



# Program of The 19th Conference of Open Innovations Association FRUCT

Jyvaskyla, Finland  
7-11 November 2016



JYVÄSKYLÄN YLIOPISTO  
UNIVERSITY OF JYVÄSKYLÄ



SAILFISH OS



ITMO UNIVERSITY



IEEE

IEEE  
**ComSoc**<sup>™</sup>  
IEEE Communications Society

IEEE Finland





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 QUAE LIBET!  
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 is located in Agora Building at University of Jyväskylä's Mattilanniemi Campus, Mattilanniemi 2. The city bus station can be found between the Forum shopping centre and the station square on Vapaudenkatu 40. Buses number 5K, 5 and 20 stop at Agora building. A single ticket costs 3 euros. You can get to the campus by foot in 25 minutes from the centrum.



**List of images related to the location**

**Clickable map**

**User destination point**

**Current weather**

**First three interesting places around**

**Map with path to the interesting place**

**Estimate the interesting place**

**Interesting place image**

**Interesting place caption**

**Interesting place description**

We recommend you to use Tourist Assistant - TAIS - a mobile tourist guide for Android devices. Based on your current location, it provides recommendations about places of interest around. You can see your location in the map, browse information about attraction around, check photos, current weather and create path to place of interest. The information is aggregated from Wikipedia, Wikivoyage, Wikitravel, Panoramio.

During FRUCT conference TAIS will allow participants to easily find way to the locations of the main conference. In the main screen please select one of main attractions "FRUCT 19<sup>th</sup> Conference". When the user selects one of the attractions he/she can open map and see path from current location to the FRUCT 19<sup>th</sup> conference place.



# Organization Committee of the 19th FRUCT Conference

Local Chair:	Timo Hämäläinen
Conference Secretary:	Alexander Semenov
FRUCT General Chair:	Sergey Balandin
Publication manager:	Tatiana Tyutina

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	Dmitry Mouromtsev (ITMO University, Russia)
	Valtteri Niemi (University of Turku, Finland)
	Valentin Olenev (State University of Aerospace Instrumentation, Russia)

Ian Oliver (Nokia, Finland)  
Valentin Onossovski (Saint-Petersburg State University, Russia)  
Andrei Ovchinnikov (State University of Aerospace Instrumentation, Russia)  
Jarkko Paavola (Turku University of Applied Sciences, Finland)  
Ilya Paramonov (Yaroslavl State University, Russia)  
Dmitry Petrov (Magister Solutions Ltd, Finland)  
Vitaly Petrov (Tampere University of Technology, Finland)  
Lidia Pivovarova (University of Helsinki, Finland)  
Jari Porras (Entrepreneur, Finland)  
Veronika Prohorova (State University of Aerospace Instrumentation, Russia)  
Alexander Pyattaev (Tampere University of Technology, Finland)  
Alexey Rabin (State University of Aerospace Instrumentation, Russia)  
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Roberto Saracco (Telecom Italia, Italy)  
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Alexander Smirnov (ITMO University, Russia)  
Gennady Smorodin (Dell EMC, Russia)  
Elena Suvorova (State University of Aerospace Instrumentation, Russia)  
Andrey Terekhov (Saint-Petersburg State University, Russia)  
Olav Tirkkonen (Aalto University, Finland)  
Tony Torp (Tampere University of Applied Sciences, Finland)  
Timofey Turenko (MariaDB Corporation Ab, Finland)  
Andrey Turlikov (State University of Aerospace Instrumentation, Russia)  
Yu Weider (San Jose State University, USA)  
Evgeny Yablokov (State University of Aerospace Instrumentation, Russia)  
Mark Zaslavskiy (FRUCT / ITMO University, Russia)  
Liang Zhou (Technical University of Munich, Germany)



# The program of 19<sup>th</sup> FRUCT conference

## November 7-11, 2016, Jyväskylä, Finland

University of Jyväskylä, Agora Building, Mattilanniemi 2, Rooms: Beeta, Lea Pulkkisen sali, Auditorio 1, Auditorio 3

DATE	TIME	PROGRAM	
7.11.16	09:00-18:00	Internal meetings of FRUCT working groups, Day 1	
8.11.16	09:00-18:00	Internal meetings of FRUCT working groups, Day 2	
9.11.16	09:30-11:30	FRUCT Smart Spaces & IoT WG meeting, room Beeta	
	11:30-12:30	Conference Registration	
	12:30-13:50	Opening of the 19 <sup>th</sup> FRUCT conference, room Beeta	
	13:50-14:20	Coffee break	
	14:20-16:00	Network Technologies I, room Beeta	
	16:00-16:20	Coffee break	
	16:20-17:40	Cultural Heritage and Tourist Services, room Beeta	Data Management, room Lea Pulkkisen sali
	17:40-18:00		MariaDB meeting ( <i>invitation based</i> ), room Lea Pulkkisen sali
10.11.16	09:00-09:30	Conference Registration	
	09:30-11:50	Smart Spaces and Internet of Things I ( <i>SmartRoom</i> ), room Auditorio 3	
	11:50-12:10	Coffee break	
	12:10-13:30	Smart Spaces and Internet of Things II, room Auditorio 1	Embedded Systems and Networks, room Lea Pulkkisen sali
	13:30-14:30	Lunch break	
	14:30-16:00	e-Healthcare Services I, room Auditorio 1	
	16:00-16:20	Coffee break	
	16:20-18:00	Finnish-Russian meetup of Sailfish OS developers community, room Auditorio 1	Network Technologies II, room Lea Pulkkisen sali
	18:00-18:20		Demo pitches in Pecha Kucha format, room Lea Pulkkisen sali
	18:20-18:30		Preparation to Demo Session, room Lea Pulkkisen sali
18:30-21:00	Demo Session and Social Event, room Lea Pulkkisen sali		
11.11.16	09:30-10:00	Conference Registration	
	10:00-12:10	e-Healthcare Services II, room Lea Pulkkisen sali	
	12:10-12:40	Coffee break	
	12:40-14:00	Emerging Topics I, room Lea Pulkkisen sali	Advanced Text Processing Solutions, room MaD 259
	14:00-15:00	Lunch break	
	15:00-16:40	Emerging Topics II, room Lea Pulkkisen sali	Network Technologies III, room Auditorio 3
	16:40-17:00	Official closing of the 19 <sup>th</sup> FRUCT conference, room Auditorio 3	

## SmartRoom Demo: Guide for Conference Participants

The SmartRoom system will be used for assisting the organization and collaborative activity of some sessions of the 19th FRUCT Conference. All presentations of these sections are facilitated by SmartRoom system. Any interested participant can register by sending full name and presentation (title and PDF file) to [smartroom@cs.karelia.ru](mailto:smartroom@cs.karelia.ru). Or authors can make web-based registration just before the session, by taking the following 2 steps:

1. Register to the SmartRoom web service using QR code on the Presentation screen in the conference room.
2. Log in and upload your presentation in PDF yourselves (or provide the presentation directly to the organizers).
3. Install the SmartRoom client, see QR codes below.
4. Use the client to log in the SmartRoom system using your registration credentials. (You can download a client configuration file using QR code on the Presentation screen in the room or enter the IP address and port of the deployed system manually.)

During the session each presenter interacts with the system using the SmartRoom client on Android or Windows Phone device (smartphone or tablet). The system uses one of Wi-Fi network provided for the FRUCT19 conference.

Client for Android devices



[bit.do/srclient\\_android](http://bit.do/srclient_android)

Client for Windows Phone devices



[bit.do/srclient\\_wp](http://bit.do/srclient_wp)

User manuals (PDF file, in English) for the SmartRoom client are accessible using the QR codes below:



Other conference session participants (not presenters) are welcome to use either anonymous login (guest) or even their register own accounts (without presentation). Before are QR codes and URLs of the SmartRoom client.

In addition to basic control of conference session activity, such as slide show control and session agenda manipulation, the SmartRoom system supports advanced services to assist the collaborative work. The following examples are included to the SmartRoom demo at the FRUCT19 conference.

**Social Program.** The result of the social program construction consists of some nearby points of interests (POIs), which conference participants would like to visit within some groups. The construction is cooperative by all interested participants. They make own decisions to decide which POIs are of their personal interest, and for some POIs a group of potential visitors is formed. Voting is via a specialized web interface on the client side (for details, please refer to the client manual). The construction process and its results are also shown on public room screens during the sessions and breaks. Such public services as Flickr and Panoramio are used for searching photos and pictures associated with the POIs.

**Discussion.** This assistance scenario allows the participants to discuss by publishing commentaries on conference talks, either currently ongoing, or already passed ones, or just going to happen. Any participant can join a discussion thread of the talk using the SmartRoom client (for details, please refer to the manual). Blog comment hosting service Disqus for web sites and online communities is used (<https://disqus.com/>). After each talk a collected set of questions and commentaries is shown on the public screen in the room, and the presenter can make discussion based on this feedback from the participants.

The system is developed at Petrozavodsk State University in cooperation with other FRUCT members. The open source code is available at <https://sourceforge.net/projects/smartroom/>.

This demo shows application opportunities and evaluates practical efficiency of the smart spaces-based technology developed in PetrSU within project #14.574.21.0060 (RFMEFI57414X0060) of Federal Target Program "Research and development on priority directions of scientific-technological complex of Russia for 2014--2020".

# Finnish-Russian Meetup of Sailfish OS Developers Community

Seminar date: 10 November 2016  
Time: 16:00 – 21:00

Place: University of Jyväskylä, Agora Building, Mattilanniemi 2  
Room: Auditorio 1, Martti Ahtisaari's room

We welcome you to take part in the first joint meetup of Finnish and Russian communities of Sailfish OS Developers. Sailfish OS is based on open source and developed by the Finnish mobile company Jolla Ltd. and the Sailfish OS community. Sailfish OS development in Russia is led by Open Mobile Platform Ltd. Sailfish OS offers a true independent alternative to the existing US-based mobile operating systems. Partners and users of Sailfish OS can build customized mobile experiences with the content that matters to them the most, without restrictions or breaches of privacy. We welcome you to join our community to build together a more open future.

## Program

**November 10 (Thursday)**

**University of Jyväskylä, Agora Building, Mattilanniemi 2, Room: Auditorio 1**

<b>Seminar:</b> Finnish-Russian Meetup of Sailfish OS Developers Community		Chairman: Sergey Balandin
<b>Room:</b> Auditorio 1		
<b>16:00</b>	30m	Registration and Coffee break
<b>16:30</b>	15m	Greetings from Jolla, by James Noori and Vesa-Matti Hartikainen, Jolla Oy, Finland
<b>16:45</b>	45m	Scaling the Sailfish OS architecture to support multiple form factors and devices, by Vesa-Matti Hartikainen, Jolla Oy, Finland
<b>17:30</b>	15m	Overview of activities in Russia coordinated by Open Mobile Platform, by Kirill Chuvilin, Open Mobile Platform Ltd, Russia
<b>17:45</b>	15m	Status of community activities run by FRUCT Association, by Sergey Balandin, FRUCT Oy, Finland
<b>18:00</b>	30m	Free panel discussion and setting links for cross-border cooperation
<b>18:30</b>	2.5h	<b>FRUCT Social Event</b>



# SAILFISH OS





# The program of the 19<sup>th</sup> FRUCT conference

## November 7-11, 2016, Jyväskylä, Finland

**November 9 (Wednesday)**

**University of Jyväskylä, Agora Building, Mattilanniemi 2, Rooms: Beeta, Lea Pulkkinen sali**

<b>09:30</b>	2h	<b>FRUCT Smart Spaces &amp; IoT WG meeting</b> Room: Beeta	
<b>11:30</b>	1h	<b>19<sup>th</sup> FRUCT Conference Registration</b>	
<b>Session:</b> Official opening of the 19 <sup>th</sup> FRUCT conference <b>Room:</b> Beeta <span style="float: right;"><b>Chairman:</b> Sergey Balandin</span>			
<b>12:30</b>	10m	Official opening of the 19 <sup>th</sup> FRUCT conference	
<b>12:40</b>	20m	Dell Technology at a glance, Gennady Smorodin, Dell Technologies, Russia	
<b>13:00</b>	50m	<b>Invited talk:</b> Simulations in wireless networks and Satellite ns-3 (sns-3), Dmitry Petrov and Jani Puttonen, Magister Solutions, Finland	
<b>13:50</b>	30m	<b>Coffee break</b>	
<b>Session:</b> Network Technologies I <b>Room:</b> Beeta <span style="float: right;"><b>Chairman:</b> Dmitry Petrov</span>			
<b>14:20</b>	20m	A prototype of Mininet-based system EmStream for emulation of Dynamic Adaptive Streaming over HTTP, Anatoliy Zabrovskiy, Evgeny Petrov and Evgeny Kuzmin, Petrozavodsk State University, Russia	
<b>14:40</b>	20m	Impact of Node Placement on the Connectivity of Wireless Ad Hoc Networks, Lev Buziukov and Darina Okuneva, Saint-Petersburg State University of Telecommunications, Russia	
<b>14:50</b>	20m	Self-Organizing Communication Network of Multi-Agent Robotic Systems, Ruslan Kirichek, Alexander Paramonov, Andrei Vladyko and Evgeny Borisov, The Bonch-Bruевич Saint-Petersburg State University of Telecommunications, Russia	
<b>15:20</b>	20m	Automatic Calibration for Log-normal Path Loss Model Based on Bluetooth Low Energy Beacons, Maksim Shchekotov, SPIIRAS, Russia	
<b>15:40</b>	20m	A Graph Model of the Topology of Physical, Link and Network Layers of an Enterprise Network, Anton Andreev, Aleksandr Kolosov, Anatoly Voronin and Iurii Bogoiavlenskii, Petrozavodsk State University, Russia	
<b>16:00</b>	20m	<b>Coffee break</b>	
<b>Session:</b> Cultural Heritage and Tourist Services <b>Room:</b> Beeta <span style="float: right;"><b>Chairman:</b> Alexander Smirnov</span>		<b>Session:</b> Data Management <b>Room:</b> Lea Pulkkinen sali <span style="float: right;"><b>Chairman:</b> Timofey Turenko</span>	
<b>16:20</b>	20m	A Smart Space-Based Design of Semantic Layer for Advancing Museum Information Services, Sergey Marchenkov, Andrey Vdovenko, Oksana Petrina and Dmitry Korzun, Petrozavodsk State University, Russia	Full Automated Continuous Integration and Testing Infrastructure for Maxscale and MariaDB, Mark Zaslavskiy, ITMO University, Alexander Kaluzhniy, Tatyana Berlenko, Ilfat Kinyaev and Kirill Krinkin, Saint-Petersburg State Electrotechnical University «LETI», Russia, and Timofey Turenko, MariaDB Corporation AB, Finland
<b>16:40</b>	20m	Human-Computer Cloud for Decision Support in Tourism: Approach and Architecture, Alexander Smirnov, Andrew Ponomarev, Tatiana Levashova and Nikolay Teslya, SPIIRAS, Russia	The Solution of the Profiling Problem Based on Data Analysis, Natalia Grafeeva and Vyacheslav Busarov, Saint-Petersburg State University, Russia
<b>17:00</b>	20m	Smart Tourism Destination Support Scenario Based on Human-Computer Cloud, Nikolay Teslya and Andrew Ponomarev, SPIIRAS, Russia	The Algorithms for Processing of Imprecise Temporal Data, Sergey Maltsev, Aleksandr Flegontov and Vladimir Fomin, Herzen State Pedagogical University of Russia, Russia



17:20	20m	Smart Service Efficiency: Evaluation of Cultural Trip Planning Service, Kirill Kulakov, Oksana Petrina and Anastasiya Pavlova, Petrozavodsk State University, Russia	Writer Identification Based on Letter Frequency Distribution, Polina Diurdeva, Dmitry Shalymov and Elena Mikhailova, Saint-Petersburg State University, Russia
17:40	20m	Use Cases for Rider Assistant Mobile Application Evaluation Using Travelling Simulator, Naohisa Hashimoto, Takashi Okuma, Seiichi Miyakoshi, Kohji Tomita and Osamu Matsumoto, AIST, Japan, and Alexander Smirnov and Alexey Kashevnik, SPIIRAS, and Igor Lashkov, ITMO University, Russia	MariaDB meeting ( <i>invitation based</i> )
18:00		<b>Closing of Day 1</b>	

**November 10 (Thursday)**

**University of Jyväskylä, Agora Building, Mattilanniemi 2, Rooms: Auditorio 1, Auditorio 3, Lea Pulkkisen sali**

09:00	30m	<b>Conference registration</b>	
<b>Session:</b> Smart Spaces and Internet of Things I (SmartRoom)		<b>Chairman:</b> Dmitry Korzun	
<b>Room:</b> Auditorio 3			
09:30	5m	SmartRoom Demo: Guide for FRUCT19 Conference Participants, Dmitry Korzun, Sergey Marchenkov, Andrey Vdovenko and Andrey Borodulin, Petrozavodsk State University, Russia	
09:35	20m	Samsung IoT vision, by Svetlana Yun, Samsung, Russia	
09:55	20m	The M3 Architecture for Smart Spaces: Overview of Semantic Information Broker Implementations, Fabio Viola and Alfredo D'elia, University of Bologna, Italy, Dmitry Korzun and Ivan Galov, Petrozavodsk State University, Alexey Kashevnik, SPIIRAS, Russia, and Sergey Balandin, FRUCT Oy, Finland	
10:15	20m	Event-Driven Design Approach to the QML Wrapper for SmartSlog Tool, Nikolai Lebedev, Petrozavodsk State University, Russia	
10:35	20m	An Ontology-based Semantic Design of the Survey Questionnaires, Alexander Borodin and Yulia Zavyalova, Petrozavodsk State University, Russia	
10:55	20m	A Survey of People Movement Analytics Studies in the Context of Smart Cities, Elena Simona Lohan, Tampere University of Technology, and Tomi Kauppinen, Aalto University, Finland, and Sree Bash Chandra Debnath, University of Trento, Italy	
11:15	20m	Real-Time Stitching of Panoramic Video on Intel Edison IoT Platform, Mikhail Burov and Anton Sergeev, Saint Petersburg State University of Aerospace Instrumentation, Russia	
11:35	15m	Decentralized Field Service Automation Using Adeptik Platform, Dmitry Spanderashvili, Alexander Morozov and Adelya Mamleeva, Astrakhan State Technical University, Sergey Gudyryn, Adeptik Company, and Denis Tarasov, OOO "Gazprom dobycha Astrakhan", Russia	
11:50	20m	<b>Coffee break</b>	
<b>Session:</b> Smart Spaces and Internet of Things II		<b>Session:</b> Embedded Systems and Networks	
<b>Room:</b> Auditorio 1		<b>Room:</b> Lea Pulkkisen Sali	
<b>Chairman:</b> Fabio Viola		<b>Chairman:</b> Michel Gillet	
12:10	20m	Experimental Examination and Simulation Analysis of Standing-type Personal Mobility Device Sharing, Kohji Tomita, Naohisa Hashimoto, Akiya Kamimura, Masashi Yokozuka and Osamu Matsumoto, AIST, Japan	Approaches to the SoC IP-blocks' Design with Errors' Mitigation, Valentin Rozanov and Elena Suvorova, Saint-Petersburg State University of Aerospace Instrumentation, Russia
12:30	20m	Towards Better Knowledge Work Experiences with New Ambient Workspace: Concept and Prototype, Ekaterina Olshannikova, Aleksandr Ometov, Tatiana Anagnostaki, Nazia Hasan,	Research and analysis of flow control mechanism for transport protocols of the SpaceWire onboard networks, Nikolay Sinyov, Valentin Olenev, Irina Lavrovskaya and Ilya Korobkov, Saint-Petersburg



		Ayzhan Kuketayeva, Aino Ahtinen, Thomas Olsson and Yevgeni Koucheryavy, Tampere University of Technology, Finland	State University of Aerospace Instrumentation, Russia
12:50	20m	Advanced IoT Solution for Smart City Eco-monitoring System, Sergey Bezzateev, Natalia Voloshina and Konstantin Zhidanov, Saint-Petersburg State University of Aerospace Instrumentation, Russia	One Remote Control to Command them All! Building a Hypermedia API for ESP8266-based Devices, Alexey Andreev, Daniil Garayzuev, Maxim Kolchin, Nikita Chursin and Ivan Shilin, ITMO University, Russia
13:10	20m	Multi-Leveled Hierarchical Control to Optimize Workload of a Service-Oriented Platform, Maksim Hegai, Tatiana Kharchenko, Dmitrii Zubok and Aleksandr Maiatin, ITMO University, Russia	Methods for TSVs placement in 3D Network-on-chip, Lev Kurbanov, Nadezhda Matveeva and Elena Suvorova, Saint-Petersburg State University of Aerospace Instrumentation, Russia
13:30	1h	<b>Lunch break</b>	
<b>Session: e-Healthcare Services I</b>			
<b>Room: Auditorio 1</b>		<b>Chairman: Alexander Borodin</b>	
14:30	50m	<b>Invited talk:</b> SW architecture impact on development, testing and certification of embedded wearable medical devices, Michel Gillet, Nokia, Finland	
15:20	20m	Recommendation Service for Smart Space based Personalized Healthcare System, Andrey Vasilyev and Ilya Paramonov, P.G. Demidov Yaroslavl State University, Russia	
15:40	20m	Mobile Health Service as a Research Tool for Detection of Blood Pressure and HRV Fluctuations across the Menstrual and the Lunar Cycle, Alexandr Meigal, Ludmila Gerasimova-Meigal, Aleksandr Borodin, Nina Voronova, Liudmila Yelaeva and Galina Kuzmina, Petrozavodsk State University, Russia	
16:00	20m	<b>Coffee break</b>	
<b>Session: Network Technologies II</b>		<b>Session: Finnish-Russian Sailfish OS Meetup</b>	
<b>Room: Lea Pulkkisen Sali</b>		<b>Room: Auditorio 1</b>	
<b>Chairman: Dmitry Mouromtsev</b>		<b>Chairman: Sergey Balandin</b>	
16:20	20m	UWB Bandpass Filter with Improved Rejection Band Performance using Defected Ground Structure and Slotted Step Impedance Resonator, Mongkol Meeloon, Department of Special Investigation (DSI), Ekasit Nugoolcharoenlap, Rajamangala University of Technology Rattanakosin Nakhon Pathom, and Prayoot Akkaraekthalin, King Mongkut University of Technology, North Bangkok, Thailand	<b>Finnish-Russian Meetup of Sailfish OS Developers Community</b>
16:40	20m	Russian Wireless and Mobile Jammers: Efficiency Comparison, Sergey Rybalkin and Anton Sergeev, St. Petersburg State University of Aerospace Instrumentation, Russia	
17:00	20m	Performance Analysis of OpenFlow Forwarders Based on Routing Granularity in OpenFlow 1.0 and 1.3, Viktor Šulák, Pavol Helebrandt and Ivan Kotuliak, FIIT STUBA, Slovakia	
17:20	20m	Cluster Based Approach to Minimize Delay in Energy Aware Routing for IEEE 802.11s Wireless Mesh Networks Under Mobility Conditions, Sp Shiva Prakash and Tn Nagabhushan, JSS Research Foundation, India, and Kirill Krinkin, Saint-Petersburg Electrotechnical University "LETI", Russia	
17:40	20m	A Method of Securing Data Transferred between Unmanned Aircraft System and Ground Control Station Based on One-time, Ivan Avdonin, Marina Budko, Mikhail Budko, Vladimir Grozov and Alexei Guirik, ITMO University, Russia	



<b>Session:</b> Demo Pitches in Pecha Kucha format		
<b>Room:</b> Lea Pulkkisen Sali		<b>Chairman:</b> Andrey Vasiliev
<b>18:00</b>	20m	Pitch presentations of the demos (2min/pitch)
<b>18:20</b>	10m	<b>Preparation to Social event combined with Demo &amp; Poster Session</b>
<b>Session:</b> Conference social event combined with Demo and Poster session		
<b>Room:</b> Lea Pulkkisen Sali		<b>Chairman:</b> Andrey Vasiliev
<b>18:30</b>	2.5h	<b>Demo &amp; Poster Session combined with Social Event</b>
<b>21:00</b>		<b>Closing of Day 2</b>

**November 11 (Friday)**

**University of Jyväskylä, Agora Building, Mattilanniemi 2, Rooms: Lea Pulkkisen sali, Auditorio 3, MaD 259**

<b>09:30</b>	30m	<b>Conference registration</b>	
<b>Session:</b> e-Healthcare Services II		<b>Chairman:</b> Michel Gillet	
<b>Room:</b> Lea Pulkkisen Sali			
<b>10:00</b>	50m	<b>Invited talk:</b> m-Health as an important step towards personalized medicine, Oleg Medvedev, Moscow State University, Russia	
<b>10:50</b>	20m	Reliability and Energy Efficiency Enhancement in Wireless Body Area Networks for E-Health, Marwa Salayma, Ahmed Al-Dubai and Imed Romdhani, Edinburgh Napier University, United Kingdom	
<b>11:10</b>	20m	Distributed Medical Diagnostics based on Self-Mediator Sensor Networks, Anton Ivaschenko, Samara National Research University, and Anton Minaev, Radio Research and Development Institute, Russia	
<b>11:30</b>	20m	Device and Software for Mobile Heart Monitoring, Andrey Kuzmin, Maxim Safronov, Oleg Bodin, Mikhail Petrovsky and Anton Sergeenkov, Penza State University, Russia	
<b>11:50</b>	20m	Mobile Platform Electrocardiogram Wavelet Analysis with Sailfish OS Operating System, Andrey Stepanov and Eugene Leutin, The Bonch-Bruевич Saint-Petersburg State University of Telecommunications, Russia	
<b>12:10</b>	30m	<b>Coffee break</b>	
<b>Session:</b> Emerging Topics I		<b>Session:</b> Advanced Text Processing Solutions	
<b>Room:</b> Lea Pulkkisen Sali		<b>Room:</b> MaD 259	
<b>Chairman:</b> Vladimir Khryashchev		<b>Chairman:</b> Andrey Vasiliev	
<b>12:40</b>	20m	Cross-platform Development for Sailfish OS and Android: Architectural Patterns and "Dictionary Trainer" Application Case Study, Denis Laure, Ilya Paramonov, Andrey Vasilyev and Natalia Kasatkina, P.G. Demidov Yaroslavl State University, Russia	Analysis of Relation Extraction Methods for Automatic Generation of Specialized Thesauri: Prospect of Hybrid Methods, Ksenia Lagutina, Eldar Mamedov, Nadezhda Lagutina, Ilya Paramonov and Ivan Shchitov, P.G. Demidov Yaroslavl State University, Russia
<b>13:00</b>	20m	Survey of Cloud Server Geolocating Techniques, Leo Hippeläinen, Ian Oliver and Shankar Lal, Nokia Bell Labs, Finland	The Construction of Syntax Trees Using External Data for Partially Formalized Text Documents, Kirill Chuvilin, MIPT, Russia
<b>13:20</b>	20m	Technology of development of the low-cost indoor-navigation services, Boris Sedov and Sergei Pakharev, Saint-Petersburg State University of Aerospace Instrumentation, Russia	Effective execution of Systems Dynamics models, Tatyana Kossovich, Alexey Mulyukin and Ivan Perl, ITMO University, Russia
<b>13:40</b>	20m	The Scan Matchers Research and Comparison: Monte-Carlo, Olson and Hough, Kirill Krinkin, Anton Filatov and Artyom Filatov, Saint-Petersburg Electrotechnical University "LETI", Artur Huletski and Dmitriy Kartashov, The Academic University, Russia	Unsupervised PCFG Inference from Russian Corpus of Phone Conversations, Liubov Kovriguina, Alexander Shipilo and Ekaterina Sinelschikova, ITMO University, Russia

<b>14:00</b>	1h	<b>Lunch break</b>	
<b>Session:</b> Network Technologies III		<b>Session:</b> Emerging Topics II	
<b>Room:</b> Auditorio 3		<b>Room:</b> Lea Pulkkinen	
		<b>Chairman:</b> Sergey Balandin	
<b>15:00</b>	20m	Management of Information Model of the Telecommunications Network Under Cyclic Life Cycle, Dmitry Spanderashvili, Astrakhan State Technical University, Denis Tarasov, OOO "Gazprom dobycha Astrakhan", Artyom Ushanov, LLC "Cyber Systems", and Vitaly Borodin, Astrakhan State Technical University, Russia	Improving the Face Gender Classification by the Set of Features, Vladimir Khryashchev, Vladimir Pavlov and Andrey Priorov, P.G.Demidov Yaroslavl State University, and Igor Kosterin, Fire and Rescue Academy Ivanovo, Russia
<b>15:20</b>	20m	QoS Performance Analysis of Some Routing Protocols in MANET, Hemin Akram Muhammad and Tara Yahya, University of Kurdistan-Hewler, Iraq, and Pinar Kirci and Derya Yiltas-Kaplan, University of Istanbul, Turkey	Evaluation of face image quality metrics in person identification problem, Vladimir Khryashchev, Ilya Nenakhov, Anton Lebedev and Andrey Priorov, P.G. Demidov Yaroslavl State University, Russia
<b>15:40</b>	20m	Experimental comparison of syntax and semantics of DBS Oracle and MySQL, Michal Kvet and Lucia Fidesova, Žilinská univerzita, Fakulta riadenia a informatiky, Slovakia	Design of an Adaptive System for Stabilization of a Laser Beam for CNC Machine, Maxim Ya. Afanasev and Yuri V. Fedosov, ITMO University, Russia
<b>16:00</b>	20m	Text Big Data Analytics case study «Third Wave»: Internet of Words, Olga Kolesnichenko, Security Analysis Bulletin, Gennady Smorodin, Dell EMC External Research and Academic Alliances, Dariya Yakovleva, and Lev Mazelis, Vladivostok State University of Economics and Service, Sergey Balandin, ITMO University, and Yuriy Kolesnichenko, Cybersecurity Technology, Russia	Creation of a Statical Analysis Algorithm Using Ad Hoc Programming Languages, Dmitry Khalansky and Arthur Lazdin, ITMO University, Russia
<b>16:20</b>	20m	Simulation Study of Application Layer Relaying Algorithms with Data-link ARQ in Flying Ad hoc Networks, Danil Vasiliev, Kira Vladykina and Albert Abilov, Izhevsk State Technical University, Russia	<i>Reallocate to Auditorio 3 to the official closing</i>
<b>16:40</b>	20m	<b>Official closing of the 19<sup>th</sup> FRUCT conference, Room Auditorio 3</b>	

**Thank you and looking forward to see you at the 20<sup>th</sup> FRUCT in St. Petersburg on April 3-7, 2017!**

# Demo Session of the 19<sup>th</sup> FRUCT Conference

Time: 10 November 2016  
Time: 18:00 – 21:00

Place: University of Jyväskylä, Agora Building, Mattilanniemi 2  
Room: Lea Pulkkisen sali

The Demo section of the 19th FRUCT conference will be combined with the demo session of the Regional seminar on Mobile Healthcare, early diagnostics and fitness and with the conference social event. 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](mailto: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 during the talk. 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/demo>.

## 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. So, the whole presentation will take exactly 2 minutes (it should be noted that usually Pecha Kucha presentation 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** (*preliminary list based on submissions by November 1, 2016*)

1. **An Integrated Demo of the Digital Assistance Services in Emergency Situations based on Smart-M3 Technology**, by Yulia Zavyalova, Nikolai Lebedev, Andrey Vasilyev, Kirill Orlov, Kristina Shevcova and Vasilii Fokin, PetrSU
2. **Smartphone-based Microphone: A Multi-User Service for Collaborative Work in SmartRoom**, by Anastasia Firsova and Dmitry Korzun, PetrSU
3. **Solving the Vehicle Routing Problem during the Development of ATM Cash Service Planning System**, by Ekaterina Kaurova, Ivan Kaurov and Arthur Lazdin, ITMO
4. **Android-based application of automatic calibration for log-normal path loss model**, by Maksim Shchekotov, SPIIRAS
5. **Open Karelia System Integration for Tourist Assistant — TAIS**, by Nikolay Teslya, SPIIRAS
6. **Self-descriptive IoT devices API for Arduino and ESP8266 WiFi-based devices**, by Alexey Andreyev, ITMO University
7. **Applying technology of rapid development of low-cost indoor-services for various use-cases**, Boris Sedov and Sergey Pakharev, SUAI University
8. **Sailfish powered devices in action**, by James Noori and Vesa-Matti Hartikainen, Jolla Oy
9. **SmartRoom Demo: Guide for FRUCT19 Conference Participants**, by Dmitry Korzun, Sergey Marchenkov, Andrey Vdovenko and Andrey Borodulin, PetrSU (Life demo)
10. **INSURE - Information Security of Location Estimation and Navigation Applications**, by Heidi Kuusniemi, Laura Eskelinen, Sarang Thombre, Päivi Korpisaari, Kimmo Jarvinen, Helena Leppäkoski and Simona Lohan, NLS, Helsinki University, Aalto University and TUT (Poster)

## FOR NOTES



FOR NOTES

FOR NOTES

# The 19th Conference of Open Innovations Association FRUCT

## Program

Jyvaskyla, Finland  
7-11 November 2016

A special word of thanks goes to the  
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# CALL FOR PARTICIPATION

## 20<sup>th</sup> Conference of Open Innovations

# Association FRUCT

Saint-Petersburg, Russia, 3-7 April 2017



### Overview

FRUCT is the largest regional cooperation framework in form of open innovations between academia and industry. FRUCT conferences are attended by the representatives of more than 25 FRUCT member universities from Russia, Finland, Denmark, India, Italy and other countries, industrial experts from Dell, Nokia, MariaDB, Intel, Jolla, Skolkovo and a number of guests from other companies and universities.

The conference is an R&D forum for the most active students, academic experts, industrial researchers and influential representatives of business and government. The conference invites the world-class academic and industrial researchers to give lectures on the most relevant topics, provides an opportunity for student teams to present progress and results of their R&D projects, meet new interesting people and form new R&D teams. The conference program consists of 3 to 5 intensive (½ or full day) trainings on the most promising technologies, plus 3 days of the main conference.

We warmly welcome all university research teams to participate in the conference, present your research and join the FRUCT Association. IEEE members and representatives of Russian and Finnish universities are entitled to large discounts. Registration to the conference is open at <http://www.fruct.org/conference20>.

### List of conference topics

- Location Based Services, Navigation, Logistics management, e-Tourism solutions
- Mobile Healthcare, e-Health solutions, Wellbeing, Fitness, Automated diagnostics
- IoT, Smart Spaces, Future services: Proactivity, Context Analysis, Data Mining and Big Data services
- Cross-platform software, innovative mobile services, new approaches to application design, innovative UX
- Smart Systems and embedded networks
- Energy efficient design & peripherals integration
- Mobile security, personal and business privacy
- Modern network architectures, Air interfaces and protocols, Emerging wireless technologies
- Mobile multimedia, video services and solutions
- Communications Systems Integration and Modeling

### 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: 10 February 2017**

Notification of acceptance: **3 March 2017**

Camera-ready deadline: **10 March 2017**

3. **Poster / Demo proposal:** submission deadline: **24 March 2017**, or can be an extension to the paper

Please follow paper templates that you can find at <http://www.fruct.org/cfp>.

### Publication

All submitted Full Papers will be peer reviewed by the technical committee. Accepted Full papers and Extended abstracts will be published in the proceeding of FRUCT conference (ISSN 2305-7254). All accepted Full Papers will be published in **IEEE Xplore**, and indexed by **Scopus** and **DBLP**. Also proceedings of Full Papers are included to **Scimago Journal Rank** <http://scimagojr.com/journalsearch.php?q=21100305223&tip=sid>. Selected papers will be recommended for CPCI indexing (**Web of Science**) and to **IJERTCS** journal.

### Contacts

Paper templates, conference news and other relevant details are available at <http://www.fruct.org/conference20>. If you get some questions that are not covered at the conference web page, feel free to send email to [info@fruct.org](mailto:info@fruct.org).