



国际等离子体和能源转化前沿论坛

INTERNATIONAL SYMPOSIUM ON PLASMA AND ENERGY CONVERSION

第四届国际等离子体和能源转化前沿论坛

The 4th International Symposium on Plasma and Energy Conversion

等离子体能源转化 助力低碳未来新世界

Plasma-assited Energy Conversion

Boosting the Low-carbon Future

- iSPEEC2022 -

主办单位：

中国电工技术学会
中国科学院电工研究所
华南理工大学
南京工业大学
佛山科学技术学院

承办单位：

中国电工技术学会等离子体及应用专业委员会
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南京工业大学电气工程与控制科学学院
华南理工大学电力学院
IEEE NPSS Nanjing Section Chapter
国家高性能医疗器械创新中心
广州大学
等离子体科学和能源转化北京市国际科技合作基地



国际等离子体和能源转化前沿论坛
INTERNATIONAL SYMPOSIUM ON PLASMA AND ENERGY CONVERSION

第四届国际等离子体和能源转化前沿论坛

The 4th International Symposium on Plasma and Energy Conversion

- iSPEC2022 -

主办
单位



承办
单位



尊敬的各位参会代表：

感谢您对第四届国际等离子体及能源转化前沿论坛的积极参与、充分关注与大力支持！

为积极配合疫情防控工作，降低疫情传播风险，更好地为各位专家和代表提供舒适安全的学术交流环境，经组委会与各方协调、研究决定将原定于 2022 年 11 月 26—27 日在广东省佛山市举办的第四届国际等离子体及能源转化前沿论坛改为以线上线下（北京、南京、深圳）相结合的形式举办。对于会议更改举办形式给您带来的不便，我们深表歉意！由衷感谢您的理解与支持！

祝愿线上线下的各位参会代表身体健康，工作顺利！

防疫要求：

鉴于目前新型冠状病毒肺炎疫情，为保证参会人员的身体健康和安全，请参加北京、南京和深圳线下会场的参会人员遵循如下防疫要求：

1. 所有人员在抵达线下会场前 48 小时内需至少进行一次核酸检测，并取得有效核酸检测阴性证明。北京分会场线下参会人员要求通信大数据行程卡 7 日内到达或途径城市仅有北京一地。
2. 自境外入境的人员应当按照要求完成“5 天集中隔离医学观察+3 天居家健康监测”以及相应次数的核酸检测。结果均无异常，方能参会。
3. 如有以下任一情形，禁止参会：
 - （1）在进入线下会场前 10 天内，有国内疫情高、低风险区所在县（市、区、旗）旅居史；
 - （2）在进入线下会场前 10 天内，有其他国内本土疫情（尚未划定疫情风险区或采取区域静态管理等措施的）地区所在县（市、区、旗）旅居史。
4. 会议期间，要求佩戴口罩。
5. 会议期间，若有身体不适情况，请及时与在场工作人员联系。

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论坛简介

“国际等离子体和能源转化前沿论坛” (International Symposium on Plasma and Energy Conversion, iSPEC) 为一年一次的等离子体与能源转化方向的国际学术会议，迄今已成功地举办了三届，前三届的举办地点在北京、武汉。第四届等离子体和能源转化前沿论坛的召开是在国家能源结构调整相关政策及规划引导下，围绕国家提出“碳达峰，碳中和”气候行动目标，为深入探讨等离子体和能源转化所面临的机遇、挑战及未来的发展方向，构建以新能源为主体的转化，加强等离子体科学技术科技人员之间的交流，推动等离子体及其在材料改性、能源化工等众多交叉领域的科学和技术发展。

组委会诚挚地邀请国内外从事等离子体领域研究的学术界同行和产业界人士参会，期待与您相约云端！

Brief Introduction

International Symposium on Plasma and Energy Conversion is an annual academic conference focusing on the research of plasma and energy conversion, which has been successfully held two sessions up to now, and the former was held at the Institute of Electrical Engineering, Chinese Academy of Sciences. The 4th International Symposium on Plasma and Energy Conversion is convoked in the guidance of relevant polices and planning of national energy structure adjustment, and revolves around the climate target on “carbon peak, carbon neutral” put forward by country. It aims to dive into the opportunities, challenges and future development direction confronted with plasma and energy conversion, to construct a transformation giving priority to new energy, to enhance communication between among the scientific and technical personnel in plasma science, and ultimately, to promote scientific and technological development of plasma in its material modification, energy chemical engineering and numerous crossed areas.

The committee sincerely invites scholars engaging in researches in plasma field and industrialists at home and abroad to attend the symposium.

Looking forward to meeting you online!

组织机构 Organization

主办单位:

Sponsors:

- 中国电工技术学会
China Electrotechnical Society
- 中国科学院电工研究所
Institute of Electrical Engineering, Chinese Academy of Sciences
- 华南理工大学
South China University of Technology
- 南京工业大学
Nanjing Tech University
- 佛山科学技术学院
Foshan University

承办单位:

Organizers:

- 中国电工技术学会等离子体及应用专业委员会
Plasmas and their Applications Committee, CES
- 中国科学院青年创新促进会电工研究所小组
Youth Innovation Promotion Association (IEE, CAS)
- 等离子体科学和能源转化北京市国际科技合作基地
Beijing International S&T Cooperation Base for Plasma Science and Energy Conversion
- 南京工业大学电气工程与控制科学学院
College of Electrical Engineering and Control Science, Nanjing Tech University
- IEEE NPSS Nanjing Section Chapter
华南理工大学电力学院
- 国家高性能医疗器械创新中心
National Innovation center for Advanced Medical Devices
- 广州大学
Guangzhou University

论坛主席：

Chair men:

名誉主席：

Honorary Chair man:

- 陈维江 中国科学院院士
Weijiang Chen Academician of Chinese Academy of Sciences
- 李建刚 中国工程院院士
Jiangang Li Academician of Chinese Academy of Engineering

主席：

General Chair man:

- 邵涛 中国科学院电工研究所
Tao Shao Institute of Electrical Engineering, Chinese Academy of Sciences

共同主席：

Co-Chair man:

- 戴栋 华南理工大学
Dong Dai South China University of Technology
- 方志 南京工业大学
Zhi Fang Nanjing Tech University
- 陈忻 佛山科技学院
Xin Chen Foshan University

执行主席：

Executive Chair man:

- 章程 中国科学院电工研究所
Cheng Zhang Institute of Electrical Engineering, Chinese Academy of Sciences
- 张帅 中国科学院电工研究所
Shuai Zhang Institute of Electrical Engineering, Chinese Academy of Sciences
- 陈支通 国家高性能医疗器械创新中心
Zhitong Chen National Innovation center for Advanced Medical Devices
- 姚顺春 华南理工大学
Shunchun Yao South China University of Technology
- 柳晶晶 广州大学
Jingjing Liu Guangzhou University

国际咨询委员会： International Advisory Committee:

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| • Annemie Bogaerts | University of Antwerp, Belgium |
| • Natalia Babaeva | Joint Institute of High Temperature RAS, Russia |
| • Peter Bruggeman | University of Minnesota, USA |
| • Weijiang Chen | State Grid, China |
| • Xiaolei Fan | University of Manchester, UK |
| • Ursel Fantz | Max-Planck-Institut fuer Plasmaphysik, Germany |
| • Dunpin Hong | CNRS and University of Orléans, France |
| • Hyun-Ha Kim | National Institute of Advanced Industrial Science and Technology (AIST), Japan |
| • Yakov Krasik | Israel Institute of Technology, Israel |
| • Michael Kong | Old Dominion University, USA |
| • Dae Hoon Lee | Institute of Machinery and Materials, Korea |
| • Xinpei Lu | Huazhong University of Science and Technology, China |
| • Jiangang Li | Institute of Plasma Physics CAS, China |
| • Anthony Murphy | CSIRO Manufacturing, Australia |
| • Tomohiro Nozaki | Tokyo Institute of Technology, Japan |
| • Kostya (Ken) Ostrikov | Queensland University of Technology, Australia |
| • Tao Shao | Institute of Electrical Engineering CAS, China |
| • Andrey Starikovskiy | Princeton University, USA |
| • Xin Tu | University of Liverpool, UK |
| • Victor Tarasenko | Institute of High Current Electronics RAS, Russia |
| • Richard van de Sanden | Eindhoven University of Technology, Netherland |
| • Douyan Wang | Kumamoto University, Japan |
| • Guanjun Zhang | Xi'an Jiaotong University, China |
| • Anmin Zheng | The Innovation Academy for Precision Measurement Science and Technology, CAS, China |

第四届国际等离子体论坛日程安排 Program of the 4th International Symposium on Plasma and Energy Conversion

Time: Nov. 26th 2022

Live:



Opening Ceremony

09:00-09:30

Chaired by: **Prof. Dong Dai**

Addressed by **Yi Han**

General Secretary of China Electrotechnical Society

Addressed by **Prof. Tao Song**

Vice Director of Institute of Electrical Engineering, Chinese Academy of Sciences

Addressed by **Prof. Wenhui Tang**

Dean of School of Electric Power Engineering of South China University of Technology

Addressed by **Prof. Zhi Fang**

Dean of College of Electrical Engineering and Control Science of Nanjing Tech University

Addressed by **Prof. Xin Liu**

Vice Director and General Manager of National Innovation Center for Advanced Medical Devices

| Plenary Talk Chaired by: Zhitong Chen, Cheng Zhang | | | | |
|---------------------------------------------------------------------|-------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| No. | Time | Form | Title | Speaker |
| 1 | 09:30-10:10 | PT01 | Plasma Interactions with Complex Material Surfaces for Space Propulsion and Fusion Energy Applications | Richard Wirz Mechanical and Aerospace Engineering, University of California, Los Angeles |
| 2 | 10:10-10:50 | PT02 | Plasma technology for power-to-X | Hyun-Ha KIM National Institute of Advanced Industrial Science and Technology (AIST) |
| 3 | 10:50-11:30 | PT03 | Go to Carbon Neutral in Chinese Heavy Industry by Plasma Energy | Weidong Xia University of Science and Technology of China |
| 4 | 11:30-12:20 | PT04 | Non thermal plasma activation for challenging catalytic chemistry | Xiaolei Fan Department of Chemical Engineering, The University of Manchester |
| 5 | 18:00-18:40 | PT05 | Plasma-based CO ₂ , CH ₄ and N ₂ conversion into value-added compounds : Towards a sustainable future | Bogaerts Annemie University of Antwerp, Research group PLASMANT |

北京分会场 Beijing Section

Topic: Plasma enabled C1 conversion (I)

Time: 13:30-15:20, Nov. 26th 2022

ZOOM Meeting: 962 0508 0020 (password:1234)

Chaired by: Renwu Zhou

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------|
| 1 | 13:30-13:55 | IT | Reforming of n-pentane into oxygenates in a plasma-catalytic reactor | Xuming Zhang | Zhejiang Sci-Tech University |
| 2 | 13:55-14:20 | IT | Plasma catalysis-a promising approach for efficient utilization of carbon-based energy resources | Danhua Mei | Nanjing Tech University |
| 3 | 14:20-14:35 | OT | Integrating nanosecond pulsed plasma with nano-catalysts for efficient CO ₂ /CH ₄ conversion into liquid chemicals | Liguang Dou | Institute of Electrical Engineering, Chinese Academy of Sciences |
| 4 | 14:35-14:50 | OT | Synergistic reaction characteristics of biochar and low temperature plasma carbon dioxide | Min Zhu | Nanjing University of Aeronautics and Astronautics |
| 5 | 14:50-15:05 | OT | Investigations of Electrical and Conversion Characteristics on CO ₂ Hydrogenation to CH ₃ OH by Pulsed Plasma | Jiacong Li | Institute of Electrical Engineering, Chinese Academy of Sciences |
| 6 | 15:05-15:20 | OT | Study on Characteristics of Plasma Synergistic Catalyst for CO ₂ Conversion | Chunwang Wang | Hohai University |

Topic: Plasma enabled C1 conversion (II)

Time: 15:35-17:25, Nov. 26th 2022

ZOOM Meeting: 962 0508 0020 (password:1234)

Chaired by: Liguang Dou

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------|
| 1 | 15:35-16:00 | IT | Plasma electrification: An emerging technology for the synthesis of fuels and chemicals | Yaolin Wang | University of Liverpool |
| 2 | 16:00-16:25 | IT | Atmospheric hydrogenation of aromatic hydrocarbons enabled by the pulsed DBD plasma | Hao Sun | Institute of Electrical Engineering, Chinese Academy of Sciences |
| 3 | 16:25-16:40 | OT | Dry reforming of methane in a nanosecond pulsed discharge: insight of the underlying plasma chemistry | Li Zhang | Nanjing Tech University |
| 4 | 16:40-16:55 | OT | Non-thermal plasma assisted CO ₂ conversions: Investigations of catalyst and reactor | Huanhao Chen | Nanjing Tech University |
| 5 | 16:55-17:10 | OT | Carbon Dioxide Conversion by Using a Cone-spiral Electrode | Rong Wang | Hohai University |
| 6 | 17:10-17:25 | OT | Status and challenges of pulsed spark discharge for plasma enabled energy conversion | Shuai Zhang | Institute of Electrical Engineering, Chinese Academy of Sciences |

Topic: Plasma enabled nitrogen fixation and ammonia cracking

Time: 08:30-10:20, Nov. 27th 2022

ZOOM Meeting: 924 1397 0156 (password:1234)

Chaired by: Shuai Zhang

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|---------------------------------------------------------------------------------------------------------------------|---------|-----------------------------|
| 1 | 08:30-08:55 | IT | Ammonia oxidative pyrolysis assisted by non-equilibrium plasma : detailed reaction mechanism and path flux analysis | Qi Chen | Beijing Jiaotong University |

| | | | | | |
|---|-------------|----|---------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------|
| 2 | 08:55-09:20 | IT | Nanosecond-pulsed plasma oxidation with electrocatalytic reduction for sustainable ammonia production | Renwu Zhou | Xi'an Jiaotong University |
| 3 | 09:20-09:35 | OT | Experimental investigation of Nitrogen Fixation using Gliding-arc Plasma combined with DBD and the Influence of Water Temperature | Yuge Li | China Agricultural University |
| 4 | 09:35-09:50 | OT | Plasma Nitrogen Fixation Based on Multi-channel Gliding Arc | Zihan Sun | Xi'an Jiaotong University |
| 5 | 09:50-10:05 | OT | NO _x synthesis and regulation using dielectric barrier discharge in the needle array packed bed reactor | Yao Li | Dalian University of Technology |
| 6 | 10:05-10:20 | OT | Simulation of plasma torch-assisted ammonia cracking and nitrogen fixation considering the equilibrium and non-equilibrium transition | Ningqiu Zhao | Xi'an Jiaotong University |

Topic: Plasma synthesis of H₂ and H₂O₂

Time: 10:30-12:20, Nov. 27th 2022

ZOOM Meeting: 924 1397 0156 (password:1234)

Chaired by: Sen Wang

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------|
| 1 | 10:30-10:55 | IT | Plasma synthesis of defects-rich flexible carbon cloth decorated with PtRu alloyed nanoclusters for highly efficient pH-universal electrocatalytic hydrogen evolution | Lanbo Di | Dalian University |
| 2 | 10:55-11:20 | IT | Synthesis of hydrogen peroxide from a DC discharge plasma in water | Qiang Chen | Xiamen University |
| 3 | 11:20-11:35 | OT | Plasma preparation of high performance catalysts for hydrogen precipitation in electrolysis of water | Shuyu Zhang | Fudan University |

| | | | | | |
|---|-------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------|
| 4 | 11:35-11:50 | OT | Glow-Discharge-Plasma-Prepared Photocatalyst for Highly Efficient Solar-Energy-Driven Photocatalytic H ₂ O Splitting to H ₂ | Xinyu Meng | Shanghai Jiaotong University |
| 5 | 11:50-12:05 | OT | Methanol Reforming by DBD Plasma Catalysis for Efficient Hydrogen Production | Shuming Li | Xi'an Jiaotong University |
| 6 | 12:05-12:20 | OT | Hydrogen production from ethanol by combined microwave discharge plasma with catalyst | Zhi Li | Dalian Maritime University |

Topic: Plasma assisted preparation of catalysts and materials

Time: 13:30-15:20, Nov. 27th 2022

ZOOM Meeting: 924 1397 0156 (password:1234)

Chaired by: LanBo Di

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------|
| 1 | 13:30-13:55 | IT | DBD plasma engineering interface and its effect on the growth characteristics of transition metal compound | Guangliang Chen | Zhejiang Sci-Tech University |
| 2 | 13:55-14:20 | IT | Sustainable treatment of sewage sludge via plasma-electrolytic liquefaction | Dengke Xi | University of Malaya |
| 3 | 14:20-14:35 | OT | Synthesis and Modification of Catalyst Materials by Plasma Technology for Direct Methanol Fuel Cells and Zinc Air batteries | Zhongqing Jiang | Zhejiang Sci-Tech University |
| 4 | 14:35-14:50 | OT | Solution plasma process enhanced photocatalysis | Changhua Wang | Northeast Normal University |
| 5 | 14:50-15:05 | OT | The mechanism of nitrogen doped graphene using cold plasma | Chuang Han | Zhejiang University of Technology |
| 6 | 15:05-15:20 | OT | Preparation of Graphene Supported Catalysts Based on Anion Regulation and its Oxygen Evolution Performance | Wenkai He | Chongqing University |

Topic: Plasma conversion of biomass and heavy oil

Time: 15:30-17:20, Nov. 27th 2022

ZOOM Meeting: 924 1397 0156 (password:1234)

Chaired by: Danhua Mei

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|----------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------|
| 1 | 15:30-15:55 | IT | Plasma up-carbonization for low-carbon clean energy from biomass | Rusen Zhou | Queensland University of Technology |
| 2 | 15:55-16:20 | IT | Liquid - phase continuous arc discharge and its application in heavy oil upgrading | Yanbin Xin | Dalian Maritime University |
| 3 | 16:20-16:35 | OT | Selective clipping of a lignin-derived monomer by plasmas for bio-oil upgrading | Yadi Liu | Shandong University |
| 4 | 16:35-16:50 | OT | Conversion of biomass gasification tar using gliding arc discharge enhanced by magnetic field | Yunyang Lu | Nanjing Tech University |
| 5 | 16:50-17:05 | OT | Power-to-chemicals: Sustainable liquefaction of food waste with plasma-electrolysis | Xianhui Zhang | Xiamen University |
| 6 | 17:05-17:20 | OT | Plasma reforming of biomass gasification tars using naphthalene and toluene as model compounds: the analysis of mechanism and products | Ning Jiang | Zhejiang Sci-Tech University |

南京分会场 Nanjing Section

High Voltage

Topic: Dielectric breakdown (I)

Time: 13:30-15:05, Nov. 26th 2022

ZOOM Meeting: 899 3521 0321 (password:1234)

Chaired by: Yuesheng Zheng

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------|
| 1 | 13:30-13:55 | IT | Study on aging short circuit failure mechanism of gas discharge tube caused by repeated discharge | Nianwen Xiang | Hefei University of Technology |
| 2 | 13:55-14:20 | IT | Dynamic Distribution Characteristics of Corona Charge at the Tip of Rotating Wind Turbines and Its Influencing Mechanism on the Initiation and Development of Upward Leader | Yu Wang | Wuhan University |
| 3 | 14:20-14:35 | OT | Ablation of Arcing plasmas to the carbon matrix composites and optimization methods | Wenfu Wei | Southwest Jiaotong University |
| 4 | 14:35-14:50 | OT | Analysis of DC Inductive Arc Restriking Characteristics of HVDC Relays | Jingxuan Lin | State grid Fujian Economic Research Institute |
| 5 | 14:50-15:05 | OT | Abnormal discharge pattern recognition method of power equipment based on emission spectrum and clustering algorithm | Yiheng Xia | Institute of Electrical Engineering, Chinese Academy of Sciences |

Topic: Dielectric breakdown (II)

Time: 15:20-17:10, Nov. 26th 2022

ZOOM Meeting: 899 3521 0321 (password:1234)

Chaired by: She Chen

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------|
| 1 | 15:20-15:45 | IT | Electromagnetic mechanical coupling vibration model of power equipment and its application in HVDC | Lingyu Zhu | Xi'an Jiaotong University |
| 2 | 15:45-16:10 | IT | Influence of oil-paper dynamic parameters on electric field calculation results of converter transformer main insulation and discharge characteristics of key parts | Minghe Chi | Harbin University of Science and Technology |
| 3 | 16:10-16:25 | OT | Evolution of Vacuum Surface Flashover for Angled Dielectric Insulators with Particle-in-cell Simulation | Jiawei Zhang | Xi'an University of Technology |
| 4 | 16:25-16:40 | OT | Study on Trichel Pulse Discharge Characteristics in SF ₆ /N ₂ Gas Mixture | Yu Zheng | Wuhan University |
| 5 | 16:40-16:55 | OT | Process of Electric Field During Development of Vacuum Flashover Under Pulsed Voltage | Yao Xu | Tsinghua University |
| 6 | 16:55-17:10 | OT | Nanosecond pulsed discharge in gas-liquid mixture produced by hydrodynamic cavitation using Venturi tube | Qiong Wu | Tsinghua University |

Topic: High voltage measurement and instrumentation (I)

Time: 08:30-10:10, Nov. 27th 2022

ZOOM Meeting: 899 3521 0321 (password:1234)

Chaired by: Yongxia Han

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-----------------------------------------------------------------------------|-----------|---------------------------|
| 1 | 08:30-08:55 | IT | On site Oscillating Impulse Voltage Test Technology and Application for GIS | Junhao Li | Xi'an Jiaotong University |

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|---|-------------|----|----------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------|
| 2 | 08:55-09:10 | IT | Dynamic Deformation of Pendant Raindrops on Edge of Insulator Sheds and Its Effect on Inter-umbrella Discharge | Lin Yang | South China University of Technology |
| 3 | 09:10-09:25 | OT | Self-driven microplasma system and its applications based on triboelectric nanogenerator | Yi Li | Wuhan University |
| 4 | 09:25-09:40 | OT | Study on the shock wave generated by underwater electrical explosion of Al wire coated with CuO powders | Cong Xu | Tsinghua University |
| 5 | 09:40-09:55 | OT | Partial discharge characteristics of damp oil-immersed paper under combined AC and DC voltage | Chunjia Gao | North China Electric Power University |
| 6 | 09:55-10:10 | OT | A Condition Evaluation Method of Power Transformer Based on Text Mining Technology | Xuliang Wang | Shandong University |

Topic: High voltage measurement and instrumentation (II)

Time: 10:25-12:10, Nov. 27th 2022

ZOOM Meeting: 899 3521 0321 (password:1234)

Chaired by: Wenfu Wei

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|---------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------|
| 1 | 10:25-10:50 | IT | Dielectric response measurement of oil and oil-impregnated pressboard with DC bias | Jing Hao | University of Connecticut |
| 2 | 10:50-11:15 | IT | Comprehensive study of the flashover plasma behavior across a large-scale ceramic insulated high-current vacuum interface | Tao Xun | National University of Defense Technology |
| 3 | 11:15-11:40 | IT | Review on Recent Development of Insulation Research under Short-pulse Condition | Liang Zhao | Northwest Institute of Nuclear Technology |

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|---|-------------|----|--------------------------------------------------------------------------------------------|------------|---------------------------------------|
| 4 | 11:40-11:55 | OT | Ultrasonic and Audible Characteristics of Typical Defect Discharges in Transformers | Meng Huang | North China Electric Power University |
| 5 | 11:55-12:10 | OT | Aging State Detection Method of Composite Insulator Based on Microwave Transmission Method | Zijin Li | China Three Gorges University |

Topic: Interaction between gas discharge and dielectric (I)

Time: 13:30-15:05, Nov. 27th 2022

ZOOM Meeting: 899 3521 0321 (password:1234)

Chaired by: Zhaolun Cui

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------|
| 1 | 13:30-13:55 | IT | Properties Analysis and Leakage Detection Strategy of Environmental Friendly Insulation Gas C ₄ F ₇ N | Song Xiao | Wuhan University |
| 2 | 13:55-14:20 | IT | A first test flight of an airplane propelled by corona discharges in China | She Chen | Hunan University |
| 3 | 14:20-14:35 | OT | Surface Crack Healing and Performance Repair of Polymer Material Based on Atmospheric Pressure Plasma Jet | Jiazhen Duan | State Grid Changzhou Power Supply Company |
| 4 | 14:35-14:50 | OT | Study on Thermal Characteristics and Movement Law of Water Droplets Discharges on Insulator Surface | Yashuang Zheng | South China University of Technology |
| 5 | 14:50-15:05 | OT | Research on a segmented frequency conversion control technology for high frequency AC pulse power supply driving air jet discharge) | Kaixiang Zhao | Nanjing Tech University |

Topic: Interaction between gas discharge and dielectric (II)

Time: 15:30-17:20, Nov. 27th 2022

ZOOM Meeting: 899 3521 0321 (password:1234)

Chaired by: Yashuang Zheng

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------|
| 1 | 15:30-15:55 | IT | Aging quantitative characterization of the hotspot area in transformer paper insulation based on the combined characteristic parameters of frequency domain dielectric response | Jiefeng Liu | Guangxi University |
| 2 | 15:55-16:20 | IT | Thermal-pressure Effect Simulation and Protection Measures Due to Internal Short-circuit Arcing in the HV Switchgear | Peng Li | China Three Gorges University |
| 3 | 16:20-16:35 | OT | Electric Field Distortion and Corona Inception Characteristics on the Surface of Insulating Material under High Humidity and High Pollution Conditions | Shengwen Shu | Fuzhou University |
| 4 | 16:35-16:50 | OT | Combined Electrical and Thermal Aging Characteristics of Epoxy Resin Insulators for GIS | Fei Kong | Institute of Electrical Engineering, Chinese Academy of Sciences |
| 5 | 16:50-17:05 | OT | Finite Element Analysis Regarding Electric Field Distribution Effect on Corona Discharge Due To Various Electrode Shapes and Applied Voltage | Khalid Hussain | North China Electric Power University |
| 6 | 17:05-17:20 | OT | Study on Influence of Pollution Factors on Corona Initiation Voltage of Overhead Transmission Line Conductor | Xuyang Yang | Guangzhou University |

Plasma Fundamental

Topic: Plasma modeling and simulation technology

Time: 13:30-15:05, Nov. 26th 2022

ZOOM Meeting: 858 1315 6118 (password:1234)

Chaired by: Wenjun Ning

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------|
| 1 | 13:30-13:55 | IT | Runaway electrons in high-pressure gas discharges: kinetic approach | Andrey Kozyrev | Institute of High Current Electronics, Russian Academy of Sciences |
| 2 | 13:55-14:20 | IT | The progress of PASSKEy2 plasma module development | Yifei Zhu | Xi'an Jiaotong University |
| 3 | 14:20-14:35 | OT | Co-simulation model of EM characteristics of plasma sheath based on CFD and PIC methods | Yuqing Chen | National University of Defense Technology |
| 4 | 14:35-14:50 | OT | Study on the generation and breakdown mechanism of runaway electron in atmospheric air nanosecond pulsed plate-plate discharge based on PIC/MCC simulation | Jiangping Xiao | South China University of Technology |
| 5 | 14:50-15:05 | OT | Nonlinear change of secondary electron emission induced by ion on charged γ -Al ₂ O ₃ surface based on first-principles modeling | Zhicheng Jiao | South China University of Technology |

Topic: Basic process of gas discharge breakdown

Time: 15:20-17:20, Nov. 26th 2022

ZOOM Meeting: 858 1315 6118 (password:1234)

Chaired by: Yifei Zhu

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|----------------------------------------------------------------|--------------|---------------------------------|
| 1 | 15:20-15:45 | IT | Kinetic investigation of electron heating in HiPIMS discharges | Bocong Zheng | Beijing Institute of Technology |

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|---|-------------|----|--------------------------------------------------------------------------------------------------------------|--------------|----------------------------------------|
| 2 | 15:45-16:10 | IT | Electrical breakdown - scaling from centimeter to micrometer size discharges | Nikola Skoro | Institute of Physics, Belgrade, Serbia |
| 3 | 16:10-16:35 | IT | Metal organic frameworks based catalysts for air pollution removal in non-thermal plasma | Shaojun Xu | Cardiff University |
| 4 | 16:35-16:50 | OT | Dissociation reaction in atmospheric air and its effect on the characteristics of corona discharge | Jinghan Fu | Wuhan University |
| 5 | 16:50-17:05 | OT | numerical modeling of the streamer to filament transition in pin-to-pin discharges | Bin Zhang | Ecole Polytechnique |
| 6 | 17:05-17:20 | OT | Issues and their solutions of E-FISH electric field diagnostic technique in nanosecond short pulse breakdown | Yutai Li | Tsinghua University |

Topic: Plasma dynamics

Time: 08:30-10:05, Nov. 27th 2022

ZOOM Meeting: 858 1315 6118 (password:1234)

Chaired by: Yangyang Fu

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------|
| 1 | 08:30-08:55 | IT | Electron Emission Physics at Ultrafast and Ultra-Small Scale | Peng Zhang | Michigan State University |
| 2 | 08:55-09:10 | IT | Fluid modeling of breakdown characteristics in dielectric barrier discharges: Role of the dielectric permittivity and excitation frequency | Venkattraman Ayyaswamy | University of California, Merced |
| 3 | 09:10-09:35 | IT | Laboratory modeling of red sprites | Victor Tarasenko | Institute of High Current Electronics SB RAS |
| 4 | 09:35-9:50 | OT | Numerical simulation of gliding arc plasma motion characteristics | Mengfei Yang | Dalian Maritime University |

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|---|-------------|----|---------------------------------------------------------------------------------------------------|-------------|---------------------------|
| 5 | 09:50-10:05 | OT | Characteristics of a gliding arc: kinetics modeling and equilibrium to non-equilibrium transition | Zhenyang Li | Xi'an Jiaotong University |
|---|-------------|----|---------------------------------------------------------------------------------------------------|-------------|---------------------------|

Topic: Plasma stability

Time: 10:10-11:45, Nov. 27th 2022

ZOOM Meeting: 858 1315 6118 (password:1234)

Chaired by: Zilan Xiong

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-----------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------|
| 1 | 10:10-10:35 | IT | Temporal physics of multipactor-induced plasma ionization breakdown | Deqi Wen | Michigan State University |
| 2 | 10:35-11:00 | IT | The coupling effects of high frequency nanosecond discharges and ignition in flow conditions | Xingqian Mao | Princeton University |
| 3 | 11:00-11:15 | OT | Study on the control of surface arc plasma flow with swept shock waves/boundary layer interference | Hesen Yang | Science and Technology on Plasma Dynamics Laboratory, Air Force Engineering University |
| 4 | 11:15-11:30 | OT | Tailoring voltage waveform for improving the spatial uniformity of an atmospheric helium dielectric barrier discharge | Ze Fang | South China University of Technology |
| 5 | 11:30-11:45 | OT | Plasma enhanced evaporation and its impact on plasma properties and plasma induced gas phase chemistry | Qi Yang | Chongqing University |
| 6 | 11:45-12:00 | OT | Discharge of inductively coupled plasma at different thicknesses | Wenyuan Zhang | Air Force Engineering University |

Topic: Plasma-interface interaction

Time: 13:30-15:05, Nov. 27th 2022

ZOOM Meeting: 858 1315 6118 (password:1234)

Chaired by: Feng Liu

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|---------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------|
| 1 | 13:30-13:55 | IT | Simulation study on the discharges inside porous dielectrics induced by an atmospheric pressure plasma jet | Wenjun Ning | Sichuan University |
| 2 | 13:55-14:20 | IT | Effect of Plasma of a Nanosecond Pulsed High-Voltage Discharge on the Surface of a Flat Anode | Mikhail I. Lomaev | Institute of High Current Electronics, Siberian Branch Russian Academy of Science, Tomsk, Russia |
| 3 | 14:20-14:35 | OT | In-situ Measurement of Dynamic Charging on Dielectric Surface Interacted with Atmospheric Pressure Plasma Jet | Bo Zhang | Xi'an Jiaotong University |
| 4 | 14:35-14:50 | OT | The Interaction Between Cold Plasma and Complex Interface | Hao Shang | Sichuan University |
| 5 | 14:50-15:05 | OT | Simulation Study of Gas Breakdown Characteristics in Porous Dielectrics | Kai Chen | Chongqing University |

Topic: Plasma diagnostic technology

Time: 15:20-17:25, Nov. 27th 2022

ZOOM Meeting: 858 1315 6118 (password:1234)

Chaired by: Zefeng Yang

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|--------------------------------------------------------------------------|-------------|-----------------------------------------------|
| 1 | 15:20-15:45 | IT | Intelligent plasma Diagnosis based on Image Processing and Deep Learning | Zilan Xiong | Huazhong University of Science and Technology |

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|---|-------------|----|----------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------|
| 2 | 15:45-16:10 | IT | Streamer discharge instabilities under repetitive nanosecond pulses | Zheng Zhao | Xi'an Jiaotong University |
| 3 | 16:10-16:25 | OT | On the Distribution of N_2^+ and N_2 Bands in Ionization Region of Positive DC Corona Discharge | Wanxia Zhang | Huazhong University of Science and Technology |
| 4 | 16:25-16:40 | OT | Diagnostic study of vibrational Raman scattering spectroscopy of pulsed air discharge plasma at atmospheric pressure | Junjie Qiao | Chongqing University |
| 5 | 16:40-16:55 | OT | Diagnosis of spatial distribution and low energy level density of argon plasma jet active particles | Xiaoying Chen | Shenyang Ligong University |
| 6 | 16:55-17:10 | OT | Atmospheric pressure microwave plasma electric field diagnosis based on He I atomic Stark broadening | Sisi Li | Dalian University of Technology |
| 7 | 17:15-17:25 | OT | Experimental study on the OES of gliding arc plasma and its application in ammonia combustion | Yang Zhao | Harbin Institute of Technology |

深圳分会场 Shenzhen Section

Topic: Plasma medicine

Time: 13:30-18:15, Nov. 26th 2022

ZOOM Meeting: 885 2338 2519 (password:1234)

Chaired by: Dingxin Liu, Zhitong Chen

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-----------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------|
| 1 | 13:30-14:00 | PT | Study on the mechanism of multiple parameters on the density of plasma active particles | Lanlan Nie | Huazhong University of Science and Technology |
| 2 | 14:00-14:30 | PT | Applications of cold atmospheric plasma for coronavirus inactivation | Wei Kuang | Raysun Plasma Technology (Hangzhou) Co., Ltd. |
| 3 | 14:30-14:55 | IT | The preparation of micro-mesoporous virus adsorbent materials by nanosecond pulsed discharge plasma | Dezheng Yang | Dalian University of Technology |
| 4 | 14:55-15:20 | IT | Cold atmospheric plasma for Infection Control | Li Han | Chinese People's Liberation Army Center for Disease Control and Prevention |
| 5 | 15:20-15:45 | IT | Radio frequency DBD plasma and its application in sterilization | Qiang Chen | Beijing Institute of Graphic Communication |
| 6 | 15:45-16:10 | IT | The power of computer simulations to understand the underlying mechanisms in plasma medicine field | Jamoliddin Razzokov | Uzbekistan Academy of Sciences |
| 7 | 16:10-16:35 | IT | Study on the inactivation and inhibition of S. aureus by plasma activated water (PAW) | Cheng Cheng | Institute of Plasma Physics, Chinese Academy of Sciences |
| 8 | 16:35-16:50 | OT | Cold atmospheric plasma technology for clinically safe applications | Fan Bai | National innovation center for advanced medical devices |

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|----|-------------|----|-----------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------|
| 9 | 16:50-17:05 | OT | Bactericidal effect of broad-extension DBD plasma actuation on Staphylococcus albicans | Zhiheng Liu | Xi'an University Of Technology |
| 10 | 17:05-17:20 | OT | Plasma-activated hydrogel as a prospective microbial disinfectant | Jinkun Chen | Xi'an Jiaotong University |
| 11 | 17:20-17:35 | OT | Plasma-enhanced oxidizing water: an efficient microbial disinfectant using ion exchange membrane | Jiao Lin | Xi'an Jiaotong University |
| 12 | 17:35-17:50 | OT | On the dose of plasma medicine: Plasma activated medium(PAM) and its effect on cell viability | Jingyi Luo | Huazhong University of Science and Technology |
| 13 | 17:50-18:05 | OT | Innovation transformation and industrial empowerment creating a plasma medical device investment platform | Feng Yang | National MedTech Odyssey Ventures |

Topic: Plasma-controlled environmental pollution

Time: 08:30-10:20, Nov. 27th 2022

ZOOM Meeting: 885 2338 2519 (password:1234)

Chaired by: Qiang Chen

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------|
| 1 | 08:30-08:55 | IT | Plasma and plasma-catalysis technologies for environmental pollutants removal | Nan Jiang | Dalian University of Technology |
| 2 | 08:55-09:20 | IT | Research on the Miniaturized Treatment System for Medical Waste by Atmospheric Microwave Plasma | Guixin Zhang | Tsinghua University |
| 3 | 09:20-09:35 | OT | Plasma modified enhanced photocatalytic performance of titanium dioxide and degradation of antibiotics | Sen Wang | Nanjing Tech University |
| 4 | 09:35-09:50 | OT | Study on the de-NO _x performance by dielectric barrier discharge with NaCl solution grounded electrode | Wei Zhang | Dalian Maritime University |

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|---|-------------|----|-------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------|
| 5 | 09:50-10:05 | OT | Removal of ammonia by non-thermal plasma in humidified honeycomb monolith and Electrical Characteristics Analysis | Di Zhang | China Agricultural University |
| 6 | 10:05-10:20 | OT | DBD-initiated graft modification of chitosan-based flocculant for the kaolin suspension treatment | Quanfa Zhao | Nanjing Tech University |

Topic: Fundamentals and applications of plasma (I)

Time: 10:30-12:05, Nov. 27th 2022

ZOOM Meeting: 885 2338 2519 (password:1234)

Chaired by: Jiawei Zhang

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------|
| 1 | 10:30-10:55 | IT | Discussions on the non-equilibrium synergistic transport processes in low-temperature atmospheric-pressure gas discharge plasmas | Heping Li | Tsinghua University |
| 2 | 10:55-11:20 | IT | Research on key technologies in ground simulators of plasma environments in near space | Zhonglin Zhang | Harbin Institute of Technology |
| 3 | 11:20-11:35 | IT | The application of low-temperature plasma for chemical and microorganism decontamination | Ruixue Wang | Beijing University of Chemical Technology |
| 4 | 11:35-11:50 | OT | Solid state plasma waves and the applications in semiconductor devices | Yuhui Zhang | Rensselaer Polytechnic Institute |
| 5 | 11:50-12:05 | OT | Rapid recovery of hydrophobicity of silicone rubber by pulsed discharge plasma: impact of treatment atmosphere and underlying mechanism | Jiachuan Yu | Institute of Electrical Engineering, Chinese Academy of Sciences |

Topic: Fundamentals and applications of plasma (Ⅱ)

Time: 13:30-15:15, Nov. 27th 2022

ZOOM Meeting: 885 2338 2519 (password:1234)

Chaired by: Jiawei Zhang

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------|
| 1 | 13:30-13:55 | IT | Interaction between gliding arc plasma and NH ₃ flame and its diagnostic method | Ximing Zhu | Harbin Institute of Technology |
| 2 | 13:55-14:20 | IT | Comprehensive study on the electrical and acoustic characteristics of underwater pulse spark discharge initiated by different mechanisms | Ying Sun | Shandong University |
| 3 | 14:20-14:45 | IT | Degradation mechanism of SF ₆ in a γ -Al ₂ O ₃ packed plasma system | Zhaolun Cui | South China University of Technology |
| 4 | 14:45-15:00 | OT | Influence of Temperature on Partial Discharge Characteristics under Nanosecond Pulse | Ning Tian | Xi'an University of Technology |
| 5 | 15:00-15:15 | OT | Dense metallic film coating via directional electrical explosion method: From single to multi-principal-elements alloy | Chen Li | Beijing Institute of Technology |

Topic: Fundamentals and applications of plasma (Ⅲ)

Time: 15:30-17:05, Nov. 27th 2022

ZOOM Meeting: 885 2338 2519 (password:1234)

Chaired by: Ying Sun

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|------|---------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------|
| 1 | 15:30-15:55 | IT | Applications of plasma technology in carbon-based materials and PFAS remediation | Keliang Wang | Fraunhofer Center for Coatings and Diamond Technologies |
| 2 | 15:55-16:20 | IT | Study on transport characteristics and evolution mechanism of micro particles in high voltage and high current vacuum switching | Xiaolong Huang | Sichuan University |

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|---|-------------|----|------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------|
| 3 | 16:20-16:35 | OT | Numerical analysis of tetraethoxysilane decomposition in oxygen-argon dielectric barrier discharge | Jiaxin Chang | South China University of Technology |
| 4 | 16:35-16:50 | OT | Computational analysis of a plasma gas treatment structure with low wind resistance | Bo Yin | Xi'an Jiaotong University |
| 5 | 16:50-17:05 | OT | The influence of environmental factors on corona voltage with raindrops on the surface of positive DC conductors | Zhenhong Cao | Guangzhou University |

海报展示专场 Poster Section

Web link and QR code for Poster Meeting on Nov. 26th 2022

<https://ekv.h5.xeknow.com/sl/2XUQvD>



Topic: Basic process, diagnosis and simulation in plasmas 1

Time: 14:00-14:30, Nov. 26th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|---------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------|
| 1 | 14:00-14:05 | Poster | Behavior of 3/1 mode after 2/1 RMP penetration and its effect on minor disruption in the J-TEXT tokamak | Mingxiang Huang | South Central University for nationalities |
| 2 | 14:05-14:10 | Poster | Optimal control of power supply in multiple operating point mode for ion electric propulsion system | Yuan Jiang | University of Science and Technology Beijing |
| 3 | 14:10-14:15 | Poster | Analysis of DC Inductive Arc Restriking Characteristics of HVDC Relays | Jingxuan Lin | State grid Fujian economic research institute |
| 4 | 14:15-14:20 | Poster | Particle-in-cell simulations of the direct-current argon breakdown process in the 10-300 kV range | Biemeng Jin | Nuclear engineering department of Sun Yat-sen University |

Topic: Basic process, diagnosis and simulation in plasmas 2

Time: 14:30-15:00, Nov. 26th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|-------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------|
| 1 | 14:30-14:35 | Poster | Tailing Phenomenon in High Voltage Solid-State Pulse Modulators: Analysing and Modelling | Feiyu Wu | School of Electrical Engineering, Chongqing University |
| 2 | 14:35-14:40 | Poster | Effect of discharge properties of the oxide high barrier film deposited by roll-to-roll MF-PECVD | Maojin Dong | Lanzhou Institute of physics |
| 3 | 14:40-14:45 | Poster | Discharge and Impulse Bit Characteristics of Pulsed Plasma Thruster with PTFE-Based Modified Propellants | Rui Zhang | School of Aeronautics and Astronautics, Central South University |
| 4 | 14:45-14:50 | Poster | Study of polymer film processing by atmospheric pressure argon micro-plasma jet | Xiong Chen | School of Physics and Electronic Information, Gannan Normal University |
| 5 | 14:50-14:55 | Poster | Experimental and Numerical investigation on Alpha to Gamma Mode Transition of Capacitively Coupled Radio-frequency Discharges | Xiang He | Hohai University |
| 6 | 14:55-15:00 | Poster | Simulation study of the interaction between helium atmospheric pressure plasma jets and rough surfaces | Ronghui Li | College of Electrical Engineering, Sichuan University |

Topic: Basic process, diagnosis and simulation in plasmas 3

Time: 15:00-15:30, Nov. 26th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------|
| 1 | 15:00-15:05 | Poster | Evaluation of Nondimensional Microgap Breakdown with Space Charge Effect | Chubing Lin | Tsinghua University |
| 2 | 15:05-15:10 | Poster | Fluid modeling of nanosecond surface discharges in atmospheric air: effect of residual surface charge | Chenhua Ren | North China Electric Power University |
| 3 | 15:10-15:15 | Poster | Multiphysics Numerical Simulations of Negative Corona in Needle - Plane Configuration in Air | Xueming Shen | College of Electrical Engineering, Sichuan University |
| 4 | 15:15-15:20 | Poster | Carbon dissociation characteristics of dual-frequency inductively coupled CH ₄ plasma at different reaction gas flow rates | Le Feng | State Key Laboratory of Electrical Insulation and Power Equipment at Xi'an Jiaotong University |
| 5 | 15:20-15:25 | Poster | Z-pinch broadband spectral radiation source development | Longkun Hong | Tsinghua University |

Topic: Plasma-enabled chemical synthesis and environmental clean-up 1
Time: 15:30-16:00, Nov. 26th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|--------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------|
| 1 | 16:00-16:05 | Poster | An atmospheric pressure glow discharge in air stabilized by a magnetic field and its application on nitrogen fixation | Zhiyu Li | Huazhong University of Science and Technology |
| 2 | 16:05-16:10 | Poster | Non-thermal Plasma-assisted Ammonia Synthesis over Pd ₁₃ @SBA15-apts | Kelin Li | Hunan University |
| 3 | 16:10-16:15 | Poster | Material and Structure Effected on Generation Characteristics of Nitrogen Oxides for Cone to Helix Discharg | Rong Wang | Hohai University |
| 4 | 16:15-16:20 | Poster | Production of CO-rich gas from Boudouard reaction via plasma catalysis process | Minjie Sun | Nanjing Tech University |
| 5 | 16:20-16:25 | Poster | Conversion of CO ₂ in a cylindrical dielectric barrier filamentary discharge reactor: Effects of gas velocity | Qiang Fu | School of Electrical Engineering, Xi'an Jiaotong University |
| 6 | 16:25-16:30 | Poster | Performance evaluation on simultaneous methane dry reforming and tar removal using a plasma-catalytic process | Wenyu He | University of Chinese Academy of Sciences |

Topic: Plasma-enabled chemical synthesis and environmental clean-up 2
Time: 16:30-17:00, Nov. 26th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------|
| 1 | 16:30-16:35 | Poster | Influence of Pulse Repetition Rate on CH ₄ Dry Reforming by Nanosecond Pulsed Dielectric Barrier Discharges | Yashuang Zheng | South China University of Technology |
| 2 | 16:35-16:40 | Poster | Exploring the simultaneous upgradation and purification on biomass gasified gas via a coupled plasma-catalytic method | Wenyu He | University of Chinese Academy of Sciences |
| 3 | 16:40-16:45 | Poster | Liquid-phase discharge plasma-catalyzed preparation of hydrogen peroxide | Shuang Liang | Northeast Normal University |
| 4 | 16:45-16:50 | Poster | Experimental study on hybrid pyrolysis and plasma catalysis system for H ₂ production from complex biomass: Understanding the role of temperature and catalyst | Zhicheng Xu | Xi'an Jiaotong University |
| 5 | 16:50-16:55 | Poster | the investigation into the Effects on Characters of Plasma Activated Water by the Introduction of Ultrasonic Waves | Di Zhang | China Agricultural University |
| 6 | 16:55-17:00 | Poster | Dielectric barrier discharge plasma-assisted ammonia dehydrogenation using ceria-based catalysts | Yibo Gao | Xi'an Jiaotong University |

Topic: Plasma-enabled chemical synthesis and environmental clean-up 3

Time: 17:00-17:30, Nov. 26th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------|
| 1 | 17:00-17:05 | Poster | Parameter optimization for direct liquefaction of algal biomass using non-thermal plasma | Qing Chen | Nanjing Tech University |
| 2 | 17:05-17:10 | Poster | Enhanced activity of plasma catalysis for trichloroethylene decomposition via metal-support interaction of Si-O-Co/Mn bonds over CoMnO _x /ZSM-5 | Xin Yu | Xi'an University of Architecture and Technology |
| 3 | 17:10-17:15 | Poster | Research on the efficiency of laser removal of tree barriers on transmission lines | Hu Tao | College of Electrical Engineering and New Energy, China Three Gorges University |
| 4 | 17:15-17:20 | Poster | Photo-plasma catalytic degradation of high concentration volatile organic compounds | Dashuai Li | Northeast Normal University |
| 5 | 17:20-17:25 | Poster | Experimental study on the Degradation of Tetracycline by Dielectric Barrier Discharge under O ₂ and Ar atmosphere conditions | Yalong Li | Hubei University Of Technology |
| 6 | 17:25-17:30 | Poster | Harmless Process of Organic Matter in Solid Waste by Double Dielectric Barrier Discharge Plasma: Temperature Action and Mechanism | Guanjie Wang | Zhejiang University of Technology |

Topic: Basic process and applications of plasma

Time: 17:30-18:00, Nov. 26th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------|
| 1 | 17:30-17:35 | Poster | Numerical Simulation of Plasma-Produced K-Shell Layer X-Ray Radiation From Ne&O and Z-Pinch Hybrid Loading | Linying Cheng | Xi'an Jiaotong University |
| 2 | 17:35-17:40 | Poster | Study on the Plasma Parameters of RF Negative Ion Source for Associated Alpha Particle Neutron Generator | Zhiping Zou | Nuclear engineering department of Sun Yat-sen University |
| 3 | 17:40-17:45 | Poster | Formaldehyde Removal and Ozone Inhibition by a New Type Of Dielectric Barrier Discharge | Deling Lin | Xi'an University of Technology |
| 4 | 17:45-17:50 | Poster | Pulsed Spark Discharge Cracking Heavy Oil for Energy Conversion | Zhe Fan | Institute of Electrical Engineering, Chinese academy of sciences |
| 5 | 17:50-17:55 | Poster | Plasma-Driven Efficient Exsolution of Metal Nanoparticles from Perovskite Oxide | Zihe Zhu | Xi'an Jiaotong University |

Web link and QR code for Poster Meeting on Nov. 27th 2022

<https://ekv.h5.xeknow.com/sl/r8Lcv>



Topic: Plasma-enabled the synthesis, treatment, and modification of materials

Time: 08:30-09:00, Nov. 27th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------|
| 1 | 08:30-08:35 | Poster | Film Deposition on Cylindrical Insulating Ceramic Surface by Atmospheric Pressure Plasma Jet | Zhenbo Xu | Nanjing Tech University |
| 2 | 08:35-08:40 | Poster | In-Situ Exsolution of Fe-Ni Alloy Catalysts for H ₂ and Carbon Nanotube Production from Microwave Plasma-Initiated Decomposition of Plastic Wastes | Peng Zhang | Southeast University |
| 3 | 08:40-08:45 | Poster | Study on the Effect of Release Agent on DC Surface Flashover of Plasma Modified Epoxy Resin | Ke Xie | Anshun Power Supply Bureau, Guizhou Power Grid Co., Ltd. |
| 4 | 08:45-08:50 | Poster | Effect of Deposition Power on DLC Structure on Alumina in RF-Biased Inductively Coupled Plasma | Zhijun Ai | Xi'an Jiaotong University |

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|---|-------------|--------|-------------------------------------------------------------------------------------------------------|---------------|-----------------------------------|
| 5 | 08:50-08:55 | Poster | Plasma-Modified Catalysts for Chlorine Resistance Methods and Mechanisms | Jiayu Ji | Zhejiang University of Technology |
| 6 | 08:55-09:00 | Poster | Studying the Performance of Rgo/Nio Composites Prepared by Dbd Using Various Power Excitation Methods | Longhui Zhang | Nanjing Tech University |

Topic: High-Voltage Discharge and Application 1

Time: 9:00-9:30, Nov. 27th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------|
| 1 | 09:00-09:05 | Poster | State of charge and parameter estimation of lithium-ion battery packs with inconsistent internal parameters using dual extended Kalman filters | Yuxuan Xu | Institute of Electrical Engineering, Chinese academy of sciences |
| 2 | 09:05-09:10 | Poster | The detection of SF ₆ decomposition components based on infrared laser spectroscopy | Lu Yufeng | Electric Power Research Institute of Guangxi Power Grid Co., Ltd |
| 3 | 09:10-09:15 | Poster | Simulation study on influencing factors of electric and mechanical energy hybrid harvester for the transmission line | Dongyang Hu | College of Electrical and Information Engineering, Hunan University |
| 4 | 09:15-09:20 | Poster | Spectroscopic study on spatial distribution of multi-species in vacuum arc in pure copper electrode | Shangyu Yang | College of Electrical Engineering, Sichuan University |
| 5 | 09:20-09:25 | Poster | Partial discharge characteristics of damp oil-immersed paper under combined AC and DC voltage | Chunjia Gao | North China Electric Power University |

Topic: High-Voltage Discharge and Application 2

Time: 09:30-10:00, Nov. 27th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|-----------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------|
| 1 | 09:30-09:35 | Poster | 500kV GIS Branch Bus Bar Grounding Scheme Optimization and Heat Verification | Wentao Huang | South China University of Technology |
| 2 | 09:35-09:40 | Poster | Dynamic behavior of graphite electrode under the thermal shock of the pulsed arc | Hongyu Dai | China Ship Scientific Research Center |
| 3 | 09:40-09:45 | Poster | Magnetic Field Limit and Potential Impact of Offshore Wind Farm Submarine Cables in Ecosystems | Xiuyi Li | School of Electrical and Automation, Wuhan University |
| 4 | 09:45-09:50 | Poster | Hotspot temperature inversion of 110kV single-core cable joints based on function fitting | Tianhao Peng | School of Electrical and Automation, Wuhan University |
| 5 | 09:50-09:55 | Poster | Research on the Operation reliability of Beidou chip Considering the Electric Field of Transmission Line Tower | Yiming Wang | School of Electrical and Automation, Wuhan University |
| 6 | 09:55-10:00 | Poster | Mechanical characteristics simulation of UHV insulating pull rod: considering anisotropic composite cylindrical shell | Zhicheng Wu | Xi'an Jiaotong University |

Topic: High-Voltage Discharge and Application 3

Time: 10:00-10:30, Nov. 27th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------|
| 1 | 10:00-10:05 | Poster | Electric Field and Influencing Factors Analysis of Converter Transformer Bushing and Grading Ball | Shuoyang Zhao | School of Electrical and Automation, Wuhan University |
| 2 | 10:05-10:10 | Poster | Optimization Of Insulator And Shield Geometry Of 225kV Electron Gun | Silin Wang | Institute of Electrical Engineering, Chinese Academy of Sciences |
| 3 | 10:10-10:15 | Poster | Correlation mechanism between microstructural parameters and macroscopic electrical properties of ZnO varistors | Jingke Guo | College of Electrical Engineering, Sichuan University |
| 4 | 10:15-10:20 | Poster | Study on the interaction characteristics of C ₄ F ₇ N/CO ₂ and its decomposition products with UiO-66 based on molecular dynamics | Menglei Qi | School of Electrical and Automation, Wuhan University |
| 5 | 10:20-10:25 | Poster | Effect of Plasma Jet on Electrochemical Properties of Silk Fibroin Hydrogel Doped with PEDOT:PSS | Jian Zhou | University of Science and Technology of China |
| 6 | 10:25-10:30 | Poster | Research on plasma modified carbon materials and energy storage technology | Yuntian Cong | Beijing Institute of Control and Engineering |

Topic: High-Voltage Discharge and Application 4

Time: 10:30-11:00, Nov. 27th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------|
| 1 | 10:30-10:35 | Poster | Attractive Effect of Solid Surface on Breakdown Process of SF ₆ -epoxy Gas solid Interface | Lin Liu | School of electric power engineering, South China University of Technology |
| 2 | 10:35-10:40 | Poster | Partial Discharge Characteristics of Oil-pressboard Insulation under the Effect of Cellulose Impurities | Ping Yan, Yifei Zhou, Qiang Shi | Marketing Service Center of State Grid Sichuan Electric Power Company |
| 3 | 10:40-10:45 | Poster | A Novel Electrical Life Model of Crosslinked Polyethylene based on AC Breakdown Time Statistical Analysis | Yifan Qin | Electric Power Research Institute of State Grid Jibei Electric Power Co., Ltd |
| 4 | 10:45-10:50 | Poster | Electric field distortion and corona inception characteristics on the surface of insulating material under high humidity and high pollution conditions | Zhaoxuan Zhan | College of Electrical Engineering and Automation, Fuzhou University, Fuzhou, People's Republic of China |
| 5 | 10:50-10:55 | Poster | Surface Crack Healing and Performance Repair of Polymer Material Based on Atmospheric Pressure Plasma Jet | Jiazhen Duan | Changzhou Power Supply Co of Jiangsu Electric Power Co. |
| 6 | 10:55-11:00 | Poster | Flashover Voltage Research of Epoxy Resin by Large Area Dielectric barrier discharge Plasma Treatment Device | Shijia Guo | Nanjing Tech University |

Topic: High-Voltage Discharge and other applications

Time: 11:00-11:20, Nov. 27th 2022

| No. | Time | Form | Title | Speaker | Affiliate |
|-----|-------------|--------|-------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------|
| 1 | 11:00-11:05 | Poster | Surface discharge Characteristic of Silicone Rubber for composite insulator immersed by insulating washing agent | Tian Wu | College of Electrical Engineering & New Energy at China Three Gorges University |
| 2 | 11:05-11:10 | Poster | Hydrophobic Modification Study of Epoxy Resin by Large Area Dielectric barrier discharge Plasma Treatment Device | Yu Zhu | Nanjing Tech University |
| 3 | 11:10-11:15 | Poster | Treatment of metaplastic squamous cell carcinoma in air with atmospheric pressure surface cold plasma | Fan Bai | National Innovation Center for High Performance Medical Devices |
| 4 | 11:15-11:20 | Poster | 3D printed grid-surface electrodes for skin surface treatment and their prospects for personalized medical applications | Yuzhuang Liu | Nanjing Tech University |

主论坛报告嘉宾简介

Guest Profile of the Plenary Session



Richard E. Wirz

Professor

Mechanical and Aerospace Engineering, University of California, Los Angeles

Richard Wirz is a Professor in the Mechanical and Aerospace Engineering Department at UCLA and holds a joint appointment in JPL's Electric Propulsion Group at JPL. He is the Director of the UCLA Plasma & Space Propulsion Laboratory and the UCLA Energy Innovation Laboratory. His plasma and space related research focus on advance propulsion concepts and the plasma science relevant to these devices. His energy research currently focuses on new approaches to fusion energy, solar thermal energy storage, and wind energy capture. Prof. Wirz received a B.S. in Aerospace Engineering and a B.S. in Ocean Engineering from Virginia Tech and an M.S. and Ph.D. degree in Aeronautics and Applied Sciences from the California Institute of Technology (Caltech).



Hyun-Ha KIM

Professor

National Institute of Advanced Industrial Science and Technology (AIST)

He received his PhD in Ecological Engineering Department from Toyohashi University of Technology (2000) and spend 2 years as postdoctoral researcher at Japan Atomic Energy Research Institute. Since 2002, he has been at AIST, where he is currently a group leader of Interface Chemistry Research Group. He has published more than 110 journal articles and delivered many invited talks on topics related to plasma chemistry and mostly plasma catalysis for environmental cleaning and energy-related applications. His research interests include VOC removal, electrospray of liquid, ESP, fundamental and application of plasma catalysis.



Weidong Xia

Professor

University of Science and Technology of China

Weidong Xia is a full professor and a doctoral supervisor at the Department of Thermal Science and Energy Engineering of the University of Science and Technology of China. He has served three times as a member in the group of plasma science and technology of the Chinese Society of Theoretical and Applied Mechanics. He has been a former member in the Standardization Technical Committee of the China Industrial Electrothermal Equipment, and as a former member in the First Executive Board of the Center of Medical Physical and Technology, Hefei Institute of Physical Science, Chinese Academy of Sciences and as a member in the academic Committee of the Anhui Province Key Laboratory of Medical Physics and Technology.

He has conducted research on the fundamentals and applications of arc thermal plasma, as well as of atmospheric pressure non-equilibrium plasma since 1992. In the research field of arc thermal plasma, he has undertaken 8 projects of National Natural Science Foundation of China (including 2 key programs), published more than 100 academic papers in the fields of arc thermal plasma and atmospheric non-equilibrium plasma, authorized 12 national invention patents and is awarded twice of the Ministerial and Provincial-Level science and technology awards.



Xiaolei Fan

Professor

Department of Chemical Engineering, The University of Manchester

Xiaolei Fan is a researcher with 15-year experience in heterogeneous catalysis (including plasma catalysis) and porous materials. He received his PhD in Chemical Engineering from the University of Bath in 2010. From 2010 to 2013, he took the postdoctoral positions at the University of Warwick and University of Cambridge, focusing on the research in heterogeneous catalysis and reaction engineering. He is a faculty member at The University of Manchester with a research group of 17 PhD/post-doctoral researchers. He has published 128 peer-reviewed articles including ones in Nat. Catal., Nat. Commun., JACS, Angew. Chem., and Appl. Catal. B, etc. He is the elected Fellow of RSC and his research was recognised internationally with several awards such as the Lee Hsun Young Scientist Lecture award on Materials Sciences by the Chinese Academy of Sciences (2018), RSC Emerging Investigators (2019), ACS I&EC Research 2020 Influential Researchers (2020) and International Award for Outstanding Young Chemical Engineer (2022)



Annemie Bogaerts

Full Professor

University of Antwerp, Research group PLASMANT

Annemie Bogaerts studied at the University of Antwerp, in 1993 and 1996, where she is now also full professor (since 2012). She is the head of the research group PLASMANT, which she started “from scratch”, and which currently counts about 50 members. Her research focuses on plasma chemistry, plasma reactor design and plasma-surface interactions, by experiments and modeling, for various applications, but mostly for green chemistry (gas conversion, electrification of chemical reactions) and medicine (cancer treatment).

She has about 600 peer-reviewed publications in high-impact journals since 1995, and above 21,000 citations, with a H-index of 72 (Web of Science) (above 30,000 citations and H-index of 87 in Google Scholar). She has above 170 invited lectures at international conferences (since 1998) and above 70 invited seminars at universities/institutes (since 1995), in various countries.

She was the supervisor of 48 finished PhD theses (since 2005), and is now supervising ca30 PhD students (incl. several joint PhD students), and 15 postdocs. She is in the editorial board of 15 different journals, and was/is guest editor of 22 special issues in several journals. She also organized several conferences, and is vice-president of the Board of Directors of the International Plasma Chemistry Society.

会 务 联 系

Organization Committee

（一）中国电工技术学会 （参会、发票、出版）

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（二）北京分会场 （参会）

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（三）南京分会场 （参会）

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（四）深圳分会场 （参会）

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中国电工技术学会
China Electrotechnical Society

China Electrotechnical Society

Founded in 1981, China Electrotechnical Society (CES) is the leading academic, non profit-able national society of Electrical Engineering.

With over 50,000 individual members including 2,100 senior members, more than 1500 group members, 11 working committees, 64 technical divisions and 17 provinces and municipality's sections, CES has set up a high-end academic exchange platform for Scientific researchers, experts, technicians, enterprise managers who are engaged in the field of Electrical Engineering. The Main Activities of CES are: Host academic conference, Pubication, Education and Accredita-tion, Science popuarization, CES Science & Technoogy Reward and other rewards works, Reease the standards , Exhibition, Consuting.

The head quarter of CES is located in Beijing and executed the resolutions carry by the council of CES. The National Members Congress (NMC) is the highest leadership organizations of CES and the Council and the standing council is as the governing body of CES. There are 187 elected directors and 57 elected executive directors including 8 academicians in the newest Council (the 8th) of CES.

To foster technological innovation, to advocate open, equal and mutually beneficial cooperation and to provide a full range of services to our members is the core purpose of CES.



中国科学院电工研究所

Institute of Electrical Engineering Chinese Academy of Sciences

Institute of Electrical Engineering Chinese Academy of Sciences

The Institute of Electrical Engineering (IEE) of Chinese Academy of Sciences (CAS) was proposed in 1958 and established in 1963 in Beijing. It is a national research institution oriented to the development of electrical science and engineering, and the only institute whose main research direction is electrical engineering in CAS, and occupies an important position in the energy and electrical fields of China.

At present, the IEE has been constructed into a scientific research base mainly for the research of renewable energy technologies, new electric power technologies, frontier inter-discipline subjects of electrical science. Currently, the IEE is playing an important role in promoting the development of national economy and the energy system transformation, and it has become a strategic backbone of innovations in related areas of China and an influential research institution among its international counterparts.

Up to now, the IEE has acquired nearly 500 scientific achievements, and has been granted more than 100 awards from the State, CAS and other ministries. More than 100 achievements have been promoted and applied in industries and other scientific research departments.

The IEE is contributing to enhancing China's level of electric power production and electric equipment manufacturing, and to promoting the international competitiveness of China in aspects of advanced technologies of electrical engineering and energy. IEE is the supporting institutions of Plasmas and their applications Committee, China Electrotechnical Society and Beijing International S&T Cooperation Base for Plasma Science and Energy Conversion.





华南理工大学

South China University of Technology

School of Electric Power Engineering, South China University of Technology

School of Electric Power Engineering of SCUT (EPE), established in 1994, initially adopted the model of jointly management with government and enterprises, which was the first of its kind. This important reform measure has brought about good opportunities for its specialty development by leaps and bounds.

EPE is composed of Electrical Engineering Department, Power Engineering Department, Electrical Engineering Research Institute, Research Center for New Energy, as well as the Guangdong Research and Development Center for Electric Power Engineering Technology which is jointly organized with Guangdong Power Test & Research Institute.

The school is authorized to confer doctor's degree and establish postdoctoral station in level I discipline of electric power engineering which includes 6 level II doctor's and master's degree programs in Electric Machines and Electric Apparatus, Electric Power Systems and Automation, Power Electronics and Electrical Drives, High-voltage and Insulation Technology, Theory and New Technology of Electrical Engineering, Power System Engineering and Control. The school also provides master's degree programs in Power Engineering and Engineering Thermo-physics including Electrical Engineering, Power Engineering, Industrial Engineering. There are 3 undergraduate programs: Electric Engineering and Automation, Electrical Information Engineering, Thermal Energy and Power Engineering. In 2003, Electric Power System & Automation, and Engineering Thermo-physics, have been approved to be key disciplines of Guangdong Province. The school employs 3 double-engaged academicians of China Academy of Sciences and China Academy of Engineering, 1 Cheung Kong scholar and 1 Zhujiang scholar. It has a faculty and staff of 135 including 45 professors, 40 associate professors. Under the leadership of the domestic well-known experts, the overall strength of the faculty is at an advanced level in China.



In recent years, the School of Electric Power Engineering has secured the key projects sponsored by National Natural Science Foundation of China, sub-projects of National Basic Research Program of China (973 Program) and more than 40 vertical projects sponsored by Natural Science Foundation of Guangdong Province and more than 100 horizontal scientific projects supported by Southern Power Grid Corporation, Guangdong Guang-Dian Power Grid Group and Guangdong's Yudean Group. The scientific research strength of the School takes the lead in China.

With the fund supported by the South China University of Technology, the School of Electric Power Engineering has invested 7 million yuan to build 3 discipline platforms: Research Base of Interconnected AC-DC Hybrid Power System, Guangdong Key Laboratory of Power Electronics as well as High-proficiency and Low-pollution Combustion Laboratory. So far, 12 laboratories have been rebuilt or extended, among which four distinctive ones are: Astec Power Laboratory, New Energy Center, HyperSim AC-DC Digital Simulation Systems, High Efficiency and Low Pollution Combustion Laboratory. The School has also set up 7 stable training bases: Gezhouba Hydropower Plant, Shajiao Power Plant, Guangzhou Huangpu Power Plant, Shaoguan Power Plant, Guangdong Kelin Electric Equipment Co. Ltd., Yunfu Coal-fired Power Plant, Guangzhou Micro-electrical Plant.

In the past three years, the employment rate of full-time undergraduate students is above 98%, while that of graduates reaches 100%.





南京工業大學
NANJING TECH
UNIVERSITY

Nanjing Tech University

Nanjing Tech University has a history of more than one hundred years as a cradle of education. It is one of the first batch of 14 universities of the Higher Education Innovative Capacity Promotion Plan ("2011 Plan" for short). It is a key institution of higher learning in Jiangsu Province, which is piloting comprehensive reforms and strategy for developing a strong faculty of talents. Nanjing Tech University is among of the first group of institutions of higher learning approved by the Chinese Ministry of Education for the training of "Excellent Engineers" and the comprehensive reform of graduate education for professional degrees.

Nanjing Tech University has 11 faculties, 28 schools and over 30,000 students, one first-rate National Key Discipline, one first-rate Jiangsu Provincial Development Base for National Key Disciplines, two Jiangsu University Development Bases for National Key Disciplines and four Jiangsu Provincial Preponderant Disciplines. It has seven postdoctoral research stations, six primary disciplinary categories that offer 38 doctoral programs in subordinate disciplines, 22 primary disciplinary categories that offer 112 Master Degree programs in subordinate disciplines and 87 undergraduate programs which comprise eight branches of learning, namely, engineering, science, management, economics, liberal arts, law, medicine and art. Nanjing Tech University is ranked 62nd in the Chinese mainland universities in ESI 2018(September) and Chemistry, Materials Sciences, Engineering and Biology & Biochemistry are among the top 1% in the world. We are ranked 31st in Chinese mainland universities in Nature Index 2018 (September), 601-800 globally in Times Higher Education World University Rankings 2018 and 401-500 in Shanghai Ranking's Academic Ranking of World Universities 2018.

In the new era, Nanjing Tech University will thoroughly study and implement President Xi Jinping's socialist ideology with Chinese characteristics and centers on the fundamental requirement of "Foster Virtues and Cultivate Talents", continue to strengthen its traditional expertise in integration with industries and synergetic innovation to enhance the ability and level of serving the national and regional economical development and set on the new journey of building high-level university and first-rate discipline.





National Innovation Center for Advanced Medical Devices

The National Innovation Center for Advanced Medical Devices (hereinafter referred to as "National Innovation Center") is founded by Shenzhen Institute of Advanced Technology (Chinese Academy of Sciences), Mindray Medical International Limited, Shanghai United Imaging Healthcare Co., Ltd., LifeTech Scientific Corporation (Shenzhen), and Harbin Institute of Technology. National Innovation Center was approved by the Ministry of Industry and Information Technology in April 2020. It is the first national-level manufacturing innovation center in Shenzhen and the only innovation center established by the country in the field of medical devices.

The National Innovation Center carries on the significant needs of high-end medical equipment closely related to medical health in the fields of prevention, diagnosis, treatment, and rehabilitation focusing on advanced medical imaging, in vitro diagnosis, vital sign monitoring, advanced therapeutic, implantation interventional devices, rehabilitation, and health information, etc. The National Innovation Center is committed to breaking through the common core key technologies of industry development, to complete aspects of technology development, transfer, and diffusion to the first commercial application, creating an advanced medical device industry innovation ecosystem running through the innovation chain, industrial chain, and capital chain

The establishment and development of the National Innovation Center will accelerate the completion of the shortcomings of Chinese advanced medical equipment, to realize the independent control of advanced medical equipment. It effectively alleviates the dilemma of low localization of Chinese advanced medical equipment and creates medical equipment for the field of life safety and biosafety in China. It provides technical support for the public health emergency system and the national strategic system for epidemic prevention and control, and provides the solid material foundation and technical support for the ultimate realization of the grand goal of "Healthy China 2030".





Raysun Plasma Technology (Hangzhou) Co., Ltd.

Raysun Plasma Technology (Hangzhou) Co., Ltd. is co-founded by famous experts returned from overseas and doctor team from Zhejiang University, has been continuously researching and developing APJD (Atmosphere Plasma Jet Disinfection) since 2007, which is the world's first, and can actively and quickly kill the viruses in the air, realize man-machine co-existence and real-time disinfection.



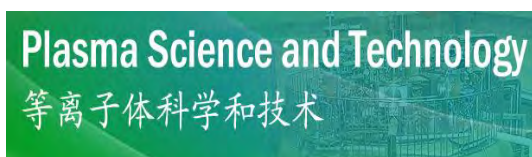
Raysun has advanced research equipments and labs, and has achieved more than 20 national patents for invention and 1 American patent for invention. Raysun completely independently researched and developed Raysun APJD plasma air disinfection devices. Since 2020, Raysun has done 7 scientific research experiments, e.g. COVID-19 virus inactivation test, corona virus inactivation test, 15-second virucidal test and 25 CMA tests by national authoritative institutions. Raysun has published many SCI thesis. The products conform to WST648 General hygienic requirement for air disinfecting machine, issued by National Health Commission of the People's Republic of China.

The air disinfecting product series researched and developed by Raysun are widely used in places like hospitals, schools, banks, families, offices, meeting rooms, passenger transportation centers, subways, airports, cinemas, can be used in different spaces ranging from 10 m³ to 500 m³.



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