

FOREWORD

Now in its twelfth year, the Developments in e-Systems Engineering (DeSE) series of conferences has firmly established an exciting, stimulating, and essential forum for the exchange and advancement of ideas in e-Systems. The establishment of this conference series has brought about an ever-widening scope of cross-disciplinary participation, bringing e-Systems developers, from all fields, into a common research area. DeSE 2019 is sponsored by the Institute of Electrical and Electronics Engineers (IEEE) and organised by Kazan Federal University and Liverpool John Moores University. The conference series was established by a consortium of UK universities in 2008 as a forum for the development, analysis and future guidance on the burgeoning number of e-system projects and applications. DeSE 2019 is brought to Kazan, Russia; building upon the success and dissemination of research of previous conference iterations furthering the ideas of e-Systems development.

Currently, there is a vast quantity of interest in the field of e-Systems, resulting in a wide array of research being conducted in order to transfer services and facilities into state-of-the-art electronic technologies. This year's conference presents a multitude of topics aimed at addressing current research issues and trends in the design, engineering, and adoption of e-Systems.

We also welcome four speakers covering a range of relevant, innovative topics that promise to be exciting and thoroughly engaging. The standard and breadth of this year's accepted papers is exceptional, validating the importance of the continual availability of DeSE as a major event and forum for the promotion and discussion of e-Systems development. With submissions from over 30 countries and accepted from 25, spanning UK, USA, UAE, Iraq, Russia, Indonesia, Saudi Arabia, Malaysia, Jordan, Uzbekistan, Greece, Brazil, Tunisia, Canada, China, Mexico, Australia, Taiwan, Germany, Finland, Romania, Ukraine, Kazakhstan, Japan, Hungary, Poland and Turkey, we welcome an international presence for research discussion. We would like to thank the speakers and session chairs for their time and effort, and the authors for their contribution to an excellent programme.

We hope that you enjoy DeSE 2019 and take the time to enjoy the activities and culture offered in the historical and beautiful city of Kazan. Next year, the series will move to Dubia, UAE for DeSE 2020. Finally, we would like to thank the Local Organising Committee and the Technical Programme Committee for all their hard work in helping to make this event a success.



**Kazan Federal
UNIVERSITY**



eSystems Engineering
Society



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Prof. Zarko Cucej, Slovenia

SCHEDULE-AT-A-GLANCE

Mon 7 th October	
Registration Desk (1st Floor, Entrance, Kremlyovskaya Street, 35)	
10:00-17:00	Registration
19:00-22:00	Welcome Reception (Leuven brasserie, Pushkina 11 street)

Tue 8 th October	
Registration Desk (1st Floor, Entrance, Kremlyovskaya Street, 35)	
8:00-9:00	Registration
	Imperial Hall (2nd Floor, Kremlyovskaya Street, 18)
	1409
	1408
9:00-9:20	Opening ceremony
	Keynote Speech
9:20-10:20	Andrew Holroyd, CBE <i>The Jackson Lees Group</i>
	Invited Industrial talk
10:20-11:05	Oleg Kivokurtsev <i>Promobot</i>
	Keynote Speech
11:05-11:50	Paulo Lisboa <i>Liverpool John Moores University</i>
	Invited talk
11:50-12:35	Hoshang Kolivand <i>Liverpool John Moores University</i>
12:35-12:45	Opening Joint Photo session
12:45-14:00	Lunch Break – Refer to the DeSE guide for suggested venues
	1310
	1309
	1308
	1307
	1306
	1305
	1409
	1408
14:00-14:15	Briefing
14:15-15:15	Parallel Session 1
15:15-16:15	Parallel Session 2
16:15-17:45	Coffee
	Lab Tours
17:45-18:30	Free Time
18:30-21:30	Tour 'Night Kazan' (Meeting point, Univeritetskaya street, 22)

Wed 9 th October	
Registration Desk (1st Floor, Entrance, Kremlyovskaya Street, 35)	
8:00-9:00	Registration
	1309
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	1305
	1304
	1409
	1408
9:00-10:30	Parallel Session 3
10:30-11:00	Coffee
11:00-12:00	Parallel Session 4
12:00-13:00	Parallel Session 5
13:00-14:15	Lunch Break – Please refer to the DeSE guide for suggested venues
14:15-15:15	Parallel Session 6
15:15-17:30	Workshop 1
	Parallel Session 7
17:30-17:45	Closing Ceremony & Photo Session
17:45-18:30	Networking Time & Coffee
18:30-19:00	Walking to Conference Dinner Venue
19:00-23:00	Conference Dinner

WORKSHOPS



13th/14th Floor

Kazan Federal University

Kremlyovskaya Street, 35

1310

WORKSHOP 1:

*In-Depth Analysis of Data
Science with KNIME
Platform*

9/10/2019, (15:15-17:30)

1408

WORKSHOP 2:

*Mobile Robotics with TRIK
Platform*

8/10/2019, (10:30-11:15)

Installation and equipment preparation

8/10/2019, (14:00-18:30)

Workshop educational lectures

9/10/2019, (9:00-13:15)

*Practical training and preparation of teams for
competitions*

9/10/2019, (14:30-17:30)

Competitions of the teams of participants

1409

WORKSHOP 3:

*Autonomous Navigation
for Quadcopter Type
UAVs*

8/10/2019, (10:30-11:15)

Installation and equipment preparation

8/10/2019, (14:00-18:30)

Workshop educational lectures

9/10/2019, (9:00-13:15)

Practical training

9/10/2019, (14:30-17:30)

*Final testing of algorithms and competition between
teams*

PARALLEL SESSIONS



13th Floor

Kazan Federal University
Kremlyovskaya Street, 35

PARALLEL SESSION 1

Human Machine Interaction

1310

Towards the Internet of Robotic Things: Analysis, Architecture, Components and Challenges Ilya Afanasyev

An ISO Compliant Safety System for Human Workers in Human-Robot Interaction Work Environment Sadeq O AlHamouz

Restrictions of the Measurement System and a Patient When Using Visually Evoked Potentials Roman Meshcheryakov

Walking Algorithm for ROBOTIS OP3 Humanoid Robot with Force Sensors Artur Sagitov

Robotics and Information Systems for Disaster Management

1309

Stability Analysis for Heterogeneous Swarm Robots with Limited Field of View Takahiro Endo

Toward Cooperative Multi-Robot Control for Detecting and Tracking an Expanding Flood Area Mikhail Svinin

Pilot Communication Protocols for Group of Mobile Robots in USAR Scenarios Roman Lavrenov

The Method of the Kinematic Structure Reconfiguration of a Multifunctional Modular Robot Based on the Greedy Algorithm Mikhail Gurchinsky

Sustainable Engineering & Technology

1308

Robust Mixed H_2/H^∞ Control Synthesis for Electro-Optical Device Line-of-Sight Stabilization System Rustem Fayzudinov

Improvement of Inspection System for Damages in R.C Concrete Bridge by Using Knowledge Base System Yousif Mansoor

Assessment Strength Properties of Modified Reactive Powder Concrete by Adding Waste Bricks Vian Mohammed

Rheological Properties and Mechanical Strength of Recycled Concrete Aggregate SCC Ghassan A. Hammadi

Emerging Trends in Data Science Theory and Multidisciplinary Applications

1307

Prediction of Twitter Message Deletion

*Alisa Rustamovna
Gazizullina*

Desert Plants Recognition by Bark Texture

Najla Alsaedi

*Comprehensive Study of Diabetes Miletus Prediction Using Different
Classification Algorithms*

*Hanan Rajaullah
Almohammadi*

*Comparing Unsupervised Layers in Neural Networks for Financial Time Series
Prediction*

Dhiya Al-Jumeily

Education 4.0 and Industry 4.0

1306

Emotional Factor in Students' Acculturation in a Foreign Language Class

Pavel Baklanov

*Analysis and Classification of Digital Educational Resources Used in the Work of
a Proactive Teacher*

*Elvir Munirovich
Akhmetshin*

Education 4.0 in Teaching/Learning Strategies

Irina N. Golitsyna

*Educational Mobile Robotics Project "ROS-controlled Balancing Robot" Based
on Arduino and Raspberry Pi*

*Elvira
Chebotareva*

e-System Engineering (Main Track)

1305

Self-concept and Social Networking of Students at Polytechnic College

Valeria Khoroshikh

Phishing Attacks in Qatar: A Literature Review of the Problems and Solutions

Hoshang Kolivand

*Electroencephalograph-based Wheelchair Controlling System for the People
with Motor Disability Using Advanced BrainWear*

*Sadik Kamel
Gharghan*

*Measurement Validation of Patient Vital Signs Monitoring System Using
Wireless Sensor Network*

Ahmed Fakhri

PARALLEL SESSION 2

Social Robotics

1310

On the Problem of Developing Software and Hardware Instruments for the Social Robot Vladimir Zhidkov

Development of a Medical Social Robot Nikolai Bodunkov

Emotional Social Robot "Emotico" Elvira Chebotareva

Pilot Study of Teaching English Language for Pre-School Children with a Small-Size Humanoid Robot Assistant Liliya Gavrilova

Robotics and Information Systems for Disaster Management

1309

LPLian: Angle-constrained Path Finding in Dynamic Grids Konstantin Yakovlev

Validation of the Snake-like Robot's Virtual Model: Typical Locomotion Modes Examples Victor Varlashin

Control of an UAV for Fire Monitoring Nikita Mikhailov

Dynamic Modelling and Control of an Underactuated Klann-based Hexapod Roman Lavrenov

Sustainable Engineering & Technology

1308

Investigating the Use of Cement Kiln Dust (CKD) in Producing Alkali Activated Concrete Saif Saad Mansoor

Fresh and Mechanical Properties of Self-Compacting Lightweight Concrete Containing Ponza Aggregates Abdulkader Ismail Al-Hadithi

Mechanical Properties of Sustainable Concrete Using Local Limestone Powder as Partial Replacement of Cement Ibrahim Al-Jumaily

Effect of Glass Powder as Partial Replacement of Cement on Concrete Strength and Stress-Strain Relationship Akram S. Mahmood

Intelligent and Innovative Data Science Methodologies to Support Real-World Applications

1307

Perspectives of Application of Project Budgeting in the Commercial Organizations

Alexey Isavnin

Optimum Rate Determination of Velocity of Money Circulation Using Fuzzy Logic

Mustafa Ahmed Abed

Effect of Node Speed and Packet Size on the Performance of the Modifications Transmission Control Protocol

Atheer Bassel

Data Quality Management for Big Data Applications

Majdh Yaeen Khaleel

Education 4.0 and Industry 4.0

1306

A Perspective on Education to Support Industry 4.0 A Qualitative Case Study in UK

Sin Ying Tan

Application of Learning Analytics Tools in Learning Management Systems

Lenar Galiullin

Challenges for Language Education Within the Industry 4.0: Case of California

Liliya Slavina

Regions Approaching Industry 4.0 Era (Case Study - Languages in Mass Media)

Nailya Nurutdinova

e-System Engineering (Main Track)

1305

Design and Implementation of Wireless Power Transfer of Wireless Heart-Rate Monitoring System

Mustafa Mahmood

Accurate Fall Localization for Patient Based on GPS and Accelerometer Sensor in Outdoor Environments

Saif Fakhruddin

Automated Verification of Cryptographic Protocol Implementations

Ilya Aleksandrovich Pisarev

Motion Planning and Control for a Class of Partially Differentially Flat Systems

Mikhail Svinin

PARALLEL SESSION 3

Digitising education

The Google Products as a Source of Students' Autonomy in Content and Language Integrated Learning

*Camila
Yakhyayeva*

Virtual Learning Environment in Lexical Skills Development for Active Vocabulary Expansion in Non-Language Students Who Learn English

*Larisa
Pechinskaya*

Using LMS Moodle in Teaching CLIL: a Case Study

Ksenia Grigorieva

Digitization Models of Education in Russia as the Basis of the Universities' Digital Collaborations

*Rasulya
Aetdinova*

Organizing Independent Work of Undergraduates Using Internet-based Technologies

Nailya Batrova

Concreteness Ratings of Russian and English Most Frequent Words: Contrastive Approach

Mariia I. Andreeva

Emerging Trends in Data Science Theory and Multidisciplinary Applications

Identification of the Clusters of Social Network Communities for Users with a Specific Characteristic

Galim Z Vakhitov

Considering the Context and Patient's Profile to Support Ubiquitous Healthcare Systems

*Arwa Soliman
Almobarak*

Hierarchical Text Clustering and Categorisation Using A Semi-Supervised Framework

*Mohamed
Mahyoub*

Enhanced Algorithm of Superpixel Segmentation Using Simple Linear Iterative Clustering

Razi J. Al-azawi

An Intelligent Saliency Segmentation Based on Histogram Features and Skin Lesion Classification Based on Hybrid Feature Set

Tanzila Saba

Classification of Aesthetic Photographic Images Using SVM and KNN Classifiers

*Liyakathunisa
Syed*

Engineering and Environmental Sciences

Effect of Steel Fibers on Mechanical Properties of Modified Reactive Powder Concrete

Khalil Aziz

Method of Modeling Oil Distribution at Possible Spills in the Concepts of the Kazakhstan Sector of the Caspian Sea

Saya Santeyeva

A New Test Method to Evaluate Abrasion Erosion in Hydraulic Structures

Salah L Zubaidi

Numerical Study for Improving Energy Dissipation over Stepped Spillway by Using Different Configurations on Steps

Ali Hilo

A Novel Gesomin Detection Method Based on Microwave Spectroscopy

Patryk Kot

Investigating the Mechanical and Durability Performance of Cement Mortar Incorporated Modified Fly Ash and Ground Granulated Blast Furnace Slag as Cement Replacement Materials

Dhiya Al-Jumeily

Service Robotics

Control System of a Manipulator of the Anthropomorphic Robot "FEDOR"

Ildar Kutlubayev

Object Grasping and Manipulating According to User-defined Method Using Key-points

Syedhassan Zabihifar

Numerical Kinematics and Modeling of Parallel Robot as a Laser Calibration Instrument

Hussein Tbena Kadhim

Analysis of the Effect of the Exoskeleton Geometrical Dimensions on the Nature of a Linear Compensator Operation

Ekaterina Saveleva

Control Technology for Remotely Piloted Air Systems (RPAS)

Dmitry Senchuk

Implementation of Autonomous Visual Detection, Tracking and Landing for AR.Drone 2.0 Quadcopter

Ilya Afanasyev

e-System Engineering (Main Track)

The Evaluation Method of the Informativeness of a Diagnostic Signal Ruslan Kalimullin

Smart Shunting and Monitoring of Hydrocephalus Patients Osman Salih

Review of Medical Simulation Training for Endovascular Thrombectomy Patryk Kot

Architecture Transformation of the Corporate Information Providing System for a Scientific Organization Dmitrii Malov

Slicing Architecture for Managing User Mobility in Next-Generation Heterogeneous Wireless Networks Ali Alfoudi

Improving GPR Data Corroboration by Generating 3D Files from 2D Profiles Alexandru Chelmus

Intelligent Control of Industrial Applications

DTC Controller Variable Speed Drive of Induction Motor with Signal Processing Technique Khalaf Salloum Gaeid

Intelligent Controller for 7-DOF Manipulator Based upon Virtual Reality Model Yousif Ismail Mohammed

Hybrid Intelligent Formation Control Using PSO_GEN Mehdi Marie

Robust Control Synthesis for Mechatronic Systems Using Observers Igor Olegovich Spiridonov

Synthesis of Nonlinear Control Law for Car Hydraulic Suspension with Regard Kinematic Constraints Alexander Synitsin

Face Drawing by KUKA 6 Axis Robot Manipulator Maxim Pichkalev

PARALLEL SESSION 4

Nanosensors

1309

Design Carbon Nanotubes Drug Delivery to Transport Adrenaline Medication Huda Jawad

Method of Sensitivity Calculation for Electrete Diaphragm Capacitive Sensors Konstantin Krestovnikov

Antibacterial Activity of ZnO Nanoparticle Prepared by Pulsed Laser Ablation in Liquid for Biological Sensor Adawiya Haider

Gel Polymer Electrolyte Based on SiC:PVA Composites for Body Motion Sensor and Paper Based Application Burak Yahya Kadem

Intelligent and Innovative Data Science Methodologies to Support Real-World Applications

1308

Deep Puff: Censoring via Machine Learning Cigarette Use Alexander Dolgushev

Multi-class Breast Cancer Classification by A Novel Two-Branch Deep Convolutional Neural Network Architecture Laith Alzubaidi

A Prediction of Municipal Water Demand: Case Study in Iraq Salah L Zubaidi

Data Webhouse for Monitoring the Use of Enterprise Information System Dhuha Khamees Khalaf

Logistics and Transport In The Industry 4.0

1307

A Practice of Applied Numerical Analysis During Design of a Unified Utility Electric-Transport Vehicle Sergei Zykov

Design of Mathematical Model of Functioning of System of the Social Taxi Irina Eremina

Application of Salp Swarm Algorithm for DC Motor Parameter Estimation in an Industry 4.0 Control Systems IoT Framework Maria Drakaki

Supplier Selection Problem in Fuzzy Environment Considering Risk Factors Maria Drakaki

Service Robotics

Synthesis of Nonlinear Control Law of a Group of Tracked Robots

Andrey Sklyarov

1306

The Software Tool for Comparison and Configuration of Nonlinear Optimization Techniques in ORB-SLAM

Ilya Afanasyev

Validation of Fiducial Marker Systems Performance with Rescue Robot Servosila Engineer Onboard Camera in Laboratory Environment

Aufar Zakiev

Design of Simple One-Arm Surgical Robot for Minimally Invasive Surgery

Artur Sagitov

e-System Engineering (Main Track)

Aggressive Action Recognition Using 3D CNN Architectures

Dmitrii Malov

1305

Control Signal Recovery Algorithm for Master-Slave Teleoperation of Anthropomorphic Manipulator in Conditions of Data Transmission Time Instability

Mikhail Gurchinsky

Ultra Thin Force and Acceleration Sensor Embedded in Flexible Thin Film Substrates Using Thin Chip Handling, Bonding and Carrier Release Technologies

Piotr Mackowiak

Hardware-in-the-Loop Platform for Testing Autonomous Vehicle Control Algorithms

Arthur Kurbanov

Ultra wide band communication With Robotics & Sensors

New Approach for Simultaneously Estimating Output SNR and Angle of Arrival (AOA) with New Array Configurations

Bassim Sayed Mohammed

1304

QoS Mapping Method Based on DSCP/IP in LTE and EDCA AC/MAC in WiFi Network

Ahmed K Jabbar

Ultra Wide Band Antenna Design for Robotics & Sensors Environment

Jamal Rasool, Dr

Design of Elliptical Shaped Multiband Antenna for Application in Wireless Communication

Haydar Al-Tamimi

PARALLEL SESSION 5

Nanosensors

1309

Particle Size Effect of Sn on Structure and Optical Properties of PVA-PEG Blend

Ahmed Naji Al-jamal

The Effects of Al-doped ZnO Layer on the Performance of Organic Solar Cell

Ameer Abdulameer

Effect of Heat Treatment on Structural and Optical Properties of ZnFe₂O₄ Nanoparticles

Ahmed Abed Anber

Bromine Addition Improving Activation Energy and Electrical Conductivity of Electrospun Poly Methyl Meth Acrylate (PMMA) Thin Film Nanofibers

Akram Raheem

Emerging Trends in Data Science Theory and Multidisciplinary Applications

1308

Human Activity Recognition Based on Equivalent Mean-Silhouette Images and Deep Neural Networks: A Novel Approach

Norah A Alawfi

Energy-Aware Task Allocation Algorithm Based on Transitive Cluster-Head Selection for IoT Networks

Sara Abdullallah Mohmad, Abo Alnasor

Features of the Software Development Module Tasks «view of the Existing Software Packages and Their Updates Corporate Information Systems Production Organization

Alexey Isavnin

Frequency Dynamics and Semantic Transformations of the Title "Emperor" in Russian

Timur Galeev

Logistics And Transport In The Industry 4.0

1307

Improving Transport System Environmental Friendliness and Energy Efficiency Due to Using the Generator Gas as an Alternative Fuel

Larisa Gubacheva

Industry 4.0 in Production and Household Waste Processing

Darya Shevchenko

Unified Information Environment Role to Improve the Vehicle Reliability at Life Cycle Stages During the Transition to Industry 4.0

Vadim Mavrin

Road Safety Analysis from a Viewpoint of Influencing Factors

Gulnara Yakupova

Smart Living

Flexible Electroconductive Hydrogel for Biosensors and Biofuel Cells Application Christina Antipova

Effect of Annealing on the Transformation Behavior of NiTi Shape Memory Alloy Siham Sabah Abdullah

Vision-based Parking Lots Management System Using an Efficient Adaptive Weather Analytic Technique Raad Ahmed Hadi

Service Robot Security from Unauthorized Access by Connection Control Marina N Zhukova

e-System Engineering (Main Track)

Application of Information Technologies and Quantitative Light-Induced Fluorescence for the Assessment of Early Caries Treatment Outcomes Elena Maslak

Modeling USAR Maps for the Collection of Information on the State of the Environment Roman Lavrenov

Virtual Reality-Based Immersive Simulation Mechanics for Invasive Surgery Training Rumia Sultanova

An Ensemble Learning Approach for Automatic Brain Haemorrhage Detection from MRIs Ahmed J. Aljaaf

Ultra wide band communication With Robotics & Sensors

IoT-based Shutter Movement Simulation for Smart Greenhouse Using Fuzzy-Logic Control Nihad Ameen

Wheelchair Neuro Fuzzy Control Using Brain Computer Interface Kasim M. Al-Aubidy

Power Regulation and Linearization-Based Control Design of a Small Satellite Nawar Al-Hemeary

Non-destructive Electromagnetic Wave Sensor for Hazardous Biological Materials Magomed Muradov

1306

1305

1304

PARALLEL SESSION 6

Nanosensors

1309

High Sensitivity and Fast Response at the Room Temperature of SnO₂:CuO/PSi Nanostructures Sandwich Configuration NH₃ Gas Sensor Husam Abed

Improvement of Dielectric and Mechanical Properties of Epoxy/SiO₂ Nanocomposites Ameer Badran

Simple Colorimetric Sensor for Detection Heavy Metal in Aqueous Solutions Mohammed Kadhim

Effect of Zinc Oxide Nanoparticles Biosynthesized by Leuconostoc Mesenteroides Ssp. Dextransicum Against Bacterial Skin Infections Afraa Kadhim

Intelligent and Innovative Data Science Methodologies to Support Real-World Applications

1308

The Method of Estimation of Economic Potential of Industrial Enterprise Alexey Isavnin

Machine Learning in Arabic Text Classification: A Review Sara Abdullallah Mohmad, Abo Alnasor

Spatial and Temporal Analyses of the Spread of Zika Virus Worldwide Liyakathunisa Syed

Automatic Stopword Detection Using Term Ranking Between Written and Transcribed Reviews Jade Hind

Logistics and Transport In The Industry 4.0

1307

Correlation Between Noise and Air Pollution from Car Sources Kirill Magdin

Utilizing Automatic Traffic Counters to Predict Traffic-Flow Speed Ahmed A Makki

The Use of Uberization Principles to Improve Social Taxi Services Ilсур Giniyatullin

The Architecture of the Self-Driving Car Project at Innopolis University Roman Fedorenko

Emerging Trends in Internet of Things Technologies

Traffic Accident Prediction and Analysis in Saudi Arabia Using Neural Networks Norah A Alawfi

1306

Industry 4.0 LabVIEW Based Industrial Condition Monitoring System for Industrial IoT System Muhammad Ateeq

Multiple Frequency Shift Keying Optimization of Adaptive Data Rate for Ultra-Low Power Wireless Sensor Network Wen-Ting Hsu

Using Adaptive Data Rate with DSSS Optimization and Transmission Power Control for Ultra-Low Power WSN Wen-Ting Hsu

e-System Engineering (Main Track)

Evaluation of Live Load Distribution Factors of a Highway Bridge Abbas Allawi

1305

Use of Virtual 3D-model for the Assessment of Premaxilla Position in 3-4-Year-Olds with Complete Bilateral Cleft Lip and Palate - a Pilot Study Elena Maslak

Investigation of IDC Structures for Graphene Based Biosensors Using Low Frequency EIS Method Manuel Baeuscher

A Holistic Study on Emerging IoT Networking Paradigms Mohammed Al-khafajiy

Intelligent and Innovative Data Science Methodologies to Support Real-World Applications

Optimal Refrigerant by Integrated Operational and Environmental Criteria in Air Conditioner Haitham Dawood

1304

Analysis of Froud Number Effect on Local Scour Data Mohammed Siwan Shamkhi

Relation Between Swelling Pressure and Potential Expansion Soil with Atterberg Limits Saleem Mahmood

Employment of Multi-Classifer and Multi-domain Features for PCG Recognition Laith Alzubaidi

PARALLEL SESSION 7

1309	Neuromorphic Computing	
	<i>Design of Multilayer Perceptron Network Based on Metal-Oxide Memristive Devices</i>	<i>Sergey Shchanikov& Alexey Mikhaylov</i>
	<i>The Research of Fault Tolerance of Memristor-Based Artificial Neural Networks</i>	<i>Sergey Shchanikov</i>
	<i>Heterogeneous Architecture of Neural Networks in Vitro with Precise Unidirectional Synaptic Connectivity</i>	<i>Alexey Pimashkin</i>
	Intelligent Agricultural Robots	
<i>Comparative Study of Computer Vision Models for Insect Pest Identification in Complex Backgrounds</i>	<i>Gabriel Lins Tenorio</i>	
<i>Design and Development of an Autonomous Mobile Robot for Inspection of Soy and Cotton Crops</i>	<i>Antonio C. Leite</i>	
<i>On the Intelligent Control Design of an Agricultural Mobile Robot for Cotton Crop Monitoring</i>	<i>Antonio C. Leite</i>	
1308	Big Data Analytics in Critical Systems (BDA-CS)	
	<i>A Novel Composite Polymer for Chemical Oxygen Demand and Total Suspended Solids Removal</i>	<i>Yasir Al-Ani</i>
	<i>The Sentiment Analysis of Unstructured Social Network Data Using the Extended Ontology SentiWordNet</i>	<i>Vadim Sergeevich Moshkin</i>
	<i>Spatial and Temporal Data Analysis with Deep Learning for Air Quality Prediction</i>	<i>Alaa Alsaedi</i>
	Digital Media: Augmented and Virtual Reality	
<i>A Student-Centric Prototype for Courses Recommendation in Universities' Students Portal</i>	<i>Mashael Bin Alamir</i>	
<i>Review of Surveying Devices for Structural Health Monitoring of Cultural Heritage Buildings</i>	<i>Jakub Markiewicz</i>	
<i>Intelligent Wayfinding Guidance Using AR Technology</i>	<i>Faris Abuhashish</i>	

Intelligent and Innovative Data Science Methodologies to Support Real-World Applications

Roadway Deterioration Prediction Using Markov Chain Modeling (Wasit Governorate/ Iraq as a Case Study) Alaa Shadhar

Data Science Techniques to Support Prediction, Diagnosis and ReCODE Treatment of Alzheimer's Disease Matthew L Harper

Seasonal Temperature Gradient Distributions in Concrete Bridge Girders: A Finite Element Study Sallal Abid

Comparison Between Satellite Rainfall Data and Rain Gauge Stations in Galal-Badra Watershed Iraq Mohammed Siwan Shamkhi

A Novel Self-Calibration Technique for Linear Array Based on Modified MVDR Adaptive Beamformer Omar Khaldoun

ECG Waveform Encryption Using Shifted FFT and DWT Khattab M. Ali Alheeti

Monitoring, Assessment, and Strengthening of Buildings and Bridges

Structural Rehabilitation on Continuous Post-Tensioned Prestressed Concrete Box-Girder Bridge Exposed to Explosion: A Case Study Nazar Oukaili

Using BIM Technique to Study the Effect of Construction Materials and the Orientation of Building on Energy Consumption Sawsan Rasheed Mohammed

Results and Analysis of a Lateral Loading Test on a Large Diameter Pile in Sandy Soil Ala Aljorany

Experimental Behavior of Self Compacted Concrete Voided Slab Strips Under Repeated Loads Mohammed Amer Ahmed

Parametric Study of Seismic Behavior of Moment Frame System Buildings Using the New Seismic Hazard Maps of Baghdad City AbdulMuttalib SaidAlMusawi

Structural Modeling of Cross-Frame Behavior in Steel Girder Bridges Nazar Oukaili

	e-System Engineering (Main Track)	
	<i>A Roadmap Towards the Smart Factory</i>	<i>Amr Towfick Sufian</i>
	<i>Novel Framework for Outdoor Mobility Assistance and Auditory Display for Visually Impaired People</i>	<i>Wasiq Khan</i>
1305	<i>A Smart Adaptive Lighting System for a Multifunctional Room</i>	<i>Badr Abdullah</i>
	<i>Problems of Criminal Responsibility for Illegal Circulation of Cryptocurrency</i>	<i>Rustem Magizov</i>
	<i>Adaptive Disturbance Elimination Control of ESTATCOM for Unbalance Voltage Mitigation</i>	<i>Fawwaz Jassim Mohmmmed</i>
	<i>Anomaly Based Intrusion Detection System Using Hierarchical Classification and Clustering Techniques</i>	<i>Sumaya Hamad</i>
	<i>Optimizing Project Delivery Through Augmented Reality and Agile Methodologies</i>	<i>Aseel Hussien</i>
	e-System Engineering (Main Track)	
	<i>Brush-Style Transfer Through Constrained Convolutional Sparse Coding</i>	<i>Sara M Shaheen</i>
	<i>Problems of Legal Regulation of Cryptocurrencies</i>	<i>Rustem Magizov</i>
1304	<i>Design of Harmonic Filter for AL-Tahady Electro Static Precipitator System</i>	<i>Khalaf Salloum Gaeid</i>
	<i>Real-Time Emission Monitoring and Display to Reduce Vehicle Pollution Using Wireless Networ</i>	<i>Majeed Soufian</i>
	<i>Soft and Hard Robotics for Movement Rehabilitation, Analysis and Modelling</i>	<i>Majeed Soufian</i>
	<i>A FPGA Implementation of a Dual-Axis Solar Tracking System</i>	<i>Majeed Soufian</i>
	<i>A Jet Engine Prognostic and Diagnostic System Based on Bayesian Classifier</i>	<i>Majeed Soufian</i>

DAY 1 07 OCT

REGISTRATION

Volunteers will be located near the building and will guide you to the registration desk. Once completed, we encourage you to enjoy Kazan until we meet again for the welcome reception.



*1st Floor, Entrance
Kazan Federal University
Kremlyovskaya Street, 35*



10:00 – 17:00

WELCOME RECEPTION

We invite all participants to join us at the welcome reception to introduce yourselves, meet great minds like yourself and to enjoy some the night-time culture Kazan has to offer. All participants are entitled to a free soft drink or beer on entry.



*Leuven brasserie
Pushkina 11 street*



19:00 – 23:00

DAY 2 08 OCT

IMPERIAL HALL



Imperial Hall
2nd Floor
Kazan Federal University
Kremlyovskaya Street, 18



09:00 – 12:45

LUNCH

Lunch will not be provided, but don't worry we will be offering snacks and bites during our scheduled coffee breaks. In order to explore the wonderful culture and beauty that Kazan has to offer, we have provided a list of suggested venues for Lunch. Please visit the 'EAT' section of this guide.

NIGHT TOUR



Meet at Imperial Hall
Kazan Federal University
Kremlyovskaya Street, 18



18:30 – 21:30

DAY 3 09 OCT




LUNCH

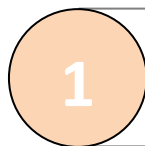







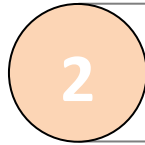






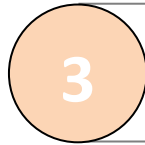






























Lunch will not be provided, but don't worry we will be offering snacks and bites during our scheduled coffee breaks. In order to explore the wonderful culture and beauty that Kazan has to offer, we have provided a list of suggested venues for Lunch. Please visit the 'EAT' section of this guide.

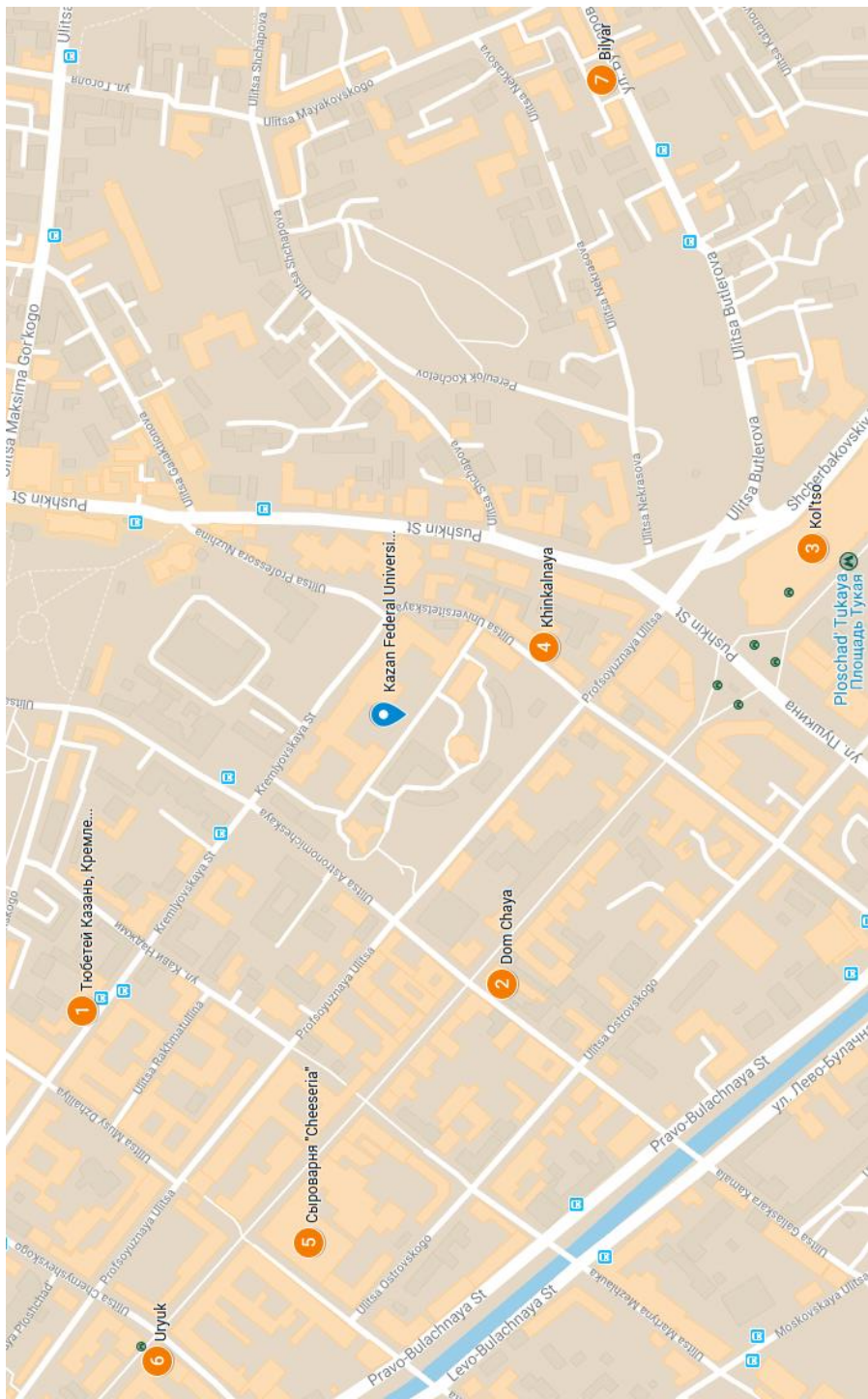
CONFERENCE DINNER

Will be announced on Wednesday. All participants are welcome to join us in an evening walk to enjoy the sights while walking to the destination.

EAT.

-  Lunch
-  Dinner
-  Halal

- | | | |
|--|--|---|
|  | Tubatay
Local Tatar national food
Kremlevskaya St., 21
Opening Hours: 09:00 – 21:00 |   Food 
 Service 
 Value  |
|  | Dom Chaya
Various Russian food inc. local Tartar food
Baumana st., 64
Opening Hours: 09:00 – 21:00 |  Food 
 Service 
 Value  |
|  | Food court in Koltso Shopping Mall
Various selections of food from McDonalds to Japanese sushi
Peterburgskaya St., 1, 4th floor
Opening Hours: 10:00 – 22:00 | 4.0  |
|  | Khinkalnaya
National Georgian food
Universitetskaya St, 14
Opening Hours: 11:00 – 00:00 |  Food 
 Service 
 Value  |
|  | Cheeseria
Italian food
Baumana, 44/8
Opening Hours: 08:00 – 00:00 |  Food 
 Service 
 Value  |
|  | Uryuk
National Uzbek food
Baumana St., 36
Opening Hours: 12:00 – 00:00 |   Food 
 Service 
 Value  |
|  | Bilyar
Local Tatar national food
Butlerova, 31
Opening Hours: 10:00 – 23:00 |  Food 
 Service 
 Value  |



SHOP.

1

Koltso Shopping Mall

Peterburgskaya St., 1

Opening Hours: 10:00 – 22:00



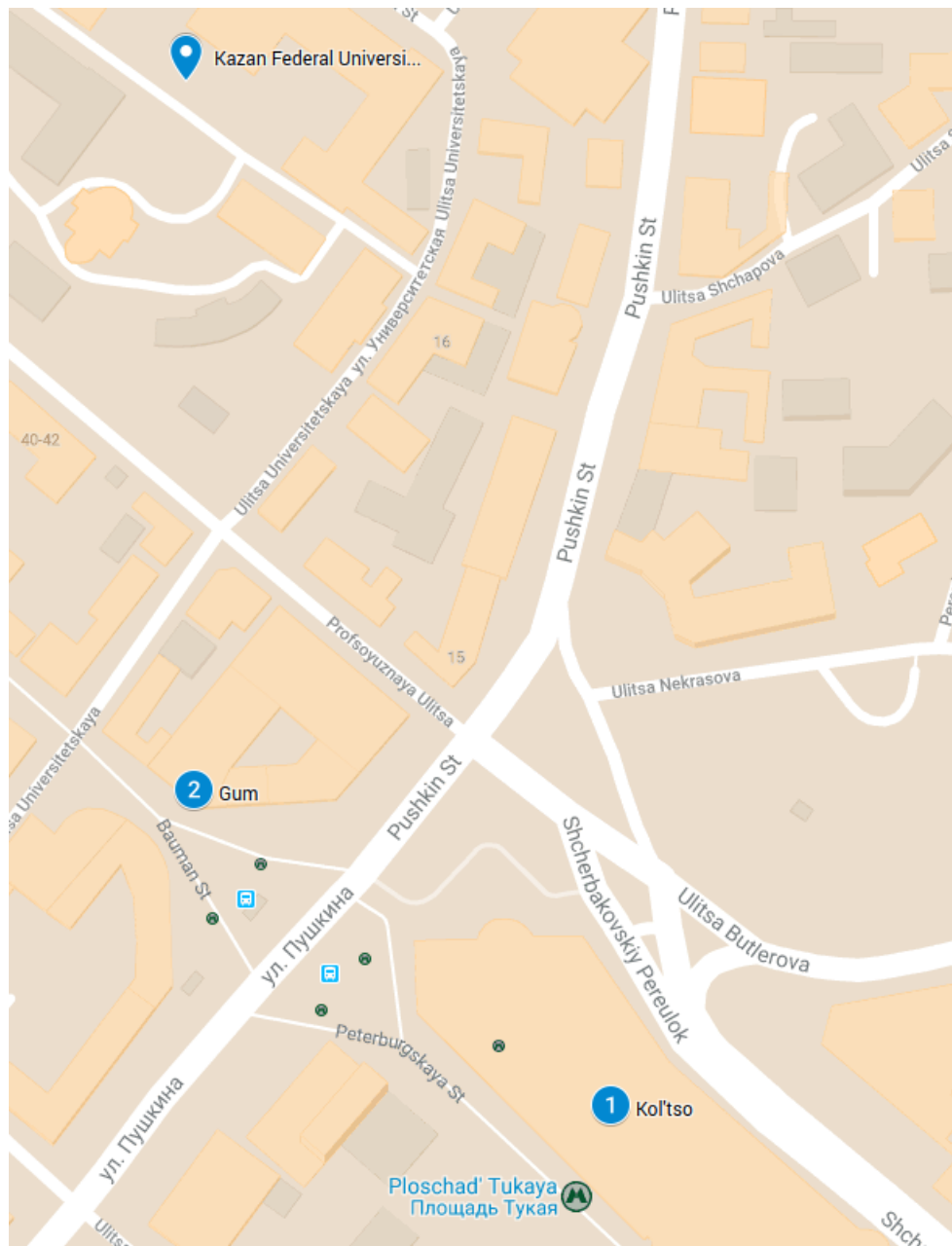
2

Shopping Complex GUM

Baumana St., 51

Opening Hours: 10:00 – 22:00





SEE .

A

B

Bauman Street

Bauman Street, the main pedestrian thoroughfare, pumps life through the city centre both day and night. Alongside souvenir shops sit cafes, shops and museums. One of the oldest streets in Kazan, even a casual stroll down it will take you past beautiful sights such as the iconic bell tower for the Epiphany Church and the unique.

1

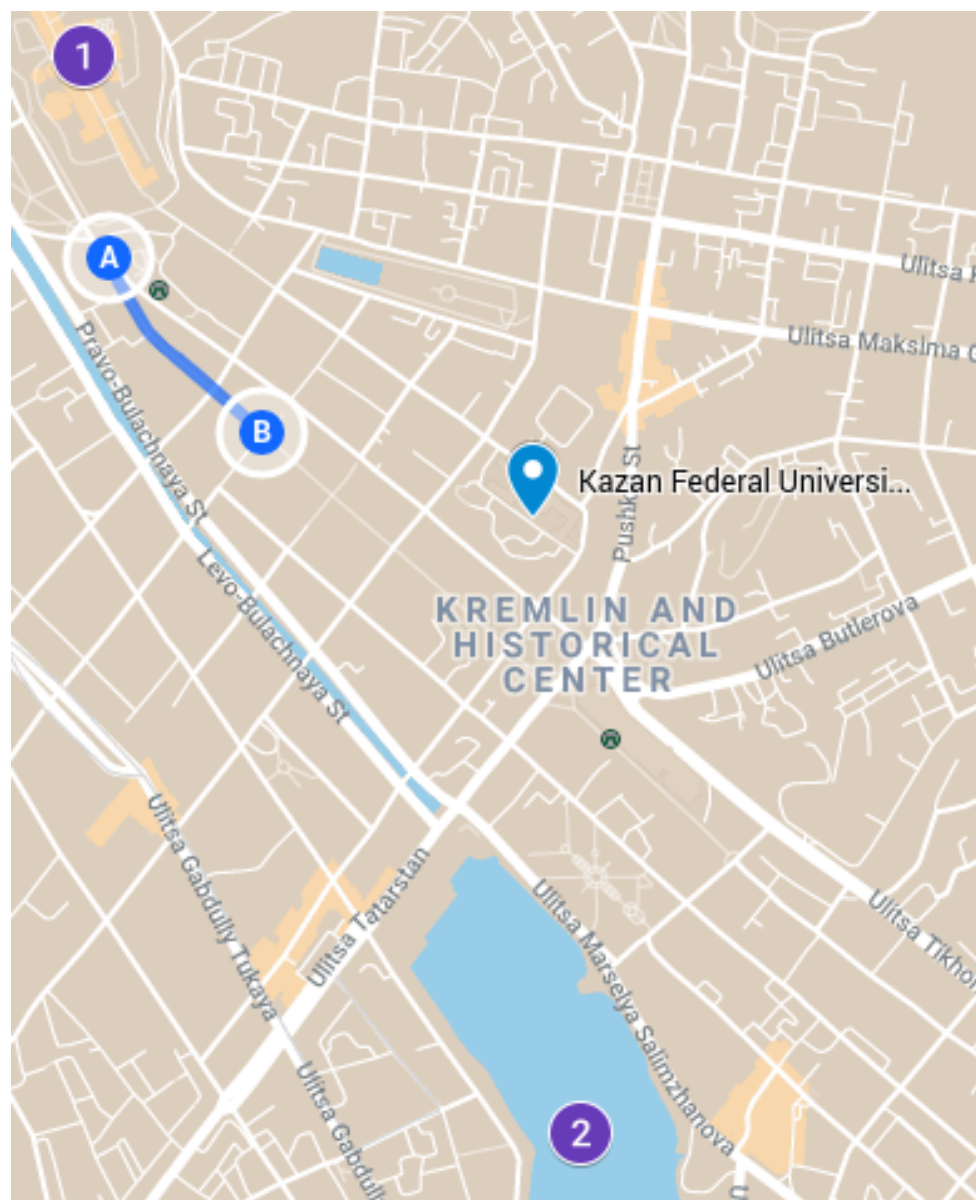
Kazan Kremlin

World Heritage-listed, the Kazan Kremlin is the only surviving Tatar fortress in Russia, parts of it dating back to the 16th and 17th centuries. Built at the request of the Ivan the Terrible, the bright white sandstone walls encircle the city's historical centre filled with age-old buildings. Highlights include the Kul Sharif Mosque, the Hermitage and the Tatarstan Museum of Natural History.

2

Nizhniy Kaban Lake

The low Kaban lake is another great place, where it will be nice to go for a walk at the evening. The waterfront of the lake very much and the locals. On the East side of the lake, along the old Tatar settlement is the promenade, where families with children and tourists come to feed the ducks that live in the lake, and pigeons. On the North of the lake, in front of the theatre named Kamala, you can walk among fountains, flowers and several interesting sculptures, donated to the city. However, the fountains work only during the summer.



USEFUL INFO RMATION



Mon 7th

6°

Tues 8th

7°

Wed 9th

4°

Thurs 10th

4°



+7 843-567-1-567

+7 843-5-333-222

Uber



Name

events

Password

7ujm&UJM



If you have any questions, look out for volunteers wearing t-shirts with the DeSE logo. They will be available throughout the conference.