

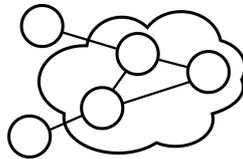
PROGRAM GUIDE



BWCCA-2022

The 17-th International Conference on
Broad-Band and Wireless Computing, Communication and Applications

and



3PGCIC-2022

The 17-th International Conference on
P2P, Parallel, Grid, Cloud and Internet Computing

Virtual Conference (Online Presentation)

October 27th - October 28th, 2022

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Welcome Message from the BWCCA-2022 International Conference Organizers

Welcome to the 17-th International Conference on Broadband and Wireless Computing, Communication and Applications (BWCCA-2022), which will be held in conjunction with 3PGCIC-2022 International Conference from October 27 to October 29, 2022.

This International Conference is a forum for sharing ideas and research work in the emerging areas of broadband and wireless computing. Information networks of today are going through a rapid evolution. Different kinds of networks with different characteristics are emerging and they are integrating in heterogeneous networks. For these reasons, there are many interconnection problems which may occur at different levels of the hardware and software design of communicating entities and communication networks. These kinds of networks need to manage an increasing usage demand, provide support for a significant number of services, guarantee their QoS, and optimize the network resources.

The success of all-IP networking and wireless technology has changed the ways of living the people around the world. The progress of electronic integration and wireless communications is going to pave the way to offer people the access to the wireless networks on the fly, based on which all electronic devices will be able to exchange the information with each other in ubiquitous way whenever necessary.

The aim of this conference is to present the innovative research and technologies as well as developments related to broadband networking, and mobile and wireless communications.

The organization of an International Conference requires the support and help of many people. A lot of people have helped and worked hard to produce a successful BWCCA-2022 technical program and conference proceedings. First, we would like to thank all authors for submitting their papers, Program Committee Members and reviewers who carried out the most difficult work by carefully evaluating the submitted papers.

We thank Web Administrators Co-Chairs and Finance Chair for their excellent work. We would like to express our gratitude to Prof. Makoto Takizawa, Hosei University, Japan as Honorary Chair of BWCCA-2022 for his support and help. We give special thanks to Keynote Speakers of BWCCA-2022 and local arrangement team.

We hope you will enjoy the conference proceedings.

BWCCA-2022 International Conference Organizers

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Leonard Barolli, *Fukuoka Institute of Technology, Japan*

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3PGCIC-2022 Conference Organizing Committee**Honorary Chair**

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Enida Sheme, *Polytechnic University of Tirana, Albania*

Dorian Minarolli, *Polytechnic University of Tirana, Albania*

Steering Committee Chair

Leonard Barolli, *Fukuoka Institute of Technology, Japan*

Message from the 3PGCIC-2022 Organizing Committee

Welcome to the 17-th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC-2022), which will be held in conjunction with BWCCA-2022 International Conference from October 27 to October 29, 2022.

P2P, Grid, Cloud and Internet computing technologies have been established as breakthrough paradigms for solving complex problems by enabling large-scale aggregation and sharing of computational, data and other geographically distributed computational resources.

Grid Computing originated as a paradigm for high performance computing, as an alternative to expensive supercomputers. The Grid computing domain has been extended to embrace different forms of computing, including Semantic and Service-oriented Grid, Pervasive Grid, Data Grid, Enterprise Grid, Autonomic Grid, Knowledge and Economy Grid.

P2P Computing appeared as the new paradigm after client-server and web-based computing. These systems are evolving beyond file sharing towards a platform for large scale distributed applications. P2P systems have as well inspired the emergence and development of social networking, B2B (Business to Business), B2C (Business to Consumer), B2G (Business to Government), B2E (Business to Employee) and so on.

Cloud Computing has been defined as a computing paradigm where the boundaries of computing are determined by economic rationale rather than technical limits. Cloud computing is a multi-purpose paradigm that enables efficient management of data centres, timesharing, and virtualization of resources with a special emphasis on business model. Cloud Computing has fast become the computing paradigm with applications in all application domains and providing utility computing at large scale.

Finally, *Internet Computing* is the basis of any large-scale distributed computing paradigms; it has very fast developed into a vast area of flourishing field with enormous impact on today's information societies. Internet-based computing serves thus as a universal platform comprising a large variety of computing forms.

The aim of the 3PGCIC conference is to provide a research forum for presenting innovative research results, methods and development techniques from both theoretical and practical perspectives related to P2P, Grid, Cloud and Internet computing.

Many people have helped and worked hard to produce a successful 3PGCIC-2022 technical program and conference proceedings. First, we would like to thank all the authors for submitting their papers, the PC members, and the reviewers who carried out the most difficult work by carefully evaluating the submitted papers.

We thank Web Administrators for their excellent work and support with the Web Submission and Management System of conference. We are grateful to Prof. Makoto Takizawa, Hosei University, Japan as Honorary Chair of the conference for his support and encouragement. Our special thanks also go to Keynote Speakers.

We hope you will enjoy the conference proceedings.

3PGCIC-2022 Organizing Committee

3PGCIC-2022 Steering Committee Chair

Leonard Barolli, *Fukuoka Institute of Technology, Japan*

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Tomoki Yoshihisa, *Osaka University, Japan*

Flora Amato, *University of Naples "Frederico II", Italy*

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Admir Barolli, *Aleksander Moisiu University of Durres, Albania*

Yusuke Gotoh, *Okayama University, Japan*

Omar Hussain, *University of New South Wales, Australia*

BWCCA-2022 & 3PGCIC-2022 Keynote I



Prof. Masakatsu Nishigaki, Shizuoka University, Hamamatsu City, Japan

Title: Humanics Information Security: How to go above and beyond?

Abstract: Who uses the information systems? The answer is, of course, human beings. Who attacks the information systems? The answer is, unfortunately, human beings again. Therefore, any system security that does not consider user characteristics (from viewpoints of both legitimate and malicious users) is pointless. The key is how to combine security technologies and human factors, specifically cognitive and psychological characteristics, in designing information systems. We call the concept "humanics information security". In a digital transformation environment, information systems around us will be automatized and artificial intelligence can automatically support our lives. However, we must not forget that an important decision should not be fully automated but our consent is necessary when a critical decision is made. This means that human still remains even in extremely advanced automated information systems as its weakest link in information security. In this talk, we will discuss how the humanics information security approach can enhance both security and usability of information systems.

Bio: **Masakatsu Nishigaki** is a Professor at the Graduate School of Science and Technology, Shizuoka University, Japan. His research interests are in wide variety of information security, especially such as user authentication, biometrics, usable security, human-centric security, and so on. His focus of study is typically on the orchestration of security techniques and human characteristics. He has more than 200 publications in journals and conference proceedings. He served as the Chief Examiner of IPSJ (Information Processing Society of Japan) Special Interest Group on Computer Security from 2013 to 2014, the Chair of IEICE (Institute of Electronics, Information and Communication Engineers) Technical Committee on Biometrics from 2015 to 2016, and an IPSJ Director from 2019 to 2020, respectively. He is currently a JSSM (Japan Society of Security Management) Director since 2016, and its vice president of since 2021. He is an IPSJ Fellow.

BWCCA-2022 & 3PGCIC-2022 Keynote II



Prof. Asoc. Pavel Krömer, VSB-Technical University of Ostrava, Ostrava, Czech Republic

Title: Multi-objective methods for Wireless Sensor Network Optimization

Abstract: When designing a wireless sensor network several performance metrics should be considered, e.g., network lifetime, target coverage, sensor energy consumption. Very often, these metrics are in conflict with each other, which means that by optimizing some of them we worsen the others. Designing the network is therefore a problem of multi-objective optimization. In this talk, we provide an overview of selected multi-objective wireless sensor network design problems and outline several methods proposed to tackle them. Special attention is paid to the optimization of network lifetime and target coverage. We consider two variants of the algorithm, in which the fitness function comprises only the network lifetime, or where it includes both, the network lifetime and target coverage. This makes it possible to find a trade-off between these two objectives. The ability of multi-objective metaheuristics to tackle such problems is demonstrated on a genetic algorithm designed to solve this challenge.

Bio: **Pavel Krömer** graduated in Computer Science from the Faculty of Electrical Engineering and Computer Science (FEECS) of VSB-Technical University of Ostrava (VSB-TUO). He worked as an analyst, developer, and trainer in a private company between 2005 and 2010. Since 2010, he has worked at the Department of Computer Science, FEECS VSB-TUO. In 2014, he was a Postdoctoral Fellow at the University of Alberta. In 2015, he was awarded the title Assoc. Professor of Computer Science. He was a Researcher at the IT4Innovations (National Supercomputing Center) between 2011 and 2016 and has been a member of its scientific council since February 2017. Since September 1, 2017, he has been the Vice Dean for International Cooperation at FEECS. Since 2018, he is a Senior Member of the IEEE. In his research, he focuses on computational intelligence, information retrieval, data mining, machine learning, soft computing, and real-world applications of intelligent methods. He was the principal contributor to a broad range of research projects with results published in highimpact international journals such as *Soft Computing* (Springer), and others published by Elsevier, Oxford University Press, and Wiley. In this field, he has contributed to a number of major conferences organized by the IEEE and ACM. He has been a reviewer for *Information Sciences*, *IEEE Transactions on Evolutionary Computation*, *Swarm and Evolutionary Computation*, *Neurocomputing*, *Scientific Reports*, and other scientific journals. He also acts as a project reviewer for the Research Agency (Slovakia), National Science Centre (Poland), National Research Foundation (South Africa), and the European Commission (DG CONNECT). His citation response includes 743 citations (h-index 13) on the Web of Science, 1310 citations (h-index 16) on Scopus, and 1855 citations (h-index 21) on Google Scholar.



BWCCA-2022

Main Conference and Workshops Program

Thursday, October 27, 2022

BWCCA-2022 Keynote I

15:00-16:00 (UTC+9) Japan Standard Time

08:00-09:00 (UTC+2) CEST Time Zone (Rome, Italy)

23:00-00:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

BWCCA-2022 Keynote Talk I

Prof. Masakatsu Nishigaki: Humanics information security: How to go above and beyond?

Parallel Sessions

16:30-18:00 (UTC+9) Japan Standard Time
09:30-11:00 (UTC+2) CEST Time Zone (Rome, Italy)
00:30-02:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

BWCCA-S1: Security and Privacy

Session Chair: Masakatsu Nishigaki, Shizuoka University, Japan

1. A Study of Network Attack Strategy using AS Topology Map
Naoya Sekiguchi and Hidema Tanaka
2. Improving Classification Accuracy by Optimizing Activation Function for Convolutional Neural Network on Homomorphic Encryption
Kohei Yagyu, Ren Takeuchi, Masakatsu Nishigaki, and Tetsushi Ohki
3. An Attention Mechanism for Visualizing Word Weights in Source Code of PowerShell Samples: Experimental Results and Analysis
Yuki Mezawa and Mamoru Mimura
4. Improving Palmprint-Region Estimation for ID-less Palmprint Recognition
Ayumi Serizawa, Ryosuke Okudera, Yumo Ouchi, Mizuho Yoshihira, Yuya Shiomi, Naoya Nitta, Masataka Nakahara, Akira Baba, Yutaka Miyake, Tetsushi Ohki and Masakatsu Nishigaki
5. Real Vehicle-Based Attack Dataset for Security Threat Analysis in a Vehicle
Yeji Koh, Yoonji Kim, Munkhdelgerekh Batzorig, Kangbin Yim

Parallel Sessions

18:30-20:00 (UTC+9) Japan Standard Time
11:30-13:00 (UTC+2) CEST Time Zone (Rome, Italy)
02:30-04:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

BWCCA-S2: Mobile and Intelligent Computing Systems

Session Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan

1. A Comparison Study of UNDX and UNDX-m Methods for LDVM and RDVM Router Replacement Methods by WMN-PSODGA Hybrid Intelligent System Considering Stadium Distribution
Admir Barolli, Kevin Bylykbashi, Ermioni Qafzezi, Shinji Sakamoto, Leonard Barolli, Makoto Takizawa
2. Performance Comparison of Roulette Wheel and Random Selection Methods by WMN-PSODGA Simulation System Considering Stadium Distribution and LDIWM
Kevin Bylykbashi, Ermioni Qafzezi, Phudit Ampririt, Admir Barolli, Elis Kulla, Leonard Barolli
3. A Fuzzy-based System for Estimation of Landslide Disasters Risk Considering Digital Elevation Model
Kei Tabuchi, Kyohei Toyoshima, Nobuki Saito, Aoto Hirata, Yuki Nagai, Tetsuya Oda, Leonard Barolli
4. A Fuzzy-based System for Handover in 5G Wireless Networks Considering Different Network Slicing Constraints: Effects of Slice Reliability Parameter on Handover Decision
Phudit Ampririt, Ermioni Qafzezi, Kevin Bylykbashi, Makoto Ikeda, Keita Matsuo, Leonard Barolli
5. A Simulated Annealing Based Simulation System for Optimization of Wild Deer Damage Prevention Devices
Sora Asada, Kyohei Toyoshima, Aoto Hirata, Yuki Nagai, Nobuki Saito, Tetsuya Oda, Leonard Barolli

RVI3C-S1: Robotics and Intelligent Systems**Session Chair: Keita Matsuo, Fukuoka Institute of Technology, Japan**

1. Design and Implementation of a Platform for MOAP Robots
Keita Matsuo, Elis Kulla and Leonard Barolli
2. Design of an Intelligent Robotic Vision System for Optimization of Robot Arm Movement
Chihiro Yukawa, Nobuki Saito, Aoto Hirata, Kyohei Toyoshima, Yuki Nagai, Tetsuya Oda, Leonard Barolli
3. Simulation of Choice of Residence for Working Women
Risa Takata, Shiori Koga, and Kaoru Fujioka
4. Constructing and Reconstructing Characters Using Gaussian Process Regression
Jinya Yano and Hiroyuki Fujioka
5. Proposal of Disaster Prevention Training System using Mixed Reality Space
Takahiro Uchiya and Kazuki Akita

Parallel Sessions**20:30-22:00 (UTC+9) Japan Standard Time****13:30-15:00 (UTC+2) CEST Time Zone (Rome, Italy)****04:30-06:00 (UTC-7) Pacific Daylight Time (Victoria, CA)****BWCCA-S3: IoT Systems and Applications****Session Chair: Antonio Esposito, University of Campania Luigi Vanvitelli, Italy**

1. Enhancement of Quality Assurance Controls in a Smart Transportation System: Application to Petrol Product Distribution
Rexhina Hoxha, Eva Mandri, Artemisa Sinorukaj, Elinda Kajo Meçe, Roberto Sacile, Ilir Shinko, Enrico Zero
2. Hardware-Software Interworking Real-time V2X Dynamic Analysis Method
Insu Oh, Munkhdelgerekh Batzorig, Baasantogtokh Duulga and Kangbin Yim
3. Location-based Autonomous Transmission Control Method for Spatio-Temporal Data Retention System
Daiki Nobayashi, Kazuya Tsukamoto, Takeshi Ikenaga and Myung Lee
4. Vehicle Routing in Whole and Segmented Areas to Incrementally Collect the Disaster Information
Sanjukta Khwairakpam, Masahiro Shibata and Masato Tsuru
5. Towards a Semantic Representation of Iot Sensors and BPMNs to discover Business Process Patterns: A Smart Irrigation Case Study
Beniamino Di Martino, Luigi Colucci Cante, Antonio Esposito, Mariangela Graziano

Friday, October 28, 2022**BWCCA-2022 Keynote II**

16:00-17:00 (UTC+9) Japan Standard Time
09:00-10:00 (UTC+2) CEST Time Zone (Rome, Italy)
00:00-01:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

BWCCA-2022 Keynote Talk II

Prof. Asoc. Pavel Krömer: Multi-objective methods for Wireless Sensor Network Optimization

Parallel Sessions

17:30-19:00 (UTC+9) Japan Standard Time
10:30-12:00 (UTC+2) CEST Time Zone (Rome, Italy)
01:30-03:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

BWCCA-S4: Network Protocols and Performance Analysis**Session Chair: Hyunhee Park, Myongji University, Korea**

1. Performance Analysis of HARQ in 2-step RACH Procedure using Markov Chain Model
Byungchan Kim and Hyunhee Park
2. Human-centered Protocols for Secure Data Management in Distributed Systems
Urszula Ogiela, Makoto Takizawa, Lidia Ogiela
3. Multi-Version Concurrency Control to Reduce the Electric Energy Consumption of Servers
Tomoya Enokido, Dilawaer Duolikun and Makoto Takizawa
4. A Study on Increasing Simultaneous Transmissions After Extended RTS/CTS Handshake on Full-duplex Wireless LANs
Hikari Hashimoto and Tetsuya Shigeyasu
5. A Comparison Study of FC-RDVM with LDVM Router Replacement Methods by WMN-PSOHC Simulation System Considering Weibull Distribution of Mesh Clients
Shinji Sakamoto, Admir Barolli, Yi Liu, Elis Kulla, Leonard Barolli and Makoto Takizawa

Parallel Sessions

19:30-21:00 (UTC+9) Japan Standard Time
12:30-14:00 (UTC+2) CEST Time Zone (Rome, Italy)
03:30-05:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

BWCCA-S5: Cloud and Service Computing**Session Chair: Evjola Spaho, Polytechnic University of Tirana, Albania**

1. Techno-economic Analysis of Cloud Computing Supported by 5G: A Cloud vs On Premise based Solutions Comparison
Christos Bouras, Charalampos Chatzigeorgiou, Anastasia Kollia and Philippos Pouyioutas
2. An Integrated Fog-VDTN Architecture for Data Dissemination
Evjola Spaho

3. Energy-Consumption Evaluation of the Tree-Based Fog Computing (TBFC) Model
Dilawaer Duolikun, Shigenari Nakamura, Tomoya Enokido and Makoto Takizawa
4. Evaluation of the Information Flow Control in the Fog Computing Model
Shigenari Nakamura, Tomoya Enokido and Makoto Takizawa

MAPWC-S1: Analysis and Protocols for Wireless Communication

Session Chair: Hiroshi Maeda, Fukuoka Institute of Technology, Japan

1. A Brake Assisting Function for Railway Vehicles Using Fuzzy Logic: A Comparison Study for Different Fuzzy Inference Types
Mitsuki Tsuneyoshi, Makoto Ikeda and Leonard Barolli
2. Preliminary Analysis of Performance Variation for ADS-B Position
Junichi Honda, Keisuke Matsunaga, Yasuyuki Kakubari, Takuya Otsuyama
3. A Simulation System for Mobility Control of Swarm Drones to Provide Wireless Mesh Network Services
Yuma Yamashita, Nobuki Saito, Chihiro Yukawa, Kyohei Toyoshima, Tetsuya Oda, Kengo Katayama, Leonard Barolli
4. Comparison of Transmission Spectra of Fork-shaped Photonic Crystal Branch Waveguide for Continuous and Band-Limited Input Signal
Hiroshi Maeda
5. A Transportation Routing Method Based on A Algorithm and Hill Climbing for Swarm Robots in WLAN Environment
Masahiro Niihara, Nobuki Saito, Chihiro Yukawa, Kyohei Toyoshima, Tetsuya Oda, Masaharu Hirota, Leonard Barolli

Parallel Sessions

21:30-23:00 (UTC+9) Japan Standard Time

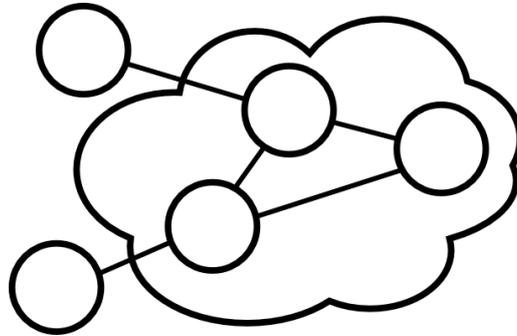
14:30-16:00 (UTC+2) CEST Time Zone (Rome, Italy)

05:30-07:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

CWECS-S1: Cloud, Wireless and e-Commerce Security

Session Chair: Fang-Yie Leu, Tunghai University, Taiwan

1. Applying CI/CD Process to Improve the Speed and Critical Quality of Perfective Maintenance
Sen-Tarnng Lai, Fang-Yie Leu
2. Generating Personalized Phishing Emails for Social Engineering Training based on Neural Language Models
Shih-Wei Guo, Tzu-Chi Chen, Hui-Juan Wang, Fang-Yie Leu and Yao-Chung Fan
3. Stock Price Trend Prediction using LSTM and Sentiment Analysis on News Headlines
Jung-Bin Li, Szu-Yin Lin, Fang-Yie Leu and Yen-Chu Chu
4. Efficient Weighted and Balanced Resource Allocation for High-Performance Render Farms
Lung-Pin Chen, Fang-Yie Leu, Chia-Chen Kuo, Tzu-Ching Lin and Ming-Jen Wang



3PGCIC-2022

Main Conference and Workshops Program

Thursday, October 27, 2022

3PGCIC-2022 Keynote I

15:00-16:00 (UTC+9) Japan Standard Time

8:00-09:00 (UTC+2) CEST Time Zone (Rome, Italy)

23:00-00:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

3PGCIC-2022 Keynote Talk I

Prof. Masakatsu Nishigaki: Humanics information security: How to go above and beyond?

Parallel Sessions

16:30-18:00 (UTC+9) Japan Standard Time
09:30-11:00 (UTC+2) CEST Time Zone (Rome, Italy)
00:30-02:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

3PGCIC-S1: Web and Multimedia Applications

Session Chair: Masaki Kohana, Chuo University, Japan

1. Development of an Augmented Reality Evacuation Guidance Application
Tomoyuki Ishida, Toshiaki Shirafuji
2. Analysis of a Soldering Motion for Dozing State and Attention Posture Detection
Kyohei Toyoshima, Tomoya Yasunaga, Chihiro Yukawa, Yuki Nagai, Nobuki Saito, Tetsuya Oda, Leonard Barolli
3. Development of a Virtual Object-sharing System Among Multiple Users in a Mixed Reality Space
Reiya Yahada, Tomoyuki Ishida
4. A WebRTC Signaling Method Among Web Browsers on a Web-based Virtual World
Masaki Kohana

Parallel Sessions

20:30-22:00 (UTC+9) Japan Standard Time
13:30-15:00 (UTC+2) CEST Time Zone (Rome, Italy)
04:30-06:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

3PGCIC-S2: Cloud Computing and Data Mining

Session Chair: Dorian Minarolli, Polytechnic University of Tirana, Albania

1. A Distributed Task Scheduling Approach for Cloud Computing Based on Ant Colony Optimization and Queue Load Information
Dorian Minarolli
2. Question Classification for Albanian Language: An Annotated Corpus and Classification Models
Nelda Kote, Evis Trandafili, Gjergj Plepi
3. A Cluster Formation Algorithm for Fog Architectures Based on Mobility Parameters at a Geographically LAN Perspective
Victoria Botelho Martins, Douglas D. J. de Macedo, Laercio Pioli Jr., Roger Immich
4. An Approach to Orchestrating and Connecting Workloads Across Multi-clouds
Humberto José de Sousa, Douglas Dyllon Jeronimo de Macedo

DEM-S1: Distributed Embedded Systems

Session Chair: Peter Hellinckx, University of Antwerp, Belgium

1. Rail Vehicle Detection Enabling Adaptive Device Free Crowd Size Estimation in Subway Stations
Robin Janssens, Rafael Berkvens, Peter Hellinckx, Stijn Denis
2. Autonomous Navigation Using Model-Based Reinforcement Learning
Siemen Herremans, Jens de Hoog, Ali Anwar, Peter Hellinckx, Siegfried Mercelis, Simon Vanneste, Dieter Balemans
3. Exploring Positioning Through Pseudoranges Using Low Earth Orbit Satellites
Wout Van Uytsel, Thomas Janssen, Rreze Halili, Maarten Weyn

4. Improving Context-Aware Synthesis and Placement of Object Instances
Jens Duym, Ali Anwar, Jens de Hoog, Siegfried Mercelis, Peter Hellinckx
5. Estimation of an Early WCET Using Different Machine Learning Approaches
Vikash Kumar

Parallel Sessions

22:30-24:00 (UTC+9) Japan Standard Time
15:30-17:00 (UTC+2) CEST Time Zone (Rome, Italy)
06:30-08:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

3PGCIC-S3: Intelligent and Cognitive Systems

Session Chair: Shinji Sakamoto, Kanazawa Institute of Technology, Japan

1. Simulated Annealing and Tabu Search for Solving the Single Machine Scheduling Problem
Adriana Mexicano, Jesús Carlos Carmona Frausto, Pascual Montes, Salvador Cervantes, José-Antonio Cervantes, Ricardo Rodríguez Jorge
2. A Comparison Study of Two Fuzzy-based Systems for Assessment of Fog Computing Resources in SDN-VANETs
Ermioni Qafzezi, Kevin Bylykbashi, Admir Barolli, Keita Matsuo, Makoto Ikeda, Leonard Barolli
3. A Heuristic Approach for a Multiple Depots Stochastic Inventory Routing Problem in Liquefied Natural Gas Distribution on Road Network
Ersi Bajrami, Elinda Kajo Meçe, Roberto Sacile, Enrico Zero
4. A Real-time Volume Control System for Electric Guitars Based on Fuzzy Inference
Genki Moriya, Kyohei Toyoshima, Nobuki Saito, Chihiro Yukawa, Yuki Nagai, Tetsuya Oda, Leonard Barolli

Friday, October 28, 2022**3PGCIC-2022 Keynote II**

16:00-17:00 (UTC+9) Japan Standard Time
09:00-10:00 (UTC+2) CEST Time Zone (Rome, Italy)
00:00-01:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

3PGCIC-2022 Keynote Talk II

Prof. Asoc. Pavel Krömer: Multi-objective methods for Wireless Sensor Network Optimization

Parallel Sessions

17:30-19:00 (UTC+9) Japan Standard Time
10:30-12:00 (UTC+2) CEST Time Zone (Rome, Italy)
01:30-03:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

3PGCIC-S4: Wireless Networks and Mobile Computing**Session Chair: Elis Kulla, Fukuoka Institute of Technology, Spain**

1. Performance Comparison of FC-RDVM and RDVM Router Replacement Methods by WMN-PSOHC Considering Exponential Distribution of Mesh Clients
Shinji Sakamoto, Admir Barolli, Yi Liu, Elis Kulla, Leonard Barolli, Makoto Takizawa
2. AAR: An Adaptive Anti-packet Recovery Approach for Improving Delay Tolerant Networking Data Transfer Using UAVs and Vehicles
Masaya Azuma, Shota Uchimura, Makoto Ikeda, Leonard Barolli
3. Hierarchical VANET: A Traffic Congestion Management Approach Based on Critical Points
Walter Balzano, Antonio Lanuto, Carmine Mascia, and Silvia Stranieri
4. Implementation of an Electronic Bulletin Board Application for a Raspberry Pi Based DTN Testbed
Kuya Shintani, Nobuki Saito, Kyohei Toyoshima, Chihiro Yukawa, Tetsuya Oda, Elis Kulla, Leonard Barolli

MWVRTA-S1: Multimedia and Virtual Reality Applications**Session Chair: Tomoyuki Ishida, Fukuoka Institute of Technology, Japan**

1. Implementation of a "Memorial Station" for Accumulating Memories by 3D Scanning
Tomoyuki Ishida, Honoka Sanae
2. Implementation of an Average Image Composite Software for Viewer Visualizing Behavior During Learning Content
Kaoru Sugita
3. Implementation of an Animal Information Presentation System Using Mixed Reality Technology
Tomoyuki Ishida, Takuma Amimoto
4. Study on Apple Texture Measuring Equipment Manipulated with Hand
Shigeru Kato, Hina Yoshizawa, Renon Toyosaki, Naoki Wada, Tomomichi Kagawa, Kazuki Shioyai, Takanori Hino, Hajime Nobuhara, Yukinori Sato
5. Developing a Virtual Reality Kyudo Training System Using the Cross-Modal Effect
Tomoyuki Ishida, Takaaki Shimizu

Parallel Sessions

19:30-21:00 (UTC+9) Japan Standard Time
12:30-14:00 (UTC+2) CEST Time Zone (Rome, Italy)
03:30-05:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

3PGCIC-S5: Secure Systems and Intelligent Approaches

Session Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan

1. Usage of Non-Fungible Tokens in Property Registration: A Case Study for Albania
Kristi Gorea, Marenglen Biba
2. Personalized Cryptography in Cybersecurity Systems
Urszula Ogiela, Marek R Ogiela
3. A Fuzzy Control Based Cluster-Head Selection and CNN Distributed Processing System for Improving Performance of Computers with Limited Resources
Kazune Hayashi, Chihiro Yukawa, Kyohei Toyoshima, Nobuki Saito, Yuki Nagai, Tetsuya Oda, Leonard Barolli
4. Model for Preventing DDoS Attacks Using a Hypervisor
Aws Jaber

Parallel Sessions

21:30-23:00 (UTC+9) Japan Standard Time
14:30-16:00 (UTC+2) CEST Time Zone (Rome, Italy)
05:30-07:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

CADSA-S1: Intelligent Systems and Tools

Session Chair: Flora Amato, University of Naples Federico II, Italy

1. PaSy 2.0: An Approach for PSEs Through an Ad Hoc Routing Methodology
Walter Balzano, Walter Galiano, Stefano Sivo, Silvia Stranieri
2. A Resource Allocation Technique for VANETs Inspired to the Banker's Algorithm
Walter Balzano, Erasmo Prosciutto, Biagio Scotto di Covella, Silvia Stranieri
3. A Prediction Approach in Health Domain Combining Encoding Strategies and Neural Networks
Leonard Barolli, Antonino Ferraro
4. An Intelligent Interface for Human-Computer Interaction in Legal Domain
Flora Amato, Leonard Barolli, Giovanni Cozzolino, Antonino Ferraro, Marco Giacalone
5. Towards AI-powered Cybersecurity Attack Modeling with Simulation Tools: Review of Attack Simulators
Aws Jaber, Lothar Fritsch

**Online Meeting Schedule for BWCCA-2022 and 3PGCIC-2022
27 October to 28 October, 2022**

1st day: Thursday, 27 October, 2022	Room #1 Meeting ID: 881 6853 2542		Room #2 Meeting ID: 815 3188 4582		Room #3 Meeting ID: 854 5725 6136	
	Session title	Session chair	Session title	Session chair	Session title	Session chair
Slot 1 15:00-16:00 (UTC+9) Japan Standard Time 08:00-09:00 (UTC+2) CEST Time Zone (Rome, Italy) 23:00-00:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	BWCCA-2022 and 3PGCIC-2022 Keynote #1: Prof. Masakatsu Nishigaki Meeting ID: 881 6853 2542					
Slot 2 16:30-18:00 (UTC+9) Japan Standard Time 09:30-11:00 (UTC+2) CEST Time Zone (Rome, Italy) 00:30-02:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	BWCCA-S1	Masakatsu Nishigaki, JP			3PGCIC-S1	Masaki Kohana, JP
Slot 3 18:30-20:00 (UTC+9) Japan Standard Time 11:30-13:00 (UTC+2) CEST Time Zone (Rome, Italy) 02:30-04:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	BWCCA-S2	Makoto Ikeda, JP	RVI3C-S1	Keita Matsuo, JP		
Slot 4 20:30-22:00 (UTC+9) Japan Standard Time 13:30-15:00 (UTC+2) CEST Time Zone (Rome, Italy) 04:30-06:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	BWCCA-S3	Antonio Esposito, IT	DEM-S1	Peter Hellinckx, Belgium	3PGCIC-S2	Dorian Mnarolli, AL
Slot 5 22:30-24:00 (UTC+9) Japan Standard Time 15:30-17:00 (UTC+2) CEST Time Zone (Rome, Italy) 06:30-08:00 (UTC-7) Pacific Daylight Time (Victoria, CA)					3PGCIC-S3	Shinji Sakamoto, JP
2nd day: Friday, 28 October, 2022	Room #1 Meeting ID: 881 6853 2542		Room #2 Meeting ID: 815 3188 4582		Room #3 Meeting ID: 854 5725 6136	
	Session title	Session chair	Session title	Session chair	Session title	Session chair
Slot 1 16:00-17:00 (UTC+9) Japan Standard Time 09:00-10:00 (UTC+2) CEST Time Zone (Rome, Italy) 00:00-01:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	BWCCA-2022 and 3PGCIC-2022 Keynote #2: Prof. Asoc. Pavel Krömer Meeting ID: 881 6853 2542					
Slot 2 17:30-19:00 (UTC+9) Japan Standard Time 10:30-12:00 (UTC+2) CEST Time Zone (Rome, Italy) 01:30-03:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	BWCCA-S4	Hyunhee Park, KR	MWVRTA-S1	Tomoyuki Ishida, JP	3PGCIC-S4	Elis Kulla, JP
Slot 3 19:30-21:00 (UTC+9) Japan Standard Time 12:30-14:00 (UTC+2) CEST Time Zone (Rome, Italy) 03:30-05:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	BWCCA-S5	Eyola Spaho, AL	MAPWC-S1	Hiroshi Maeda, JP	3PGCIC-S5	Leonard Barolli, JP
Slot 4 21:30-23:00 (UTC+9) Japan Standard Time 14:30-16:00 (UTC+2) CEST Time Zone (Rome, Italy) 05:30-07:00 (UTC-7) Pacific Daylight Time (Victoria, CA)			CWECS-S1	Fang-Yie Leu, Taiwan	CASDA-S1	Flora Amato, IT

Additional information

The session schedules indicated in the program are based on the UTC+9:00 time zone.