



# **Diagnostika '26**

**2026 International Conference on Diagnostics  
in Electrical Engineering (Diagnostika)**

# **PROGRAM BOOK**



**FACULTY OF ELECTRICAL  
ENGINEERING  
UNIVERSITY OF WEST BOHEMIA**



**IEEE**

IEEE Czechoslovakia Section



**Dear Participants,**

It is our great pleasure to welcome you to the **2026 International Conference on Diagnostics in Electrical Engineering (Diagnosticska)**, the 17th in the series of biennial "Diagnosticska" conferences. Over the years, this conference has become an integral part of our professional lives. Continuing the tradition of previous conferences, our main objective is to **exchange experiences and present the results of scientific activities** from participants in both academia and industry.

This conference aims to foster an environment where new connections can be made and existing relationships strengthened among colleagues working in electrical diagnostics, material science, and other fields of electrical engineering. The proceedings contain the **accepted papers** for the conference scientific program, all of which have been **thoroughly reviewed** by the International Technical Program Committee and the Review Committee, and verified by IEEE CrossCheck.

We are pleased to once again host the conference at the Parkhotel Pilsen in our beautiful city, rich in tradition—not only famous for its beer but also for its deep industry history—Pilsen, Czech Republic. We hope that each of you who have accepted our invitation will find the program to be **new, engaging, useful, and inspiring for your future endeavors**. We anticipate this year's conference to be as innovative and friendly as in previous years.

**We wish you a pleasant stay in Pilsen and hope that the coming days will be unforgettable for you.**

Warm regards,

## **ORGANIZING COMMITTEE**



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# CONFERENCE INFORMATION

**2026 International Conference on Diagnostics in Electrical engineering (Diagnostics)**

**Organised by:** University of West Bohemia, Faculty of Electrical Engineering

**Website:** <https://diagnostika.zcu.cz> **Conference System:** <https://diagnostika.nanoconfer.cz>

**Conference email:** [cdee@fel.zcu.cz](mailto:cdee@fel.zcu.cz)

## International Technical Program Committee

- |                                                                                                                                                                                |                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>prof. Norasage Pattanadech</b><br>King Mongkut's Institute of Technology Ladkrabang        |  <b>prof. Ing. Alena Pietriková, CSc.</b><br>Technical University of Košice                       |
|  <b>Ing. Jan Dončuk, Ph.D.</b><br>ČEPS, a.s.                                                   |  <b>Yong-June Shin, Ph.D.</b><br>Yonsei University                                                |
|  <b>Ing. Štefan Hardoň, Ph.D.</b><br>University of Žilina                                      |  <b>Ing. Magdaléna Trnková, Ph.D., MBA</b><br>Škoda Transportation a.s.                           |
|  <b>prof. Dr. techn. Stefan Kornhuber, MBA</b><br>University of Applied Science Zittau/Görlitz |  <b>Prof. Dr.-Ing. habil. Christian Weindl</b><br>Coburg University of Applied Sciences           |
|  <b>prof. Jian Li, Ph.D.</b><br>Chongqing University                                           |  <b>Prof. Suwarno</b><br>Institut Teknologi Bandung                                               |
|  <b>prof. Ing. Zdeněk Peroutka, Ph.D.</b><br>University of West Bohemia                        |  <b>Ing. Zdeněk Bezděk, Ph.D.</b><br>COGEBI a.s.                                                  |
|  <b>doc. Ing. Radek Procházka, Ph.D.</b><br>Czech Technical University in Prague               |  <b>doc. Ing. František Steiner, Ph.D.</b><br>University of West Bohemia                          |
|  <b>Dr. Zoltán Ádam Tamus, Ph.D.</b><br>Budapest Univ. of Technology and Economics             |  <b>prof. dr. hab. inż. Marian Kampik</b><br>Silesian University of Technology                    |
|  <b>prof. Feipeng Wang, Ph.D.</b><br>Chongqing University                                      |  <b>prof. Dr. Eberhard Lemke</b><br>TU Dresden                                                    |
|  <b>prof. Dr. Ing. Ricardo Diaz</b><br>National University of Tucuman                          |  <b>Em. Univ. Prof. Dipl. Ing. Dr. techn. Dr.h.c. Michael Muhr</b><br>Technical University Graz   |
|  <b>prof. Anton Rassõlkin, Ph.D.</b><br>Tallinn University of Technology                       |  <b>univ. dipl. inž. el. Simon Podkoritnik</b><br>ELES, d.o.o.                                    |
|  <b>doc. Ing. Jaroslav Hornak, Ph.D., MBA</b><br>University of West Bohemia                    |  <b>prof. Dr.-Ing. Christian Staubach</b><br>University of Applied Sciences and Arts, HS Hannover |
|  <b>prof. Ing. Dr. Rainer Haller</b><br>University of Regensburg                              |  <b>prof. Ing. Pavel Trnka, Ph.D., MBA</b><br>University of West Bohemia                         |
|  <b>prof. RNDr. Jozef Kúdelčík, Ph.D.</b><br>University of Žilina                            |  <b>prof. Yoji Fujita, Ph.D.</b><br>Kanazawa Institute of Technology                            |
|  <b>doc. Ing. Pavel Mach, CSc.</b><br>Czech Technical University in Prague                   |  <b>Stane Vižintin, Ph.D.</b><br>Elektroinštitút Milan Vidmar                                   |

# CONFERENCE VENUE



## PARKHOTEL CONGRESS CENTER PILSEN

The Diagnostika conference will be held at the Parkhotel Pilsen, a major congress hotel located in the pleasant setting of Borský Park in Pilsen. The hotel offers extensive and modern conference facilities, including numerous halls capable of hosting large events. Its convenient location provides easy access to the city center while offering a peaceful environment. Attendees can also utilize the hotel's accommodation, dining, and leisure amenities.

## PILSEN, CZECH REPUBLIC: A GEM OF CULTURE AND INDUSTRY

Nestled in the western part of the Czech Republic, Pilsen (Plzeň in Czech) stands as a city of **rich historical significance, vibrant culture, and robust industry**. As the fourth largest city in the country, it offers a unique blend of medieval charm and modern dynamism, making it a captivating destination for both tourists and business enthusiasts. Pilsen's history dates back to the **13th century** when it was founded by King Wenceslaus II in 1295. The city's strategic location at the confluence of four rivers made it a crucial trade center. Pilsen thrived during the medieval period, becoming one of the most important towns in Bohemia. Its historical core is a testament to its storied past, featuring the Gothic **St. Bartholomew's Cathedral**, which boasts the highest church tower in the Czech Republic, and the Renaissance-style City Hall. Pilsen's cultural landscape is as rich as its history. The city was designated the European Capital of Culture in 2015, highlighting its vibrant arts scene. The West Bohemian Museum, the Museum of Religious Art of the Pilsen Diocese, and the Patton Memorial Pilsen are just a few of the many museums that offer insights into the region's heritage and artistic achievements. The Great Synagogue, the **third-largest synagogue in the world**, is a striking architectural and cultural landmark that reflects Pilsen's diverse cultural fabric.

Pilsen is renowned globally for its **industrial prowess**, particularly in **engineering and brewing**. The city is the birthplace of **Pilsner beer**, with the **Pilsner Urquell Brewery** being a major draw for beer enthusiasts. Founded in 1842, this brewery revolutionized beer production and set the standard for the popular pale lager style. The **Skoda Works**, established in 1859, underscores Pilsen's historical and contemporary significance in heavy industry, manufacturing everything from vehicles to machinery.



# GUIDE FOR ORAL AND POSTER PRESENTERS

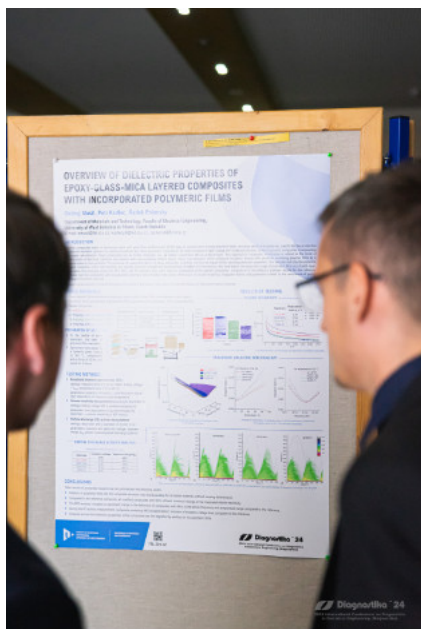
Oral presentations cannot exceed **15 minutes (including Q&A)**. Please be advised that presentations exceeding the limit will be cut off by the chair in the interest of time.

Presenters do not have to bring their own computer. A Windows-based laptop will be available in the session room. Presentations (preferably prepared in **Microsoft PowerPoint** or **PDF**) should be submitted **via USB flash drive** before each session. One copy of your presentation on the USB flash drive should be labeled with the following information: Session Abbreviation, paperID, and Presenters Name. (example: **O1\_220\_John\_DOE.pdf**)

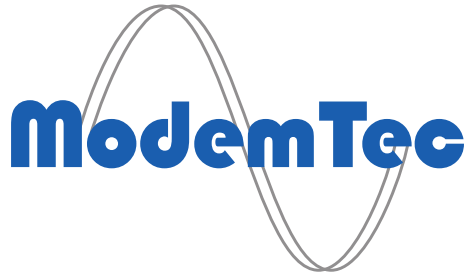
Authors whose articles are included in the **Poster Session I or II** should display their papers in the poster format (**A1 – 594 mm wide x 841 mm tall**).

In general, poster session papers are displayed simultaneously with authors standing next to their posters. Authors should be prepared to give a short description of their work, if asked, and answer questions from attendees.

Poster session chairs will be available during the poster sessions. For the location of the poster sessions, refer to the program book and conference information. Tools for affixing posters will be available in the session areas.



## PLATINUM PATRON



## SILVER PATRON

# TESTIA

## EXHIBITORS

**Megger**

**EN** **CENTRUM**  
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## PARTNERS

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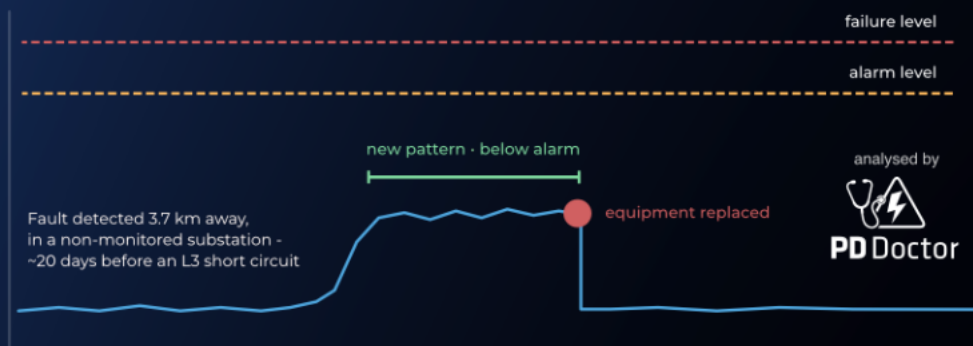


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# INVITED LECTURES



Prof. Alfredo Ortiz  
**RETROFILLING POWER TRANSFORMERS AS A LEVER FOR CIRCULAR, LOW-RISK ASSET MANAGEMENT**



Prof. Andrea Cavallini  
**PERSPECTIVES FOR TESTING ELECTRICAL MACHINES IN TRANSPORT ELECTRIFICATION**



Prof. Maja Kobus  
**UTILIZING RAMAN SPECTROSCOPY TO DETECT HVDC-INDUCED MATERIAL CHANGES IN DIELECTRICS**



Dr. Marek Veveričík  
**DIAGNOSING DISORDER: HOW NANOPARTICLES REWIRE LIQUID CRYSTALS**

# PANEL DISCUSSION

Effective and future-oriented smart diagnostics in the context of the ongoing energy transition



Ing. Jan Krišpín  
CEO and Member of Board of Directors at ORGREZ, a.s.



Dr. Simon Podkoritnik, Ph.D.  
Assistant Director, Transmission Network Infrastructure Division ELES, d.o.o. – Combined Transmission and Distribution System Operator of the Republic of Slovenia.



Prof. Dr.-Ing. habil. Christian Weindl  
Director - Institute of High Voltage Technology, Energy System & Asset Diagnostics (IHEA) and Scientific Director of the Cooperative Doctoral Center Sustainable and Intelligent Systems (NISys)



Prof. Yoji Fujita, Ph.D.  
Professor, Department of Electrical Energy System Engineering, College of Engineering, Kanazawa Institute of Technology



Ing. Ladislav Šťastný, Ph.D.  
CTO of ModemTec s.r.o.

# ASSOCIATED EVENTS



**RETROTRAFO MEETING**  
Meeting of the International project RETROTRAFO - HORIZON EUROPE



**AFFINITY GROUP MEETING**  
IEEE CZECHOSLOVAKIA SECTION YOUNG PROFESSIONALS

# FULL CONFERENCE PROGRAM

## DAY 1 / 2. 9. 2026 - 13:00 CONFERENCE OPENING

|             |                                                                                                                                                                                                           |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13:15-14:00 | <b>OPENING LECTURE / Prof. Andrea Cavallini</b><br>Advanced Testing Methodologies for Electrical Machines in Transport Electrification                                                                    |
| 14:00-14:45 | <b>INVITED LECTURE / Prof. Maja Kobus</b><br>Utilizing Raman Spectroscopy to Detect HVDC-Induced Material Changes in Dielectrics                                                                          |
| 14:45-15:30 | <b>INVITED LECTURE / Prof. Alfredo Ortiz Fernández</b><br>Retrofilling Power Transformers as a Lever for Circular, Low-Risk Asset Management<br><br>Times include space for discussions between lectures. |

## 15:30-16:00 COFFEE BREAK

|             |                                                                                                                                                                                                                     |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16:00-17:00 | <b>Panel Discussion / Christian Weindl, Simon Podkoritnik, Yoji Fujita, Jan Krišpín, Ladislav Šťastný</b><br><b>Effective and future-oriented smart diagnostics in the context of the ongoing energy transition</b> |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 17:00-18:00 POSTER SECTION I *System Diagnostics and Predictive Maintenance*

### **ID 132 Thiago Kleis, Emerson Lima, Mihai Huzmezan, Gabriel Tanasescu**

*Holistic Monitoring Approach for Fault Prevention in Hydropower Generators*

### **ID 134 Andrés Leal, Oleksandr Sologubenko, Roberto Castiglioni**

*Online electrolyzer monitoring for hydrogen production*

### **ID 135 Murat Yagan, Radek SOUKUP, Belma Atapek-Yagan**

*A Novel E-Textile Bimodal Presence Sensor For Aircraft Seats: Initial Design And Measurements*

### **ID 137 Jili Xie, Andrea Cavallini**

*Multi-parameters PDIV prediction simulation of the phase-to-phase insulation of Hairpin motors*

### **ID 138 Yoji Fujita, Motoki Yonaha, Ryoich Hanaoka, Akihiko Kono**

*Evaluation of charging/discharging and overcharging due to corona discharge in lithium-ion batteries using a single cell voltage measurement technique at high potential positions*

### **ID 139 Jiri Svarny**

*Verification of the intrinsic noise of the standard laboratory pA-meter*

### **ID 146 Vasileios I. Vlachou, Karolina Kudelina, et. al.**

*Multi-Sensor Diagnostic Framework for Bearing Fault Detection in Induction Motors*

### **ID 148 Yong Joo KIM, Jin LEE**

*Partial Discharge Detection for Rotating Machines Using Charge Integration Mode (CIM), Three-Phase Signal Discrimination (TPSD), and Peak Phase Dispersion Analysis (PPDA)*

### **ID 151 Armand Wils, Kevin Guillo, Cornel Ioana**

*Comparison of TDR and PIM Measurement to Detect Faults in Coaxial Connectors*

### **ID 158 Mila Stanisavljević, Rajkiran Kumar, et. al.**

*Performance Assessment of Methanol Detection Probes Based on Signal Processing Techniques for Power Transformer Applications*

### **ID 159 Klaus Vaterrodt, Krzysztof Kucharczyk, Andreas Köszegi**

*Partial Discharge Diagnostics on High and Extra High Voltage Cable Systems in Disturbed Environments – Strategies, Sensor Technologies and Test Methods*

### **ID 164 Christian Staubach, Marvin Felgner**

*Development and Testing of a PD-Measurement System for Inverter Operation*

### **ID 168 Hyang-eun Jo, Sung-ki Seo, Young-tae Kim, Dong-Chan Kim, et. al.**

*Analysis of Partial Discharge Characteristics Caused by Insulation Void Defects in C-GIS*

### **ID 169 Hyang-eun Jo, Sung-ki Seo, Young-tae Kim, Chul-ki Noh, Dong-Chan Kim**

*Estimation of Internal Defect Locations in C-GIS*

### **ID 173 Peter Kästel, Carsten Leu**

*Applications of a Generator Voltmeter in electrical power supply*

### **ID 180 Yue Yu, Hujun Peng, Simon Steentjes**

*Voltage-Only Modal Diagnostics of Internal Short-Circuit Faults in Inverter-Cable-Machine Systems Using Transient Response Analysis*

### **ID 185 Dániel Balogh, Richárd Cselkó**

*Advanced Vibration-Based Diagnostics of Non-Ceramic Insulators*

### **ID 187 Marián Janek, Jozef Kúdelčík, Štefan Harďoň, Jakub Donoval**

*Design of a High-Voltage Semiconductor Switch for Pulsed Rock Fragmentation Applications*

### **ID 194 Petra Krištof, Boris Zupanc, Simon Podkoritnik, et. al.**

*Multi-Method Transformer Diagnostics for Root Cause Analysis of Tap Changer Faults*

### **ID 199 Belma Atapek-Yağan, Murat Yağan, František Steiner**

*A Decision-Theoretic and Economic Assessment of Artificial Intelligence Applications in Predictive Maintenance and Quality Management in the European Aerospace Industry*

### **ID 201 Radek Procházka, Jan Hlaváček**

*Experimental Verification of a Current Source Based Partial Discharge Calibrator*

### **ID 207 Jan Fulneček, René Záruba, Ondřej Podivínský**

*Comparative Analysis of Partial Discharge Measurements in Medium-Voltage Cables Using 50 Hz and VLF Methods*

### **ID 210 Nomentsoa Michel Raphaël Rakotoarivelo, et. al.**

*Stator and Rotor Current-Based Detection of Stator Winding Fault in a Doubly Fed Induction Generator*

## 19:30-22:00 DINNER - GRILL PARTY - PARKHOTEL

## DAY 2 / 3. 9. 2026

### 9:00-10:30 ORAL SECTION I *Liquids and Transformers*

Opening  
Lecture

9:00-9:30 Dr. Marek Veveričík

*Diagnosing Disorder: How Nanoparticles Rewire Liquid Crystals*

9:30-9:45 ID 167 Francisco Orozco, Andrés Montero, Taskin Aman Khan, et. al.

*Design of an Experimental Setup for the Study of Ester Retrofilling Conditions and Faults Emulation in Power Transformers*

9:45-10:00 ID 166 Taskin Aman Khan, Andrés Montero, Belén García, Marcos Vera

*Physicochemical Properties of Mineral Oil-Ester Mixtures Under Transformer Retrofilling Conditions: Viscosity and Density Modeling*

10:00-10:15 ID 149 Cristina Méndez, Cristina González, Cristian Olmo, et. al.

*Assessment of the Impact of Residual Mineral Oil Content on the Thermal Ageing of Insulation Systems in Natural Ester Retrofilled Transformers*

10:15-10:30 ID 214 Zdislava Mokrá, Petr Kadlec, Jan Leffler, Lenka Stachová

*Degradation of Impregnated Aramid and Aramid-cellulose Papers: Mechanical and Chemical Analysis*

### 10:30-11:00 COFFEE BREAK

### 11:00-12:30 ORAL SECTION II *PDs and Special Diagnostics*

Opening  
Lecture

11:00-11:15 Matěj Turinský, Kristýna Janovská

*Long-term analysis of partial discharges using apparent charge series*

11:15-11:30 ID 136 Keng Wei Liang, Chang Hsing Lee, Ta Lun Lo, Che Min Lin

*Research and Application of Peak Detector Circuits for Online Partial Discharge Monitoring*

11:30-11:45 ID 165 Christian Staubach

*Partial Discharge Measurement for Early Fault Detection in Rotating Electrical Machines – Theory and Practical Experience*

11:45-12:00 ID 147 Yong Joo KIM, Jin LEE

*Introduction of a New Signal Classification Method Using Magnitude, Time, Frequency, and Phase Angle (MTFA)*

12:00-12:15 ID 202 Mikhail Olkhovskiy, Eva Müllerová, Petr Martínek, et. al.

*XAI-Enabled Quantification of Insulation Aging from Reference-Signal Response*

12:15-12:30 ID 217 Max Stammberger, Tobias Blenk, Sebastian Bottler, Christian Weindl

*A Holistic DAE-Based Framework for Aging-Aware Asset Modeling in Load-Flow Simulation*

### 12:30-14:00 LUNCH BREAK - PARKHOTEL (serving from 13:00 to 14:30)



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## 14:00-15:00 POSTER SECTION II *Advanced Materials and Insulation Systems*

**ID 133 Petru P. Notingher, Cristina STANCU, Madalina MAFTEI, Petru V. Notingher**  
*Lifetime of Polymeric Insulations in Power Cables Subjected to Variable Stresses*

**ID 142 Tomas Jara, Frantisek Steiner, Jiri Tupa, Tomas Rericha**  
*A Structured Conceptual Framework for Predictive Maintenance on an SMT Assembly Line: Failure Modes, Sensor Mapping, and Algorithm Selection*

**ID 144 Tomas Tolar, Frantisek Steiner, Jiri Tupa, Tomas Rericha**  
*A Holistic Sustainability Risk Evaluation Methodology for Electronics Manufacturing*

**ID 150 Cristina Méndez, Ismael Antolín, Carmela Oria, Félix Ortiz, et. al.**  
*Oxidation effects on the thermal degradation of insulation systems in immersed transformers*

**ID 161 Bystrík Dolník, Michal Rajňák, Jaroslav Džmura, Roman Cimbala**  
*Interfacial Response of Insulating Liquids to High-Voltage Electric Fields*

**ID 162 Michal Rajňák, Bystrík Dolník, Katarína Paulovičová**  
*Electric field effect on contact angle of transformer oil-based ferrofluids.*

**ID 171 Juraj Kurimský, Michal Rajňák, Matej Valko, et. al.**  
*Comparative Study of Partial Discharge Performance in Natural and Synthetic Ester-Based Transformer Nanofluids*

**ID 174 Anton Baran, Natália Šmídová, Štefan Hardoň, Jozef Kúdelčík**  
*Dielectric study of properties of biodegradable poly(butylene adipate-co-terephthalate) and its blend with thermoplastic starch*

**ID 175 Jozef Kúdelčík, Marián Janek, Štefan Hardoň, et. al.**  
*Dielectric Breakdown Characteristics of Polyurethane Composites Loaded with Thermally Conductive Microparticles*

**ID 182 Peter Lukacs, Alena Pietrikova, Peter Nemergut, et. al.**  
*Gravimetric Analysis of Moisture Absorption in Paper-Based Substrates after Climatic and Thermal Shock Stress Tests*

**ID 183 Tomas Lenger, Alena Pietrikova, Peter Nemergut, Olga Fricova**  
*Process-Induced Residual Stress States in High-Tg PCB Prepreg Laminates Investigated by DMA Tensile Stress Relaxation*

**ID 192 Štefan Hardoň, Miloš Kováč, Jozef Kúdelčík, Marián Janek, et. al.**  
*Dielectric Diagnostics of Polyurethane Composites Filled with Recycled PUR Fractions from End-of-Life Refrigerators*

**ID 200 Pavel Rous, František Steiner**

*Surface Finish Affects Low-Temperature Solder Joints Through Solder Composition, Not the Pad Interface*

**ID 205 Jan Sipla, Hanna Halkina, Petr Kadlec, Radek Polansky**  
*Impact of UV Exposure on Dielectric and Mechanical Properties of a Flame Retardant LLDPE-Based Composite*

**ID 206 Samuel Bucko, Michal Rajňák, Roman Cimbala**  
*Effect of C60 Nanoparticles on Thermally Stimulated Dielectric Relaxation of GTL Transformer Oil*

**ID 208 Alena Pietriková, Daniel Dzivý, Igor Vehec, Peter Nemergut**  
*Effect of Substrate Type and Shear Rate on the High-Temperature Shear Behavior of SAC305 and SAC405 Solder Ball Joints*

**ID 216 Kristián Glajc, Matej Vaľko, Juraj Kurimský, Michal Rajňák, Július Šimčák**  
*Short Review of Material and Morphological Effects of Nanoparticles on the Electrical Performance of Transformer Nanofluids*

**ID 219 Pavel Prosr**  
*Analysis of Slot Insulation Tape for Assessing Shape and Dimensional Stability*

**ID 222 Tetjana Tomaskova, Roman Hamar, Pavel Trnka, Jaroslav Hornak**  
*Improving Thermal Management in Electrical Devices Using Thermally Conductive Fillers - Numerical Modeling Approach*

**ID 223 Marek Vacha, Tomas Rericha, Jiri Tupa**  
*Development of a Digital Twin for Educational Purposes*

**ID 224 Filip Hrůša, Petr Kadlec**  
*Epoxy-based Composites with Multicomponent Additive System Enhancing Dielectric Strength*

**ID 225 Jan Sawruk, Viktor Kliment, Ondřej Michal, Jaroslav Hornak**  
*Calibration of a PV Panel Equivalent Circuit Model Based on Flash Test Measurements*

**ID 226 Jiří Kopřiva, Pavel Trnka, Petr Kadlec, Pavel Sláma, Jaroslav Hornak**  
*Effect of a Graded MgO Nanocomposite Concentration on the Dielectric Properties of LLDPE Insulation*

## 15:30-17:30 TECHNICAL TOUR - SLOVANY TRAM DEPOT

Experience technology in practice! Join us for an exclusive tour of the newly reconstructed Slovany tram depot. A perfect opportunity for engineers to see complex electrical systems, full automation, and sustainable technologies in daily live operation!



During the approximately 40-minute guided tour, we will look on the technological aspects of the depot:

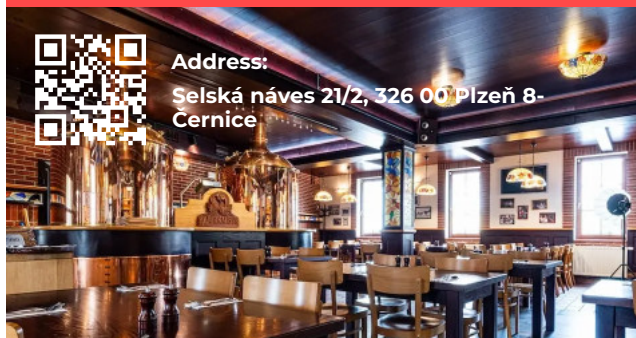
**Traction Substation:** See the conversion of 22 kV AC grid power to DC traction voltage. We'll explore transformers (520 V AC), 12-pulse rectifiers, DC busbars, and stray current protection.

**Automated Dispatch:** Discover the fully automatic depot control system managing train routes, featuring advanced anti-collision technology and switch interlocking.

**Laser Wheel Diagnostics:** Real-time 3D optical scanning of wheel flanges. This enables predictive maintenance, preventing derailments and track wear.

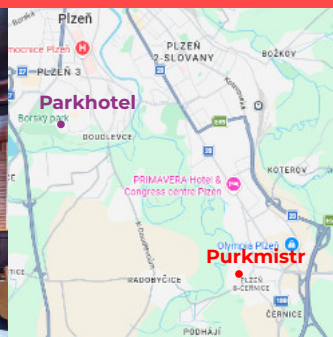
**Blue-Green Infrastructure:** Massive green roofs retain rainwater (up to 15 l/m<sup>2</sup>), which is then filtered in underground tanks and recycled for the tram washing facility.

## 18:00-23:00 DINNER - SOCIAL EVENT - PURKMISTR



Address:

Selská náves 21/2, 326 00 Plzeň 8-Černice



We are delighted to invite all participants to the conference Social Evening, which will take place at the traditional brewery hotel and restaurant Purkmistr (<https://www.purkmistr.cz>). Located in the historic part of Plzeň-Černice, this venue offers a wonderful atmosphere combining traditional Czech hospitality, excellent local beer brewed on-site, and great food. It is the perfect opportunity to relax, network with colleagues, and enjoy the evening in a casual setting. Transport details to the venue will be provided in the final program.

## DAY 3 / 4. 9. 2026

### 9:00-10:30 ORAL SECTION III *Young Researchers I*

**9:00-9:15 ID 170 Matej Val'ko, Juraj Kurimský, Volodymyr Maslyuk, et. al**  
*Effect of Accelerated Electron Irradiation on Dielectric Properties of Transformer Oil*

**9:15-9:30 ID 176 Miloš Kováč, Štefan Hardoň, Jozef Kúdelčík, Marián Janek**  
*Tuning Electrical and Thermal Conductivity of Polyurethane-Based Insulating Systems by Halloysite Nanotube Doping*

**9:30-9:45 ID 179 Hao Liu, Zhen-xing Fan, Pei-zhi Yuan, Yun-tian Guo, et. al.**  
*Early warning method for lithium-ion battery energy storage system thermal runaway based on a single-fiber multi-parameter sensing system*

**9:45-10:00 ID 186 Peter Nemerguť, Alena Pietrikova, Daniel Dzivy, Martin Hirman**  
*A Cost-Effective Laboratory Fixture for Measuring Flatness and Warpage in Power Electronics Modules*

**10:00-10:15 ID 189 Tomáš Kupilík, Petr Kadlec, Jan Leffler, Petr Kvasnička, et. al.**  
*Effect of Surface Abrasion on the AC Breakdown Strength of PP/SiR and PE/SiR Interfaces*

**10:15-10:30 ID 190 Petr Kvasnicka, Jakub Sihelsky, Josef Pihera**  
*Influence of Different Materials Applied at the Triple Point on Partial Discharge Behavior Under Pulsed Stress*

### 10:30-11:00 COFFEE BREAK

### 11:00-12:30 ORAL SECTION IV *Young Researchers II*

**11:00-11:15 ID 145 Rashed Al-Tarawneh, Miguel A. Hombrados-Herrera, Andrés Montero**  
*Comprehensive Evaluation of Machine Learning Models for DGA-Based Fault Classification in Power Transformers*

**11:15-11:30 ID 140 Sandra Plötz, Stephanie Uhrig, Fabian Öttl**  
*Application of frequency response analysis to identify characteristic frequency ranges in rotating machines for fault diagnosis*

**11:30-11:45 ID 152 Firew Dereje Olana, Zoltán Ádám Tamus**  
*Analysis of Changes in Dielectric Properties of PVC-Insulated Cables Under Thermal Stresses*

**11:45-12:00 ID 177 Jergus Sevec, Ondrej Kovac**  
*System Impulse Response Estimation Using Reconstructive Algorithms*

**12:00-12:15 ID 184 Dániel Balogh, Gergő Lőrinczi, Richárd Cselkó**  
*Laboratory Investigation of Acid-Induced Aging Effects on the Flashover Performance of Composite Insulators*

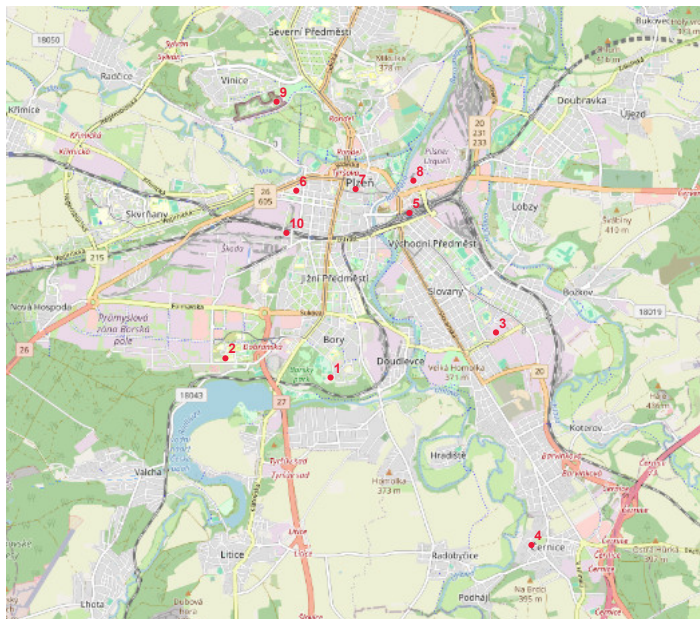
**12:15-12:30 ID 221 Jakub Cernohous, Ondrej Michal, Pavel Prosr, Jaroslav Hornak**  
*Characterization of PET Film Degradation Under Thermal, UV-B and Voltage Exposures*

### 12:30-13:00 COFFEE BREAK

### 13:00 - 13:30 CONFERENCE CLOSING & STUDENT AWARD CEREMONY

**14:00-15:00 RETROTRAFO Meeting**

**15:00-16:00 IEEE CS YP AG Meeting**



## Pilsen Landmarks

1. Parkhotel Pilsen - Conference Venue
2. University of West Bohemia
3. Tram Depo Slovany - Technical Tour
4. Purkmistr Brewery - Social Event
5. Pilsen Main Train Station
6. Pilsen Main Bus Station Husova
7. Pilsen Center
8. Pilsner Urquell Brewery
9. Pilsen ZOO & Dino Park
10. Technmania Science Center



**Diagnostika '26**

**Parkhotel**  
CONGRESS CENTER PLZEŇ

# CONFERENCE PROGRAM

|       | Day 1 ; 2. 9. 2026<br>Wednesday                                       | Day 2 ; 3. 9. 2026<br>Thursday                                    | Day 3 ; 4. 9. 2026<br>Friday                   |
|-------|-----------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------|
| 8:00  |                                                                       |                                                                   |                                                |
| 8:30  |                                                                       |                                                                   |                                                |
| 9:00  |                                                                       | Opening Lecture: Dr. Marek Veverčík                               |                                                |
| 9:30  |                                                                       | Oral Section I<br><i>Liquids and Transformers</i>                 | Oral Section III<br><i>Young Researchers I</i> |
| 10:00 |                                                                       | Coffee Break                                                      | Coffee Break                                   |
| 10:30 |                                                                       | Opening Lecture: Matěj Turínský                                   |                                                |
| 11:00 |                                                                       | Oral Section II<br><i>PDs and Special Diagnostics</i>             | Oral Section IV<br><i>Young Researchers II</i> |
| 11:30 |                                                                       |                                                                   | Coffee Break                                   |
| 12:00 | REGISTRATION<br>(from 11 AM)                                          |                                                                   | Conference Closing                             |
| 12:30 |                                                                       |                                                                   |                                                |
| 13:00 | Conference Opening                                                    | LUNCH BREAK -<br>PARKHOTEL                                        |                                                |
| 13:30 | Opening Lecture<br>Prof. Andrea Cavallini                             |                                                                   |                                                |
| 14:00 | Invited Lectures<br>Prof. Alfredo Ortiz Fernández<br>Prof. Maja Kobus | Poster Section II<br>Advanced Materials and<br>Insulation Systems | RETROTRAFO Meeting                             |
| 14:30 |                                                                       |                                                                   |                                                |
| 15:00 |                                                                       |                                                                   | IEEE CS YP AG Meeting                          |
| 15:30 | Coffee Break                                                          |                                                                   |                                                |
| 16:00 |                                                                       | Technical Tour - Tram<br>Depo Slovany                             |                                                |
| 16:30 | Panel Discussion                                                      |                                                                   |                                                |
| 17:00 | Poster Section I<br>System Diagnostics and<br>Predictive Maintenance  |                                                                   |                                                |
| 17:30 |                                                                       |                                                                   |                                                |
| 18:00 |                                                                       |                                                                   |                                                |
| 18:30 |                                                                       |                                                                   |                                                |
| 19:00 |                                                                       |                                                                   |                                                |
| 19:30 |                                                                       |                                                                   |                                                |
| 20:00 | Dinner - Parkhotel                                                    | Social Event - Purkmistr                                          |                                                |
| 20:30 |                                                                       |                                                                   |                                                |
| 21:00 |                                                                       |                                                                   |                                                |
| 21:30 |                                                                       |                                                                   |                                                |
| 22:00 |                                                                       |                                                                   |                                                |
| 22:30 |                                                                       |                                                                   |                                                |
| 23:00 |                                                                       |                                                                   |                                                |

