THE 1st ASIA SUMMER SCHOOL ON DIELECTRIC INSULATION

Exploring Space Charge Phenomena and Research Skills Development

Iceland Hotel, Sun-island, Harbin, China | August 7–10, 2025

Organizer: Xi'an Jiaotong University

Sponsor: IEEE Dielectrics and Electrical Insulation Society (IEEE DEIS)

Co-organizer: Harbin University of Science and Technology

2025 IEEE 5th International Conference on Electrical Materials and Power Equipment (ICEMPE)

西安交通大學 XI'AN JIAOTONG UNIVERSITY 哈尔滨理工大学 HARBIN UNIVERSITY OF SCIENCE AND TECHNOLOGY DEIS IEEE

About the Summer School

The 1st IEEE DEIS Asia Summer School (ASS) is an immersive academic program designed to engage bright young minds in the fascinating field of space charge transport in dielectrics. Led by the 'Four Musketeers', this program combines **deep theoretical exploration with dynamic group discussions**, **hands-on research proposal writing**, and **collaborative learning**.

Our focus is knowledge transfer in space charge science and the development of critical research and communication skills. Expect an environment that is intellectually challenging, creatively stimulating, and socially enriching — all in the spirit of fun and camaraderie.

Program Highlights

- 🧠 Lectures on space charge theory and measurement
- 🧪 Practical sessions on research proposal development
- 🎩 Use of 'Six Thinking Hats' to foster creative group dialogue
- 👫 Team-based research proposal presentations and feedback
- 🌐 International networking and collaboration opportunities
- 📜 Publication goal: student article in IEEE Transactions on Dielectric and Electric Insulation, or Electrical Insulation Magazine

Social and Cultural Events

Enjoy a relaxed yet stimulating environment with plenty of breaks, social activities, and evening riddles. A highlight is the Day 3 afternoon social event — designed to promote networking and free-flowing idea exchange among participants and instructors alike.

Schedule Overview

📅 **August 6 (Wed)**: Arrival and check in

📅 **August 7–8 (Thu–Fri)**: Lectures, small group activities, theory & methods

📅 **August 9–10 (Sat–Sun)**: Group work, proposal development, presentations

📅 **August 11 (Mon)**: Departures and check out

How to Apply

Applications are open to graduate students and early-career researchers with an interest in **dielectrics and research methodologies**.

🌐 Apply at: https://2025assdi.iceriverbj.com/

📧 Email: asc2025@summerschoolconf.org

📅 Application Deadline: July 31, 2025

Keynote Speakers

Prof. Peter Morshuis (The Netherlands)

Peter Morshuis (Senior Member, IEEE) received the M.Sc. and Ph.D. degrees from Delft University of Technology, Delft, The Netherlands, in 1985 and 1993, respectively. He was an Associate Professor in high voltage engineering with Delft University of Technology until 2016. In 2012 he founded Solid Dielectric Solutions, a company focusing on training, education and consultancy in the field of dielectrics and electrical insulation. In 2015 he started the IEEE DEIS Summer School series, a new way of motivating and challenging Ph.D. students in the field of dielectrics and electrical insulation. . Currently he is a Visiting Professor at Xi'an Jiaotong University, Xi'an, China. His fields of interest and expertise include insulating materials for HVDC, space charge and partial discharge mechanisms and measurements, dielectric interface phenomena, and electroactive polymer applications. Dr. Morshuis is a Distinguished IEEE Lecturer. He is on the board of the IEEE Electrical Insulation Magazine and active in various IEEE DEIS committees.

Prof. Naohiro Hozumi (Japan)

Professor Emeritus, Toyohashi University of Technology

Naohiro Hozumi (Member, IEEE) was born in Kyoto, Japan, in April 1957. He received the B.S., M.S., and Ph.D. degrees from Waseda University, Tokyo, Japan, in 1981, 1983, and 1990, respectively. He was engaged with the Central Research Institute of Electric Power Industry (CRIEPI), Japan, from 1983 to 1999. He was an Associate Professor with Toyohashi University of Technology, Japan, from 1999 to 2006, a Professor with Aichi Institute of Technology, Japan, from 2006 to 2011, and a Professor at Toyohashi University of Technology from 2011 to 2023. Since 2023 he has been an emeritus Professor at Toyohashi University of Technology. He has been engaged in the researches in insulating materials and diagnosis for high voltage equipment, acoustic measurement for biological and medical applications. Dr. Hozumi is a member of CIGRE and the Acoustic Society of Japan. He was awarded in 1990, 1999, and 2019 from IEE of Japan for his Outstanding Research Articles.

Prof. June-ho Lee (South Korea)

Professor, Hoseo University

June-Ho Lee (M'95) was engaged in Central Research Institute of Electric Power Industry from 1993 to 1994. Since 1994, he has been a professor of Hose University, being engaged in the research in eco-friendly insulating materials, diagnosis for high voltage equipment, optical fiber application for high voltage system and HV impulse application for the water treatment. He is a member of IEEE, KIEE of Korea and CIGRE SC D1.

Prof. Zepeng Lv (China)

Professor, Xi'an Jiaotong University

Zepeng Lv (Member, IEEE) received the B.S. and Ph.D. degrees in electrical engineering from Xi'an Jiaotong University, Xi'an, China, in 2009 and 2015, respectively. From 2015 to 2018, he was a Post-Doctoral Research Associate with the University of Manchester, Manchester, U.K. At the end of 2018, he became an Associate Professor with Xi'an Jiaotong University and became a professor in 2021. He is a currently a Professor with the School of Electrical Engineering, Xi'an Jiaotong University. He is currently working on the space charge transport and accumulation in polymer insulation, metal/insulation interface, electrical tree, and partial discharge, estimation of electrical aging lifetime of insulation materials and electroactive polymers. He is also a member of IEC TC 112 and runs the column of "Stories from China" in IEEE Electrical Insulation Magazine.

Conference Committees

Conference Chair: **Prof. Peter Morshuis** - *Solid Dielectric Solutions, the Netherlands*
Honor Chair: **Prof. Kai Wu** - *Xi'an Jiaotong University, China*
Local Chair: **Prof. Zepeng Lv** - *Xi'an Jiaotong University, China*
Committee Members

- **Prof. N. Hozumi** - *Toyohashi University of Technology, Japan*
- **Prof. June-Ho Lee** - *Hoseo University, Korea*
- **Prof. Zepeng Lv** - *Xi'an Jiaotong University, China*

Schedule

Time	Wednesday 6th August
14:00-21:00	**Arrival** at Harbin Summer School at **Iceland Hotel, Sun-island**, Harbin, China
	Check-in
	Free time – getting to know each other

Time	Thursday 7thAugust	Friday 8th August	Saturday 9th August	Sunday 10th August
07:30	Breakfast	Breakfast	Breakfast	Breakfast
09:00	**General introduction to the Summer School (Peter, Zepeng)** **Introduction of the four musketeers** **HVDC and space charge – a helicopter overview (Peter)**	**The Physics of space charge dynamics (Zepeng)**	**Introduction to school objective of writing a research proposal (Peter, all)** Define group research questions (groups) **Feedback and Consideration** (6 hats style) **Preparation research plans (groups)**	**Introduction to preparing your presentations – how to impress the referees (Peter, Zepeng)** **Finalization of group research plans**
10:30	Tea/coffee break	Tea/coffee break	Tea/coffee break	Tea/coffee break
10:50	**Six thinking hats presentation (Peter)** Introduction to the methodology, hat making **Proposal presentation (Peter)** **Consider the Proposal using the Six Thinking Hats Methodology**	**PEA space charge measurement (June-ho)** Every 20 – 30 minutes a small activity, checking the concepts that are taught	**Finalization of group research questions (groups)** **Feedback and consideration** by class (6 hats style)	**2 Group presentations** **Feedback and consideration** by class (6 hats style)
12:30	Lunch	Lunch	Lunch	Lunch
	Afternoon break	Afternoon break	Afternoon break	Afternoon break
14:00	**Space charge measurement basics (June-ho, Hozumi)**	**Acoustics and signal processing of space charge obtained by PEA method (Hozumi)**	**Social Afternoon**	**2 more group presentations** **Feedback and consideration** by class (6 hats style) **Conclusions; next steps (joint journal publication, keeping the network alive, …) (Peter, all)**
15:30	Tea/coffee break	Tea/coffee break		Tea/coffee break
15:50 **(2 hours)**	**What is space charge and why is it of importance (Zepeng, Peter)** Interactive activities considering charge dynamics (all musketeers) Every 20 – 30 minutes a small activity, checking the concepts that are taught	**Space charge case studies (Hozumi, Peter)** Every 20 – 30 minutes a small activity, checking the concepts that are taught **Divide into groups (Peter)**		**Continuation of keep the network alive** **Ideas for further collaboration** **Organization of local events**
18:00	Free time	Free time		Free time
18:30	Dinner	Dinner	**Banquet**	Dinner
20:00	**“Peter’s Pond Problem” (Peter)**	**“Hozumi’s Riddle” (Hozumi)**	**“June-ho’s Challenge” (June-ho)**	**“Zepeng’s Story” (Zepeng)**

Time	Monday 11th August
8:00-12:00	**Check-out and Departure**

📅 Detailed Schedule

Wednesday · 06 August 2025

14:00-21:00 — Registration and Check-in, and get to know each other.

Thursday · 07 August 2025

Theme: Knowledge of Space Charge Phenomena – Concepts and Methods

07:30 — Breakfast
09:00–10:30 — 🔑 School Kickoff & Icebreakers – General intro (Peter, Zepeng), Four Musketeers intro, interactive activities, HVDC and space charge – a helicopter overview (Peter)
10:30–10:50 — ☕ Tea/coffee Break
10:50–12:30 — 🎓 Six Thinking Hats presentation & hat making (Peter); XX Proposal analysis using Six Thinking Hats Methodology (class)
12:30 — Lunch
14:00–15:30 — 📊 Space charge measurement basics (June-ho, Hozumi); Group discussion on challenges
15:30–15:50 — Tea/coffee Break
15:50 — 18:00 🔍 What is space charge and why is it important? (Zepeng, Peter); Interactive group activities (All musketeers)
18:00 — Free Time
18:30 — Dinner
20:00 — 🧠 “Peter’s Pond Problem” (Peter)– Evening activity

Friday · 08 August 2025

Theme: Research Thinking and Proposal Development

07:30 — Breakfast
09:00–10:30 — ✍️ Physics of space charge dynamics (Zepeng); Interactive concept-checking activities
10:30–10:50 — ☕ Tea/coffee Break
10:50–12:30 — 🔬 PEA space charge measurement (June-ho); Interactive concept-checking activities
12:30 — Lunch
14:00–15:30 — 🧪 Acoustics and signal processing (Hozumi); Interactive concept-checking activities
15:30–15:50 — ☕ Tea/coffee Break
15:50–18:00 — 💡 Space charge case studies (Hozumi, Peter); Interactive analysis and group work
18:00 — Free Time
18:30 — Dinner
20:00 — 🧠 “Hozumi’s riddle” (Hozumi) – Evening activity

Saturday · 09 August 2025

Theme: Application of Space Charge Techniques

07:30 — Breakfast
09:00–10:30 — 📘 Introduction of writing a research proposal (Peter, all); Define group research questions (groups); Feedback and consideration by class (6 hats style)
10:30–10:50 — ☕ Tea/coffee Break
10:50–12:30 — 📗 Finalization of group research questions (groups); Feedback and consideration by class (6 hats style)
12:30 — Lunch
14:00–18:00 — 💡 Social afternoon and evening meal
18:00 — Free Time
18:30 — Dinner
20:00 — Short evening activity

Sunday · 10 August 2025

Theme: Final Presentations & Future Planning

07:30 — Breakfast
09:00–10:30 — 🧑‍🏫 Prepare your presentations – How to impress referees (Peter, Zepeng); Finalization of group research plans
10:30–10:50 — ☕ Tea/coffee Break
10:50–12:30 — 🛠️ 2 group presentations and feedback
12:30 — Lunch
14:00–15:30 — 📣 Continuation of keep the network alive; Ideas for collaboration; Local events etc
15:30–15:50 — Coffee Break
15:50–18:00 — 🔮 2 more group presentations; Feedback and conclusions; Next steps (joint publication, etc.)
18:00 — Free Time
18:30 — Dinner & Party
20:00 — Short evening activity

Monday · 11 August 2025

7:30 — Breakfast
8:00-14:00 — 🚗 Check-out and Departure

🚗 Transportation Guide

The route planning guide traveling to Iceland Hotel (Address: No. 49 Linjiang Street, Sun Island Scenic Area) from Harbin Taiping International Airport, major train stations, and the ICEMPE venue (Harbin Grand Theatre). Includes transportation options, durations, and estimated costs:

1. From Harbin Taiping International Airport

a) Taxi/Car-hailing

-Route: Airport Expressway → Songbei Avenue → Sun Island Scenic Area
-Distance/Time: ~46 km, ~50 mins
-Cost: ~¥92 (includes toll fee)
-Note: Direct navigation to the hotel. Vehicles are permitted within the scenic area.

b) Public Transport

Option 1 (Airport Bus + Metro + Walk)
1. Take Airport Bus to *Harbin Railway Station* (~40 mins, ¥20).
2. Transfer to Metro Line 2 at Harbin Railway Station → alight at Taiyangdao Station (Exit 3).
3. Walk 1.2 km (~15 mins) or take a short taxi ride (~5 mins, ¥9).
- Total Time: ~1h 40m
- Total Cost: ~¥29

2. From Harbin Railway Station

a) Taxi/ Car-hailing

- Route: Songhua River Highway Bridge → Sun Avenue
- Distance/Time: ~12 km, ~26 mins
- Cost: ~¥27

b) Public Transport

Option 1 (Metro + Walk)
1. Take Metro Line 2 from Harbin Railway Station → Taiyangdao Station (Exit 3).
2. Walk 1.2 km or taxi (~5 mins, ¥9).
- Total Time: ~30 mins
- Total Cost: ¥4 (metro) + ¥9 (walk/taxi)

3. From Harbin West Railway Station

a) Taxi/ Car-hailing

- Route: Harbin Street → Songbei Avenue
- Distance/Time: ~14.3 km, ~24 mins
- Cost: ~¥31

b) Public Transport

Option 1 (Metro + Walk)
1. Take Metro Line 3 → transfer to Line 2 at Zhujiang Road Station → Taiyangdao Station (Exit 3).
2. Walk 1.2 km or taxi (~5 mins, ¥9).
- Total Time: ~50 mins
- Total Cost: ¥5 (metro) + ¥9

Option 2 (Bus + Walk)
1. Take Bus 129 to Taiyangdao Road Intersection Station.

2. Walk 1.5 km (~20 mins).
- Total Time: ~1h 10m
- Total Cost: ¥2

4. From Harbin North Railway Station

a) Taxi/ Car-hailing

- Route: Limin Avenue → Songbei Avenue
- Distance/Time: ~10 km, ~15 mins
- Cost: ~¥20

b) Public Transport

Option 1 (Metro + Walk)
1. Take Metro Line 2 from *Harbin North Station* → Taiyangdao Station (Exit 3).
2. Walk 1.2 km or taxi (~5 mins, ¥9).
- Total Time: ~25 mins
- Total Cost: ¥3 (metro) + ¥9

5. From ICEMPE Venue (Harbin Grand Theatre)

a) Taxi/ Car-hailing

- Route: Harbin Grand Theatre → Binshui Avenue → Songbei Avenue → Sun Island Scenic Area
- Distance/Time: ~10 km, ~15–20 mins
- Cost: ~¥20–25

b) Public Transport

Option 1 (Metro + Walk)
1. Walk 10 mins to Metro Line 2 Shimao Avenue Station → Take Line 2 (towards Qixiangtai) → Taiyangdao Station (Exit 3).
2. Walk 1.2 km or taxi (~5 mins, ¥9).
- Total Time: ~35 mins
- Total Cost: ¥4 (metro) + ¥9

Option 2 (Bus + Walk)
1. Take Bus 29 from Harbin Grand Theatre Parking Lot Station → Taiyangdao Road Intersection Station (~20 mins, 6 stops).
2. Walk 1.5 km (~20 mins).
- Total Time: ~45 mins
- Total Cost: ¥2

General Tips

- Taxi/Ride-hailing: Use apps like Didi (China's Uber) for convenience. Confirm the hotel address in Chinese:

太阳岛风景区临江街 49 号, 冰岛酒店.

- Public Transport: Download Amap or Baidu Maps for real-time navigation.

💰 Registration Fee

Academic (1500 ¥)

Industry (1500 ¥)

Student (PhD or undergraduate) (1300 ¥) (please, indicate in which year)

Please e-mail a copy of your valid student card with the pre-registration form.

The registration fees include the full access to the summer school (lectures, tutorials and practical work), the training materials, 7 times of buffet and 1 banquet covering the 4 days training, the full catering during the event on the Sun- Island.

The registration fees are to be paid online by **Credit Card** or **WeChat Pay** or **Alipay**. Payment instructions and a link to the payment site will be e-mailed to you by the organizers.

ACCOMMODATION

Please note that accommodation is provided with a discount price for 15 double rooms (twin beds) and small number of single rooms. Both the double room and single room is **500 ¥/night/room**. These rooms are comfortable and close to the conference hall, the restaurant and the scenic spots.

If you have preferred roommates also participating to the summer school, please provide your roommates' names in the "Register Now". The organizers will try to place preferred roommates in the same room. Otherwise, you will be placed in a room with a participant of the same gender as you.

Notice:

A very limited number of single rooms would be available. If interested, please check the box of Single room preferred* (if available) (500 ¥/night) in the "Register Now".

*Due to limited single room capacities, priority will be given to lecturers, instructors, organizing staff, etc. PhD students will be accommodated in double-room twin-beds and are asked to identify a preferred roommate(s).