



ACS 2018

ADVANCED COMPUTER SYSTEMS

September 24-26, 2018, Międzyzdroje, Poland

Conference Programme

Międzyzdroje, Poland, September 24-26, 2018



LOCATION

21st International Multi-Conference on Advanced Computer Systems ACS 2018 will be held on September 24-26, 2018 in Międzyzdroje, Poland.

Detailed address:

HOTEL AMBER BALTIC
PL 72-500 Międzyzdroje
Promenada Gwiazd 1
e-mail: info@hotel-amber-baltic.pl
FRONT OFFICE
tel. (+48 91) 322 85 00
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THE CURRENT INFORMATION (up to September 20th)

Faculty of Computer Science and Information Systems
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SECRETARIAT LOCATION (on September 24-26, 2018)

HOTEL AMBER BALTIC, PL 72-500 Międzyzdroje, Promenada Gwiazd Str. 1,
tel. (+48 91) 322 85 00



Time schedule of ACS 2018

First Day

MONDAY, SEPTEMBER 24, 2018	
9:00-15:00	Registration
10:00-10:30	Welcome Greetings: Conference Chairs, Dean
10:30-11:30	Keynotes: Akira IMADA (Belarus) <i>What should be virtual assistants like?</i> Nabendu CHAKI (India) <i>Model Transformation and Code Generation using Verified Requirements (skype)</i>
11:30-12:00	Tea/Coffee Break
12:00-14:00	Oral Presentations I: Artificial Intelligence
14:00-15:00	Lunch
16:00-21:00	Boat trip and Welcome party <i>The bus will be at hotel around 15:00-15:30</i>



Time schedule of ACS 2018

Second Day

TUESDAY, SEPTEMBER 25, 2018	
9:00-15:00	Registration
9:00-10:00	Keynotes Keiichi ENDO and Shinya KOBAYASHI (Japan) <i>Incorporating Project-Based Learning into Curriculum of Higher Education</i> Jacek POMYKAŁA (Poland) <i>Prime numbers and elliptic curves in cryptography</i>
10:00-12:00	Oral Presentations II: Software Technologies
12:00-12:30	Tea/Coffee Break
12:30-14:30	Oral Presentations III: Information Technology Security
14:45-15:30	Lunch
16:00-17:00	Poster Session: Artificial Intelligence, Software Technologies, Information Technology Security, Multimedia Systems
19:30-23:00	Conference Banquette



Time schedule of ACS 2018

Third Day

WEDNESDAY, SEPTEMBER 26, 2018	
9:00-10:00	Keynote Marian SREBRNY (Poland) <i>A New End-To-End Verifiable Internet-Voting Protocol</i> Ryszard KOZERA (Poland) <i>Fitting Dense and Sparse Reduced Data</i>
10:00-12:00	Oral Presentations IV: Multimedia Systems
12:00-12:15	Concluding Meeting
13:00-14:00	Lunch



Monday 24 September 2018

Registration, 09:00-15:00

Room: Hotel Hall
Chaired by Sylwia Hardej

Welcome Greetings: Conference Chairs, Dean,

10:00-10:30

Room: Kahlman Room
Chaired by: *Tomasz Hyla*

Keynotes, 10:30-11:30

Room: Kahlman Room
Chaired by: *Tomasz Hyla*

1. What should be virtual assistants like?
Akira Imada (Brest State Technical University, Belarus)
2. Model Transformation and Code Generation using Verified Requirements
Nabendu CHAKI (University of Calcuta, India)

Tea/Coffee Break, 11:30-12:00

Room: Hall
Chaired by Sylwia Hardej



ACS 2018

Monday 24 September 2018

Oral Presentations I: Artificial Intelligence

12:00-14:00

Room: Kahlman Room

Chaired by: *Akira Imada*, assistant: *Tomasz Hyla*

1. Fingerprint Feature Extraction with Artificial Neural Network and Image Processing Methods
Maciej Szymkowski and Khalid Saeed
2. Survey Of AI Methods For The Purpose Of Geotechnical Profile Creation
Adrian Bilski
3. Processing of Z+ numbers using the k nearest neighbours method
Marcin Pluciński
4. Method with Horizontal Fuzzy Numbers for Solving Quadratic Fuzzy Equation
Marek Landowski
5. Algorithm for optimization of multi-spindle drilling machine based on evolution method
Paweł Hoser, Izabella Antoniuk and Dariusz Strzęciwilk
6. Regression technique for electricity load modelling and outlined data points explanation
Rafik Nafkha, Krzysztof Karpio and Piotr Łukasiewicz

Lunch, 14:00-15:00

Room: Hotel Restaurant

Chaired by Sylwia Hardej

Boat trip and Welcome party, 16:00-21:00

Location: Świnoujście

Chaired by Sylwia Hardej



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Tuesday, 25 September 2018

Keynote, 09:00-10:00

Room: Kahlman Room

Chaired by: Jerzy Pejaś

1. Incorporating Project-Based Learning into Curriculum of Higher Education
Keiichi Endo and Shinya Kobayashi (Ehime University, Japan)
2. Prime numbers and elliptic curves in cryptology
Jacek Pomykała (University of Warsaw, Poland)



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Tuesday, 25 September 2018

Oral Presentations II: Software Technologies

10:00-12:00

Room: Kahlman Room

Chaired by: Walery Rogoza, *assistant: Witold Maćków*

1. SLMA and Novel Software Technologies for Industry 4.0
Andriy Luntovskyy
2. Applications of multilingual thesauri for the texts indexing in the field of agriculture
Waldemar Karwowski, Marian Rusek and Arkadiusz Orłowski
3. Transitive Closure based Schedule of Loop Nest Statement Instances
Włodzimierz Bielecki and Marek Palkowski
4. On code refactoring for decision making component combined with the open-source medical information system
Vasyl Martsenyuk and Andriy Semenets
5. Algorithmic decomposition of tasks with a large amount of data
Walery Rogoza and Ann Ishchenko
6. Managing the process of servicing hybrid telecommunications services. Quality control and interaction procedure of service subsystems
Mariia Skulysh, Olexandr Romanov, Larysa Globa and Iryna Husyeva
7. Measuring Gender Equality in Universities
Tindara Addabbo, Claudia Cardinali, Gisella Facchinetti and Tommaso Pirotti

Tea/Coffee Break, 12:00-12:30

Room: Hall

Chaired by Sylwia Hardej



ACS 2018

Tuesday, 25 September 2018

Oral Presentations III: Information Technology

Security

12:30-14:30

Room: Kahlman Room

Chaired by: Jacek Pomykała, *assistant: Witold Maćków*

1. New Results in Direct SAT-based Cryptanalysis of DES-like Ciphers
Michał Chowaniec, Mirosław Kurkowski and Michał Mazur
2. Validation of Safety-Like Properties for Entity-Based Access Control Policies
Sergey Afonin and Antonina Bonushkina
3. Electronic Document Interoperability in Transactions Executions
Gerard Wawrzyniak and Imed El Fray
4. KaoChow Protocol Timed Analysis
Sabina Szymoniak
5. On a New Intangible Reward for Card-Linked Loyalty Programs
Albert Sitek and Zbigniew Kotulski
6. Secure generators of q -valued pseudo-random sequences on arithmetic polynomials
Sergey Dichenko, Dmitriy Samoylenko and Oleg Finko

Lunch, 14:45-15:30

Room: Hotel Restaurant

Chaired by Sylwia Hardej

Tuesday, 25 September 2018

Poster Session, 16:00-17:30

Room: Strauss Room

Chaired by: Tomasz Hyla, Witold Maćków

Section: Artificial Intelligence

1. An investment strategy using temporary changes in the behaviour of the observed group of investor

Antoni Wilinski and Patryk Matuszak

2. Correct solution of fuzzy linear system based on interval theory

Andrzej Piegat and Marcin Pietrzykowski

Section: Multimedia systems

1. L-system application to procedural generation of room shapes for 3D dungeon creation in computer games

Izabella Antoniuk, Paweł Hoser and Dariusz Strzęciwilk

2. Partial Face Images Classification Using Geometrical Features

Piotr Milczarski, Zofia Stawska and Shane Dowdall

3. Vehicle Passengers Detection for Onboard eCall-Compliant Devices

Anna Lupinska-Dubicka, Marek Tabędzki, Marcin Adamski, Mariusz Rybnik, Maciej Szymkowski, Mirosław Omieljanowicz, Marek Gruszewski, Adam Klimowicz, Grzegorz Rubin and Lukasz Zienkiewicz

4. Multichannel Spatial Filters for Enhancing SSVEP Detection

Izabela Rejer

Section: Software Technologies

4. Repository Model for Didactic Resources

Andrzej Jodłowski, Ewa Stemposz and Alina Stasiecka

5. The Approach to Users Tasks Simplification on Engineering Knowledge Portals

Larysa Globa, Rina Novogrudska and Alexander Koval

6. QoS and Energy Efficiency Improving in Virtualized Mobile Network EPC based on Load Balancing

Larysa Globa, Nataliia Gvozdetska, Volodymyr Prokopets and Oleksandr Stryzhak

7. Business process modelling with cognitive EPC diagram
Olga Pilipczuk and Galina Cariowa
8. Design of the BLINDS system for processing and analysis of Big Data - a pre-processing data analysis module
Janusz Bobulski, Mariusz Kubanek
9. Programmable RDS Radio Receiver on ATMEGA88 Microcontroller on the basis of RDA5807M Chip as the central module in Internet of Things networks
Jakub Pęksiński, Paweł Kardaś and Grzegorz Mikołajczak

Section: Information Technology Security

10. Protection of information from imitation on the basis of crypt-code
Dmitry Samoylenko, Mikhail Ereemeev, Oleg Finko and Sergey Dichenko
11. Randomness evaluation of PP-1 and PP-2 block ciphers round keys generators
Michał Apolinarski
12. A Hybrid Approach to Fault Detection in One Round of PP-1 Cipher
Ewa Idzikowska

Conference Banquette, 19:30-23:00

Room: Hotel Restaurant
Chaired by Sylwia Hardej



ACS 2018

Wednesday 26 September 2018

Keynote, 09:00-10:00

Room: Kahlman Room

Chaired by: *Imed El Fray*, assistant: *Luiza Fabisiak*

1. A New End-To-End Verifiable Internet-Voting Protocol
Marian Srebrny (Polish Academy of Sciences, Poland)
2. Fitting Dense and Sparse Reduced Data
Ryszard Kozera (Warsaw University of Life Sciences – SGGW, Poland)

Wednesday 26 September 2018

Oral Presentations IV: Multimedia Systems

10:00-12:00

Room: Kahlman Room

Chaired by: Paweł Forczmański, *assistant: Luiza Fabisiak*

7. A Method of Feature Vector Modification in Keystroke Dynamics
Mirosław Omieljanowicz, Mateusz Popławski and Andrzej Omieljanowicz
8. Driver Drowsiness Estimation by Means of Face Depth Map Analysis
Paweł Forczmański and Kacper Kutelski
9. An algorithm for computing the true discrete fractional Fourier transform
Dorota Majorkowska-Mech and Aleksandr Cariow
10. Hardware-Efficient Algorithm for 3D Spatial Rotation
Alekssandr Cariow and Galina Cariowa
11. Region Based Approach for Binarization of Degraded Document Images
Hubert Michalak and Krzysztof Okarma
12. Do-It-Yourself Multi-material 3D Printer for Rapid Manufacturing of Complex Luminaries
Dawid Paleń and Radosław Mantiuk

Concluding Meeting, 12:00-12:15

Room: Kahlman Room

Chaired by Jerzy Pejaś

Lunch, 13:00-14:00

Room: Hotel Restaurant

Chaired by Sylwia Hardej