

**14th MULTI CONFERENCE ON COMPUTER SCIENCE AND
INFORMATION SYSTEMS
23 – 25 July 2020**

**5th International Conference on Big Data Analytics, Data Mining and Computational
Intelligence**

**14th International Conference on Computer Graphics, Visualization, Computer Vision
and Image Processing**

9th International Conference on Theory and Practice in Modern Computing

CONFERENCE PROGRAM

IMPORTANT NOTICE: listed times are in GMT+1, you can check your timezone at <https://greenwichmeantime.com/time-zone/gmt-plus-1/> (you can use the provided URL to insert your location and see your time in relation to GMT+1).

Thursday 23rd July 2020

13:45 – 14:00 Session O – Opening Session

Profs. Ajith P. Abraham, Yingcai Xiao and Jörg Roth

14:00 – 15:00 Session KL1 – Keynote Presentation

VISION OF THE MIND

Professor Chaomei Chen, College of Computing and Informatics, Drexel University, USA

15:00-16:00 Session FP 23.1

Scientific Visualization

Chair: Yingcai Xiao

DATA-DRIVEN APPROACH FOR GENERATING COLORMAPS OF SCIENTIFIC SIMULATION DATA (F033)

Yi Cao, Xiaohua Wang, Huawei Wang, Zhiwei Ai and Fang Xia

A 3D-SHOCKWAVE VOLUME RENDERING ALGORITHM BASED ON FEATURE BOUNDARY DETECTION (F042)

Huawei Wang, Liu He, Zhiwei Ai and Yi Cao

16:00-16:15 Break

16:15-17:15 FP 23.2

Information Visualization

Chair: Yingcai Xiao

**USING REORDERABLE MATRICES TO COMPARE RISK CURVES OF REPRESENTATIVE MODELS IN OIL RESERVOIR
DEVELOPMENT AND MANAGEMENT ACTIVITIES (F061)**

Celmar Guimarães da Silva, Luis Augusto Angelotti Meira, Antonio Alberto S. Santos and Denis José Schiozer

HYBRID SORT – A PATTERN-FOCUSED MATRIX REORDERING APPROACH BASED ON CLASSIFICATION (F021)

Celmar Guimarães da Silva

Friday 24th July 2020

08:55-10:15 Session FSP 24.1

Graphical User Interface // Human-Computer Interaction

Chair: Tracy P Y Mok

GRAPHICAL USER INTERFACE PERSONALIZATION: USER STUDY OF IMAGE FREQUENCY PREFERENCES (F028)

Malwina Dziško, Anna Lewandowska and Anna Samborska – Owczarek

AN ENHANCED INTERACTION AND FILTERING WIDGET (F074)

Yasmin Al-Zokari, Peter Dannenmann, Hans Hagen and Dirk Zeckzer

USER BEHAVIOR MODEL DEVELOPMENT IN THE TILE LOGIC FOR AUTOMATING USABILITY EVALUATION (S077)

Vladimir V. Devyatkov and Evgeny A. Tipsin

08:55-10:15 Session FSP 24.2

Theory and Practice in Modern Computing

Chair: Jörg Roth

PARALLEL SOLVERS COMPARISON FOR AN INVERSE PROBLEM IN FRACTIONAL CALCULUS (F032)

Pasquale De Luca, Ardelio Galletti and Livia Marcellino

FEATURE FUSION BASED ON AUDITORY AND SPEECH SYSTEMS FOR AN IMPROVED VOICE BIOMETRICS SYSTEM USING ARTIFICIAL NEURAL NETWORK (F030)

Youssef Ismail Cherift and Abdelhakim Dahimene

THE INTELLIGENT SYSTEMS FOR LANGUAGE PHONETIC INTERFACES (S034)

Natalia Yanova

10:15-10:30 Break

10:30-12:30 Session FP 24.3

Computer Vision

Chair: Dag Waaler

EVALUATION OF COLOR SPACES FOR UNSUPERVISED AND DEEP LEARNING SKIN LESION SEGMENTATION (F085)

Michael Osadebey, Marius Pedersen and Dag Waaler

REPEATED PATTERN EXTRACTION WITH KNOWLEDGE-BASED ATTENTION AND SEMANTIC EMBEDDINGS (F038)

Hong Qu, Yanghong Zhou, K.P. Chau and P.Y. Mok

AUTOMATIC LABELING FOR FASHION DATASETS (F087)

Anissa Selmani, Houda Bakir and Hedi Zaher

SAMPLE SCENES FROM A DISTRIBUTION: A CONTENT CREATION PIPELINE FOR REALISTIC RENDERING FOR NEURAL NETWORKS TRAINING (F058)

Vadim Sanzharov, Vladimir Frolov, Alexey Voloboy and Vladimir Galaktionov

10:30-12:30 Session FP 24.4

Data Mining Topics and Applications

Chair: waiting confirmation

APPLICATION OF SLIDING WINDOWS TO SPELLING ERROR DETECTION IN MEDICAL DIAGNOSIS (F045)

Sutat Gammanee and Sunantha Sodsee

ON EFFICIENTLY CREATING TEMPORALLY BIASED SAMPLES OVER DATA STREAMS: BEYOND MEMORYLESS FUNCTIONS (F050)

George Lagogiannis and Christos Makris

PERFORMANCE OF CORE METHODOLOGIES FOR CONSUMER PRICE PREDICTION SERVICES (F043)

Anne Falkenberg

A DATA MINING APPROACH FOR CUSTOMER SEGMENTATION USING A SAF-T BASED BUSINESS INTELLIGENCE SYSTEM (F066)

Rosa Silveira, Bruno Oliveira, Mariana Carvalho and Telmo Matos

12:30 – 14:00 Break

14:00-15:50 Session FSP 24.5

Image Processing

Chair: Celmar Guimarães Da Silva

INTELLIGENT STYLE TRANSFER OF FILM IMAGE BASED ON CYCLEGAN (F069)

Da Liu, Huixin Wang and Bin Wu

DATA INTERPOLATION BASED ON CONTEXTUAL ANALYSIS FOR GENERATING TOMOGRAPHIC IMAGES IN CONCRETE SPECIMEN (F073)

Roger Manuel Quispe Urure , Marco Antonio Garcia de Carvalho, Marinara Andrade Nascimento Moura and Gisleiva Cristina dos Santos Ferreira

SEGMENTATION AND RECOGNITION OF CONNECTED HANDWRITTEN CHARACTERS (F080)

Shehan Panditharatne and Lochandaka Ranathunga

IMAGE PROCESSING TECHNIQUES FOR FAST AND ACCURATE ESTIMATION OF POSE OF A DOUBLE PENDULUM (S040)

Muhammad Haris, Junaid Ahmed Memon and Muhammad Farhan

16:00-16:15 Break

16:15-17:35 Session SP 24.6

Shading and Rendering

Chair: Yingcai Xiao

BIDIRECTIONAL RAY TRACING WITH CAUSTIC PHOTON AND INDIRECT IMPHOTON MAPS (S023)

Andrey Zhdanov, Dmitry Zhdanov and Vladimir Galaktionov

AN OPEN-SOURCE, HARDWARE ACCELERATED INDUSTRY PROTOTYPE FOR MULTIDIMENSIONAL GLYPHS (S032)

Dylan Rees and Robert S. Laramie

THE EFFECTIVE BIDIRECTIONAL RAY TRACING ON MULTIPROCESSOR WORKSTATIONS (S025)

Andrey Zhdanov, Dmitry Zhdanov, Vadim Sokolov and Vladimir Galaktionov

REAL-TIME RENDERING WITH HETEROGENEOUS GPUS (S034)

Xiao Lei and Vetricia L. Byrd

Saturday 25th July 2020

09:05-10:15 Session FSP 25.1

Big Data Applications // Data Mining Topics and Applications

Chair: waiting confirmation

IMPROVING DEEP MATRIX FACTORIZATION WITH NORMALIZED CROSS ENTROPY LOSS FUNCTION FOR GRAPH-BASED MOOC RECOMMENDATION (F060)

Thanh Le, Vinh Vo, Khai Nguyen and Bac Le

KNOWLEDGE DISCOVERY AND FRAMEWORK FOR PURCHASE BEHAVIOR ANALYSIS IN MOBILE GAMING APPLICATIONS (S037)

Martins Jansevskisa and Kaspars Osis

APPLICATIONS OF SARS-COV-2 SEQUENCING DATA (S063)

Cláudia Oliveira da Silva, Tatiana Donai Lopes and Brígida Mónica Faria

10:15-10:30 Break

10:30-11:50 Session FSP 25.2

Classification and Clustering // Pattern Recognition

Chair: Evgin Goceri

LEARNING-BASED SEGMENTATION OF OPTIC DISC IN RETINAL IMAGES USING CLUSTERING TREES AND LOCAL MODE FILTERING (F048)

Michael Osadebey, Marius Pedersen and Dag Waaler

REMOTE SENSING CLASSIFICATION USING MULTI-SENSOR SUPER-RESOLUTION ALGORITHM (F030)

Alexander Belov and Anna Denisova

COMPARATIVE EVALUATIONS OF CNN BASED NETWORKS FOR SKIN LESION CLASSIFICATION (S044)

Evgin Goceri and Ayse Akman Karakas

11:50 Best Paper Awards Ceremony and Closing Session

Profs. Ajith P. Abraham, Yingcai Xiao and Jörg Roth