2016 IEEE CEIDP
IEEE CONFERENCE ON ELECTRICAL INSULATION AND DIELECTRIC PHENOMENA

October 16 – 19, 2016

Chelsea Hotel Toronto
33 Gerrard Street West, Toronto, ON  M5G 1Z4

CONFERENCE PROGRAM
Welcome from the Conference Chair

I welcome all to the 2016 IEEE Conference on Electrical Insulation and Dielectric Phenomenon held at the Chelsea Hotel, Toronto, Canada. The conference was a unit of the Division of Engineering of the National Academy of Sciences—National Research Council before 1981 and now it is fully supported by the Dielectrics and Electrical Insulation Society (DEIS) of IEEE. It was established in 1920 and continues the original schedule of having an annual meeting of researchers in the field of dielectric materials and electrical insulation challenges to present papers and exchange information on their latest research activities. The conference rotates between cities in North America and occasionally in Mexico, with the exception of one Asian conference held in Shenzhen China. It should not be forgotten that CEIDP’s main topics include materials related contributions, while other IEEE conferences involve other aspects of the electrical equipment design and electro-technical challenges.

Each year there is the opportunity to arrange workshops on the Sunday just before the conference starts, and this year we have two workshops (i) HVDC extruded cable systems, and (ii) High Frequency Transients in Insulation Systems organized by Professors Giovanni Mazzanti and Shesha Jayaram, respectively.

The conference will open with the Whitehead Lecture by Dr. Kaori Fukunaga from the National Institute of Information and Communications Technology, Tokyo Japan. Her talk is titled “Interface Matters in Dielectrics”. The Whitehead Lecture is named after the late pioneer in a series of experimental investigations dealing with dielectric theory and the dielectric properties as related to high voltage insulation.

The CEIDP executive committee was instrumental in preparing the conference and I am very grateful to each one of them for their work. Technical content of the conference is the most challenging task, and Prof. George Chen is the Technical Chair who ran the abstract collection and review and determined the contributions for full paper submissions with his technical committee members. The outline of the Technical Program was also planned by him. The finances of the conference are managed by Prof. Nicola Bowler and she is also the Vice Chair of the conference. The Publication Chair, Dr. Howard Penrose, needs to be mentioned for his timely responses and updating the conference information on the web. Dr. Virginie Griseri, the Nomination Chair, handles the Whitehead Lecture nominations, as well as the future of the executive committee, which needs new members nominated for the board each year. The Conference Secretary, Prof. Ruy Altafim, is thanked for his support in the communications. I would like to thank the Local Chair, Ms. Resi Zarb for the excellent venue and preparing us for the event. There are many others involved in conference organization and also deserve special thanks.

We all wish you a great conference and hope you enlarge your network in the Dielectrics Community.

Enis Tuncer, PhD  
Conference Chair CEIDP 2016

Conference Overview

The 2016 Conference on Electrical Insulation and Dielectric Phenomena (CEIDP) is sponsored by the IEEE Dielectrics and Electrical Insulation Society to provide an international forum for the discussion of current research on electrical insulation, dielectric phenomena and related topics. The conference provides an opportunity for specialists from around the world to meet and to discuss insulation, surface flashover, polarization phenomena, measurement techniques, partial discharge measurements, nanodielectrics, flow electrification, charge storage and transport, electrohydrodynamics, high-field effects, charge and field mapping, treeing, prebreakdown and breakdown in solids, liquids, gases, and vacuum.

Sunday, October 15th – CEIDP Executive Board Meeting, Scott Room (3rd floor), 13:30 – 17:00.

Tuesday, October 17th – TECHNICAL TOUR to KINECTRICS, INC — bus will depart at 13:00 – assembly point: GERRARD STREET ENTRANCE.

Tuesday, October 17th – DEIS AdCom Meeting, Carlyle Room (3rd floor), 13:00 – 18:00 (lunch at 12:00)

Wednesday, October 18th – IEEE Working Group Meeting, Carlyle Room (3rd floor), 12:30 – 18:00

Thursday, October 19th – IEEE Working Group Meeting, Carlyle Room (3rd floor), 08:00 – 12:00
Executive Committee

Enis Tuncer, Conference Chair  
Texas Instruments, USA

George Chen, Technical Program Committee Chair  
Southampton University, UK

Howard Penrose, Publication, Publicity, Website Chair  
Motordoc, USA

Virginie Griseri, Nominating Committee Chair  
University of Toulouse, FRANCE

Nicola Bowler, Vice Chair / Treasurer  
Iowa State University, USA

Resi Zarb, 2016 Local Arrangements Chair  
Qualitrol-Iris Power, CANADA

Ruy Alberto Pisani Altafim, Conference Secretary  
Sao Paolo University, BRAZIL

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University of Bologna, ITALY

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Kai Wu  
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Naval Research Lab, USA

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USA
## Technical Program Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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<tbody>
<tr>
<td>George Chen (Committee Chair)</td>
<td>University of Southampton, UK</td>
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<tr>
<td>Abderrahmane Beroual</td>
<td>Ecole Centrale de Lyon, France</td>
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<td>Nicola Bowler</td>
<td>Iowa State University, USA</td>
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<td>Yang Cao</td>
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<td>Eric David</td>
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<td>Rodolfo Garcia Colon</td>
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<td>Naval Research Lab, USA</td>
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<td>Henrik Hillborg</td>
<td>ABB, Sweden</td>
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<td>Huseyin Hiziroglu</td>
<td>Kettering University, USA</td>
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<td>Shesha Jayaram</td>
<td>University of Waterloo, Canada</td>
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<td>Hulya Kirkici</td>
<td>University of South Alabama, USA</td>
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<td>Andrej Krivda</td>
<td>ABB, Switzerland</td>
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<td>Christian Laurent</td>
<td>University of Toulouse, France</td>
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<td>Jian Li</td>
<td>Chongqing University, China</td>
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<td>Peter Moshuis</td>
<td>Solid Dielectric Solutions, Netherland</td>
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<td>Hitoshi Okubo</td>
<td>Aichi Institute of Technology, Japan</td>
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<td>Isaias Ramirez</td>
<td>IIE Mexico</td>
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<td>Simon Rowland</td>
<td>University of Manchester, UK</td>
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<td>Yuriy Serdyuk</td>
<td>Chalmers University of Technology, Sweden</td>
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<td>Raji Sundarajan</td>
<td>Purdue University, USA</td>
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<td>Toshikatsu Tanaka</td>
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<td>Kazuyuki Tohyama</td>
<td>Numazu National College of Technology, Japan</td>
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<td>Enis Tuncer</td>
<td>Texas Instrument, USA</td>
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<td>Alun Vaughan</td>
<td>University of Southampton, UK</td>
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<td>Christophe Volat</td>
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<td>Liming Wang</td>
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<td>Kai Wu</td>
<td>Xian Jiaotong University, China</td>
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<td>Weijun Yin</td>
<td>GE GRC, USA</td>
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<td>Junwei Zha</td>
<td>University of Science and Technology Beijing, China</td>
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<tr>
<td>Kai Zhou</td>
<td>G&amp;W Electric, USA</td>
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## Reviewers

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Thomas Andritsch</td>
<td>University of Southampton, UK</td>
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<tr>
<td>Nikola Chalashkanov</td>
<td>University of Leicester, UK</td>
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<td>Michael Chapman</td>
<td>Von Roll, Switzerland</td>
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<td>Xiangrong Chen</td>
<td>Chalmers University of Technology, Sweden</td>
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<td>Ed Cherney</td>
<td>Consultant, Canada</td>
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<td>Alfredo Contin</td>
<td>University of Trieste, Italy</td>
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<td>Tadeusz Czaszejko</td>
<td>Monash University, Australia</td>
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<td>Villgot Englund</td>
<td>Borealis Group, Sweden</td>
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<td>Michel Fréchette</td>
<td>IREQ, Canada</td>
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<td>Mingli Fu</td>
<td>China Southern Power Grid, China</td>
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<tr>
<td>Kaori Fukunaga</td>
<td>NICT, Japan</td>
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<td>Jinhui Gao</td>
<td>Xian Jiaotong University, China</td>
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<td>Francesco Guastavino</td>
<td>University of Genoa, Italy</td>
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<td>Miao Hao</td>
<td>University of Southampton, UK</td>
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Stephane Hole  
Hiroya Homma  
Ian Hosier  
Roman Kochetov  
Masahiro Kozako  
Qiang Liu  
Wenfeng Liu  
Severine Leroy  
Paolo Mancinelli  
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University of Bologna, Italy  
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Thomas Andritsch  
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Eric David  
Rodolfo Garcia Colon  
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Shesha Jayaram  
Qiang Liu  
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Xian Jiaotong University, China  
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**Local Arrangements Committee**

Resi Zarb, Chair  
Karen Howard  
Shesha Jayaram  
  
Qualitrol-Iris Power, Canada  
Qualitrol-Iris Power, Canada  
University of Waterloo, Canada
The Whitehead Lecture

The Whitehead Memorial Lecture is named in honor of Dr. John Boswell Whitehead, a pioneer in electrical insulation and dielectrics and a long-time contributor to the CEIDP. The Conference opens each year with the Lecture and it is the keynote session of the Conference. The 2016 Whitehead Memorial Lecture will be given by Dr. Kaori Fukunaga.

Kaori Fukunaga received her Ph.D. in Electrical Engineering from Tokyo Denki University in 1993 while she was working at Fujikura Ltd. She was involved in development of prefabricated joints of underground high voltage cables, especially ageing analyses of rubber-epoxy resin interface by partial discharges. She also worked for failure mechanism investigation of polymeric dc power cables, and she firstly applied the pulsed electroacoustic (PEA) method and revealed space charge behavior in real size cables in 1991. She joined NICT (National Institute of Information and Communications Technology) in 1994 and is an executive researcher in the Electromagnetic Applications Laboratory. She enlarged the application of the space charge measurement to various materials, including anti-electrostatic polymers, organic photoconductors, as well as insulation layers of printed circuit boards. From 1999 to 2000, she worked at University of Leicester in the UK and LGET (Laboratoire de Génie Electrique de Toulouse) now LAPLACE (Laboratoire Plasma et Conversion d’Energie) in France as a visiting researcher, and enhanced international collaborations. She was also involved in dielectric measurement of bio-materials at high frequency, and developed tissue-equivalent liquids for mobile phone safety assessment tests, which are widely used in telecommunication industries and referred in IEC documents.

Dr. Fukunaga has been exploring in the terahertz frequency range for dielectric measurement and for nondestructive testing since 2005. In particular, she firstly introduced the terahertz technology to cultural heritage research field by her passion in art and her first paper in 2008 on this topic has been cited by more than 130 research articles. She has analysed various masterpieces, including the Polittico di Badia of Giotto at the Uffizi Gallery in Florence (Italy), and the Eight-Planked Bridge of Ogata Korin, at the Metropolitan Museum of Art in New York (USA). In addition to her carrier in engineering, she paints and graduated from Musashino Art University in 2013.

She is a member of IEEE, Institute of Electrical Engineers Japan serving as the President of the Fundamental and Materials Society, and Fresco Association in Japan. Since 2014, she has been an associate member of the Science Council of Japan serving as a board member of Japan National Committee of URSI (International Union of Radio Science).

Registration

All Conference attendees must register for the Conference.

Pre-registration is encouraged but not required. A registration desk will be available at the Conference.

<table>
<thead>
<tr>
<th>ALL FEES IN US $</th>
<th>Early Registration Fee Before September 1, 2016</th>
<th>Registration Fee</th>
<th>Included with Registration</th>
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<tbody>
<tr>
<td>IEEE Life Member</td>
<td>$425</td>
<td>$475</td>
<td>One copy of Conference Proceedings; Technical Sessions; Reception; Banquet</td>
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<td>IEEE/DEIS Member</td>
<td>$525</td>
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<td>IEEE Student Member</td>
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Optional Items

Workshop on High Frequency Transients in Insulation Systems – US$100
Workshop on HVDC Insulation – US$100
Technical Tour – Kinectrics High Voltage Lab – US$100
Additional Pages – US$100
Additional Banquet Ticket – US$100

Cancellation Policy

All refund/cancellation requests must be provided in writing and received by September 1, 2016. There will be an administrative fee of $100 deducted from each refund.
Official Photograph

An official conference photograph will be taken directly following the Whitehead Memorial Lecture, at 9:30 am on Monday, October 17, 2016. All registered conference attendees are encouraged to participate.

Hotel

All sessions and activities of the 2016 CEIDP will be held at the Chelsea Hotel Toronto, 33 Gerard Street West, Toronto, Ontario, Canada.

See the conference or hotel website for information on the lodging rates. Be sure to mention that you are attending the 2016 IEEE/CEIDP when making your reservation to receive the conference room rate.


For local arrangements and further information, please contact Ms. Resi Zarb, resi.zarb@qualitrolcorp.com.

Travel to the Hotel from Toronto Pearson Airport

Chelsea Hotel, 33 Gerrard St W, Toronto, Ontario, Canada M5G 1Z4, is conveniently located in the downtown area and is accessible via taxi or transit from the city’s major international airport.

By Car

Pearson Airport is approximately 30 km and 30 minutes west of the city centre. Airport limousine services and taxis are located on the ground level of Terminal 1 and the arrivals level at Terminal 3. Fares average approximately C$60.

UP Express (https://www.upexpress.com/)

Trains between downtown Toronto and Pearson Airport take 25 minutes and run every 15 minutes. (5:30am - 1:00am Daily). Train arrive at UNION STATION. You then can taxi from Union to the Chelsea (taxi fare approximately $10) OR take the YONGE subway line northbound to Dundas station and walk north on Yonge Street before turning left at Gerrard Street. An adult fare is approximately C$3. Alternatively, it is a 25 minute walk north on Bay Street to reach the Chelsea.

Technical Tour

CEIDP 2016 is pleased to offer interested registrants a tour of the High Voltage Facility at KINECTRICS. This tour is on a first-come-first served basis. There are 42 places available so register early. The fee is $100.

Dining

Hotel dining and local restaurant information can be obtained from the Concierge or Front Desk at the Chelsea Hotel.
Financial Support for Students

The CEIDP provides a limited number of stipends in the amount of US $300 to full-time students to encourage their participation in the Conference. The stipend is contingent upon the following conditions:

1) the student must be an author or coauthor of a paper accepted for presentation at the Conference,
2) the student must present or co-present the paper at the Conference.

The CEIDP reserves the right to limit the number of student stipends allocated to a single research group or institution.

IEEE/DEIS Technical Meetings

DEIS committee chairs or other individuals interested in arranging auxiliary meetings for working groups, technical committees or other related organizations should contact the Technical Program Committee Chair or the Local Arrangements Chair.

2016 Annual Report

One copy of the 2016 Annual Report in USB format will be provided with the registration. While supplies last, additional copies may be obtained at the Conference at a cost of US$100 each. Following the Conference, the Annual Report will be available from:

IEEE Service Center
Single Publication Sales Department
445 Hoes Lane
Piscataway, NJ 08854, USA
Tel: 800-675-4333
Sunday, October 16, 2016
08:00-10:00 Registration
13:00 – 17:30
09:00 – 13:00 Workshop: HVDC Extruded Cable Systems
WREN Room – 3rd Floor
13:30 – 17:30 Workshop: HF Transients in Insulation Systems
WREN Room – 3rd Floor
13:30 – 17:00 CEIDP Executive Board Meeting
SCOTT Room – 3rd Floor
18:00 - 19:30 Reception (cash bar)
Mountbatten Lane

ALL ORAL SESSIONS IN MOUNTBATTEN BALLOOM
ALL POSTER SESSIONS IN MOUNTBATTEN LANE

Monday, October 17, 2016
07:00- Continental Breakfast
08:00 Mountbatten Lane

Authors’ Breakfast
Windsor
08:00- Welcome - Enis Tuncer, Conference Chair
08:15 Whitehead Lecture
Interface Matters in Dielectrics
Kaori Fukunaga, National Institute of Information and Communications Technology, Japan
09:30- Break
10:00 Official Photograph
10:00 – Session 1 (Oral): Aging, High-field Effects
Chair: Frank Hegeler
Co-Chair: Simon Rowland
1-1 Thermal and gamma radiation aging of cable polymers
Leonard S Fifield, Pacific Northwest National Laboratory, USA
Shuaishaui Liu and Nicola Bowler, Iowa State University, USA
1-2 Optimal resistance of stress grading system in converter-fed rotating machines
Takahiro Nakamura, Yusuke Morita, Akiko Kumada, Kunihiro Hidaka, The University of Tokyo, Japan
1-3 Dark currents in humid SF6 at high uniform electric field
Rachelle Hanna, Olivier Lesaint, Grenoble Electrical Engineering Laboratory (G2Elab), France
Laetitia Zavattoni, Siemens Transmission & Distribution, Grenoble, France
1-4 AC breakdown strength of a natural ester transformer liquid under accelerated thermal ageing
Wu Lu, Qiang Liu, Zhongdong Wang, The University of Manchester, UK
1-5 Simulate the effect of trapped charges and trap cross-section on aging process
Hisnam Alghamdi, Engineering College, Najran University, Saudi Arabia
George Chen, Alun Vaughan, University of Southampton, UK
1-6 Understanding the effect of insulation properties on electric and thermal fields in HVDC cables
Chakradhar Reddy Chandupatla, Indian Institute of Technology Ropar, India
1-7 HVDC electric field control by pressboard arrangement in oil-pressboard composite electrical insulation systems
Hitoshi Okubo, Takayuki Sakai, Tatsuki Furuyashiki, Kyohei Takabayashi, Aichi Institute of Technology, Japan

12:20 – 14:00 Lunch Break (on your own)
14:00-16:00 Session 2 (Oral): Nano-dielectrics, Charge Storage and Transport
Chair: Alun Vaughan
Co-chair: Yang Cao
2-1 A Quantum Dot Model for Permittivity of Polymer Nanocomposites
Toshikatsu Tanaka, Waseda University, Japan
2-2 Engineering of Multifunctional Nanofluids for Insulation Systems of High Voltage Apparatus
Mohammad Taghi Imani, Jan Miethe, Peter Werle, Nadja Bigall, Hossein Borsi, Leibniz Universität Hannover, Germany
2-3 Role of the Shell Polymer in Dielectric Properties of Core-Shell Structured Polymer@BaTiO3 Nanoparticles Based Nanocomposites
Xingyi Huang, Ming Zhu, Pingkai Jiang, Shanghai Jiao Tong University, China
2-4 Dielectric Design of LDPE Properties: With the help of double-core Si/SiO2 and Carbon Black
Michel Fréchette, Hydro Québec’s Research Institute, Canada
2-5 The making of LDPE silica nanocomposite
Suvi Virtanen, Alun Vaughan, University of Southampton, UK
Lupeng Yang, Fernan Saiz, Nick Quirke, Imperial College, London, UK
2-6 Comparison of Dielectric Properties of Additively Manufactured vs. Solvent Cast Polymer Dielectrics
Leah Appelhans, David Keicher, Judith Lavin, Sandia National Laboratories, USA

16:00- Break
Session 3A – Conduction, Polarization, Charge Storage and Transport

3A-1 Flow Electrification Characteristics of Oil-Pressboard Insulation under DC Electrical Field Use Plane Electrode
*Jie Dai, Kai Wu, Chuanghai Cheng*, Xi'an Jiao Tong University, China

3A-2 Study on the Dielectric Properties of a New Mineral-Vegetable Oil-paper Insulating Material
*Xueting Zhao*, Chongqing University, China

3A-3 Multi-scale Computational Evaluation of Hole Mobility in Amorphous Polyethylene
*Masahiro Sato, Akiko Kumada, Kunihiko, Hidaka, Toshiyuki Hirano, Fumitoshi Sato*, The University of Tokyo, Japan

3A-4 The Influence of a Surface Modification with Orthophosphoric Acid on the Charge Stability on PP Electrets
*Jingwen Wang, Dmitry Rychkov, Reimund Gerhard*, University of Potsdam, Germany

3A-5 Charge-spring model for predicting the piezoelectric response of dielectric materials: Considering tetragonality extends validity to ferroelectric perovskites
*Reimund Gerhard, Xunlin Qiu*, University of Potsdam, Germany
*Siegfried Bauer, Johannes Kepler*, University of Linz, Austria

3A-6 Gas exchange during charging enhances charging efficiency in tubular-channel fluoroethylene propylene ferroelectrets
*Xunlin Qiu, Reimund Gerhard*, University of Potsdam, Germany

3A-7 A feedback model for dielectrics, ferroelectrics and relaxors
*Andreas Leschhorn, Herbert Kliem*, Saarland University, Germany

3A-8 Surface charge measurement on epoxy spacer in HVDC GIS/GIL in SF6
*Laetitia Zavattoni, Paul Vinson, Alain Girodet, Thanh Vu-Cong*, SuperGrid Institute, France

3A-9 The impacts of degassing on space charge characteristics and DC conductivity in semicon-bonded XLPE for HVDC cable applications
*Miao Hao, Adnan Fazal, Alun Vaughan, George Chen*, University of Southampton, UK
*Yuan Zhou, Chong Zhang*, State Grid Global Energy Interconnection Research Institute, China

3A-10 Hot electron injection modulation in Al2O3-filled epoxy resin composite using Cr2O3 coatings
*Chuanyang Li, Jun Hu, Chuanhui Lin, Jinliang He*, Tsinghua University, China

3A-11 Modelling the Isothermal Charge Decay of Modified PTFE Electrets from their Thermally Stimulated Discharge
*Dmitry Rychkov, Reimund Gerhard*, University of Potsdam, Germany
*Alexey Kuznetsov, Andrey Rychkov*, Herzen State Pedagogical University of Russia, Russia

3A-12 Surface Charge Behaviors of EVA/CB Nanocomposite under Mechanical Stresses
*Jin Li, Boxue Du, Hang Xu, Jinpeng Liu*, Tianjin University, China

3A-13 A comparative study of XLPE and LDPE cable insulation material subjected to heat-treatment: SEM and polarization properties
*Fahim Abd, Amir Pourrahimi, Hans Edin*, KTH Royal Institute of Technology - Stockholm, Sweden
*Hossein Ghorbani*, ABB High Voltage Cables - Karlakra, Sweden

3A-14 Influences of frequency on space charge formation in polyethylene under high voltage AC electric fields
*Churui Zhou, George Chen*, University of Southampton, UK

3A-15 Measurement of Space Charge accumulated in Poly-dicyclopentadiene Film at High Temperature under High DC Stress
*Taiki Ono, Masakazu Taira, Hiroaki Miyake, Yasuhiro Tanaka*, Tokyo City University, Japan

3A-16 Influence of sample thickness on breakdown time in Multi-layered Polyimide Films
*Tsuyoshi Tohmine, Hiroaki Miyake, Yasuhiro Tanaka*, Tokyo City University, Japan

3A-17 Electrical and dielectric properties of Mn-doped ZnO varistors
*Jingqiang He, Jiajun Lin, Wenfeng Liu, Kai Feng, Yuanwei Zhu, Shengtao Li*, Xi'an Jiaotong University, China

3A-18 Comparison of Electrical Insulation Properties of Hydrocarbon-based - Thermostetting Resin and Epoxy Resin
*Yuki Fuchi, Keisuke Yoshida, Masahiro Kazako, Masayuki Hikita*, Kyushu Institute of Technology, Japan
*Nobuhito Komei*, RIMTEC Co., Ltd, Japan

3A-19 Electret Behavior of Electrospun PVdF-based polymers
*Marco Zaccaria, Davide Fabiani, Andrea Zucchelli, Juri Belcarì, Olivero Bocchi, Tobias Cramer, Beatrice Fraboni*, University of Bologna, Italy

3A-20 Contribution of polymer microstructure to space charge
*Raphaël Guffond, Anthony Combessis*, Nexans Research Center - ESPCI LPEM, France
*Stéphane Holé*, ESPCI LPEM, France
Session 3B Electro-hydrodynamics

3B-1  Temperature Field Simulation of Pantograph-catenary Arc Based On MHD Model  
      Changjin Hao, Bo Gao, Southwest Jiaotong University, China

3B-2  Modeling a Liquid-Solid Insulation System Used in a DC Wet-Mate Connector  
      Mona Ghassemi, Mattevos B. Tefferi, Yang Cao, University of Connecticut, USA
      Qin Chen, GE Global Research Center, USA

Session 3C Partial Discharge Measurements

3C-1  Research of Partial Discharge characteristics of SurfaceDefect in SF6 Under Oscillating Impulse Voltage  
      Xutao Han, Liang Zhang, Zehui Liu, Xiaonan Hou, Junhao Li, Xi’an Jiaotong University, China

3C-2  Partial Discharge Inception Voltage Influenced by Surface Charge on Insulating Sheet  
      R Kubota, Tomohiro Kawashima, Yoshinobu Murakami, Masayuki Nagao, Toyohashi University of Technology, Japan

3C-3  Corona Inception Voltage (CIV) of a motor insulation system - Key parameter to select a variable frequency drive (VFD) rated motor  
      Tirthatarun Ghosh Dastidar, Bechtel

3C-4  Simulation Analysis on the Propagation Characteristics of Electromagnetic Waves Generated by Partial Discharges in the Power Transformer  
      Jinchao Du, Weigen Chen, Bo Xie, Chongqing University, China

3C-5  Partial Discharges of Nonwoven Nanofibers Composite  
      Radek Polansky, Monika Zemanova, Pavel Prosr, Josef Pihera, University of West Bohemia, CZ
      Jiri Chvojka, Technical University of Liberec, CZ

3C-6  On-line Partial Discharge Detector based on GMR Sensor  
      Yutao Li, Zheng Qian, Hao Yu, Beihang University, China

3C-8  Factors that Influence Partial Discharge Acoustic Modeling  
      Ayman El-Hag, American University of Sharjah, UAE
      Yomna Shaker, Fayoum University, Egypt

3C-9  PD characteristics of metallic protrusions in SF6-insulated coaxial electrode arrangements at DC stress  
      Philipp Arnold, Stefan Tenbohlen, University of Stuttgart, Germany
      Uwe Riechert, ABB High Voltage Products, Zurich, Switzerland

3C-10  Quantitative visualization of gas temperature distribution in atmospheric DC glow corona by spectral image processing  
        Ryo Sasamoto, Takao Matsumoto, Hideaki Orii, Yasuji Izawa, Kiyoto Nishijima, Fukuoka University, Japan

3C-11  Study on the Propagation Characteristic of EM Wave Induced by PD Considering Winding and Core  
        Xu Zhao, Pengyue Wu, Ning Jiang, Qi Chai, Xi’an Thermal Power Research Institute Co.,Ltd, China
        Yongpeng Meng, Xi’an Jiaotong University, China
        Yu Zhou, Electric Power Research Institute of State Grid Qinghai Electric Power Company, China

3C-12  Partial Discharge Current Pulse characteristics of Needle-plate Electrode Based on High Bandwidth  
        Chongxing Zhang, Xi’an Jiaotong University, China

3C-13  Effect of Positive DC Corona Discharge Intensity on the Variation of Conductor Surface Conditions under  
        Xu Zhang, Xingming Bian, Xiang Cui, Tiebing Lu, Yijia Zhu, Qinyuan Li, Jiayu Xu, North China Electric Power University, China

3C-14  An investigation on partial discharge time-behavior in epoxy resin cavities  
        Davide Fabiani, Gian Carlo Montanari, Fabrizio Negri, University of Bologna, Italy
        Luca Lusetti, Techimp Srl, Italy

3C-15  Distribution of Surfaces Charge during Partial Discharge Sequences under Low Pressure  
        Kai Wu, Yan Du, Yongpeng Meng, Wenjin Song, Xi’an Jiaotong University, China

3C-16  Research on The Characteristics of Electromagnetic Interferences for PD detection in substation  
        Shenghui Ye, Huawei Zhou, Xin Li, Hengyao Xie, Ping Peng, Xi Li, Hunan Electric Power Research Institute, China
        Guozhi Tang, Tongtong Jiang, North China Electric Power University, China

3C-17  PD measurement Technique for After-laying Test of Large-scale 110-500 kV Cable Circuit  
        Min Chen, Koji Urano, SE Technology Limited, China
        Dewu Kong, Hui Dong Electric Co. China
        Yitin Sun, Zhuhai Power Co. China
3C-18  Effects of Partial Discharge on DC Breakdown Characteristics of Paper-Ice Composite Insulation System in Liquid Nitrogen  
Tomohiro Kawashima, Yup Pui San, Yoshinobu Murakami, Nohiro Hozumi, Masayuki Nagao, Toyohashi University of Technology, Japan

3C-19  Sensitivity Comparison of Sensors in Repetitive Partial Discharge InceptionVoltage Measurement for Twisted Pair Placed in Actual Motor Core  
Keigo Nakamura, Tomoki Uchimura, Masahiro Kazako, Masayuki Hikita, Kyushu Institute of Technology, Japan  
Takahisa Ueno, Oita College, Japan  
Jintong Sun, Takayuki Sakurai, Kazuhisa Nakayama, Tomomi Ikegami, Kazunari Karasawa, Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan

3C-20  Effect of Moisture in oil and pressbord on Creepage Discharge on Oil-Pressboard Interface  
Wei Wang, Chengrong Li, North China Electric Power University, China  
Xin Wang, Sichuan electric power corporation maintenance company, China

3C-21  The effect of Different Voltage Square Waveforms on Partial Discharge Measurements  
Pietro Romano, Antonino Madonia, Fabio Viola, Antonino Imburgia, University of Palermo, Italy  
Stanislaw M. Gubanski, Thomas Hammaström, Chalmers University of Technology, Sweden

3C-22  Partial discharge behavior at delamination in Epoxy Cast Resin equipment under high electric field  
Diaa-Eldin A Mansour, Tanta University, Egypt

3C-23  UHF Sensor for PD Detection on Wind Turbines  
Francesco Guastavino, Davide Cordano, Fabio Rossi, Eugenia Torello, University of Genova, Italy  
Vito Carlo Garzone, VESTAS S.p.A., Italy

3C-24  PD Evolution of Conventional and Corona Resistant Enamels  
Francesco Guastavino, Davide Cordano, Laura Della Giovanna, Eugenia Torello, University of Genova, Italy

3C-25  Study on SF6 Partial Discharge Decomposition Characteristic Under Needle-plate Defect With Solid  
Xingui Yue, Lingyun Wan, Qiang Yao, Wei Song, Chongqing Electric Power Company Research Institute, China  
Xiaoyu Chen, Ju Tang, Fuping Zeng, Wuhan University, China

18:30-19:30  Dinner (on your own)

19:30-21:30  Session 4 (Poster)  
Chair: Lisheng Zhong  
Co-chair: Eric David

Session 4A – Measurement Techniques

4A-1  Accelerated Test Method for Oil Gap Complex Capacitance under Low Frequency Mixed Excitation Based on Sine Fitting  
L J Zhou, D C Liu, J Y Cai, Q P Qiu, Y Chen, D Y Wang, Z J He, L L Zhang, Southwest Jiaotong University, China

4A-2  Optimization of the curing process of epoxy resins using methods of structural analysis  
Pavel Prosr, Radek Polansky, Josef Pihera, Ales Hamacek, Robert Vik, Michal Cermak, University of West Bohemia in Pilsen, CZ  
Richard Pavlica, SM s.r.o. CZ  
Josef Komarek, TECHNOFIBER s.r.o. CZ

4A-3  Influence of Humidity on Spectrum Characteristics of Corona-generated Audible Noise of UHVDC Transmission Lines  
Yong Yi, Zhengying Chen, Liming Wang, Tsinghua University, China

4A-4  Statistical Evaluation and Prediction of Audible Noise of UHVDC Transmission Lines Based Linear Mixed Effect Model  
Yong Yi, Zhengying Chen, Liming Wang, Tsinghua University, China

4A-5  Study on On-line Monitoring Equipment of Transformer Bushings based on Wireless Network  
Hao Yu, Zheng Qian, Yutao Li, Beihang University, China

4A-6  The Image Study of Partial Discharge Location by Acoustic Measurement  
Ao Ma, Xi’an Jiaotong University, China

4A-7  Detection of Furfural Dissolved in Transformer Oil Based on Surface-Enhanced Raman Spectroscopy  
Zhaoliang Gu, Weigen Chen, Jingxin Zou, Fu Wan, Lingling Du, Chongqing University, China  
Yongsen Li, State Grid Chongqing Electric Power Corporation Jiangbei Power Supply Branch Company, China

4A-8  Development of a space charge measurement method applied to HVDC GIS spacers  
Phaneul séraphine Mbolo Noah, Serge Agnel, Petru Notingher, University of Montpellier, France  
Laëtitia Zavattoni, Jean-Charles Laurentie, Alain Girodet, Paul Vinson, SuperGrid Institute, France

4A-9  Detection of Methane Dissolved in Transformer Oil Based on Tunable Diode Laser Absorption Spectrum  
Miao Yu, Mengzhou Zhu, Guang Chen, Jiansheng Li, Zhicheng Zhou, State Grid Jiangsu Electric Power Research Institute, China

4A-10  Economic application of powder resin based groundwall insulation for low voltage electric drives  
Benjamin Hofmann, Sven Kreitlein, Matthias Höcht, Jörg Franke, Friedrich-Alexander University of Erlangen-Nürnberg, Germany
Session 4B Pre-breakdown and Breakdown in Solids, Liquids, Gases and Vacuum

4B-1 Influence of local field distortion by high permittivity fillers on surface electric field of permittivity graded material Hiroyo Ozaki, Muneaki Kurimoto, Yusuke Manabe, Toshihisa Funabashi, Takeyoshi Kato, Yasuo Suzuki, Nagoya University, Japan

4B-2 Modelling Stochastic Character of Breakdown under Lightning Impulse Voltage Akif Gürek, Kaveh Malekian, Wolfgang Schufl, Chemnitz University of Technology, Germany

4B-3 Impact of Pressure and Elastic Modulus on Tangential Breakdown Strength between Dielectric Surfaces Emre Kantar, Frank Mauseth, Erling Ildstad, Norwegian University of Science and Technology (NTNU), Norway Sverre Hvidsten, Sintef Energy Research, Norway

4B-4 DC Partial Discharge and Flashover Characteristics and Charging Activity on Solid Insulator in Air Kyohiei Takabayashi, Tatsuki Furuyashiki, Takeyuki Sakai, Hitoshi Okubo, Aichi Institute of Technology, Japan

4B-5 Firey and Standing Still Phenomenon of Free Conducting Wire-type Particles in SF6 Under DC Voltage Haoyang You, Qiaogen Zhang, Jingtian Ma, Can Guo, Yifan, Qin Tao Wen, Xi’an Jiaotong University, China

4B-6 Surface preparations on MV-sized cables for ramped DC breakdown studies Espen Doedens, Nils-Bertil Frisk, Markus Jarvid, Staffan Joseffson, Nexans Norway AS, Norway Ludovic Boyer, Nexans France

4B-7 Accumulative Effect Characteristics of Oil Paper Insulation under Damped Oscillation Voltage Potao Sun, Wenzxia Sima, Ming Yang, Jingyu Wu, QiuLin Chen, Jiefang Hua, Chongqing University, China

4B-8 Accumulative Effect Characteristics of Oil Paper Insulation under Switching Impulse Voltage Wenzxia Sima, Potao Sun, Ming Yang, QiuLin Chen, Jiefang Hua, Chongqing University, China

4B-9 Electrical Breakdown Characteristics of Dielectric Elastomer under various conditions Shintaro Ishikawa, Yoshinobu Murakami, Tomohiro Kawashima, Masayuki Nagao, Toyohashi University of Technology, Japan

4B-10 Comparative Study on Inhomogeneous Field Breakdown in Natural Ester Liquid and Mineral Oil Stephanie Haegle, Stefan Tenbohlen, University of Stuttgart, Germany Kevin Rapp, Alan Sbravati, Cargil Industrial Specialties, Germany
4B-11 Development of Thermal Conductive PMMA/BN Electric Insulating Composite Material Produced by Electrostatic Adsorption Method
Shohei Use, Yoshinobu Murakami, Tomohiro Kawashima, Masayuki Nagao, Toyohashi University of Technology, Japan

4B-12 Fluoronitrides / CO2 gas mixture as an eco-friendly alternative candidate to SF6 in high voltage insulation systems
Abderrahmane Beroual, University of Lyon, France

4B-13 Space charge build-up in tubular channel ferroelectrets Neerajan Nepal, Axel Mellinger, Central Michigan University, USA
Ruy Alberto Pisani Altafim, Federal University of Paraíba, Brazil

4B-14 The influence of oil-impregnated insulation paper’s thickness on its breakdown strength
Xudong Li, Jian Li, Chenmeng Xiang, Jin Zhang, Lianwei Bao, Hehuan Ran, Chongqing University, China

4B-15 Breakdown Characteristics of Non-uniform Electric Field in GIS Under Impulse Voltages
Liang Zhang, Xutao Han, Zehui Liu, Xiaonan Hou, Junhao Li, Xi’an Jiaotong University, China

4B-16 Photoionization Model for the Transition to Fast Mode Streamers in Dielectric Liquids
Inge Madshaven, Norwegian University of Science and Technology, Norway
Hans Småle, Mikael Unge, ABB Corporate Research
Øystein Hestad, SINTEF Energy Research, Norway

4B-17 Thermal decomposition of cyclohexane by Kinetic Monte Carlo simulations and its relevance for streamer formation
Øystein L Hestad, SINTEF Energy Research, Norway
Au-Dung Vuong, Inge Madshaven, Per-Olof Åstrand, Norwegian University of Science and Technology, Norway

4B-18 Simulation of the evolution of trapping in an insulator irradiated by a defocused electron beam in a scanning microscope: Applications to material characterization and breakdown phenomena
Gilles Damamme, Nouha Ghorbel, Abderrahman SI Ahmed, Gérard Moya, Kamei Zazrbout, Faculté des Sciences de Sfax, Tunisie

4B-19 Breakdown in air along insulating solid surfaces of different natures, parallel or perpendicular to the field direction
Laure Trémaz, Brigitte Ohl, François Gentils, Schneider Electric France
Olivier Lesaint, Nelly Bonifaci, Grenoble Electrical Engineering Laboratory (G2Elab), France

4B-20 Observation and modelling of vapor bubble and streamer initiation in water under long duration impulses
Olivier Lesaint, Grenoble Electrical Engineering Laboratory (G2Elab), France
Pierre Adda, Nadia Boussetta, Eugene Vorobiev, Complègne University, France

4B-21 Arc discharge detection caused by short-circuit in ac power supply cord
Tepppei Abe, Kenta Fukagawa, Yukio Mizuno, Atsushi Yoshida, Nagoya Institute of Technology, Japan

4B-22 Non-Hermetic Electrical High Voltage Connection in Medium-Vacuum
Alexander Driessen, Jeroen van Duivenbode, Peter Wouters, Technical University of Eindhoven, Netherlands

4B-23 Influence of the surface conductivity of a barrier on the withstand voltage in an air insulated rod plane arrangement
Michael Schueller, Jasmin Smajic, University of Applied Sciences Rapperswil, Switzerland
Andreas Blaszczzyk, Andrej Krivda, ABB Switzerland Ltd, Corporate Research, Switzerland

4B-24 Motion and Discharge Behavior of the Free Conducting Wire-type Particle within DC GIL
Jian Wang, Qingmin Li, Sihua Liu, Zhiyuan Wang, Botao Li, Tao Liu, North China Electric Power University, China

4B-25 Effect of nanoparticle types on breakdown strength of transformer oil
Muhammad Rafiq, Kai Yi, Yuzhen Lv, Chengrong Li, North China Electric Power University, China

4B-26 Breakdown and Space Charge Behaviors of Oil-paper under Combined AC-DC Voltages with Conversional Frequency
Yuanwei Zhu, Daomin Min, Shengtao Li, Xi’an Jiaotong University, China

4B-27 Electric Field Behavior in Mass Impregnated HVDC Cable Insulation: Effect of Cavity Formation
Sridhar Alapati, ABB GISPL, Chennai, India
Christian Sonehag, ABB AB, Karlskrona, Sweden

4B-28 Modelling partial discharge inception in magnet wires at different altitudes
Andrea Cavallini, Luca Lusuardi, University of Bologna, Italy
Doris Meyer, ETH Zurich, Switzerland
Sugun Machip peddy, SASTRA University, India

4B-29 Partial Discharge Properties of Resin Molded Insulation Substrate after Long Term Voltage Application
Yuya Akinaga, Hiroshi Mitsudome, Masahiro Kozako, Masayuki Hikita, Kyushu Institute of Technology, Japan

4B-30 Polymer Laminates for High Energy Density and Low Loss
Michael Vecchio, Zoubaida Ounaies, Michael Lanagan, Amira Meddeb, Penn State University, USA
Tuesday, October 18, 2016

08:00 – 10:00  Session 5 (Oral) Outdoor Insulation, Partial discharge measurements
Chair: Greg Stone
Co-chair: Paul Lewin

5-1  Research on Electric Field Distribution Characteristics of Composite Insulators Operating on AC 500kV Transposition Tower
Lishuai Liu, Hongwei Mei, Liming Wang, Zhicheng Guan, Tsinghua University, China
Xiangyun Fu, Xiangjun Lin, State Grid Liangyungang Power Supply Company, China

5-2  On the Arc-Resistance when Tested with DC- and AC-Stress by the Example of Silicone Elastomers
Stefan Kuehnel, Stefan Kornhuber, Roland Bärsch, University of Applied Sciences Zittau/Görlitz, Germany
Jens Lambrecht, Wacker Chemie AG, Germany

5-3  Frost/Ice Formation on Superhydrophobic-Piezoelectric Hybrid Layer
Feipeng Wang, Gang Wen, Fan Fan, Tao Zhang, Jian Li, Chongqing University, China

5-4  PD activity in void type dielectric samples for varied DC polarity
Edward J Corr, Wah H Siew, Weijia Zhao, University of Strathclyde, UK

5-5  Space Charges and Partial Discharges Simultaneous measurements under DC stress
Antonino Imburgia, Pietro Romano, Fabio Viola, Antonino Madonia, University of Palermo, Italy
Ivan Troia, Roberto Candela, Prysmian S.p.A., Italy

5-6  The Rustle of Electrical Trees
Tadeusz Czaszejko, Monash University, Australia

10:00 – 10:30  Break

10:30 – 12:30  Session 6 (Poster)
Chair: Thomas Andritsch
Co-chair: Nicola Bowler

Session 6A Innovative Dielectric Materials

6A-1  Charge Transport Characteristics in Nanodielectrics
George Chen, University of Southampton, UK
Guochang Li, Shengtao Li, Xi'an Jiaotong University, China

6A-2  Effects of Nanoparticles on Trap Depth in Epoxy Resin under Different Temperature
Zhihui Shao, Kai Wu, Xi Chen, Jielin Guo, Xi'an Jiaotong University, China
| 6A-3 | The usage of nonwoven nanofibers for improving properties of electrical insulation  
*Radek Polansky, Pavel Prosr, Josef Pihera, Tomas Dzugan, Monika Zemanova*, University of West Bohemia, CZ  
Jiri Chvojka, Technical University of Liberec, CZ |
| 6A-4 | Fabrication and Dielectric Properties of Highly Loaded Polypropylene Micro- and Nano-Composites  
*Hugues Couderc, Christelle Vanga, Michel Fréchette*, Hydro Québec’s Research Institute, Canada  
*Eric David*, École de Technologie Supérieure de Montréal, Canada |
| 6A-5 | Thermal Properties of Mineral Oil Modified by C60 and TiO2 Nanoparticles  
*Grzegorz Dombek, Zbigniew Nadolny, Piotr Przybylek, Dawid Przadka*, Poznan University of Technology, Poland |
| 6A-6 | A versatile model to estimate the dielectric strength of gas mixtures  
*Chanyeop Park, Lukas Graber*, Georgia Institute of Technology, USA  
*Woojin Kim, Peter Cheetham, Chul Kim, Sastry Pamidi*, Florida State University, USA  
*Horatio Rodriguez*, Dielectric Sciences Inc, USA |
| 6A-7 | Study on Space Charge Characteristics in XLPE/SiO2 under Thermal Ageing  
*Kun Xiao, You-yuan Wang, Chan Wang, Lijun Yang, Feipeng Wang*, Chongqing University, China |
| 6A-8 | High permittivity 11/ CaCu3Ti4O12 (CCTO) nanocrystal composites for capacitors applications  
*Thomas Paramanandam*, Central Power Research Institute, India  
*R S Ernest Ravindran, C Renganathan*, Anna University, India |
| 6A-9 | Electrical and Mechanical Properties of Nanocomposite materials Containing Electrically Dispersed MWCNTs  
*Yasuna Hiran, Ryoichi Hanaoka, Naoki Osawa, Katsunori Miyagi, Yasunori Kanamaru*, Kanazawa Institute of Technology, Japan |
| 6A-10 | Dielectric Properties of Epoxy composites containing both molecular and nanoparticulate silica  
*Michel Fréchette*, Hydro Québec’s Research Institute, Canada |
| 6A-11 | Investigation of filling level and processing technology influences on dielectric behavior of PE/HNT nanocomposites  
*Petr Kadlec, Michal Cermak, Pavel Prosr, Radek Polansky*, University of West Bohemia, CZ |
| 6A-12 | Effect of Gycidyl-POSS on the Electrical and Thermal Properties of Epoxy/CF composites  
*Eric David, Eya Zribi*, École de Technologie Supérieure, Canada  
*Michel Fréchette*, IREQ, Canada |
| 6A-13 | Transformer oil-based nanofluids velocity measurement under DC voltage  
*Ming Dong, Jianzhuo Dai, Yang Li, Xi’an Jiaotong University, China  
Jianyi Wang*, China Electric Power Research Institute, China |
| 6A-14 | Breakdown voltage of nanofluids under different voltage conditions  
*Andrea Cavallini, Gabriele Neretti, Paolo Seri, Fabrizio Negri*, University of Bologna, Italy |
| 6A-15 | Computational Analysis between Compact Distribution Lines’ Spacers under Polluted Environments  
*José Bezerra, Diego Lopes, José Xavier, Samuel Anjos Jr., Alessandro Silva, Zanoni Lins*, Universidade Federal de Pernambuco, Brazil  
*David Silva Jr.*, Edmison Santos, Eletrobrás Distribuição Alagoas, Brazil |
| 6A-16 | Effect of Nanoparticles on Mechanical and Electrical Performance of Porcelain Insulator  
*Jose Contreras*, Prolec ge, R&D Center – CIAP, Mexico  
*Melecio Gallago*, Prolec – Celeco, Mexico  
*Eden Rodríguez*, Universidad Autonoma de Nuevo Leon, Mexico |
| 6A-17 | Influence of Nanoparticle Concentration on the Frequency Domain Spectroscopy Properties of Transformer Oil-based Nanofluids  
*Jianzhuo Dai, Xi’an Jiaotong University, China |
| 6A-18 | The Relationship between Surface Flashover Performance in Vacuum of Epoxy Nanocomposites and Dielectric Properties in Electrical and Terahertz Frequency Range  
*Ze Lian, Doomin Min, Shengtao Li*, Xi’an Jiaotong University, China |
| 6A-19 | Relationship between space charge behaviors and trap level density in PP/PER nanocomposites  
*Bin Dang, Yao Zhou, Jinliang He, Jun Hu*, Tsinghua University, China |
| 6A-20 | Space charge behavior in PP/POE/MgO nanocomposites under temperature gradient  
*Yao Zhou, Jun Hu, Jinliang He*, Tsinghua University, China |
| 6A-21 | Influence of Water Absorption on Space Charge Behavior of Epoxy Nanocomposites  
*Dayuan Qiang, George Chen, Thomas Andritsch*, University of Southampton, UK |
| 6A-22 | Zeolite Nanoparticles: A New Generation of Nanodopant for Nanodielectrics with High Electrical Strength  
*Yang Yang, Jinliang He*, Tsinghua University, China |
| 6A-23 | Open-circuit thermally stimulated currents in low-density polyethylene nanocomposite LDPE/Al2O3  
Anh T Hoang, Yuriy V Serdyuk, Stanislaw M Gubanski, Chalmers University of Technology, Sweden  
*Quyet D Nguyen, Werner Wirges, Reimund Gerhard*, University of Potsdam, Germany |
6A-24 Low Density Polyethylene-based Micro- and Nano-dielectrics containing Graphene-like additives
Andrea Pirondelli, Michel Fréchette, Institut de recherche d’Hydro-Québec (IREQ), Varennes, Québec, Canada
Éric David, École de technologie supérieure (ÉTS), Canada
Davide Fabiani, Dipartimento di Ingegneria dell’Energia Elettrica e dell’Informazione “Guglielmo Marconi”, Italy

6A-25 Surface Resistance of Polyethylene-based Micro- and Nano-dielectrics containing Graphene-like additives
Andrea Pirondelli, Michel Fréchette, Institut de recherche d’Hydro-Québec (IREQ), Varennes, Québec, Canada
Davide Fabiani, Università di Bologna, Italy
Éric David, École de technologie supérieure (ÉTS), Canada

6A-26 Polymethyl methacrylate – Graphene Oxide performance for High Voltage Insulation System
Muhammad Abu Bakar Sidik, Zainuddin Nawawi, Rizda Fitri Kurnia, Dwirina Yuniarti, Muhammad Irfan Jambak, Universitas Sriwijaya, Indonesia
Nur Farah Ain Isa, Zokafie Buntat, Institut Voltan Dan Arus Tinggi (IVAT), University Technology Malaysia

6A-27 Electric Field Relaxation by Functionally Graded Materials (FGM) with Permittivity and Conductivity
Yoshitaka Miyaji, Naoki Hayakawa, Hiroki Kojima, Nagoya University, Japan
Katsumi Kato, National Institute of Technology, Niihama College, Japan

6A-28 Fabrication and Evaluation of Permittivity Graded Materials with SrTiO3 Particles and Localized Conductive
Yoshitaka Miyaji, Hiroki Kojima, Naoki Hayakawa, Nagoya University, Japan
Katsumi Kato, National Institute of Technology, Niihama College, Japan

6A-29 Improved lightning protection of CFRP wind turbine blades: Epoxy/Graphene Oxide nanocomposites
O. Vryonis, T. Andritsch, A. S. Vaughan, P. L. Lewin, University of Southampton, UK

6A-30 Characterisation of Polymer-Filler-Interactions for a Model Nanocomposite Based on Silicone Rubber
Annika-Sophie Rempe, Johannes Selier, Josef Kindersberger, Technical University of Munich (TUM), Germany
Marie-Sousai Appavou, Gerald J. Schneider, Forschungszentrum Jülich GmbH, Germany
Stefan Huber, Louisiana State University, Baton Rouge, USA

6A-31 Influence of Nanopore Size on Particle Porosity and Permittivity of Nanoporous-silica/Epoxy Composite
Muneaki Kurimoto, Yuu Yamashita, Takuma Yoshida, Hiroya Ozaki, Yusuke Manabe, Toshihisa Funabashi, Takeyoshi Kato, Yasuo Suzuki, Nagoya University, Japan

6A-32 LDPE/POSS Polymeric Composites Obtained by Extrusion
Meng Guo, Éric David, Nicole Demarquette, École de technologie supérieure, Canada
Michel Fréchette, Institut de recherche d’Hydro-Québec, Canada

6A-33 Enhancing Dielectric Property of Polymer Films with Nanoclay Coatings
Ming Ren, Xi’an Jiaotong University, China, University of Connecticut, USA
Jingjing Liu, Luyi Sun, Yang Cao, University of Connecticut, USA

6A-34 Modeling of Charge Transport in Nanodielectrics using a Coupled Finite Element and Monte Carlo
Yanhu Huang, Linda Schadler, Rensselaer Polytechnic Institute, USA
He Zhao, Yixing Wang, Cate Brinon, Northwestern University, USA

6A-35 Impact of nature and preparation method of graphene on the electrical behavior of LDPE/graphene composites
Tung Tran Anh, Electric Power University, Vietnam
Éric David, École de Technologie Supérieure, Claudiane Ouellet-Plamondon, Canada
Michel Fréchette, Hydro Québec’s Research Institute - France

6A-36 Change to the Permittivity and Conductivity Due to Modification of the Epoxy Network Structure Using Reactive Diluents
Istebreg Abdulla Hamad Saeedi, Alun Vaughan, Thomas Andritsch, University of Southampton, UK

6A-37 Research on the Suppression of Nano-coatings for the Surface Charge Accumulation on the GIS Basin Insulators
Rui Guo, Jinzhong Li, Shuqi Zhang, China Electric Power Research Institute, China
Chunjia Gao, Bo Qi, Yuzhen Lv, State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, China

6A-38 Application of UV/Vis spectroscopy to assess the stability of oil-based nanofluids
Diaa-Eldin A. Mansour, Eman G. Atya, Tanta University, Egypt

6A-39 Current-Density vs Electric-Field Intensity Characteristics of Polypropylene Filled with Natural Clay as Nanomaterial
Huseyin R Hiziroglu, Iosif Shkolnik, Kettering University, USA

6A-40 Space Charge Properties of LDPE based Composites with three types of POSS
Zhiqiang Xu, George Chen, University of Southampton, UK
Meng Guo, Éric David, École de technologie supérieure, Canada
Michel Fréchette, Insitut de recherche d’Hydro-Québec, Canada
Session 6B High Fields and High Frequency Phenomena

6B-1  Measurement and Analysis of the Conduction and Current of the Oil Impregnated Paper under High DC Electric Field  
Jierui Zhou, Ming Ren, Ming Dong, Xi’an Jiaotong University, China

6B-2  Extent of the Space Charge Limited Field  
Steven A Boggs, Nonlinear Systems, Inc., USA

6B-3  Thermal Gradient Effects on Surface Charge of HVDC spacer in Gas Insulated System  
Boya Zhang, Zhe Qi, Guixin Zhang, Tsinghua University, China

6B-4  The Impact of Moisture Content on FDS of Oil-paper Insulation System by FEM Approach  
Li Wang, Xi’an Jiaotong University, China

6B-5  Invariant Dielectric Strength upon Addition of Low Amounts of HDPE to LDPE  
Mattias G Andersson, Xiangrong Chen, Jonna Hynynen, Stanislaw Gubanski, Christian Müller, Chalmers University of Technology; Mats R Andersson, University of South Australia, Australia; Thomas Gkourmpis, Per-Ola Hagströnd, Borales AB, Sweden

6B-6  Dielectric Response of Gel Insulated High Voltage Power Modules subjected to Unconventional Voltage  
Antonino Madonia, Pietro Romano, Fabio Viola, Antonino Inburgia, University of Palermo, Italy  
Stanislaw M. Gubanski, Thomas Hammarström, Chalmers University of Technology, Sweden

6B-7  Numerical Simulations of Sediment Deposition on Grading Electrodes in Cooling Water Dielectric of HVDC Converter  
Chenxing Wang, Xuezhong Liu, Xianrong Wang, Xi’an Jiaotong University, China; Ning Liu, Xiuying Jiu, Lei Liu, Xi’an XD Power Systems, China

6B-8  Effect of Semi-conductive Layer on the Propagation Characteristics of High Frequency Sine Signal in Cable  
Xia Liu, Qinxue Yu, Benmao Xu, Minghao Liu, Ziyi Fang, Lisheng Zhong, Xi’an Jiaotong University, China  
Yuli Wang, Wuhan branch China Electric Power Research Institute, China

Session 6C Bio-dielectrics

6C-1  Effect of pulp refining on electrical properties of insulating presspaper  
Jianwen Huang, Yuanxiang Zhou, Longyu Dong, Zhongliu Zhou, Tsinghua University, China

6C-2  Study on Relaxation Polarization Theory of SD Rat Tissues at Frequency Range of 42-5MHz  
Minchen Qiu, Lisheng Zhong, Xiaoyuan Song, Jiaxi He, Jinghui Gao, Qinxue Yu, Xi’an Jiaotong University, China

6C-3  Treatment on Waste Activated Sludge by Combined DC Corona and Pulsed Electric Field  
Yu Gao, Yongdi Deng, Yekun Men, Boxue Du, Tianjin University, China

6C-4  The Effect of Ultrasonic Electrokinetic Polarization on the Dielectric Properties of Erythrocyte Suspension  
Jiaxi He, Lisheng Zhong, Minchen Qiu, Xiaoyuan Song, Qinxue Yu, Xi’an Jiaotong University, China  
Lin Cheng, State Grid Shaanxi Electric Power Research Institute, China

No Sessions in the afternoon

13:00-17:00  Technical Tour – Kinectrics

13:00-18:00  DEIS ADCOM Meeting

18:00-21:00  Reception & Banquet
Wednesday, October 19, 2016

08:00-10:00  Session 7 (Oral) Measurement techniques, Polarization phenomena
Chair: Hitoshi Okubo
Co-chair: Jerome Castellon

7-1 Detection of shell coatings from core-shell like dielectric nanoparticles with Electrostatic Force Microscopy
*Diana El Khoury, Richard Arinero, Jérôme Castellon, Jean-Charles Laurentie, Viktoria Fedorenko, Mikhail Bechelany, Sebastien Balme*, University of Montpellier, France
*Michel Fréchette*, Hydro - Québec’s research institute (IREQ), Canada

7-2 The Effects of Rise Time on PD Inception Voltage in Inverter-fed Motor Insulation
*Peng Wang, Hongying Xu, Jian Wang*, Sichuan University, China
Andrea Cavallini, University of Bologna, Italy

7-3 Modular Arbitrary waveform dielectric spectrometer for aging diagnostics of recessed epoxy specimens
*Raphael Faerber, Christian Franck*, ETH Zurich, Switzerland

7-4 Comparison of conductivities obtained from dielectric spectroscopy and time domain measurements
*Enis Tuncer*, Texas Instruments, USA

7-5 Nonlinear behavior on dielectric properties in BST-BCT ceramics
*Xinghao Hu, Jinghui Gao, Yongbin Liu, Yuting He, Yan Wang, Lisheng Zhong*, Xi’an Jiaotong University, China

7-6 Relaxor characteristics in interacting dipole systems
*Andreas Leschhorn, Herbert Kliem*, Saarland University, Germany

10:00-10:30  Break

10:30-12:30  Session 8 (Poster)
Chair: Virginie Grisleri
Co-chair: Qiang Liu

Session 8A Outdoor Insulation

8A-1 Characterization of Impulse Voltage Waveform and Its Application in Breakdown Voltage Prediction of Air Gaps
*Zhibin Qiu, Jiangjun Ruan, Liezheng Tang, Wenjie Xu, Congpeng Huang*, Wuhan University, China

*Wenjie Xu, Jiangjun Ruan, Zhibin Qiu*, Wuhan University, China

8A-3 ESDD Prediction of Outdoor Polymer Insulators during Salt Fog Test
*Ayman El-Hag*, American University of Sharjah, United Arab Emirates

8A-4 Effects of surface states of insulators on RTV coating before application
*Cuiu Yang, Yijfeng Lin, Chunyao Lin*, Electric Power Research Institute of Guangdong Power Grid Co., Ltd, China
Zhi Li, Maohuan Fang, Chunyao Lin, Zhidong Jia, Can Chen, Tsinghua University, China

8A-5 Resistance to Tracking Analysis of Epoxy Insulator Based on Electric and Thermal Coupling
*Jiankang Bao, Guangning Wu, Bo Gao*, Southwest Jiaotong University, China

8A-6 Flashover Study of Silicone Rubber Insulator in Presence of Water Droplets under HVDC Electric Field
*Mohammed El Amine Abed, Hocine Hadi, Ahmed Wahid Belarbi, Mohammed El Amine Slama*, Université des Sciences et de la Technologie d’Oran, ORAN

8A-7 Investigation on Hydrophobicity Transfer Property of Silicone Rubber under Heavy Contamination and Special Contamination
*Weian Ye, Zhidong Jia, Xilin Wang*, Tsinghua University, China
Shitao Liu, Power Research Institute of State Grid Ningxia Power Co., China

8A-8 Hydrophobicity Behavior of Silicone Rubber in Corona Discharge Environment Considering High-Speed Railway Roof Insulator
*Jin Li, Hang Xu, Boxue Du*, Tianjin University, China

8A-9 Raman and Thermal Analysis of 400 kV and 220 kV Service-Aged Silicone Rubber Insulation Housing Materials in the Gulf Region
*Refat Ghunem, Li-Lin Tay*, National Research Council, Canada
Ayman El-Hag, American University of Sharjah, United Arab Emirates

8A-10 Effects of Temperature and Surface Roughness on the Evaluation of Hydrophobic Properties of Silicone Rubber
*Tetsuro Tokoro*, National Institute of Technology, Gifu College, Japan

8A-11 Liquids Permeation into HTV Silicone Rubber under AC/DC Electric Field
*Weining Bao, Yingyan Liu, Yanfeng Gao, Xidong Liang*, Tsinghua University, China
Zihan He, Bing Luo, Electric Power Research Institute, China

8A-12 Partial discharge degradation of silicone rubber - Yukio Mizuno
Fumito Ueda, Naoya Kitamura, Yukio Mizuno, Nagoya Institute of Technology, Japan
Session 8B Aging

8B-1 Lifetime Assessment of VCT cables for Portable Electric Machines using Multiple Stresses
   Jeongtae Kim, Jisub Yoon, Woobin Kim, Daejin University, South Korea
   Sang-Won Choi, KOSHA, South Korea

8B-2 Chemiluminescence Characteristics of FR-EPDM and SiR Aged by Concurrently Given Heat and Radiation
   Risa Ikeno, Naoshi Hirai, Yoshimichi Ohki, Waseda University, Japan

8B-3 Thermal Properties of a Mixture of Mineral Oil and Synthetic Ester in Terms of Its Application in the Transformer
   Grzegorz Dombek, Zbigniew Nadolny, Piotr Przybylek, Dawid Przadka, Poznan University of Technology, Poland

8B-4 Investigation of the Formation of Wax-like Substances in Silicone and Ester Fluids used for Power Transformers
   Moritz Kuhnke, Kristin Homeier, Peter Werle, Ernst Gockenbach, Leibniz Universität Hannover, Germany

8B-5 Effect of Thermal Aging on Moisture Absorption of Transformer Oil
   W. Wang Ying Liang, Lijuan Gao, Zhe Jin, Pingping Dong, North China Electric Power University, China

8B-6 Aging Mechanism of Silicone Rubber by Heat and Gamma-rays
   Yoshimichi Ohki, Naoshi Hirai, Liuqing Yang, Waseda University, Japan

8B-7 Punctured Rubber Bladders Detected by UV-vis Spectrophotometry
   Issouf Fofana, Yazid Hadjadj, Université du Québec à Chicoutimi (UQAC), QC, Canada
   Eduardo Briosso, CTM, Salto Grande, Uruguay
   John Sabau, Insoil Canada Ltd., Calgary, Canada

8B-8 Lifetime analysis of an automotive electrical motor with hairpin wound stator
   Paolo Mancinelli, Simone Stagnitta, Andrea Cavallini, University of Bologna - DEI, Italy

8B-9 Degradation Analysis of Epoxy Resin Surfaces Exposed to Partial Discharge
   Yoshiyasu Ebara, Kahi Aono, Satoshi Koshio, Tokyo City University, Japan

8B-10 First principles investigation of radiation damage in polyethylene
   Scott Beckman, Bo Z Xu, Scott P Beckman, Washington State University, USA
   Nicola Bowler, Iowa State University, USA

8B-11 On the Effects of Molecular Composition, Morphology and Ageing on the Electrical Properties of Polyethylene
   Somoyot Tantipattarakul, Alun Vaughan, Thomas Andritsch, University of Southampton, UK

8B-12 The influence on copper corrosion with varied deformation of copper winding in mineral oil with corrosion
   Yuan Yuan, Zhou Jiang, Liao Ruijin, University of Chongqing, China
   Peng Qingjun, Yunnan Electric Power Research Institute China Southern Power Grid, China

8B-13 Effect of Corrosive Sulfide Deposition on Thermal Conductivity of Insulating Paper
   Yuan Yuan, Zhou Jiang, Liao Ruijin, Duan Yizheng, University of Chongqing, China
   Deng Bangfei, Chongqing Electric Power Research Institute, China

8B-14 Aging Behaviour of Polypropylene under Various Voltage Stresses
   Weijia Zhao, Wah Hoon Siew, Martin J Given, Edward Corr, University of Strathclyde, UK
   Qingmin Li, North China Electric Power University, China
   Jiliang He, Tsinghua University, China

8B-15 Thermal ageing and its impact on charge trap density and breakdown strength in polyethylene
   Ziyun Li, Ning Liu, Steve Gabriel, George Chen, University of Southampton, UK
Session 8B - Treeing and Surface Flashover

8B-16 The effect of annealing temperature on the corrosion behaviour of copper in mineral oil with corrosion sulphur
Yuan Yuan, Zhou Jiang, Yang Lijun, University of Chongqing, China
He Xiao, Electric Power Research Institute, Yunnan Electric Power Grid Co., Ltd., China

8B-17 High Field Dielectric Properties of Low Density Polyethylene with rough abrasive surface under AC Ramp Electric Field
Yurika Sano, Kazuyuki Tohyama, National Institute of Technology, Numazu College, Japan

8B-18 Space Charges and Partial Discharges Simultaneous measurements under DC stress
Dongxin He, Shiyuan Liu, Wei Wang, Denghui Yi, Shu Song, Zhongyu Tong, North China Electric Power University, China

8B-19 Degradation of Metal Oxide Arrester Under Successive 8/20 μs Impulse Current
Hui Wang, Shengtao Li, Jinqiang He, Xi'an Jiaotong University, China; Xiaojun Li, State Grid Shanxi Maintenance Company, China; Xiaoying He, China State Grid Shanxi Electric Power Company, China; Yongli Liao, CSG, China

8B-20 Life Estimation of LDPE film under Stepped-stress Voltage application
Alampratap Tiwana, Chakradhar Reddy Chandupatla, Indian Institute of Technology Ropar, India

8B-21 Investigations on Ageing of Low Density Polyethylene Under Polarity Reversals
Himanshu, Ashish Kashyap, Vipan Iyani, Alampratap Singh Tiwana, Chakradhar Reddy Chandupatla, Indian Institute of Technology Ropar, India

8B-22 Aging Mechanism of Cross-linked Polyethylene (XLPE) Cable Insulation Material in Nuclear Power Plants
Nicola Bowlor, Shuaishuai Liu, Iowa State University, USA; Leonard S Fijfield, Pacific Northwest National Laboratory, USA

8B-23 Effects of Silicone Grease on Silicone Rubber in Physical Characteristics
Bin Zhu, Zhi Dong Jia, Zhi Cheng Guang, Zhi Li, Peng Zhou, Tsinghua University, China
Wei Wei Li, De Gang Gan, Ke Zhu, State Grid Sichuan Electric Power Research Institute, China

8B-24 Development of simulation models for calculating space charge accumulation around defects in a thin film sample under HVDC
Awat Mulla, Stephen J Dodd, Nikola M Chalashkanov, Leonard A Dissado, University of Leicester, UK

8B-25 Relationship between the expressions for electrical resistivity and the field profiles in HVDC cable
Giovanni Mazzanti, University of Bologna, Italy
Massimo Marzinotto, Terna, Italy

8B-26 Effects of Corona Discharge on the Properties of Fiber Reinforced Plastics Used in Composite Insulator
Yiming Yao, Weining Bao, Yanfeng Gao, Chao Wu, Xidong Liang, Yingyan Llu, Tsinghua University, China

8B-27 Corona Resistance of Fluorinated LDPE and XLPE
Feipeng Wang, Fan Fan, Gang Wen, Tao Zhang, Jian Li, Chongqing University, China

8B-28 What have we still to learn about the Inverse Power Model?
Giovanni Mazzanti, University of Bologna, Italy

8B-29 Study on the Influence of Adsorbent on SF6 Decomposition Characteristics under Partial Over thermal Fault
Tiancheng Zhao, Ju Tang, Fuping Zeng, Wuhan University
Choohai Zhang, Lin Cheng, Wuhan NARI Limited Company, State Grid Electric Power Research Institute, China

Session 8C - Treeing and Surface Flashover

8C-1 Barrier effect on Surface Breakdown of Epoxy Solid Dielectric in SF6 at Various Pressures
Mohammed El Amine Slama, Alain Giroudet, Paul Vinson, SuperGrid Institute, France
Abderrahmane Beroual, Ecole Centrale de Lyon, France

8C-2 Influence of barrier thickness on discharge behavior in air gap with GFRP insulator under impulse voltage stress
Yuanye Liu, Ryo Sasamoto, Takao Matsumoto, Yasuji Izawa, Kiyoto Nishijima, Fukuoka University, Japan

8C-3 Electrical Treeing and Ageing Characteristics in Cavities of Low Density Polyethylene Dielectrics on Partial Discharge Measurements
Thanarat Tanmaneeprasert, Paul Leonard Lewin, University of Southampton, UK

8C-4 Electrical treeing in Silicone gel under square voltage: frequency, rise time and crosslinking influence
Paolo Mancinelli, Andrea Cavallini, University of Bologna - DEI, Italy
Nikola Chalashkanov, Stephen J Dodd, Len A Dissado, University of Leicester, UK

8C-5 Spectroscopic Studies of Arc Propagation along the Surface of a Polymeric Insulator under Contaminated Conditions
Arshad Azam Nekahi, Scott McMeekin, Glasgow Caledonian University, UK
Masoud Farzaneh, Université du Québec à Chicoutimi, QC, Canada

8C-6 Characteristics of Residual Surface Charge Distribution on Insulating Materials under DC Voltage
Guanjun Zhang, Jun-Bo Deng, Han Wang, Jian-Yi Xue, Guo-Qiang Su, Yi-Bo Wang, Bai-Peng Song, Run-Dong Zhou, Yuan Li, Hai-Bao Mu, Xi’an Jiaotong University, China; Wen-Wei Shen, State Grid Ji’nan Power Supply Company, China
8C-7  Electrical Tree Initiation and Propagation of Silicone Rubber under Long-term AC Aging  
Yuanyang Zhou, Yunxiao Zhang, Ling Zhang, Ming Chen. Tsinghua University, China; Xu Zhang, Yanchao Sha. North China Electric Power Research Institute Co, Ltd. China

8C-8  Technology and Evaluation of Repairing the Erosion Defect on the LSR Shed of the Insulation Jacket  
Wei'an Ye, Zhidong Jia, Can Chen. Tsinghua University, China  
Shitao Liu, Zhenhua Yan. State Grid Ningxia Electric Power Research Institute, China

8C-9  A Novel Method of Measuring Length and Location of Single Channel Carbonized Trees in Oil-impregnated Pressboard  
Yangchun Cheng. North China Electric power University, China; Jingwei Wei. Foshan Power Supply Bureau, China; Chongzhi Zhao, Haoyong Song. Electric Power Test and Research Institute of Guangzhou power supplyLt, China

8C-10  Experimental Research on single channel carbonized Trees in Oil-impregnated pressboard  
Yangchun Cheng, Botao Duan. North China Electric power University; Xiaotian. China Electric Power Research Institute, China; Chongzhi Zhao, Haoyong Song. Electric Power Test and Research Institute of Guangzhou power supplyLt, China

8C-11  Electrical Tree Propagation in Composite Insulation for Wind Turbine Generator under Repetitve Impulse Voltage  
Xuezhong Liu, Rui Zhang, Tianlong Zhang. Xi'an Jiaotong University, China; Chongzhi Xue, Hongsheng Chen, Yanqin Li. CCRC Zhuzhou Electric Co., LTD. China

8C-12  Study on the Aging Properties of Silicone Oil in GIS Cable Terminations  
Ruobing Zhang, Jun Wu. Tsinghua University, China

8C-13  Research on Surface Charge Characteristics of Epoxy Resin under AC and Pulse Voltage Combination  
Shuai Hou, Mingli Fu. Electric Power Research Institute China Southern Power Grid, China; Jin Li, Huicheng Liang, Boxue Du. Tianjin University, China

8C-14  Analysis of Electrical Tree Inhibitory Effect by Antioxidants Using Quantum Chemical Calculation  
Hiroaki Uehara, Kanto Gakuin University, Japan  
Yasu Sekili, SEKII PE laboratory, Japan  
Tatsuo Takada, Tokyo City University, Japan  
Yang Cao, University of Connecticut, USA

8C-15  Effect of the Surface Charge on the Flashover Voltage for GIS Basin Insulator under Switching Impulse Voltage  
Chunjia Gao, Bo Qi, Kun Tian. North China Electric Power University, China  
Shuqi Zhang, China Electric Power Research Institute, Beijing, P.R. China

8C-16  Charge Accumulation Characteristics of Polymer Surface under DC Voltage after Flashover and Corona  
Jing Luo, Ju Tang. Wuhan University  
Jiaqi Tao, Jinggang Yang. Jiangsu Electric Power Company Research Institute, China

12:30-14:00  Lunch (on your own)

14:00-16:00  Session 9 (Oral) Pre-breakdown and breakdown in solids, liquids, gases, and vacuum, Surface flashover  
Chair: Shesha Jayaram  
Co-chair: Rodolfo Garcia Colon

9-1  Years in the Research on Electron Energy Distribution Functions-Future Challenges  
Gorur Govinda-Raju, University of Windsor, Canada

9-2  Streamer inception and propagation in rod-plane gaps with dielectric barriers  
Frank Mauseth, Hans Kristian Meyer. Norwegian University of Science and Technology, Norway  
Atle Pedersen, SINTEF Energy Research, Norway  
Jonas Ekeberg, ABB Ltd., Switzerland

9-3  Density of Bulk Trap States in Polymeric Films  
Zongze Li, Ramamurthy Ramprasad, Steven Boggs, Yang Cao. University of Connecticut, USA  
Hiroaki Uehara, Kanto Gakuin University, Japan

9-4  Characteristics of g3 – an alternative to SF6  
Yannick Kieffel, GE, USA

9-5  Spectroscopic study of surface flashover and laser induced breakdown on insulator  
Le Xu, Meng Wang, Jianjun Deng. Institute of Fluid Physics, CAEP, China

9-6  Evolution and Discharge Pattern of Creeping Discharge at Thermally Aged Oil/Pressboard Interface  
Xin Zhou, Huibin Shi, Moritz Kuhnke, Peter Werle, Ernst Gockenbach, Hossein Borsi, Leibniz University of Hannover, Germany

16:00-16:15  Closing  
Enis Tuncer, 2016 IEEE CEIDP Chair

12:30-18:00  IEEE Working Group Meeting  
Carlyle Room

SEE YOU NEXT YEAR
CEIDP 2017
Hilton Fort Worth, Fort Worth, TX
October 22 -25, 2017
Chair: Enis Tuncer, e-tuncer@ti.com
## IEEE CEIDP 2016 PROGRAM

REGISTRATION - Sunday - 08:00 - 10:00 and 13:00 - 17:30; Monday & Tuesday - 07:00 - 17:00

ALL ORAL SESSIONS IN MOUNTBATTEN BALLROOM; ALL POSTER SESSIONS IN MOUNTBATTEN LANE

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### Workshop: HVDC Extruded Cable System
- WREN room - 3rd floor

### Workshop: HF Transients in Insulation Systems
- WREN room - 3rd floor

### Conference Welcome
- Whitehead Lecture
- Break & Photograph

### Session 1 (Oral)
- Aging, High Field Effects

### Session 2 (Oral)
- Nano-dielectrics, Charge Storage and Transport
- Break

### Session 3 (Poster)
- 3A - Conduction, Polarization, Charge Storage & Transport
- 3B - Electro-hydrodynamics
- 3C - Partial Discharge Measurements

### Session 4 (Poster)
- 4A - Measurement Techniques
- 4B - Prebreakdown & Breakdown in Solids, Liquids, Gases and Vacuum

### Session 5 (Oral)
- Outdoor Insulation, Partial Discharge Measurements

### Session 6 (Oral)
- Innovative Dielectric Materials
- High Fields and High Frequency Phenomena
- Bio-dielectrics

### Session 7 (Oral)
- Measurement Techniques, Polarization Phenomena

### Session 8 (Poster)
- Outdoor Insulation
- Aging
- Treeing and Surface Flashover

### Session 9 (Oral)
- Prebreakdown & Breakdown in Solids, Liquids, Gases and Vacuum; Surface Flashover

### Conference Closing
- Conference Banquet
- Dinner - Mountbatten Ballroom - 18:30

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- Dinner - Mountbatten Ballroom - 18:30

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