

● 6TH IEEE INTERNATIONAL CONFERENCE ON DIELECTRICS

IEEE DEIS · CONFERENCE N° 64907X · SOUTHAMPTON, UK

ICD 2026

CONFERENCE THEME

Next Generation Sustainable Dielectrics

VENUE

Southampton · UK
Leonardo Royal Grand Harbour

DATES

21 – 25 June 2026

SPONSORED BY IEEE DEIS · HOST: UNIVERSITY OF SOUTHAMPTON · ieee-icd.org

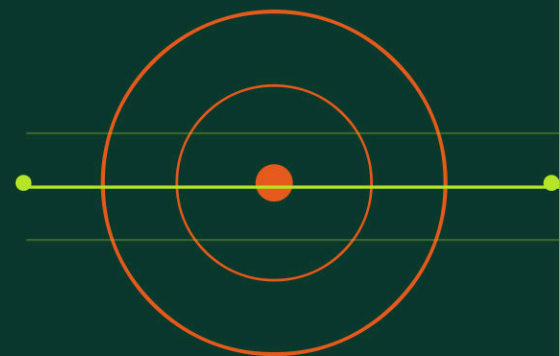
Week at a glance.

	PRE-CONF Day 0 SUN • 21 JUN	OPENING Day 1 MON • 22 JUN	Day 2 TUE • 23 JUN	GALA/EXCURSION Day 3 WED • 24 JUN	CLOSING Day 4 THU • 25 JUN
08:00		08:00 – 08:30 Registration	08:00 – 10:00 Oral Session 3 – Special Eco-Friendly · Transport Electrification · Biodielectrics	08:00 – 10:00 Oral Session 6 Nanodielectrics · Electro-Active Polymers · Multifunctional Materials	08:00 – 09:00 Dakin Award Plenary keynote
09:00		08:30 – 09:00 Opening Session			09:00 – 10:00 Oral Session 8A Diagnostics & Experiments
10:00		09:00 – 10:00 E.O. Forster Lecture Plenary keynote			
11:00		10:00 – 10:30 Break Photograph	10:00 – 10:30 Break	10:00 – 10:30 Break	10:00 – 10:30 Break
12:00	11:30 – 14:00 Registration	10:30 – 11:30 Oral Session 1A Space Charge & Charge Transport	10:30 – 11:30 Oral Session 4A Degradation Mechanisms & Failure	10:30 – 12:30 Oral Session 7 Insulation for Power Electronics · Composite Insulation	10:30 – 11:30 Oral Session 8B Diagnostics & Experiments
13:00		11:30 – 12:30 Poster Session 2 Conduction, Polarization, Space Charge · Diagnostics & Experiments	11:30 – 12:30 Poster Session 4 Young Researcher	12:30 – 13:45 Lunch Break	11:30 – 12:30 Poster Session 6 Insulation · Transportation · Composite · Nano · EAP · Bio · Eco
14:00	14:00 – 18:00 Workshop	12:30 – 13:30 Lunch Break	12:30 – 13:30 Lunch Break	14:00 – 17:00 Social Excursion Off-site	12:30 – 13:30 Lunch Break
15:00		13:30 – 14:30 Oral Session 1B Space Charge & Charge Transport	13:30 – 14:30 Oral Session 4B Degradation Mechanisms & Failure	13:45 – 14:00 Gather (Excursion)	13:30 – 15:30 Oral Session 9 Theories, Methods & Models
16:00		14:30 – 15:30 Poster Session 3 Conduction, Polarization, Space Charge · Diagnostics & Experiments	14:30 – 15:30 Poster Session 5 Ageing, Degradation & Failure · Theories, Methods & Models		
17:00		15:30 – 17:30 Oral Session 2 Conduction, Polarization & Related Phenomena	15:30 – 17:30 Oral Session 5 Ageing Processes & Material Evolution		15:30 – 16:00 YR Awards & Closing
18:00					
19:00	18:00 – 20:00 Welcome Reception Poster Session 1 Ageing, Degradation & Failure · Theories, Methods & Models			18:30 – 19:00 Gala Drinks	
20:00				19:00 Gala Dinner Boggs Award	
21:00					

REGISTRATION

Registration for Days 2, 3 & 4 is available at the registration desk in the hotel lobby any time before lunch.

All venue, walking and bus-route maps can be found at the back of this booklet.



Next generation sustainable dielectrics.

6th IEEE International Conference on Dielectrics

The Technical Programme for the 6th edition of the IEEE International Conference on Dielectrics (ICD 2026) is published by the IEEE ICD Technical Organising Committee and the IEEE Dielectrics and Electrical Insulation Society. The conference is hosted by the University of Southampton and the Tony Davies High Voltage Laboratory, 21–25 June 2026.

IEEE CONFERENCE

No. 64907X

ISBN

979-8-3315-3492-9

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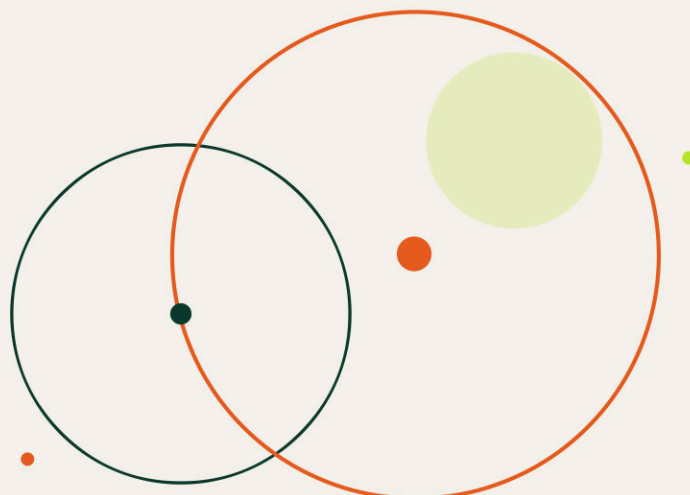
Lauren Deeth-Kelt

HOST

University of Southampton

WEB

ieee-icd.org



NAVIGATION

Contents.

Your guide to ICD 2026 — four days of science, one city.

I	Travel & Venue	6–13
II	Committees	14–18
III	Participation	19–21
IV	Awards & DEIS	22–27
V	Workshop	28–30
VI	Keynote Lectures	31–32
VII	Sponsorship	33
VIII	Programme & Sessions	34–71
	Day 0 · Sunday 21 June	34–38
	Day 1 · Monday 22 June	39–45
	Day 2 · Tuesday 23 June	46–61
	Day 3 · Wednesday 24 June	62–64
	Day 4 · Thursday 25 June	65–71
IX	Index of Authors	72–81
	Notes	82
	Maps & Back Cover	83–87

Welcome.



Dear Colleagues,

It is my great pleasure to welcome you to the 2026 IEEE International Conference on Dielectrics, hosted in Southampton. The ICD conference series continues to serve as a leading international forum for the exchange of ideas and advances in dielectric materials and electrical insulation. By bringing together researchers from academia, industry, and research institutions, the conference fosters dialogue across disciplines and promotes innovation at the interfaces of science and engineering, an essential driver of progress in our field.

The 2026 edition offers a comprehensive technical programme, including keynote lectures, oral and poster sessions, and specialised discussions addressing current and emerging challenges in dielectrics. Topics span solid, liquid, and gaseous dielectrics, reflecting the broad and evolving scope of the community and its critical role in modern electrical and energy systems.

We are particularly pleased to welcome early-career researchers and students, whose contributions are vital to the future of our discipline. ICD 2026 aims to provide an inclusive environment that encourages exchange, collaboration, and the development of new ideas.

Beyond the technical sessions, we hope you will take the opportunity to connect with colleagues from around the world and experience the vibrant academic and cultural setting of Southampton, a city with a strong tradition in engineering research and innovation.

I would like to express my sincere gratitude to all authors, reviewers, sponsors, and members of the Organising Committee for their dedication and hard work in making this conference possible.

I wish you an engaging, productive, and inspiring conference.

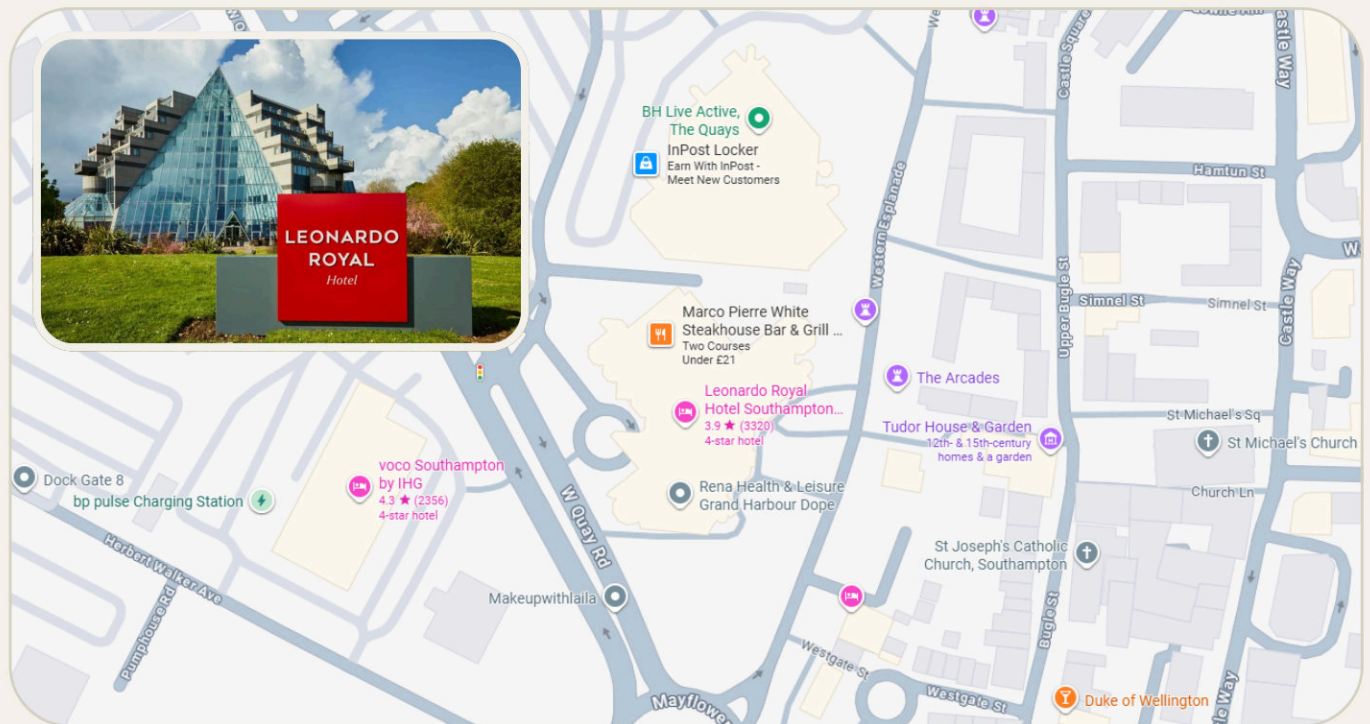
Istebreq Saedi

General Chair, ICD 2026

Conference Location.

The venue and its place on the map.

ICD 2026 is held at the Leonardo Royal Hotel Southampton Grand Harbour, on the waterfront at the heart of the city.



VENUE

**Leonardo Royal
Grand Harbour**

HOST

**University of
Southampton**

CAPACITY

**~400 delegates
from 30+ countries**

Venue & Accommodation.

Leonardo Royal Southampton Grand Harbour is a waterfront hotel on West Quay Road — 5 minutes' walk to the city centre and 15–20 to Southampton Central.

VENUE

**Leonardo Royal
Southampton Grand Harbour**

ADDRESS

5 West Quay Road
Southampton, SO15 1AG
+44 (0)23 8063 3033

173

BEDROOMS · 5 FLOORS

9

ACCESSIBLE ROOMS

3

LIFTS · AUDIBLE

GETTING THERE

BY RAIL

Southampton Central · 15–20 min walk, step-free with dropped kerbs.

BY BUS

Stops 5 min from the hotel. All Southampton buses are wheelchair-accessible.

BY CAR

On-site parking (free for Blue Badge). West Quay car park 5 min (SO15 1ST).

BY TAXI

West Quay Cars · +44 (0)23 8099 9999. Wheelchair-accessible on request.

HOTEL & CONFERENCE FACILITIES

Mayflower Conference Suite sits on the ground floor, with four meeting rooms and four event suites on the Mezzanine. Gym open daily 06:00–23:00. Pool, Bar and Restaurant on the ground floor. Complimentary Wi-Fi throughout. Hearing loop and assistance dogs welcome on request.

LOCAL HOSPITALS

Southampton General — A&E

Tremona Road, SO16 6YD · 023 8077 7222

UK emergency: 999 · Meetings & Events: +44 (0)23 82 549145

Royal South Hants — Walk-in

Graham Road, SO14 0YG · 023 8054 0087

Hotels & Booking.

Delegate rates are held at two partner hotels. Additional waterfront and city-centre hotels within walking distance are listed below.

CONFERENCE VENUE · 4★

Leonardo Royal Southampton

West Quay Road, SO15 1AG · on site

Delegate rate when booked at leonardohotels.co.uk with the code above.

PARTNER HOTEL · 4★

Leonardo Hotel Southampton

Charlotte Place, SO14 0TB · 1.8 miles

WITHIN WALKING DISTANCE

voco Southampton by IHG	Herbert Walker Ave, SO15 1AG	290 yd
Premier Inn Southampton West Quay	Harbour Parade, SO15 1BA	0.2 mi
Moxy Southampton	Harbour Parade, SO15 1BA	0.2 mi
Room2 Southampton homotel	1 Queens Terrace, SO14 3BP	0.5 mi
Ibis Budget Southampton	3 West Quay Road, SO15 1RA	0.5 mi
Novotel Southampton	1 West Quay Road, SO15 1RA	0.6 mi
Ibis Southampton	9 West Quay Road, SO15 1RA	0.6 mi
Harbour Hotel Southampton	5 Maritime Walk, SO14 3QT	0.9 mi

HOW TO BOOK

Book partner hotels at leonardohotels.co.uk using the codes above — rates are held until sold out. For all other hotels, book directly. Full and up-to-date list at iee-icd.org/accommodation.

Getting to Southampton.

Southampton is a well-connected English port city — 1h 15 by direct train from London Waterloo, with its own airport, fast coach links to all major London hubs, and easy motorway access from the M3 and M27.

BY AIR

Southampton Airport (SOU)

4 mi / 15 min from the city centre. 6+ airlines serve 20+ European destinations. Southampton Airport Parkway rail station is adjacent — trains to Southampton Central every 10 min (~7 min).

London airports

Heathrow (LHR) · National Express coach 2h 30. Gatwick (LGW) · rail via Basingstoke 2h 30. Stansted / Luton / City · via London then Waterloo. Eurostar connects from Paris, Brussels and Amsterdam via St Pancras.

BY TRAIN

From London Waterloo: direct services every 30 minutes via South Western Railway, journey about 1h 15. From Paris, Brussels or Amsterdam, take Eurostar to London St Pancras, then Tube to Waterloo.

Direct trains also connect from Manchester, Birmingham, Reading, Bristol and Bournemouth. Southampton Central is a 15–20 min step-free walk from the Leonardo Royal; dropped kerbs are available throughout the route.

BY COACH & BUS

National Express and Megabus run coaches from London Victoria and other UK cities, journey approximately 2h 30. Coaches arrive at Southampton Coach Station — a 10-minute walk from the venue.

BY CAR

From London via the M3 — approximately 80 miles / 1h 45 off-peak. On-site parking at the Leonardo Royal is complimentary for Blue Badge holders; West Quay Car Park (SO15 1ST) is a 5-min walk and open 24h.

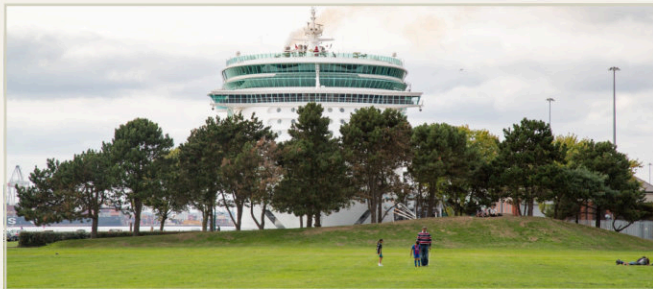
PLAN YOUR JOURNEY

RAIL [southwesternrailway.com](https://www.southwesternrailway.com)
AIR [southamptonairport.com](https://www.southamptonairport.com)
COACH [nationalexpress.com](https://www.nationalexpress.com)
BUSES [unilinkbus.co.uk](https://www.unilinkbus.co.uk) · [bluestarbus.co.uk](https://www.bluestarbus.co.uk)

About Southampton.

“Discover, explore and enjoy” — where maritime heritage meets a modern research campus on the Solent waterfront.

Founded as a Roman trading post and port since medieval times, Southampton is today one of the UK's busiest harbours, the home port of the RMS Titanic and Europe's premier cruise hub. The city hosts the University of Southampton, a Russell Group research university and the hosting institution of ICD 2026. Between the medieval town walls and Bargate, the SeaCity Museum, Solent Sky, the Cultural Quarter, and the Westquay waterfront, there is plenty to discover beyond the sessions.



Mayflower Park · Waterfront



Old Town · Medieval walls



SeaCity Museum



University of Southampton

DISCOVER SOUTHAMPTON

Heritage

- Medieval Bargate & walls
- Tudor House & Garden
- Home port of the Titanic

Culture

- SeaCity & Solent Sky
- Mayflower Theatre
- Cultural Quarter

Waterfront

- Ocean Village & marina
- Westquay waterfront
- Solent seafood & pubs

The New Forest National Park, Stonehenge and Salisbury are all within an hour's travel, making Southampton a strong gateway for pre- and post-conference exploration.

LEARN MORE visitsouthampton.co.uk

Excursions.

Every delegate chooses from the following social activities on the afternoon of Wednesday 24 June – a walking tour through Southampton's history, or one of three city museums.

HERITAGE · WALKING TOURS

Historical Guided Walks.

01

Three guided walks led by Southampton's local historians. Pick one:

A

Overground & Underground

Walk the medieval walls, then step into the hidden vaults. Meet the colourful characters of old Southampton.

UNEVEN PAVING · STAIRS

B

In the Footsteps of Jane Austen

Walk the old town where Austen lived for three years, discovering the places and scenes that shaped her writing.

SOME UNEVEN GROUND

C

Titanic Trail

A walking tour following how the Titanic tragedy shaped Southampton and so many of its families.

SOME UNEVEN GROUND

02

MARITIME

SeaCity Museum

Captivating stories of the city's people and Southampton's historical connections with the Titanic and the sea.

Civic Centre
Havelock Rd, SO14 7FY

seacitymuseum.co.uk

03

CULTURE

Southampton City Art Gallery

One of the finest collections in southern England – over 5,300 works from the Renaissance to the present day.

Commercial Road
Southampton SO14 7LP

southamptoncityartgallery.com

04

AVIATION

Solent Sky Museum

A must-visit for aviation enthusiasts – the region's rich aviation history, including the iconic Spitfire.

Albert Road South
Southampton SO14 3FR

solentsky.org

I · TRAVEL & VENUE

What to see.

On the afternoon of Wednesday 24 June, delegates choose one of three city museums or a guided walking tour.



Sea City Museum

The story of RMS Titanic and how the tragedy affected Southampton — an interactive Titanic model, passengers’ recorded messages and original objects from on board — alongside 200,000 years of the city’s history, from Roman traders to the WWII docks.



Southampton Art Gallery

In Southampton’s Cultural Quarter and open since 1939, the gallery presents high-quality exhibitions — painting, sculpture, drawing, photography and film — alongside a permanent collection that changes regularly for new experiences with each visit.



Solent Sky Museum

The Solent region was the centre of aviation research and development from 1910 to 1960. Solent Sky houses over 20 aircraft from the golden age of aviation.

Walking Tours

Three guided walks bring the city’s history to life — Walk the Walls (the medieval walls and gateways), the Jane Austen tour (the author’s Southampton years), and the Titanic tour (the city’s connection to the 1912 sailing).

LOGISTICS · WED 24 JUNE · ALL GROUPS MEET AT RECEPTION

EXCURSION	MEET	ACTIVITY
Solent Sky Museum	14:00	14:30
Southampton Art Gallery	14:30	14:30
Sea City Museum	14:30	14:30
Walking Tours	14:45	15:00

Access & food.

Welcome desk & access

The welcome desk is situated in the Mayflower Lobby, where you can collect your badge and conference materials and check in on arrival.

SUN 21 JUN

11:30 – 14:00 & 17:00 – 20:00

MON – THU

from 07:30 · check-in open through the day

Food & beverage

Welcome cocktail

Sunday 21 June · 18:00–20:00 · Mayflower Lounge

Lunches

Monday 22 – Thursday 25 June · Restaurant | Allerton's Lounge | Leo's Bar

Young professionals' lunch

Tuesday 23 June · Mayflower suites. Students and those within the first ten years of their career are invited to collect lunch from the restaurant and join a panel of experts in the Mayflower suites.

Gala dinner

Wednesday 24 June · Drinks from 18:30 · Mayflower Suites

DIETARY

Please indicate any dietary requirements when you register.

Officers & Advisory.

CONFERENCE OFFICERS

Istebreq Saeedi	Conference Chair	University of Southampton, UK
Paul Lewin	Treasurer	University of Southampton, UK
George Callender	TPC Chair	University of Southampton, UK
Liz Tillotson	Registration Chair	University of Southampton, UK

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Yasuhiro Tanaka	Tokyo City University
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Stratis Batzelis	University of Southampton, UK
Sunny Chaudhary	University of Southampton, UK
Orestis Vryonis	University of Southampton, UK
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Igor Golosnoy	University of Southampton, UK
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Andrea Barbareschi Villa	RSE, Italy
Zoltán Ádám Tamus	Budapest University of Technology and Economics, Hungary
Minna Niittymäki	Tampere University, Finland

Executive Committee.

THE TEAM

The Executive Committee leading the delivery of ICD 2026 in Southampton, drawn from IEEE DEIS, the University of Southampton and partner institutions.

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General Chair	Istebreq Saeedi
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Technical Program Committee Co-Chair	Sunny Chaudhary
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International Chair	Huajie Yi
International Co-Chair	Xiwen Wu
IEEE DEIS Meetings Committee Chair	Frank Hegeler
Programme Review Integrity Officer	Orestis Vryonis

THANKS TO

The volunteers, PhD students and staff of the Tony Davies High Voltage Laboratory and the University of Southampton School of Electronics and Computer Science who have made ICD 2026 possible.

WITH THANKS · TECHNICAL REVIEWERS

Reviewers.

With gratitude to the 140 reviewers below, whose careful and timely evaluation of submissions secured the scientific quality of ICD 2026. Listed alphabetically by surname.

Torstein Aakre	SINTEF Energy Research
Serge Agnel	University of Montpellier
Fernando Álvarez	Universidad Politécnica de Madrid
Somya Anand	Souriau-Eaton
Thomas Andritsch	University of Southampton
Rafal Anyszka	University of Twente
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Fulbert Baudoin	Laplace
Guillaume Belijar	IRT Saint Exupery
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Andrea Cavallini	University of Bologna
Nikola Chalashkanov	University of Lincoln
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George Chen	University of Southampton
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Paul Lewin	University of Southampton
Jin Li	Tianjin University

TECHNICAL REVIEWERS · CONTINUED

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Hucheng Liang	Tianjin University
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Iryna Sulym	Université de Toulouse
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Toshikatsu Tanaka	Waseda University
Yasuhiro Tanaka	Tokyo City University
Gilbert Teysseire	University of Toulouse - CNRS
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Cécilien Thomas	IRT Saint Exupery
Antonios Tzimas	Advanced Energy
Mikael Unge	NKT HV Cables AB, Technology Consulting
Eric Vagnon	Laboratoire Ampère
Zarel Valdez-Nava	CNRS
Dennis van der Born	Delft University of Technology
Christina Villeneuve-Faure	LAPLACE
Orestis Vryonis	University of Southampton
Thi Thu Nga Vu	Electric Power University
Feipeng Wang	CQU
Peng Wang	Sichuan University
Weiwang Wang	Xi'an Jiaotong University
Yalin Wang	Shanghai Jiao Tong University
Yang Wang	Xi'an Polytechnic University
Yufan Wang	Tianjin University
Yuhuai Wang	Tianjin University
Zhaochen Wang	Tianjin University
Kai Wu	Xi'an Jiaotong University
Xiwen Wu	University of Southampton
You Wu	Tianjin University
Meng Xiao	Tianjin University
Zhiqiang Xu	University of Southampton
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Huajie Yi	University of Southampton
Shigeyoshi Yoshida	Mitsubishi Electric Corporation
Jiawei Zhang	Xi'an University of Technology
Su Zhao	Shanghai Jiao Tong University
Feihu Zheng	Tongji University
Ayyoub Zouaghi	Ecole Centrale de Lyon

Registration.

ICD 2026 is open for registration as either a conference participant or a contributing author. Both categories of registrant are invited to all the conference activities, including the welcome reception on Sunday 21 June evening, lunches from Monday 22 to Thursday 25 June, and the conference dinner and excursion scheduled on Wednesday 24 June. Every author registration includes the presentation and submission of up to 2 papers which have been peer reviewed. Optional items are participation in the workshop on Sunday 21 June and extra-page / extra-paper fees.

Companion/guest can be registered, providing them access to the welcome reception, the conference dinner, and the excursion on Wednesday 24 June afternoon. Participants are invited to mention dietary constraints at the registration step.

Registration is set up using the IEEE Cvent system, which verifies the IEEE membership level currently held by the registrant in real time. The fees given below are as low as possible. Early-bird registration was available up to 15 April 2026.

FEES (£) · EARLY BIRD UNTIL 15 APRIL 2026

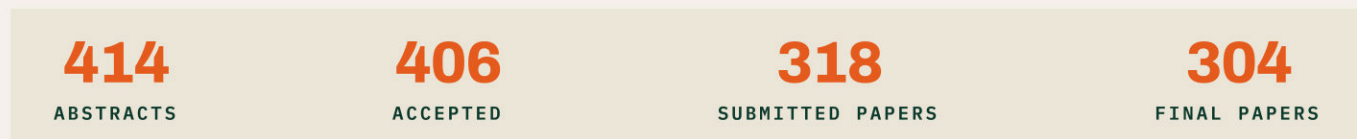
TYPE	EARLY BIRD	REGULAR
IEEE DEIS Member	£470	£510
IEEE Member	£490	£540
Non-member	£590	£650
IEEE Life Member	£375	£425
IEEE Student Member	£375	£425
Student non-member	£450	£510

ADD-ONS

Guest / companion registration	£170
3rd paper under the same author registration	£300
Every page beyond 4	£150 / page
Attendance of the IEEE TEC workshop	£80

ABSTRACT & PAPER CAMPAIGN

Abstract & paper campaign.



The call for abstracts for the 6th IEEE International Conference on Dielectrics (ICD 2026) was launched in early 2025 through the conference website, IEEE DEIS communication channels, mailing lists of previous ICD participants, professional networks, and partner institutions. Special attention was given to promoting the conference theme, “Next-gen sustainable dielectrics”, reflecting the increasing importance of electrification, decarbonisation, and sustainability in dielectric materials and insulation systems.

The abstract submission opened on the 1st September 2025 and ended on the 14th November 2025. The reviewing step was organised by the Technical Programme Committee (TPC) supported by more than 150 reviewers. A total of 414 abstracts were received, 406 abstracts were accepted. Authors of accepted abstracts were invited to submit full papers through the ConfTool platform. The paper template and submission instructions were made available through the ICD 2026 website. Papers were limited to four pages in length and had to comply with IEEE conference publication requirements.

The paper submission campaign resulted in 318 full papers being received. The reviewing process was conducted by established reviewer network under the supervision of the Technical Programme Committee. Papers were assessed according to their scientific contribution, technical quality, originality, clarity, and compliance with conference requirements. Each paper was reviewed by at least 2 reviewers.

Following the review process, 12 papers were rejected. The accepted contributions were distributed among the different presentation formats of the conference. A total of 54 papers were selected for oral presentations, while 208 papers were assigned to regular poster sessions. In addition, 42 papers were selected for participation in the Young Researchers' Contest poster sessions. The technical programme is further complemented by two keynote lectures delivered by distinguished experts in the field.



The final programme therefore contains more than 300 scientific contributions representing the latest advances in dielectric materials, insulation systems, diagnostics, modelling, sustainable technologies, and emerging applications. The Organising Committee would like to express its sincere gratitude to the members of the Technical Programme Committee, the reviewers, and all authors for their efforts in maintaining the high scientific standards of ICD 2026.

KEY DATES

- 1 Sep 2025** Abstract submission opens
- 14 Nov 2025** Abstract submission closes
- 30 Nov 2025** Abstract acceptance notification
- 1 Dec 2025** Full-paper submission opens
- 13 Jan 2026** Registration opens
- 13 Mar 2026** Final-paper submission closes
- 15 Apr 2026** Early-bird registration ends
- 15 Apr 2026** Full-paper acceptance notification
- 8 May 2026** Reviewed manuscripts finalised

TPC · PAPER ALLOCATION PROCESS

Paper allocation process.

The allocation process was carried out by the Technical Programme Committee (TPC), comprising 22 members – 11 from the University of Southampton* and 11 international representatives – selected on the basis of both area of expertise and geographic diversity. TPC members were paired or grouped and assigned to one of the conference topics. Each group convened online on the dates indicated below, with sessions chaired by the TPC Review Integrity Officer, Orestis Vryonis. Papers were screened against reviewers' comments and assessed for their scientific and engineering impact; the number of papers per category in each topic was determined proportionally to its share of total ICD submissions.

PRESENTATION CATEGORIES

ORAL Oral presentation slot	YRA POSTER Young Researcher Session	POSTER Regular poster session
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ALLOCATION · TPC GROUPS & DATES

01 Space charge & charge transport O. Vryonis* · S. Chaudhary* · N. Fuse (CRIEPI, JP)	29 Apr
02 Conduction polarization & dielectric properties O. Vryonis* · S. Chaudhary* · N. Chalashkanov (Lincoln, UK) · M. Niittymäki (Tampere, FI)	28–29 Apr
03 Diagnostics & experiments P. Lewin*	28 Apr
04 Degradation mechanisms & failure T. Andritsch* · H. Yi* · D. van der Born (Delft, NL)	28–29 Apr
05 Ageing processes & material evolution O. Vryonis* · X. Wu* · N. Gupta (IIT Kanpur, IN)	27 Apr
06 Theories, methods & models I. Golosnoy* · G. M. Callender* · A. Barbareschi Villa (RSE, IT) · P. Seri (Bologna, IT)	27–28 Apr
07 Insulation systems for power electronics & composites S. Batzelis* · Z. Á. Tamus (BME, HU)	28 Apr
08 Nanodielectrics · EAPs · Multifunctional materials I. Saeedi* · F. Ciuprina (Politehnica Bucharest, RO)	29 Apr
09 Eco-friendly dielectrics · Transport · Biodielectrics B. Zaghari* · G. Chen (Xi'an Jiaotong, CN)	29 Apr

ICD AWARDS

Awards.

IEEE and the DEIS are proud to distribute prizes for outstanding research, in the following categories. Prizes will be awarded to the authors during the conference closing session.

Best Paper

The best paper is selected by the jury from a group of ten, drawn from papers accepted for oral presentation that received the highest scores during review and that both reviewers recommended for a best paper award. The evaluation considers several factors, including scientific contribution and relevance to the dielectrics research community.

SELECTION PROCESS

A shortlist of ten candidate papers was compiled by the Technical Programme Review Integrity Officer, Dr Orestis Vryonis, based on three criteria: acceptance for oral presentation; the highest scores from peer reviewers; and unanimous nomination for the Best Paper Award by both assigned reviewers. From this shortlist, the final selection was made jointly by Dr Vryonis and the Conference Technical Chair, Dr George Callender, weighing four dimensions: scientific content and contribution; adherence to IEEE formatting guidelines; quality of written English (grammar, syntax, and absence of typographical errors); and relevance to the themes and scope of the conference.

Best Presentation

The best presentation is chosen from 18 candidates — the top oral presentations nominated by the Technical Programme Committee across the different topics, from the 54 oral presentations in the programme. Evaluation by the jury and session chairs is based on the oral performance of the speaker.

Young Researcher Award

The Dielectrics and Electrical Insulation Society is committed to awarding prizes to early-career researchers. During submission, authors could choose whether to be considered for this session. Candidates must be the first author of their paper and present their work in person. Based on this eligibility and recommendations from the Technical Programme Committee, 42 papers feature in this special session, and all of these authors are considered by the jury for the Young Researcher Award.

Session Jury — Allocation Process

The allocation of judges was carried out jointly by the Technical Programme Chair, Dr George Callender, and the Review Integrity Officer, Dr Orestis Vryonis. The process was guided by three considerations: breadth and depth of technical expertise across dielectrics and electrical insulation, so judges can evaluate work spanning the full range of conference topics; geographic diversity, ensuring broad international representation; and prominence and experience within the IEEE DEIS, recognising the value of seasoned professionals in upholding the standard and integrity of the evaluation. Invited jury members are listed below.

Invited Jury Members

NAME	INSTITUTION
George Callender	University of Southampton, UK
Qiang Liu	University of Manchester, UK
Orestis Vryonis	University of Southampton, UK
Akiko Kumada	University of Tokyo, Japan
Frank Hegeler	US Naval Research Laboratory, USA
Peter Morshuis	Solid Dielectric Solutions, Netherlands
Nadia Saidi-Amroun	University of Sciences and Technology Houari Boumediène, Algeria
Hiroaki Miyake	Tokyo City University, Japan
Anna Guliakova	Deggendorf Institute of Technology, Germany
Gilbert Teyssède	CNRS, University of Toulouse, France

DEIS AWARD

Steve Boggs Award.

The IEEE DEIS Steve Boggs Award is one of the Society's most prestigious distinctions. Established in memory of Dr. Steve Boggs, a pioneering researcher and innovator in the field of dielectrics and electrical insulation, the award recognises outstanding technical contributions and sustained excellence in research, development, and application within the DEIS community.

2026 RECIPIENT

Dr Ren Hanwen

The IEEE Dielectrics and Electrical Insulation Society (DEIS) has selected Dr. Ren Hanwen as the recipient of the 2026 IEEE DEIS Steve Boggs Award in recognition of his outstanding contributions to the field of dielectrics and electrical insulation.

The award will be presented during the 6th IEEE International Conference on Dielectrics (ICD 2026) in Southampton, United Kingdom. The ICD 2026 organising committee is pleased to congratulate Dr. Ren Hanwen on this distinguished achievement.

DEIS SUMMER SCHOOL

Electrical Insulation Challenges for Transport Electrification.

DATES

13 – 18 September 2026

VENUE

CEUB · Bertinoro (FC), Italy

4TH
EDITION

2026

Join us for the 2026 edition of the IEEE DEIS Summer School – a residential week dedicated to the materials, manufacturing, qualification and reliability challenges of electrical insulation for next-generation transport systems.

LECTURES COVER

- Chemistry of polymeric insulation
- Electric motors, cables & power electronics
- Degradation mechanisms, testing & reliability
- Materials, manufacturing & qualification approaches

PROGRAMME EXPERIENCES

Industrial visit · Loccioni

Young Professionals event

PhD poster session

Workshops & group activities

Wine tasting & social dinner

FEES · VAT INCLUDED

DEIS Student Member

€275

Student (non-member)

€350

DEIS Member

€500

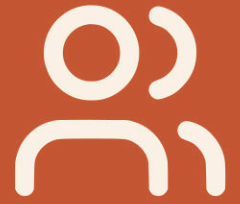
Non-member

€750

APPLY · DEADLINE 15 JUNE 2026 · LIMITED CAPACITY

Scan the QR to apply online – limited capacity; organisers confirm.

S. V. Suraci simone.suraci@unibo.it · A. Cavallini andrea.cavallini@unibo.it



DEIS YOUNG PROFESSIONALS

Young Professionals.

The IEEE DEIS Young Professionals (YP) programme supports early-career researchers, engineers, and professionals within 15 years of receiving their first professional degree. Its objective is to encourage the active involvement of young members in the Society and to support their professional development through technical, educational, and networking activities.

DEIS-YP ACTIVITIES

- Technical webinars and educational events
- Young Professionals networking at DEIS-sponsored conferences
- Support for summer schools and student initiatives
- Outreach through social media and online platforms
- Volunteering and participation in DEIS committees and working groups

AT ICD 2026

Young Professionals Lunch & Panel Discussion

Tuesday 23 June 2026

Hosted by the 2026 ICD committee with support from IEEE DEIS YP — an opportunity to engage with colleagues from academia and industry and learn more about IEEE DEIS activities. Participants are encouraged to connect with the community and take part in its activities.

CONNECT WITH THE COMMUNITY

deis-yp@ieee.org

LinkedIn · [ieee-deis-young-professionals](https://www.linkedin.com/company/ieee-deis-young-professionals)

Web · ieeedeis.org/members/yp-members



IEEE Dielectrics & Electrical Insulation Society Women in Engineering (WIE) Committee

Mission and Vision :

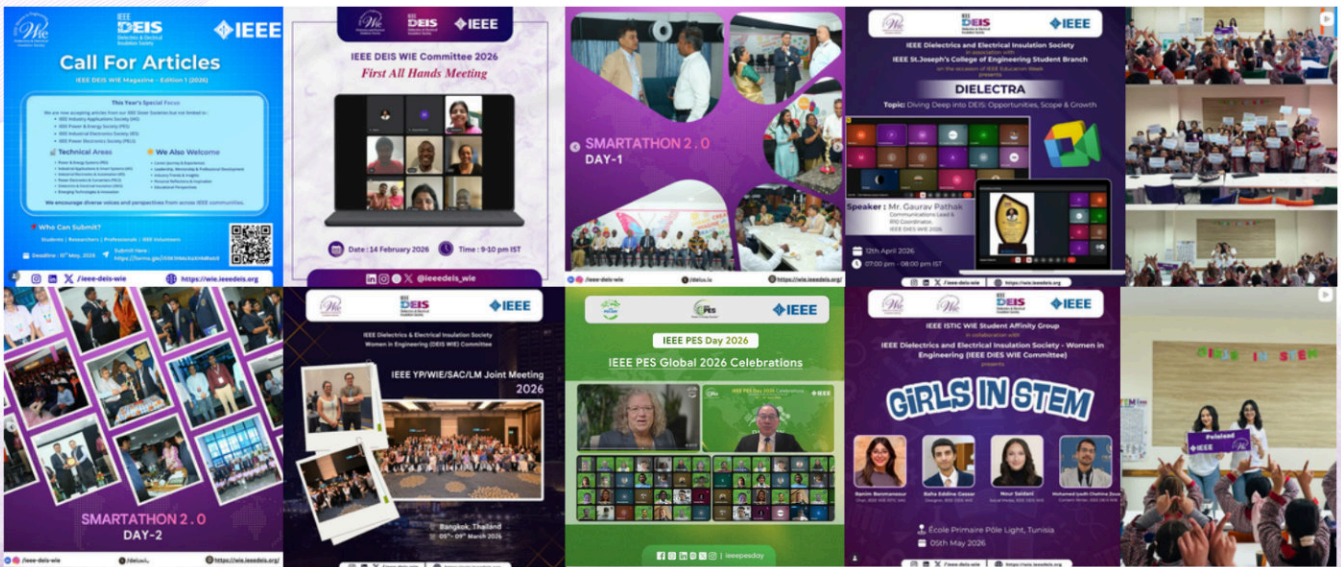
The IEEE DEIS Women in Engineering (WIE) Committee supports the growth and global reach of the IEEE Dielectrics and Electrical Insulation Society (DEIS) by fostering member engagement, leadership development, and community building across diverse regions.

Through outreach programs, mentoring initiatives, networking opportunities, and professional development activities, the Committee promotes awareness of DEIS among students, young professionals, researchers, and industry practitioners, creating pathways for active participation within the Society.

The Committee also supports the establishment and growth of DEIS Student Branch Chapters (SBCs) worldwide. Working closely with IEEE Sections, Student Branches, and volunteers, the Committee has contributed to the formation of five DEIS SBCs and continues to facilitate the expansion of DEIS communities in emerging regions.

By engaging audiences from school students to experienced professionals, the DEIS WIE Committee helps develop future leaders, strengthen local communities, and contribute to the long-term growth and global impact of DEIS.

2026 Activities / Events



LET'S
connect 

linktr.ee/ieee_deis.wie



2026 IEEE DEIS WIE Committee



Chair

Dr. Sneha Satish Hegde



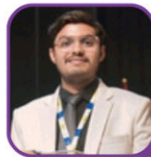
Secretary

Venkata Sai Muralinadh Rompicharla



Jt. Secretary

Rakshita MB



Communications Lead & R10 Rep

Gaurav Pathak



Communications Lead & R10 Rep

Vamsi Krishna Addepalli



R10 Representative

Abinayaa Sri T



Magazine Lead

Chandrika Punnam



Graphics Designer

Haasya Godavarthy



Graphics Designer

Baha Eddine Gassar



Graphics Designer

Syed Shariq Sharief



Content Writer

Mohamed Iyadh Chéhine Zouari



Social Media Manager

Nour Saidani



R10 Representative

Pratyasha Das



R8 Representative

Rushali Thakkar



Content Writer

Udochi Nmesoma Metu



R8 Representative

Tracy Atieno Achieng



R8 Representative

Timothy Asare

Message from IEEE DEIS WIE Chair's Desk

As the IEEE DEIS Women in Engineering (WIE) Chair, I'm thrilled to share my journey with you. My path in engineering has been both challenging and rewarding, filled with opportunities for growth and learning. Volunteering within IEEE and DEIS has allowed me to connect with peers in my domain and understand the importance of gender parity in the energy sector. We need more students and youth to actively participate in DEIS activities and take advantage of the opportunities provided. Joining DEIS WIE has connected me with a supportive community of professionals from different parts of the world and various technical backgrounds. I encourage you to join us to gain valuable insights, expand your network, and contribute to the dynamic landscape of electrical insulation and dielectrics.

If you are looking to be part of the community, please reach out to me at ieeedeiswie@gmail.com.

Thank you.

Sneha Satish Hegde

Chair, IEEE DEIS WIE Committee



WORKSHOP · SUNDAY 21 JUNE 2026

Workshop on Electrified Aircraft.

High-Voltage DC & Dielectrics for Electrified Aircraft

A four-hour workshop exploring the evolving landscape of electrical power systems for future electrified aircraft will be held at the IEEE ICD 2026 in Southampton (UK). The session aim to connect the aerospace, electrical insulation and dielectrics communities within IEEE ICD 2026. This workshop is jointly organised by the IEEE-TEC Committee on Electrified Aircraft and the IEEE ICD 2026 organising committee.

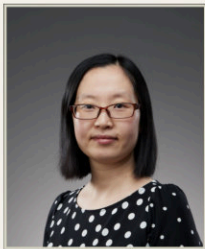
KEYNOTE SPEAKERS



Andrew Benn

Associate Director of Engineering · Collins Aerospace

Andrew Benn is Associate Director of Engineering at Collins Aerospace, leading the development of advanced power electronics and motor drive systems for aerospace applications. A graduate of the University of Southampton, he maintains strong links with the academic community in high-voltage power electronics. His work focuses on high-voltage power conversion and distribution for electrified propulsion, and he has provided technical leadership to Clean Aviation programmes advancing technology blocks for future aircraft architectures.



Xiaoze Pei

Professor of Transport Electrification · University of Bath

Prof Xiaoze Pei is Professor of Transport Electrification and Deputy Academic Director of the IAAPS at the University of Bath. She holds a UK EPSRC Open Fellowship and leads the Applied Superconductivity and Cryogenic Propulsion Laboratory. She received her PhD from the University of Manchester in 2012, joined Bath in 2017, and became Professor in 2023. Her interests include cryogenic and superconducting powertrains and novel electrical machine design.

TOPICS

High-voltage electrical architectures are becoming a key enabler for next-generation aircraft electrification, extending beyond “more electric” secondary systems toward propulsion-relevant power distribution and MW-class hybrid-electric powertrains. In Europe, the Clean Aviation HECATE programme has demonstrated a TRL 5, 800 V electrical architecture, while multiple industry demonstrators are progressing toward kV-scale systems for future aircraft applications. As operating voltages increase, the aerospace industry faces new insulation coordination challenges associated with altitude, partial discharge, thermal stress, and reduced-pressure environments. Existing industrial insulation standards do not fully address the combined environmental and operational conditions encountered in aerospace applications, and approaches across the industry remain fragmented. This workshop will discuss the emerging insulation challenges associated with high-voltage aircraft power systems, including altitude effects on insulation performance, design considerations for electrical equipment and wiring systems, and the need for harmonised insulation design and test standards to support safety assessment and certification of future electrified aircraft.

01 High-Voltage Aircraft Power Systems: Insulation Challenges

Andrew Benn · Collins Aerospace

02 Cryogenic Electric Propulsion for Hydrogen-Powered Electric Aircraft

Xiaoze Pei · University of Bath

WORKSHOP CHAIRS

TECHNICAL CHAIR

Bahareh Zaghari

University of Southampton

bahareh.zaghari@soton.ac.uk

CO-CHAIR

Andrea Cavallini

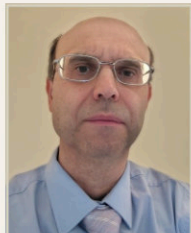
University of Bologna

andrea.cavallini@unibo.it

WORKSHOP · PANEL DISCUSSION

Panel discussion.

PANEL MODERATOR



Igor Golosnoy

Associate Professor · University of Southampton

Igor Golosnoy is an Associate Professor in Modelling and Simulations in Electrical Power Engineering at the University of Southampton. He received an MSc in Applied Mathematics from the Moscow Institute of Physics and Technology in 1992 and completed his PhD at the Institute for Mathematical Modelling in Moscow in 1995, focusing on plasma emission spectroscopy and diagnostics. A senior member of IEEE and IoP, he has over 30 years experience in analysing electric discharge phenomena in gases and liquids, plasma material treatment, heat transfer and gas flow modelling. His research focuses on numerical modelling of physical processes in plasmas with emphasis on breakdown and ionization phenomena.

PANEL MEMBERS



Gilbert Teyssedre

Senior Researcher · CNRS Laplace

Gilbert Teyssedre (Senior Member, IEEE) received the Engineering degree in materials physics and the Graduate degree in solid state physics from Institut National des Sciences Appliquées (INSA), Toulouse, France, in 1989, and the PhD degree from the Solid State Physics Laboratory, Paul Sabatier University, Toulouse, in 1993, for a work on ferroelectric polymers. He entered the Centre National de Recherche Scientifique (CNRS) in 1995 and has been working since then with the Electrical Engineering Laboratory (now Laplace – Laboratory on Plasma and Energy Conversion), a joint research unit between CNRS and the University of Toulouse. His research interests include the development of luminescence techniques in insulating polymers, with a focus on chemical and physical structure, degradation phenomena, space charge and transport properties. He is currently a Senior Researcher with CNRS and was Head of the Solid Dielectrics and Reliability Group, Laplace, from 2004 to 2015. Dr. Teyssedre has been a member of the Scientific Committee of several conference series – CEIDP (since 2016), ICD, ICEMPE and JiCable – and has been an Associate Editor of the IEEE Transactions on Dielectrics and Electrical Insulation since 2021.



Guillermo Robles

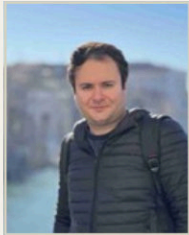
Full Professor · Carlos III, Madrid

Guillermo Robles (Senior Member, IEEE) was born in Madrid, Spain, in 1969. He received the PhD degree in Electronic Engineering from the Universidad Pontificia Comillas (ICAI), Madrid, in 2002. He joined the Department of Electrical Engineering, University Carlos III of Madrid, Spain, where he has been a Full Professor since 2023. He is also with the High-Voltage Research and Tests Laboratory (LINEALT). He has co-authored over 100 papers in international journals and conferences. He holds three patents in instrumentation, measurement and signal processing systems. He has also been the Principal Investigator in several projects with private and public funding. Since 2019, he has been involved, in collaboration with Airbus Defence and Space, in the study, detection and identification of series arcs in aircraft within the framework of the European Project HECATE (GA-101101961) and ARDID, funded by Airbus. Some results have been published in journals on transport electrification and instrumentation. His work focuses on the design and adaptation of high-frequency current sensors and capacitive sensors aimed at arc parameterisation, localisation and identification, to develop feasible arc fault detection devices.

WORKSHOP · PANEL DISCUSSION (CONT.)

Panel discussion.

PANEL MEMBERS

**Hadi Naderiallaf****Senior Research Fellow · University of Nottingham**

Hadi Naderiallaf received the PhD degree in electrical engineering (high-voltage engineering) from the University of Bologna, Italy, in 2021, and the MSc degree in the same field from Leibniz University Hannover, Germany, in 2012. He is currently a Senior Research Fellow with the Power Electronics, Machines and Control (PEMC) Research Institute, University of Nottingham, UK, where his work focuses on the design and reliability of electrical machine insulation systems for aerospace, automotive and marine applications. His research interests include electrical insulating materials, partial discharge detection and modelling under AC/DC/PWM stress, insulation reliability of electrical machines, HV insulation design, multiphysics and space-charge analysis, condition monitoring, and transformer asset management including dissolved gas analysis (DGA), localisation and identification to develop feasible arc fault detection devices.

**Thierry Lebey****Head of Electrical Energy Dept · Safran Tech**

Thierry Lebey received his MSc in Solid State Physics in 1984, in Microelectronics in 1985, his PhD in Electrical Engineering in 1989 and his HDR in 1997. A CNRS Research Scientist for 30 years, his fields of interest concern the characterisation, modelling and ageing of dielectrics and insulating materials used in electrical engineering applications. In 1999 he participated in the creation of the PEARL joint research laboratory (now PRIMES) with Alstom. In 2001 he founded 3DPHI (3D Power Hybrid Integration), bringing together all French Electrical Engineering laboratories. From 2008-2009 he moved to Japan to develop high-temperature power-electronics packaging solutions with Japanese industrial partners. In 2010 he helped define the research programme of the future IRT ST Exupéry, becoming its academic scientific referent for electrical activities. From 2016-2019 he was Director of LAPLACE, the largest French Electrical Engineering Laboratory (~350 people). In 2020 he joined the Electrical Energy Department of Safran Tech as head of a research group on high-voltage engineering; a Safran Fellow since 2023, he set up numerous experimental PD-detection benches across Safran Business Units. Since 2024 he is Head of the Electrical Energy Department, tasked in 2026 with internationalising its R&T activities in the UK. Thierry has supervised 30+ PhDs, authored ~100 journal papers and 200+ conference papers, and holds 28 international patents.



ERIC O. FORSTER LECTURE · MONDAY 22 JUNE

Gilbert Teyssedre

Senior IEEE Member

Laplace · Université de Toulouse and CNRS
Toulouse, France

TALK TITLE

“In pursuit of electrical ageing mechanisms in polymeric insulations: current status and trends for the future.”

BIOGRAPHY

Gilbert Teyssedre (Senior Member, IEEE) earned an engineering degree in materials physics and a master's degree in solid-state physics from the National Institute of Applied Sciences (INSA) in Toulouse in 1989, followed by a PhD from the Solid-State Physics Laboratory at Paul Sabatier University in Toulouse in 1993, for a work on ferroelectric polymers. He joined the French National Centre for Scientific Research (CNRS) in 1995 and has since worked at the Laboratory of Electrical Engineering (now Laplace — Laboratory of Plasmas and Energy Conversion), a joint research unit between the CNRS and the University of Toulouse.

His research interests include the development of luminescence techniques in insulating polymers, with a focus on chemical and physical structure, degradation phenomena, space charge and transport properties. He is currently a senior researcher at CNRS and led the Solid Dielectrics and Reliability Group at Laplace from 2004 to 2015. Dr. Teyssedre has served on the Scientific Committee of several conference series, including CEIDP, ICD, ICEMPE, ISEIM and JiCable; he was Conference Chair of ICD 2024 and has been an Associate Editor of the IEEE Transactions on Dielectrics and Electrical Insulation since 2021.

ABSTRACT

The approach to more efficient energy conversion and transmission systems has led to tougher specifications for insulating materials used in power equipment: higher service temperature, higher service field and demand for long-life materials in service. These evolutions have typically led to service fields of the order of 8 kV/mm under 320 kV HVAC cables to typically 30 kV/mm for 520 kV HVDC cables — a huge gain in transmission capacity per cm of insulation thickness. Thin-film capacitors work with service field beyond 100 kV/mm. In power electronics, combined local high temperature and high electric field, with diverging geometry, are the challenge to go to wide-band-gap semiconductors. All along progress in developing materials and exposing them to new stresses, there has been a salient question: do materials deteriorate under electrical stress, how, and how to anticipate their end?

The mechanism considered is the following: due to ageing factors, the material integrity evolves and its cohesion weakens, leading to embrittlement to a point where it cannot oppose the propagation of treeing. The cause-roots of material evolution then need to be found. While it is relatively straightforward to identify them in hydrolytic or oxidative environments, processes under pure electric stress are more difficult to demonstrate. The lecture reviews current knowledge in this field, particularly as regards the cascade of events that lead to a loss of dielectric strength in insulations.



2026 DAKIN LECTURE · THURSDAY 25 JUNE

Giovanni Mazzanti

IEEE Fellow

Dept. of Electrical, Electronic & Information Engineering (DEI)
University of Bologna, Italy

TALK TITLE

“Recent developments in electro-thermal life modelling of HVDC cables.”

BIOGRAPHY

Giovanni Mazzanti (IEEE Fellow "for contributions to HVDC cable systems", and recipient of the 2026 IEEE DEIS Thomas W. Dakin Distinguished Technical Contributions Award) is professor of High Voltage Engineering & HVDC Technology, Electrical Technologies & Power Quality at the University of Bologna, Italy. His research topics are reliability & diagnostics of HV insulation, power quality, renewables, human exposure to Electro-Magnetic Fields. He is consultant to TERNA, the Italian TSO. He is author or coauthor of 370 published papers (h-index = 40 on Scopus, 41 on ResearchGate) and of the book *Extruded Cables for HVDC Transmission: Advances in Research and Development*, Wiley-IEEE Press, 2013. He is chairman of the IEEE DEIS Technical Committee on "HVDC cable systems" and a member of IEEE PES, IEEE DEIS, the IEEE DEIS TC on "Smart grids", the IEEE PES T&D Committee (HVDC & FACTS Subcommittee), IEC TC 20, Cigré, Cigré JWG B4/B1/C4.73, Cigré WG-B1.91, Cigré SC-B.1, and the European Commission Implementation Working Group on the HVDC SET Plan. He is co-Editor of the IEEE Transactions on Dielectrics and Electrical Insulation.

ABSTRACT

This paper aims at illustrating the recent developments in the field of electro-thermal modelling of the life and reliability of HVDC cables, with focus on the contributions provided by the author. The technical-scientific significance of this work stems from the fact that the models used to estimate the life and reliability of HVDC cables (and cable systems) are fundamental, as they foster power system reliability and resilience.

In the first part of the paper, an introductory theoretical background shows the derivation of the popular phenomenological IPM-Arrhenius life model holding under constant electrical and thermal stress, which is taken as a reference by major international Standards and Recommendations for HVDC cables. The IPM-Arrhenius model is compared with the physical DMM life model. The IPM-Arrhenius model is also cast within an ad hoc probabilistic framework to enable the consideration of volume insulation enlargement effects and the estimation of reliability for a whole HVDC cable system with accessories. The theoretical background is closed by showing how the IPM-Arrhenius model can be used in an algorithm for life and reliability estimation of HVDC cables subjected to transient electric and thermal stresses.

In the second part of the paper, the algorithm for life and reliability estimation of HVDC cables subjected to transient electric and thermal stresses is applied to some practical cases. The first case is relevant to HVDC cables subjected to Type Test load current cycles according to Cigré Technical Brochure 852; here the algorithm based on the traditional macroscopic approach to electrical conductivity and field computation is compared with a recently-developed microscopic approach relying on an ad hoc Bipolar Charge Transport model. Then, the algorithm is employed to estimate the life of HVDC cables subjected to transient voltages, such as long Temporary Over-Voltages (TOV), Superimposed Switching Impulses and Damped Transient Oscillating Voltages arising from switching operations of Direct Current Circuit Breakers. These results are compared with the experimental outcomes of aging tests on polymeric insulation specimens subjected to the combination of DC voltage plus TOVs. A final discussion emphasizes the limits of the presented life models and singles out possible innovative avenues for future research.

CONFERENCE SUPPORT & SPONSORSHIP

Support & sponsors.



Financial sponsor



Host, technical sponsor and workshop co-organiser



Workshop co-organiser

DAY ZERO

SUNDAY

00

21 JUNE 2026

PRE-CONFERENCE

registration · workshop · welcome reception

01

SESSIONS

—

ORAL PAPERS

36

POSTERS

36

PAPERS TOTAL

PROGRAM 14:00 – 20:00 · VARIOUS VENUES

14:00 – 18:00 WORKSHOP
Electrified Aircraft Insulation

18:00 – 20:00 PS-1 · POSTERS
Ageing, Degradation & Failure

TOPICS

ELECTRIFIED AIRCRAFT

HIGH-VOLTAGE DC

DIELECTRICS

AGEING

DEGRADATION

FAILURE

PS-1 · POSTER · SUN 21 JUNE · PAGE 1/4

Ageing, Degradation and Failure; Theories, Methods and Models

18:00 – 20:00 · MAYFLOWER SUITE 3

1-8 OF 36

CHAIRS · Dr. Richard Cselko · Dr. Huajie Yi

- 01 Field-Circuit Coupled Analysis of Turn-to-Turn Voltage Stress and Electric-Field Dynamics in PWM-Fed Motor Windings ★**
Libo Rao, Jiandong Wu, Yi Yin, Qiaohua Wang
Shanghai Jiao Tong University, China
- 02 Effect of Temperature on Surface Tracking on Silicone Rubber Immersed in Silicone Oil ★**
Arif Adam Bin Mohd Nor, Qiang Liu
The University Of Manchester, United Kingdom
- 03 Winding Voltage Distribution Modelling in a Low Voltage HTS Synchronous Motor for Aircraft Propulsion ★**
Srinivas Lakshmi Narayana Gudi, Kaveh Niayesh, Pål Stabel Keim
Norwegian Institute of Science and Technology (NTNU), Trondheim, Norway
- 04 High-Frequency Characterization of Series Arcs in Aircraft Systems for Fault Detection**
Gema Salinero Pichel¹, Guillermo Robles Muñoz¹, Juan Manuel Martínez-Tarifa¹, Gabriel Barroso de María², Daniel Izquierdo Gil², Javier Escrihueta Hinojosa²
(1) University Carlos III of Madrid, Spain · (2) Airbus Defense and Space
- 05 Electro-Mechanical-Thermal Aging and Performance Evolution of Dynamic Cable Insulation Materials**
Yongbin Liu², Xin Yu¹, Di Zhang², Xiangyang Peng¹, Jian Gao¹, Ruisong Zhang¹
(2) Xi'an Jiaotong University Research and Education Development Institute, Xi'an, China · (1) Guangdong Provincial Key Laboratory of Electric Power Equipment Reliability, Electric Power Research Institute of Guangdong Power Grid Co., Ltd., Guangzhou, China
- 06 Analysis of Induced Voltages and Electric Fields in Fibre Optic Cables at Crossings with HVAC Cables**
Joanna Rzepotuch, Kevin Goddard, George Callender, Paul Lewin
Tony Davies High Voltage Laboratory, University of Southampton, United Kingdom
- 07 Interface Tracking Characteristics Between Epoxy Resin Modified by ZrW2O8 and Silicone Rubber at Low Interface Pressure**
Xiaoxiao Kong¹, Jiening Yi¹, Sijia Liu², Qi Li³, Hangyu Mi², Chenlei Han³, Yifang Wang¹, Boxue Du¹
(1) State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin 300072, China · (2) State Grid Tianjin Electric Power Company, Tianjin 300010, China · (3) China Electric Power Research Institute, Beijing 100192, China
- 08 An Analysis of the Applicability of Furan Measurements to Determine Paper State of Health in Ester oil/Paper Insulation Systems**
Ian Hosier¹, Paul L Lewin¹, Thomas Andritsch¹, Edward H Jackman², Nikita S Rank², Gordon Wilson³, Ruth Hooton³
(1) Electrical Power Engineering Group, University of Southampton, UK · (2) School of Chemistry, University of Southampton, UK · (3) Asset Operations, Electrical Transmission, National Grid, UK

- 09 Development of Reduced Order Models to Simulate Partial Discharges with Plasma Physics**
 Andrea Barbareschi Villa¹, Beatrice Crippa¹, Anna Scotti², Giacomo Buccella¹, Damiano Fasani¹, Simone Venturini², Luca Barbieri¹, Daniele Palladini², Giovanni D'Avanzo², Roger Schurch³
 (1) RSE, Milan, Italy · (2) Mathematics Department, Politecnico di Milano, Milan, Italy · (3) Universidad Tecnica Federico Santa Maria, Valparaiso, Chile
- 10 Microscopic Mechanism Analysis of the Gas Absorption and Flow Properties of Ester Impregnating Agents ★**
 Hexingyu Zhao¹, Jian Hao¹, Detao Lu¹, Jingwen Zhang¹, Han Zhou¹, Haoyong Song², Tingyan Wang²
 (1) State Key Laboratory of Power Transmission Equipment Technology, School of Electrical Engineering, Chongqing University, Chongqing 400044, China · (2) CSG Guangdong Guangzhou Power Supply Bureau, Guangzhou 510000, China
- 11 Influence of Creepage Distance on Leakage Current and Surface Degradation in Multiple Channel Test PCBs Under DC, Thermal and Humidity Stresses**
 Muhammad Farasat Abbas^{2,3}, Caterina Natali¹, Michael A. E. Andersen², Kapil Kumar Gupta¹, Rajan Ambat¹
 (2) Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs Lyngby 2800, Denmark · (3) National University of Sciences and Technology (NUST), Sector H-12, Islamabad 44000, Pakistan · (1) Center for Electronics Corrosion (CELCORR), Technical University of Denmark, Kgs Lyngby 2800, Denmark
- 12 Thickness-Dependent Radiation Response of PTFE Films under Gamma Irradiation: Structural and Mechanical Analysis**
 Virginie Griseri², Sarah Mouaci¹, Selma Benaouda¹, Amira Toumi¹, Nadia Saidi-Amroun¹, Mohamed Saidi¹
 (2) Laplace, University of Toulouse and CNRS, France. · (1) LPM, University of Sciences and Technology Houari Boumediène (USTHB), Algeria
- 13 Interface Pressure of 525 kV DC Prefabricated Combined Cable Terminations: Numerical Simulation and Factor Assessment**
 Jiaxiang He, Xiaomei Liu, Zhaogui Liu, Yanglin Zou, Ying Liu
 School of Electrical Engineering, Xi'an Jiaotong University, Xi'an 710049, China
- 14 Additively Manufactured Polymeric Molds for HV Silicone Component Fabrication ★**
 Simon Butler, Yasmine Osmani, Darren Hodgeman, Ian Kinloch, Lujia Chen
 University of Manchester, United Kingdom
- 15 The Influence of Antioxidants on the Thermo-Oxidative Aging Characteristics of XLPE**
 Fei Li, Haijing Zhao, Rui Sui, Lin He, Yi Zhang, Yongbin Liu, Jinghui Gao, Lisheng Zhong
 State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, China
- 16 Effects Of BN Doping On Residual Stress And Breakdown Characteristics Of EP/Al2O3 Tri-post Insulators**
 Hucheng Liang, Dawei Chang, Zhijun Guo
 Tianjin University,, China, People's Republic of
- 17 A Newly Identified Degradation Mechanism in Metallized Film Capacitors: Electrode Fracture Between Self-Healing Points ★**
 Liangtian Zhang, Yufei Li, Du Boxue, Meng Xiao
 Tianjin University, China, People's Republic of
- 18 Numerical Investigation of Semiconducting Layer Protrusions on Electric Field Enhancement in HVDC Cable**
 G Chen
 Xi'an Jiaotong University
- 19 Partial Discharges From Free Metallic Particles In HVDC GIS With Pressurized Air**
 Fanny Skirbekk¹, Hans Kristian Meyer¹, Frank Mauseth², Karsten Juhre³, Atle Pedersen¹
 (1) SINTEF Energy Research, Norway · (2) Norwegian University of Science and Technology · (3) Siemens Energy

- 20 Effect of Benzotriazole Concentration on Kraft Paper Insulation Degradation in Sulfur-Contaminated Mineral Oil ★**
 Mohd Shahril Ahmad Khair¹, Nur Izyan Husnina Zulkefli¹, Imran Sutan Chairul¹, Sharin Ab Ghani¹, Shaily Hatun Mohamad Saleh²
 (1) Electrical Asset Condition Monitoring Research Group, Faculty of Electrical Technology and Engineering, Universiti Teknikal Malaysia Melaka (UTeM), Hang Tuah Jaya, 76100 Durian Tunggal, Melaka, Malaysia · (2) TNB Labs Sdn Bhd No. 1, Lorong Ayer Hitam Kawasan Institusi Penyelidikan 43000 Kajang, Selangor, Malaysia
- 21 Application of MobileNet V1 Recognition Model in PD Detection Devices ★**
 Dabiao Nie¹, Chunlin Hao², Tao Han¹, Yong Fang³, Jianda Li¹, Zeping Zheng¹
 (1) School of Electrical and Information Engineering, Tianjin University, Tianjin 300072, China · (2) Jibei Electric Power Co., Ltd, Engineering Management Branch, State Grid, Beijing 100070, China · (3) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin 300072, China
- 22 Lifetime of Type-II Turn Insulation under Pulsed Voltage Stress: Influence of Slew Rate, Frequency and Specimen Design**
 Johanna Pietzonka, Jakob Adolphi, Thomas Linde, Maria Kosse
 TUD Dresden University of Technology, Germany
- 23 Effect of Pressure Evolution on Interface PD and Breakdown Characteristics of Multi-layer Interfaces in GIS Terminal under Low Temperature**
 Zhaorui Luo¹, Zhonglei Li¹, Zhiyu Chen¹, Pengxian Song², Sijia Liu², Xue Li², Fei Hu³, Boxue Du¹
 (1) Tianjin University, Tianjin, People's Republic of China · (2) Electric Power Research Institute of State Grid Tianjin Electric Power Co., Ltd., Tianjin, People's Republic of China · (3) ChangYuan Electric Power Technology Co., Ltd., Guangdong, People's Republic of China
- 24 Research On Water Tree Targeted Repair Of Medium Voltage Cable Insulation Based On Dielectrophoresis Force**
 Yuhao Lan, Kai Zhou, Xinyu Tang, Junhao Chen, Lizhi Zhang
 College of Electrical Engineering, Sichuan University, Chengdu 610065, Sichuan Province, China
- 25 DFT-Guided Quantitative Structure-Property Relationship of Lightning Impulse Insulation Performance in Ester Insulating Liquids**
 Jingwen Zhang, Jian Hao, Han Zhou, Detao Lu, Xiaseng Sun
 State Key Laboratory of Power Transmission Equipment Technology, School of Electrical Engineering, Chongqing University, Chongqing 400044, China
- 26 Characterization of Relative Permittivity and Partial Discharge Inception Voltage of Kapton® and Nomex® in Stator Insulation Configuration ★**
 Francesca Righetto, Ondrej Sefl, Christian M. Franck
 Institute for Power Systems and High Voltage Technology, ETH Zürich, Zürich, Switzerland
- 27 Polypropylene, Cyclic olefin copolymer, Compatibilizer, Breakdown strength, Energy storage**
 Zening Lu, Liangtian Zhan, Zhaochen Wang, Haoliang Liu, Boxue Du, Meng Xiao
 Tianjin University, China, People's Republic of china
- 28 Temporal Variation of High Frequency Components in Partial Discharge Signals Detected by a TEV Sensor ★**
 Swe Zin Linn Htet, Nagata Souta, Takuma Miyake, May Thin Khaing, Tatsuya Sakoda, Toru Takayama, Daisuke Mikami
 University of Miyazaki, Japan
- 29 Diagnosis of Deterioration Characteristic of Silicone Rubber without Aluminum Hydroxide ★**
 Nonoka Hirose¹, May Thin Khaing¹, Tatsuya Sakoda¹, Shigehiko Goto², Tomikazu Anjiki², Tomoki Chiba²
 (1) University of Miyazaki, Japan · (2) Toshiba Energy Systems & Solutions Corporation, Japan
- 30 Design Considerations for Controlled UV Irradiation on Silicone Rubber ★**
 Ramanuj Deb, Alok Ranjan Verma
 Indian Institute of Technology (IIT) Kanpur, India

- 31 New Lifetime Modeling Of Enameled Wires Used In Low Voltage Inverter-Fed Motors Under Multiple Factors ★**
Kim-Long Tran, David Malec, Pascal Maussion
Laplace, Université of Toulouse, Toulouse INP, CNRS, France
- 32 Effect of Ageing on Electrical Properties of Glass Fiber Reinforced Polyamide 6,6 ★**
Rodolphe Trad^{1,2,3}, Laurent Boudou¹, Gilbert Teysse¹, Bruno Fayolle², Guillaume Miquelard-Garnier², Laurent Gervat³
(1) Laplace Laboratory, Université de Toulouse, CNRS, INPT, Toulouse, France · (2) PIMM Laboratory, Arts et Metiers Sciences and Technologies, CNRS, Cnam, Paris, France · (3) Renault Technocentre, DEA-TC, Guyancourt, France
- 33 Residual Stress Simulation in Epoxy Bushings for 110kV Cable Joints**
Shijie Du¹, Yihan Sun¹, Jin Li¹, Songtao Liu¹, Jiasheng Huang², Guang Chen³, Boxue Du¹
(1) School of Electrical and Information Engineering, Tianjin University, Tianjin, China · (2) High Voltage Company, State Grid Guangzhou Electric Power Company, Guangdong, China · (3) Wuxi Degang Precision Electromechanical Equipment Company Limited, Jiangsu, China
- 34 Experimental Breakdown Strength Study on Al₂O₃ Obtained by Spark Plasma Sintering and Additive Manufacturing**
Veronika Gavrilenko¹, Abdellatif K. Rashed¹, Paul-Etienne Vidal^{1,2}, Thomas Kohler¹, Romain Raison¹, Sophie Guillemet-Fritsch³
(1) Université de Pau et des Pays de l'Adour, E2S UPPA, SIAME, Pau, France · (2) University of Technology of Tarbes, Toulouse University, LGP, Tarbes, France · (3) CIRIMAT, Toulouse University, Toulouse INP, CNRS, France
- 35 Simulation of the Formation of Electric Double Layers at Cu/PE Interfaces and its Impact on Charge Transfer Phenomena**
Yang Wang¹, Yuanyang Ren², Jiabao Du¹, Yan Du¹, Bo Zhang¹, Kai Wu³
(1) School of Electronics and Information, Xi'an Polytechnic University, Xi'an 710048, China. · (2) Electric Power Research Institute of Yunnan Power Grid Company Ltd., China Southern Power Grid, Kunming 650217, China · (3) State Key Lab. of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an 710049, China
- 36 The Effect Of Adhesion On The Formation Of Micro-cracks In A High Voltage Cable Screen Induced By Aluminum Corrosion**
Cedric Lesaint¹, Knul Liland¹, Emre Kantar¹, Sverre Hvidsten¹, Øystein Hestad²
(1) SINTEF Energi AS · (2) NTNU: Norwegian University of Science and Technology

DAY ONE

MONDAY

01

22 JUNE 2026

OPENING DAY

of the conference

04

SESSIONS

12

ORAL PAPERS

84

POSTERS

96

PAPERS TOTAL

PROGRAM 10:30 – 17:30 · MAYFLOWER SUITE

09:00 – 10:00 KEYNOTE LECTURE
E.O. Forster Lecture — Gilbert Teyssère

10:30 – 11:30 OS-1A · ORAL
Space Charge & Charge Transport

11:30 – 12:30 PS-2 · POSTERS
Conduction, Polarization & Diagnostics

13:30 – 14:30 OS-1B · ORAL
Space Charge & Charge Transport

14:30 – 15:30 PS-3 · POSTERS
Conduction, Polarization & Diagnostics

15:30 – 17:30 OS-2 · ORAL
Conduction, Polarization & Related Phenomena

TOPICS

SPACE CHARGE

CHARGE TRANSPORT

POLARIZATION

CONDUCTION

DIAGNOSTICS

OS-1 · ORAL · MON 22 JUNE

Space Charge & Charge Transport

MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Dr. Norikazu Fuse · Dr. Thomas Andritsch

PART A · 10:30 — 11:30

01 Feasibility of an MVAC TR-XLPE Cable System for MVDC Operation ★

★ BEST-PRESENTATION CANDIDATE

Nalindi Pabasara Herath Herath Mudiyanse¹, Andrew Laphorn¹, Patrik Ratheiser², Uwe Schichler²

(1) University of Canterbury, New Zealand · (2) Graz University of Technology

02 Influence of Different Contact Pressures on the Space Charge Measurement with LIPP-Method ★

Henry Hirte¹, Sebastian Braun², Stefan Kornhuber¹, Peter Werle²

(1) University of Applied Sciences Zittau / Goerlitz, Germany · (2) Leibniz University Hannover, Germany

03 Bipolar Charge Transport Models for Electrical Conductivity in Polyolefins – Requirements on asymmetric charge carrier properties

Mikael Unge, Mohsen Modarresi, Amir Masoud Pourrahi, Thomas Christen

NKT HV Cables AB, Technology Consulting, Sweden

PART B · 13:30 — 14:30

04 Discharge Behavior at Triple Junctions under Lightning Impulse Stress

★ BEST-PRESENTATION CANDIDATE

Ingrid Gunheim Folkestad¹, Fredrik Nesse¹, Hans Kristian Hygen Meyer², Frank Mauseth¹

(1) Norwegian University of Science and Technology (NTNU), Norway · (2) SINTEF Energy Research, Trondheim, Norway

05 Improvement of the Acoustic Coupler for the Pulsed Electroacoustic Space Charge Measurement Applied on Power Cables

Naohiro Hozumi¹, Shafira Zhara¹, Shosuke Morita², Tomohiro Kawashima¹, Yoshinobu Murakami¹

(1) Toyohashi University of Technology, Japan · (2) Central Research Institute of Electric Power Industry

06 A Novel Pulsed Electro-Acoustic System for Measuring Space Charge in Ceramics ★

Xinyi Ma, Sebastian Stark, Holger Neubert

Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany

PS-2 · POSTER · MON 22 JUNE · PAGE 1/4

Conduction, Polarization, Space Charge & Related Phenomena; Diagnostics and Experiments

11:30 – 12:30 · MAYFLOWER SUITE 3

1-10 OF 42

CHAIRS · Dr. Severine Le Roy · Dr. Zhiqiang Xu

- 01 Influence of Moisture on Space Charge Characteristics in Water-Tree-Resistant XLPE**
Yi fan Cao, Jian dong Wu, Yi Yin, Qiao hua Wang
Shanghai Jiao Tong University, China, People's Republic of
- 02 Effect of Cyclic Stress on Electrical Tree Characteristic in Epoxy Resin**
Wenjin Zhang¹, Mi Xiao¹, Zehua Wang², Hucheng Liang¹, Boxue Du¹
(1) Tianjin University, China · (2) State Grid Tianjin Power Chengnan Power supply Branch, China
- 03 Electrical Conductivity of the Oil Paper Interface Layer**
Hao Xu¹, Lu Gao^{1,2}, Mengyue Su¹, Yi Ge¹, Zepeng Lv¹, Kai Wu¹
(1) Xi'an Jiaotong University, China · (2) State Grid Sichuan Electric Power Company Economic Research Institute, China
- 04 Broadband Impedance Spectrum Measurement of Cables Based on Pulse Waveform Adjustment**
Chaoran Li, Bo Zhang
Tsinghua University, China, People's Republic of
- 05 Electric Field Measurement in Gas-Solid Insulation System under Lightning Impulse**
Ayyoub Zouaghi¹, Luan Caizergues^{1,2}, Gwenaël Gaborit^{3,4}, Caterina Toigo², Lionel Duvillaret⁴
(1) Ecole Centrale de Lyon, INSA Lyon, France · (2) SuperGrid Institute · (3) CROMA laboratory, Université Savoie-Mont-Blanc · (4) Kapteos SAS
- 06 Study on the Effect of Semiconductive Shielding Material on Space Charge Distribution in XLPE ★**
Jiabao Cui, Jiandong Wu, Yi Yin, Qiaohua Wang
Shanghai Jiao Tong University, China
- 07 Effect of Layer Thickness on the Dielectric Properties of 3D Printed Polypropylene Composite Materials**
Ian Hosier, Dimitris Axiotis, Orestis Vryonis, Thomas Andritsch
University of Southampton, United Kingdom
- 08 The Mechanism of Electrical Property Improvement in Polypropylene Insulation by Solid phase grafting ★**
Haosen Du, Zhonglei Li, Yifan Yin, Boxue Du
Tianjin University, China
- 09 Effect of Temperature and Field on the Conduction Mechanisms in Radial Layers of HVDC Cable Insulation**
Salman Khan¹, Øystein L. G Hestad¹, Riccardo Facchini¹, Espen Doedens², Markus Jarvid², Johan Andersson³, Ramona Huuva³, Frank Mauseth¹
(1) Norwegian University of Science and Technology · (2) Nexans Norway · (3) Borealis AB, Sweden
- 10 Test Setup and Methodology for Characterization of Water Trees in Insulation of Extruded MV Cables**
Moon Moon Bordeori, Yuriy Serdyuk, Thomas Hammarström
Chalmers University of Technology, Sweden

- 11 Low Frequency Resistance Measurement On HVDC Aeronautical Components For Space Charge Characterization**
Jean Rivenc^{1,2}, Cécilien Thomas², Emilie Fond³, Yann Rossignol⁴, Romain Doumerg¹, Léa Pommier¹, Samuel Pin², Frédéric Forget^{1,2}, Florent Buttin³, Bastien Neveux¹
(1) Airbus SAS · (2) IRT Saint Exupéry · (3) Radiall, Voreppe · (4) Radiall, Château-Renault
- 12 Research on a Broadband Dielectric Parameter Measurement Method for Power Cable Based on the Resonant Frequency and Attenuation Constant**
Xiaoyu Yang¹, Danin Zhang¹, Guoqiang Su², Hejin Liu², Guanjun Zhang¹
(1) Xi'an Jiaotong University, China · (2) Electric Power Research Institute of State Grid Shandong Electric Power Company
- 13 Diagnostics of Composite Insulators with Dielectric Spectroscopy**
Daniel Balogh, Richard Cselko
Budapest University of Technology and Economics, Hungary
- 14 Partial Discharge Detection Under Square and Impulse Waveforms Using Jack-SMA sensor**
Mourad Jebli, Samuel Pin, Andy Varais, Michaël Darques
IRT, France
- 15 Analysis of Degraded Features on Silicone Rubber due to Environmental Factors**
May Thin Khaing¹, Nonoka Hirose¹, Tatsuya Sakoda¹, Yoshiki Nakayama², Kota Niwa²
(1) University of Miyazaki, Japan · (2) Kansai Transmission and Distribution, Inc., Osaka, Japan
- 16 Design of a High-Voltage, High-Frequency Solid-State Switch Using Series-Connected SiC MOSFETs and a GaN HEMT-Based Transformer-Coupled Gate Driver for Dielectric Insulation Testing of a Renewables-Rich Future Energy Grid ★**
Sohrab Ghafoor¹, Reza Mirzadarani¹, Peter Vaessen^{1,2}, Mohamad Ghaffarian Niasar¹
(1) Delft University of Technology, TU Delft · (2) KEMA Laboratories, 6812 Arnhem, The Netherlands
- 17 Comparative Analysis of Optical and Electrical Partial Discharge Detection in Alternative Gases**
Fabio Munoz¹, Dennis van der Born¹, Shahzaib Saleem¹, Maximilian Vogl², Elias Speinle², Maximilian Millisterfer²
(1) TU Delft, Netherlands, The · (2) Vogl electronic GmbH, Germany
- 18 Electrical and Chemical Characterization of PVC Insulation Aged under Radiation and Radiation-Thermal Stress ★**
Jizhu Jin, Simone Vincenzo Suraci, Davide Fabiani
University of Bologna, Italy
- 19 Investigation of Acoustic Signal Distortion in FR-4 Laminate Structures for PEA Calibration ★**
Xuliang Yu¹, Peter Vaessen^{1,2}, Mohamad Ghaffarian Niasar¹
(1) Delft University of Technology, Netherlands · (2) KEMA Laboratories
- 20 Space Charge Dynamics and Electric Field Characteristics in a 320 kV Prefabricated Cable Joint Under Different Load Levels**
Xiaomei Liu, Jiaxiang He, Zhaogui Liu, Ying Liu
School of Electrical Engineering, Xi'an Jiaotong university
- 21 DC Electrical Tree Growth Behavior in Epoxy Resin under Mechanical Stress**
Wenjin Zhang¹, Mi Xiao¹, Zehua Wang², Hucheng Liang¹, Jianan Dong¹
(1) Tianjin University, China, People's Republic of · (2) State Grid Tianjin Power Chengnan Power supply Branch, Tianjin 300202, China
- 22 Numerical Simulation on Partial Discharge in Void Embedded in Polypropylene under Various Temperatures**
Yu Gao, Zhilong Yu, Rongqi Pei, Pinhao Huang, Di Lu, Qifeng Shang
School of Electrical and Information Engineering, Tianjin University, China

- 23 Defect Detection and Analysis of Multilayer Heterogeneous Structure in Dry-Type Bushings Based on Ultrasonic Phased Array Total Focusing Method**
Hou Yu, Hao Yang, Yuanshuai He, Yangzhen Zhao, Yixuan Liu
School of Electronic Information, Xi 'an Polytechnic University
- 24 Energy Storage in Epoxy Composites Filled with Modified Carbon Nanotubes**
Abdullah bin Afzal, Nandini Gupta
Indian Institute of Technology Kanpur, India
- 25 A Physics-Informed CNN Surrogate Model for Internal Electric Field Analysis on Outdoor Insulators Containing Voids**
Aishan Zou¹, Qi Li², Wei Meng², Yu Shi¹, Konstantinos Kopsidas², Vladimir Terzija³, Xingliang Jiang¹
(1) Chongqing University, China, People's Republic of · (4) Chongqing College of Finance and Economics · (2) University of Manchester · (3) Newcastle University
- 26 Impact of Moisture on Conduction and Ageing in Extruded HVDC Cable Insulation under Electro-Thermal Stresses ★**
Nafees Ahmad¹, Salman Khan¹, Torbjørn Andersen Ve², Frank Mauseth¹, Øystein Leif Gurandsrud Hestad¹
(1) Norwegian University of Science and Technology (NTNU) · (2) SINTEF Energi AS
- 27 Optimization of Coating Region for Surface Charge Suppression on Al₂O₃-Epoxy Insulator in DC-GIS**
Pinhao Huang, Yu Gao, Di Lu, Junjie Chen, Rongqi Pei, Boxue Du
School of Electrical and Information Engineering, Tianjin University
- 28 Comparison of Conductivity of Gamma-irradiated and Mechanically Stressed EPR Insulated Nuclear Cable**
Jizhu Jin¹, Zoltán Ádám Tamus², Simone Vincenzo Suraci¹, Davide Fabiani¹
(1) University of Bologna, Italy · (2) Budapest University of Technology and Economics, Hungary
- 29 Enhanced Surface Charge Dissipation in CuPc/Epoxy under Discharge-Induced Luminescence**
Hanjiang GU^{1,2}, Fan Lu^{2,3}, Meng Chen^{1,2}, Yifan Cao^{1,2}, Yalin Wang^{1,2}, Yi Yin^{1,2}
(1) Department of Electrical Engineering Shanghai Jiao Tong University · (2) State Key Laboratory of High Efficiency Special Cable Technology Shanghai, China · (3) the Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA
- 30 Numerical Simulation on Electric Field Distribution at Epoxy/SF₆ Interface under DC Superimposed Multi-harmonic Voltages with Various Temperatures**
Pinhao Huang, Rongqi Pei, Yu Gao, Di Lu, Zhilong Yu, Qifeng Shang
School of Electrical and Information Engineering, Tianjin University, China, People's Republic of
- 31 Effect of Plasticizers and Fillers on PVC Insulation for LV Cables Used in Radiative Environments**
Simone Vincenzo Suraci, Lorenzo Villani, Davide Fabiani
LIMES (Laboratory of Innovative Materials for Electrical Systems) - DEI University of Bologna, Bologna, Italy., Italy
- 32 Energy Absorption Properties of Silicoaluminate /Titanium Dioxide Composite Based on Electrically Induced Phase Transition**
Fang Wang, Mingfang Zou, Siyang Chen, Yuanwei Zhu, Shengtao Li
Xi'an Jiaotong University, Xi'an 710049, China
- 33 Diagnosis Method for Cable Shield Break Defects Based on Combined Phase-to-Ground and Phase-to-Phase Frequency Domain Reflectometry ★**
Jianda Li¹, Tao Han¹, Junqi Zhang², Zeping Zheng¹, Yong Fang³, Dabiao Nie¹
(1) School of Electrical and Information Engineering, Tianjin University, Tianjin 300072, China · (2) Zhejiang University - University of Illinois at Urbana-Champaign Institute Zhejiang University, Zhejiang 314400, China · (3) The International Joint Institute of Tianjin University, Fuzhou Tianjin University, Tianjin 300072, China

- 34 Time–Frequency Feature–Driven GLSTM for Aging Defect Recognition in High-Speed Train Cables** ★
Yong Liu¹, Hankun Wei¹, Heng Lin², Xvkai Duan¹, Yuchen Li¹, XiaoYan Ji¹
(1) School of Electrical and Information Engineering, Tianjin University · (2) Huludao Power Supply Company of State Grid Liaoning Electric Power Company
- 35 A Comparative Study on The Processing And Thermal Properties of Commercial Silicone Rubber Insulation Materials For High Voltage Cable Accessories**
Yunpeng Zhan², Runge Lu¹, Bangwen Yan², Wenbo Zhu², Siyuan Li¹, Tao Xu¹, Baojun Hui², Zhuozhan Han¹, Jiasheng Huang¹
(2) China Southern Power Grid Electric Power Research Institute, China, People's Republic of · (1) Guangzhou Power Supply Bureau of Guangdong Power Grid Co., Ltd., China, People's Republic of
- 36 Fusion Diagnosis and Field Dissection Verification of Buffer Layer Ablation Defects in High-Voltage Cables Based on Characteristic Gases and VOCs**
Lizhi Zhang, Kai Zhou, Xinyu Tang, Junhao Chen, Yuhao Lan
Sichuan University, China, People's Republic of
- 37 Charging Time as an Important Factor for the Identification of Parameters for a Bipolar Charge Transport Model**
Severine Le Roy, Assane Ndour, Gilbert Teyssedre
Laplace, France
- 38 Behavior of High-Voltage Insulators under Non-Uniform Pollution: Flashover and Leakage Current Analysis** ★
Djamal Maadjoudj¹, Youcef Benmahamed¹, Omar Kherif², Hayder K Jahanger³, Madjid Tegaur¹
(1) National Polytechnic School of Algiers, Algeria · (2) Earthing and Lightning Protection Unit RINA Tech UK limited · (3) Department of Electronic and Electric Engineering, Swansea University, Swansea, UK
- 39 Mechanical and Electrical Performance of Polypropylene-based Semiconducting Layer Featuring Polyolefin Elastomers**
Zhiqiang Xu², Haitian Wang¹, Mingyu Zhou¹, Xiwen Wu², Orestis Vryonis², Paul Lewin²
(2) Tony Davies High Voltage Lab, School of Electronics and Computer Science, University of Southampton, Southampton, UK · (1) Global Energy Interconnection Research Institute Europe, Berlin, Germany
- 40 Preliminary Evaluation of the Challenge Set to HVDC Extruded Cables by Switching Overvoltages due to the Operation of Direct Current Circuit Breakers**
Giovanni Mazzanti¹, Bassel Diban¹, Rolando Ezequiel Diaz¹, Stefano Lauria², Renato Sgriscia²
(1) Università di Bologna, Italy · (2) Sapienza Università di Roma
- 41 Loss-of-life Fraction Estimation for HvdC Extruded Cables in the Presence of Long Temporary Overvoltages Recorded in the Field**
Giovanni Mazzanti¹, Bassel Diban¹, Rolando Ezequiel Diaz¹, Benedetto Aluisio², Matteo Vedovato²
(1) Università di Bologna, Italy · (2) Terna, Italy
- 42 Accelerated Life Test Fitting of Bi-Layer Insulations for HVDC Cable Accessories**
Giovanni Mazzanti¹, Bassel Diban¹, Rolando Ezequiel Diaz¹, Paolo Seri¹, Ilkka Rytoluoto², Kari Lahti³, Minna Niittymäki³
(1) Università di Bologna, Italy · (2) VTT Technical Research Centre of Finland, Tampere, Finland · (3) Tampere University, Tampere, Finland

OS-2 · ORAL · MON 22 JUNE

Conduction, Polarization & Related Phenomena

15:30 – 17:30 · MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Dr. Nikola Chalashkanov · Dr. Minna Niittymäki

01 Sparse and Regularized Deconvolutions for Estimating Charge Distribution in Dielectric Materials via PEA

★ BEST-PRESENTATION CANDIDATE

Naomi Albuquerque^{1,2}, Fulbert Baudoin², Laurent Berquez², Florian Bugarin³, Reda Chhaibi⁴, Agnes Lagnoux¹, Severine Leroy², Clement Pellegrini³, Stephane Segonds³

(1) IMT (Institut de Mathématiques de Toulouse) · (2) LAPLACE (Laboratoire Plasma et Conversion d'Énergie), France · (3) ICA (Institut Clément Ader) · (4) LJAD (Laboratoire Jean-Alexandre Dieudonné)

02 Impact Of Electrode/Dielectric Interface Properties On Charge Generation And Transport: From Experiment To Modelling ★

★ BEST-PRESENTATION CANDIDATE

Séverine Le Roy, Antonella Hugo, Christina Villeneuve-Faure

Université de Toulouse, Toulouse INP, CNRS, LAPLACE, Toulouse, France

03 Dielectric Relaxation of Cable Insulating Material at Extra-low Frequency for Cross-Linking Byproducts Evaluation ★

Xinsheng Lu^{1,2}, Wei Yang², Jinghui Gao^{1,2}, Yang Lyu², Li Yin², Lisheng Zhong^{1,2}

(1) Xi'an Jiaotong University, China · (2) Beijing Huairou Laboratory, China

04 Effect of Plasma-induced Dopamine Grafting on Polypropylene Insulating Interface Charge and Breakdown for HVDC Submarine Cable Joint

Zhaorui Luo, Zhonglei Li, Zhong Zheng, Guozheng Cao, Boxue Du

Tianjin University, China, People's Republic of China

05 Nonlinear Conductivity in Carbon Black and Silicone Rubber Composites Below the Percolation Threshold ★

Dante Polvani, Kai Chio Chan, Vlad Jarkov, Darren Hodgeman, Harry McDonald, Ian Kinloch, Lujia Chen

University of Manchester, United Kingdom

06 Influence of Mechanical Fatigue on Dielectric Properties of Glass Fiber Reinforced Composite

Xiaoxiao Kong¹, Xu Wang¹, Chengyao Hou^{1,2}, Qi Sun¹, Yifang Wang¹, Yun Chen¹, Boxue Du¹

(1) State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin 300072, China · (2) Electric Power Research Institute of State Grid Shanxi Electric Power Co., LTD, Taiyuan 030021, China

DAY TWO

TUESDAY

02

— 23 JUNE 2026

CORE PROGRAMME

degradation & ageing focus

05

SESSIONS

18

ORAL PAPERS

85

POSTERS

103

PAPERS TOTAL

PROGRAM 08:00 – 17:30 · MAYFLOWER SUITE**08:00 – 10:00** OS-3 · ORAL · SPECIAL
Eco-Friendly · Transport · Bioelectronics**10:30 – 11:30** OS-4A · ORAL
Degradation Mechanisms & Failure**11:30 – 12:30** PS-4 · POSTERS · YRA
Young Researcher Session**13:30 – 14:30** OS-4B · ORAL
Degradation Mechanisms & Failure**14:30 – 15:30** PS-5 · POSTERS
Ageing, Degradation & Failure**15:30 – 17:30** OS-5 · ORAL
Ageing Processes & Material Evolution

TOPICS

ECO-FRIENDLY

TRANSPORT

BIODIELECTRICS

DEGRADATION

AGEING

FAILURE

OS-3 · SPECIAL ORAL · TUE 23 JUNE

Eco-Friendly; Transport Electrification; Biodielectrics

08:00 – 10:00 · MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Dr. Sombel Diahm · Dr. Bahareh Zaghari

- 01 Experimental Investigation of Thermal Cycling Effects on Partial Discharge Inception Voltage in Random-Wound Electric Aircraft Motors ★**
 ★ BEST-PRESENTATION CANDIDATE
 Anjana J. Samarakoon¹, Cameron Little², Kiruba Haran¹
 (1) University of Illinois Urbana Champaign, United States of America · (2) University of Wisconsin Madison, United States of America
- 02 Electrical Treeing Characteristics of Recyclable Epoxy Resin based on Dynamic Boronic Ester Bond: A Comparative Study ★**
 ★ BEST-PRESENTATION CANDIDATE
 Jiahong Duan¹, Xiaoxiao Kong¹, Yijun Du², Hangyu Mi¹, Qi Li², Yu Deng², Yun Chen², Boxue Du¹
 (1) State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin 300072, China · (2) China Electric Power Research Institute, Beijing, 100192, China
- 03 Measurement and Prediction of the PDIV of the Phase-to-Phase Insulation of Hairpin Machines used in VTOLs**
 Jili Xie, Andrea Cavallini
 Department of Electrical, Electronic and Information Engineering, University of Bologna
- 04 Dielectric Performance of Biodegradable Ester Insulating Oils under High-Voltage Transient Stress: A Study Based on Partial Discharge Measurements**
 Antonio Cardoso^{1,2}, Matias Fabricius¹, Mateus Laranjeira¹, Bernardo Silva^{1,3}, José Ferreira¹, Marcus Nunes²
 (1) Faculty of Engineering of the University of Porto (Portugal) · (2) Federal University of Pará (Brazil) · (3) INESC-TEC (Portugal).
- 05 Low-complexity Neural Network for Partial Discharge Classification**
 Juan M. Martínez-Tarifa¹, Joaquin Granado², Guillermo Robles¹, Andrés Montero¹, Manuel Gomez De la Calle³
 (1) Universidad Carlos III de Madrid, Spain · (2) Universidad de Sevilla, Spain · (3) INDRA Sistemas, Spain
- 06 Experimental Investigation of AC and PWM Excitation Effects on the PDIV of Litz Wire for Aerospace and Automotive Electrical Machines**
 Hadi Naderiallaf, Xuanming Zhou, Jianan Jiang, David Gerada, Michele Degano, Tao Yang, Christopher Gerada
 Power Electronics, Machine and Control (PEMC) Research Institute, University of Nottingham, United Kingdom

OS-4 · ORAL · TUE 23 JUNE

Degradation Mechanisms & Failure

MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Dr. Dennis van der Born · Dr. Orestis Vryonis

PART A · 10:30 — 11:30

01 Development of Soft Embedded Electrode Systems for Electrical Treeing Experiments ★

★ BEST-PRESENTATION CANDIDATE

James Oxford¹, Darren Hodgeman², Harry McDonald¹, Shakeel Akram¹, Thomas Andritsch³, Ian Kinloch², Tony Chen¹

(1) Department of Electrical & Electronic Engineering, The University of Manchester · (2) Department of Materials, Henry Royce Institute, The University of Manchester · (3) School of Electronics and Computer Science, The University of Southampton

02 Influence of the dV/dt on Partial Discharge Initiation Voltage of Typical PCB Geometries

Paul Schmidt^{1,2}, Pascal Rain¹, Stéphane Catellani²

(1) Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab Grenoble, France · (2) CEA, Liten, Campus INES Le Bourget-du-Lac, France

03 Experimental Investigation of Optical Discharge Detection in Insulating Oil Using Silicon Photomultipliers

Jianguo Wei¹, Kai Gu², Christian Brose², Xianshi Zeng¹, Ronald Plath², Tian Lan¹, Yuanliang Lan¹, Peng Xu³

(1) Global Energy Interconnection Research Institute Europe GmbH, Berlin, Germany · (2) Technical University of Berlin, Berlin Germany · (3) State Grid Shanghai Electric Power Research Institute, Shanghai, China

PART B · 13:30 — 14:30

04 Development of an Experimental Test Bench for Partial Discharge Measurement on Aeronautical Power Cables

★ BEST-PRESENTATION CANDIDATE

Younnes Chikhoun^{1,2}, Gilbert Teyssedre¹, Laurent Berquez¹, David Malec¹, Sorin Dinculescu¹, Matthieu Pettes-Duler²

(1) Laplace Laboratory, University of Toulouse and CNRS, Toulouse, France · (2) Beyond Aero, France

05 Effect of Mesoscale Contact Morphology on Breakdown Characteristics of XLPE-SiR Interface

Zerui Li, Zihao Wang, Yao Fu, Kai Zhou

Sichuan University, China, People's Republic of

06 Effect of Temperature on Breakdown Characteristics of Cable Accessories

Wu Chao, Lv Guanghao, Wang Xia, Wu Kai

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, China

PS-3 · POSTER · MON 22 JUNE · PAGE 1/4

Conduction, Polarization, Space Charge & Related Phenomena; Diagnostics and Experiments

14:30 – 15:30 · MAYFLOWER SUITE 3

1-9 OF 42

CHAIRS · Dr. Simone Vincenzo Suraci · Dr. George Callender

- 01 Identification of Bubble-Induced Partial Discharge and Estimation of Cumulative Energy Leading to Pressboard Damage in Oil-immersed Transformer**
Shigeyoshi Yoshida, Daisuke Ueno, Atushi Yamatake, Yoshinobu Kitagawa, Kenichi Mino, Yoichi Nakashima, Hiroki Shiota
Mitsubishi Electric Corporation, Japan
- 02 Study of Polypropylene with Ethylene Propylene Diene Terpolymer for Recyclable Cable Insulation**
Petr Kadlec¹, Zdenek Stary², Zdenek Rychlik¹, Radek Polansky¹
(1) University of West Bohemia in Pilsen, Faculty of electrical engineering, Czech Republic · (2) Czech Academy of Sciences, Institute of Macromolecular Chemistry, Czech Republic
- 03 Effect of Mechanical Bending on Stress Whitening and AC Breakdown Voltage of PP-TPE Cables**
Henrik Strand^{1,2}, Sverre Hvidsten², Jorunn Høltø², Mari-Ann Einarsrud¹
(1) NTNU Norwegian University of Science and Technology, Norway · (2) SINTEF Energy Research, Norway
- 04 Evaluation of Different 3D-Printed Materials for Electrical Insulation Applications ★**
Dimitris Axiotis, Orestis Vryonis, Istebreq Saeedi, Thomas Andritsch
University of Southampton, United Kingdom
- 05 Temperature Effects on the Electrical Conductivity of Layered SiR-PE Specimens under HVDC ★**
Thomas Lübeck¹, Tobit Greber¹, Myriam Koch²
(1) Technical University of Munich, Germany · (2) Technical University of Darmstadt, Germany
- 06 Space Charge Measurements for Full-Scale 500 kV EHVDC XLPE Cables and Factory Joints**
Xiangrong Chen¹, Tianyin Zhang¹, Yuyang Jin¹, Teng An¹, Ruobin Huang², Qianyu Shan², Muhammad Awais², Feng Xia^{2,3}
(1) College of Electrical Engineering, Zhejiang University, Hangzhou 310027, China · (2) Ningbo Orient Wires & Cables Co., Ltd., Ningbo 315000, China
- 07 Effects of Interfacial Roughness and Thickness Ratio on XLPE/EPDM Interfacial Charge Characteristics**
Juntao Zhao^{1,2,3}, Davide Fabiani², Zepeng Lv¹, Yang Lv³, Zihao Wu⁴, Kai Wu¹
(1) State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an 710049, China · (2) Department of Electrical Electronic and Information, University of Bologna, Bologna 40136, Italy · (3) Beijing Institute of Smart Energy, Beijing 102211, China · (4) Power Research Institute of State Grid Shaanxi Power Co. Xi'an 710000, China
- 08 Thermo-Mechanical Coupling Effects on Charge Transport Characteristics of Flexible Photovoltaic Encapsulation Materials**
Kai Feng¹, Qinlin Mao¹, Jia-Wei Zhang¹, Fouad Belhora²
(1) School of Electrical Engineering, Xi'an University of Technology, Xi'an, Shaanxi, 710048, China · (2) Laboratory of Engineering Sciences for Energy (LabSIPE), National School of Applied Sciences, Chouaib Doukkali University, El Jadida 24000, Morocco
- 09 Charge and Discharge Transients in PVDF Copolymers**
Bernd Ploss¹, Herbert Kliem²
(1) University of Applied Sciences Jena, Germany · (2) Saarland University, Saarbruecken, Germany

- 10 Metal Particle Induced Surface Charge Accumulation on GIS Insulator under AC Voltage in C4F7N/CO2 Mixtures**
Pinhao Huang¹, Qifeng Shang¹, Yu Gao¹, Rongqi Pei¹, Chicheng Liu², Tingyue Xue¹
(1) School of Electrical and Information Engineering, Tianjin University, Tianjin, China, 300072 · (2) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin, China, 300072
- 11 In-situ Residual Strain Monitoring in PEEK-coated Winding Wires using NIR**
Nan Yi¹, Oana Ghita², Craig Williams²
(1) Faculty of Environment, Science and Economy University of Exeter, Exeter, UK · (2) Department of Materials University of Manchester, Manchester, UK
- 12 Impact of Fault-Induced Thermal Transients on Partial Discharge in Oil-Paper Insulation Systems**
S K Amizhtan, Hans Edin
KTH Royal Institute of Technology, Sweden
- 13 Molecular Dynamics Based Investigation of Water Uptake in Epoxy at Room and Elevated Temperatures**
Nandini Gupta¹, Pratyasha Das¹, Amrendra Kumar¹, Sumit Basu²
(1) Department of Electrical Engineering, IIT Kanpur, India · (2) Department of Mechanical Engineering, IIT Kanpur, India
- 14 Acquisition Technique of Reference Signal at High Temperatures in PEA Measurement for Fair Calibration**
Yasuhiro Tanaka, Kunihiro Takahashi, Yasutaka Ikeda, Hiroaki Miyake, Naoshi Hirai
Tokyo City University, Japan
- 15 Analysis of Pressure-Dependent Acoustic Velocity in Rubber Dielectric Using PEA Method**
Yeongguk An, Hiroaki Miyake, Naoshi Hirai, Yasuhiro Tanaka
Tokyo City University, Japan
- 16 Simulation of Laser Pressure Wave Signals in Cable Joints Based on a Simplified Structural Model**
Feihu Zheng, Feiyang Zhao, Pengyue Wang
Tongji University, China, People's Republic of
- 17 Electric Stress Mechanisms in Extruded HVDC Cables Exposed to Radial Temperature Gradients**
Pietro Romano¹, Alessio Di Fatta¹, Antonino Imburgia¹, Salvatore Ruffino¹, Mohammad Alqtish¹, Giuseppe Rizzo², Vincenzo Li Vigni², Grazia Berardi², Marco Albertini², Roberto Candela², Stefano Franchi Bononi², Guido Ala¹
(1) L.E.PR.E. HV Laboratory, University of Palermo, Palermo, Italy · (2) Prysmian, Milan, Italy
- 18 Partial Discharge Behavior in Artificial Void Embedded in Polypropylene Generated by 3D-Printing Method**
Yu Gao¹, Zhilong Yu¹, Rongqi Pei¹, Di Lu¹, Pinhao Huang¹, Luji Jing²
(1) School of Electrical and Information Engineering, Tianjin University, China · (2) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, China
- 19 A Machine Learning Based Audible Noise Prediction Algorithm for EHV/UHV Transmission Lines**
Sheng Xia¹, Steven Li¹, Xiaochen Yuan¹, Wei Meng¹, Konstantinos Kopsidas¹, Simon M. Rowland¹, Xiaolin Ding², Janine Dickinson²
(1) Department of Electrical & Electronic Engineering, University of Manchester, Manchester, M13 9PL, UK · (2) National Grid Electricity Transmission, UK
- 20 Effect of Processing and Annealing Conditions on Electret Charge Decay for Polypropylene – Poly(ethylene-methyl acrylate) Copolymer Blends**
Arthur Henderyckx^{3,4}, Anna Guliakova^{1,2}, Mansur Galikhanov⁵, Dmitry Rychkov^{1,6}
(3) KU Leuven, Structural materials, campus Brugge, Belgium · (4) Beaulieu International Group, Belgium · (1) Deggendorf Institute of Technology, Germany · (2) Herzen State Pedagogical University, Russia · (5) Institute of Applied Research of the Academy of Sciences of the Republic of Tartarstan, Russia · (6) Ansbach University of Applied Sciences Germany

- 21 Thermal Ageing of Insulating Mineral Oil and Pressboards Using Dry Air**
Norikazu Fuse, Shin Nakamura, Satoru Miyazaki
Central Research Institute of Electric Power Industry, Japan
- 22 Impact of Different Target Electrodes on Laser-Induced Pressure Pulse Characteristics**
Feihu Zheng, Pengyue Wang, Feiyang Zhao
Tongji University, China, People's Republic of
- 23 Electrical Strength of Enamelled Wires under AC and Lightning Impulse Voltage Stress**
Lauren Stahl¹, Sahand Seifi², David Weber², Peter Werle¹
(1) Leibniz University Hannover, Institute of Electric Power Systems, High Voltage Engineering and Asset Management, Schering-Institute, Hanover, Germany · (2) Siemens Energy Global GmbH & Co. KG, Nuremberg, Germany
- 24 Design of a Miniaturized Cavity-Backed Slot UHF External Sensor for GIS Partial Discharge Detection ★**
Yong Fang¹, Songyuan Li², Zeping Zheng³, Dabiao Nie³, Jianda Li³, Tao Han³
(1) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin 300072, China · (2) State Grid Tianjin Electric Power Company Electric Power Research Institute, Tianjin 300384, China · (3) School of Electrical and Information Engineering, Tianjin University, Tianjin 300072, China
- 25 Partial Discharge Localisation by Artificial Intelligence Classification ★**
Iwan Williams¹, Manu Haddad², Maurizio Albano¹, Alistair Reid¹, Gordon Wilson²
(1) Cardiff University, United Kingdom · (2) National Grid Electricity Transmission, United Kingdom
- 26 Characterization of Parasitic Influences in a Wide-Bandwidth High Voltage Divider for Very Fast Transient Measurements**
Leonardo Bolzonella¹, Fabio Munoz¹, Mohamed Agazar², Johann Meisner³, Mohamad Ghaffarian Niasar¹
(1) Delft University of Technology · (2) Laboratoire National de Metrologie et d'Essais · (3) Physikalisch-Technische Bundesanstalt
- 27 Mechanism and Optimization Study of Pulse Voltage Parameters on Acoustic Wave Propagation in the Pulsed Electroacoustic Method**
Qi Shen, Jiandong Wu, Yi Yin, Qiaohua Wang
Shanghai Jiao Tong University, China, People's Republic of China
- 28 HVDC Cable System Scale Platform for the Insulation Faults Monitoring Devices Validation**
Adrián Gómez García¹, Eduardo Arcones del Álamo¹, Abderrahim Khamlichi El Khamlichi^{1,2}, Fernando Álvarez Gómez¹, Arnold Campoverde Castro¹
(1) Universidad Politécnica de Madrid, Spain · (2) Fundación para el Fomento de la Innovación Industrial - Laboratorio Central Oficial de Electrotecnia, Spain
- 29 A Quantitative Diagnosis Method for Cable Defect Based on SPTC**
Ziqi Wei¹, Kai Zhou¹, Yefei Xu¹, Xiang Ren², Li Zhang³, Benhong Ouyang⁴
(1) Sichuan University · (2) Electric Power Research Institute State Grid Hubei · (3) Electric Power Co., Ltd, Wuhan, China, · (4) China Electric Power Research Institute
- 30 Partial Discharge Characteristics of In-service Mineral Oil and Natural Ester Blends for Transformer Retrofilling**
Qing Wang^{1,2}, Yihua Qian^{1,2}, Yifeng Zhao^{1,2}, Yaohong Zhao^{1,2}, Lei Peng^{1,2}
(1) Guangdong Key Laboratory of Electric Power Equipment Reliability, Guangzhou, China · (2) Electric Power Research Institute of Guangdong Power Grid Co., Ltd., Guangzhou, China
- 31 Investigation of Dielectric Properties of Silicon Nitride Used in Power Modules**
David Demian², Zoltán Ádám Tamus¹, Ferenc Ender¹, Andrea Cavallini²
(2) Alma Mater Sudiorum University of Bologna · (1) Budapest University of Technology and Economics, Hungary

- 32 An Investigation of the Electrical and Mechanical Properties of Epoxy Resin with Phenoxazine-based Additive ★**
Daniel Jones, Istebreq Saeedi
University of Southampton, United Kingdom
- 33 Comparative Analysis of DC Conductivity Behavior in Natural, Synthetic, and Mineral Transformer Oils and their Impregnated Pressboard Composites**
René Manger¹, Markus H. Zink², Maja Kobus¹, Michael Geissler², Hans-Peter Öftering²
(1) University of applied science Würzburg-Schweinfurt, Germany · (2) Siemens Energy Global GmbH & Co. KG, Nürnberg
- 34 Modeling and Analysis of Curing Kinetics and Residual Stress Evolution in GIL Epoxy/Al₂O₃ Tri-Post Insulators**
Yuhuai Wang¹, Jiaqi Zhang¹, Songtao Liu², Yufan Wang², Siyuan Chen¹, Jin Li¹
(1) Tianjin University, China, People's Republic of · (2) High Voltage Company, State Grid Tianjin Electric Power Company, Tianjin 300000, China
- 35 Study on ZnS:Cu/Silicone Rubber Electroluminescent Coating for Insulator Defect Diagnosis**
Yan Du, Kai Liang, Yutao Li, Yingjie Hu, Xiangyang Zhao, Yang Wang, Bo Zhang
Xi'an Polytechnic University, China, People's Republic of
- 36 Simulation of Surface Charge Dynamics on DC-GIS Insulator under Polarity Reversal Voltage**
Pinhao Huang, Yu Gao, Di Lu, Qifeng Shang, Chicheng Liu, Boxue Du
School of Electrical and Information Engineering, Tianjin University
- 37 Investigation of Adhesion Between PAEK and Copper in Winding Wire Applications**
Keyvan Rasti, Danial Manshadi, Nan Yi, Oana Ghita
Faculty of Environment, Science and Economy University of Exeter, Exeter, UK
- 38 Characterization of Bi-Layer XLPE/EPDM and PP-blend/EPDM Insulations for HVDC Cable Accessories**
Giovanni Mazzanti¹, Bassel Diban¹, Rolando Ezequiel Diaz¹, Paolo Seri¹, Ilkka Rytöluoto², Kari Lahti³, Minna Niittymäki³
(1) University of Bologna, Italy · (2) VTT Technical Research Centre, Tampere, Finland · (3) Tampere University, Tampere, Finland
- 39 Effect of Additive Concentration on the Dielectric Properties of Extruded HVDC Cable Insulation Materials**
Minna Niittymäki¹, Sami Lähteenmäki², Kari Lahti¹, Ilkka Rytöluoto², Manu Mulakkal², Bassel Diban³, Giovanni Mazzanti³
(1) Tampere University, Finland · (2) VTT Technical Research Centre of Finland, Finland · (3) University of Bologna, Italy
- 40 Interface Modification and Dielectric Property Improvement of Aramid Fiber/Epoxy Resin Composites by Nano-silica**
Xiaoxiao Kong¹, Ge Zhang¹, Yan Liu², Xiaolan Li², Chengyao Hou¹, Yun Chen¹, Yifang Wang¹, Boxue Du¹
(1) State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin University · (2) State Key Laboratory of Power Grid Environmental Protection, China Electric Power Research Institute
- 41 Improvement of on-line Partial Discharge Monitoring in HVDC Lines**
Adrián Gómez García¹, Ángel Ramírez Linares², Javier Ortego La Moneda³, Eduardo Arcones del Álamo¹, Fernando Álvarez Gómez², Abderrahim Khamlichi El Khamlichi²
(1) Universidad Politécnica de Madrid, Spain · (2) Fundación para el Fomento de la Innovación Industrial - Laboratorio Central Oficial de Electrotecnia, Spain · (3) Ampacimon, Spain
- 42 Condition Monitoring of Insulated HVAC Power Cable Systems by Means of a Digital Twin**
Adrián Gómez García¹, Fernando Álvarez Gómez², Abderrahim Khamlichi El Khamlichi², Eduardo Arcones del Álamo¹, José Luis Navarro Fernández³
(1) Universidad Politécnica de Madrid, Spain · (2) FFII-LCOE, Spain · (3) UFD-grupo Naturgy, Spain

PS-4 · YOUNG RESEARCHER AWARD · TUE 23 JUNE · PAGE 1/4

Young Researcher Poster Session

11:30 – 12:30 · MAYFLOWER SUITE 3

1-10 OF 42

CHAIRS · Prof. Andrea Cavallini · Dr. Virginie Griseri

- 01 Effect of Water Content on DC Breakdown Strength of Polyurethane**
Mingkai Jin¹, Shanika Matharage¹, Zhongdong Wang¹, Hang Xu², Darron Squire²
(1) Department of Electrical and Electronic Engineering, The University of Manchester, Manchester, United Kingdom · (2) IST Power, Leicester, United Kingdom
- 02 Electrical Aging Mechanisms of SiN_x Films Under Bipolar Field Bias**
Tania Al Moussi¹, Cian O'Dalaigh², Paul Lambkin², Ramji Lakshmanan², Baoxing Chen³, Sombel Diahm²
(1) Université de Toulouse, Toulouse INP, CNRS, LAPLACE, Toulouse, France · (2) Analog Devices International, Limerick, Ireland · (3) Analog Devices Incorporation, Wilmington, MA, USA.
- 03 Estimation of Dielectric Temperature in Buried HVDC Cables Using Reduced-Order Thermal Model**
Sunny Chaudhary¹, Justin Dix², Paul Lewin¹, George Callender¹
(1) Tony Davies High Voltage Laboratory, University of Southampton, UK, S017 1BJ · (2) Ocean and Earth Science, University of Southampton, UK, S014 3ZH
- 04 Partial Discharge of Oil/Pressboard Insulation System under Harmonic Voltage Superimposed on AC Voltage**
Shin Nakamura, Norikazu Fuse, Satoru Miyazaki
Central Research Institute of Electric Power Industry, Japan
- 05 Effect of Single and Zoning Coating on Surface Charge Suppression of DC GIS Insulator**
Di Lu, Yu Gao, Qifeng Shang, Pinhao Huang, Chicheng Liu, Boxue Du
Tianjin University, China, People's Republic of
- 06 Generation and Behavior of Packet-like Charge in Fluorinated Polymer under Proton irradiation and DC Stress Simultaneously ★**
Asaki Kiuchi¹, Kaisei Enoki², Hiroaki Miyake¹, Naoshi Hirai¹, Yasuhiro Tanaka¹
(1) Tokyo City University, Japan · (2) National Institute of Information and Communications Technology, Tokyo, Japan
- 07 Space Charge Measurement and Interpretation in Alumina Ceramics Using the Pulsed Electro-Acoustic (PEA) Method**
Pavel Pichugin^{1,2}, Carsten Leu¹, Hannes Töpfer²
(1) Leipzig University of Applied Sciences (HTWK Leipzig), Germany · (2) Technische Universität Ilmenau
- 08 Partial Discharge Detection in Silicone-gel Encapsulation for Power Electronic Modules Using a Printed Circuit Board Antenna**
Halil Ibrahim Uckol, Douglas McIntyre, Refat Atef Ghunem
National Research Council Canada, Canada
- 09 Time-Domain Distributed Electrical Model for Partial Discharge Pulse Propagation in Power Cables ★**
Mohammad Alqtish¹, Antonino Imburgia¹, Alessio Di Fatta¹, Salvatore Ruffino¹, Guido Ala¹, Giuseppe Rizzo², Vincenzo Li Vigni², Roberto Candela², Pietro Romano¹
(1) L.E.PR.E H.V. Laboratory, Department of Engineering, University of Palermo Italy · (2) Prysmian Group, Milan, Italy.
- 10 Charge Accumulation Behavior In Fluorinated Polymer Repeatedly Proton Irradiation Simulated The Lunar Environment ★**
Wako Abe¹, Asaki KIuchi¹, Kaisei Enoki², Hiroaki Miyake¹, Naoshi Hirai¹, Naoto Hagura¹, Yasuhiro Tanaka¹
(1) Tokyo City University, Japan · (2) National Institute of Information and Communications

- 11 The Influence of Different Oxygen Concentrations on the Discharge Termination Field**
Xinyan Wang^{1,2}, Zepeng Lv¹, Andrea Cavallini², Kai Wu¹
(1) State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University · (2) Electrical, Electronic, and Information Engineering Department, University of Bologna
- 12 "Binos": A New Test Vehicle for EIS Thermal Aging ★**
Adrien Rubio^{1,2}, Sombel Diahm³, Nadine Lahoud Dignat³, Louiza Fetouhi², Guillaume Belijar⁴, Samuel Pin², Zarel Valdez-Nava³
(1) Nidec Leroy-Somer, Angoulême, France · (2) IRT Saint Exupéry, Toulouse, France · (3) Université de Toulouse, Toulouse, INP, CNRS, LAPLACE, Toulouse 31062, France · (4) SAFRAN TECH, Toulouse, France
- 13 Influence of Morphology and Crystallinity on the DC Conductivity of Polyolefins**
Uddhab Kalita¹, Mikael Unge^{1,2}, Fritjof Nilsson¹, Mikael S. Hedenqvist¹
(1) KTH Royal Institute of Technology, Sweden · (2) NKT HV Cables AB, Technology Consulting, SE-722 26, Västerås, Sweden
- 14 Tailoring Space Charge Characteristics and DC Field Stability in LDPE/LLDPE-Based Crosslinked Polyolefin Insulation for HVDC Cables**
Jinfei Qu, Shihang Wang, Qiheng Zhang, Jialin Shi, Shengtao Li
Xi'an Jiaotong University, China, People's Republic of
- 15 Influence of Toolpath Strategy on the Dielectric Performance of FDM-Printed Polypropylene Composite Material ★**
Dimitris Axiotis, Ian Hosier, Orestis Vryonis, Istebreq Saeedi, Thomas Andritsch
University of Southampton, United Kingdom
- 16 Effects of Elastomers with Different Crystallization Behaviors on Space Charge Suppression in PP/Elastomer Composites ★**
Guangwei Zhang, Mengyue Su, Dan Cao, Zepeng Lv, Kai Wu
Xi'an Jiaotong University, People's Republic of China
- 17 Effect of Crystallization Property on Electrical Properties of PP/SEBS Composites as Nuclear Cable Insulation ★**
Zhilong Yu¹, Tingyue Xue¹, Yu Gao¹, Baixin Liu², Yuhang Gao³
(1) School of Electrical and Information Engineering, Tianjin University, Tianjin 300072, China · (2) The State Key Laboratory of Reliability Intelligence of Electrical Equipment, Hebei University of Technology, Tianjin 300401, China · (3) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin 300072, China
- 18 Impact of Static Mechanical Strain on Breakdown Strength of High Purity XLPE for HVDC Cables in Floating Offshore Applications ★**
Fabian Bill, Pit Bechtold, Christian M. Franck
ETH Zurich, Switzerland
- 19 Considerations for the Insulation Fault Location in HVDC Insulated Lines**
Adrián Gómez García¹, Eduardo Arcones del Álamo¹, Fernando Álvarez Gómez¹, Abderrahim Khamlichi El Khamlichi^{1,2}
(1) Universidad Politécnica de Madrid, Spain · (2) FFII-LCOE, Spain
- 20 Modelling the Dielectric Response of Polyamide-6 Nanocomposite Using Dissado–Hill Response Functions ★**
Keyvan Rasti^{1,3}, Nikola Chalashkanov¹, Nick Tucker¹, Len Dissado²
(1) University of Lincoln, United Kingdom · (3) DPI, P.O. Box 902, 5600 AX Eindhoven, the Netherlands · (2) University of Leicester, United Kingdom
- 21 Hysteresis Behavior of Partial Discharge Activity Under AC High Voltage ★**
Sebastian Preuß^{1,2}
(1) Siemens AG, Germany · (2) Technical University of Darmstadt, Germany

- 22 UV-cured Polyacrylate Dielectric Elastomers with High Permittivity and Breakdown Field Strength ★**
Huiyi Hu, Wenzhuo Dong, Lijuan Yin, Qikun Feng, Zhimin Dang
Tsinghua University, China, People's Republic of
- 23 Carbon-Black Based XLPE-Nanocomposites as EHVDC Insulation Material**
Anton Bjurström^{1,2,3}, Mikael Unge^{1,2,3}, Fritjof Nilsson^{2,4}, Richard T. Olsson^{2,3}
(1) NKT HV Cables AB, Technology Consulting, Västerås, Sweden · (2) Polymeric Materials Division, Department of Fibre and Polymer Technology, KTH Royal Institute of Technology, Stockholm, Sweden · (3) Wallenberg Initiative Materials Science for Sustainability, KTH Royal Institute of Technology, Stockholm, Sweden · (4) FSCN Research Centre, Mid Sweden University, Sundsvall, Sweden
- 24 A Method to Determine Moisture Exposure History of Cellulosic Paper Based on Multicycle Adsorption**
Zhenyou Fan, Haohao Hu, Xiaojing Zhang, Yang Xu
State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an 710049, China
- 25 Influence of Humidity and Temperature on the Dielectric Properties of a Silicone Gel for Power Electronic Modules ★**
Fidele Niyibizi^{1,2}, Rachele Hanna², Olivier Perrotin³, Loic Theolier⁴, Régis Meuret¹, Pascal Rain²
(1) IRT Saint Exupéry, B612, 3 rue Tarfaya, 31405 Toulouse, France · (2) Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, 38000 Grenoble, France · (3) Alter Technology France, 31520 Ramonville-Saint-Agne, France · (4) Univ. Bordeaux, CNRS, Bordeaux INP, IMS Bordeaux, 33405 Talence, France
- 26 Thermal Stress in Metallized Polymer Films: Theory and Simulation**
Sandro Mächler, Tarun Tummuru
Hitachi Energy Research, Switzerland
- 27 Effect of Fusion Interfacial Region on Space Charge and Electric Field in Polypropylene-insulated Factory Joint for DC Submarine Cable**
Zhong Zheng, Zhonglei Li, Zhaorui Luo, You Wu, Guozheng Cao, Boxue Du
Tianjin University, People's Republic of China
- 28 Detection of Partial Discharge Using Distributed Acoustic Sensing ★**
Bachar Hamie¹, Pierre Clement¹, Amjad Mouhaidali², Gaetan Calbris¹
(1) febus optics, France · (2) SuperGrid institute, France
- 29 Evaluating Space Charge Behavior of Polypropylene Blends Using TSDC Measurements ★**
Sami Lähteenmäki¹, Minna Niittymäki¹, Kari Lahti¹, Ilkka Rytöluoto², Bassel Diban³, Giovanni Mazzanti³
(1) Tampereen yliopisto, Finland · (2) VTT Technical Centre of Finland · (3) University of Bologna, Italy
- 30 Experimental Study on the Influence of Preceding Voltage Impulses on the Breakdown Probability in Technical Air at Atmospheric Pressure ★**
Lars Moormann, Myriam Koch
Technical University of Darmstadt, Germany
- 31 Assessment of Electrical Tree Propagation in Silicone Gel Based on Time Serise Analysis of Partial Discharge Waveform Characteristics**
Hayato Katsume¹, Tomohiro Kawashima¹, Muneaki Kurimoto², Naohiro Hozumi¹
(1) Toyohashi University of Technology, Japan · (2) Nagoyo university, Japan
- 32 Electrical and Mechanical Performance of Polypropylene Blends Incorporating Styrene-Ethylene Butylene-Styrene Elastomers with Varying Styrene Contents**
Xiwen Wu, Orestis Vryonis, Istebreq Saeedi, Paul Lewin
University of Southampton, United Kingdom

- 33 Characterization of Surface Degradation and Dielectric Response in TiO₂/Epoxy Nanocomposites Subjected to DC Corona Discharge Aging ★**
Dario Cottone, Andrea Rossi, Simone Vincenzo Suraci, Davide Fabiani
LIMES (Laboratory of Innovative Materials for Electrical Systems) - DEI University of Bologna, Bologna, Italy., Italy
- 34 Study of Partial Discharge Behavior of Technical Air, CO₂, and CO₂/O₂ Mixtures with High Voltage Protrusion ★**
Muhammad Shahzaib Saleem¹, Fabio Muñoz Muñoz², Dennis van der Born¹, André Lathouwers², Peter Vaessen¹
(1) Technical University Delft, Netherlands, Netherlands, The · (2) TenneT Netherlands B.V., Utrechtseweg 310, 6812 AR Arnhem, The Netherlands
- 35 Endurance Test on Nomex 410 to Assess Partial Discharge Activity under High dv/dt Square Voltage**
Mamadou Djan Balde^{1,2}, Eric Vagnon², Julien Huillery², Martin Guillet¹
(1) Supergrid Institute, France · (2) Ecole centrale de Lyon, Laboratoire Ampère, France
- 36 High-Temperature Dielectric and AC Breakdown Properties of Alicyclic Epoxy Resins and Silica-Filled Composites ★**
Chinatsu Fukuda¹, Hana Kim¹, Masayuki Hikita¹, Masahiro Kozako¹, Minoru Ueshima²
(1) Kyushu Institute of Technology, Japan · (2) Daicel Corporation, Tokyo, Japan
- 37 Audible Noise Assessment of Different Overhead Line Conductors under Low Rainfall Conditions using Anechoic Chamber ★**
Xiaochen Yuan¹, Steven Qi Li², Vito Wei Meng¹, Guohui Pang¹, Konstantinos Kopsidas¹, Xiaolin Ding², Janine Dickinson²
(1) Department of Electrical & Electronic Engineering, University of Manchester, UK · (2) National Grid Electricity Transmission, UK
- 38 Influence Of Temperature And Humidity On J-E Characteristic Of Polyphenylene Sulfide (PPS) ★**
Firman Ossale^{1,2}, Pascal Rain¹, Emilie Fond², Florent Buttin², Yann Rossignol³
(1) Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, F-38000 Grenoble, FRANCE · (2) Radiall, 642 rue Emile Romanet, 38340 Voreppe, FRANCE · (3) Radiall, 39 rue Velpeau, 37110, Chateau-Renault, FRANCE
- 39 Interferometric Partial Discharge Localization ★**
Mohammad Alqtish¹, Antonino Imburgia¹, Alessio Di Fatta¹, Salvatore Ruffino¹, Guido Ala¹, Giuseppe Rizzo², Vincenzo Li Vigni², Roberto Candela², Pietro Romano¹
(1) L.E.PR.E H.V. Laboratory, Department of Engineering, University of Palermo Italy · (2) Prysmian Group, Milan, Italy
- 40 Numerical Investigation of the Response of a Pulsed Electro-Acoustic Measurement System Applied to the Electrical Double Layer ★**
Matéo Dautremont¹, Paul Leblanc¹, Laurent Berquez², Stéphane Holé³, Thierry Paillat¹
(1) Institut PPRIME - Université de Poitiers - CNRS - ISAE ENSMA, Poitiers, France · (2) Laboratoire LAPLACE - Université de Toulouse - CNRS, Toulouse, France · (3) Laboratoire de Physique et d'Étude des Matériaux, Sorbonne Université, ESPCI Paris PSL Université, Paris, France
- 41 Current-Voltage (I-V) Characteristic Of LCP And PEEK For Electrical Insulation In Aeronautical Application ★**
Firman Ossale^{1,2}, Pascal Rain¹, Emilie Fond², Florent Buttin², Yann Rossignol³
(1) Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, F-38000 Grenoble, FRANCE · (2) Radiall, 642 rue Emile Romanet, 38340 Voreppe, FRANCE · (3) Radiall, 39 rue Velpeau, 37110, Chateau-Renault, FRANCE
- 42 Comparison of the Influence of Voltage Types on the Degradation Behavior of Film Capacitors ★**
Jonas Wolfgang Bux, Bhavana Revadi, Michael Beltle, Stefan Tenbohlen
University of Stuttgart, Institute of Power Transmission and High Voltage Technology (IEH), Pfaffenwaldring 47, 70569 Stuttgart, Germany

PS-5 · POSTER · TUE 23 JUNE · PAGE 1/4

Ageing, Degradation and Failure; Theories, Methods and Models

14:30 – 15:30 · MAYFLOWER SUITE 3

1-10 OF 43

CHAIRS · Dr. Antonios Tzimas · Dr. Sunny Chaudhary

- 01 Condition Assessment of Discharge Space Based on Transfer Function Estimated from Partial Discharge Waveform**
Tomohiro Kawashima, Soshiro Murata, Naohiro Hozumi
Toyohashi University of Technology, Japan
- 02 Effects Of Thermal Ageing On The Electrical Properties Of XLPE HVDC Cable Insulation**
Pit Bechtold, Fabian Bill, Noel Anderegg, Christian Franck
ETH Zurich, Switzerland
- 03 Temperature-Dependent Breakdown Characteristics of Polymer for Metallized Film Capacitors**
Hua Li, Tongwei Zhang, Xiaohui Su, Yufan Xu, Fuchang Lin
Huazhong University of Science and Technology, China, People's Republic of
- 04 Experimental Verification of Nuclear Environmental Resistance of Insulating Polymers: Part I - Silicone Rubber**
Yoshimichi Ohki¹, Naoshi Hirai², Yasuhiro Tanaka²
(1) Waseda University, Japan · (2) Tokyo City University
- 05 Ablation Mechanism and Rejuvenation Strategy of Buffer Layer in High-Voltage Cables**
Junhao Chen, Kai Zhou, Lizhi Zhang, Yuhao Lan, Xinyu Tang
College of Electrical Engineering, Sichuan University, Chengdu 610065, China
- 06 Comprehensive Comparison of Electromagnetic Environmental Characteristics between AC and DC Overhead Line Conductors using Anechoic Chamber ★**
Xiaochen Yuan¹, Steven Qi Li¹, Vito Wei Meng¹, Guohui Pang¹, Konstantinos Kopsidas¹, Xiaolin Ding², Janine Dickinson²
(1) Department of Electrical & Electronic Engineering, University of Manchester, UK · (2) National Grid Electricity Transmission, UK
- 07 Limiting Electric Fields in Hot CO₂ Subjected to Orthogonal Magnetic and Electric Fields**
Huseyin Recai Hiziroglu¹, Mustafa Sezai Dincer²
(1) Kettering University, United States of America · (2) Near East University, Cyprus
- 08 Flashover Properties on Insulator Surface of GIS in Various Eco-friendly Gases under AC Voltage**
Di Lu¹, Qifeng Shang¹, Yu Gao¹, Zhilong Yu¹, Junjie Chen¹, Luji Jing²
(1) School of Electrical and Information Engineering, Tianjin University, Tianjin, China, 300072 · (2) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin, China, 300072
- 09 Thermo-oxidative Ageing of PEEK Insulation Films for Electric Machines: Oxidation and Crystallinity Indicators from FTIR, XPS and XRD Analysis**
Fan Gao, Hadi Naderiallaf, Fang Xu, Tianjie Zou, Tao Yang, Christopher Gerada
University of Nottingham, United Kingdom
- 10 Physics-informed Neural Network for Corona Discharge Evaluation Considering Space Charge Effect on UHVDC Overhead Lines**
Yu Shi¹, Qi Li¹, Wei Meng², Aishan Zou¹, Konstantinos Kopsidas², Vladimir Terzija³, Xingliang Jiang¹
(1) Chongqing University, China, People's Republic of · (2) University of Manchester · (3) Newcastle University

- 11 Effect of Static Strain on Water Tree Growth in Water Tree Retardant XLPE Insulation Material**
Callum Barrett¹, Marc Kosta², Christophe Moreau², Hong Duc Pham², Lujia Chen¹
(1) The University of Manchester, United Kingdom · (2) Électricité de France (EDF), France
- 12 Light Emission from Dielectric Barrier Discharge under High Frequency AC Voltage in Nitrogen Mixture**
Di Lu¹, Junjie Chen¹, Yu Gao¹, Zhilong Yu¹, Qifeng Shang¹, Luji Jing²
(1) School of Electrical and Information Engineering, Tianjin University, Tianjin, China · (2) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin, China
- 13 Identification of Gamma and Beta Relaxations in DGEBA Using Broadband Dielectric Spectroscopy at Cryogenic Temperatures**
Benjamin Adam Orton¹, Booth Matthew², Nikola Chalashkanov²
(1) STFC ISIS, United Kingdom · (2) University of Lincoln
- 14 FEM Analysis of TEV Sensor Design for Partial Discharge Detection in Power Transformers**
Mahdi Abbasi¹, Mathieu Lachance², Eric David¹
(1) École de technologie supérieure (ÉTS), Montreal, Canada · (2) OMICRON electronics Canada, Toronto, Canada
- 15 The Voltage Endurance Characteristics of 110kV Low-Frequency Submarine Cable Insulation Materials**
Fei Li², Ji Wu¹, Xinling Tian², Shihu Yu¹, Yazhou Fan¹, Yingge Li¹, Lisheng Zhong², Jinghui Gao²
(2) State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, China · (1) Electric Power Research Institute of Guangdong Power Grid Co., Ltd., Guangzhou, China
- 16 Experimental Study on XLPE Dielectric Strength Degradation Due to Polarity Reversal ★**
Sobhan Memari¹, Patrik Ratheiser², Uwe Schichler²
(1) Prysmian, Germany · (2) Graz University of Technology, Institute of High Voltage Engineering and System Performance, Austria
- 17 Dielectric and Gas Generation Characteristics of KI50EX Synthetic Ester Oil under Local Overheating Faults**
Mingfang Zou, Siyang Chen, Fang Wang, Yuanwei Zhu, Shengtao Li
State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an 710049, Shaanxi Province, China
- 18 Impact of Expansion and Lubrication on Electrical Properties of Non-Filled and Filled EPDM Rubber**
Rashid Hussain¹, Sajjad Jafari²
(1) NKT Group GmbH, Cologne, Germany · (2) NKT HV Cables AB, Alingsås, Sweden
- 19 A New Understanding of Lichtenberg Figure Formation in PMMA**
Timothy Koeth, Noah Hoppis, Kathryn Sturge, Ethan Basinger, Brian Beaudoin, Bryson Clifford, John Cumings, Jack FitzGibbon, Emily Frashure, Abraham Levitan, Nick Schwartz, Ariana Shearin, Meryl Wiratmo
University of Maryland, United States of America
- 20 Ester-based Impregnates Molecular Gas Absorption and Fluidity Structure-activity Relationship Models Established Through DFT and Molecular Dynamics ★**
Detao Lu¹, Jian Hao¹, Hexingyu Zhao¹, Jingwen Zhan¹, Haoyong Song², Tingyan Wang²
(1) State Key Laboratory of Power Transmission Equipment Technology, School of Electrical Engineering, Chongqing, 400044, China · (2) CSG Guangdong Guangzhou Power Supply Bureau, Guangzhou 510000, China
- 21 Numerical Simulation of Voltage Polarity Effect on Streamer Discharges under Lightning Impulse Condition**
Ge Sun, Wu Lu, Kexian Li, Zheming Wang, Wenqiang Zhou, Guangzheng Yu
Shanghai University of Electric Power, China, People's Republic of

- 22 Characterizing HVDC Accelerated Ageing in Artificially Defected Thermoplastic Materials**
Alessandro Sebastiani¹, Lorenzo Paschini¹, Andrea Caprara¹, Giovanni Mazzanti², Bassel Diban²
(1) Doble Engineering, Italy · (2) University of Bologna, Italy
- 23 Assessment of Aging Related Changes in Transformer Oil Properties for Enhanced Thermal and Aging Model Integration**
Ahmad Vosoughi Hamzekhanlo, Stefan Kornhuber
University of Applied Science Zittau/Görlitz, Germany
- 24 Study on Lightning Overvoltage Characteristics and Suppression Measures for 220kV Overhead-Cable Hybrid Lines**
Xiaoyan Ji¹, Yong Liu¹, Qun Gao², Honbao Zong²
(1) State key laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin 300072, P. R. China · (2) Chengnan District Power Supply Company of State Grid Tianjin Electric Power Company, Tianjin 300201, P. R. China
- 25 Estimation of Partial Discharge Inception Voltage and Discharge Location in Silicon Nitride Encapsulated with Fluorinated Insulating Liquids ★**
Hana Kim, Ryuto Tomaiwa, Masayuki Hikita, Masahiro Kozako
Kyushu Institute of Technology, Japan
- 26 Effect Of UV-A And UV-AB Radiation On Partial Discharge Activity Of Enameled Magnet Wires**
Juan M. Martínez-Tarifa¹, G. Robles¹, D. Bernabeu¹, G. Salinero¹, A. Gomez¹, A. Montero¹, J. Granada²
(1) Universidad Carlos III de Madrid, Spain · (2) Universidad de Sevilla, Spain
- 27 Study on the Combustion Performance of Halogen-Free Flame-Retardant Insulation Materials for Polypropylene Cables**
Mengyue Su¹, Guangwei Zhang¹, Dan Cao¹, Hao Xu¹, Yao Qin², Zepeng Lv¹, Kai Wu¹
(1) Xi'an Jiaotong University, People's Republic of China · (2) Shandong Electric Power Equipment Co., Ltd.
- 28 Partial Discharge Characteristics of the DC Cable During the Voltage Decay Stage**
Yi Yin^{1,2}, Zhe Zheng^{1,2}, Xiangyang Peng³, Yi Tang^{1,2}, Shihu Yu³, Yifei Yang^{1,2}, Yinge Li³, Su Zhao^{1,2}
(1) Department of Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China · (2) State Key Laboratory of High Efficiency Special Cable Technology, Shanghai, China · (3) Guangdong Key Laboratory of Electric Power Equipment Reliability, Electric Power Research Institute of Guangdong Power Grid Co., Ltd., Guangzhou, China
- 29 Simulation of a New PEA cell for Cable Specimens**
Antonino Imburgia¹, Pietro Romano¹, Alessio Di Fatta¹, Mohammad Alqtish¹, Salvatore Ruffino¹, Guido Ala¹, Giuseppe Rizzo², Luca Perotto², Grazia Berardi², Marco Albertini², Stefano Franchi Bononi²
(1) L.E.PR.E. H.V. Laboratory, Department of Engineering, University of Palermo, Italy, · (2) Prysmian Group, Milan, Italy
- 30 Analysis of Dielectric Performance Changes of Metallized Polypropylene Films under Cryogenic Conditions**
Zening Lu, Hang Liu, Boxue Du, Haoliang Liu, Meng Xiao
Tianjin University, China, People's Republic of China
- 31 A Partial Discharge Identification Strategy Based on Detrended Fluctuation Analysis ★**
Zeping Zheng¹, Jianda Li¹, Yong Fang², Dabiao Nie¹, Tao Han¹, Boxue Du¹
(1) School of Electrical and Information Engineering, Tianjin University, Tianjin 300072, China · (2) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin 300072, China
- 32 Effect of Mechanical Tensile Stress on the Dielectric Properties of BOPP Films under Pulsed Electrical Conditions**
Meng Xiao, Yufei Li, Liangtian Zhang, B. X Du
Tianjin University, China, People's Republic of

- 33 A Study of Environmental Aging on Low Voltage Cable Degradation**
Ramy Afia³, Tanveer Ul Haq¹, Safi Ullah², Rehan Khan¹, Ehtasham Mustafa²
(3) University of Manchester, United Kingdom · (1) University of Science & Technology, Pakistan · (2) Gomal University, Pakistan
- 34 Thermal Aging Test of the Insulation System for 540V EHA Aviation Motors**
Peng Wang¹, Changsheng Cao¹, Jiaxun Wang¹, Yingwei Zhu¹, Dongdong Zhao², Lei Zhou²
(1) Sichuan University, China, People's Republic of · (2) AVIC Xi'an Flight Automatic Control Research Institute
- 35 Multiphysics-Coupled Modeling and Simulation of Repair Efficacy for Self-Healing Cable Sheaths** ★
Yong Liu², Hankun Wei¹, Heng Lin², Xvkai Duan¹, Yuchen Li¹, XiaoYan Ji¹
(1) School of Electrical and Information Engineering, Tianjin University · (2) Huludao Power Supply Company of State Grid Liaoning Electric Power Company
- 36 Improved Temperature Calculation Model for High Voltage Direct Current Submarine Cables Considering Insulation Leakage Current and Thermo-mechanical Stress** ★
Wenjiao Zhang, Yuxiao Hu, Chaoqun Shi, Xiaojing Zhang, Yang Xu
Xi'an Jiaotong University, China, People's Republic of
- 37 Risk Classification of Metallized Film Capacitor by Initial Self-Healing**
Feipeng Wang, Jie Zhang, Yao Wu, Xin Sun, Guoliang Li, Jian Li
Chongqing University, China, People's Republic of
- 38 Non-Destructive Evaluation and 3D Stress Field Reconstruction in Epoxy-Based Insulation Materials**
Bei Chu, Hucheng Liang, Zhouyu Jin, WenJin Zhang, Jianan Dong, Boxue Du
Tianjin University, China, People's Republic of
- 39 Effect of Electrical-Thermal-Mechanical Combined Aging on Properties and Space Charge Characteristics of BOPP films for Dry DC Capacitors**
Jiale Song¹, Zhuohan Li¹, Xiaohe Chen¹, Botao Liu¹, Shuang Xu², Yuanjie Xu², Xiangrong Chen¹
(1) zhejiang university, China, People's Republic of · (2) Ningbo Jiangbei Gofront Herong Electric Co., Ltd
- 40 Analysis Of The Charge Trap Distribution Of Space Used Dielectric Materials** ★
Felix Dusart, Thierry Paulmier, Ludivine Leclercq, Pierre Sarrailh
DPHY, ONERA, Université de Toulouse, 31000, Toulouse, France
- 41 Automatic Post-Processing of PEA Measurements for Full-Scale HVDC Cables Using Particle Swarm Optimization** ★
Salvatore Ruffino¹, Alessio Di Fatta¹, Pietro Romano¹, Mohammad Alqtish¹, Guido Ala¹, Giuseppe Rizzo², Luca Perotto², Grazia Berardi², Marco Albertini², Stefano Franchi Bononi², Antonino Imburgia¹
(1) University of Palermo, Italy · (2) Prysmian Group, Milan, Italy
- 42 Breakdown Characteristics of Polypropylene-based Fusion-bonded Insulation in Factory Joints for HVDC Submarine Cables**
Zhong Zheng, Zhonglei Li, Zhaorui Luo, You Wu, Heyu Wang, Boxue Du
Tianjin University, People's Republic of China
- 43 Beyond TEV: Partial Discharge Classification in Switchgear Using Signals from Bushings** ★
Menghan Chen¹, Xinsheng Lu^{1,2}, Yi Tian^{1,2}
(1) Xi'an Polytechnic University, China · (2) Xi'an Jiaotong University, China

OS-5 · ORAL · TUE 23 JUNE

Ageing Processes & Material Evolution

15:30 – 17:30 · MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Dr. Nandini Gupta · Dr. Xiwen Wu

- 01 Interturn Insulation Endurance Under the Combined Effects of Rise Time, Pulse Width, and Non-Conduction Time**
★ BEST-PRESENTATION CANDIDATE
Leire Elorza Azpiazu, Ainara Angulo Rebollo, Gaizka Almandoz, Aritz Egea, Iago Martínez Ocaña
Mondragon Unibertsitatea, Spain
- 02 Experimental Study on the Stress Grading System of Double-Fed Machine Under Sinusoidal and Square Wave Voltage**
★ BEST-PRESENTATION CANDIDATE
Peng Wang², Qiuhan Zhang¹, Jijun Zeng², Siyuan Peng¹, Qun Zhou², Yuguang Man¹
(2) Sichuan University, China · (1) Institute of Large Electric Machinery Harbin Electric Machinery Factory Harbin, China
- 03 Review and Development of Molecular Dynamics Simulation for Investigating Transformer Cellulose Ageing Mechanisms** ★
Tingxuan Wang¹, Shanika Matharage¹, Zhongdong Wang¹, Gordon Wilson², Andree Hilker³, Lars Dreier⁴
(1) The University of Manchester, Manchester M13 9PL, UK · (2) National Grid Electricity Transmission, Warwick CV34 6DA, UK · (3) Shell Global Solutions (Deutschland) GmbH, 21107 Hamburg, Germany · (4) Weidmann Electrical Technology AG, 8640 Rapperswil, Switzerland
- 04 Corrosion-Induced Degradation Of Conductor Screens In High Voltage Cable Model Systems**
Cedric Lesaint¹, Leander Lilleli², Caterina L. Rusu¹, Torbjørn Andersen Ve¹, Sverre Hvidsten¹, Øystein Hestad²
(1) SINTEF Energi AS · (2) NTNU: Norwegian University of Science and Technology
- 05 Lifetime Evaluation of SiN_x Films Under Electrical Aging**
Tania Al Moussi¹, Paul Lambkin², Cian O'Dalaigh², Ramji Lakshmanan², Baoxing Chen³, Sombel Diahm^{1,2}
(1) Université de Toulouse, Toulouse INP, CNRS, LAPLACE, Toulouse, France · (2) Analog Devices International, Limerick, Ireland · (3) Analog Devices Incorporation, Wilmington, MA, USA.
- 06 Impact of Thermal Aging on the Dielectric Properties and Breakdown Strength of Perfluoroalkoxy (PFA) Insulated High-Voltage Cables for Hybrid/Electric Aircraft**
Jawad Ahmad¹, Jineeth Joseph², Michel de Jongh², Peter Vaessen¹, Mohamad Ghaffarian Niasar¹
(1) Delft University of Technology, Netherlands · (2) Technology - Electrical (Wiring) Systems, GKN Aerospace, Netherlands

DAY THREE

WEDNESDAY

03

— 24 JUNE 2026

ORALS · EXCURSION · GALA

morning orals, afternoon excursion & gala dinner

02

SESSIONS

12

ORAL PAPERS

—

POSTERS

12

PAPERS TOTAL

PROGRAM 08:00 – 12:30 · MAYFLOWER SUITE

08:00 – 10:00 05-6 · ORAL

Nanodielectrics · Electro-Active · Multifunctional

10:30 – 12:30 05-7 · ORAL

Power Electronics · Composite Insulation

TOPICS

NANODIELECTRICS

ELECTRO-ACTIVE

MULTIFUNCTIONAL

POWER ELECTRONICS

COMPOSITE

YOUNG RESEARCHER

OS-6 · ORAL · WED 24 JUNE

Nanodielectrics; Electro-Active Polymers; Multifunctional Materials

08:00 – 10:00 · MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Prof. Florin Ciuprina · Dr. Istebreq Saeedi

- 01 Dielectric Performance Enhancement of Polypropylene Films by Langmuir–Blodgett Interface-Modified Deposition**
★ BEST-PRESENTATION CANDIDATE
Mengdie Zhang, Meng Xiao, Boxue Du
Tianjin University, China, People's Republic of
- 02 Impact of the Nanofiller Nature on the Interphase Properties in Polyimide-based Nanocomposites**
★ BEST-PRESENTATION CANDIDATE
Nadine Lahoud, Christina Sara, Christina Villeneuve
Laplace, Universite De Toulouse
- 03 Influence of the Preparation Process on the Mechanical and Electrical Properties of Polypropylene/Graphene/Elastomer Blends ★**
Laura Makatia^{1,2}, Virginie Griseri¹, Eric David², Dominique Mary², Nicole Demarquette¹, David Malec¹, Gilbert Teyssedre¹
(1) Laplace laboratory, France · (2) Ecole de Technologie Supérieure, Canada
- 04 Engineering the Dielectric Response in Graphene/h-BN Heterostructures for High-Performance Energy Storage**
Yijing Stehle¹, Ivan Vlasiouk²
(1) Union College, Schenectady, NY 12308, USA · (2) Oak Ridge National Laboratory, Oak Ridge, TN, 37831, USA
- 05 Evaluating Dielectric Elastomer Permittivity Enhancement Strategies Using a Permittivity-related Figure of Merit for Output Performance ★**
Dejie SUN¹, Motoshi Hirai¹, Shijie Zhu², Muneaki Kurimoto¹
(1) Nagoya University, Japan · (2) Fukuoka Institute of Technology, Japan
- 06 Characterization of Gaseous Helium Discharge in a Non-Uniform Electric Field**
Enrico Lanzoni^{1,2}, Roland Piccin¹, Davide Fabiani²
(1) European Organization for Nuclear Research (CERN) · (2) University of Bologna

OS-7 · ORAL · WED 24 JUNE

Insulation for Power Electronics; Composite Insulation

10:30 – 12:30 · MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Prof. Zoltán Ádám Tamus · Dr. Stratis Batzelis

01 Electric Field and Temperature Distribution Measurements in Nonlinear Field Grading Material for Rotating Machines Exposed to High Frequency Sinusoidal Voltages

★ BEST-PRESENTATION CANDIDATE

Tina Mirzaamin¹, Torstein Grav Aakre², Kaveh Niayesh¹, Espen Eberg², Fredrik Sahlén³

(1) NTNU, Trondheim, Norway · (2) SINTEF Energi AS, Trondheim, Norway · (3) ABB Corporate Research, Västerås, Sweden

02 Enhancing Mechanical Reliability and Dielectric Performance of Epoxy Resin by Amine-Functionalized Metal-Organic Frameworks

★ BEST-PRESENTATION CANDIDATE

H.L Liu, M.Y OuYang, Y.A Gao, M Xiao, J Li, B.X Du

Tianjin University, China, People's Republic of

03 Dielectric and Mechanical Properties of PP-Based Ternary Blends

Pichet Ketsamee¹, Nattha Jindapetch¹, Chatchai Putson², Paphavee van Dommelen², Thomas Andritsch³

(1) Department of Electrical and Biomedical Engineering, Faculty of Engineering, Prince of Songkla University, Songkhla, 90110, Thailand · (2) Division of Physical Science (Physics), Faculty of Science, Prince of Songkla University, Songkhla, 90110, Thailand · (3) The Tony Davies High Voltage Laboratory, School of Electronics and Computer Science, University of Southampton, Southampton, S017 1BJ, United Kingdom

04 Temperature and Square-Wave Voltage Effects on Partial Discharge Characteristics of High-Voltage Power Module Encapsulation Insulation ★

Huanmin Yao, Haibao Mu, Maoqun Shen, Wenrui Tian, Wendong Li, Daning Zhang, Guanjun Zhang

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, China

05 Nonlinear Field Grading for Medium-Voltage Cable Joints: a Case Study on Material Properties and Techniques

Alexander Schindler¹, Maria Kosse¹, Dominik Häring²

(1) TUD Dresden University of Technology, Germany · (2) Südkabel GmbH

06 Impact of a Thermo-Electric Ageing under Low-Pressure Environment on Space Charges in Fluoropolymer Insulation for HVDC Aeronautical Cables ★

Bastien Neveux^{1,2}, Jean Rivenc¹, Jerome Castellon², Serge Agnel², Jean-Charles Laurentie², Frederic Forget¹, Romain Doumerg¹, Lea Pommier¹, Gilles Peres¹

(1) Airbus SAS, France · (2) IES, University of Montpellier, CNRS, Montpellier, France

DAY FOUR

THURSDAY

04

25 JUNE 2026

CLOSING DAY

diagnostics, theories & models

03

SESSIONS

12

ORAL PAPERS

45

POSTERS

57

PAPERS TOTAL

PROGRAM 09:00 – 15:30 · MAYFLOWER SUITE

08:00 – 09:00 KEYNOTE LECTURE
 Dakin Award Lecture — Giovanni Mazzanti

09:00 – 10:00 OS-8A · ORAL
 Diagnostics & Experiments

10:30 – 11:30 OS-8B · ORAL
 Diagnostics & Experiments

11:30 – 12:30 PS-6 · POSTERS
 Insulation · Transport · Nanodielectrics

13:30 – 15:30 OS-9 · ORAL
 Theories, Methods & Models

TOPICS

DIAGNOSTICS

EXPERIMENTS

THEORIES

METHODS

MODELS

INSULATION

OS-8 · ORAL · THU 25 JUNE

Diagnostics & Experiments

MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Dr. Greg Stone · Prof. Paul Lewin

PART A · 09:00 — 10:00

01 Fluorescence Spectroscopy: Sensitive Tool for Monitoring the Degradation of Transformer Oils

★ BEST-PRESENTATION CANDIDATE

Maja Kobus¹, Tim Granath¹, Alai Muniozguen²

(1) Center for Material Science CeMat, Technical University of Applied Sciences Würzburg-Schweinfurt, 97421 Schweinfurt, Germany · (2) CEIT-Basque Research and Technology Alliance (BRTA), University of Navarra, 20018 Donostia / San Sebastián, Spain

02 Study on Moisture Migration and Dynamics in Biodegradable Transformer Insulation

Neha Khokher¹, Hans Edin¹, Tor Laneryd²

(1) KTH Royal Institute of Technology, Stockholm, Sweden · (2) Hitachi Energy Research, Västerås, Sweden

03 Space Charge Accumulation and Conduction Behavior in a Fluoropolymer Evaluated Using PEA and Q(t) at Elevated Temperatures

Yasuhiro Tanaka¹, Thangabalan Baskarasethupathi¹, Hiroaki Miyake¹, Naoshi Hirai¹, Masayuki Shimizu²

(1) Tokyo City University, Japan · (2) Proterial, Ltd. Ibaraki Works

PART B · 10:30 — 11:30

04 Water Treeing in PP-TPE Cable Insulation: Staining and Analysis Methodology

★ BEST-PRESENTATION CANDIDATE

Nina Marie Thomsen, Caterina Elena Lesaint Rusu, Jorunn Hølto, Sverre Hvidsten

SINTEF Energy Research, Norway

05 Measurement of Surface Charge Migration in Realistic HVDC-GIS Environments

Lars Baronat¹, Michael Beltle¹, Stefan Tenbohlen¹, Uwe Riechert²

(1) University of Stuttgart, Germany · (2) Hitachi Energy, Switzerland

06 Study of the Behavior of Motor Winding Wire Insulation in the Presence of Electrical Discharges and Organic Vapors

Michael J. Kirkpatrick¹, Giacomo Galli¹, Alexis Habbas¹, Loucif Benmamas², Guillaume Belijar², Emmanuel Odic¹

(1) Université Paris-Saclay, CentraleSupélec, CNRS, Laboratoire de Génie Electrique et Electronique de Paris, 91192, Gif-sur-Yvette, France · (2) Safran Tech, 78117 Châteaufort, France

PS-6 · POSTER · THU 25 JUNE · PAGE 1/4

Insulation (Electronic & Systems); Transportation Electrification; Composite Insulation; Nanodielectrics; Electro-Active Polymers; Biodielectrics & Multifunctional; Eco-Friendly Dielectrics

11:30 – 12:30 · MAYFLOWER SUITE 3

1-9 OF 45

CHAIRS · Prof. Frank Mauseth · Dr. Ian Hosier

- 01 Deep Trap Induction and Space Charge Suppression in Glycerol-Modified Silicone Gel at DC Stress** ★
Xinyue Zhang, Zepeng Lv, Chenyu Wu, Kai Wu
Xi'an Jiaotong University, China, People's Republic of
- 02 Effect of Functional Layer Architecture on Dielectric Energy Storage in PP/BC Multilayer Composites**
Zhaochen Wang, Liangbowen Qian, Boxue Du, Xiangyu Dong, Meng Xiao
School of Electrical and Information Engineering Tianjin University, Tianjin 300072, China
- 03 Dielectric Analysis of the Thermal Treatment Influence on PVDF-Al₂O₃ Nanocomposites by Electric Modulus Spectra**
Florin Ciuprina¹, Laura Enache¹, Mihaela Draghici¹, Denis Panaitescu²
(1) National University of Science and Technology Politehnica Bucharest · (2) National Institute for Research and Development in Chemistry and Petrochemistry - ICECHIM, Bucharest, Romania
- 04 Simulation on Temperature and Electric Fields of Immersion-Cooling High-Frequency Transformer Using Environmentally Friendly Fluorinert Fluid**
Weiwang Wang¹, Zhaopeng Wang¹, Changshen Li¹, Daomin Min², Yuexiong Wang¹, Yongxin Wang¹, Weihong Yang³, Mingli Fu³
(1) Xi 'an Jiaotong University, China, People's Republic of China · (2) TBEA Co.,Ltd., Changji, Xinjiang, People's Republic of China · (3) CSG Electric Power Research Institute, People's Republic of China
- 05 Influence of Short Time Disturbances on PD Characteristics in Hairpin Motor Insulation**
Thomas John Hammarstroem, Yuriy Serdyuk
Chalmers University of Technology, Sweden
- 06 Valence-Dependent Cation Modification of Graphene Oxide: Correlating Interlayer Chemistry with Dielectric and Mechanical Performance**
Yijing Y. Stehle¹, Emily Evans¹, Katelyn Olsson¹, Timothy J. Barnum¹, Ellen Robertson¹, Qin Zou²
(1) Union College, United States of America · (2) Research Center for NanoBiomaterials, Analytical & Testing Center, Sichuan University, Chengdu 610064, China
- 07 Study on the Deterioration Characteristics of the Coupling Agent at the Core–Sheath Interface in Composite Insulators under Coupled Acidic and Thermal Conditions**
Kexin Shi¹²³, Dandan Zhang¹²³, Yuwei You⁴, Lixue Chen¹²³, Jiaqi Yang¹²³, Zhaohua Lu¹²³
(1) Huazhong University of Science and Technology, China, People's Republic of · (2) Key Laboratory of Pulsed Power Technology, Huazhong University of Science and Technology, Ministry of Education, Wuhan, China · (3) State Key Laboratory of Advanced Electromagnetic Technology, Huazhong University of Science and Technology, Wuhan, China · (4) Shiqu Power Supply Company, State Grid Chongqing Electric Power Company, Chongqing 400015, China
- 08 Designing a Capacitive Sensor to Detect Series Arcs in Aircraft HVDC Electrical Systems**
Gema Salinero Pichel, Guillermo Robles Muñoz, Juan Manuel Martínez-Tarifa
University Carlos III of Madrid, Spain
- 09 Flexible Polyurea Dielectric Materials Obtained by Recycling PET Wastes Through Aminolysis Process**
Florin Ciuprina², Martino Aldrigo¹, Edina Rusen², Alexandra Mocanu², Madalina Necolau², Pavel Victor Potorac², Gabriela Ciuprina²
(2) National University of Science and Technology Politehnica Bucharest, Romania · (1) IMT Bucharest, Romania

- 10 Comparative study of Air-cooled and Quenched Polypropylene/ Propylene-Ethylene Copolymers Systems for HVAC Insulation**
Sanjog Sowaruth, Orestis Vryonis, Huajie Yi
University of Southampton, Mauritius
- 11 The Effect of Local Molecular Rigidity on Dielectric Property of Epoxy Resin for Electrical Insulation**
Lizheng Geng, Xiaoxiao Kong, Jiahong Duan, Ge Zhang, Yifang Wang, Boxue Du
TianJing University, China, People's Republic of
- 12 Electric Field Regulation and Metal Particle Removal Efficiency of Dielectrically Optimized ϵ -FGM Spacers in GIS**
Zhouyu Jin, Boxue Du, Meng Xiao, Hucheng Liang, Jianan Dong
Tianjin University, Tianjin China
- 13 Preparation and Performance Enhancement of Piezoelectric Film Based on PVDF/CoFe₂O₄ Nanocomposites ★**
Zhaochen Wang, Boxue Du, Meng Xiao
School of Electrical and Information Engineering, Tianjin University, Tianjin, China
- 14 Evaluation of Charging Properties of Milled Cable Insulation**
Richard Cselko, Elham Davar, Laszlo Szekely, Benjamin Andor Bihari
Budapest University of Technology and Economics, Hungary
- 15 Comparison of the Dielectric and Thermal properties of Alumina Ceramics Produced by Additive and Subtractive Manufacturing Methods ★**
Hugo Luis^{1,2}, Lucile Mage¹, Vincent Bley², Marie-Laure Locatelli², Régis Delsol¹, Zarel Valdez-Nava²
(1) CEA, CEA tech Occitanie, F-31670 Labège, France · (2) Univ Toulouse, Toulouse INP, CNRS, LAPLACE, Toulouse, France
- 16 Amino-Silica Sizing of Aramid Fibers for High-Performance Epoxy Insulation Pull-Rod Composites**
Siyuan Chen¹, Xu Guo², Yuhuai Wang¹, Tao Jiang³, Ranran Xu³, Boxue Du¹, Jin Li¹
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- 17 Experimental Investigations on the Production of Furanic Compounds from Transformer Paper Insulation**
Mahmood Al-Ajmi, Shanika Matharage, Zhongdong Wang
The University of Manchester, United Kingdom
- 18 Effect of Hot-pressing Remolding on Dielectric and Mechanical Properties of Epoxy Vitrimer with Disulfide Bonds**
Di Lu, Yu Gao, Luji Jing, Zhilong Yu, Linzhen Xing, Boxue Du
Tianjin University, China, People's Republic of
- 19 Correlation between Mechanical and Dielectric Behaviour of Fully Recyclable Crosslinked Polyimine Networks ★**
Zdenek Rychlik¹, Petr Kadlec¹, Pavel Prosr¹, Daniela Moravcova¹, Norasage Pattanadetch², Radek Polansky¹
(1) Department of Materials and Technology, Faculty of Electrical Engineering, University of West Bohemia, Pilsen, Czech Republic · (2) Department of Electrical Engineering, Faculty of Engineering, King Mongkut's Institute of Technology, Ladkrabang, Bangkok, Thailand
- 20 Modulation of Carrier Injection and Migration in Core-Shell Quantum Dots/Polyethylene Composites for HVDC Cables Insulation ★**
Heyu Wang, Zhonglei Li, Zechao Yang, Zhong Zheng, Haosen Du, Zhaorui Luo, Boxue Du
School of Electrical and Information Engineering, Tianjin University, Tianjin 300072, China
- 21 Partial Discharge Characteristics Of Perfluoroalkoxy Insulated Cables For Aircraft Power Systems Under AC Voltage At Different Pressures**
Tiantian Xu, Peter Vaessen, Mohamad Ghaffarian Niasar
Delft University of Technology, The Netherlands

- 22 Epoxy/POSS Composites: Linking Molecular Interactions to Thermal and Dielectric Performance**
 Farooq Aslam¹, Lulu He¹, Yuhao Zhang¹, Anees Ur Rehman²
 (1) Electrical and Electronic Engineering Department, Changzhou Institute of Technology, China, Pakistan · (2) College of Mechanical and Electrical Engineering, Hohai University, changzhou, jiangsu, P.R.China
- 23 Investigation of the Morphology, Electrical and Mechanical Properties of Polypropylene/Polyurethane Blends Compatibilized with Maleic Anhydride ★**
 Xiaobing Wang, Orestis Vryonis, Istebreq Saeedi, Thomas Andritsch
 University of Southampton, United Kingdom
- 24 AC/DC Conductivity, Dielectric Properties and Bulk Morphology of Silicone/MWCNTs Nanocomposites**
 Iryna Sulym^{1,2}, Zarel Valdez-Nava¹, Marie-Laure Locatelli¹, Nadine Lahoud Dignat¹
 (1) University of Toulouse, Toulouse INP, CNRS, LAPLACE, Toulouse, France · (2) Chuiko Institute of Surface Chemistry of NAS of Ukraine, Kyiv, Ukraine
- 25 Iterative Optimization and Surface Fluorination for Conductivity-Graded DC-GIS Basin Insulators**
 Jiaqi Zhang¹, Yuhuai Wang¹, Songtao Liu², Yufan Wang², Siyuan Chen¹, Jin Li¹
 (1) Tianjin University, China, People's Republic of · (2) High Voltage Company, State Grid Tianjin Electric Power Company, Tianjin 300000, China
- 26 Effect of Dynamic Vulcanization on Gamma-Ray Radiation Resistance of SEBS/PP Composites ★**
 Yu Gao¹, Tingyue Xue¹, Di Lu¹, Yuhang Gao², Qifeng Shang¹
 (1) School of Electrical and Information Engineering, Tianjin University, Tianjin 300072, China · (2) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin 300072, China
- 27 Experimental Simulation of Oil Gap Corona Discharge in Multi-Component Mixed Insulating Oil Transformers and Analysis of Gas Generation and Diffusion Behaviors**
 Yida Li, Qingdan Huang, Haoyong Song, Yuqing Chen, Tingyan Wang
 CSG Guangdong Guangzhou Power Supply Bureau, Guangdong, China
- 28 Electrical Behavior Of Spray-Coated PDMS-Based Conductive Composites**
 Christian Patino
 The University of Manchester, United Kingdom
- 29 Electric-Field Optimization Design of Resin-Impregnated Paper Bushings Based on Nonlinear Conductivity Gradient Regulation ★**
 Wenrui Tian, Daning Zhang, Lulin Xu, Siyu Wang, Xiaoyu Yang, Huanmin Yao, Haoxiang Zhao, Guanjun Zhang
 Xi'an Jiaotong University, China, People's Republic of
- 30 An Investigation of the Electrical, Mechanical and Thermal Properties of Petroleum-based and Bio-based Polypropylene ★**
 Ibrahim Khan^{1,2}, Istebreq Saeedi¹, George Callender¹, Thomas Andritsch¹
 (1) University of Southampton, United Kingdom · (2) Tony Davies High Voltage Lab
- 31 Synchronous Improvement of Insulation Properties of Epoxy Resin by Constructing Organic-Inorganic Crosslinking Structure**
 H. L Liu, Y.A Gao, M.Y Ou Yang, M Xiao, J Li, B. X Du
 Tianjin University, China, People's Republic of
- 32 The Impact of Different Vinyl Acetate Content on the DC Electrical Performance of EVA ★**
 Lorenzo Villani¹, Daniele Palmeri¹, Simone Vincenzo Suraci¹, Davide Fabiani¹, Mauro Ricci², Francesco Scavello²
 (1) University of Bologna, Italy · (2) Versalis S.P.A., Italy
- 33 Numerical Simulation on Electric Field Distribution in Multilayer Insulation of 1500V Lithium-ion Battery Cluster with Typical Defects**
 Luji Jing¹, Yu Gao², Pinhao Huang², Zhilong Yu², Qifeng Shang², Rongqi Pei²
 (1) The International Joint Institute of Tianjin University, Fuzhou, Tianjin University, Tianjin, 300072, China · (2) School of Electrical and Information Engineering, Tianjin University, Tianjin 300072, China

- 34 Predictive Modeling of Dielectric Breakdown Voltage in Transformer Oil with SiO₂ Nanoparticles Using Regression and Artificial Neural Networks ★**
Asfar Ali Khan, Suhaib Ahmad Khan
Aligarh Muslim University, Aligarh, India
- 35 Degradation Study on Turn-to-Turn Insulation of Hairpin Winding in EV Motors due to Wide-Bandgap Power Converters**
Shakthi Prasad¹, Ali Khiz², Shesha Jayaram²
(1) Indian Institute of Technology Goa, India · (2) University of Waterloo, Canada
- 36 Fiber-Reinforced Cyanate Ester Composites with Dielectric Gradients for Enhanced Broadband Wave Absorption and Structural Performance**
Siyuan Chen, Yuhuai Wang, Yu Cheng, Shijie Du, Shuai Ren, Jiaqi Zhang, Jin Li
State Key Laboratory of Smart Power Distribution Equipment and System, Tianjin University, Tianjin 300072, China
- 37 High voltage Insulation Design and Analysis for a Planar Transformer Used in SST Applications**
Mohamad Ghaffarian Niasar, Gabriel Raducan
Delft University of Technology, Netherlands, The
- 38 Thermal Conductivity and Electrical-Thermal Breakdown Properties of Core-Shell Structure BNNS@SiO₂/Silicone Rubber Composite Dielectric**
Weiwang Wang¹, Changshen Li¹, Zhaopeng Wang¹, Daomin Min², Jiaqi Fan¹, Peishi Yang¹, Yuexiong Wang¹
(1) State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, China · (2) TBEA Co., Ltd., Changji, Xinjiang, China
- 39 Lightning Properties of a Modern Bio-Based Hydrocarbon Fluid After Accelerated Thermal Aging in Relation to Mineral Oil**
Filip Stuchala, Pawel Rozga
Lodz University of Technology, Poland
- 40 Achieving Excellent High-temperature Capacitive Energy Storage in Polyetherimide by Introducing Rigid Alicyclic Structures**
Xinru Yang, Yang Feng, Yida Lu, Anquan Xue, Shengtao Li
State Key Laboratory of Electrical Insulation and Power Equipment(Xi'an Jiaotong University), Xi'an 710049, Shaanxi Province, China
- 41 Relative Contribution of Surface Topography and Inclusion of Metallic Nanoparticles to the Electric Field Distribution in Thin Dielectric Silica Films**
Christina Villeneuve-Faure, Sariette Nova Tatchum, Laurent Boudou, Gilbert Teysse, Kremena Makasheva
Univ. Toulouse, Toulouse INP, CNRS, LAPLACE, Toulouse, France
- 42 Design and Additive Manufacturing of Functionally Graded Dielectrics for Electric Field Regulation and Particle Motion Control**
Zhouyu Jin, Boxue Du, Meng Xiao, Hucheng Liang, Wenjin Zhang
Tianjin University, Tianjin China
- 43 Thermal Stability of Piezoelectricity in Melt-Blown Polypropylene Ferroelectrets**
Dmitry Rychkov², Giacomo Rocchetti¹, Davide Fabiani¹
(2) Ansbach University of Applied Sciences, Germany · (1) University of Bologna, Italy
- 44 Assessment of Insulation Technology for Overhead Line Equipment**
Lauren Deeth-Kelt¹, Paul Lewin¹, Neil Palmer¹, Charlie Reed¹, Liz Tillotson¹, Paul Naylor², Richard Stainton²
(1) University of Southampton, United Kingdom · (2) Network Rail
- 45 Cyclic Polymers with High Energy Storage and High Thermal Conductivity**
Hao Wang, Jie Chen, Xingyi Huang
Shanghai Jiao Tong University, China, People's Republic of

OS-9 · ORAL · THU 25 JUNE

Theories, Methods & Models

13:30 – 15:30 · MAYFLOWER SUITE 1-2

6 PAPERS

CHAIRS · Dr. Andrea Barbareschi Villa · Dr. Igor Golosnoy

- 01 Conduction and Polarization Dynamic Model for Impulse Simulations of Field Grading Materials**
 ★ BEST-PRESENTATION CANDIDATE
 Thomas Christen, Victor Maloisel, Mikael Unge
 NKT HV Cables AB, Technology Consulting, SE-722 26, Västerås, Sweden
- 02 Molecular Dynamic Simulation Study on the Effect of Polymerization Degree on the Glass Transition Temperature of Energy Storage Polymers**
 ★ BEST-PRESENTATION CANDIDATE
 Yufan Xu¹², Hua Li²², Ziqin Huang¹², Fuchang Lin²²
 (1) School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, China · (2) State Key Laboratory of High-Density Electrical Energy Conversion (Huazhong University of Science and Technology), Wuhan, China
- 03 DC Breakdown In A Sphere-Plane Geometry In Synthetic Air**
 Frank Mauseth², Hans Kristian Meyer¹, Robert Marskar¹, Henrich Lukas³, Karsten Juhre³
 (2) Norwegian University of Science and Technology · (1) SINTEF Energy Research, Norway · (3) Siemens Energy
- 04 Bipolar Model of Transport applied to HVDC Cables: Prediction of the Field Distribution with Upscaling of the Geometry**
 Gilbert Teyssedre³, Thi Thu Nga Vu¹, Mai Quyen Hoang², Séverine Le Roy³, Fulbert Baudoin³
 (3) University of Toulouse - CNRS, France · (1) Electric Power University - Hanoi, Vietnam · (2) University of Industry - Hanoi, Vietnam
- 05 DFT Analysis of the Stability of Charge Carriers in XLPE**
 Maja Kobus
 Center for Material Science CeMat, Technical University of Applied Sciences Würzburg-Schweinfurt, 97421 Schweinfurt, Germany
- 06 Inception Model For Dielectric Breakdown Of Gases**
 Eduardo Cuervo Reyes, Edgar Albert Engel, Chia-Jung Yang, Eduardo Bonini Guedes, Sophie Alexandra Spencer
 ABB Schweiz AG, Switzerland

INDEX OF AUTHORS · A — C

Index of Authors.

Aakre, Torstein Grav OS-7·1
 Abbas, Muhammad Farasat PS-1·11
 Abbasi, Mahdi PS-5·14
 Abe, Wako PS-4·10
 Adolphi, Jakob PS-1·22
 Afia, Ramy PS-5·33
 Afzal, Abdullah bin PS-2·24
 Agazar, Mohamed PS-3·26
 Agnel, Serge OS-7·6
 Ahmad, Jawad OS-5·6
 Ahmad, Nafees PS-2·26
 Akram, Shakeel OS-4·1
 Al-Ajmi, Mahmood PS-6·17
 Ala, Guido PS-3·17, PS-4·9, PS-4·39, PS-5·29, PS-5·41
 Albano, Maurizio PS-3·25
 Albertini, Marco PS-3·17, PS-5·29, PS-5·41
 Albuquerque, Naomi OS-2·1
 Aldrigo, Martino PS-6·9
 Almandoz, Gaizka OS-5·1
 Alqtish, Mohammad PS-3·17, PS-4·9, PS-4·39, PS-5·29, PS-5·41
 Aluisio, Benedetto PS-2·41
 Ambat, Rajan PS-1·11
 Amizhtan, S K PS-3·12
 An, Teng PS-3·6
 An, Yeongguk PS-3·15
 Anderegg, Noel PS-5·2
 Andersen, Michael A. E. PS-1·11
 Andersson, Johan PS-2·9
 Andritsch, Thomas OS-4·1, OS-7·3, PS-1·8, PS-2·7, PS-3·4, PS-4·15, PS-6·23, PS-6·30
 Anjiki, Tomikazu PS-1·29
 Aslam, Farooq PS-6·22
 Awais, Muhammad PS-3·6
 Axiotis, Dimitris PS-2·7, PS-3·4, PS-4·15
 Azpiazu, Leire Elorza OS-5·1
 Balde, Mamadou Djan PS-4·35
 Balogh, Daniel PS-2·13
 Barbieri, Luca PS-1·9
 Barnum, Timothy J. PS-6·6
 Baronat, Lars OS-8·5
 Barrett, Callum PS-5·11
 Basinger, Ethan PS-5·19
 Baskarasethupathi, Thangabalan OS-8·3
 Basu, Sumit PS-3·13
 Baudoin, Fulbert OS-2·1, OS-9·4
 Beaudoin, Brian PS-5·19
 Bechtold, Pit PS-4·18, PS-5·2
 Belhora, Fouad PS-3·8
 Belijar, Guillaume OS-8·6, PS-4·12
 Beltle, Michael OS-8·5, PS-4·42
 Benaouda, Selma PS-1·12
 Benmahamed, Youcef PS-2·38
 Benmamas, Loucif OS-8·6
 Berardi, Grazia PS-3·17, PS-5·29, PS-5·41
 Bernabeu, D. PS-5·26
 Berquez, Laurent OS-2·1, OS-4·4, PS-4·40
 Bihari, Benjamin Andor PS-6·14
 Bill, Fabian PS-4·18, PS-5·2
 Bjurström, Anton PS-4·23
 Bley, Vincent PS-6·15
 Bolzonella, Leonardo PS-3·26
 Bononi, Stefano Franchi PS-3·17, PS-5·29, PS-5·41
 Bordeori, Moon Moon PS-2·10
 Born, Dennis van der PS-2·17, PS-4·34
 Boudou, Laurent PS-1·32, PS-6·41
 Boxue, Du PS-1·17
 Braun, Sebastian OS-1·2
 Brose, Christian OS-4·3
 Buccella, Giacomo PS-1·9
 Bugarin, Florian OS-2·1
 Butler, Simon PS-1·14
 Buttin, Florent PS-2·11, PS-4·38, PS-4·41
 Bux, Jonas Wolfgang PS-4·42
 Caizergues, Luan PS-2·5
 Calbris, Gaetan PS-4·28
 Calle, Manuel Gomez De la OS-3·5
 Callender, George PS-1·6, PS-4·3, PS-6·30
 Candela, Roberto PS-3·17, PS-4·9, PS-4·39
 Cao, Changsheng PS-5·34
 Cao, Dan PS-4·16, PS-5·27
 Cao, Guozheng OS-2·4, PS-4·27
 Cao, Yi fan PS-2·1
 Cao, Yifan PS-2·29
 Caprara, Andrea PS-5·22
 Cardoso, Antonio OS-3·4
 Castellon, Jerome OS-7·6
 Castro, Arnold Campoverde PS-3·28
 Catellani, Stéphane OS-4·2
 Cavallini, Andrea OS-3·3, PS-3·31, PS-4·11
 Chairul, Imran Sutan PS-1·20
 Chalashkanov, Nikola PS-4·20, PS-5·13
 Chan, Kai Chio OS-2·5
 Chang, Dawei PS-1·16
 Chao, Wu OS-4·6
 Chaudhary, Sunny PS-4·3
 Chen, Baoxing OS-5·5, PS-4·2

INDEX OF AUTHORS · C — F

- Chen, G PS-1.18
 Chen, Guang PS-1.33
 Chen, Jie PS-6.45
 Chen, Junhao PS-1.24, PS-2.36, PS-5.5
 Chen, Junjie PS-2.27, PS-5.8, PS-5.12
 Chen, Lixue PS-6.7
 Chen, Lujia OS-2.5, PS-1.14, PS-5.11
 Chen, Meng PS-2.29
 Chen, Menghan PS-5.43
 Chen, Siyang PS-2.32, PS-5.17
 Chen, Siyuan PS-3.34, PS-6.16, PS-6.25, PS-6.36
 Chen, Tony OS-4.1
 Chen, Xiangrong PS-3.6, PS-5.39
 Chen, Xiaohe PS-5.39
 Chen, Yun OS-2.6, OS-3.2, PS-3.40
 Chen, Yuqing PS-6.27
 Chen, Zhiyu PS-1.23
 Cheng, Yu PS-6.36
 Chhaibi, Reda OS-2.1
 Chiba, Tomoki PS-1.29
 Chikhounne, Younnes OS-4.4
 Christen, Thomas OS-1.3, OS-9.1
 Chu, Bei PS-5.38
 Ciuprina, Florin PS-6.3, PS-6.9
 Ciuprina, Gabriela PS-6.9
 Clement, Pierre PS-4.28
 Clifford, Bryson PS-5.19
 Cottone, Dario PS-4.33
 Crippa, Beatrice PS-1.9
 Cselko, Richard PS-2.13, PS-6.14
 Cui, Jiabao PS-2.6
 Cumings, John PS-5.19
 D'Avanzo, Giovanni PS-1.9
 Dang, Zhimin PS-4.22
 Darques, Michaël PS-2.14
 Das, Pratyasha PS-3.13
 Dautremont, Matéo PS-4.40
 Davar, Elham PS-6.14
 David, Eric OS-6.3, PS-5.14
 Deb, Ramanuj PS-1.30
 Deeth-Kelt, Lauren PS-6.44
 Degano, Michele OS-3.6
 Delsol, Régis PS-6.15
 Demarquette, Nicole OS-6.3
 Demian, David PS-3.31
 Deng, Yu OS-3.2
 Diahm, Sombel OS-5.5, PS-4.2, PS-4.12
 Diaz, Rolando Ezequiel PS-2.40, PS-2.41, PS-2.42, PS-3.38
 Diban, Bassel PS-2.40, PS-2.41, PS-2.42, PS-3.38, PS-3.39, PS-4.29, PS-5.22
 Dickinson, Janine PS-3.19, PS-4.37, PS-5.6
 Dignat, Nadine Lahoud PS-4.12, PS-6.24
 Dincer, Mustafa Sezai PS-5.7
 Dinculescu, Sorin OS-4.4
 Ding, Xiaolin PS-3.19, PS-4.37, PS-5.6
 Dissado, Len PS-4.20
 Dix, Justin PS-4.3
 Doedens, Espen PS-2.9
 Dommelen, Paphavee van OS-7.3
 Dong, Jianan PS-2.21, PS-5.38, PS-6.12
 Dong, Wenzhuo PS-4.22
 Dong, Xiangyu PS-6.2
 Doumerg, Romain OS-7.6, PS-2.11
 Draghici, Mihaela PS-6.3
 Dreier, Lars OS-5.3
 Du, B. X PS-5.32, PS-6.31
 Du, B.X OS-7.2
 Du, Boxue OS-2.4, OS-2.6, OS-3.2, OS-6.1, PS-1.7, PS-1.23, PS-1.27, PS-1.33, PS-2.2, PS-2.8, PS-2.27, PS-3.36, PS-3.40, PS-4.5, PS-4.27, PS-5.30, PS-5.31, PS-5.38, PS-5.42, PS-6.2, PS-6.11, PS-6.12, PS-6.13, PS-6.16, PS-6.18, PS-6.20, PS-6.42
 Du, Haosen PS-2.8, PS-6.20
 Du, Jiabao PS-1.35
 Du, Shijie PS-1.33, PS-6.36
 Du, Yan PS-1.35, PS-3.35
 Du, Yijun OS-3.2
 Duan, Jiahong OS-3.2, PS-6.11
 Duan, Xvkai PS-2.34, PS-5.35
 Dusart, Felix PS-5.40
 Duvillaret, Lionel PS-2.5
 Eberg, Espen OS-7.1
 Edin, Hans OS-8.2, PS-3.12
 Egea, Aritz OS-5.1
 Einarsrud, Mari-Ann PS-3.3
 Enache, Laura PS-6.3
 Ender, Ferenc PS-3.31
 Engel, Edgar Albert OS-9.6
 Enoki, Kaisei PS-4.6, PS-4.10
 Evans, Emily PS-6.6
 Fabiani, Davide OS-6.6, PS-2.18, PS-2.28, PS-2.31, PS-3.7, PS-4.33, PS-6.32, PS-6.43
 Fabricius, Matias OS-3.4
 Facchini, Riccardo PS-2.9
 Fan, Jiaqi PS-6.38
 Fan, Yazhou PS-5.15
 Fan, Zhenyou PS-4.24
 Fang, Yong PS-1.21, PS-2.33, PS-3.24, PS-5.31
 Fasani, Damiano PS-1.9
 Fatta, Alessio Di PS-3.17, PS-4.9, PS-4.39, PS-5.29, PS-5.41
 Fayolle, Bruno PS-1.32

INDEX OF AUTHORS · F — H

- Feng, Kai PS-3·8
 Feng, Qikun PS-4·22
 Feng, Yang PS-6·40
 Fernández, José Luis Navarro PS-3·42
 Ferreira, José OS-3·4
 Fetouhi, Louiza PS-4·12
 FitzGibbon, Jack PS-5·19
 Folkestad, Ingrid Gunheim OS-1·4
 Fond, Emilie PS-2·11, PS-4·38, PS-4·41
 Forget, Frederic OS-7·6
 Forget, Frédéric PS-2·11
 Franck, Christian PS-5·2
 Franck, Christian M. PS-1·26, PS-4·18
 Frashure, Emily PS-5·19
 Fu, Mingli PS-6·4
 Fu, Yao OS-4·5
 Fukuda, Chinatsu PS-4·36
 Fuse, Norikazu PS-3·21, PS-4·4
 Gaborit, Gwenaél PS-2·5
 Galikhanov, Mansur PS-3·20
 Galli, Giacomo OS-8·6
 Gao, Fan PS-5·9
 Gao, Jian PS-1·5
 Gao, Jinghui OS-2·3, PS-1·15, PS-5·15
 Gao, Lu PS-2·3
 Gao, Qun PS-5·24
 Gao, Y.A OS-7·2, PS-6·31
 Gao, Yu PS-2·22, PS-2·27, PS-2·30, PS-3·10,
 PS-3·18, PS-3·36, PS-4·5, PS-4·17, PS-5·8,
 PS-5·12, PS-6·18, PS-6·26, PS-6·33
 Gao, Yuhang PS-4·17, PS-6·26
 García, Adrián Gómez PS-3·28, PS-3·41,
 PS-3·42, PS-4·19
 Gavrilenko, Veronika PS-1·34
 Ge, Yi PS-2·3
 Geissler, Michael PS-3·33
 Geng, Lizheng PS-6·11
 Gerada, Christopher OS-3·6, PS-5·9
 Gerada, David OS-3·6
 Gervat, Laurent PS-1·32
 Ghafoor, Sohrab PS-2·16
 Ghani, Sharin Ab PS-1·20
 Ghita, Oana PS-3·11, PS-3·37
 Ghunem, Refat Atef PS-4·8
 Gil, Daniel Izquierdo PS-1·4
 Goddard, Kevin PS-1·6
 Gomez, A. PS-5·26
 Goto, Shigehiko PS-1·29
 Granado, J. PS-5·26
 Granado, Joaquin OS-3·5
 Granath, Tim OS-8·1
 Greber, Tobit PS-3·5
 Griseri, Virginie OS-6·3, PS-1·12
 GU, Hanjiang PS-2·29
 Gu, Kai OS-4·3
 Guanghao, Lv OS-4·6
 Gudi, Srinivas Lakshmi Narayana PS-1·3
 Guedes, Eduardo Bonini OS-9·6
 Guillemet-Fritsch, Sophie PS-1·34
 Guillet, Martin PS-4·35
 Guliakova, Anna PS-3·20
 Guo, Xu PS-6·16
 Guo, Zhijun PS-1·16
 Gupta, Kapil Kumar PS-1·11
 Gupta, Nandini PS-2·24, PS-3·13
 Gómez, Fernando Álvarez PS-3·28, PS-3·41,
 PS-3·42, PS-4·19
 Habbas, Alexis OS-8·6
 Haddad, Manu PS-3·25
 Hagura, Naoto PS-4·10
 Hamie, Bachar PS-4·28
 Hammarstroem, Thomas John PS-6·5
 Hammarström, Thomas PS-2·10
 Hamzekhanlo, Ahmad Vosoughi PS-5·23
 Han, Chenlei PS-1·7
 Han, Tao PS-1·21, PS-2·33, PS-3·24, PS-5·31
 Han, Zhuozhan PS-2·35
 Hanna, Rachelle PS-4·25
 Hao, Chunlin PS-1·21
 Hao, Jian PS-1·10, PS-1·25, PS-5·20
 Haq, Tanveer Ul PS-5·33
 Haran, Kiruba OS-3·1
 He, Jiaxiang PS-1·13, PS-2·20
 He, Lin PS-1·15
 He, Lulu PS-6·22
 He, Yuanshuai PS-2·23
 Hedenqvist, Mikael S. PS-4·13
 Henderyckx, Arthur PS-3·20
 Hestad, Øystein OS-5·4, PS-1·36
 Hestad, Øystein L. G PS-2·9
 Hestad, Øystein Leif Gurandsrud PS-2·26
 Hikita, Masayuki PS-4·36, PS-5·25
 Hilker, Andree OS-5·3
 Hinojosa, Javier Escrihuela PS-1·4
 Hirai, Motoshi OS-6·5
 Hirai, Naoshi OS-8·3, PS-3·14, PS-3·15,
 PS-4·6, PS-4·10, PS-5·4
 Hirose, Nonoka PS-1·29, PS-2·15
 Hirte, Henry OS-1·2
 Hizirolu, Huseyin Recai PS-5·7

INDEX OF AUTHORS · H — L

- Hoang, Mai Quyen OS-9.4
 Hodgeman, Darren OS-2.5, OS-4.1, PS-1.14
 Holé, Stéphane PS-4.40
 Hooton, Ruth PS-1.8
 Hoppis, Noah PS-5.19
 Hosier, Ian PS-1.8, PS-2.7, PS-4.15
 Hou, Chengyao OS-2.6, PS-3.40
 Hozumi, Naohiro OS-1.5, PS-4.31, PS-5.1
 Htet, Swe Zin Linn PS-1.28
 Hu, Fei PS-1.23
 Hu, Haohao PS-4.24
 Hu, Huiyi PS-4.22
 Hu, Yingjie PS-3.35
 Hu, Yuxiao PS-5.36
 Huang, Jiasheng PS-1.33, PS-2.35
 Huang, Pinhao PS-2.22, PS-2.27, PS-2.30,
 PS-3.10, PS-3.18, PS-3.36, PS-4.5, PS-6.33
 Huang, Qingdan PS-6.27
 Huang, Ruobin PS-3.6
 Huang, Xingyi PS-6.45
 Huang, Ziqin OS-9.2
 Hugo, Antonella OS-2.2
 Hui, Baojun PS-2.35
 Huillery, Julien PS-4.35
 Hussain, Rashid PS-5.18
 Huuva, Ramona PS-2.9
 Hvidsten, Sverre OS-5.4, OS-8.4, PS-1.36,
 PS-3.3
 Häring, Dominik OS-7.5
 Hølto, Jorunn OS-8.4, PS-3.3
 Ikeda, Yasutaka PS-3.14
 Imburgia, Antonino PS-3.17, PS-4.9, PS-4.39,
 PS-5.29, PS-5.41
 Jackman, Edward H PS-1.8
 Jafari, Sajjad PS-5.18
 Jahanger, Hayder K PS-2.38
 Jarkov, Vlad OS-2.5
 Jarvid, Markus PS-2.9
 Jayaram, Shesha PS-6.35
 Jebli, Mourad PS-2.14
 Ji, XiaoYan PS-2.34, PS-5.35
 Ji, Xiaoyan PS-5.24
 Jiang, Jianan OS-3.6
 Jiang, Tao PS-6.16
 Jiang, Xingliang PS-2.25, PS-5.10
 Jin, Jizhu PS-2.18, PS-2.28
 Jin, Mingkai PS-4.1
 Jin, Yuyang PS-3.6
 Jin, Zhouyu PS-5.38, PS-6.12, PS-6.42
 Jindapetch, Nattha OS-7.3
 Jing, Luji PS-3.18, PS-5.8, PS-5.12,
 PS-6.18, PS-6.33
 Jones, Daniel PS-3.32
 Jongh, Michel de OS-5.6
 Joseph, Jineeth OS-5.6
 Juhre, Karsten OS-9.3, PS-1.19
 Kadlec, Petr PS-3.2, PS-6.19
 Kai, Wu OS-4.6
 Kalita, Uddhab PS-4.13
 Kantar, Emre PS-1.36
 Katsume, Hayato PS-4.31
 Kawashima, Tomohiro OS-1.5, PS-4.31, PS-5.1
 Keim, Pål Stabel PS-1.3
 Ketsamee, Phichet OS-7.3
 Khaing, May Thin PS-1.28, PS-1.29, PS-2.15
 Khamlichi, Abderrahim Khamlichi El PS-3.28,
 PS-3.41, PS-3.42, PS-4.19
 Khan, Asfar Ali PS-6.34
 Khan, Ibrahim PS-6.30
 Khan, Rehan PS-5.33
 Khan, Salman PS-2.9, PS-2.26
 Khan, Suhaib Ahmad PS-6.34
 Kherif., Omar PS-2.38
 Khiar, Mohd Shahril Ahmad PS-1.20
 Khiz, Ali PS-6.35
 Khokher, Neha OS-8.2
 Kim, Hana PS-4.36, PS-5.25
 Kinloch, Ian OS-2.5, OS-4.1, PS-1.14
 Kirkpatrick, Michael J. OS-8.6
 Kitagawa, Yoshinobu PS-3.1
 Kiuchi, Asaki PS-4.6
 KIuchi, Asaki PS-4.10
 Kliem, Herbert PS-3.9
 Kobus, Maja OS-8.1, OS-9.5, PS-3.33
 Koch, Myriam PS-3.5, PS-4.30
 Koeth, Timothy PS-5.19
 Kohler, Thomas PS-1.34
 Kong, Xiaoxiao OS-2.6, OS-3.2, PS-1.7,
 PS-3.40, PS-6.11
 Kopsidas, Konstantinos PS-2.25, PS-3.19,
 PS-4.37, PS-5.6, PS-5.10
 Kornhuber, Stefan OS-1.2, PS-5.23
 Kosse, Maria OS-7.5, PS-1.22
 Kosta, Marc PS-5.11
 Kozako, Masahiro PS-4.36, PS-5.25
 Kumar, Amrendra PS-3.13
 Kurimoto, Muneaki OS-6.5, PS-4.31
 Lachance, Mathieu PS-5.14
 Lagnoux, Agnes OS-2.1
 Lahoud, Nadine OS-6.2
 Lahti, Kari PS-2.42, PS-3.38, PS-3.39,
 PS-4.29
 Lakshmanan, Ramji OS-5.5, PS-4.2

INDEX OF AUTHORS · L — M

- Lambkin, Paul OS-5.5, PS-4.2
Lan, Tian OS-4.3
Lan, Yuanliang OS-4.3
Lan, Yuhao PS-1.24, PS-2.36, PS-5.5
Laneryd, Tor OS-8.2
Lanzoni, Enrico OS-6.6
Laphorn, Andrew OS-1.1
Laranjeira, Mateus OS-3.4
Lathouwers, André PS-4.34
Laurentie, Jean-Charles OS-7.6
Lauria, Stefano PS-2.40
Leblanc, Paul PS-4.40
Leclercq, Ludivine PS-5.40
Leroy, Severine OS-2.1
Lesaint, Cedric OS-5.4, PS-1.36
Leu, Carsten PS-4.7
Levitan, Abraham PS-5.19
Lewin, Paul PS-1.6, PS-2.39, PS-4.3, PS-4.32, PS-6.44
Lewin, Paul L PS-1.8
Li, Changshen PS-6.4, PS-6.38
Li, Chaoran PS-2.4
Li, Fei PS-1.15, PS-5.15
Li, Guoliang PS-5.37
Li, Hua OS-9.2, PS-5.3
Li, J OS-7.2, PS-6.31
Li, Jian PS-5.37
Li, Jianda PS-1.21, PS-2.33, PS-3.24, PS-5.31
Li, Jin PS-1.33, PS-3.34, PS-6.16, PS-6.25, PS-6.36
Li, Kexian PS-5.21
Li, Qi OS-3.2, PS-1.7, PS-2.25, PS-5.10
Li, Shengtao PS-2.32, PS-4.14, PS-5.17, PS-6.40
Li, Siyuan PS-2.35
Li, Songyuan PS-3.24
Li, Steven PS-3.19
Li, Steven Qi PS-4.37, PS-5.6
Li, Wendong OS-7.4
Li, Xiaolan PS-3.40
Li, Xue PS-1.23
Li, Yida PS-6.27
Li, Yinge PS-5.15, PS-5.28
Li, Yuchen PS-2.34, PS-5.35
Li, Yufei PS-1.17, PS-5.32
Li, Yutao PS-3.35
Li, Zerui OS-4.5
Li, Zhonglei OS-2.4, PS-1.23, PS-2.8, PS-4.27, PS-5.42, PS-6.20
Li, Zhuohan PS-5.39
Liang, Hucheng PS-1.16, PS-2.2, PS-2.21, PS-5.38, PS-6.12, PS-6.42
Liang, Kai PS-3.35
Liland, Knul PS-1.36
Lilleli, Leander OS-5.4
Lin, Fuchang OS-9.2, PS-5.3
Lin, Heng PS-2.34, PS-5.35
Linares, Ángel Ramírez PS-3.41
Linde, Thomas PS-1.22
Little, Cameron OS-3.1
Liu, Baixin PS-4.17
Liu, Botao PS-5.39
Liu, Chicheng PS-3.10, PS-3.36, PS-4.5
Liu, H. L PS-6.31
Liu, H.L OS-7.2
Liu, Hang PS-5.30
Liu, Haoliang PS-1.27, PS-5.30
Liu, Hejin PS-2.12
Liu, Qiang PS-1.2
Liu, Sijia PS-1.7, PS-1.23
Liu, Songtao PS-1.33, PS-3.34, PS-6.25
Liu, Xiaomei PS-1.13, PS-2.20
Liu, Yan PS-3.40
Liu, Ying PS-1.13, PS-2.20
Liu, Yixuan PS-2.23
Liu, Yong PS-2.34, PS-5.24, PS-5.35
Liu, Yongbin PS-1.5, PS-1.15
Liu, Zhaogui PS-1.13, PS-2.20
Locatelli, Marie-Laure PS-6.15, PS-6.24
Lu, Detao PS-1.10, PS-1.25, PS-5.20
Lu, Di PS-2.22, PS-2.27, PS-2.30, PS-3.18, PS-3.36, PS-4.5, PS-5.8, PS-5.12, PS-6.18, PS-6.26
Lu, Fan PS-2.29
Lu, Runge PS-2.35
Lu, Wu PS-5.21
Lu, Xinsheng OS-2.3, PS-5.43
Lu, Yida PS-6.40
Lu, Zening PS-1.27, PS-5.30
Lu, Zhaohua PS-6.7
Luis, Hugo PS-6.15
Lukas, Henrich OS-9.3
Luo, Zhaorui OS-2.4, PS-1.23, PS-4.27, PS-5.42, PS-6.20
Lv, Yang PS-3.7
Lv, Zepeng PS-2.3, PS-3.7, PS-4.11, PS-4.16, PS-5.27, PS-6.1
Lyu, Yang OS-2.3
Lähteenmäki, Sami PS-3.39, PS-4.29
Lübeck, Thomas PS-3.5
Ma, Xinyi OS-1.6
Maadjoudj, Djamel PS-2.38
Mage, Lucile PS-6.15
Makasheva, Kremena PS-6.41

INDEX OF AUTHORS · M — P

- Makatia, Laura OS-6·3
 Malec, David OS-4·4, OS-6·3, PS-1·31
 Maloisel, Victor OS-9·1
 Man, Yuguang OS-5·2
 Manger, René PS-3·33
 Manshadi, Danial PS-3·37
 Mao, Qinlin PS-3·8
 Marskar, Robert OS-9·3
 Martínez-Tarifa, Juan M. OS-3·5, PS-5·26
 Martínez-Tarifa, Juan Manuel PS-1·4, PS-6·8
 Mary, Dominique OS-6·3
 María, Gabriel Barroso de PS-1·4
 Matharage, Shanika OS-5·3, PS-4·1, PS-6·17
 Matthew, Booth PS-5·13
 Mauseth, Frank OS-1·4, OS-9·3, PS-1·19,
 PS-2·9, PS-2·26
 Maussion, Pascal PS-1·31
 Mazzanti, Giovanni PS-2·40, PS-2·41,
 PS-2·42, PS-3·38, PS-3·39, PS-4·29, PS-5·22
 McDonald, Harry OS-2·5
 Mcdonald, Harry OS-4·1
 McIntyre, Douglas PS-4·8
 Meisner, Johann PS-3·26
 Memari, Sobhan PS-5·16
 Meng, Vito Wei PS-4·37, PS-5·6
 Meng, Wei PS-2·25, PS-3·19, PS-5·10
 Meuret, Régis PS-4·25
 Meyer, Hans Kristian OS-9·3, PS-1·19
 Meyer, Hans Kristian Hygen OS-1·4
 Mi, Hangyu OS-3·2, PS-1·7
 Mikami, Daisuke PS-1·28
 Millisterfer, Maximilian PS-2·17
 Min, Daomin PS-6·4, PS-6·38
 Mino, Kenichi PS-3·1
 Miquelard-Garnier, Guillaume PS-1·32
 Mirzaamin, Tina OS-7·1
 Mirzadarani, Reza PS-2·16
 Miyake, Hiroaki OS-8·3, PS-3·14, PS-3·15,
 PS-4·6, PS-4·10
 Miyake, Takuma PS-1·28
 Miyazaki, Satoru PS-3·21, PS-4·4
 Mocanu, Alexandra PS-6·9
 Modarresi, Mohsen OS-1·3
 Moneda, Javier Ortego La PS-3·41
 Montero, A. PS-5·26
 Montero, Andrés OS-3·5
 Moormann, Lars PS-4·30
 Moravcova, Daniela PS-6·19
 Moreau, Christophe PS-5·11
 Morita, Shosuke OS-1·5
 Mouaci, Sarah PS-1·12
 Mouhaidali, Amjad PS-4·28
 Moussi, Tania Al OS-5·5, PS-4·2
 Mu, Haibao OS-7·4
 Mudiyansele, Nalindi Pabasara Herath Herath
 OS-1·1
 Mulakkal, Manu PS-3·39
 Muniozgueren, Alai OS-8·1
 Munoz, Fabio PS-2·17, PS-3·26
 Murakami, Yoshinobu OS-1·5
 Murata, Soshiro PS-5·1
 Mustafa, Ehtasham PS-5·33
 Muñoz, Fabio Muñoz PS-4·34
 Muñoz, Guillermo Robles PS-1·4, PS-6·8
 Mächler, Sandro PS-4·26
 Naderiallaf, Hadi OS-3·6, PS-5·9
 Nakamura, Shin PS-3·21, PS-4·4
 Nakashima, Yoichi PS-3·1
 Nakayama, Yoshiki PS-2·15
 Natali, Caterina PS-1·11
 Naylor, Paul PS-6·44
 Ndour, Assane PS-2·37
 Necolau, Madalina PS-6·9
 Nessemo, Fredrik OS-1·4
 Neubert, Holger OS-1·6
 Neveux, Bastien OS-7·6, PS-2·11
 Niasar, Mohamad Ghaffarian OS-5·6, PS-2·16,
 PS-2·19, PS-3·26, PS-6·21, PS-6·37
 Niayesh, Kaveh OS-7·1, PS-1·3
 Nie, Dabiao PS-1·21, PS-2·33, PS-3·24,
 PS-5·31
 Niittymäki, Minna PS-2·42, PS-3·38, PS-3·39,
 PS-4·29
 Nilsson, Fritjof PS-4·13, PS-4·23
 Niwa, Kota PS-2·15
 Niyibizi, Fidele PS-4·25
 Nor, Arif Adam Bin Mohd PS-1·2
 Nunes, Marcus OS-3·4
 Ocaña, Iago Martínez OS-5·1
 Odic, Emmanuel OS-8·6
 Ohki, Yoshimichi PS-5·4
 Olsson, Katelyn PS-6·6
 Olsson, Richard T. PS-4·23
 Orton, Benjamin Adam PS-5·13
 Osmani, Yasmine PS-1·14
 Ossale, Firman PS-4·38, PS-4·41
 Ouyang, Benhong PS-3·29
 OuYang, M.Y OS-7·2
 Oxford, James OS-4·1
 O'Dalaigh, Cian OS-5·5, PS-4·2
 Paillat, Thierry PS-4·40
 Palladini, Daniele PS-1·9

INDEX OF AUTHORS · P — S

- Palmer, Neil PS-6.44
Palmeri, Daniele PS-6.32
Panaitescu, Denis PS-6.3
Pang, Guohui PS-4.37, PS-5.6
Paschini, Lorenzo PS-5.22
Patino, Christian PS-6.28
Pattanadach, Norasage PS-6.19
Paulmier, Thierry PS-5.40
Pedersen, Atle PS-1.19
Pei, Rongqi PS-2.22, PS-2.27, PS-2.30,
PS-3.10, PS-3.18, PS-6.33
Pellegrini, Clement OS-2.1
Peng, Lei PS-3.30
Peng, Siyuan OS-5.2
Peng, Xiangyang PS-1.5, PS-5.28
Peres, Gilles OS-7.6
Perotto, Luca PS-5.29, PS-5.41
Perrotin, Olivier PS-4.25
Pettes-Duler, Matthieu OS-4.4
Pham, Hong Duc PS-5.11
Piccin, Roland OS-6.6
Pichel, Gema Salinero PS-1.4, PS-6.8
Pichugin, Pavel PS-4.7
Pietzonka, Johanna PS-1.22
Pin, Samuel PS-2.11, PS-2.14, PS-4.12
Plath, Ronald OS-4.3
Ploss, Bernd PS-3.9
Polansky, Radek PS-3.2, PS-6.19
Polvani, Dante OS-2.5
Pommier, Lea OS-7.6
Pommier, Léa PS-2.11
Potorac, Pavel Victor PS-6.9
Pourrahimi, Amir Masoud OS-1.3
Prasad, Shakthi PS-6.35
Preuß, Sebastian PS-4.21
Prosr, Pavel PS-6.19
Putson, Chatchai OS-7.3
Qian, Liangbowen PS-6.2
Qian, Yihua PS-3.30
Qin, Yao PS-5.27
Qu, Jinfei PS-4.14
Raducan, Gabriel PS-6.37
Rain, Pascal OS-4.2, PS-4.25, PS-4.38,
PS-4.41
Raisson, Romain PS-1.34
Rank, Nikita S PS-1.8
Rao, Libo PS-1.1
Rashed, Abdellatif K. PS-1.34
Rasti, Keyvan PS-3.37, PS-4.20
Ratheiser, Patrik OS-1.1, PS-5.16
Rebollo, Ainara Angulo OS-5.1
Reed, Charlie PS-6.44
Rehman, Anees Ur PS-6.22
Reid, Alistair PS-3.25
Ren, Shuai PS-6.36
Ren, Xiang PS-3.29
Ren, Yuanyang PS-1.35
Revadi, Bhavana PS-4.42
Reyes, Eduardo Cuervo OS-9.6
Ricci, Mauro PS-6.32
Riechert, Uwe OS-8.5
Righetto, Francesca PS-1.26
Rivenc, Jean OS-7.6, PS-2.11
Rizzo, Giuseppe PS-3.17, PS-4.9, PS-4.39,
PS-5.29, PS-5.41
Robertson, Ellen PS-6.6
Robles, G. PS-5.26
Robles, Guillermo OS-3.5
Rocchetti, Giacomo PS-6.43
Romano, Pietro PS-3.17, PS-4.9, PS-4.39,
PS-5.29, PS-5.41
Rossi, Andrea PS-4.33
Rossignol, Yann PS-2.11, PS-4.38, PS-4.41
Rowland, Simon M. PS-3.19
Roy, Severine Le PS-2.37
Roy, Séverine Le OS-2.2, OS-9.4
Rozga, Pawel PS-6.39
Rubio, Adrien PS-4.12
Ruffino, Salvatore PS-3.17, PS-4.9, PS-4.39,
PS-5.29, PS-5.41
Rusen, Edina PS-6.9
Rusu, Caterina Elena Lesaint OS-8.4
Rusu, Caterina L. OS-5.4
Rychkov, Dmitry PS-3.20, PS-6.43
Rychlik, Zdenek PS-3.2, PS-6.19
Rytoluoto, Ilkka PS-2.42
Rytöluoto, Ilkka PS-3.38, PS-3.39, PS-4.29
Rzempołuch, Joanna PS-1.6
Saeedi, Istebreq PS-3.4, PS-3.32, PS-4.15,
PS-4.32, PS-6.23, PS-6.30
Sahlén, Fredrik OS-7.1
Saidi, Mohamed PS-1.12
Saidi-Amroun, Nadia PS-1.12
Sakoda, Tatsuya PS-1.28, PS-1.29, PS-2.15
Saleem, Muhammad Shahzaib PS-4.34
Saleem, Shahzaib PS-2.17
Saleh, Shaily Hatun Mohamad PS-1.20
Salinero, G. PS-5.26
Samarakoon, Anjana J. OS-3.1
Sara, Christina OS-6.2
Sarrailh, Pierre PS-5.40

INDEX OF AUTHORS · S — V

- Scavello, Francesco PS-6.32
 Schichler, Uwe OS-1.1, PS-5.16
 Schindler, Alexander OS-7.5
 Schmidt, Paul OS-4.2
 Schurch, Roger PS-1.9
 Schwartz, Nick PS-5.19
 Scotti, Anna PS-1.9
 Sebastiani, Alessandro PS-5.22
 Sefl, Ondrej PS-1.26
 Segonds, Stephane OS-2.1
 Seifi, Sahand PS-3.23
 Serdyuk, Yuriy PS-2.10, PS-6.5
 Seri, Paolo PS-2.42, PS-3.38
 Sgriscia, Renato PS-2.40
 Shan, Qianyu PS-3.6
 Shang, Qifeng PS-2.22, PS-2.30, PS-3.10,
 PS-3.36, PS-4.5, PS-5.8, PS-5.12, PS-6.26,
 PS-6.33
 Shearin, Ariana PS-5.19
 Shen, Maoqun OS-7.4
 Shen, Qi PS-3.27
 Shi, Chaoqun PS-5.36
 Shi, Jialin PS-4.14
 Shi, Kexin PS-6.7
 Shi, Yu PS-2.25, PS-5.10
 Shimizu, Masayuki OS-8.3
 Shiota, Hiroki PS-3.1
 Silva, Bernardo OS-3.4
 Skirbekk, Fanny PS-1.19
 Song, Haoyong PS-1.10, PS-5.20, PS-6.27
 Song, Jiale PS-5.39
 Song, Pengxian PS-1.23
 Souta, Nagata PS-1.28
 Sowaruth, Sanjog PS-6.10
 Speinle, Elias PS-2.17
 Spencer, Sophie Alexandra OS-9.6
 Squire, Darron PS-4.1
 Stahl, Laureen PS-3.23
 Stainton, Richard PS-6.44
 Stark, Sebastian OS-1.6
 Stary, Zdenek PS-3.2
 Stehle, Yijing OS-6.4
 Stehle, Yijing Y. PS-6.6
 Strand, Henrik PS-3.3
 Stuchala, Filip PS-6.39
 Sturge, Kathryn PS-5.19
 Su, Guoqiang PS-2.12
 Su, Mengyue PS-2.3, PS-4.16, PS-5.27
 Su, Xiaohui PS-5.3
 Sui, Rui PS-1.15
 Sulym, Iryna PS-6.24
 SUN, Dejie OS-6.5
 Sun, Ge PS-5.21
 Sun, Qi OS-2.6
 Sun, Xiaseng PS-1.25
 Sun, Xin PS-5.37
 Sun, Yihan PS-1.33
 Suraci, Simone Vincenzo PS-2.18, PS-2.28,
 PS-2.31, PS-4.33, PS-6.32
 Szekely, Laszlo PS-6.14
 Takahashi, Kunihiro PS-3.14
 Takayama, Toru PS-1.28
 Tamus, Zoltán Ádám PS-2.28, PS-3.31
 Tanaka, Yasuhiro OS-8.3, PS-3.14, PS-3.15,
 PS-4.6, PS-4.10, PS-5.4
 Tang, Xinyu PS-1.24, PS-2.36, PS-5.5
 Tang, Yi PS-5.28
 Tatchum, Sariette Nova PS-6.41
 Tegaur, Madjid PS-2.38
 Tenbohlen, Stefan OS-8.5, PS-4.42
 Terzija, Vladimir PS-2.25, PS-5.10
 Teyssedre, Gilbert OS-4.4, OS-6.3, OS-9.4,
 PS-1.32, PS-2.37, PS-6.41
 Theolier, Loic PS-4.25
 Thomas, Cécilien PS-2.11
 Thomsen, Nina Marie OS-8.4
 Tian, Wenrui OS-7.4, PS-6.29
 Tian, Xinling PS-5.15
 Tian, Yi PS-5.43
 Tillotson, Liz PS-6.44
 Toigo, Caterina PS-2.5
 Tomaiwa, Ryuto PS-5.25
 Toumi, Amira PS-1.12
 Trad, Rodolphe PS-1.32
 Tran, Kim-Long PS-1.31
 Tucker, Nick PS-4.20
 Tummuru, Tarun PS-4.26
 Töpfer, Hannes PS-4.7
 Uckol, Halil Ibrahim PS-4.8
 Ueno, Daisuke PS-3.1
 Ueshima, Minoru PS-4.36
 Ullah, Safi PS-5.33
 Unge, Mikael OS-1.3, OS-9.1, PS-4.13,
 PS-4.23
 Vaessen, Peter OS-5.6, PS-2.16, PS-2.19,
 PS-4.34, PS-6.21
 Vagnon, Eric PS-4.35
 Valdez-Nava, Zarel PS-4.12, PS-6.15, PS-6.24
 Varais, Andy PS-2.14
 Ve, Torbjørn Andersen OS-5.4, PS-2.26
 Vedovato, Matteo PS-2.41
 Venturini, Simone PS-1.9

INDEX OF AUTHORS · V — Y

- Verma, Alok Ranjan PS-1·30
 Vidal, Paul-Etienne PS-1·34
 Vigni, Vincenzo Li PS-3·17, PS-4·9, PS-4·39
 Villa, Andrea Barbareschi PS-1·9
 Villani, Lorenzo PS-2·31, PS-6·32
 Villeneuve, Christina OS-6·2
 Villeneuve-Faure, Christina OS-2·2, PS-6·41
 Vlassioux, Ivan OS-6·4
 Vogl, Maximilian PS-2·17
 Vryonis, Orestis PS-2·7, PS-2·39, PS-3·4,
 PS-4·15, PS-4·32, PS-6·10, PS-6·23
 Vu, Thi Thu Nga OS-9·4
 Wang, Fang PS-2·32, PS-5·17
 Wang, Feipeng PS-5·37
 Wang, Haitian PS-2·39
 Wang, Hao PS-6·45
 Wang, Heyu PS-5·42, PS-6·20
 Wang, Jiaxun PS-5·34
 Wang, Peng OS-5·2, PS-5·34
 Wang, Pengyue PS-3·16, PS-3·22
 Wang, Qiao hua PS-2·1
 Wang, Qiaohua PS-1·1, PS-2·6, PS-3·27
 Wang, Qing PS-3·30
 Wang, Shihang PS-4·14
 Wang, Siyu PS-6·29
 Wang, Tingxuan OS-5·3
 Wang, Tingyan PS-1·10, PS-5·20, PS-6·27
 Wang, Weiwang PS-6·4, PS-6·38
 Wang, Xiaobing PS-6·23
 Wang, Xinyan PS-4·11
 Wang, Xu OS-2·6
 Wang, Yalin PS-2·29
 Wang, Yang PS-1·35, PS-3·35
 Wang, Yifang OS-2·6, PS-1·7, PS-3·40,
 PS-6·11
 Wang, Yongxin PS-6·4
 Wang, Yuexiong PS-6·4, PS-6·38
 Wang, Yufan PS-3·34, PS-6·25
 Wang, Yuhuai PS-3·34, PS-6·16, PS-6·25,
 PS-6·36
 Wang, Zehua PS-2·2, PS-2·21
 Wang, Zhaochen PS-1·27, PS-6·2, PS-6·13
 Wang, Zhaopeng PS-6·4, PS-6·38
 Wang, Zheming PS-5·21
 Wang, Zhongdong OS-5·3, PS-4·1, PS-6·17
 Wang, Zihao OS-4·5
 Weber, David PS-3·23
 Wei, Hankun PS-2·34, PS-5·35
 Wei, Jianguo OS-4·3
 Wei, Ziqi PS-3·29
 Werle, Peter OS-1·2, PS-3·23
 Williams, Craig PS-3·11
 Williams, Iwan PS-3·25
 Wilson, Gordon OS-5·3, PS-1·8, PS-3·25
 Wiratmo, Meryl PS-5·19
 Wu, Chenyu PS-6·1
 Wu, Ji PS-5·15
 Wu, Jian dong PS-2·1
 Wu, Jiandong PS-1·1, PS-2·6, PS-3·27
 Wu, Kai PS-1·35, PS-2·3, PS-3·7, PS-4·11,
 PS-4·16, PS-5·27, PS-6·1
 Wu, Xiwen PS-2·39, PS-4·32
 Wu, Yao PS-5·37
 Wu, You PS-4·27, PS-5·42
 Wu, Zihao PS-3·7
 Xia, Feng PS-3·6
 Xia, Sheng PS-3·19
 Xia, Wang OS-4·6
 Xiao, M OS-7·2, PS-6·31
 Xiao, Meng OS-6·1, PS-1·17, PS-1·27,
 PS-5·30, PS-5·32, PS-6·2, PS-6·12, PS-6·13,
 PS-6·42
 Xiao, Mi PS-2·2, PS-2·21
 Xie, Jili OS-3·3
 Xing, Linzhen PS-6·18
 Xu, Fang PS-5·9
 Xu, Hang PS-4·1
 Xu, Hao PS-2·3, PS-5·27
 Xu, Lulin PS-6·29
 Xu, Peng OS-4·3
 Xu, Ranran PS-6·16
 Xu, Shuang PS-5·39
 Xu, Tao PS-2·35
 Xu, Tiantian PS-6·21
 Xu, Yang PS-4·24, PS-5·36
 Xu, Yefei PS-3·29
 Xu, Yuanjie PS-5·39
 Xu, Yufan OS-9·2, PS-5·3
 Xu, Zhiqiang PS-2·39
 Xue, Anquan PS-6·40
 Xue, Tingyue PS-3·10, PS-4·17, PS-6·26
 Yamatake, Atushi PS-3·1
 Yan, Bangwen PS-2·35
 Yang, Chia-Jung OS-9·6
 Yang, Hao PS-2·23
 Yang, Jiaqi PS-6·7
 Yang, M.Y Ou PS-6·31
 Yang, Peishi PS-6·38
 Yang, Tao OS-3·6, PS-5·9
 Yang, Wei OS-2·3
 Yang, Weihong PS-6·4

INDEX OF AUTHORS · Y — Ö

- Yang, Xiaoyu PS-2·12, PS-6·29
 Yang, Xinru PS-6·40
 Yang, Yifei PS-5·28
 Yang, Zechao PS-6·20
 Yao, Huanmin OS-7·4, PS-6·29
 Yi, Huajie PS-6·10
 Yi, Jiening PS-1·7
 Yi, Nan PS-3·11, PS-3·37
 Yin, Li OS-2·3
 Yin, Lijuan PS-4·22
 Yin, Yi PS-1·1, PS-2·1, PS-2·6, PS-2·29,
 PS-3·27, PS-5·28
 Yin, Yifan PS-2·8
 Yoshida, Shigeyoshi PS-3·1
 You, Yuwei PS-6·7
 Yu, Guangzheng PS-5·21
 Yu, Hou PS-2·23
 Yu, Shihu PS-5·15, PS-5·28
 Yu, Xin PS-1·5
 Yu, Xuliang PS-2·19
 Yu, Zhilong PS-2·22, PS-2·30, PS-3·18,
 PS-4·17, PS-5·8, PS-5·12, PS-6·18, PS-6·33
 Yuan, Xiaochen PS-3·19, PS-4·37, PS-5·6
 Zeng, Jijun OS-5·2
 Zeng, Xianshi OS-4·3
 Zhan, Jingwen PS-5·20
 Zhan, Liangtian PS-1·27
 Zhan, Yunpeng PS-2·35
 Zhang, Bo PS-1·35, PS-2·4, PS-3·35
 Zhang, Dandan PS-6·7
 Zhang, Danin PS-2·12
 Zhang, Daning OS-7·4, PS-6·29
 Zhang, Di PS-1·5
 Zhang, Ge PS-3·40, PS-6·11
 Zhang, Guangwei PS-4·16, PS-5·27
 Zhang, Guanjun OS-7·4, PS-2·12, PS-6·29
 Zhang, Jia-Wei PS-3·8
 Zhang, Jiaqi PS-3·34, PS-6·25, PS-6·36
 Zhang, Jie PS-5·37
 Zhang, Jingwen PS-1·10, PS-1·25
 Zhang, Junqi PS-2·33
 Zhang, Li PS-3·29
 Zhang, Liangtian PS-1·17, PS-5·32
 Zhang, Lizhi PS-1·24, PS-2·36, PS-5·5
 Zhang, Mengdie OS-6·1
 Zhang, Qiheng PS-4·14
 Zhang, Qiuhan OS-5·2
 Zhang, Ruisong PS-1·5
 Zhang, Tianyin PS-3·6
 Zhang, Tongwei PS-5·3
 Zhang, Wenjiao PS-5·36
 Zhang, Wenjin PS-2·2, PS-2·21, PS-6·42
 Zhang, WenJin PS-5·38
 Zhang, Xiaojing PS-4·24, PS-5·36
 Zhang, Xinyue PS-6·1
 Zhang, Yi PS-1·15
 Zhang, Yuhao PS-6·22
 Zhao, Dongdong PS-5·34
 Zhao, Feiyang PS-3·16, PS-3·22
 Zhao, Haijing PS-1·15
 Zhao, Haoxiang PS-6·29
 Zhao, Hexingyu PS-1·10, PS-5·20
 Zhao, Juntao PS-3·7
 Zhao, Su PS-5·28
 Zhao, Xiangyang PS-3·35
 Zhao, Yangzhen PS-2·23
 Zhao, Yaohong PS-3·30
 Zhao, Yifeng PS-3·30
 Zhara, Shafira OS-1·5
 Zheng, Feihu PS-3·16, PS-3·22
 Zheng, Zeping PS-1·21, PS-2·33, PS-3·24,
 PS-5·31
 Zheng, Zhe PS-5·28
 Zheng, Zhong OS-2·4, PS-4·27, PS-5·42,
 PS-6·20
 Zhong, Lisheng OS-2·3, PS-1·15, PS-5·15
 Zhou, Han PS-1·10, PS-1·25
 Zhou, Kai OS-4·5, PS-1·24, PS-2·36, PS-3·29,
 PS-5·5
 Zhou, Lei PS-5·34
 Zhou, Mingyu PS-2·39
 Zhou, Qun OS-5·2
 Zhou, Wenqiang PS-5·21
 Zhou, Xuanming OS-3·6
 Zhu, Shijie OS-6·5
 Zhu, Wenbo PS-2·35
 Zhu, Yingwei PS-5·34
 Zhu, Yuanwei PS-2·32, PS-5·17
 Zink, Markus H. PS-3·33
 Zong, Honbao PS-5·24
 Zou, Aishan PS-2·25, PS-5·10
 Zou, Mingfang PS-2·32, PS-5·17
 Zou, Qin PS-6·6
 Zou, Tianjie PS-5·9
 Zou, Yanglin PS-1·13
 Zouaghi, Ayyoub PS-2·5
 Zulkefli, Nur Izyan Husnina PS-1·20
 Álamo, Eduardo Arcones del PS-3·28, PS-3·41,
 PS-3·42, PS-4·19
 Öftering, Hans-Peter PS-3·33

MAPS

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Walking Map.

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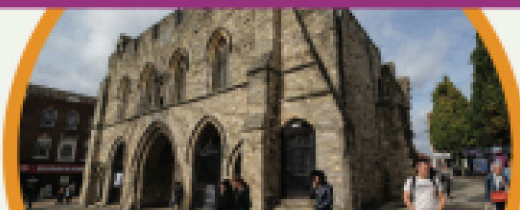
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8 Bargate

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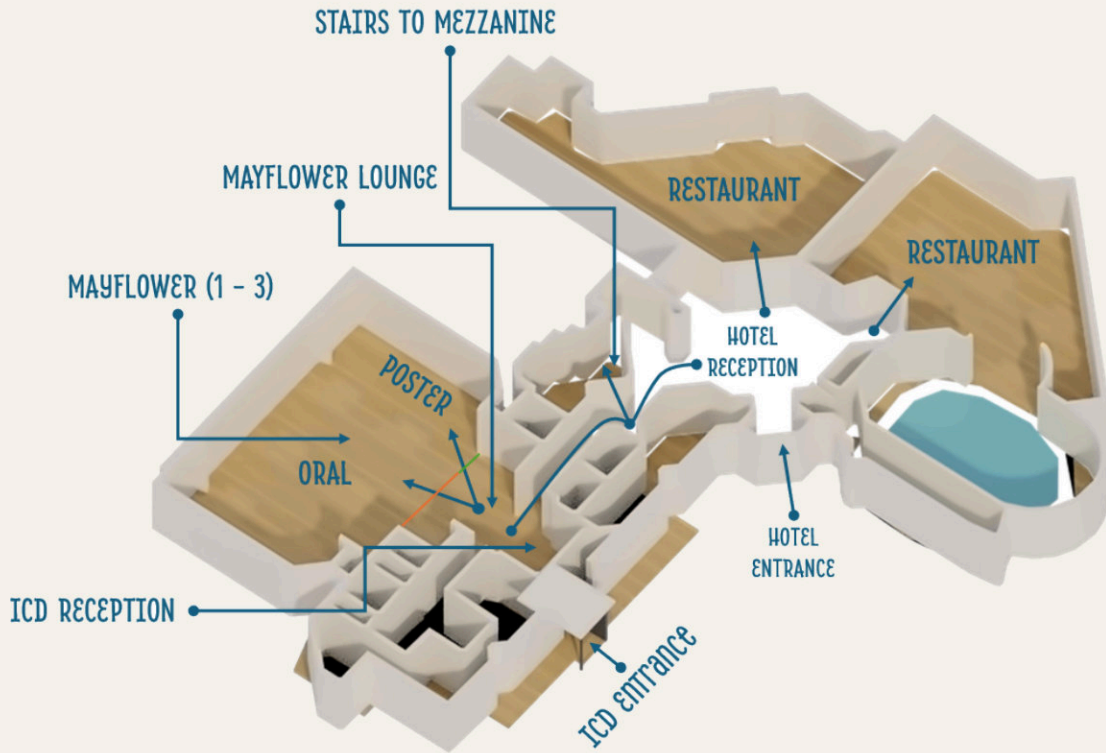
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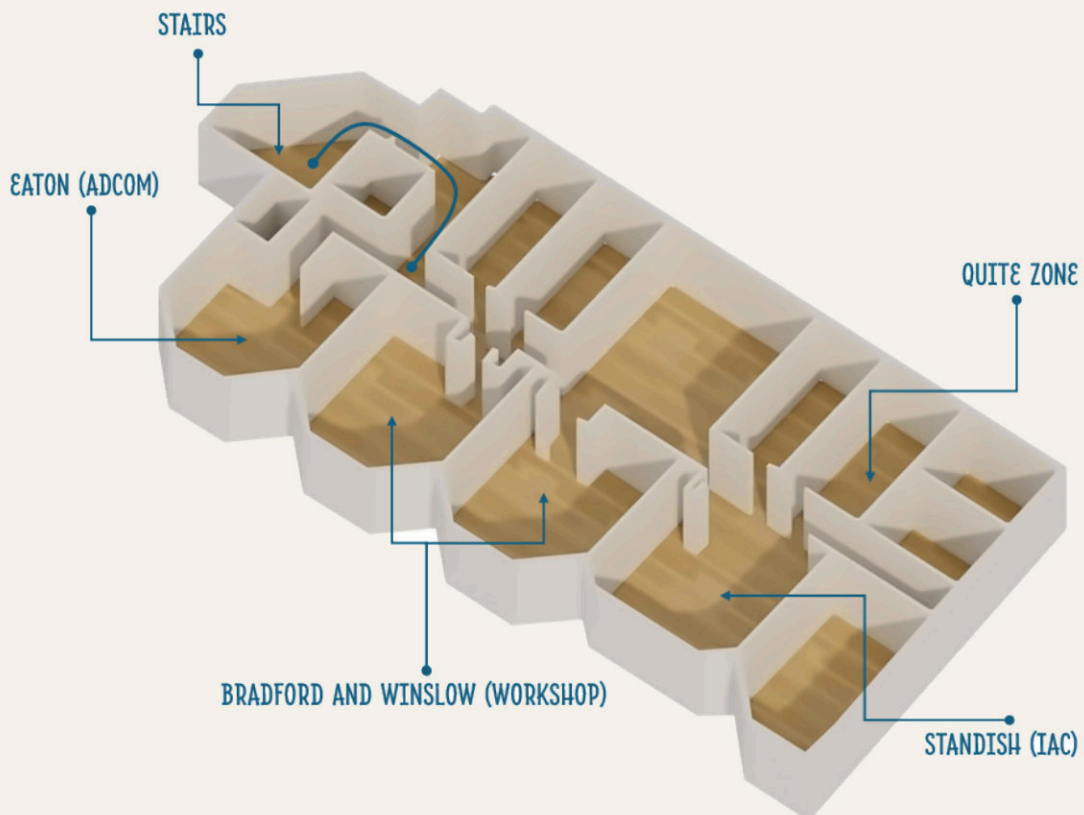
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