Conference Program*

100 practical technical presentations by experts in design, testing, operation & maintenance of key components for:

- overhead lines
- substations
- underground cables

Plus a PRODUCT & TECHNOLOGY EXHIBITION featuring over 60 industry leaders from across the globe. Don’t miss this unique event for engineers and other professionals from the power and HV industries.

* as of May 31. Subject to possible modification
# Day 1: Monday, October 21

## 08:00 Welcome Reception for Attendees
Suzan Gray, Tucson Electric Power, United States

## 08:10 Keynote Address
Konstantin Papailiou, Dresden Technical University, Switzerland/Germany

## 10:00 to 16:00 Sightseeing to nearby Sabino Canyon. Complimentary bus shuttles will run in both directions originating from the Westin La Paloma Hotel every 45 minutes. Circa 15-minute bus trip each way

## 13:00 to 19:00 Registration desk opens. Attendees pick up badges and conference materials

## 14:00 to 18:30 Insulators Technologies & Applications Part 1

## 14:00 to 18:30 Arrester Technologies & Applications Part 1

## 14:00 to 18:30 Plenary Session Part 2

## 20:00 to 21:00 Welcome Reception for Attendees

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# Day 2: Tuesday, October 22

## 08:00 to 13:00 Plenary Session Part 3

## 14:00 to 18:00 Insulators Technologies & Applications Part 3

## 14:00 to 18:00 Arrester Technologies & Applications Part 2

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# Day 3: Wednesday, October 23

## 08:00 to 13:00 Insulators Technologies & Applications Part 2

## 14:00 to 18:00 Insulators Technologies & Applications Part 3

## 14:00 to 18:00 Arrester Technologies & Applications Part 2

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# Poster Exhibition

**Time** | **CANYON FOYER**
---|---
10:00 to 16:00 | Sightseeing to nearby Sabino Canyon. Complimentary bus shuttles will run in both directions originating from the Westin La Paloma Hotel every 45 minutes. Circa 15-minute bus trip each way

**Time** | **CANYON CONFERENCE ROOM** | **SONORAN 1 & 2 CONFERENCE ROOM** | **MURPHEY CONFERENCE ROOM**
---|---|---|---
08:00 to 13:00 | Plenary Session Part 3 | | 
14:00 to 18:00 | Insulator Technologies & Applications Part 1 | Arrester Technologies & Applications Part 1 | 
14:00 to 18:00 | | | Cable & Accessory Technologies & Applications

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# Exhibitor Reception in Exhibition Area

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# Session Chairman: Aram Khalil-Pour, FortisBC, Canada

## 08:00 Welcome Address
Suzan Gray, Tucson Electric Power, United States

## 08:10 Keynote Address
Konstantin Papailiou, Dresden Technical University, Switzerland/Germany

## 10:50 Optimizing Design & Materials for High Voltage Transmission Applications
Jeff Butler, Hubbell Power Systems, United States

## 12:55 Summary of Session/Questions
Bas Verhoeven, DNV GL KEMA Laboratories, the Netherlands

## 13:00 Lunch

**Time** | **Day 2: Tuesday, October 22**
---|---
08:00 | Plenary Session Part 3
10:00 to 16:00 | Sightseeing to nearby Sabino Canyon. Complimentary bus shuttles will run in both directions originating from the Westin La Paloma Hotel every 45 minutes. Circa 15-minute bus trip each way

**Time** | **Day 3: Wednesday, October 23**
---|---
08:00 | Insulator Technologies & Applications Part 3
10:00 to 16:00 | Sightseeing to nearby Sabino Canyon. Complimentary bus shuttles will run in both directions originating from the Westin La Paloma Hotel every 45 minutes. Circa 15-minute bus trip each way

---

# Session Chairman: Marvin L. Zimmerman, INMR, Canada

## 08:00 Welcome Address
Suzan Gray, Tucson Electric Power, United States

## 08:10 Keynote Address
Konstantin Papailiou, Dresden Technical University, Switzerland/Germany

## 08:25 Latest Developments in High Voltage Cable Accessories
Ruben Grund, Pferster, Germany

## 09:15 Various Benefits of Line Surge Arrester Application & Advantages of Externally Gapped Line Arresters
Patrick Maloney, PPC Insulators, United States

## 09:40 Longitudinal Loading: Fact Versus Myth
Ed Niemier, MacLean Power Systems, United States

## 10:00 Coffee Break & Visit to Exhibition Area

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## 10:50 Optimizing Design & Materials for High Voltage Transmission Applications
Jeff Butler, Hubbell Power Systems, United States

## 12:05 Silicones in T&D: Advantages of this Versatile Material
Andrei Szabo, Wacker Chemie, Germany

## 14:00 Composite Insulators: Problem Cases & Solutions to Increase Reliability & Service Life
Alexander Zlakazov, Tatjana Symonova Global Insulator Group, Russia/Estonia

## 14:25 Cases of Non-Standardized Testing
Dan Windmar, STNL, Sweden

## 15:15 Asset Replacement Strategies in Ageing Grids: Maintenance versus Condition-Based
Robert Roits, Technical University of Delft, the Netherlands

## 15:35 Coffee Break & Visit to Exhibition Area

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Ed Niemier, MacLean Power Systems, United States

## 10:00 Coffee Break & Visit to Exhibition Area

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# Funding the Next Global T&D Investment Cycle 2020-2040: How Much It Will Cost
Steve Aubertin, Goudes Reports, United Kingdom

## 16:20 Impact & Mitigation of Icing on Power Network Equipment
Masoud Farazanneh, Université de Québec à Chicoutimi, Canada

## 16:45 Optimal Insulator Type & Dimensioning in Harsh Service Environments
Alberto Pighi, T&I Consultant, Italy

## 17:05 Practical Field Inspection & Condition Assessment of Transmission Insulators
Dennis Schlender, DBS Energy Services, Canada

## 17:25 Lessons from 25 Years Experience Testing Polymeric Insulators
Jan Lachman, EGI HV Laboratory, Czech Republic
Tuesday, October 22
PLENARY SESSION: PART 3
Canyon Conference Room

Session Chairman: Igor Gutman, Independent Insulation Group, Sweden

10:05 Coffee Break & Visit to Exhibition Area

10:20 Selection of Optimal Outdoor Insulation for Refurbishment of 400 kV Substation Under Coastal Pollution
Milan Radosavljevic, Svenska Kraftnät, Sweden

11:45 Development of Small-Scale Test to Verify Corona Performance of Polymeric Insulators
Andrew Phillips, Timothy Shaw, EPRI, United States

12:00 Operating a Test Station in a Polluted Environment
Christian Pons, EDF Lab Les Renardières, France

12:35 Replacing Insulators in Ageing Long Span Lake Crossing
Alison Meredith, FortisBC, Canada

12:55 Summary of Session/Questions

13:00 Lunch

14:00 Mechanical Testing of Connection Leads for Transmission Line Arresters
Fabio Bologna, Martin Hughes, EPRI, United States

14:30 Innovative Compact Line Design: Reducing Clearances by Integrating EGLAs on HV Transmission Lines
Bastian Robben, Siemens, Germany

15:00 Braced Line Post Testing Considerations
John Schornwolff, Hubbell Power Systems, United States

15:30 Coffee Break & Visit to Exhibition Area

Tuesday, October 22
ARRESTER TECHNOLOGIES & APPLICATIONS - PART 1
Sonoran 1 & 2 Conference Room

Session Chairman: Jonathan Woodworth, Stantec Consulting Services, United States

08:00 Quality Evaluation of MV/HV Network Components at TNB: Experience with Failures & Lessons Learned
Irwan Mohamed Rawi, Tenaga Nasional Berhad, Malaysia

08:25 Optimizing Insulator Selection with Regard to Performance, Installation, Stocking & Maintenance
Daniel McCullough, San Diego Gas & Electric, United States

08:50 Performance of RTV-Coated Glass Insulators in Zones of High Contamination
Samuel Arturo Asto Soto, Red de Energía, Peru

09:15 Lessons from 20 Years’ Experience with Composite Insulators on Transmission Lines
Glenn Stapleton, Tony Gillespie Powerlink, Queensland, Australia

09:40 Transmission Structures for Reduced Cost & Increased Public Acceptance
Kari Emil Steenholt-Eliasson, Enernet, Denmark

10:05 Coffee Break & Visit to Exhibition Area

10:20 Methodology & Mitigation of Lightning Induced Arcing to Pipeline Hazard
Mazza Armstrong, BC Hydro, Canada

11:40 Surge Arresters Considerations in Microgrids
Jesse Hoffman, Stantec Consulting Services, United States

12:05 Arresting Protection of Lower Voltage Circuits on Multi-Voltage Towers: Issues & Opportunities
William Chiashiom, Consultant, Canada

12:30 Application of Surge Arresters in MV/HV Capacitor Banks
Tim Rastall, Enspec Power, United Kingdom

12:55 Summary of Session/Questions

13:00 Lunch

14:00 Experience Applying Surge Protection at Hydro One
Jody Levine, Hydro One Networks, Canada

14:30 Development of 765 kV Externally Gapped Line Arresters
John M. Schneider, Complex Energy Solutions, United States

15:00 Optimizing Structure Design on 500 kV Lines Using Transmission Line Arresters
Chenyang Wang, Manitoba Hydro, Canada

15:30 Coffee Break & Visit to Exhibition Area

16:00 Experience Applying Surge Protection at Hydro One
Jody Levine, Hydro One Networks, Canada

16:30 Development of 765 kV Externally Gapped Line Arresters
John M. Schneider, Complex Energy Solutions, United States

17:00 Optimizing Structure Design on 500 kV Lines Using Transmission Line Arresters
Chenyang Wang, Manitoba Hydro, Canada

17:30 Surge Arrester Sizing for Ungrounded Sub-Transmission Systems
Xuan Wu, American Electric Power, United States

18:00 Summary of Session/Questions
### Wednesday, October 23
#### CABLE & ACCESSORY TECHNOLOGIES & APPLICATIONS
**Conference Room**

**Session Chairman:** Prof. Klaus-Dieter Haim, Zittau-Görlitz University of Technology, Germany

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<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
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<tr>
<td>08:20</td>
<td>Design Rules for Long-Term Reliability of Composite Insulator Strings</td>
<td>Isaac Böhken, Pfisterer-Lapp, United States</td>
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<tr>
<td>08:40</td>
<td>Research Findings Linking Corona to Brittle Fracture</td>
<td>Daniel Luder, Israel Electric, Israel</td>
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<tr>
<td>09:05</td>
<td>Digital Solution for Transmission Line Risk Assessment</td>
<td>Jean-Marie George, SEDER, France</td>
</tr>
<tr>
<td>09:25</td>
<td>EPRI Sensor Suite: A Step Towards an Intelligent Electrical Power System</td>
<td>Thomas Galloway, EPRI, United States</td>
</tr>
<tr>
<td>09:45</td>
<td>New Technology for Coated Glass Suspension Insulators</td>
<td>Alexander Ziakazov, Tatyana Symonova, Global Insulator Group, Russia/Estonia</td>
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<tr>
<td>10:05</td>
<td>Coffee Break &amp; Visit to Exhibition Area</td>
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<tr>
<td>10:40</td>
<td>Dust &amp; Sea Salt Pollution Mapping: Satellite versus Ground Truth Results</td>
<td>William Chisholm, Consultant, Canada</td>
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<tr>
<td>11:05</td>
<td>Thermally Diffused Galvanizing &amp; Application to Insulators</td>
<td>A.J. (Tony), K-Line Insulators, Canada</td>
</tr>
<tr>
<td>11:25</td>
<td>Field &amp; Laboratory Assessment of RTV Coated Insulators in Harsh Desert Environments</td>
<td>Raouf Znaidi, T&amp;D Consultant, Tunisia</td>
</tr>
<tr>
<td>11:55</td>
<td>Advanced Coatings for Insulators &amp; Conductors: Overview of EPRI Research</td>
<td>Erika Willis, EPRI, United States</td>
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<tr>
<td>12:20</td>
<td>Progress on Revision of IEC 60383</td>
<td>Dan Windmar, STRI, Sweden</td>
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<tr>
<td>12:40</td>
<td>Access Enabling Technology for Silicone Bushings in MV Transformers</td>
<td>Jeff Door, The H+J Family of Companies, United States</td>
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<tr>
<td>13:00</td>
<td>Lunch</td>
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### Wednesday, October 23
#### INSULATOR TECHNOLOGIES & APPLICATIONS - PART 3
**Conference Room**

**Session Chairman:** William Chisholm, Canada

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<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
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<tbody>
<tr>
<td>08:00</td>
<td>Requirements &amp; Challenges in Technology &amp; Application of HV Cable Joints</td>
<td>Hansjoerg Gramespachter, ec4ac, Switzerland</td>
</tr>
<tr>
<td>08:25</td>
<td>Future Challenges for Cable Accessories for MV Networks</td>
<td>Lukas Zichmura, Royal Lovink Enertech, the Netherlands</td>
</tr>
<tr>
<td>08:50</td>
<td>Interesting Aspects of Special Cables with Silicones</td>
<td>Detlef Klingberg, Wacker Chemical, United States</td>
</tr>
<tr>
<td>09:15</td>
<td>Shearbolt Connectors for LV/MV Underground Power Cables: Reliability &amp; Failure Modes</td>
<td>Falk Hardt, Pfisterer, Germany</td>
</tr>
<tr>
<td>09:40</td>
<td>Long-Term Experience with Cable Joints under Water Stresses</td>
<td>Stefan Kornhuber, Zittau-Görlitz University of Technology, Germany</td>
</tr>
<tr>
<td>10:05</td>
<td>Coffee Break &amp; Visit to Exhibition Area</td>
<td></td>
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<tr>
<td>10:40</td>
<td>Efficient Simulation of Electric Line Parameters for Cables</td>
<td>Doug Craigien, Integrated Engineering Software, Canada</td>
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<tr>
<td>11:05</td>
<td>Damped AC for Commissioning &amp; Diagnostic Testing of HV Cables</td>
<td>Paul Leufkens, Power Projects Leufkens, United States</td>
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<tr>
<td>11:25</td>
<td>Designing &amp; Optimizing HV Cables &amp; Accessories to Withstand High Short Circuit Current Faults</td>
<td>Guoyan Sun, Brugg Cables, Switzerland</td>
</tr>
<tr>
<td>11:55</td>
<td>Reliability of HVDC Cable Joints: Today &amp; Future Challenges</td>
<td>Hansjoerg Gramespachter, ec4ac, Switzerland</td>
</tr>
<tr>
<td>12:15</td>
<td>Experience from Long Duration Tests on Extruded Cable Systems up to 525 kV DC</td>
<td>Uberto Vercelotti, CESI, Italy</td>
</tr>
<tr>
<td>12:35</td>
<td>Cable Accessory Technologies: Current Situation &amp; Developments to Watch</td>
<td>Klaus-Dieter Haim, Zittau-Görlitz University of Technology, Germany</td>
</tr>
<tr>
<td>12:55</td>
<td>Summation of Session/Questions</td>
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<tr>
<td>13:00</td>
<td>Lunch</td>
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### Wednesday, October 23
#### ARRESTER TECHNOLOGIES & APPLICATIONS - PART 2
**Sonoran 1 & 2 Conference Room**

**Session Chairman:** Jonathan Woodworth, ArresterWorks, United States

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<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
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<tbody>
<tr>
<td>08:40</td>
<td>Protecting Neutral Terminals of Power Transformers in Distribution Substations</td>
<td>Michael Champagne, Waldemar S. Nelson &amp; Co., United States</td>
</tr>
<tr>
<td>09:15</td>
<td>Arresters on the 400 kV Network in Hong Kong</td>
<td>Konstantinos Velitsikakis, DNV GL Energy Advisory, the Netherlands</td>
</tr>
<tr>
<td>09:40</td>
<td>Strategies for Effective Application of Line Surge Arresters on the 400 kV Network in Hong Kong</td>
<td>Robert Verdolfin, Verdiolins Solutions, Canada</td>
</tr>
<tr>
<td>10:15</td>
<td>Advances of Enhanced Silicone Polymer for Distribution Arresters</td>
<td>LEE Yanmin, Square Silicone, China</td>
</tr>
<tr>
<td>10:40</td>
<td>Application of Surge Arresters in Mitigating Breaker Transient Recovery Voltage</td>
<td>Rogerio Verdolin, Verdolin Solutions, Canada</td>
</tr>
<tr>
<td>11:10</td>
<td>Development &amp; Application of Polymeric Surge Arresters for Transmission Lines in China</td>
<td>HE Jinliang, Tsinghua University, China</td>
</tr>
<tr>
<td>11:40</td>
<td>Software for Line Design &amp; Operation: Case Studies</td>
<td>Igor Gutman, Independent Insulation Group, Sweden</td>
</tr>
<tr>
<td>12:15</td>
<td>Developments to Watch in HV Surge Arresters</td>
<td>Paul Leufkens, Power Projects Leufkens, United States</td>
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</table>

### Wednesday, October 23
#### CABLE & ACCESSORY TECHNOLOGIES & APPLICATIONS
**Summary of Session/Questions**
15:00
Line Arrester Installations on ATC System: What Was Done Right & Further Improvements
Bryan Beske, American Transmission Company, United States

15:30 Coffee Break & Visit to Exhibition Area

16:00
Using Grid Analytics to Evaluate Lightning Protection
John Lauletta, Exacter, United States

16:30
Overview of Progress on Harmonization of IEC and IEEE Arrester Standards
Jonathan Woodworth, ArresterWorks, United States

17:00
Metal Oxide Surge Arresters for HVDC Circuit Breaker Applications
Nadew A. Belda, DNV GL Energy, the Netherlands & Peter Hock, Technical University of Darmstadt, Germany

17:30
Bushing/Arrester Failure Root Cause Analysis: Case Experience
Wenceslao Torres, MEC Engineering, Puerto Rico

18:00 Summary of Session/Questions

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PLAN NOW TO ATTEND

Registration Fee per Person
(includes access to all conference sessions, access to Exhibition, copy of PROCEEDINGS, all breakfasts, all lunches, all coffee breaks & invitation to two evening receptions):

**General Registration**
US$ 895

**Group Registration**
US$ 795
(min. 3 people from same company register & pay at same time)

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**Utility Registration**
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Name of Company / Electric Utility: __________________________________________________________

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City: __________________________________________________________________________________

Country: ______________________________________________________________________________

Postal Code: __________________________ Telephone: _____________________________ Telex: __________

Name of Attendee (1): __________________________________________________________ Job Title: __________

Email Address of Attendee (1): ______________________________________________________________________________________

Name of Attendee (2): __________________________________________________________ Job Title: __________

Email Address of Attendee (2): ______________________________________________________________________________________

Name of Attendee (3): __________________________________________________________ Job Title: __________

Email Address of Attendee (3): ______________________________________________________________________________________

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or complete the form above and email to: info@inmr.com or telefax to: 1-514-939-6151