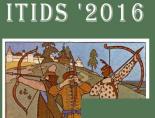


# Ufa State Aviation Technical University

Faculty of Computer Science and Robotics

# The 4th International Conference on Information Technologies for Intelligent Decision Making Support



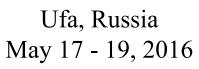
ITIDS '2016

Proceedin



Information Technologies for ntelligent Decision Making Support

Proceedings v. 2



## ITIDS '2016



Information Technologies for Intelligent Decision Making Support

Program





# International Conference on Information Technologies for Intelligent Decision Making Support

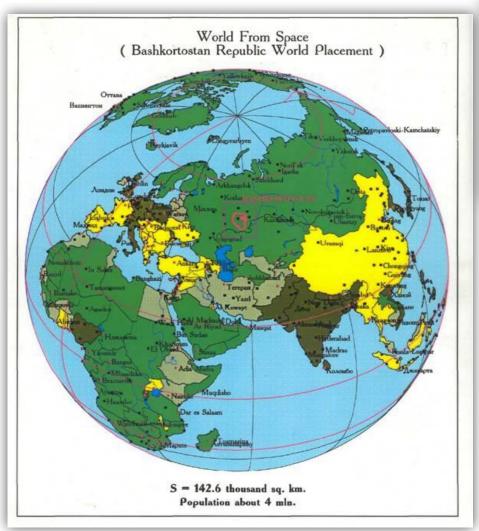
# 10:00 – 10:30 Opening Ceremony of Conference (conference hall №1)

## Welcome word

Prof. Krioni N.K. (Rector of USATU)
Prof. Zaripov N.G. (Vice-Rectorfor academic work)
Prof. Darintsev O.V. (Vice-rector for Research and Innovation)
Prof. Kovacs G.
Prof. Fischer A.
Mr. Prilukov S.A.



# **Ufa State Aviation Technical University**











# **DEPARTMENTS OF USATU**

#### Number of students:

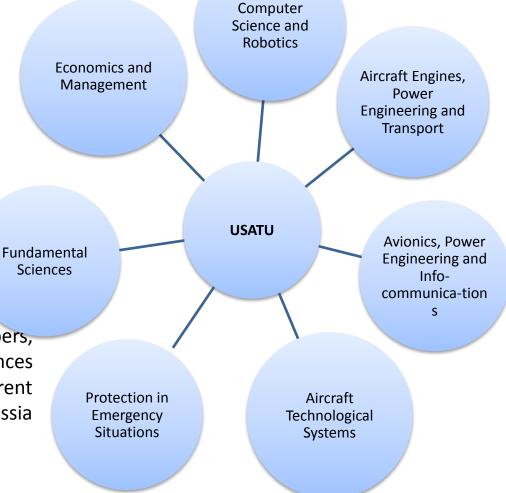
- USATU 20 000 (st.)
- Branch in Sterlitamak 840 (st.)
- Branch in Ishimbaj 915 (st.)
- Branch in Kumertau 810 (st.)
- Branch in Neftekamsk 800 (st.)
- Branch in Tuymazy 330 (st.)

More than 1000 lecturers work

at 66 chairs, among them about:

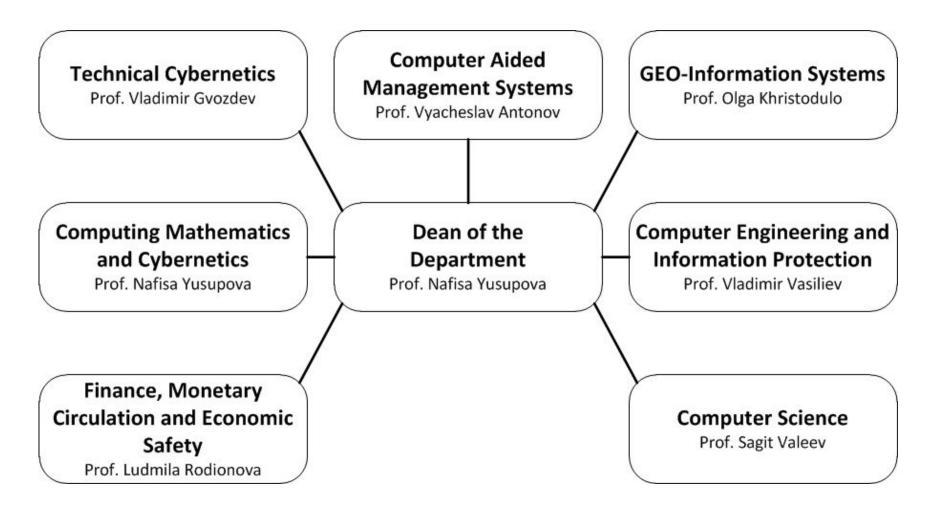
- about 180 Doctors of Sciences;
- about 600 PhDs;

 more than 80 corresponding members, members of the Russian Academy of Sciences and Bashkir Academy of Sciences, different sectoral, state and public academies in Russia and foreign countries.





# DEPARTMENT OF COMPUTER SCIENCE AND ROBOTICS





09.04.01

Computer science

and engineering

09.04.02

Information systems

and technologies

09.04.03

Applied computer

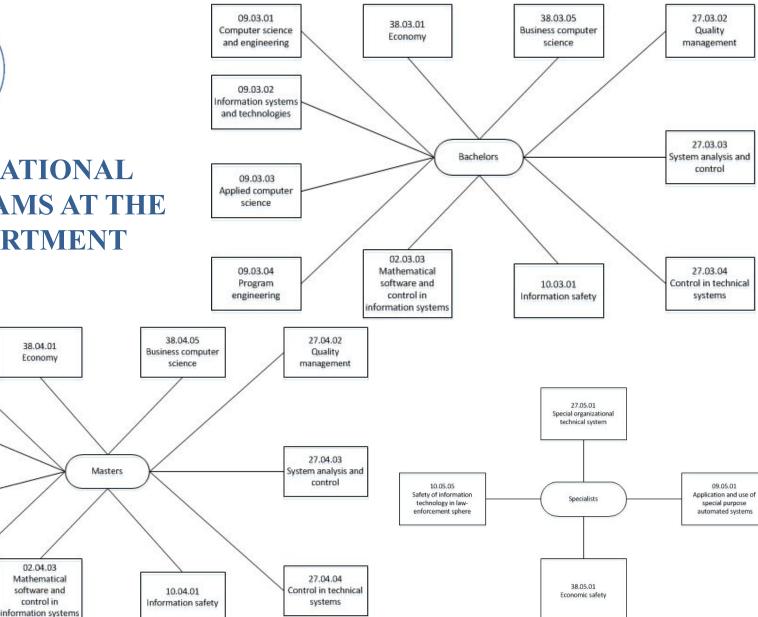
science

09.04.04

Program

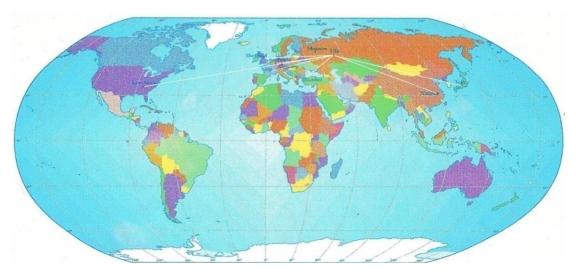
engineering

## **EDUCATIONAL PROGRAMS AT THE** DEPARTMENT





# INTERNATIONAL COOPERATION AND SCIENTIFIC PROJECTS



#### The University has agreements on mutual cooperation with:

- Los-Angeles center of material science (USA)
- Karlsruhe Institute of Technology (Germany)
- Meiji University (Japan)
- University of Trento (Italy)
- La Sapienza University of Rome (Italy)
- Universidade Nova de Lisboa (Portugal)
- Ruhr Universität Bochum (Germany)

#### International scientific-technical projects:

- "Aviacosmos"
- "Nanocristals"

- Nanjing University of Aeronautics and Astronautics (China)
- Sheffield Hannam University (UK)
- Technical University of Dresden (Germany)
- Bonn-Rhein-Sieg University of Applied Science (Germany)
- University of Wroclaw (Poland)
- Technische Universität Wien (Austria)
- Wroclaw University of Technology (Poland)

#### Participants of the projects:

SATUU Universities of Germany, USA, France, China



# **WORKSHOPS ACTIVITY**

#### [] International Workshop "Computer Science and Information Technologies"

2000, 2001, 2003, 2005, 2007 – Ufa, Yangantau, Assy, Krasnousolsk, Russia; 2002,2009 – Patras, Crete, Greece; 2004 – Budapest, Hungary; 2006, 2011 – Karlsruhe, Garmisch-Partenkirchen, Germany; 2008 – Antalya, Turkey; 2010 – Moscow – Saint-Petersburg, Russia; 2012 – Hamburg – Norwegian Fjords; 2013 – Vienna-Budapest-Bratislava; 2014 – Sheffield, England; 2015 – Rome, Italy

*"Engineering and Information Sciences: New Methods and Solutions for Emerging Technologies"* 2010 - Karlsruhe, Germany

International workshop "Innovation Information Technologies: Theory and Practice" 2010 - Dresden, Germany

International Workshop for Young Scientists "Intelligent Technologies for Information Processing and Management" 2012 - Ufa, Russia

[] International Summer School "Neuroinformatics"

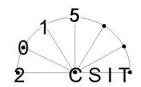
2012 - Ufa, Russia

- International Conference "Information Technologies for Intelligent Decision Making Support" 2013, 2014, 2015 – Ufa, Russia
- International Conference "Intelligent Technologies for Information Processing and Management (ITIPM)" 2014, 2015 – Ufa, Russia

 International workshop "Technologies of digital processing and data storage" 2015 – Ufa, Russia



#### International Workshop "Computer Science and Information Technologies"



- 2000, 2001, 2003, 2005, 2007 Ufa, Yangantau, Assy, Krasnousolsk, Russia
- 2002,2009 Patras, Crete, Greece
- 2004 Budapest, Hungary
- 2006, 2011 Karlsruhe, Garmisch-Partenkirchen, Germany
- 2008 Antalya, Turkey
- 2010 Moscow Saint-Petersburg, Russia
- 2012 Hamburg Norwegian Fjords
- 2013 Vienna-Budapest-Bratislava
- 2014 Sheffield, England
- 2015 Rome, Italy

The Workshop's aim is bringing together researchers from different areas, including Distributed Information Systems, Data & Knowledge Management, Computer Control, IT Applications. These areas are heavily related nowadays.

The Workshop attracted more than two hundred submitted technical papers from different countries including both conceptual and experience papers. Both types of submissions were evaluated similarly, in accordance with standards of international forums.

## **OUR ORGANIZERS**



Peter Lockemann University of Karlsruhe



e *Heinz Wörn* University of Karlsruhe



Nafisa Yusupova USATU



Andreas Fischer Technical University of Dresden



Enrico Tronci Sapienza University of Rome



Peter P. Groumpos University of Patras



George L. Kovács Hungarian Academy of Sciences



Chrysostomos Stylios University of Ioannia, Greece, Artas



Tim Breikin Sheffield Hallam University England



## **Ufa State Aviation Technical University**

Faculty of Computer Science and Robotics

Faculty of Computer Science and Robotics 2015-2016

## **International Workshop**



Proceedings v.l

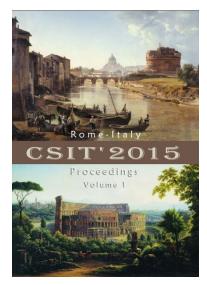


#### Program ITIDS '2015

Information Technologies for Intelligent Decision Making Support

Ufa, Russia, 18-21 May









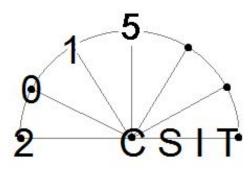
Proceedings v.l



# **Ufa State Aviation Technical University**

Faculty of Computer Science and Robotics

# International Workshop on **Computer Science** and Information Technologies



Rome, Italy September, 22-26, 2015





# **CSIT'2015**





# **Ufa State Aviation Technical University**

Faculty of Computer Science and Robotics

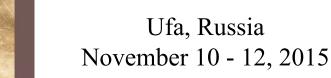
# The 3<sup>rd</sup> International Conference on

# Intelligent Technologies for Information Processing and Management



**'20** 

Proceed





Proceeding, v.S

ΙΤΙΡΜ

2015



# International Conference on "Intelligent Technologies for Information Processing and Management"











# International Conference on "Intelligent Technologies for Information Processing and Management"







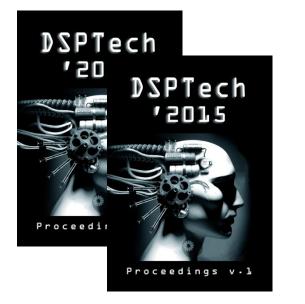


# **Ufa State Aviation Technical University**

Faculty of Computer Science and Robotics

# The 1<sup>st</sup> International Workshop on

# **Technologies of Digital Signal Processing and Storing**



Ufa, Russia December 10 - 13, 2015





# International Workshop on Technologies of Digital Signal Processing and Storing









## **HISTORY OF CONFERENCE**

# International Conference on Information Technologies for Intelligent Decision Making Support

Proceedings ITIDS & MAAO '2013

Ufa, Russia, 21-25 May



Volume 1

#### Proceedings

ITIDS & RRS '2014

Ufa, Russia, 18-21 May



Volume 1

#### Proceedings ITIDS '2015

Information Technologies for Intelligent Decision Making Support

Ufa, Russia, 18-21 May



Volume 1

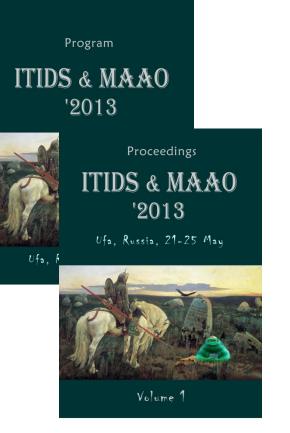
#### ITIDS '2016



Information Technologies for Intelligent Decision Making Support

Proceedings v. 1





# **HISTORY OF CONFERENCE**

The International Conference on

# Information Technologies for Intelligent Decision Making Support and the Intended Russian-German Workshop on Models and Algorithms of Applied Optimization

Ufa, Russia May 21 - 25, 2013





# International Conference on Information Technologies for Intelligent Decision Making Support, 2013











## **HISTORY OF CONFERENCE**

The International Conference on

# Information Technologies for Intelligent Decision Making Support and the International Workshop on Robots and Robotic Systems

Ufa, Russia May 18 - 21, 2014





# International Conference on Information Technologies for Intelligent Decision Making Support, 2014















## **HISTORY OF CONFERENCE**

The 3<sup>rd</sup> International Conference on **Information Technologies for Intelligent Decision Making Support**  Proceedings ITIDS '2015

Information Technologies for Intelligent Decision Making Support

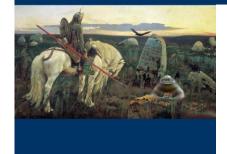
Ufa, Russia, 18-21 May

#### Program ITIDS '2015

Information Technologies for Intelligent Decision Making Support

Ufa, Russia, 18-21 May





Ufa, Russia May 18 - 21, 2015





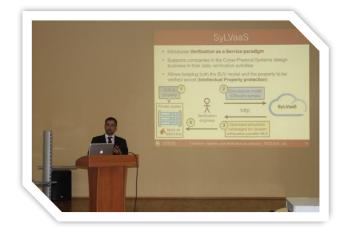
# International Conference on Information Technologies for Intelligent Decision Making Support, 2015













### International Conference on Information Technologies for Intelligent Decision Making Support, 2015

Awarding the diploma of Honorary Doctor













# **CONFERENCE OFFICERS**



## **GENERAL ORGANIZING COMMITTEE CHAIR** Yusupova Nafisa, USATU, Ufa, Russia

## **PROGRAM COMMITTEE CO-CHAIRS**

Smetanina Olga, USATU, Ufa, Russia Fischer Andreas, Germany Kovacs George, Budapest, Hungary

Technical University of Dresden,

Hungarian Acad. of Sciences,





# INTERNATIONAL PROGRAM COMMITTEE

Antonov Viacheslav, Alimguzhin Vadim, Borgest Nikolay, Casati Fabio Darintsev Oleg, Ermolov Ivan, Gainanov Damir,

Gvozdev Vladimir, Groumpos Peter, Ilyasov Baryy, Janschek Klaus Kartak Vadim Konrad Uwe, Khristodulo Olga, Kulikov Gennady, Massel Lyudmila, Melnikov Andrey, Munasypov Rustem Petunin Alexander, Rodionova Liudmila, Tronci Enrico, Sherykhalina Nataliya, Valeev Sagit, Vasilyev Vladimir, Woern Heinz, Wolfengagen Viacheslav, Zhitnikov Vladimir

USATU, Ufa, Russia Sapienza University of Rome, Italy Samara State Aerospace University, Samara, Russia University of Trento, Italy USATU, Ufa, Russia Russian Academy of Sciences, Moscow, Russia Institute of social-economy research, Ufa Research Center Ufa, Russia USATU, Ufa, Russia University of Patras, Greece USATU, Ufa, Russia Technical University of Dresden, Germany BSPU, Ufa, Russia HZDR, Dresden, Germany USATU, Ufa, Russia USATU, Ufa, Russia Energy Systems Institute, Irkutsk, Russia ChSU, Chelyabinsk, Russia USATU, Ufa, Russia UrFU, Yekaterinburg, Russia USATU, Ufa, Russia Sapienza University of Rome, Italy USATU, Ufa, Russia USATU, Ufa, Russia USATU, Ufa, Russia University of Karlsruhe, Germany JurInfoR-MSU Institute, Moscow, Russia USATU, Ufa, Russia



# **GEOGRAPHY OF PARTICIPANTS:**

**Russia:** Ufa, Moscow, Irkutsk, Chelyabinsk, Magnitogorsk, Samara, Izhevsk, Omsk, St. Petersburg, Bryansk, Novocherkassk, Kazan, Khabarovsk, Cheboksary, Naberezhnye Chelny, Kumertau, Sterlitamak, Salavat, Yekaterinburg (**19**)

Germany: Dresden Hungary: Budapest Austria: Vienna Italy: Trento





# **CONFERENCE STATISTICS**

## **REPORTS:**

Plenary reports:6Session reports:153Papers in first volume:48Papers in second volume:46Rejected papers:18Papers in third volume:?





#### ALL REPORTS: 159 ALL PARTICIPANTS: 327





# International Conference on Information Technologies for Intelligent Decision Making Support

#### **Research sessions:**

- □ Intelligent models, methods, technologies and systems
- □ Systems analysis and mathematical methods of decision-making
- □ Software for decision making support
- □ Methods, models and information technologies in natural science
- □ Information systems
- Decision-making methods in complex technical and organizational systems
- Models and algorithms for decision-making systems
- □ Methodology of artificial intelligence
- □ Methods, models and information technology in the management of socio-economic systems
- □ Young scientist's session

#### Round table:

- □ Robots and robotics systems
- □ Models and algorithms of applied optimization
- Problems of education in terms of new standards



# Thank you for your attention!

