TECHNICAL PROGRAMME

INTERNATIONAL CONFERENCE '19

MEPS

MODERN ELECTRIC POWER SYSTEMS

Wrocław University of Science and Technology

Faculty of Electrical Engineering

Association of Polish Electrical Engineers (SEP)
Wroclaw Division

September 9-12, 2019
Wroclaw, Poland

IEEE

Technical co-sponsored by

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Wrocław University
of Science and Technology

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MEPS 2019 Committees

Local Organising Committee

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Conference Date and Venue

September 9-12, 2019
Wroclaw University of Science and Technology (WUST)
Department of Electrical Power Engineering, W5/K2
Janiszewskiego Str. 8
50-370 Wroclaw, Poland
GPS: 51.110263°N, 17.059374°E
phone: (+48) 71 320-26-58
fax: (+48) 71 320-26-56
email: meps2019@pwr.edu.pl
web: www.meps19.pwr.edu.pl

The venue is located on WUST's Campus, in the centre of Wroclaw, offering easy access to all the city centre amenities. All sessions will be held at Congress Centre of the Wroclaw University of Technology (building D-20) - see the schematic Campus Map at the end of this brochure.

The Opening Ceremony will take place in the AULA D / 10D on Monday, at 10:45.

The oral sessions numbered 1, 2, 3, 4, 5, 7 and 8 will also take place in AULA D, while session number 6 will take place in AULA B. All three Keynote Lectures will be held in Aula D, as well.

The poster session, numbered 9, will take place next to room #115 in Building D-20, 1st Floor.

To reach all Conference locations the participants should follow the direction signs.

Registration

The registration desk will be located in the conference centre in D-20 building and will be open during the following hours:

Monday, September 9th   9:00 – 19:00
Tuesday, September 10th   8:30 – 19:00
Wednesday, September 11th 8:30 – 17:00
Thursday, September 12th   8:30 – 15:00

At the registration desk the participants can obtain any information and assistance they would require during the Conference. Upon registering the participants will receive the Conference bag containing the Conference Proceedings on USB-stick, the participant name badge, maps and other informative materials.

All further practical information will be available at the registration desk.

Language

The official language of the conference is English. There will be no simultaneous interpreting.

Conference Information

Papers
Each registered participant will receive a USB-stick including all the papers presented during the technical sessions.

Name Badges
Participant Name Badges will be provided at the registration desk. All participants are required to wear the badge throughout the conference. Only badge holders will be admitted to the sessions.

Internet
Wireless internet access is available across the whole campus. The name of the network is "Konferencje PWR" and password will be provided at registration desk. Internet access via "eduroam" service is also available. At registration desk conference participants will be able to use of PC computers with internet access, printer, photocopier, etc.

Presentations
The session rooms are equipped with a Microsoft Windows operated laptop with PowerPoint, Word and Adobe Reader software. Speakers are kindly requested to hand in their presentation on a USB stick, no later than the break prior to their session. This should be done in the session room where the presentation will be held. Please see Conference Programme Overview for room location.

All speakers are requested to be in the session room 15 minutes prior the session. For sessions taking place in the early morning please hand in your presentation on the previous day. It is intended that speakers will give a good overview of their papers allowing some time for questions and discussion. The duration of a presentation should be no more than 15 minutes, so speakers are requested not to try squeeze in too many slides. After presentation will be time for 5-minute discussion.

We ask you not to use your own laptops during your presentation to avoid compatibility issues, "cable-connection" problems, etc.

Poster session
In a Poster Session, the illustrations will be mounted on a poster board. Poster should be: 0.90 x 1.20 [m] (width x height). One paper - one side of the poster board. Posters may be mounted to poster boards using drawing pin. We would like to stress that poster should be designed and made by presenters by themselves, so please prepare posters before Conference. Organizers provide all presenters help fixing posters before Poster Session.

The Poster Session papers are not presented sequentially as in oral sessions. Rather, all papers are presented simultaneously with each author standing or sitting next to the poster(s). The author should be prepared to give a short presentation and answer

questions from those attending. The audience does not stay in one place, but is expected to walk from one poster to another, listen to the presentation by the author, and talk to the authors about their work. Discussion is therefore one-on-one with the interested party rather then directed toward a general audience.

Meals

Morning and afternoon coffee as well as lunches will be served at the venue in D-20 building 1-st floor. Lunches are included in the registration fee and lunch tickets will be provided in your delegate pack.

Welcome Reception

Monday, September 9th, at 18:30 – 20:00

A Welcome Reception to renew acquaintances and meet new colleagues will take place at the Conference Venue: Wroclaw University of Science and Technology, building H-14 (address: Wybrzeze Wyspianskiego 40, 50-370 Wroclaw, GPS: 51.106890°N, 17.06100046°E). All registered participants and registered accompanying persons are invited to attend. A glass of wine and snacks will be served.

Gala Dinner in "HYDROPOLIS" and excursion boat on the Odra river.

Wednesday, September 11th, at 18:00 – 23:00

The Organizing Committee has the pleasure to invite all registered MEPS 2019 participants, including young scientists and PhD students, to the Conference Dinner which will be held in the "HYDROPOLIS" on the Day 3, Wednesday, September 11th. Dinner is scheduled at 20:00, however, everybody are earlier invited for the 50-minutes excursion boat on the Odra river from Wroclaw city centre directly to "Hydropolis", combined with a 1-hour visiting interesting exhibitions. Hydropolis is a place where diverse multimedia technologies, interactive installations, faithful replicas and models, as well as touch screens providing extensive information, serve one purpose - to show water from various fascinating perspectives.

The ship „Nereida" will depart from marina „Przystań Kardynalska" at 18:00. Participants who don't want to travel on boat should arrive the main entrance of the "Hydropolis" at 19:00 (address: Na Grobli 17, 50-421 Wrocław, GPS: 51.104039°N, 17.057351°E). Note that there is no arranged transportation to the dinner, all participants are required to make their own way. You should estimate a travel time of around 30-45 minutes to the "Hydropolis" from the City Center. Transportation after the dinner to the hotels in City Center is arranged.

Accompanying Persons Programme

Accompanying persons are welcome to attend to Welcome Reception, excursion boat on the Odra river to "Hydropolis" and Conference Dinner. We have also prepared for you English-speaking guide tour related City of Wroclaw. The trip will start about 10:00 on Tuesday, September 10th and will last about 3 hours. Please contact the registration desk for more information.

General Information

The City of Wrocław

Welcome to Wrocław, one of the most beautiful city in Poland. Wrocław, situated on the Odra river, is the historic capital of Lower Silesia. The city emerged at the intersection of major trade routes linking the West and South with Eastern and Northern Europe. Being a communication, industrial, academic, scientific and cultural centre, the city is the greatest tourist attraction in south-western Poland. In its 1000-year history the city has undergone many political, economic and cultural changes that have contributed to Wrocław's present architectonic and cultural visage.

Wrocław is an academic city with venerable tradition, 11 universities are located here. Wrocław is a very picturesque city with a great number of green areas, parks and 115 bridges spanning five rivers cutting across the city.

Since the beginning of 90's it has been undergoing modernisation and reconstruction. Not only has the Old Town been renovated but also the void areas of the city are being built over with the new or reconstructed buildings. The oldest part of the town, situated on the islands on the Odra river, is called Ostrów Tumski. There is a complex of Gothic sacred architecture dating from 13-15th centuries: the Cathedral of St. John the Baptist built on the site of the first cathedral from the year 1000, the Holy Cross Church that served as a mausoleum for the Silesian Piasts, St. Martin's Church adjacent to a castle and St. Giles' Church, the oldest. The heart of the city is Market Place - Rynek and Solny Square, whose urban plan was drawn up around 1241 when Wrocław gained the status of a "civitas". Today's tourist attraction of Wrocław is The Panorama of the Battle of Raclawice. It is a monumental painting (120m x 15m) created by Jan Styka and Wojciech Kossak depicting the battle of 1794 under the command of Tadeusz Kościuszko. Outside the city centre, attention should be drawn to the exhibition grounds with the the Centennial Hall designed by Max Berg to mark the centenary of the battle of Leipzig in 1813.

Owing to its rich traditions, Wrocław is regarded as an important and outstanding Polish as well as European cultural centre. Its cultural life takes place in 9 theatres, the Philharmonic Hall, the Opera House, many museums, major art galleries, cinemas, etc.

Wrocław, a Polish city with a cosmopolitan history, is a reduced model of Europe where the greatest diversity has accumulated within a small space. Openness has been a constitutive feature of our city throughout its history. Wrocław is also a cultural laboratory, in which a process of mutual metamorphoses of various cultures, coming into contact in this city in the past and today, goes on continuously. For all reasons above Wrocław has been chosen for European Capital of Culture of year 2016!

General Information

Wrocław Visitor's Guide
This is the site where you can find nearly everything you need to know as a visitor in Wrocław: **www.wroclaw.pl/en/**

Public Transport
Wrocław has a well-developed for local transport system. There are over 60 day bus lines and a dozen or so night bus line in Wrocław. There are also over 20 tram lines here. Day buses and trams travel on working days usually from 5:00 to 23:00 and on weekends and (bank) holidays from 6:00 to 22:00. Night buses travel from 23:30 to 5:00 and meet at the Polbus-PKS Main Bus Station every 30 minutes and then go to all parts of the city.

Tickets can be purchased at many bus stops or inside the bus/tram. Payments in mobile ticket vending machines can only be made by cards.

Consult **www.wroclaw.pl/en/transport-in-wroclaw** for connections and travel times.

Business Hours & Shopping
Shops are open between 9:00 and 20:00 hrs on weekdays and from 10:00 to 14:00 hrs on Saturdays. Shops in the City centre have extended opening hours, some even on Sundays between 10:00 and 18:00 hrs. The main shopping streets in the centre of Wroclaw are: Swidnicka, Pilsudskiego and Old Town.

Climate and Dress
Average temperature in September is around 19ºC. Weather during September is moderate, however, rain is still possible and it may become cool in the evenings. Clothing suitable for a variable climate is advisable.

Time Zone
The time zone for Wroclaw is Central European Summer Time (CEST), GMT + 1 hour.

Maps
Signage will be installed to guide delegates around the conference venue.

Wroclaw City Centre
visitwroclaw.eu/en/
maps.google.com

Campus map of the Wroclaw University of Science Technology
pwr.edu.pl/en/university/campus-map

Conference Overview

	Aula 10D, building D-20	Aula 10B, building D-20
Day 1 - Monday, September 9th, 2019		
09:00 - 10:45	Registration	
10:45 - 11:00	Opening Ceremony	
11:00 - 12:30	Keynote Lectures K1	
12:30 - 14:00	Lunch	
14:00 - 16:00	Session 1: System Operation, Management and Energy Policy	
16:00 - 16:30	Coffee Break	
16:30 - 18:30	Session 2: System Analysis and Islanding Issues	
18:30 - 20:00	Welcome Reception at University, Building H-14	
Day 2 - Tuesday, September 10th, 2019		
09:00 - 11:00	Session 3: Fault Identification and Location	
11:00 - 11:30	Coffee Break	
11:30 - 13:45	Session 4: Distribution Networks and Renewables	
13:45 - 15:00	Lunch	
15:00 - 17:30	Session 5: Power Systems Planning and Smart Grids	Session 6: Power System Protection
Day 3 - Wednesday, September 11th, 2019		
09:00 - 11:00	Session 7: System Monitoring and Transients Analysis	
11:00 - 11:30	Coffee Break	
11:30 - 13:45	Session 8: Security Assessment, State Estimation	
13:45 - 15:00	Lunch	
15:00 - 16:00	Session 9: Poster Session – next to Room 115	
18:00 - 19:00	Boat trip on the Odra river - transfer to "Hydropolis"	
19:00 - 20:00	Visiting exhibitions in "Hydropolis"	
20:00 - 23:00	Conference Dinner in "Hydropolis"	
Day 4 - Thursday, September 12th, 2019		
09:00 - 16:30	Technical Excursion to Schneider Electric Poland (REFA) in Świebodzice	
09:00 - 10:15	Bus transfer from Wrocław to Świebodzice (ca 80 km)	
10:15 - 11:30	Visiting to Schneider Electric Poland (REFA)	
11:30 - 12:00	Bus transfer to KSIĄŻ Castle (ca 5 km)	
12:00 - 13:30	Excursion over the KSIĄŻ Castle	
13:30 - 15:00	Lunch in Wałbrzych	
15:00 - 16:30	Return to Wrocław	

Keynote Lectures

Monday, September 9th, 11:00 – 12:30

Keynote Lecture K1

Chair: Andrzej Wiszniewski, Wroclaw University of Technology, Poland
Room: Aula D (10D/109)

Intelligent Data Collection and Processing in MicroGrid / Data Processing in IoT Systems based on Fuzzy Logics
Prof. Julia Yamnenko - *Igor Sikorsky Kyiv Polytechnic Institute, Ukraine*

Challenges in Planning and Operation of Active Distribution Grids
Prof. Krzysztof Rudion - *University of Stuttgart, Germany*

Reliability Models of Generating Units Utilizing Renewable Energy Sources
Prof. Józef Paska - *Warsaw University of Technology, Poland*

Tuesday, September 10th, 11:30 – 12:00

Keynote Lecture K2 (at the beginning of Session 4)

Chair: Prof. Julia Yamnenko, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine
Room: Aula D (10D/109)

From Passive Distribution Networks to Smart Power Microgrids - Problems and Challenges for Distribution Networks
Prof. Irena Wasiak - *Lodz University of Technology, Poland*

Tuesday, September 10th, 15:00 – 15:30

Keynote Lecture K3 (at the beginning of Session 5)

Chair: Prof. Waldemar Rebizant, Wroclaw University of Science and Technology, Poland
Room: Aula D (10D/109)

Cockoo Search Algorithm for Optimal Siting and Sizing of Multiple Distributed Generators in Distribution Grids
Prof. Aydogan Ozdemir - *Istanbul Technical University, Turkey*

Technical Programme

Session 1

Monday, September 9th, 14:00 – 16:00

Session 1: System Operation, Management and Energy Policy
Chair: Dr. Paweł Regulski, Wroclaw University of Science and Technology, Poland
Room: Aula D (10D/109)

1.1

Intellectual Aggregated Load Management System (ID 24)
Stepan Vasilev, Vladislav Karpenko, Alexey Boltunov, Alexander Voloshin, Evgeniy Voloshin, Vladislav Volnyi - *Moscow Power Engineering Institute, Russia*

1.2

Selected Aspects of Energy Efficiency - the Case Study of Poland (ID 75)
Waldemar Dolega - *Wroclaw University of Science and Technology, Poland*

1.3

Metaidentification of the Modern Polish Power Exchange Control System (ID76)
Jerzy Tchórzewski, Radosław Marlega - *University of Natural Sciences and Humanities in Siedlce, Poland*

1.4

Energy Management in a Real Microgrid with Hydroelectric Power Plant and Battery Storage Unit (ID 89)
Dominika Kaczorowska, Jacek Rezmer, Tomasz Sikorski, Zbigniew Leonowicz, Paweł Kostyła, Michał Jasiński - *Wroclaw University of Science and Technology, Poland*
Przemysław Janik, Daniel Bejmert - *TAURON Ekoenergia Ltd, Poland*

1.5

Integration of Application Employed for Balance Difference Analysis with Network Asset Management and Measurement Data Management Systems in a Large Distribution Company (ID 98)
Barbara Kaszowska, Andrzej Włóczyk - *Opole University of Technology, Poland*

1.6

Analysis of the Results and Potential Cost of the Polish Capacity Market Auctions in 2018 (ID 103)
Krzysztof Zagrajek, Józef Paska, Mariusz Kłos, Karol Pawlak, Piotr Marchel, Paweł Terlikowski, Magdalena Błędzińska, Łukasz Michalski - *Warsaw University of Technology, Poland*

Technical Programme

Session 2

Monday, September 9th, 16:30 – 18:30

Session 2: **System Analysis and Islanding Issues**
Chair: Dr. Paweł Dawidowski, ABB Corporate Research - Kraków, Poland
Room: Aula D (10D/109)

2.1

Application of Power Routers in Standalone Power Systems (ID 11)

Yuri Bulatov - *Bratsk State University, Russia*
Andrey Kryukov - *Irkutsk State Transport University, Russia*
Konstantin Suslov - *Irkutsk National Research Technical University, Russia*

2.2

Assessment of General Feasibility for Robust Islanding (ID 30)

Lasse Peltonen, Pertti Järventausta - *Tampere University of Technology, Finland*
Tuomas Rauhala, Antti-Juhani Nikkilä - *Fingrid Oyj, Finland*

2.3

A Modified Real-time Dynamic Phasor Simulation Model of LCC-HVDC (ID 33)

Zhizhong Li, Bin Wang, Xinzhou Dong - *Tsinghua University, China*

2.4

Virtual Inertia Implementation in Variable Speed Hydropower Plant (ID 59)

Tor Inge Reigstad, Kjetil Uhlen - *Norwegian University of Science and Technology, NTNU, Norway*

2.5

CGMES as an Interface for Multilateral Grid Modelling Data Exchange (ID 70)

Mateusz Gietz, Tomasz Rogowski - *PSE Innowacje, Poland*

2.6

Experiences with Double- and Single-Ended Fault Location in Compensated Network Applaying Travelling Wave Technology (ID 109)

Cezary Dzienis, Hans Eberhardt - *Siemens AG, Germany*
Wolfgang Leitner - *Netz Oberösterreich GmbH, Austria*

Technical Programme

Session 3

Tuesday, September 10th, 9:00 – 11:00

Session 3: Fault Identification and Location
Chair: Dr. Daniel Bejmert, Wroclaw University of Science and Technology, Poland
Room: Aula D (10D/109)

3.1

Automatic Fault Location at Lines with Trilateral Feed (ID 25)
Michail Sopel - *PE "ANIGER", Ukraine*
Nikolay Grebchenko - *National University of Life and Environmental Sciences of Ukraine, Ukraine*
Yurii Pylypenko - *Institute of Electrodynamics National Academy of Sciences of Ukraine, Ukraine*

3.2

A Simulation Model for Evaluation of the Intersystem Fault in a Hybrid AC/DC Power System and its impact on the Protection System (ID 83)
Murari Mohan Saha, Hans Kristian Høidalen - *Norwegian University of Science and Technology, NTNU, Norway*
Raymundo Torres-Olguin - *SINTEF Energy Research, Norway*

3.3

Modern Single-ended Fault Location in HVDC Systems based on Fault Transients (ID 84)
Arkadiusz Burek, Przemysław Balcerek, Michał Smolana, Paweł Dawidowski, Jakub Sipowicz - *ABB Corporate Research, Kraków, Poland*

3.4

Power System Event Detection using Auto-encoders and the Fourier Transform (ID 102)
Paweł Dawidowski, Jakub Sipowicz, Przemysław Balcerek, Arkadiusz Burek, Michał Smolan - *ABB Corporate Research, Kraków, Poland*

3.5

Analysis of Power Transformer Magnetizing Inrush and Overexcitation Conditions in Case of Overvoltages due to Line-to-Ground Fault (ID 107)
Krzysztof Solak, Waldemar Rebizant - *Wrocław University of Science and Technology, Poland*
Frank Mieske, Sebastian Schneider - *Siemens AG, Germany*

3.6

Automated PMU Accuracy Analysis based on TTCN-3 System Architecture (ID 82)
Maciej Chyrowicz - *PSE Innowacje, Poland*
Bartłomiej Arendarski, Alexander Pelzer, Przemyslaw Komarnicki - *Fraunhofer Institute for Factory Operation and Automation IFF Magdeburg, Germany*

Technical Programme

Session 4

Tuesday, September 10th, 11:30 – 13:45

Session 4: **Distribution Networks and Renewables** Chair: Prof. Julia Yamnenko, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine Room: Aula D (10D/109)

4.1

Keynote speech: **From Passive Distribution Networks to Smart Power Microgrids - Problems and Challenges for Distribution Networks**
Prof. Irena Wasiak - *Lodz University of Technology, Poland*

4.2

Consumers IED. Power Management by Smart Meter (ID 19)
Vladislav Karpenko, Alexey Boltunov, Stepan Vasilev, Alexander Voloshin, Evgeniy Voloshin - *Moscow Power Engeneering Institute, Russia*

4.3

Short-term Load Forecasting System for Smartgrids based on Personal Power Units (ID 23)
Alexey Boltunov, Stepan Vasilev, Vladislav Karpenko, Alexander Voloshin, Evgeniy Voloshin - *Moscow Power Engineering Institute, Russia*

4.4

Managing the Operation of a Prosumer Installation by using an Energy Storage System (ID 28)
Przemysław Urbanek, Irena Wasiak, Ryszard Pawełek - *Lodz University of Technology, Poland*

4.5

Hybrid Approach for Short-term Wind Power Prediction to Increase Flexibility of Renewable Integration in Power System (ID 53)
Akanit Kwangkaew, Saher Javaid, Yasuo Tan - *Japan Advanced Institute of Science and Technology, Japan*
Chalie Charoenlarpnopparut - *Sirindhorn International Institute of Technology, Thammasat University, Thailand*

4.6

Hybrid Predictive Models Dedicated to Wind Farms (ID 58)
Mateusz Dutka, Bogusław Świątek - *AGH University of Science and Technology, Poland*
Andrzej Firlit - *AGH, Poland*

4.7

Short Term Load Forecasting for Individual Consumers based on Markov Chains (ID 61)
Heiner Früh, Daniel Groß, Krzysztof Rudion - *University of Stuttgart, Germany*

Technical Programme

Session 5

Tuesday, September 10th, 15:00 – 17:30

Session 5: **Power Systems Planning and Smart Grids**
Chair: Prof. Waldemar Rebizant, Wroclaw University of Science and Technology, Poland
Room: Aula D (10D/109)

5.1

Keynote speech: **Cockoo Search Algorithm for Optimal Siting and Sizing of Multiple Distributed Generators in Distribution Grids** (ID 5)
Bahman Ahmadi, Aydogan Ozdemir - *Istanbul Technical University, Turkey*
Oguzhan Ceylan - *Kadir Has University, Turkey*

5.2

Design of an Inverter Model According to the Network Code Requirements for Low-Voltage Grids (ID 9)
Matthias Buchner, Rudion Krzysztof, Simon Eberlein - *Universität Stuttgart, Germany*

5.3

Enhanced Gneration, Energy Storage and Transmission Expansion Planning for Renewables Incorporating Operational Flexibility with Unit Commitment (ID 20)
Semini Wijekoon, Ariel Liebman, Aldeida Aleti - *Monash University, Australia*
Simon Dunstall - *Data 61, CSIRO, Australia*

5.4

Sensitivity Based RPP for Economic Operation of Transmission System using Evolutionary Algorithms (ID 44)
Biplab Bhattacharyya, Nihar Karmakar, Apoorva Srivastava, Bishwajit Dey - *Indian Institute of Technology (Indian School of Mines), India*

5.5

Value- Based Real Time Reactive Power Pricing Model Considering Voltage Security and Reserve Requirement (ID 80)
Devika Jay, K. Shanti Swarup - *Indian Institute of Technology, Madras, India*

Technical Programme

Session 6

Tuesday, September 10th, 15:00 – 17:30

Session 6: **Power System Protection**
Chair: Dr. Murari M. Saha, Norwegian University of Science and Technology, Norway
Room: Aula B (10B/108)

6.1

Improving Handling of Shunt-Reactor Effects during Fault with Focus on Protection Devices (ID 17)
Angelika Jezierska - *SIEMENS AG, Technical University Berlin, Germany*
Cezary Dzienis, Yilmaz Yelgin - *SIEMENS AG, Germany*
Kai Strunz - *Technical University Berlin, Germany*

6.2

Elimination of Aperiodic Components of Measuring Elements of Relay Protection (ID 22)
Nadezhda Buryanina, Maya Koryakina, Yuriy Koroluk - *Chukotka branch of North-Eastern Federal University, Russia*
Elena Lesnyh - *Siberian Transport University, Russia*
Konstantin Suslov - *Irkutsk National Research Technical University, Russia*

6.3

Protection Configuration and Scheme for the Transmission line of VSC-HVDC Grid (ID 31)
Lanxi Tang, Xinzhou Dong, Bin Wang, Shenxing Shi - *Tsinghua University, China*

6.4

Operational Degradation of HTS Tape Parameters Used in SFCL and its Impact on the Coordination of Power System Protection (ID 68)
Sylwia Hajdasz, Jacek Rusinski, Adam Kempski - *University of Zielona Gora, Poland*
Bartosz Brusilowicz - *Wroclaw University of Science and Technology, Poland*

6.5

Assessment of Available Measurement Data, Data Breaks and Estimation of Missing Data from AMI Meters (ID 99)
Barbara Kaszowska, Andrzej Włóczyk, Dariusz Zmarzły - *Opole University of Technology, Poland*

Technical Programme

Session 7

Wednesday, September 11th, 9:00 – 11:00

Session 7: **System Monitoring and Transients Analysis**
Chair: Prof. Tomasz Sikorski, Wroclaw University of Science and Technology, Poland
Room: Aula D (10D/109)

7.1
GPU-Accelerated Sparse LU Factorization for Power System Simulations (ID49)
Gnanavignesh Rajamani, U. Jayachandra Shenoy - *Indian Institute of Science, India*

7.2
Integrated Simulation Environment for Investigation of Multi-Agent Systems in Smart Grids Applications (ID 63)
Manswet Banka, Krzysztof Rudion - *University of Stuttgart, Germany*

7.3
Use of Meteogram and Radar Imagery for Grid Operation: An Indian Experience (ID 79)
P.K. Agarwal, Daman Kumar Jain, Devendra Kumar, Alok Kumar, Paresh Khandelwal, Sunil Kumar Kanaujiya - *Power System Operation Corporation India Ltd, India*

7.4
Reliability Enhancement of High Voltage Power Transformer using Online Oil Dehydration (ID 86)
Badr A. Attiyah, Abdullah A. Alnujaimi, Mohammed A. Alghamdi - *Saudi Aramco, Saudi Arabia*

7.5
An Evaluation of Remanent Flux of Autotransformer on Resonant Overvoltage (ID 105)
Vladislav Kuchanskiy - *National Academy of Sciences of Ukraine, Ukraine*

7.6
Transmission Line Modelling and Simulating for Transient Analysis (ID 106)
Bartosz Brusilowicz, Justyna Herlender - *Wroclaw University of Science and Technology, Poland*

Technical Programme

Session 8

Wednesday, September 11th, 11:30 – 13:30

Session 8: System Operation, Management and Energy Policy
Chair: Prof. Waldemar Dołęga, Wroclaw University of Science and Technology, Poland
Room: Aula D (10D/109)

8.1

Security Assessment of the Electric Power System using a New Intelligent Short-term Planning Method (ID 12)

Seyedali Meghdadi, Guido Tack, Ariel Liebman - *Monash University, Australia*

8.2

Development of Intellectual Information-measuring System for Azerbaijan Power System Regime Reliability Control (ID 36)

Asaf M. Huseynov, Orxan B. Azadkhanov - *Azerbaijan Scientific-Research and Design-Prospecting Institute of Power Engineering, Azerbaijan*

8.3

Using Historical Utility Outage Data to Compute Overall Transmission Grid Resilience (ID 54)

Molly Rose Kelly-Gorham, Paul Hines - *University of Vermont, United States*
Ian Dobson - *Iowa State University, United States*

8.4

Development and Validation of a Neural Network for State Estimation in the Distribution Grid based on μPMU Data (ID 74)

Michael Kelker, Katrin Schulte, Kersten Kröger, Jens Haubrock - *University of Applied Science Bielefeld, Germany*

8.5

SEB Interconnection and Distributed Resources Operation Plan in West Kalimantan Power System (ID 108)

Bagas Maulana Sutardi - *Perusahaan Listrik Negaram, PLN, Indonesia*
M. Iqra Orytuasikal, Arif Yoga - *Perusahaan Listrik Negara, PLN, Indonesia*

8.6

A Reliability-transient Stability Analysis of Power Systems for Protection System Conditions (ID 60)

Aysun Koksal - *Beykent University, Turkey*
Aydogan Ozdemir - *Istanbul Technical University, Turkey*
Joydeep Mitra - *Michigan State University, United States*

Technical Programme

Session 9 – Poster Session
Wednesday, September 11th, 15:00 – 16:00

Session 9: **Poster Session**
Chair: Prof. Mirosław Łukowicz, Wroclaw University of Science and Technology, Poland
Room: next to room 115

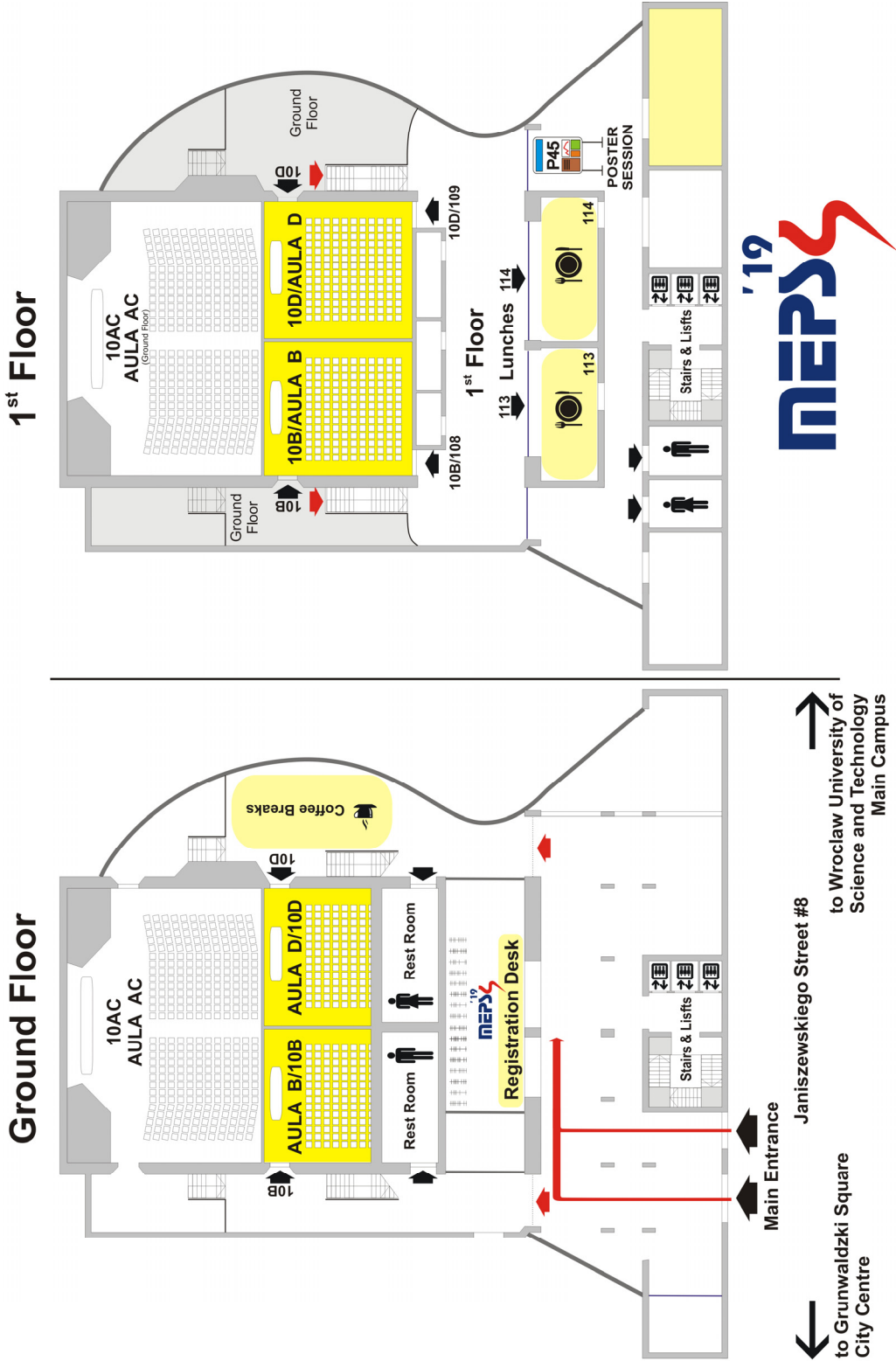| |
|---|
| 9.1 **Method and Algorithm of Control of Shunt Reactors of High-Voltage Power Network in Maintenance Modes based on Fuzzy Logic Theory** (ID 34)
Arif M. Gashimov, Huseynqulu B. Guliyev, Aytek R. Babayeva - *Azerbaijan Scientific-Research and Design-Prospecting Institute of Power Engineering, Azerbaijan* |
| 9.2 **Simulation of the Power Transmission Lines Electrical Field to Ensure Safe Navigation of the Unmanned Aerial Vehicles at their Monitoring** (ID 97)
Marina M. Rezinkina, Oleg L. Rezinkin, Svitlana A. Lytvynenko, Nadiia V. Veselova - *National Technical University "Kharkiv Polytechnic Institute", Ukraine*
Krystian L. Chrzan - *Wroclaw University of Science and Technology, Poland* |
| 9.3 **The Problem of Selected Parameters of the Power Quality in the Perspective of Tightening Normative Requirements** (ID 101)
Marta Bątkiewicz-Pantuła - *Wrocław University of Science and Technology, Poland* |
| 9.4 **Vehicle to Grid as an Important Element of the Energy Community** (ID 94) Piotr Rzepka, Mateusz Szablicki - *Silesian University of Technology, PSE Innowacje, Poland*
Bartosz Kwiatkowski - *Virtual Power Plant Sp. z o.o., Poland*
Anna Wronka - *Warsaw University of Technology, PSE S.A., Poland* |
| 9.5 **Grid Steady State Evaluation for Stochastic Nature of Renewables and Loads** (ID35)
Nariman R. Rahmanov, Huseynqulu B. Guliyev - *Azerbaijan Scientific-Research and Design-Prospecting Institute of Power Engineering, Azerbaijan* |
| 9.6 **Improving Adequacy of Simulation Transitional Processes in Electric Systems by More Comprehensive Consideration Phenomena in Circuit-Breakers** (ID 10)
Tahir Lazimov, Rafael Ahmadov, Asif Sadigov - *Azerbaijan Technical University, Azerbaijan*
Esam Ali Saafan - *University of El-Mansoura, Egypt* |
| 9.7 **Computational Features of Numerical Simulation of Some Transitions in Electric Power Systems** (ID 38)
Tahir Lazimov - *Azerbaijan Technical University, Azerbaijan*
Esam Ali Saafan - *University of El-Mansoura, Egypt* |
| 9.8 **Diagnosis of Challenges for Power System Protection - Selected Aspects of Transformation of Power Systems** (ID 87)
Mateusz Szablicki, Piotr Rzepka, Adrian Halinka, Paweł Sowa - *Silesian University of Technology, Poland* |
| 9.9 **Technological Conditions for VSC and LCC HVDC Systems in Reference to Network Code Requirements** (ID 93)
Piotr Rzepka, Mateusz Szablicki - *Silesian University of Technology, PSE Innowacje, Poland*
Adrian Halinka, Dawid Jurczyk - *Silesian University of Technology, Poland*
Robert Kielak - *Polskie Sieci Elektroenergetyczne S.A., Poland* |
| 9.10 **Analysis of Voltage Dip Source Location Methods** (ID 95)
Beata Solak, Tomasz Sikorski - *Wrocław University of Science and Technology, Poland* |
| 9.11 **Analysis of Load Profiles for Forming Energy Clusters Purpose** (ID 90)
Joachim Bargiel, Adrian Halinka, Marcin Niedopytalski, Paweł Sowa - *Silesian University of Technology, Poland* |

Plan of D-20 Building

D-20 Building   Congress Centre of the Wroclaw University of Science and Technology Faculty of Electrical Engineering

1st Floor

10AC AULA AC (Ground Floor)

10D/AULA D
10B/AULA B

10D/109
10B/108

Ground Floor

10D
10B

1st Floor   Lunches

113   114

POSTER SESSION
P45

114
113

Stairs & Lifts

Ground Floor

10AC AULA AC

AULA D/10D
AULA B/10B

Coffee Breaks

10D
10B

Rest Room
Rest Room

Registration Desk

Stairs & Lifts

Main Entrance

Janiszewskiego Street #8

to Wroclaw Univesity of Science and Technology Main Campus

to Grunwaldzki Square City Centre

MEPS '19

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Wrocław City Centre Map

WUST Campus Map

Campus

Wrocław University
of Science and Technology

to Ostrów Tumski

to City Centre

Szczytnicka St.

J.M. Hoene-Wrońskiego St.

Grunwaldzki Sq.

Wybrzeże Wyspiańskiego St.

Ronda
Rounda

H4

D2

D3

C18

D1

D21

C7

C14

D20

C5

C8

CABLE CAR

C4

C16

C15

C1

C3

C11

Z. Janiszewskiego St.

C6

C13

H6

C2

H3

H5

M. Skłodowskiej-Curie St.

C.K. Norwida St.

C.K. Norwida St.

A6

A10

A5

M. Juchowskiego St.

A7

A8

A4

A1

H14

A11

A9

A2

A3

Łukasiewicza St.

B5

Wybrzeże Wyspiańskiego St.

Odra River

HYDROPOLIS

MEPS 2019
Conference Dinner
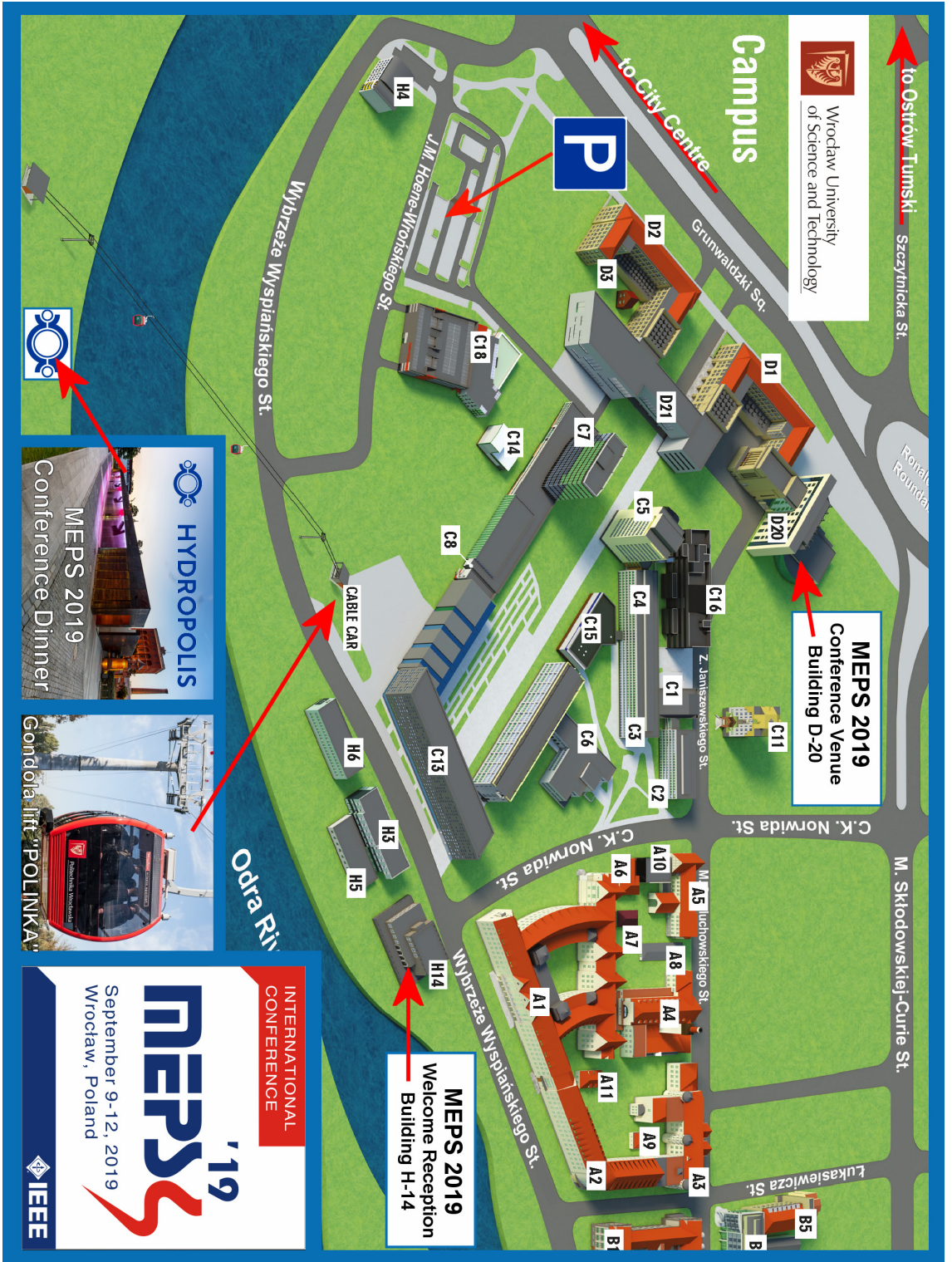
Gondola lift "POLINKA"

MEPS 2019
Conference Venue
Building D-20

MEPS 2019
Welcome Reception
Building H-14