

# 中国电源学会

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中源函〔2023〕76号

## 2023 中国电力电子与能量转换大会 中国电源学会第二十六届学术年会及展览会 报名通知（第一轮）

2023 年将迎来中国电源学会成立 40 周年，为传承历史、再创辉煌，学会将于 2023 年全年组织开展纪念中国电源学会成立四十周年会员服务系列活动。

作为纪念活动的重要环节-2023 中国电力电子与能量转换大会暨中国电源学会第二十六届学术年会及展览会将于 2023 年 11 月 10 日-13 日，在广东省广州市-广州越秀国际会议中心举行。本届会议录用中英文论文 1200 余篇，电源新产品、新技术展览会设置展位 200 余个。大会特邀 16 位电源、电力电子及相关领域国内外顶尖院士、专家在大会报告、全球电力电子高峰论坛环节做特邀报告，同时设有 16 场专题讲座，102 个主题分会场 600 余场技术和工业报告，预计将有超过 2000 名代表参会。“The 2<sup>nd</sup> IEEE International Power Electronics and Application Symposium (IEEE PEAS 2023)”、“2023 全球电力电子高峰论坛”

等 10 余项活动将在大会同期举行。欢迎各有关单位和人员报名参会，现将具体安排通知如下：

## 一、活动简介

2023 中国电力电子与能量转换大会暨中国电源学会第二十六届学术年会及展览会（CPEEC & CPSSC 2023）旨在促进电源、电力电子与能量转换相关领域学术、技术交流，促进产、学、研的合作，促进相关产业及产业链的技术创新和进步。

活动汇聚境内外电源学术界、产业界和政府部门的高层人士和广大科研技术人员，将通过大会报告、专题讲座、技术报告分会场、工业报告分会场、墙报交流、产品展览等形式，总结交流电源技术各个领域的新理论、新技术、新成果，展示目前电源技术的发展水平，探讨今后的发展方向，为业界提供理想的交流平台。

会议同期将举办 “The 2<sup>nd</sup> IEEE International Power Electronics and Application Symposium (IEEE PEAS 2023)”、

“2023 全球电力电子高峰论坛”、“第九届中国电源学会科学技术奖”颁奖仪式、“GaN Systems 杯第九届高校电力电子应用设计大赛”决赛、“电源科研成果交流会”、“电源高端人才对接会”、

“电源新产品推介会”、“电源青年人才论坛”、“电源女科学家论坛”、多个前沿技术专题论坛等丰富活动。

## 二、会议内容

### （一）特邀报告人

本次会议特邀 16 位电源、电力电子及相关领域国内外顶尖院士、专家，在大会报告和全球电力电子高峰论坛环节，对电源领域前沿方向、最新技术动态、产业应用最新热点进行精彩演讲，分享最新的研究成果。目前已确定报告人如下：

**李泽元 教授 (Prof. Fred C. Lee)** 美国弗吉尼亚理工大学、美国工程院院士、中国工程院外籍院士、IEEE Fellow

**Prof. Frede Blaabjerg** 丹麦奥尔堡大学、丹麦科学院院士、IEEE 电力电子学会前主席、IEEE Fellow

**Prof. Liuchen Chang** 加拿大纽布伦斯威克大学、IEEE 电力电子学会前主席、加拿大工程院院士

**刘进军 教授** 西安交通大学、中国电源学会理事长、IEEE Fellow

**Dr. Dushan Borojevich** 美国弗吉尼亚理工大学、IEEE Fellow

**Prof. Hirofumi Akagi** 东京工业大学、IEEE Fellow

**何建军 副总裁** 华为数字能源技术有限公司 副总裁、研发部总裁

**罗海辉 博士** 中国中车首席技术专家、株洲中车时代半导体有限公司 总经理

**Harufusa Kondo 高级技术顾问** 三菱电机功率器件制作所

**查莹杰** 副总裁兼中国区总经理、纳微达斯半导体（上海）

有限公司

更多特邀报告人信息将在会议官网及时更新。关于特邀报告人介绍请见附件 1。

## (二) 专题讲座

本次年会将开设 16 场专题讲座，就电源领域的热点问题，新理论、新技术、新成果及新工艺进行系统讲解，每场专题讲座 3.5 小时。

### 讲座主题：待定

讲座人：李泽元 教授 (Prof. Fred C. Lee)，美国弗吉尼亚理工大学；美国工程院院士、中国工程院外籍院士、IEEE Fellow

### 讲座主题：待定

讲座人：Prof. Jian Sun，未来能源系统研究中心 主任，美国伦斯勒理工学院；IEEE 电力电子学会副主席、IEEE Fellow

### 讲座主题：功率器件封装设计与工艺流程

讲座人：罗皓泽 研究员，浙江大学；李武华 教授，浙江大学

### 讲座主题：基于能量收集的分布式微供电系统

讲座人：彭晗 教授，华中科技大学；梁俊睿 教授，上海科技大学

### 讲座主题：分数阶电力电子技术及其应用

讲座人：何良宗 教授，厦门大学

**讲座主题：电力电子化电力系统技术应用与展望**

讲座人：袁智勇 教授，南方电网科学研究院；余占清 副教授，清华大学；黄伟煌 教授，南方电网科学研究院；辛清明 高级工程师，南方电网科学研究院；周月宾 高级工程师，南方电网科学研究院

**讲座主题：电力电子变换器基于系统模型的优化复合控制技术**

讲座人：周克亮 教授，武汉理工大学自动化学院

**讲座主题：Small-signal modelling, stability analysis, and control of wireless power transfer system**

讲座人：A. Prof. Minfan Fu, ShanghaiTech University;  
A. Prof. Kerui Li, The Hong Kong Polytechnic University

**讲座主题：Power electronics converters for open-winding motor drives**

讲座人：Prof. Dong Jiang, Huazhong University of Science and Technology

**讲座主题：Distributed consensus robust predictive control of power converters for microgrids**

讲座人：Prof. Zhenbin Zhang, Shandong University; Dr. Yu Li, Shandong University; Dr. Oluleke Babayomi, Shandong University

**讲座主题：Switched capacitor multilevel inverters**

**(scml i)**

讲座人: Prof. Adrian Ioinovici, Nanjing University of Aeronautics and Astronautics NUAA; Prof. Jia Yao, Nanjing University of Aeronautics and Astronautics NUAA

**讲座主题: Stray Capacitance in Magnetic Components: Impacts, Principle and Reducing Technology**

讲座人: A. Prof. Ziwei Ouyang, Technical University of Denmark; A. Prof. Zhan Shen, Southeast University; A. Prof. Hongbo Zhao, Aalborg University

**讲座主题: The Evolution of Integration Technology for Wide Bandgap Devices**

讲座人: Senior scientist Lincoln Xue, Oak Ridge National Laboratory; Sr. Director of AE Xiucheng Huang, Navitas Semiconductor; A. Prof. Helen Cui, University of Tennessee Knoxville

**讲座主题: Grid-Forming Converters: Principles and Practices**

讲座人: Prof. Xiongfei Wang, KTH Royal Institute of Technology

**讲座主题: Advanced Modulation, Control, and Structure of Isolated dc-dc Converter Systems for dc Power Conversion**

讲座人: Prof. Yunwei Li, University of Alberta; A. prof. Sun Kai, Tsinghua University; Prof. Wensheng Song, Southwest Jiaotong University; Postdoc Nie Hou, University of Alberta; Postdoc Yue Zhang, Southeast University

*更多专题讲座信息将在会议官网及时更新。关于专题讲座具体介绍请见附件 2。*

### (三) 技术报告分会场、墙报交流

会议将设置 102 个主题技术报告分会场及 2 个墙报交流时段, 直观展示 1200 余篇最新论文和研究成果, 使参会者就电源各领域技术进行充分交流。主要涉及内容包括: 新颖开关电源: 直流变换、功率因数校正; 变频电源及电力传动系统; 硅基器件、SiC/GaN 器件、新型功率器件及其应用; 高频磁元件和集成磁; 新能源变换与控制; 电能质量治理与优化; 照明电源与消费电子; 特种电源装备与系统; 电磁兼容与可靠性; 无线电能传输; 信息系统供电技术: UPS、直流供电、电池管理; 电动汽车充电与驱动; 交通电气化; 电力电子化电力系统及装备; 先进电池及其储能装置与系统; 燃料电池与氢能及其装置与系统; 电能与其它能量转换元件、装置与系统; 电力电子装置相关电工材料与元器件技术; 电力电子与直流输配电系统; 电力电子与人工智能; 电力电子与综合能源系统等。

### (四) 工业报告分会场

会议将设置 14 个主题工业报告分会场共计 38 场报告，以电力电子热点及重点共性技术问题为主，更加着重于工程应用和产品开发技术。工业报告分会场主题包括：新型功率半导体器件及其应用 (SiC, GaN, IGBT&MOSFET 及其驱动控制技术和应用等)；高频磁性元器件设计和应用 (高频磁性材料，高频及大功率磁件设计，磁集成技术等)；被动元器件和传感器及其应用 (速度、温度和电流等传感器，新型及高频电容器等元器件)；电源的安规和可靠性及其设计 (电源安全法规，EMC/EMI 以及可靠性的设计和验证等)；储能元件及能源管理技术 (新型电池，超级电容，燃料电池等以及电能管理技术)；高效高功率密度电源及变换器技术 (各种 DC/DC, AC/DC 电源，工业及特种电源及应用等)；数据中心高效绿色能源解决方案 (新型数据中心系统架构，新能源接入及低碳运行解决方案等)；LED 新型照明系统及驱动电源技术 (LED 驱动及电源，LED 照明系统，植物照明及其解决方案等)；无线充电及其应用和解决方案 (消费、医疗、工业及电动汽车应用等无线充电技术及解决方案)；新型电机及其驱动控制技术 (各种新型电机，机器人、无人机等应用电机及其控制技术等)；电动汽车车载电源及控制技术 (电驱及其控制，充电机、各种电源变换器及其控制技术等)；电动汽车充电及系统解决方案 (充电电源，充电桩、充电站及充电设施系统解决方案等)；新能源发电及变换器技术 (风电\光伏及分布式发电，固态变压器等变换器及控制技术)；储能及新型电力系统 (风光储能、光储充、微网和智



能电网等系统及其控制技术)等。

### (五) 电源新产品、新技术展览会

活动现场超过 100 家企业集中展示电源及相关领域新产品、新应用、新成果，反映电源产业技术创新水平，促进产学研用交流与合作，展览规模将超过 200 个展位。

关于参展企业名单请见附件 3。

### 三、报名方式

通过会议网站 [meeting.cpss.org.cn](http://meeting.cpss.org.cn) 进行在线注册，并进行在线付款后即为报名成功，否则报名无效。

报名优惠截止日期 2023 年 10 月 10 日。10 月 10 日之后报名者不享受注册费优惠，食宿不予保证。

#### (一) 会议费用及类型：

##### 1、注册费用

代表类型	会议费（元）	
	10月10日前 (含10日)	10月10日后 及现场
全注册		
非会员	1800	2200
个人会员	1200	1500
团体会员*	1100	1400
学会理事	1100	1400
论文作者	1100	1400

学生会员	600	800
学生非会员	700	900
大会讲座注册(11月10-11日)		
仅限学会会员	600	900

## 2、注册类型

全注册包含:

(1) 可参加大会及全球电力电子高峰论坛、专题讲座、技术报告分会场、工业报告分会场、墙报、展览等全部会议活动;

(2) 获得全部会议资料(论文集、讲座资料、会议程序册等);

(3) 11月11日欢迎联谊会、11月12日交流晚餐会;

(4) 会议全程自助午、晚餐(11月10日午餐至11月13日晚餐)等。

大会讲座注册包含:(仅向中国电源学会会员开放)

(1) 可参加11月10日专题讲座、11日大会、墙报交流及展览参观;

(2) 可获得会议程序册、专题讲座资料等会议资料;

(3) 11月10-11日自助午餐。

备注:两种注册类型,参会期间住宿费用自理,预订会议协议酒店可享受会议优惠价格。

## (二) 注册说明

1、会议费用优惠期以费用缴纳到账日期为准,10月10日

前提交注册信息但未缴费的代表，不享受优惠。

2、 论文作者需进行全注册。论文作者为在校学生，可按照学生优惠价格（学生会员或学生非会员均可）进行注册。

3、 团体会员单位可享受团体会员优惠价格的名额分别是：会员单位，3人；理事单位，5人；常务理事单位，7人；副理事长单位，10人，高校团体会员，3人，超出名额人员按照个人会员或非会员价格缴纳注册费。

4、 退款政策。注册人员因故无法参会可提出书面退款申请，10月19日（含）前提出的可全额退款，10月20日-11月3日（含）提出的可退款50%，11月3日之后不再接受退款申请。退款申请可发送至 [conf@cpss.org.cn](mailto:conf@cpss.org.cn)，邮件标题请注明“注册费退款申请-〈参会人姓名〉”。

5、 已注册缴费，因故未到会代表，组委会将在会后根据注册类型邮寄相关会议资料。

#### **四、会议住宿酒店**

##### **广州中国大酒店**

*距离会议举办地（广州越秀国际会议中心）约150米。*

地址：广东省广州市越秀区流花路122号

大床房：660元/间·天（含单早）

双床房：730元/间·天（含双早）

##### **广州东方宾馆**

*距离会议举办地（广州越秀国际会议中心）约300米。*

地址：广东省广州市越秀区流花路 120 号

豪华大床房：548 元/间·天(含双早)

豪华双床房：548 元/间·天(含双早)

尊荣大床房：598 元/间·天(含单早)

精英双床房：648 元/间·天(含双早)

### 预订说明：

1. 预订广州中国大酒店和广州东方宾馆住宿，可在会议官网完成注册后，在酒店预定页面跳转至预订网站进行预订并享受会议优惠价格。

2. 由于会议期间房间紧张，请于 10 月 10 日前进行预订。

3. 本次会议住宿委托上海加西亚会务服务公司具体办理，联系人：罗经理 电话：19512399807。10 月 19 日（含）前提出的可全额退款，10 月 20 日-11 月 3 日（含）提出的可退款 50%，11 月 3 日之后不再接受退款申请。

除中国大酒店和东方宾馆，参会代表可根据需要自行预定其他周边酒店，周边酒店信息及参考价格请见附件 4。

### 五、 注意事项

● 凡是录用论文的作者有义务参会并宣读或张贴论文。如作者确因特殊情况无法亲临参会，应委托他人代为宣读或张贴交流论文。

● 论文作者或被委托宣读、张贴论文的人员，在报名时需相应选择论文题目、编号。

● 技术分会场每篇报告时间 15 分钟，每位报告人做好 15 分钟的 PPT 演示文件。

● 张贴论文，每篇论文限 1 张（每张规格宽 0.97 米 × 长 1.5 米）。

## 六、 特别鸣谢

本次会议得到众多行业企业的积极参与和大力支持，特此表示感谢。

### 钻石合作伙伴:

华为数字能源技术有限公司、株洲中车时代半导体有限公司、三菱电机机电（上海）有限公司、纳微半导体、茂硕电源科技股份有限公司。

### 白金合作伙伴:

富士电机（中国）有限公司、艾德克斯电子有限公司、深圳市汇川技术股份有限公司、湖南三安半导体、德国莱茵 TÜV、Wolfspeed, Inc.、罗姆半导体集团、派恩杰半导体、山东艾诺智能仪器有限公司、科威尔技术股份有限公司、深圳基本半导体有限公司、珠海镓未来科技有限公司、村田（中国）投资有限公司、湖南艾华集团股份有限公司。

## 七、 联系方式

中国电源学会

地址：天津市南开区黄河道 467 号大通大厦 16 层

邮编：300110

电话：022-27686709 ( 参会注册 ), 27686839、83575728 ( 论文及程序 ), 27686707 ( 招商 )

会议网站: [meeting.cpss.org.cn](http://meeting.cpss.org.cn)

会议邮箱: [conf@cpss.org.cn](mailto:conf@cpss.org.cn)



## 附件 1：特邀报告人介绍



**李泽元 教授**

美国弗吉尼亚理工大学

美国工程院院士、中国工程院外籍院士、IEEE Fellow

**报告人简介:** Dr. Lee is a University Distinguished Professor Emeritus at Virginia Tech. He is a member of the U.S. National Academy of Engineering, U.S. National Academy of Inventors and a foreign member of the Chinese Academy of Engineering, China. Dr. Lee

founded the Center for power electronics and led a program that encompasses research, technology development, educational outreach, industry collaboration, and technology transfer. To date, more than 230 companies worldwide have benefited from this industry partnership program.

Dr. Lee has supervised to completion 90 Ph.D. and 94 M.S. students. He holds over 100 US patents, and has published over 330 journal articles and more than 760 refereed technical papers. His research interests include high-frequency power conversion, magnetics and EMI, distributed power systems, renewable energy, power quality, high-density electronics packaging and integration, and modeling and control.

Dr. Lee is a recipient of the 2015 IEEE Medal in Power Engineering "for contributions to power electronics, especially high-frequency power conversion."



**Prof. Frede Blaabjerg**

丹麦奥尔堡大学  
丹麦科学院院士  
IEEE 电力电子学会前主席  
IEEE Fellow

**报告人简介:** Frede Blaabjerg (S'86–M'88–SM'97–F'03) was with ABB–Scandia, Randers, Denmark, from 1987 to 1988. From 1988 to 1992, he got the PhD degree in Electrical Engineering at Aalborg University in 1995. He became an Assistant Professor in 1992, an Associate Professor in 1996, and a Full Professor of power electronics and drives in 1998 at AAU Energy. From 2017 he became a Villum Investigator. He is honoris causa at University Politehnica Timisoara (UPT), Romania in 2017 and Tallinn Technical University (TTU), Estonia in 2018.

His current research interests include power electronics and its applications such as in wind turbines, PV systems, reliability, harmonics and adjustable speed drives. He has published more than 600 journal papers in the fields of power electronics and its applications. He is the co-author of four monographs and editor of ten books in power electronics and its applications.

He has received 38 IEEE Prize Paper Awards, the IEEE PELS Distinguished Service Award in 2009, the EPE–PEMC Council Award in 2010, the IEEE William E. Newell Power Electronics Award 2014, the Villum Kann Rasmussen Research Award 2014, the Global Energy Prize in 2019 and the 2020 IEEE Edison Medal. He was the Editor-in-Chief of the IEEE TRANSACTIONS ON POWER ELECTRONICS from 2006 to 2012. He has been Distinguished Lecturer for the IEEE Power Electronics Society from 2005 to 2007 and for the IEEE Industry Applications Society from 2010 to 2011 as well as 2017 to 2018. In 2019–2020 he served as a President of IEEE Power Electronics Society. He has been Vice-President of the Danish Academy of Technical Sciences.

He is nominated in 2014–2021 by Thomson Reuters to be between the most 250 cited researchers in Engineering in the world.



**Prof. Liuchen Chang**

加拿大纽布伦斯威克大学  
IEEE 电力电子学会前主席  
加拿大工程院院士

**报告人简介:** Liuchen Chang received B. S. E. E. from Northern Jiaotong University in 1982, M. Sc. from China Academy of Railway Sciences in 1984, and Ph.D. from Queen' University in 1991. He joined the University of New Brunswick in 1992 and is now a Professor Emeritus. He was the NSERC Chair in Environmental Design Engineering during 2001–2007, and the Principal Investigator of Canadian Wind Energy Strategic Network (WESNet) during 2008–2014. He is a long-time volunteer for IEEE of 30 years and is the President of the IEEE Power Electronics Society.

Dr. Chang was a recipient of CanWEA Templin Award for his contributions in the development of wind energy technologies, Innovation Award for Excellence in Applied Research in New Brunswick for his contributions in smart grid and renewable energy technologies, and PELS

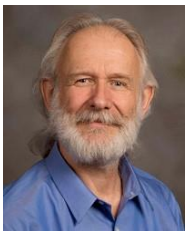
Sustainable Energy Systems Technical Achievement Award for his contributions in distributed energy systems. He is a fellow of Canadian Academy of Engineering. He has published more than 400 refereed papers in journals and conference proceedings. Dr. Chang has focused on research, development, demonstration and deployment (RDDD) of distributed energy systems.



**刘进军 教授**

西安交通大学  
中国电源学会理事长  
IEEE Fellow

**报告人简介:** 刘进军, 西安交通大学电气学院教授、领军学者, IEEE Fellow(会士), 长江学者特聘教授, 国家重点研发计划项目首席科学家。1997年博士毕业即留校任教至今, 现任电力电子与新能源技术研究中心主任。现为中国电源学会理事长、英文学报主编, IEEE 电力电子学会 2015-2021 副主席、IEEE 电力电子学报副编辑, 教育部高等学校电气类专业教学指导委员会副主任委员。研究方向: 电力电子变流器与电子化电能系统的建模、控制与设计方法, 面向可持续能源与分布式发电的微电网技术, 电力电子技术在电能质量控制与输配电系统中的应用。获国家级和省部级科学技术奖、教学成果奖等多项。荣获 2006 年中达学者奖, 2014 年全国优秀科技工作者, 2016 年国务院特殊津贴奖励, IEEE 电力电子学报 2016 年、2021 年最佳论文奖, 2020 年宝钢优秀教师特等奖提名奖, 2022 霍英东教育教学奖。



**Dr. Dushan Boroyevich**

美国弗吉尼亚理工大学、IEEE Fellow

**报告人简介:** Dushan Boroyevich received the Dipl.Ing. degree from the University of Belgrade, Belgrade, Serbia (formerly Yugoslavia), in 1976, the M.S. degree from the University of Novi Sad, Novi Sad, Serbia, in 1982, and the Ph.D. degree from Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA, USA, in 1986.

From 1986 to 1990, he was an Assistant Professor with and the Director of the Power and Industrial Electronics Research Program, Institute for Power and Electronic Engineering, University of Novi Sad, where he later became the Acting Head of the institute. He then joined the Bradley Department of Electrical and Computer Engineering, Virginia Tech, as an Associate Professor. He is currently the American Electric Power Professor with the same department, where he is also the Director Emeritus of the Center for Power Electronics Systems. His research interests include multiphase power conversion, electronic power distribution systems, power electronics systems modeling and control, and the integrated design of power converters.

Dr. Boroyevich was the President of the IEEE Power Electronics Society from 2011 to 2012. He is a member of the U.S. National Academy of Engineering. He was a recipient of the IEEE William E. Newell Power Electronics Technical Field Award and IEEE Power Electronics Society's Harry A. Owen Distinguished Service Award.





**Prof. Hirofumi Akagi**

东京工业大学

IEEE Fellow

**报告人简介:** Hirofumi Akagi received his Ph. D. degree in electrical engineering from the Tokyo Institute of Technology, Tokyo, Japan, in 1979. Since 2000, he has been Professor, currently Distinguished Professor, in the department of electrical and electronic engineering at the Tokyo Institute of Technology. Prior to it, he was Professor at Okayama University, Okayama, Japan, from 1991 to 1999, and Assistant and then Associate Professor at Nagaoka University of Technology, Nagaoka, Japan from April 1979 to 1991.

His research interests include power conversion systems and their applications to industry, transportation, and utility. He has authored and coauthored about 140 IEEE Transactions papers, and three invited papers in the Proceedings of the IEEE.

Dr. Akagi was elevated to the grade of the IEEE Fellow in 1996. He has received six IEEE Transactions Prize Paper Awards, and 15 IEEE Industry Applications Society Committee Prize Paper Awards. In addition, he is the recipient of the 2001 IEEE Power Electronics Society William E. Newell Award, the 2004 IEEE Industry Applications Society Outstanding Achievement Award, the 2008 IEEE Richard H. Kaufmann Award, the 2012 IEEE Power & Energy Society Nari Hingorani Custom Power Award, and the 2018 IEEE Medal in Power Engineering.

Dr. Akagi served as the President of the IEEE Power Electronics Society from 2007 to 2008 for two years, and the IEEE Division II Director from 2015 to 2016 for two years.



**何建军 副总裁**

华为数字能源技术有限公司 副总裁、研发部总裁

**报告人简介:** 何建军, 当前为华为数字能源公司副总裁, 研发部总裁。历任华为通信能源、数据中心能源及智能电动产品部部长, 专注于技术创新及平台竞争力构建。曾创立行业第一代 1U 系列整流器平台、统一功率软硬件/智能配电/温控/储能产品平台; 首创业界 FusionPower 供配电解决方案并开发商用、iCooling 节能算法实现 PUE 持续降低;

推出行业领先的高压高速油冷 3 合一动力总成, 行业首创多合一电驱动系统, 功率扭矩密度行业领先。



**罗海辉 博士**

中国中车首席技术专家

株洲中车时代半导体有限公司 总经理

**报告人简介:** 罗海辉博士, 中国中车首席技术专家, 现任株洲中车时代半导体有限公司总经理。长期从事 IGBT 和碳化硅功率器件技术研发与产业化工作, 带领团队构建全电压系列 IGBT 产品技术平台并为轨道交通、新能源汽车、工业和输配电等领域提

供功率半导体器件解决方案。曾获国家技术发明奖二等奖 1 项、省部级科技奖 5 项, 通过省部级科技成果鉴定 5 项。申请发明专利 100 余项, 其中 46 项发明专利已授权。在国际会议、国内外核心期刊发表论文 40 余篇。



### Harufusa Kondo 高级技术顾问

三菱电机功率器件制作所

**报告人简介:** Dr. Kondo received the B.S., M.S., and Ph.D. degrees from Osaka University, JAPAN.

In 1985, he joined Mitsubishi Electric Corporation. In her LSI R&D Laboratory, he had been engaged in the design of large-scale chips for digital communication.

In 2003, he moved to the Optical and High-frequency Device Works, where he had been worked on high-speed Optical Transceiver development.

Since 2009, he has been working at Power Device Works for the development of DIPIPM™, Industrial modules, and high-voltage modules including silicon IGBT and SiC MOSFET.

He is currently the Senior Technical Advisor at Power Device Works, Mitsubishi Electric Corporation.



### 查莹杰 副总裁兼中国区总经理

纳微达斯半导体（上海）有限公司

**报告人简介:** 查莹杰 (Charles) 在全球规模的半导体公司拥有超过 14 年的丰富的销售和营销经验。在加入纳微半导体之前，他曾在仙童半导体和安森美半导体工作，管理大中华区的移动电话和无线业务部门，为企业带来超过 3.5 亿美元的营收。

查莹杰以极快的速度发展了纳微半导体的中国团队，并在上海建立了纳微中国芯片研发中心，以及深圳、杭州分公司，他在商业和维护投资者关系方面拥有卓越的声誉。

查莹杰拥有江苏大学电子信息工程学士和控制理论与控制工程硕士学位。

## 附件 2：专题讲座安排

**讲座主题:** 待定

**讲座人:** 李泽元 教授 (Prof. Fred C. Lee), 美国弗吉尼亚理工大学; 美国工程院院士、中国工程院外籍院士、IEEE Fellow

**讲座主题:** 待定

**讲座人:** Prof. Jian Sun, 未来能源系统研究中心 主任, 美国伦斯勒理工学院; IEEE 电力电子学会副主席、IEEE Fellow

**讲座主题:** 功率器件封装设计与工艺流程

**讲座人:** 罗皓泽 研究员, 浙江大学; 李武华 教授, 浙江大学

**内容简介:** 功率半导体器件封装测试是功率半导体器件产业链中“设计-生产-封测”三大环节中最后一道制造环节，其技术水平决定了半导体芯片的综合性能水平。为了实现功率半导体芯片的输出功能实现与可靠电气连接，同时保护芯片不受环境因素的污染影响，需要将性能优良的金属、陶瓷、灌封胶等电工、热工和高分子材料对半导体芯片进行有机组装，即功率半导体器件封装技术。本讲座将重点介绍功率模块封装设计中电-热-力场等多物理场分析、器件可靠性相关的封装设计与工艺制备，主要包括：功率器件发展及应用、功率器件封装电场分析及优化设计、功率器件封装热场分析及优化设计、制造工艺与可靠性评估及总结等内容。

**讲座主题:** 基于能量收集的分布式微供电系统

**讲座人:** 彭晗 教授, 华中科技大学; 梁俊睿 教授, 上海科技大学

**内容简介:** 通过对环境中不同物理形式和模态的微能量的获取、转换、存储和处理形成可直接使用的电

能，构建具有高可靠、免维护、长寿命的分布式微供电系统，实现泛在感知设备的自供电，具有重要意义。传感器需求巨大，但因服役环境恶劣、部署区域广、人工运维难度大等制约，采用电池供电方式在可靠性、安全性和寿命等方面存在较大限制。基于能量收集的自供能技术为对广泛分布的空间和客体的实时状态信息的感知提供了关键基础技术支撑。

基于能量收集的分布式微供电系统，在发电、变电、输电和用电各个方面均区别于集中供电系统。能量收集的基础是对于环境中微能量源的特性认识。能量收集的关键技术包括对于低品味分散能量的高效俘获、微能量的无损传输和低功耗变换、以及能量的自适应管理与合理利用。

机械能和电磁能量是空间中最为广泛存在的能量源。本讲座在对于能量收集基本概念、方法、意义介绍的基础上，聚焦上述两种能量源，对于能量源特性、能量俘获方法、能量传输和变换技术、能量管理策略以及系统集成展开阐述，并对于基于能量收集的分布式微供电系统的应用进行展望。

**讲座主题：**分数阶电力电子技术及其应用

**讲座人：**何良宗 教授，厦门大学

**内容简介：**分数阶微积分本质上具有无穷维，在具有记忆特征或是中间过程等问题的研究中已展示出惊人的潜力。现实物理系统的材料、器件等都非理想，其本构关系用它描述更准确。更重要的是，它可突破经典微积分的局限，对非保守系统直接建立变分原理，使得 Lagrange 力学、Hamilton 力学、Hamilton-Jacobi 理论、量子波理论等在同一框架下完整地得到描述。

电力电子系统本质上是一个多时间尺度的惯性系统，功率变换与传输表现为电磁能量在惯性系统中的演化动力学过程。将分数阶理论引入电力电子学，从另一个视角更深入的描述和分析电力电子系统，可突破传统电力电子系统的特性边界，获得更优异性能或新的功能。本讲座共分为 4 个部分，首先尝试建立分数阶电力电子技术的基本概念与分类；第二部分探讨分数阶低频纹波抑制的基本原理与方法，着重阐述功率解耦型低频纹波抑制、阻抗重构型分数阶低频纹波抑制、实时数据驱动的自适应谐波提取；第三部分探讨分数阶无线电能传输的基本原理与方法，分别着重阐述弱耦合与强耦合下的分数阶无线电能传输；最后一部分探讨实时数据与模型混合驱动的分数阶电力电子系统参数识别的基本原理与方法。

**讲座主题：**电力电子化电力系统技术应用与展望

**讲座人：**袁智勇 教授，南方电网科学研究院；余占清 副教授，清华大学；黄伟煌 教授，南方电网科学研究院；辛清明 高级工程师，南方电网科学研究院；周月宾 高级工程师，南方电网科学研究院

**内容简介：**构建以新能源为主体的新型电力系统是实现“双碳”目标的核心手段。根据测算，2050 年可再生能源占全球发电总量的比例将增长到 55%。随着可再生能源的大量接入，新型电力系统在发输配用侧的供给能源与网络原件均发生重大变化。以半导体器件为主体的电力电子变流器正逐步取代传统同步机成为现代电力系统中的核心装备。然而，新能源发电的随机性、波动性、间歇性以及电力电子变流器的低惯量、低短路容量和宽频动态特性等从根本上改变了现代电力系统的运行特性，电力电量平衡、安全稳定控制等将面临前所未有的挑战。

本专题技术讲座旨在从电网运营商角度讨论电力电子化电力系统中的一些关键技术应用。首先，本讲座将从源、网、荷、储四个方面阐述电力电子化电力系统的基本特征以及面临的挑战。然后，将从设备层面讨论新型电力电子器件及拓扑的最新研究进展。随后，将从系统层面分别介绍应用于大规模新能源送出的柔性直流输电关键技术和基于晶闸管的常规直流输电技术及改造，并对高压大功率 FACTS 及相关设备在新型电力系统中的应用技术进行探讨。最后，本讲座将对未来电力电子化电力系统可能的技术发展方向进行展望。

**讲座主题：**电力电子变换器基于系统模型的优化复合控制技术

**讲座人：**周克亮 教授，武汉理工大学自动化学院

**内容简介：**目前电力电子设备，诸如风机/光伏变流器、高铁牵引变流器、各种交直流电源等多采用 PID 控制器和 PR 控制器。PID 控制器和 PR 控制器，均无需控制对象的模型信息，简单易用，仅利用控制误差来计算控制量实现对直流和正弦给定/扰动信号实施快、准、稳的调节；研究还发现，静止坐标系比例

谐振(proportional-resonant, PR)控制器与 dq 坐标系 PID 控制器等价,且无需繁琐的坐标变换计算即可实现对正弦信号的无差跟踪。然而,由于 PID 控制器和 PR 控制器不依赖控制对象的模型,无法充分利用控制对象的知识与信息来提高控制系统的性能,需要引入额外的反馈项,诸如虚拟阻抗、状态前馈等去改善控制系统的性能;另外,此外,同样由于不依赖控制对象的模型, PID 和 PR 控制器参数的选取通常需经过反复试凑获得,缺少系统且有效的设计手段。随着高比例新能源和高比例电力电子设备的新型电力系统的快速发展,电力系统对电力电子设备的控制性能要求越来越高,采用 PID 控制器和 PR 控制器的电力电子设备在很多工况下性能欠佳,出现电能质量下降甚至出现振荡等现象,例如风机并入弱电网出现振荡、高铁牵引变流器出现谐振、电源轻载谐波畸变超标等。

对于电力电子变换器、电机等模型明确已知的控制对象而言,受控对象模型与参考信号/扰动信号模型构成其系统模型,基于其系统模型设计控制器,将可充分利用控制系统的知识与信息,一方面显著提高控制系统的性能,另一方面大大简化控制器的设计。为此,本次专题讲座将提出和介绍一套基于系统模型的优化复合控制器及其通用设计方法。该复合控制器由基于控制对象模型的全状态反馈器设计与包含参考/扰动信号模型的广义积分控制器优化复合而成,其中全状态反馈控制器通过灵活选取状态反馈量和反馈系数保证系统响应快速、鲁棒性好;包含参考/扰动信号的模型的广义积分控制器通过优化积分器增益和引入补偿,不仅保证系统能稳态无差地调节周期性参考/扰动信号,而且能大大简化控制系统的设计分析。所提出的优化复合控制器综合了其中两控制项的优点,与 PID 控制器相比,不仅设计大为简化,还能够更快速、更准确和更稳定地跟踪/消除周期性的参考/扰动信号,这里的广义积分器包括常规积分器、谐振控制器以及重复控制器等。在介绍过该复合控制方案理论分析与设计方法的基础上,提供了系列的应用实例,并与 PR 和 PID 控制器相比较,演示证明所提出的优化复合控制方法的优越性。最后,还对基于系统模型的优化复合控制技术的发展方向与应用前景进行了讨论和展望。

本讲座主要面向从事并网变流器、构网型变流器、电源和电机控制技术与研究的工程师、研究生和高校教师,照例解决技术难题,积极推进电力电子化电力系统的技术进步。

**讲座主题:** Small-signal modelling, stability analysis, and control of wireless power transfer system

**讲座人:** A. Prof. Minfan Fu, ShanghaiTech University; A. Prof. Kerui Li, The Hong Kong Polytechnic University

**内容简介:** In order to cope with the challenges caused by the high penetration of renewables, the concepts of grid-to-vehicle (G2V) and vehicle-to-grid (V2G) were proposed. Wireless power transfer is one of the key technologies that facilitate the implementation of these concepts, cut off the last cord, and improve the intelligence of movable objects. Recently, an increasing number of electric vehicles are adopting wireless power transfer for connecting with the power grid. As a result, the wireless power transfer system shall interact with the power grid. The interaction raises new challenges to the stability of the power grid, wireless power transfer system, as well as the electrical system of the vehicle. As a consequence, advanced modelling techniques, analysis tools, and control methods will be required to tackle these challenges.

This presentation will start with an overview of the key dimensions of wireless power transfer systems (topologies, modulation strategies, and control methods) along with the advantages and trade-offs of various solutions. Furthermore, we will introduce advanced modelling methods that can characterize the dynamics of the wireless power transfer in various time/frequency scales. Next, based on the advanced model, some instability factors of existing wireless power transfer systems are discussed and analyzed. Moreover, control solutions for system stabilization are presented with theoretical analysis and experimental verification. Finally, conclusions are drawn and prospects are provided for future research

and development of wireless power conversion technologies.

**讲座主题:** Power electronics converters for open-winding motor drives

**讲座人:** Prof. Dong Jiang, Huazhong University of Science and Technology

**内容简介:** This tutorial gives an introduction on the recent technologies in the power electronics converters for open-winding motor drive.

Compared with traditional three-phase AC motors with Y-connected windings, the open-winding structure has many potential advantages such as wide speed operation range, fast dynamic response, more control freedoms, and strong fault-tolerant capability. Therefore, the topology and control of power electronic converter for open-winding motor drive has important theoretical research value and engineering practice significance.

Three major types of open-winding motor are used as examples to study: reluctance motor, multiphase open-winding AC machine and active magnetic bearings (AMB). They share the similarity of open-winding structure, but are for different performance and targets. Systematic study of these kinds of open-winding motor drive has been done in recent years.

In this tutorial, the optimization progress of the open-winding reluctance motor drive is introduced step by step. Further, several novel technologies of multiphase open-winding AC motor drive are introduced. A novel kind of multiphase open-winding motor drive: series-winding motor drive (SWMD) is introduced, which is able to be applied in normal AC motor and increase the voltage utilization range significantly. Moreover, a Re-configurable open-winding multiphase drive is introduced, which is able to reconfigured the circuit for the faulty phase and maximize the torque output capability of the post-fault drive system.

Open-winding power electronics controller is one of the most important part in the active magnetic bearing system. This presentation introduces progress in the power electronics controller for AMB system. One progress is the topologies for multi-axis AMB, to reduce the power electronics devices and power losses by device sharing principle. The other progress is the fault-tolerant AMB drive, to re-construct the levitation force after failure of power electronics device and improve the reliability.

This tutorial gives a road map for research and application of power electronics converters in the area of open-winding motor drive.

**讲座主题:** Distributed consensus robust predictive control of power converters for microgrids

**讲座人:** Prof. Zhenbin Zhang, Shandong University; Dr. Yu Li, Shandong University; Dr. Oluleke Babayomi, Shandong University

**内容简介:** Microgrids, which consist of distributed energy resources (DERs), distribution lines, and consumer loads, represent a promising solution for the integration of sustainable energy sources with the utility grid. Through advanced control techniques such as model predictive control (MPC), microgrids can intelligently and optimally monitor and manage load demand scheduling to maintain a balance between generation and demand. Thus, they can also improve reliability, resilience and optimal dispatch of DERs.

This tutorial aims to provide a comprehensive overview of recent advances in the application of MPC to sustainable energy conversion in microgrids. It will begin with an introduction to MPC for renewable energy systems, with particular emphasis on parameter-independent MPC. It will then provide a detailed overview of the various MPC applications for hierarchical control of microgrids. Subsequently, it will present the recent advances in the distributed consensus predictive control of power converters cluster in hybrid ac/dc microgrids. Finally,

it will expatiate recently proposed techniques for the model-free predictive control of power converters with measurement noise suppression for grid-connected ac/dc power converters in microgrids.

At the end of the tutorial, participants will be familiar with methods for distributed consensus-based robust/model-free predictive control microgrid systems. The target participants include researchers in the fields of power systems and power electronics, graduate and undergraduate students, and industry professionals who want to keep updated with the latest trends in advanced control of grid-connected sustainable systems.

**讲座主题:** Switched capacitor multilevel inverters (scmli)

**讲座人:** Prof. Adrian Ioinovici, Nanjing University of Aeronautics and Astronautics NUA; Prof. Jia Yao, Nanjing University of Aeronautics and Astronautics NUA

**内容简介:** The SCMLIs proved to be the best choice in the electrical systems supplied by renewable energy. The tutorial will firstly discuss the inverters with no common ground between the input voltage and the load, with and without output bridge, and with and without continuous input current. Then, the common ground (CG) SCMLI will be the main subject, as they are the best fitted for photovoltaics used as energy source. The limits of the available CG-SCMLI for answering the practical challenges imposed by the PV cells will allow a "QUO VADIS" (where will go) discussion, with an outlook to foreseeable breakthrough solutions in the near future.

**讲座主题:** Stray Capacitance in Magnetic Components: Impacts, Principle and Reducing Technology

**讲座人:** A. Prof. Ziwei Ouyang, Technical University of Denmark; A. Prof. Zhan Shen, Southeast University; A. Prof. Hongbo Zhao, Aalborg University

**内容简介:** Stray resistance (AC resistance), Stray inductance (Leakage inductance) and Stray Capacitance are three fundamental parasitic parameters in magnetic components. Historically, the stray resistance and inductance in magnetic components have been discussed for decades, however, the stray capacitance is addressing more attention due to the fast switching behaviors and high-frequency application of wide-bandgap power devices.

In the first part of this tutorial, we will present a systematic review on the negative impacts in power electronic systems contributed by stray capacitance. Then, the basic principle of analytically modeling the stray capacitance in inductors and transformers will be introduced, by evaluating the model assumptions and implementing the methods with practical case studies. Both physics-based and behavioral-based modeling methods for magnetic components will be introduced. Lastly, several solutions for reducing the stray capacitance in magnetic will be shared.

According to this tutorial, the fundamental knowledge of stray capacitance in magnetic components for researchers and engineers is aimed to be developed.

**讲座主题:** The Evolution of Integration Technology for Wide Bandgap Devices

**讲座人:** Senior scientist Lincoln Xue, Oak Ridge National Laboratory; Sr. Director of AE Xiucheng Huang, Navitas Semiconductor; A. Prof. Helen Cui, University of Tennessee Knoxville

**内容简介:** Wide bandgap devices are faster, smaller devices. Their implementation involves multiple challenges, such as 1) being sensitive to inductive parasitics that generate high oscillations; 2) faster dv/dt and di/dt which generates more EMI; 3) smaller chip area

inducing higher heat flux. Functional integration technology can address those challenges. Depending on the applications, integration can most effectively occur at chip level or package level of the semiconductor device. Functions integrated have been reported include gate driving, level-shifting, sensing, protection, biasing, signaling, control, EMI filtering, heat sinking, etc. Integrated components range from discrete components such as semiconductor dice, capacitors, inductors, to distributed structure for similar electrical purposes and/or additional thermomechanical functions. As a result of integration, parasitics can be minimized, with improved EMI and thermal performance. Functional integration also reduces cost and improves system density.

This tutorial will start with fundamental discussion of wide bandgap devices, parasitics, and decoupling, laying the groundwork for the need for integration. Following on in Part 2, the WBG integration effort in the past decade will be reviewed, including some pioneering work the tutors have participated in at CPES, Virginia Tech such as GaN multi-chip module, stacked-die Cascode power module, etc. As the extension and commercialization of the reviewed technology in Part 2, Part 3 of this tutorial will show Navitas' s unique monolithic and co-packaged GaN integration concept and products, as well as a few application examples and design considerations. Part 4 will discuss the EMI filter integration effort at the power module level, represented by the work developed at University of Tennessee, Knoxville, to address mostly radiated frequency emission due to fastswitching. The last Part (5) of this tutorial will focus on high-power WBG integration, mostly with SiC devices, focusing on thermal improvement with organic substrate and advanced heatsink design using artificial intelligent algorithm, represented by the work developed in Oak Ridge National Laboratory. Integration technology for wide bandgap devices have been researched and developed since early days of the WBG era and spanned across both academic and industrial effort. This session aims to provide the audience an enjoyable journey of the evolution of WBG integration technology, covering the motivations, fundamental analysis, research outcomes, off-the-shelf products, application examples, and potential future research directions. The session will leverage the tutors' concentrated hands-on experience in the WBG packaging and application as the earliest researchers in the field since 2010, as well as their diverse perspective from academia, industry, and national laboratories. The session will review both the state-of-the-art solutions and the R&D projects the tutors have conducted. At the end of the session, the audience will be equipped with both the fundamentals and frontiers of WBG integration technologies, what are available from the marketplace, how to use them, as well as potential future development.

**讲座主题:** Grid-Forming Converters: Principles and Practices

**讲座人:** Prof. Xiongfei Wang, KTH Royal Institute of Technology

**内容简介:** The grid-forming (GFM) technology is emerging as a promising approach for massive integration of inverter-based resources (IBRs) into electrical grids. Being controlled as a voltage source behind an impedance, GFM-IBRs can provide adequate services to enhance the reliability and resilience of the power network, and they also feature higher stability robustness against grid strength variations than conventional IBRs. In recent years, there is a growing consensus on the need of GFM-IBRs in the future power electronic dominated power systems. Many research and development (R&D) efforts have been initiated, by governments, power system operators, energy developers, and vendors of IBRS, on the

technical specifications/grid codes, hardware and control solutions for GFM-IBRs.

This tutorial intends to cover both the basics and advances in GFM-IBRs that can fit the requirements of the evolving technical specifications/grid codes. The tutorial will start with the basic principles and typical control architectures of GFM-IBRs, which will be followed by the small-signal modelling and stability analysis of GFM-IBRs under various conditions. Then, the dynamics analysis of GFM-IBRs under large grid disturbances, e.g., grid faults and phase jumps, will be performed, covering the transient stability analysis, current limitation strategies, as well as anti-islanding detection methods. In the end, perspectives on the prospects and challenges with the grid integration of GFM-IBRs will be shared.

**讲座主题:** Advanced Modulation, Control, and Structure of Isolated dc-dc Converter Systems for dc Power Conversion

**讲座人:** Prof. Yunwei Li, University of Alberta; A. prof. Sun Kai, Tsinghua University; Prof. Wensheng Song, Southwest Jiaotong University; Postdoc Nie Hou, University of Alberta; Postdoc Yue Zhang, Southeast University

**内容简介:** With the appeal of carbon neutrality, the development of renewable energy sources has steadily increased over recent years. Among the renewable energy sources, PV energy has become one of the most important energy sources, especially for the residential PV grid-tied system, the railway electrification system, and the electric vehicles charger system. Then, because of some advantages such as low cost, high-power quality, and high reliability, the dc power system becomes a promising candidate to transfer and manage the power flow, which stimulates the study of the dc-dc converters. Among various dc-dc converters, the isolated dc-dc converter, such as voltage-fed dual-active-bridge (VF-DAB) dc-dc converter, current-fed DAB (CF-DAB) dc-dc converter and LC-based resonant dc-dc converter, attracts more attentions due to merits like soft-switching capability, galvanic isolation, and high-power density.

In this tutorial, we introduce and describe the latest advanced modulation, control, and structure of the isolated dc-dc converter for dc power systems. The VF-DAB dc-dc converter, the CF-DAB dc-dc converter, and the LC-based resonant dc-dc converter will be mainly covered, and combining the application for PV dc system, energy storage system, EV dc charger, the converter system with these converters will also be discussed, as well as the advanced controls.

Following a general introduction to the dc power system, the tutorial will elaborate on the most promising isolated dc-dc converters including the VF-DAB dc-dc converter, the CF-DAB dc-dc converter, and the LC-based resonant dc-dc converter. It will start with a comprehensive comparison between these isolated dc-dc converters, where the advantages and disadvantages are clearly underlined.

Moreover, the advanced modulation and control of the VF-DAB dc-dc converter will be presented for dealing with the challenges such as efficiency issues and load change. The unified analysis of the phase-shift modulation method for this converter will be discussed. Then, the different efficiency-optimized schemes will be discussed for this converter, and after comparison, the recommendation of the modulation method will be provided. Besides, the modeling methods of the VF-DAB dc-dc converter will be demonstrated, and the first-order characteristic will be verified for this converter. Then, advanced controls for the



VF-DAB dc-dc converter will be discussed and compared, and the general control structure for boosting the dynamic response will be provided. Furthermore, isolated dc-dc converters with first-order peculiarity will be reviewed, and the unified fast-dynamic control scheme will be analyzed for these converters.

In addition, a comprehensive structure comparison of CF-DAB converters for different voltage-level and power-level applications, including single-phase structure, three-phase structure, multi-level structure, single-fed structure, and multi-fed structure. Further, advanced modulation schemes and control strategies will be presented to boost the efficiency and dynamic performance of the CF-DAB converters. First, some new structures of CF-DAB converters are presented based on the single-fed and multi-fed recombination, which makes the utilization of the CF-DAB converters more flexible. Second, the modeling approaches and the parameter compensation methods are systematically presented to explain and resolve the transformer saturation issue and voltage spike pro under dynamic conditions. Third, the new control improvement methods are introduced to enable fast response and fault-tolerant capability of the CF-DAB converters.

Meanwhile, a comprehensive steady-state analysis of the LLC dc-dc converter and CLLC dc-dc converter is presented. To further explore the performance of the LLC and CLLC dc-dc converters, a series of works are conducted and introduced. First, different dynamic current control methods and state trajectory models are illustrated to analyze the transient process in the resonant tank. Then, some constant current control methods are presented, with improved dynamic performance. Second, battery charging methods for CLLC converters are systematically presented. Third, a comprehensive steady-state analysis for the LLC and CLLC converters is presented, considering the gate drive delay, power loss, and voltage ripple. Some hybrid compensation schemes are introduced to minimize the resonant-frequency variation due to the gate drive delay.

The last section of the tutorial will focus on the controls and structures for the DAB-based converter systems in specific applications such as PV, energy storage systems, and EV chargers. Firstly, the PV-battery integrated converter system will be discussed, which can reduce the costs of the PV-battery system significantly. Then, the high robustness control method will be presented for maintaining the total dc-link voltage when the working condition of the PV, the output voltage of the battery, and the power requirement of the consumer are changed. In addition, a DAB-based high-power dc EV charger system will be discussed and compared with other converters for a wide voltage range ability. Furthermore, based on the transient analysis of the converter system, a linear current-control-based technique will be presented for realizing the charging requirement without any voltage and current overshoots.

### 附件 3：合作伙伴及参展企业名单（截至 2023 年 8 月 21 日）

#### 钻石合作伙伴：

华为数字能源技术有限公司

株洲中车时代半导体有限公司

三菱电机机电（上海）有限公司

纳微半导体

茂硕电源科技股份有限公司

### 白金合作伙伴:

富士电机(中国)有限公司  
艾德克斯电子有限公司  
深圳市汇川技术股份有限公司  
湖南三安半导体  
德国莱茵 TÜV  
Wolfspeed, Inc.  
罗姆半导体集团  
派思杰半导体  
山东艾诺智能仪器有限公司  
科威尔技术股份有限公司  
深圳基本半导体有限公司  
珠海镓未来科技有限公司  
村田(中国)投资有限公司  
湖南艾华集团股份有限公司

### 参展商及专项服务商: (按单位拼音顺序排序)

GaN Systems Inc.	赛晶亚太半导体科技(浙江)有限公司
艾普斯电源(苏州)有限公司	厦门赛尔特电子有限公司
安徽中鑫半导体有限公司	山东东泰方思电子有限公司
北京柏艾斯科技有限公司	上海爱硕科贸有限公司
北京大华无线电仪器有限责任公司	上海大周能源技术有限公司
北京市天润中电高压电子有限公司	上海汉象智能科技有限公司
北京雅世恒源科技发展有限公司	上海航裕电源科技有限公司
忱芯科技(上海)有限公司	上海科梁信息科技股份有限公司
成都氮矽科技有限公司	上海唯力科技有限公司
东莞铭普光磁有限公司	上海鹰峰电子科技股份有限公司
格瑞特科技有限公司	上海远宽能源科技有限公司
固纬电子(苏州)有限公司	上海瞻芯电子科技有限公司
广东南方宏明电子科技股份有限公司	深圳麦科信科技有限公司
广州德肯电子股份有限公司	深圳市槟城电子股份有限公司
广州金升阳科技有限公司	深圳市铂科新材料股份有限公司
广州市爱浦电子科技有限公司	深圳市博茨科技有限公司
广州致远仪器有限公司	深圳市景旺电子股份有限公司
杭州飞仕得科技股份有限公司	深圳市瑞隆源电子有限公司
杭州精日科技有限公司	深圳市盛弘电气股份有限公司
杭州远方仪器有限公司	深圳市斯康达电子有限公司
河南求同电气科技有限公司	深圳市知用电子有限公司
核工业理化工程研究院	深圳英飞源技术有限公司
横河测量技术(上海)有限公司	四川经纬达科技集团有限公司
华特力科(北京)商贸有限公司	苏州水芯电子科技有限公司
华夏天信智能物联股份有限公司	泰克科技(中国)有限公司
黄山申格电子科技股份有限公司	天通控股股份有限公司
济南晶恒电子有限责任公司	无锡宸瑞新能源科技有限公司

江苏宏微科技股份有限公司	无锡芯朋微电子股份有限公司
柯贝尔电能质量技术（上海）有限公司	武汉森木磊石科技有限公司
罗德与施瓦茨（中国）科技有限公司	西安爱科赛博电气股份有限公司
迈为电子技术（上海）有限公司	新驱科技（北京）有限公司
敏业信息科技（上海）有限公司	医蔼贸易（上海）有限公司
南京泓帆动力技术有限公司	英富美（深圳）科技有限公司
南京兰泰机电集成有限公司	英诺赛科（深圳）半导体有限公司
南京瑞途优特信息科技有限公司	元山（济南）电子科技有限公司
南京研旭电气科技有限公司	浙江大学杭州国际科创中心电源管理技术创新联盟
南瑞联研半导体有限责任公司	浙江东睦科达磁电有限公司
宁波希磁电子科技有限公司	中电国基南方集团有限公司
润新微电子（大连）有限公司	

## 附件 4：周边酒店

根据时间、季节的变动住宿价格会有浮动，请以酒店价格为准。

桐舍酒店（越秀国际会议中心火车站店）（距离越秀会议中心约 700 米）

地址：广州市越秀区环市西路 202 号

大床房：328 元/间·天(含早餐)

双床房：328 元/间·天(含早餐)

联系人：罗经理

联系电话：19512399807

府上酒店(广州越秀公园火车站店)（距离会议酒店约 840 米）

地址：广州市越秀区盘福路 63 号

大床房：388 元/间·天(含早餐)

双床房：388 元/间·天(含早餐)

联系人：罗经理

联系电话：19512399807

宜尚酒店（越秀公园地铁站店）（距离越秀会议中心约 700 米）

地址：广州市越秀区盘福路 79 号倾城大厦

单人间：400-430 元/间·天(含早餐)

双人间：450-480 元/间·天(含早餐)

根据时间、季节的变动价格有浮动

联系电话：020-81366633

备注：请通过前台座机或携程等网络渠道比价订房

丽柏酒店（广州火车站越秀国际会议中心店）（距离越秀会议中心约 1.5 公里）

地址：广州市越秀区环市西路 183 号

大床房：488 元/间·天(含早餐)

双床房：525 元/间·天(含早餐)

根据时间、季节的变动价格有浮动

联系电话：020-83151688

备注：请通过前台座机或携程等网络渠道比价订房