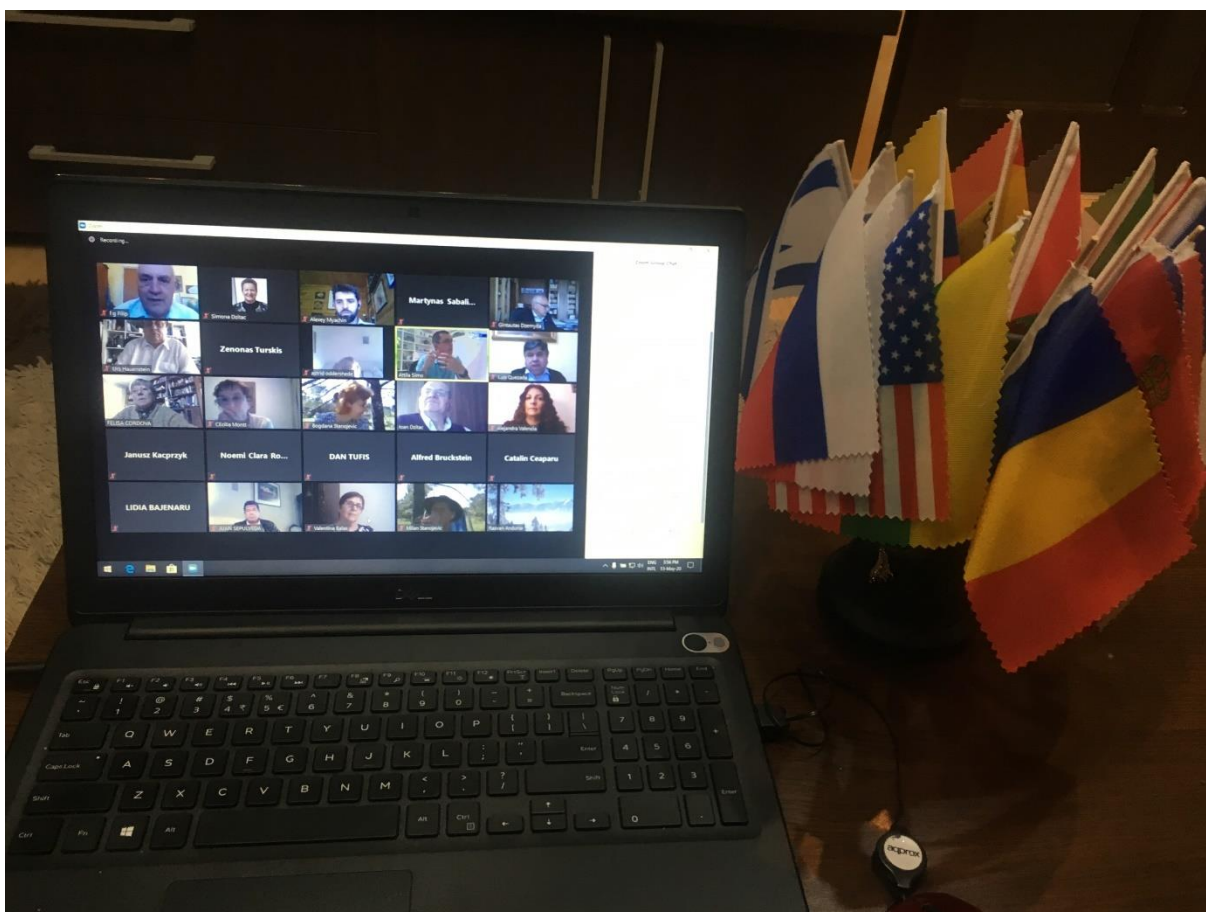**ICCCC 2012**

ICCCC 2014

ICCCC 2016

ICCCC 2018

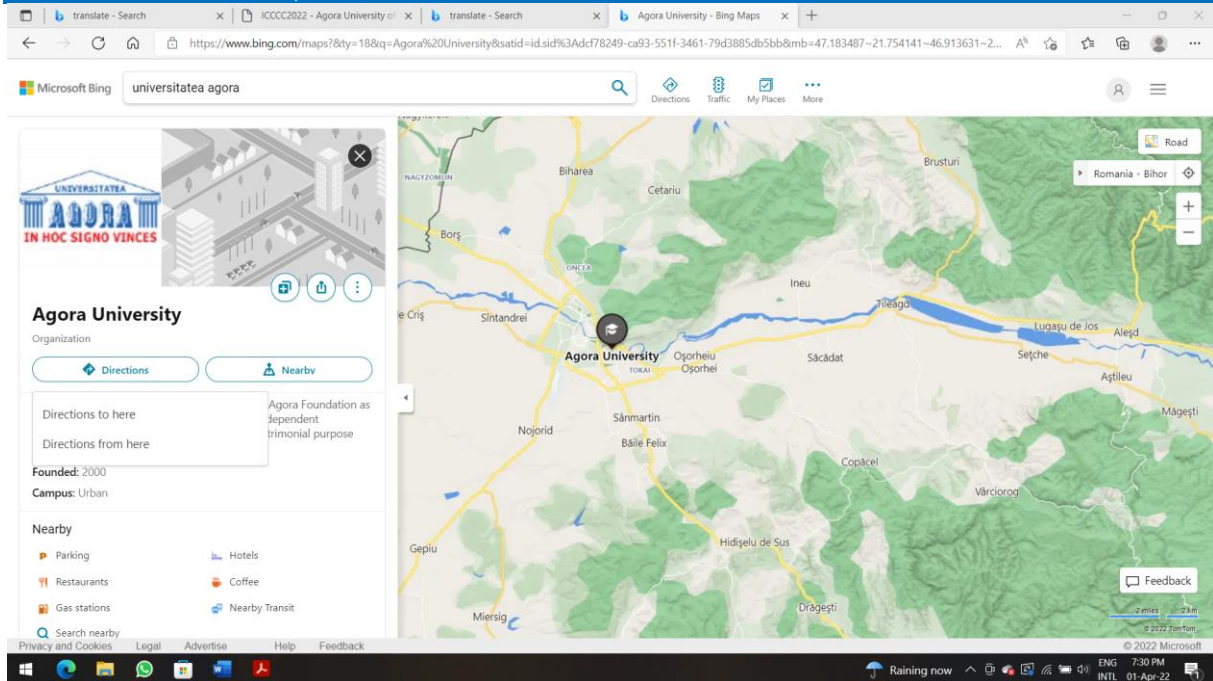

ICCCC 2020

Map of the Campus and Hotel President

Agora University of Oradea
Piaţa Tineretului, no. 8
GPS: Lat. N: 47.048938421830755, Long. E: 21.950868387444626
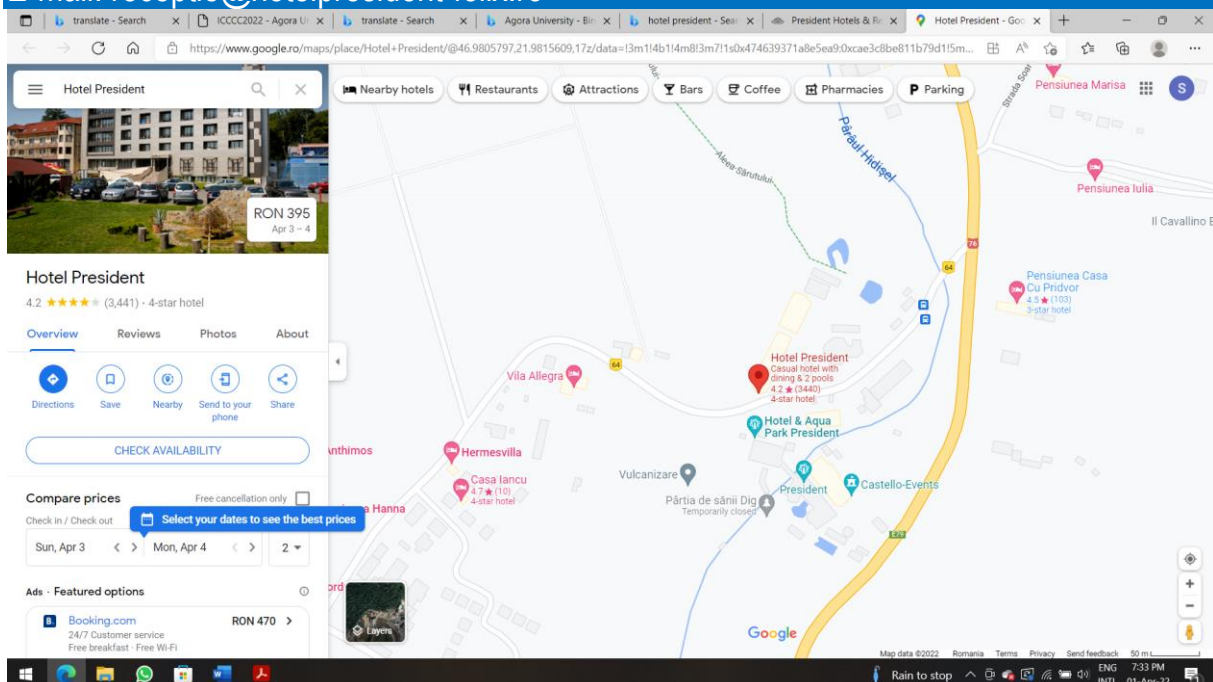410526 Oradea, jud. Bihor, ROMANIA
Ph: +40 259 427 398, +40 259 472 513

Hotel President: https://www.baile-felix.ro/ro/contact.html
Adresă: Băile Felix, 417500, jud. Bihor, România
E-mail: receptie@hotelpresident-felix.ro

Notes