Program of

The 23rd Conference of Open Innovations Association FRUCT

Bologna, Italy
13-16 November 2018

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
ARCES

IEEE

IEEE ComSoc
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ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI INFORMATICA - SCIENZA E INGEGNERIA

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sensors

GAUDEAMUS IGITUR,
JUVENES DUM SUMUS!
POST JUCUNDAM JUVENTUTEM,
POST MOLESTAM SENECTUTEM
NOS HABEBIT HUMUS.

UBI SUNT, QUI ANTE NOS
IN MUNDO FUERE?
VADITE AD SUPEROS,
TRANSITE AD INFEROS,
UBI JAM FUERE.

VITA NOSTRA BREVIS EST,
BREVI FINIETUR,
VENIT MORS VELOCITER,
RAPIT NOS ATROCITER,
NEMINI PARCETUR.

VIVAT ACADEMIA,
VIVANT PROFESSORES!
VIVAT MEMBRUM QUODLIBET,
VIVANT MEMBRA QUAELIBET!
SEMPER SINT IN FLORE!

VIVANT OMNES VIRGINES
FACILES, FORMOSAE!
VIVANT ET MULIERES,
TENERAE, AMABILES,
BONAE, LABORIOSAE!

VIVAT ET RESPUBLICA,
ET QUI ILLAM REGIT!
VIVAT NOSTRA CIVITAS,
MAECENATUM CARITAS,
QUAE NOS HIC PROTEGIT

PEREAT TRISTITIA,
PEREANT DOLORES,
PEREAT DIABOLUS,
QUIVIS ANTIBURSCHIUS,
ATQUE IRRISORES!

Practical Information

The conference venue: Università di Bologna, Scuola di Ingegneria e Architettura

Address: viale del Risorgimento 2, 40136 Bologna, Italy. The main conference rooms "Aula Magna" and "Sala del Consiglio" are in the main building on 2nd floor. The meeting room "Frigerio" is in building Frigerio on ground floor.
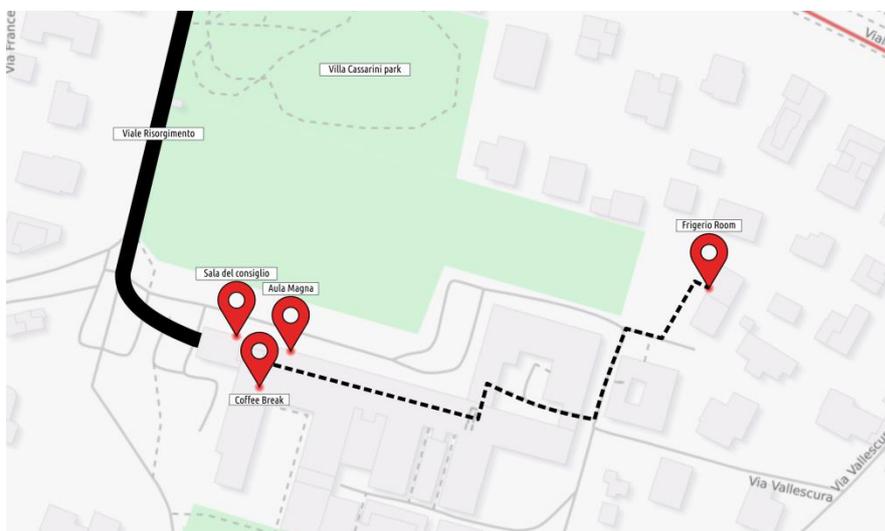
The conference demo/poster session and social event will be held in Sala del Consiglio (2nd floor).

The coffee breaks will be held in the lobby near the Aula Magna and Sala del Consiglio (2nd floor).

How to get the conference venue:

- **from Airport** – by bus BLQ till stop "Stazione Centrale" you get to Railway station.
- **from Railway station** – by bus D towards "Ravone" till stop "Porta Saragozza – Risorgimento". Cross the street and go uphill on viale del Risorgimento (5 min walk).
  Alternatively, by bus 33 till stop "Porta Saragozza – Villa Cassarini" then walk for 5 min across Villa Cassarini park and uphill on viale del Risorgimento.
- **from the city centre** – by bus 20 towards "Casalecchio", stop "Porta Saragozza – Risorgimento". Then cross the street and go uphill on viale del Risorgimento (5 min walk).
  Alternatively by bus D towards "Ravone", bus stop "Porta Saragozza – Risorgimento". Then cross the street and go uphill on viale del Risorgimento (5 min walk).

General Facts and Statistics for the 23rd FRUCT Conference:

Total submissions: **155**	Accepted Full Papers: **58**	Acceptance rate below: **37%**
Total authors: **321**	representing **27** countries	from **5** continents
Confirmed registrations: **121**	representing **22** countries	**75%** of participants from abroad

Organization Committee of the 23rd FRUCT Conference

Local Chairs: Tullio Salmon and Fabio Viola **Conference Secretaries:** Francesco Antoniazzi and Cristiano Aguzzi
FRUCT President: Sergey Balandin **Publishing team leader:** Tatiana Tyutina

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Pekka Jappinen (Digital Living International, Finland)
Alexey Kashevnik (SPIIRAS, Russia)
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Program of the 23rd FRUCT conference
November 13-16, 2018, Bologna, Italy

University of Bologna, Main building, viale del Risorgimento 2; Rooms: Aula Magna, Sala del Consiglio and Frigerio

DATE	TIME	PROGRAM	
13.11.18	10:00-18:00	**Internal meetings of FRUCT working groups** (by invitation only)	
14.11.18	10:30-12:00	**Conference Registration**, Lobby in front of Aula Magna	
	12:00-14:15	**Opening of the 23rd FRUCT conference**, Aula Magna **Keynote talk** by Cecilia Metra, President of IEEE Computer Society, Italy **Keynote talk** by Luca Turchet, Queen Mary University of London, UK	
	14:15-15:00	Lunch	
	15:00-16:15	e-Health and Wellbeing, Aula Magna	Workshop on Semantic Audio and the Internet of Things part I (ISAI18), Sala del Consiglio
	16:15-16:45	**Coffee break,** Lobby in front of Aula Magna	
	16:45-18:15	Big Data, Data Mining, Storage and Management, Aula Magna	Workshop on Semantic Audio and the Internet of Things part II (ISAI18), Sala del Consiglio
15.11.18	09:00-09:30	**Registration**, Lobby in front of Aula Magna	
	09:30-10:30	**Keynote talk** by Luca Roffia, University of Bologna, Italy, Aula Magna	
	10:30-10:45	**Coffee break,** Lobby in front of Aula Magna	
	10:45-12:00	Next Generation Networks and Emerging Wireless Technologies, Aula Magna	Workshop on Advances in IoT based Methods for Smart Water Distribution and Management in Agriculture (IMSA18), Frigerio
	12:00-13:00	Lunch	
	13:00-15:15	Knowledge and Data Managements, Smart Spaces and Semantic Web, Aula Magna	Computer Vision, Image and Video Processing, Sala del Consiglio
	15:15-15:45	**Coffee break,** Lobby in front of Aula Magna	
	15:45-16:45	Robotics and Automation Systems, Aula Magna	
	16:45-16:50	**Short break**	
	16:50-17:30	Pecha Kucha pitches of demos/posters, Aula Magna	
	17:30-19:30	**Demos/Posters Session and Social Event**, Aula Magna and Sala del Consiglio	
16.11.18	09:00-09:30	**Registration**, Lobby in front of Aula Magna	
	09:30-10:15	**Keynote talk** by Lorenzo Marconi, University of Bologna, Italy, Aula Magna	
	10:15-10:45	**Coffee break,** Lobby in front of Aula Magna	
	10:45-12:00	Natural Language Processing and Speech Technologies, Aula Magna	Seminar on Intelligence, Social Media and Web (ISMW23), Sala del Consiglio
	12:00-13:00	Lunch	
	13:00-14:00	Internet of Things and enabling technologies, Aula Magna	Workshop on Advances in Innovative Drone Enhanced Applications (IDEA18), Sala del Consiglio
	14:00-14:45	Software Design and Innovative Applications, Aula Magna	
	14:45-15:00	**Short break**	
	15:00-16:30	e-Tourism and Location Based Services, Aula Magna	
	16:30-16:45	**Official closing of the 23rd FRUCT conference**, Aula Magna	

Cecilia Metra is a full professor at University of Bologna and since 2018 is the President of IEEE Computer Society (CS). She is IEEE Fellow, member of the IEEE Computer Society Board of Governors, member of the IEEE Council on Electronic Design Automation, IEEE CS Golden Core Member, and a member of IEEE Honor Society IEEE-HKN. In 2002 she was visiting consultant in Intel.

Cecilia Metra is the Editor in Chief of the IEEE Transactions on Emerging Topics in Computing (2018-2020), was Editor in Chief of Computing Now (2013-2016) and Associate Editor in Chief of IEEE Transactions on Computers (2007-2012). Moreover, she is in editorial boards of several international journals and on the IEEE Institute Advisory Board. She has published extensively on design for test and reliability of integrated circuits and systems. Her research has received public and private funding (from Intel Corporation, STMicroelectronics, Alstom Transport, etc.) at national and international levels.

Her keynote talk on *Reliability Challenges for High Performance Electronic Systems in the Internet of Things Era* is scheduled for **Nov. 14 at 12.15-13.15**.

Luca Turchet is a Marie Curie Fellow at the Queen Mary University of London and a postdoctoral researcher at the Centre for Digital Music and co-founder of MIND Music Labs. His research interests span the fields of new interfaces for musical expression, human-computer interaction, perception, and virtual reality. He is also a musician and composer. He holds degrees with honors in Computer Sciences from University of Verona, Composition and Classical Guitar from Conservatory of Music of Verona, and Electroacoustic Music from the Royal College of Music of Stockholm. He received the Ph.D. in Sonic Interaction Design at the Media Technology Department of the Aalborg University Copenhagen. He is author and co-author of 65 papers and has been awarded of research grants from the Italian Minister of Foreign Affairs, the Danish Research Council, and the European Commission.

His keynote talk on *Towards the Internet of Musical Things* is scheduled for **Nov. 14 at 13.15-14.15**.

Luca Roffia holds PhD in Computer Science Engineering from University of Bologna and is a Research Fellow and Adjunct Professor of the Department of Computer Science and Engineering. He has been running BSc and MSc courses on *Computer Architecture* and *Information Technology and Arts Organizations*. His main research interest is in investigating interoperable solutions within the Linked Data and Web of Things domains. He was involved in several EU projects around cultural heritage, embedded systems, cyber-physical systems and smart systems. He is the principal investigator of SEPA (SPARQL Event Processing Architecture) and also active on the technology transfer in vertical domains like smart cities, cultural heritage and agriculture. His keynote talk on *Dynamic Linked Data: The Future is Now* is scheduled for **Nov. 15 at 9.30-10.30**.

Lorenzo Marconi holds PhD from University of Bologna and currently is a Full Professor at the Department of Electronics, Computer Science and Systems. He is coauthor of over 250 technical publications on linear and nonlinear feedback design. His current research interests include nonlinear control, output regulation and control of autonomous vehicles. He is the recipient of the Outstanding Application Paper Award in 2005 from the International Federation of Automatic Control (IFAC) for a coauthored paper published on Automatica in the 2014 IEEE Control Systems Magazine, and recipient of the O. Hugo Schuck Best Paper Award 2018 assigned by the American Automatic Control Council. He is the IEEE Fellow for "contributions to feedback design of nonlinear systems and unmanned aerial vehicles". His keynote talk on *Drones outside the lab: the SHERPA and AIRBorne experience* is scheduled for **Nov. 16 at 9.30-10.15**.

Program of the 23rd FRUCT conference
November 13-16, 2018, Bologna, Italy

November 14 (Wednesday)
University of Bologna, Main building, viale del Risorgimento 2; Rooms: Aula Magna and Sala del Consiglio

10:30	1.5h	**23rd FRUCT Conference Registration**, Lobby in front of Aula Magna

Session: Official opening of the 23rd FRUCT conference
Room: Aula Magna   Chairman: Sergey Balandin

12:00	10m	Official opening of the 23rd FRUCT conference
12:10	1h	**Keynote talk:** Reliability Challenges for High Performance Electronic Systems in the Internet of Things Era, by Cecilia Metra, President of IEEE Computer Society, University of Bologna, Italy
13:10	1h	**Keynote talk:** Towards the Internet of Musical Things, by Luca Turchet, Queen Mary University of London, UK
14:10	5m	**Welcome words from University of Bologna**, by Mirko degli Esposti, Deputy Rector of University of Bologna, Italy
14:15	45m	**Lunch**, Lobby in front of Aula Magna

Session: e-Health and Wellbeing	**Workshop** on Semantic Audio and the IoT I (ISAI18)
Room: Aula Magna Chairman: Michal Kvet	**Room:** Sala del Consiglio Chairman: György Fazekas

15:00	15m	The Role of Impedance Matching for Depth Adjustment of Inductive Charger for Medical Implants, by Oleg Gorskii, SUAI University and Saint-Petersburg State University, Russia	Internet of Musical Things (IoMusT): Semantic Audio and IoT Applied to Music, by Mathieu Barthet, Queen Mary University of London, UK
15:15	15m	Performance Enhancement of Optimized Link State Routing Protocol for Healthcare Applications in Wireless Body Area Networks, by V. Chetan Kumar, PES College of Engineering, S.P. Shiva Prakash, JSS Science and Technology University, and Sergey Balandin, FRUCT, Finland	
15:30	15m	Smartphone Base Personal Health Monitoring In Inaccessible Areas, by Maxim Yatskovskiy, FRUCT MD LLC, Russia	
15:45	15m	Multilinear Regression Analysis of Sweat Secretion Volumes in Cystic fibrosis Patients, by Paola Lecca, University of Trento , Marina Bertini, Roberta Vicentini, Emily Pintani, D'Orazio Ciro and Paola Melotti, Azienda Ospedaliera Universitaria Integrata, and Valeria Esposito, Karina Kleinfelder and Claudio Sorio, University of Verona, Italy	Investigating Networked Music Performances in Pedagogical Scenarios for the InterMUSIC Project, by Michele Buccoli, Luca Comanducci, Massimiliano Zanoni and Augusto Sarti, Politecnico di Milano, and Stefano Delle Monache, Iuav University of Venice, and Giovanni Cospito, Enrico Pietrocola and Filippo Berbenni, Conservatorio di Milano, Italy
16:00	15m	Implantable Biotelemetry System with Extended Functional Capabilities, by Alexey Rabin, Vyacheslav Kilimnik and Maria Merkova, SUAI University, Russia	A Classification Scheme Based on Directed Acyclic Graphs for Acoustic Farm Monitoring, by Stavros Ntalampiras, University of Milan, Italy
16:15	30m	**Coffee break**, Lobby in front of Aula Magna	

Session: Big Data, Data Mining, Storage and Management	**Workshop** on Semantic Audio and the IoT II (ISAI18)
Room: Aula Magna Chairman: S.P. Shiva Prakash	**Room:** Sala del Consiglio Chairman: György Fazekas

16:45	15m	Forecasting of the Urban Area State Using Convolutional Neural Networks, by Ksenia Mukhina, Alexander Visheratin, Gali-Ketema Mbogo and Denis Nasonov, ITMO University, Russia	Towards a Semantic Architecture for the Internet of Musical Things, by Luca Turchet, György Fazekas and Mathieu Barthet, Queen Mary University of London, UK, and Fabio Viola, University of Bologna, Italy

17:00	15m	Improving Content Based Video Retrieval Performance by Using Hadoop-MapReduce Model, by Elmehdi Saoudi, Abderrahmane Adoui El Ouadrhiri, Othman Elwarrak, Said Jai Andaloussi and Abderrahim Sekkaki, Hassan II University, Morocco	C Minor: a Semantic Publish/Subscribe Broker for the Internet of Musical Things, by Fabio Viola and Francesco Antoniazzi, University of Bologna, Italy, and Luca Turchet and György Fazekas, Queen Mary University of London, UK
17:15	15m	Temporal Extension of the Select Statement, by Michal Kvet and Karol Matiasko, University of Žilina, Slovakia	Jamming with a Smart Mandolin and Freesound-based Accompaniment, by Luca Turchet and Mathieu Barthet, Queen Mary University of London, UK
17:30	15m	Decision Support Service Based on Dynamic Resource Network Configuration in Human-Computer Cloud, by Alexander Smirnov, Maxim Shchekotov, Nikolay Shilov and Andrew Ponomarev, SPIIRAS, Russia	Predicting the Perceived Level of Reverberation using Features from Nonlinear Auditory Model, by Saeid Safavi, Wenwu Wang and Mark Plumbly, University of Surrey, UK, and Ali Janalizadeh Choobbasti, Amirkabir University of Technology, Iran
17:45	15m	Deep Clustering with Constant Q Transform for Multi-Talker Single Channel Speech Separation, by Ziqiang Shi, Huibin Lin, Liu Liu, Rujie Liu, and Jiqing Han, Fujitsu R&D Center, China, and Shoji Hayakawa, Fujitsu Laboratories Ltd., Japan	Facilitating the Manual Annotation of Sounds when using Large Taxonomies, by Xavier Favory, Eduardo Fonseca, Frederic Font and Xavier Serra, Universitat Pompeu Fabra, Spain
18:00	15m	Emotion Recognition System using IoT and Machine Learning - A Healthcare Application, by Purnendu Shekhar Pandey and Guneet Kaur, BML Munjal University, India	Characterizing and Classifying Music Subgenres, by Adam Lefaivre and John Zhong Zhang, University of Lethbridge, Canada
18:15		**Closing of Day**	

November 15 (Thursday)
University of Bologna, Main building, viale del Risorgimento 2; Rooms: Aula Magna, Sala del Consiglio and Frigerio

09:00	30m	**Conference registration**, Lobby in front of Aula Magna		
09:30	1h	**Keynote talk:** Dynamic Linked Data: The Future is Now, by Luca Roffia, University of Bologna, Italy, room Aula Magna		
10:30	15m	**Coffee break**, Lobby in front of Aula Magna		

Session: Next Generation Networks and Emerging Wireless Technologies **Room:** Aula Magna Chairman: Vladimir Deart		**Workshop** on Advances in IoT based Methods for Smart Water Distribution and Management in Agriculture **Room:** Frigerio Chairman: Luca Roffia	
10:45	15m	Usage Monitoring Control in Radio Access Network, by Evelina Pencheva and Ivaylo Atanasov, Technical University of Sofia, Bulgaria	Addressing to IMSA workshop participants and open talk, by Juha-Pekka Soininen, VTT, Finland
11:00	15m	Analysis of a Generalized Retrial System with Coupled Orbits, by Taisia Morozova, Petrozavodsk State University and Evsey Morozov, Institute of Applied Mathematical Research, Russia	Comparison on Scorecard and Dashboard in Smart Water Monitoring Application, by Abdul Fuad, CyberSecurity, Malaysia
11:15	15m	Mesh Networking in Cyber-Physical Production Systems: Towards Modular Industrial Equipment Integration, by Maxim Afanasev, Anastasiya Krylova, Sergey Shorokhov, Yuri Fedosov and Kseniia Zimenko, ITMO University, Russia	Soil water balance model CRITERIA-1D in SWAMP Project: Proof of Concept, by Giulia Villani, Paolo Castaldi, Attilio Toscano, Camilla Stanghellini and Tullio Salmon Cinotti, University of Bologna, Fausto Tomei, Arpae, Italy, Rodrigo Filev Maia, University Center of FEI, Brazil, Markus Taumberger, VTT, Finland, Paola Zanetti and Stefano Panizzi, Consorzio di Bonifica dell'Emilia Centrale, Italy

11:30	15m	Time to Rethink the Power of Packet Switching, by Manfred Sneps-Sneppe, Ventspils University College, Latvia and Dmitry Namiot, Moscow State University, Russia	Scalability of an Internet of Things Platform for Smart Water Management for Agriculture, by Ivan Zyrianoff, Alexandre Heideker, Dener Silva and Carlos Kamienski, Federal University of ABC, Brazil
11:45	15m	The Method of Modelling Wireless Network Using Telematics Maps, by Serge Popov, Maxim Sharagin, Vadim Glazunov and Vladimir Zaborovsky, Saint Petersburg Polytechnic University, Russia	Control Methods in Automated Gravity Irrigation Systems: a review, by Cristiana Bragalli, Lorenzo Zingali, Alessio Domeneghetti and Armando Brath, University of Bologna, Italy
12:00	1h	**Lunch**	

Session: Knowledge and Data Managements, Smart Spaces and Semantic Web   Chairman: Alexander Smirnov
Room: Aula Magna

Session: Computer Vision, Image and Video Processing   Chairman: Vladimir Khryashchev
Room: Sala del Consiglio

13:00	15m	Positive Computing as Paradigm to Overcome Barriers to Global Co-authoring of Open Educational Resources, by Irawan Nurhas, Thomas de Fries, Stefan Geisler and Jan Pawlowski, Ruhr West University of Applied Sciences, Germany	On Block Representations in Image Processing Problems, by Elena Yakovleva and Anton Makarov, St.Petersburg State University, Valery Gorbachev and Elena Kaynarova, High School of Print and Media of St.Petersburg State University of Industrial Technology and Design, Russia
13:15	15m	RDF Graph Visualization Tools: a Survey, by Francesco Antoniazzi and Fabio Viola, University of Bologna, Italy	Infiniviz: Taking Quake 3 Arena on a Large-Scale Display System to the Next Level, by Rudolfs Bundulis and Guntis Arnicans, University of Latvia
13:30	15m	A General Semantic Web Approach for Data Analysis on Graduates Statistics, by Antonella Carbonaro, University of Bologna and Luca Santandrea, Consorzio Interuniversitario AlmaLaurea, Italy	Area-Efficient FPGA Implementation of Minimalistic Convolutional Neural Network Using Residue Number System, by Nikolay Chervyakov, Pavel Lyakhov, Maria Valueva and Georgii Valuev, North-Caucasus Federal University, Dmitrii Kaplun, George Efimenko and Denis Gnezdilov, Saint Petersburg Electrotechnical University "LETI", Russia
13:45	15m	Expert Group Formation for Task Performing: Competence-Based Method and Implementation, by Mikhail Petrov and Alexey Kashevnik, SPIIRAS, Russia	Comparing the Finite-Difference Schemes in the Simulation of Shunted Josephson Junctions, by Valerii Ostrovskii, Artur Karimov, Vyacheslav Rybin, Ekaterina Kopets and Denis Butusov, Saint Petersburg Electrotechnical University "LETI", Russia
14:00	15m	Smartphone-Oriented Development of Video Data Based Services, by Nikita Bazhenov and Dmitry Korzun, Petrozavodsk State University, Russia and Sergey Balandin, FRUCT, Finland	Analysis of CT Perfusion Blood Flow Maps in Patients with Lung Cancer: Correlation with the Overall Survival, by Serena Baiocco and Alessandro Bevilacqua, University of Bologna, Domenico Barone and Giampaolo Gavelli, IRCCS – IRST, Italy
14:15	15m	Design of Specialized Storage for Heterogeneous Project Data, by Olga Kalyonova, Nurbek Akparaliev and Ivan Perl, ITMO University, Russia	The Construction of an Individualized Spinal 3D Model Based on the X-ray Recognition, by Irina Grigorieva and Natalya Vyunnik, Kemerovo State University, and Gleb Kolpinsky, Kemerovo State Medical University, Russia
14:30	15m	Methodological Framework for the Information Systems Design Based on the Knowledge Forms Origin Means, by Yury Rogozov, Alexander Sviridov, Aleksandr Belikov, Oksana Shevchenko, Elena Borisova and Svetlana Belikova, Southern Federal University, Russia	Image Processing Algorithm for Virtual Chromoendoscopy (Tone Enhancement) in Clinical Decision Support System, by Nataliia Obukhova, Alexandr Motyko and Alexandr Pozdeev, Saint Petersburg Electrotechnical University "LETI", and Armine Hachaturyan, Saint Petersburg State University, Russia

14:45	15m	Analysis of Influence Produced by Code Changing, by Maxim Kuzmin, PROTEI, Vitaly Pelin, Ilya Isaev and Ivan Perl, ITMO University, Russia	Comparison of Different Convolutional Neural Network Architectures for Satellite Image Segmentation, by Vladimir Khryashchev, Vladimir Pavlov and Leonid Ivanovsky, Yaroslavl State University , Anna Ostrovskaya, RUDN university, and Anton Rubtsov, Russian Space Systems, Russia
15:00	15m	Automated Modelization of Dynamic Systems, by Ivan Perl and Alexander Penskoy, ITMO University, Russia	The LIDAR Odometry in the SLAM, by Vasiliy Kirnos, Vera Kokovkina, Vladimir Antipov and Andrey Priorov, Yaroslavl State University, Russia
15:15	30m	**Coffee break**, Lobby in front of Aula Magna	

Session: Robotics and Automation Systems   Chairman: Alexey Kashevnik
Room: Aula Magna

15:45	15m	Motion Profile Control Algorithm and Corner Smoothing Technique for Trajectory Optimization of High-Precision Processing, by Maxim Afanasev, Anastasiya Krylova, Sergey Shorokhov, Yuri Fedosov and Kseniia Zimenko, ITMO University, Russia
16:00	15m	Concept Development of Biomimetic Centipede Robot StriRus, by Oleg Bulichev and Alexandr Klimchik, Innopolis University, Russia
16:15	15m	Variable Actuation Modes in Parallel Manipulators: Impact on the Stiffness Behavior, by Alexandr Klimchik, Innopolis University, Anatol Pashkevich, Ecole des Mines de Nantes, and Damien Chablat, LS2N, France
16:30	15m	Advancement of Robots With Double Encoders for Industrial and collaborative applications, by Stanislav Mikhel, Dmitry Popov, Shamil Mamedov and Alexandr Klimchik, Innopolis University, Russia
16:45	5m	**Short Break**

Session: Pecha Kucha Pitches of Demos and Posters   Chairman: Ilya Paramonov
Room: Aula Magna

16:50	40m	Pecha Kucha pitch presentations of the demos/posters (2min/pitch, the list of demos/posters is provided at **page 16**)

Session: Conference social event combined with Demo and Poster session   Chairman: Ilya Paramonov
Room: Aula Magna and Sala del Consiglio

17:30	2h	**Demo & Poster Session combined with Social Event** **Select a winner of the FRUCT23 Best Demo/Poster Award, sponsored by Future Internet journal**
19:30		**Closing of Day**

November 16 (Friday)
University of Bologna, Main building, viale del Risorgimento 2; Rooms: Aula Magna and Sala del Consiglio

09:00	30m	**Conference Registration,** Lobby in front of Aula Magna	
09:30	45m	**Keynote talk:** Drones outside the lab: the SHERPA and AIRBorne experience, by Lorenzo Marconi, University of Bologna, Italy **Room:** Aula Magna	
10:15	30m	**Coffee break**, Lobby in front of Aula Magna	

Session: Natural Language Processing and Speech Technologies		**Seminar** on Intelligence, Social Media and Web	
Room: Aula Magna Chairman: Alexey Kashevnik		**Sala del Consiglio** Chairman: Svetlana Popova	
10:45	15m	Unsupervised Cross-Lingual Matching of Product Classifications, by Denis Gordeev, Alexey Rey and Dmitry Shagarov, Russian Presidential Academy of National Economy and Public Administration, Russia	Incremental Community Detection in Social Networks Using Label Propagation Method, by Mohammad Asadi and Foad Ghaderi, Tarbiat Modares University, Iran
11:00	15m	Design Philosophy for Optimizing Genetic Algorithms through Embedded Intelligence, by Lorick Jain, Akash Basabhat and Srikanth Hr, PES University, India	Estimation of Operational Properties of Information Technology Usage and Dynamic Capabilities Indicators, by Alexander Geida, SPIIRAS, Russia

11:15	15m	Texts Segmentation and Semantic Comparison: Method and Results of its Application, by Yury Rogozov, José Gregorio Bermúdez Soto, Alexandr Sviridov, Yulia Lipko, Svetlana Belikova, Aleksandr Belikov, Sergei Kucherov, Oksana Shevchenko, Elena Borisova and Aleksandr Egorov, Southern Federal University, Russia	Assessing the Level of Stability of Idiolectal Features across Modes, Topics and Time of Text Production, by Tatiana Litvinova and Olga Litvinova, Voronezh State Pedagogical University, and Pavel Seredin, Voronezh State University, Russia
11:30	15m	Sentiment Classification of Russian Texts Using Automatically Generated Thesaurus, by Ksenia Lagutina, Vladislav Larionov, Vladislav Petryakov, Nadezhda Lagutina and Ilya Paramonov, Yaroslavl State University, Russia	RICH-CPL: Never Ending Language Learning for Morphologically Rich Language, by Sergey Budkov, Kseniya Buraya, Andrey Filchenkov, Ivan Smetannikov and Antonina Puchkovskaia, ITMO University, Russia
11:45	15m	Pragmatic Markers in Russian Spoken Speech: an Experience of Systematization and Annotation for the Improvement of NLP Tasks, by Natalia Bogdanova-Beglarian, Tatiana Sherstinova, Olga Blinova, Kristina Zaides and Gregory Martynenko, Saint Petersburg State University, Russia	Car Forums: a new Russian Language Dataset Annotated with Keyphrases, by Svetlana Popova, Saint Petersburg State University and Gabriella Skitalinskaya, Institute of Technology Tallaght, Ireland
12:00	1h	Lunch	

Session: Internet of Things and enabling technologies **Room:** Aula Magna Chairman: Fabio Viola		**Workshop** on Advances in Innovative Drone Enhanced Applications (IDEA18) **Room:** Sala del Consiglio Chairman: Vadim Kramar	
13:00	15m	On the Data Freshness for IoT Traffic Modelling in Real-Time Emergency Observation Systems, by Kemal Çağrı Serdaroğlu and Sebnem Baydere, Yeditepe University, Turkey	Smart Living - Personal Drones and Service Drones, Vadim Kramar , Oulu University of Applied Sciences, Finland
13:15	15m	Production of Surface Acoustic Wave Resonator using Laser Ablation Method and its Finite Element Modeling, by Alexander Kukaev, Daniil Safronov and Vladislav Sheroshenko, St. Petersburg Electrotechnical University "LETI", Russia	Simulation-based Assessment of Quality of Service in UAV-assisted mmWave System in Crowded Area, by Danil Vasiliev, Albert Abilov and Irina Kaysina, Izhevsk State Technical University, and Daniil Meitis, CJSC NPO Telecom, Russia
13:30	15m	IoT Based Smart Staff Allocator in Quick Service Restaurants, by Kerem Aytaç and Ömer Korçak, Marmara University, Turkey	Semi-Automatic Self-Calibrating Indoor Localization Using BLE Beacon Multilateration, by Maksim Shchekotov and Nikolay Shilov, SPIIRAS, Russia
13:45	15m	From Heterogeneous Sensor Networks to Integrated Software Services: Design and Implementation of a Semantic Architecture for the Internet of Things at ARCES@UNIBO, by Cristiano Aguzzi, Francesco Antoniazzi, Luciano Bononi, Francesco Brasini, Alfredo D'Elia, Angelo De Lisa, Marco Di Felice, Eleonora Franchi, Luca Perilli, Luca Roffia, Luca Sciullo, Martina Verardi and Tullio Salmon Cinotti, University of Bologna, Paolo Azzoni and Roberto Siagri, Eurotech S.p.a., Roberto Canegallo, STMicroelectronics, Italy	Examples of Real-Time UAV Data Processing with Cloud Computing, by Peter Šuľaj, Renát Haluška, Ľuboš Ovseník and Stanislav Marchevský, Technical University of Košice, Slovakia, and Vadim Kramar, Oulu University of Applied Sciences, Finland
Session: Software Design and Innovative Applications **Room:** Aula Magna Chairman: Fabio Viola		A Study of Business Models of Drone Start-ups of Idea Platform (Case Study of Drone Related Ideas from IDEAMARU), by In Kyoung Cho and Hyeok Mi Kwon, Korea Institute of Science and Technology Information, South Korea	
14:00	15m	Approach to Rapid Software Design of Mobile Applications, by Vyacheslav Chernikov, Voronezh State Technical University, Russia	

14:15	15m	An Ontology-Based Context Model for Managing Security Knowledge in Software Development, by Shao-Fang Wen and Basel Katt, Norwegian University of Science and Technology, Norway	UAV Arctic Challenges and the First Step: Printed Temperature Sensor, by Vadim Kramar and Harri Määttä, Oulu University of Applied Sciences, Finland
14:30	15m	An Analysis of Android Web App Manifest, by Yahya Tashtoush, Ashraf Alsmadi, Amnah Al-Abdi, Noor Ababneh and Omar Almousa, Jordan University of Science and Technology, Jordan	VOSYSmonitor, a TrustZone-based hypervisor for ISO 26262 mixed-criticality system, by Pierre Lucas, Kevin Chappuis, Benjamin Boutin, Julian Vetter and Daniel Raho, Virtual Open Systems, France
14:45	15m	Short break	

Session: e-Tourism and Location Based Services
Room: Aula Magna   Chairman: Tullio Salmon Cinotti

15:00	15m	Building City-Scale Walking Itineraries Using Large Geospatial Datasets, by Ksenia Mukhina, Alexander Visheratin and Denis Nasonov, ITMO University, Russia
15:15	15m	An Ontology for Service Semantic Interoperability in the Smartphone-Based Tourist Trip Planning System, by Sergei Mikhailov and Alexey Kashevnik, SPIIRAS, Russia
15:30	15m	On-Board Dynamic Tour Support System: The Concept and Technological Infrastructure, by Nikolay Shilov, Alexander Smirnov and Mikhail Petrov SPIIRAS, and Vladimir Parfenov, ITMO University, Russia
15:45	15m	Decision Support System for Drivers & Passengers: Smartphone-Based Reference Model and Evaluation, by Alexey Kashevnik and Igor Lashkov, SPIIRAS, Russia
16:00	15m	Formalization and Automated Detection of Tourist City Center Location, by Ruslan Akhundov and Andrey Filchenkov, ITMO University, and Vladimir Gorovoy, Yandex, Russia
16:15	15m	Sensitive Element of Micro-accelerometer on Surface Acoustic Waves for Measurement of Super-high Accelerations, by Mariya Khivrich, Sergei Shevchenko and Alexander Kukaev, St. Petersburg State Electrotechnical University "LETI", Russia
16:30	15m	Official closing of the 23rd FRUCT conference, Aula Magna

Thank you and looking forward to see you at the 24th FRUCT in Moscow, Russia on April 8-12, 2019!

Authors of the selected FRUCT conference papers will be invited to publish extended version of the paper in the partner journals. If you are interested in this opportunity please express it clearly to the chair of your session. The list of partner journals is as follows:

Authors of the best papers of FRUCT conference can get invitation to publish extended version of the paper in the Future Internet journal (ISSN 1999-5903, Scopus indexing, etc.) with **20% discount**.
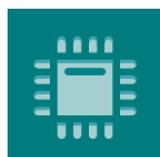
Authors of the best papers of FRUCT conference can get invitation to **FREE of charge** publish extended version of the paper in the International Journal of Embedded and Real-Time Communication Systems (IJERTCS) (ISSN 1947-3176, Scopus indexing, etc.).

Authors of the best papers of FRUCT conference can get invitation to publish extended version of the paper in the Sensors Journal (impact factor 2.677, Scopus indexing, etc.) with **15% discount**.

The International Workshop on Semantic Audio and the Internet of Things (ISAI 2018)

Time: 14 November 2018, 13:10 – 18:15
Workshop Chair: György Fazekas

Place: University of Bologna, Main building
Viale del Risorgimento 2, room: Sala del Consiglio

Semantic Audio is a research area devoted to the application of Semantic Web technologies to music and audio in general. The extraction of meaningful information through audio analysis yields metadata that different application areas may take advantage of. Music information retrieval, environmental sound recognition and event detection, audio production, gaming and intelligent live performance tools such as smart instruments are a few examples among numerous applications in this domain. A wider research area, with a stronger link with Semantic Audio is the Internet of Things. The latter may exploit Semantic Audio methodologies to process audio signals produced by sensors, the main building blocks of IoT applications, for instance, in environments such as smart buildings or smart cities. Vice versa, Semantic Audio may benefit from IoT and its native propensity to interoperability, as in the case of the Internet of Musical Things (IoMuT), to explore new ways of producing and accessing musical content, or new ways of using audio for sensing and control in smart environments.

Program

November 14 (Wednesday)
University of Bologna, Main building, viale del Risorgimento 2; Rooms: Aula Magna and Sala del Consiglio

13:10	1h	**Keynote talk:** Towards the Internet of Musical Things, by Luca Turchet, Queen Mary University of London, UK **Room:** Aula Magna
14:15	45m	**Light Buffet Lunch**, Lobby in front of Aula Magna

Session: Workshop on Semantic Audio and the IoT part I (ISAI18)
Room: Sala del Consiglio   Chairman: György Fazekas

15:00	45m	Internet of Musical Things (IoMusT): Semantic Audio and IoT Applied to Music, by Mathieu Barthet, Queen Mary University of London, UK
15:45	15m	Investigating Networked Music Performances in Pedagogical Scenarios for the InterMUSIC Project, by Michele Buccoli, Luca Comanducci, Massimiliano Zanoni and Augusto Sarti, Politecnico di Milano, and Stefano Delle Monache, Iuav University of Venice, and Giovanni Cospito, Enrico Pietrocola and Filippo Berbenni, Conservatorio di Milano, Italy
16:00	15m	A Classification Scheme Based on Directed Acyclic Graphs for Acoustic Farm Monitoring, by Stavros Ntalampiras, University of Milan, Italy
16:15	30m	**Coffee break**, Lobby in front of Aula Magna

Session: Workshop on Semantic Audio and the IoT part II (ISAI18)
Room: Sala del Consiglio   Chairman: György Fazekas

16:45	15m	Towards a Semantic Architecture for the Internet of Musical Things, by Luca Turchet, György Fazekas and Mathieu Barthet, Queen Mary University of London, UK, and Fabio Viola, University of Bologna, Italy
17:00	15m	C Minor: a Semantic Publish/Subscribe Broker for the Internet of Musical Things, by Fabio Viola and Francesco Antoniazzi, University of Bologna, Italy, and Luca Turchet and György Fazekas, Queen Mary University of London, UK
17:15	15m	Jamming with a Smart Mandolin and Freesound-based Accompaniment, by Luca Turchet and Mathieu Barthet, Queen Mary University of London, UK
17:30	15m	Predicting the Perceived Level of Reverberation using Features from Nonlinear Auditory Model, by Saeid Safavi, Wenwu Wang and Mark Plumbly, University of Surrey, UK, and Ali Janalizadeh Choobbasti, Amirkabir University of Technology, Iran
17:45	15m	Facilitating the Manual Annotation of Sounds when using Large Taxonomies, by Xavier Favory, Eduardo Fonseca, Frederic Font and Xavier Serra, Universitat Pompeu Fabra, Spain
18:00	15m	Characterizing and Classifying Music Subgenres, by Adam Lefaivre and John Zhong Zhang, University of Lethbridge, Canada
18:15	15m	**Closing of ISAI 2018 workshop**

Workshop on Advances in IoT based methods for Smart Water Distribution and Management in Agriculture (IMSA 2018)

Time: 15 November 2018, 10:45 – 12:00
Workshop Chair: Luca Roffia

Place: University of Bologna, Main building
Viale del Risorgimento 2, room: Frigerio

Water is vital for ensuring food security to the world's population, and agriculture is the biggest consumer. In order to address IoT based methods and approaches for smart water management in irrigation, EU and Brazil are funding SWAMP (Smart Water Management Platform), a research and innovation project of the Horizon 2020 Framework with pilots in Italy, Spain and Brazil. SWAMP partners organize this Workshop with the aim of bringing together people interested to discuss and enlighten the challenges, the opportunities and the long term ambitions of agriculture digitalization. IMSA18 is addressed to researchers and stakeholders of this multidisciplinary domain.

The topics of interest include the following subject areas:

- Platforms, tools and apps in smart agriculture
- Flying and ground sensors&actuators in smart agriculture
- Drones based monitoring and control in agriculture
- IoT based solutions for precision irrigation
- IoT based solutions for water distribution in agriculture
- Big-data based learning in agriculture
- Smart agriculture and climate change
- Business models for IoT in agriculture
- Challenges, opportunities and threads in smart agriculture

Program

November 15 (Thursday)
University of Bologna, Main building, viale del Risorgimento 2; Room: Frigerio

10:30	15m	**Coffee break**, Lobby in front of Aula Magna
Session: Workshop on Advances in IoT based Methods for Smart Water Distribution and Management in Agriculture		
Room: Frigerio		Chairman: Luca Roffia
10:45	15m	Addressing to IMSA workshop participants and open talk, by Juha-Pekka Soininen, VTT, Finland
11:00	15m	Comparison on Scorecard and Dashboard in Smart Water Monitoring Application, by Abdul Fuad, CyberSecurity, Malaysia
11:15	15m	Soil water balance model CRITERIA-1D in SWAMP Project: Proof of Concept, by Giulia Villani, Paolo Castaldi, Attilio Toscano, Camilla Stanghellini and Tullio Salmon Cinotti, University of Bologna, Fausto Tomei, Arpae, Italy, Rodrigo Filev Maia, University Center of FEI, Brazil, Markus Taumberger, VTT, Finland, Paola Zanetti and Stefano Panizzi, Consorzio di Bonifica dell'Emilia Centrale, Italy
11:30	15m	Scalability of an Internet of Things Platform for Smart Water Management for Agriculture, by Ivan Zyrianoff, Alexandre Heideker, Dener Silva and Carlos Kamienski, Federal University of ABC, Brazil
11:45	15m	Control Methods in Automated Gravity Irrigation Systems: a review, by Cristiana Bragalli, Lorenzo Zingali, Alessio Domeneghetti and Armando Brath, University of Bologna, Italy
12:00	1h	**Closing of IMSA 2018 workshop and Lunch**

The International Workshop on advances in Innovative Drone Enhanced Applications (IDEA 2018)

Time: 16 November 2018, 13:15 – 15:00   Place: University of Bologna, Main building
Workshop Chairs: Vadim Kramar, Lorenzo Marconi   Viale del Risorgimento 2, room: Sala del Consiglio

Drones are starting to be part of our daily lives, becoming vital for ensuring services in different fields such as precision farming, security, aerial inspection, media and explorations. Opportunities offered by drones, as leverage for jobs and new business, are based on recent technological developments acting as a catalyst for innovative applications with great economic potential. The Arctic Drone Labs (Finland), Oulu University of Applied Sciences (Finland) and University of Bologna (Italy) organize this Workshop with the aim of bringing together people interested to discuss and enlighten the challenges, the opportunities and the long term ambitions of innovative drone applications and technologies. IDEA18 is addressed to researchers, stakeholders and enterprises active in this domain. The topics of interest include the following subject areas:

- o Drones and IoT convergence, embedding flying sensors and actuators in IoT infrastructures
- o Simulation platforms for drone applications
- o Aerial Multispectral Photography
- o Drone based monitoring in search, rescue and disaster management support
- o Drone based environmental and infrastructure monitoring
- o Drones in deep-learning loops and drones in systems of systems loops
- o Formation flying applications
- o Beyond line of sight drone operations
- o Business models for drone start-ups
- o Drones and pilots regulations trends
- o Challenges, opportunities and threads in drone platforms, tools and apps

Program

November 16 (Friday)
University of Bologna, Main building, viale del Risorgimento 2; Rooms: Aula Magna and Sala del Consiglio

09:30	45m	**Keynote talk:** Drones outside the lab: the SHERPA and AIRBorne experience, by Lorenzo Marconi, University of Bologna, Italy **Room:** Aula Magna
12:00	1h	**Lunch**
		Session: Workshop on Advances in Innovative Drone Enhanced Applications (IDEA18) **Room:** Sala del Consiglio Chairman: Vadim Kramar
13:00	15m	Smart Living - Personal Drones and Service Drones, Vadim Kramar , Oulu University of Applied Sciences, Finland
13:15	15m	Simulation-based Assessment of Quality of Service in UAV-assisted mmWave System in Crowded Area, by Danil Vasiliev, Albert Abilov and Irina Kaysina, Izhevsk State Technical University, and Daniil Meitis, CJSC NPO Telecom, Russia
13:30	15m	Semi-Automatic Self-Calibrating Indoor Localization Using BLE Beacon Multilateration, by Maksim Shchekotov and Nikolay Shilov, SPIIRAS, Russia
13:45	15m	Examples of Real-Time UAV Data Processing with Cloud Computing, by Peter Šuľaj, Renát Haluška, Ľuboš Ovseník and Stanislav Marchevský, Technical University of Košice, Slovakia, and Vadim Kramar, Oulu University of Applied Sciences, Finland
14:00	15m	A Study of Business Models of Drone Start-ups of Idea Platform (Case Study of Drone Related Ideas from IDEAMARU), by In Kyoung Cho and Hyeok Mi Kwon, Korea Institute of Science and Technology Information, South Korea
14:15	15m	UAV Arctic Challenges and the First Step: Printed Temperature Sensor, by Vadim Kramar and Harri Määttä, Oulu University of Applied Sciences, Finland
14:30	15m	VOSYSmonitor, a TrustZone-based hypervisor for ISO 26262 mixed-criticality system, by Pierre Lucas, Kevin Chappuis, Benjamin Boutin, Julian Vetter and Daniel Raho, Virtual Open Systems, France
14:45	15m	**Closing of IDEA 2018 workshop**

Demos/Posters Session of the 23rd FRUCT Conference

Time: 15 November 2018, 16:50 – 19:30   Place: University of Bologna, Main building
Demos/Posters Session Chair: Ilya Paramonov   Viale del Risorgimento 2, room: Aula Magna

The Demo section of the 23rd FRUCT conference will be combined with the conference social event. This time the Demo and Posters section is organized in cooperation with Future Internet journal (ISSN 1999-5903). The best demo/poster will be recognized by the diploma and great prize, sponsored by Future Internet Journal.

The first part is a promotional section to present/introduce demo projects to the public. Presentations will be done following the Pecha Kucha style. Main idea of this section is to make people aware of the demo and become interested to visit the demo stand at the second part of the session. During the second part of demo session teams get a place to install the demo and poster. If you have some special requirements please contact organizing committee by email info@fruct.org.

Pecha Kucha Presentation Format

Pecha Kucha is a presentation technique where a speaker shows a definite number of slides (usually 20 or 15), each for 20 seconds. The slides are changed automatically. The main intention for Pecha Kucha presentation style is to prevent participants from being too verbose and to make their talks more dynamic and impressive.

Pecha Kucha Night is an event where each speaker uses Pecha Kucha presentation, and speakers change each other in non-stop fashion. Initially invented by architects, this kind of event is often used to present creative projects or work; nowadays it is also used for R&D talks too. Pecha Kucha Night format allows all participants to make announcements about their demos in attractive and time-efficient way. That is why we have chosen this format for demo promotion section at FRUCT conference. More information can be found at http://www.fruct.org/demo23.

How to prepare Pecha Kucha presentation

Here is an instruction on how to prepare your Pecha Kucha style presentation for Demo promotion section. Your presentation must contain exactly 6 slides, and each of them will be displayed for 20 seconds. The slides will be changed automatically. The presentation will take exactly 2 minutes (it should be noted that classical Pecha Kucha has 20 slides, but we have to reduce the number due to a large amount of submitted presentations). Provide the information about yourself and your presentation on the first slide (name, institution, title of your presentation).

The main purpose of your talk would be to interest people, so your presentation should make absolutely clear the main ideas of your project and explain what you plan to show at the demo stand. Make your presentation fascinating to attract attendees and avoid technical details in your talk. Reveal one main idea on each slide. Do not overload your slides with information. Remember, that each slide is displayed only for 20 seconds. Place no more than 2 lines of text per slide, or one big picture. Avoid using slide titles. Do not duplicate the same slides in your presentation — it is cheating! If you see that 20 seconds for a particular slide is not enough for you, try to decouple it into the two or more, or omit the details. Do not place "Thank you" or "Q&A" slides in the presentation. Pecha Kucha session does not imply any questions from the auditory. All the questions will be asked afterwards in a poster room. Prepare your speech thoroughly and beforehand. As you have only 20 seconds per slide, it is quite impossible to improvise during the talk. Rehearse your speech several times to be sure in the absence of pauses when you wait for the slide change, or accelerations when you fails to follow your slides. Try to speak in the same pace during all the presentation. It definitely depends on your text, so try to prepare near the same amount of text in speech for each slide.

Check list

- Use exactly 6 slides.
- Place information about yourself and your presentation (name, institution) on the first slide.
- Reveal one main idea on each slide.
- Place no more than 2 lines of text or 1 large image per slide.
- Do not duplicate the same slides, do not place "Thank you" or "Q&A" slides in the presentation.
- Do not use any slide change animation.
- Prepare your speech thoroughly and do not forget to rehearse it.

List of Demos/Posters (*most up to date list + abstracts of all demos/posters are at www.fruct.org/demo23*)

1. *Build and Test Environment for Database Proxy Server*, by Timofey Turenko, MariaDB Corporation AB

2. *Smartphone Application for Tourist Assistance Based on OpenStreetMap Data*, by Sergei Mikhailov, SPIIRAS

3. *Expert Group Formation for Task Performing: Competence-Based Method and Implementation*, by Mikhail Petrov and Alexey Kashevnik, ITMO University and SPIIRAS

4. *SPARQL Update Processing; Extracting Inserted and Deleted quads* (Poster), Cristiano Aguzzi and Luca Roffia, University of Bologna

5. *SEPA View: A Web Application to Visualize Real-time and Historical Linked Sensor Data*, Martina Verardi, Cristiano Aguzzi and Luca Roffia, University of Bologna

6. *A Sensor networK Targeted on Novel IdentifiCation of cracKs*, by Federica Zonzini, Michelangelo Maria Malatesta, Cristiano Aguzzi, Nicola Testoni, Martina Verardi and Valentina Scarponi, University of Bologna

7. *Drone based Automatic Surveys for Precision Farming* (Poster), by Paolo Castaldi, Massimiliano Menghini, Camilla Stanghellini, Giulia Villani, Attilio Toscano, Paola Zanetti and Tullio Salmon Cinotti, University of Bologna and Consorzio di Bonifica Emilia Centrale

8. *SWAMP-UGA Multi-parameter and Multi-depth Soil Probe*, by Andre Torre-Neto, Ednaldo Jose Ferreira, Luis Henrique Bassoi, Marcos Cezar Visoli, Carlos Kamienski, Joao KleinSchmidt, Jeferson Rodrigues Cotrim and George Vellidis, Brazilian Agricultural Research Corporation, Federal University of ABC and University of Georgia

9. *Semi-Automatic Self-Calibrating Indoor Localization Android-based Mobile Application*, by Maksim Shchekotov, SPIIRAS

10. *Platforms and Devices for Smart Agriculture*, by Andre Torre-Neto, Kari Kolehmainen, Luca Perilli, Luca Roffia, Camilla Stanghellini, Cristiana Bragalli, Alessio Domeneghetti, Nico Alberti, Tommaso Polonelli, Eleonora Franchi Scarselli, Attilio Toscano, Giulia Villani, Carlos Kamiensky, Juha-Pekka Soininen and Paola Zanetti, Embrapa, Federal University of ABC (Santo Andre-SP, Brazil), VTT, Consorzio di Bonifica dell'Emilia Centrale and University of Bologna

11. *Drones in Precision Irrigation Applications*, by Kari Kohlemainen, Paolo Castaldi, Massimiliano Menghini, Alicia Fuentes, Markus Taumberger, Attilio Toscano, Tullio Salmon Cinotti and Juha-Pekka Soininen, VTT Technical Research Centre, University of Bologna and Quaternium

12. *A Semantic Architecture for Internet of Musical Things*, by Luca Turchet, Fabio Viola, György Fazekas and Mathieu Barthet, Queen Mary University of London and University of Bologna

13. *Analysis of CT Perfusion Blood Flow Maps in Patients with Lung Cancer: Correlation with the Overall Survival* (Poster), by Serena Baiocco, Domenico Barone, Giampaolo Gavelli and Alessandro Bevilacqua, University of Bologna and IRCCS - Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori

14. *Tarsier: 3D Exploration of Semantic Datasets* (Poster), by Francesco Antoniazzi and Fabio Viola, University of Bologna

15. *Edge Computing (not only) for Dummies*, by Maurizio Gabbrielli, Ivan Lanese, Saverio Giallorenzo and Stefano Pio Zingaro, University of Bologna and University of Southern Denmark

16. *A Mobile Application for Presence Detection based on Face Recognition*, by Nikita Bazhenov and Dmitry Korzun, Petrozavodsk State University

The 23rd Conference of Open Innovations Association FRUCT

Program

Bologna, Italy
13-16 November 2018

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CALL FOR PARTICIPATION
24ᵗʰ Conference of Open Innovations
Association FRUCT
Moscow, Russia, 8-12 April 2019

Overview

FRUCT is a large Pan-European cooperation network that promotes open innovations of academia and industry. FRUCT conference is a high-quality scientific event for meeting academia and business people and setting projects. The average conference is attended by 120+ participants representing over 30 member organizations and guests from other organizations. Participants comes from Russia, Finland, Italy, UK, Denmark, India, Brazil and other countries and industry is primary represented by Dell EMC, Nokia, MariaDB, Intel, Jolla, Open Mobile Platform, etc. The conference attracts most active and talented students to present their R&D projects, meet people alike, create new teams, and find employers and investors. The conference invites the world-class academic and industrial experts to lecture on the hottest topics. Traditionally the program consists of FRUCT work groups meetings and intensive (half or full day) technology trainings scheduled for Tu. **The main conference program is for Wed-Fri.** It includes regular sessions as well as thematic workshops.

We welcome everybody to submit papers and take part in the conference, share your research and join the FRUCT Association. Thanks to sponsors we traditionally have low registration fee and various discounts can be applied. For further details refer to http://www.fruct.org/cfp and the registration is open at http://www.fruct.org/registration.

List of conference topics

✓ Internet of Things and enabling technologies
✓ Next Generation Networks, Wireless Technologies, 5G
✓ Smart Spaces, Linked Data and Semantic Web
✓ Big Data, Data Mining, Data Storage and Management
✓ Knowledge and Data Managements Systems
✓ Location Based Services: e-Tourism/Logistics/Navigation
✓ Open Source Mobile OS: Architectures and Applications
✓ Security and Privacy: Applications and Coding Theory
✓ Natural Language Processing, Speech Technologies
✓ Software Design, Innovative Applications

✓ Bioinformatics, e-Health and Wellbeing
✓ Sensor Design, Ad-hoc and Sensor Networking
✓ Context Awareness and Proactive Services
✓ Artificial Intelligence, Robotics and Automation
✓ Computer Vision, Image and Video Processing
✓ Smart Systems and Embedded Networks
✓ Crowdsourcing and Collective Intelligence
✓ Intelligence, Social Mining and Web
✓ IoT based Water Distribution Management
✓ IoT and CPS solutions for societal challenges

Call for papers

Depending on the type and maturity level please submit your work into one of the following 3 categories:

1. **Full paper** (min 6 pages, max 12 pages) **OR**   2. **Short paper** (min 200 words, max 5 pages)

Submission deadline: 11 February 2019   **Early-bird deadline: 18 January 2019**

Notification of acceptance: **4 March 2019**   Camera-ready deadline: **11 March 2019**

3. **Poster / Demo proposal:** submission deadline: **29 March 2019**

Publication

All submitted Full Papers will be peer reviewed by the technical committee. Accepted Full papers and extended abstracts are published in the proceeding of FRUCT conference (ISSN 2305-7254). All accepted Full Papers will be included into **IEEE Xplore**, and indexed by **Scopus**, **ACM, RSCI/РИНЦ** (as journal publication), **DBLP, etc**. Selected papers will be recommended for CPCI indexing (**Web of Science**) and to **IJERTCS** journal. The Full Papers proceedings included to **Scimago Journal Rank** http://scimagojr.com/journalsearch.php?q=21100305223&tip=sid and DOAJ. FRUCT is **rated by many national libraries, e.g., Norwegian, Danish** (BFI ID 8782540).

Contacts

Paper templates, conference news and other relevant details are available at http://www.fruct.org/conference24. If you get some questions that are not covered at the conference web page, feel free to send email to info@fruct.org.