



MINISTRY OF EDUCATION AND SCIENCE OF
RUSSIAN FEDERATION

MINISTRY OF EDUCATION OF OMSK REGION
OMSK STATE TECHNICAL UNIVERSITY
SANGMYUNG UNIVERSITY



INTERNATIONAL SCIENCE CONFERENCE
«INFOGRAPHICS AND INFORMATION DESIGN: DATA VISUALIZATION»

November 17–18, 2017

Omsk State Technical University, Omsk, Russia

The authors are invited to submit their previously unpublished papers that closely connected to the key topics of this conference.

CONFERENCE TOPICS:

1. INFOGRAPHICS AS UNIVERSAL METHOD OF VISUALIZATION INFORMATION

Scientific researches on different kinds of topics connected with information visualization. Papers on data representation and interaction techniques, models or theories related to visualization of information, visual data analysis or applications of information visualization systems on problem-oriented approach are accepted.

General themes of scientific researches can be found in a list below:

Information visualization techniques

- graphs (networks), trees (hierarchies), and other relational data
- high-dimensional data and dimensionality reduction
- heterogeneous data
- personal or social data (health, energy, finance, fitness, email, etc.)
- non-numeric data (categorical data, nominal data, etc.)
- causality and uncertainty data
- time-series & temporal event data
- spatial data, particularly visualized with a new spatial mapping
- combinations of abstract and spatial data
- streaming or time-varying data
- very large datasets

Applied information visualization

- reports on information visualization in domains where it has impact
- using information visualization for education and teaching
- design studies

Topic executive:

Choi, Jong Myung, MokPo National University, The Republic of Korea

Zykina Anna Vladimirovna, Professor, Head of the Department "Applied Mathematics and Fundamental Informatics" Omsk State Technical University

2. INFORMATION DESIGN AND VISUALIZATION IN RESEARCH PROJECTS

New research idea and innovative applications in scientific issues development and visualization areas including both research reports on scientific visualization and achievements in solving nowadays problems in different science research areas.

General themes of scientific researches can be found in a list below:

Visualization, rendering, and manipulation of spatial data

- Scalar, vector and tensor fields
- Multidimensional multi-field, multi-modal, and multivariate data,
- Time-varying data
- Regular and unstructured grids
- Point-based data
- Volumetric data
- Streaming data

Visual computing, systems and methodologies

- System and toolkit design
- Topology-based and geometry-based techniques
- Feature extraction and pattern analysis

- Uncertainty visualization
- View-dependent visualization
- Glyph-based techniques
- Integrating spatial and non-spatial data visualization

Data Science

- Large-scale computing
- Storage and data analytics
- Distributed, cluster, and grid computing
- Scalable data management on and off the cloud
- High-performance computing on multi-core, GPUs and embedded devices
- Information extraction and knowledge discovery from big data
- Application of computer vision techniques
- Statistical modeling
- Clustering techniques

Display techniques

- Large and high-res displays
- Giga-pixel displays
- Wrist displays/wearable displays
- Stereo displays
- Immersive and virtual environments
- Mixed and augmented visualization
- Projector-camera systems
- Small displays
- Mobile Devices

Visual computing applications

- Mathematics, physical sciences and engineering
- Earth, space, and environmental sciences
- Terrain visualization
- Geographic/geospatial visualization
- Molecular, biomedical and medical visualization
- Bioinformatics visualization
- Software visualization
- Business and finance visualization
- Social and information sciences
- Education
- Humanities
- Multimedia (image/video/music)
- Nano-technologies
- Robotics
- Sensor networks
- Cybersecurity
- Computational architecture

Topic executive:

Ko, Hoon, SungKyunKwan University, The Republic of Korea

Batenkina Oksana Vasilievna, Professor Associate of the Department "Design and Technologies of Media Industry"
Omsk State Technical University

3. CULTURAL INFORMATICS AND DIGITAL CULTURAL HERITAGE

Scientific researches on different kinds of topics connected with information technologies usage for cultural heritage reconstruction and visualization, cultural heritage preservation visualization techniques.

General themes of scientific researches can be found in a list below:

Cultural Informatics and Digital Cultural Heritage

- Digital Data Acquisition Technologies
- 2D and 3D Data Capture Methodologies and Data Processing
- CAD and FEM based Digital Reconstructions and 3D Modelling
- Reproduction Techniques and Rapid Prototyping
- Visualization Techniques
- Non-Photorealistic Rendering of Cultural Heritage Data
- Virtual Museum Applications (e-Museums and e-Exhibitions)

— e-Libraries and e-Archives in Cultural Heritage

Topic executive:

Choi, Hee Soo, SangMyung University, The Republic of Korea

Kim, Sang Heon, SangMyung University, The Republic of Korea

4. DESIGNING AND EMBODYING EMOTIONAL CONTENTS

Scientific researches on studying emotion nature and emotional theories application both to informational product design and to informational technologies in general. Also reports on new concepts for both technology improvement taking into account emotional mechanisms and getting visual results representation (emotions expression) are accepted.

General themes of scientific researches can be found in a list below:

Recognition of Human Emotions

- Uni- or multimodal recognition of emotion from face, body, gesture, voice text or physiology
- face emotions / body animation
- expression and gesture recognition
- sentiment analysis

Synthesis of Human Emotion

- Emotional speech synthesis, modeling and animation, synthesis of auditory emotion bursts, synthesis of multimodal affective behavior

Emotional Interfaces

- brain-computer interfaces, design of affective loop and affective dialog systems
- mobile, tangible, haptic and virtual/augmented interfaces
- affectively-smart environments

Social and Behavioral Science Involving Emotional Computing

- Cognitive affective models
- models of moral decision-making
- tools for social science research
- computational models of emotion
- psychological factors in affective computing (personality, culture)

Emotion Engineering and Social Robotics and Virtual Agents

- Emotions in robot cognition and action
- affective virtual agents
- memory, reasoning, and learning of affective systems
- affective architectures for virtual & robotic systems

Affective Applications

- Databases and tools
- biometrics
- medical
- assistive
- virtual reality
- entertainment
- education
- ambient intelligence

Topic executive:

Whang, Min Cheol, SangMyung University, Республика

Lozhnikov Pavel Sergeevich, Head of Informatization Department of Omsk State Technical University

ORGANIZING COMMITTEE OF THE CONFERENCE

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Zhenatov Bekin, Vice-Rector of Research, Omsk State Technical University

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Makarova Taisya, Executive Secretary, Associate Professor of Department «Design and Technologies of Media industry» of Omsk State Technical University

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Bagautdinova Raisa, Leading specialist of Information-Patent Department of Omsk State Technical University

Shukshina Irina, Leading specialist of Information-Patent Department of Omsk State Technical University

PROGRAM COMMITTEE OF THE CONFERENCE

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Hwang, Min Chul, Professor of Department of Emotional Technology, SangMyung University

Choi, Jong Myung Professor of Department of Computer Engineering, MokPo National University

Ko, Hoon, Professor of Department of Computer Engineering, SungKyunKwan University

Kim, SangHeon, Professor of Department of Historical Content, SangMyung University

Batenkina Oksana, Associate Professor of Department «Design and Technologies of Media industry» of Omsk State Technical University

Conference	Important dates
Registration opening	August 21, 2017
Registration deadline	October 07, 2017
Thesis submission	October 14, 2017
Review	October 20, 2017
Thesis acceptance notification	November 3, 2017
Final Program announcement	November 3, 2017
Conference starting	November 17, 2017
Submission extended papers	January 08, 2018
Review and plagiarism check	January 29, 2018
Notice of acceptance for publication	February 05, 2018

Thesis are accepted in English or Russian up to 3 pages made in Word for Windows text editor.

The thesis should contain the following standard sections in a strict order standard section including their titles: "Introduction", "Statement of the problem", "Theory", "Performance experiments", "Discussion of results", "Conclusions and acknowledgments".

The copied text in the article should be in quotes and have a special link for that. Each report is checked for plagiarism, self-plagiarism. The Program Committee reserves the right to reject articles that do not meet the requirements of the conference.

Registration fee for foreign participants:

- 150 euro - includes publication of the article (editing and reviewing, preparation for publication), intended for placement in journals indexed by the main scientific bases (WoS, SCOPUS); conference materials; coffee breaks, visa support.

- 75 Euros - for OmSTU partners - includes the publication of the article (editing and reviewing, preparing for publication), intended for placement in journals indexed by the main scientific bases (WoS, SCOPUS); conference materials; coffee breaks, visa support.

Articles are made through the templates presented on the conference website:

- in English for placement in the database of electronic publications indexed by the main scientific bases of WoS, SCOPUS, etc. (template for English-language articles).

The file must be called by the name of the first author.

Articles in English that have received a positive review are posted:

- in the conference proceedings, further indexed in WoS, Scopus.