东南大学 2021 年国际暑期学校项目介绍

Introduction of SEU International Summer School Program

项目主题（Theme）

高比例新能源接入的低碳化电力系统

Low Carbon Power System with High Penetration of Renewable Energy Resources

项目概述（Overview）

本项目是由东南大学电气工程学院组织，面向全球大学生提供丰富的暑期线上线下混合式课程，结合电气工程知名专家系列课程切实推动电气专业本科/研究生教育改革与发展，营造大学生创新氛围，使学生能更好地了解本学科国际前沿的学术方向和研究动态，开阔学术视野，拓宽科研思路，提高学术素养，强化学生创新意识与创业精神，全面提高电气工程专业大学生的创新能力和培养质量。

课程内容由东大电气学院教师联合国内外教授专家为学员提供指导。本项目理论授课共计 40 学时，可替代专业培养计划中的实习实践类课程。本校学生参加讲座将获得相应的 SRTP 学分。

This program is organized by School of Electrical Engineering, Southeast University. It is designed for international students all over the world to provide plentiful summer online courses. Combined with the lectures given by the well-known experts in electrical engineering, the International Summer School aims to promote education reform and development for undergraduate or graduate students, which can create an innovative atmosphere for college students. In this way, the graduate students can better understand the field of international cutting-edge academic and research advances, broaden academic horizons, broaden scientific research ideas, improve academic literacy, strengthen the awareness of innovation and entrepreneurship, as well as improve the innovation ability and training quality of students.

The courses will be given by well-known foreign experts and teachers majoring in Electrical Engineering, Southeast University will provide professional guidance for the students; the implementation duration of this project is 4 weeks, with a total of 40 class hours. It is suggested that it can replace the practical courses in the professional training plan. Moreover, extra SRTP credits can be earned for participating in the above-mentioned lectures.

课程安排（Schedule）

A. 课程信息 Lecturers and Course Information：

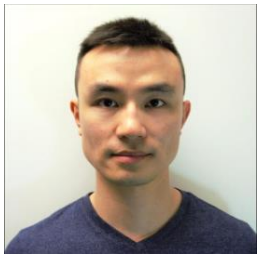
1) MATLAB 应用与实践 (研讨)

Application and Practice of MATLAB (Seminar)

This course consists of interactive MathWorks Webinars （**MathWorks 公司特邀在线课程**）and course projects under the supervision from Southeast University faculty.

Courses	Presenter	Agenda
Introduction to MathWorks Tools	Dakai Hu	TBA
MATLAB Live Editor – A Brand New Way of Coding in MATLAB	Dakai Hu	TBA
Developing and Implementing Digital Motor Control Using MATLAB/Simulink	Shang-Chuan Lee	TBA
Introduction to Motor Control Blockset	Dakai Hu	TBA
Power electronics and motor control prototyping with Simulink Real-Time	Shang-Chuan Lee	TBA

MathWorks®



Dakai Hu

Dakai Hu joined MathWorks as a senior application engineer in 2015. He supports automotive engineers in North America with focus mainly on electric drive systems and model-based design. Before joining MathWorks, Dr. Hu earned his Ph.D in electrical engineering from The Ohio State University, in 2014. Dr. Hu also worked as a senior control algorithm design engineer at Emerson Network Power from 2014-2015 prior to MathWorks.

Shang-Chuan Lee

Shang-Chuan Lee is a senior application engineer working at MathWorks. She received her PhD in mechanical engineering from the University of Wisconsin-Madison (WEMPEC). Her specialty is control of power electronics and motor drives in industrial automation applications. Prior to joining MathWorks, her graduate study focus was on real-time simulation and testing of motor control applications using Simulink Real-Time and Speedgoat target hardware.

2) 电力系统综合课程设计(研讨)

Curriculum Design of Power System (Seminar)

Courses	Presenters	Agenda
New paradigms in HVDC transmission systems	Prof. Enrique Acha (Tampere University)	TBA
A brief discussion about Renewable Energy systems, Transportation Electrification and Energy Internet	Dr. Hongcai Zhang (University of Macau)	TBA
Efficient Integration of Uncertainties in the Modern Power System: Motivations, Tools, and Applications	Dr. Yijun Xu (Virginia Tech)	TBA

Tampere University

Prof. Enrique Acha

Abstract: Continuous increases in electrical energy consumption have encouraged a great deal of technological development in the electrical power industry. In particular, the development of new equipment for power transmission that enables a more flexible power grid aimed at achieving higher throughputs, enhancing system stability and reducing transmission power losses, has been high on the agenda. The VSC-HVDC link is the latest equipment developed in the arena of high-voltage, high-power electronics and its intended function is to transport electrical power in DC form, as well as to enable the asynchronous interconnection of otherwise independent AC systems, and to provide independent reactive power support. The technology employs Insulated Gate Bipolar Transistors (IGBTs), driven by pulse width modulation (PWM) control. This valve switching control permits to regulate dynamically, in an independent manner, the reactive power at either terminal of the AC system and the power flow through the DC link. Based on the mentioned above, this conference is focused on the new paradigms of using HVDC transmission systems to face the challenges in the expansion of network infrastructure.

Bio: Professor Enrique Acha is a Professor of Electrical Power Systems at the Tampere University (TAU) Finland since 2011. He is IEEE Fellow and world-class expert in power electronics modelling and applications in electrical power systems. He was a Professor of Electrical Power Systems at Glasgow University, UK from 2002 to 2011, where he was the Chair of the inter-university Glasgow-Strathclyde Centre for Economic Renewable Power Delivery and Head of the FACTS Research Laboratory. He was a postdoctoral fellow at the Universities of Toronto, Canada and Durham, England. He graduated from the University of Michoacan, Mexico in 1979 and obtained his PhD in Electronic Engineering from University of Canterbury, Christchurch, New Zealand in 1988

	under the direction of Josu Arrillaga. He has been a Distinguished Lecturer under the IEEE Distinguished Lecturer Program since 2005, has given more than 20 invited plenary talks, more than 25 short courses, as well as being a Power Systems Consultant. He has more than 100 peer reviewed journal papers, and more than 80 international conference papers. He has published six scientific books and supervised 20 PhD students. In 2012 he was the recipient of the "Melchor Ocampo" Gold Medal awarded by the Congress of the State of Michoacán, México.
澳門大學 UNIVERSIDADE DE MACAU UNIVERSITY OF MACAU	
 **Dr. Hongcai Zhang**	Dr. Hongcai Zhang is currently an Assistant Professor with the State Key Laboratory of Internet of Things for Smart City and Department of Electrical and Computer Engineering, University of Macau, Macao, China. He received the B.S. and Ph.D. degree in electrical engineering from Tsinghua University, Beijing, China, in 2013 and 2018, respectively. In 2018-2019, he was a postdoctoral scholar with the Energy, Controls, and Applications Lab at University of California, Berkeley, where he also worked as a visiting student researcher in 2016. His current research interests include Internet of Things for smart energy, optimal operation and optimization of power and transportation systems, and grid integration of distributed energy resources. He is an associate editor of IET Electrical Systems in Transportation, and a guest editor of IET Smart Grid, Special issue on "Achieving an Integrated Smart Power Grid and Intelligent Transportation System".
VIRGINIA TECH	
 **Dr. Yijun Xu**	Dr. Yijun Xu is currently a Research Assistant Professor with Virginia Tech. He received the Ph.D. degree from the Bradley Department of Electrical and Computer Engineering, Virginia Tech, Falls Church, VA, USA, on December 2018. He was a a Postdoctoral Associate with Virginia Tech from 2019 to 2020. He did the computation internship with Lawrence Livermore National Laboratory, Livermore, CA, USA, and a power engineer internship at ETAP—Operation Technology, Inc., Irvine, CA, USA, in 2018 and 2015, respectively. His research interests include power system uncertainty quantification, uncertainty inversion, and decision-making under uncertainty. He is currently serving as an Associate Editor of the IET Generation, Transmission & Distribution. He is the Co-Chair of the IEEE Task Force on Power System Uncertainty Quantification and Uncertainty-Aware Decision-Making.

3) 文献检索与学术写作(研讨)

Information Retrieval and Academic Writing (Seminar)

This course consists of interactive Webinars as well as Writing Contest

Courses	Presenters	Agenda
How to Write Academic English	Prof. Michael Pollitt (University of Cambridge)	TBA
How to Write High-Quality Technical Paper	Dr. Hongcai Zhang (University of Macau)	TBA
How to Write Academic Paper in Chinese	Dr. Yijun Xu (Virginia Tech)	TBA

UNIVERSITY OF CAMBRIDGE

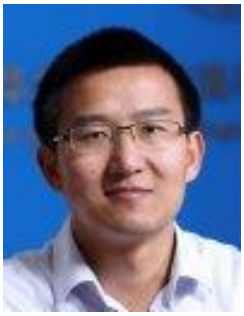
Prof. Michael Pollitt

Dr. Michael Pollitt is a Professor of Business Economics and Fellow of Sidney Sussex College at the University of Cambridge. He is a member of the editorial boards of The Energy Journal, Review of Industrial Organization, Competition and Regulation in Network Industries, Economics of Energy and Environmental Policy and Utilities Policy. He is a Joint Academic Director at the CERRE Centre on Regulation in Europe and a Vice President of the International Association for Energy Economics (IAEE). Since 2000 he has been convenor of the Association of Christian Economists, UK. Professor Pollitt has advised the UK Competition Commission, the New Zealand Commerce Commission, Ofgem, Ofwat, ESRC, the Norwegian Research Council, the DTI, the World Bank and the European Commission. He is the Coach on the Cambridge MBA's Energy & Environment concentration, and the University's Energy Lead for Policy, Economics and Risk. His most recent book is Reforming the Chinese Electricity Supply Sector: Lessons from Global Experience (Palgrave, 2020).

東京大学 THE UNIVERSITY OF TOKYO

Dr. Kun Qian

Dr. Kun QIAN received his doctoral degree (Dr.-Ing.) for his study on automatic general audio signal classification in 2018 in electrical engineering and information technology from Technische Universität München (TUM), Germany. Currently, he is working as a JSPS Postdoctoral Research Fellow in the Educational Physiology Laboratory, Graduate School of Education, The University of Tokyo (UTokyo), Japan. He is a Senior Member of the IEEE. He was sponsored by fellowships to be the visiting researcher at the Nanyang Technological University (NTU), Singapore, the Tokyo Institute of Technology (Tokyo Tech), Japan, and the Carnegie Mellon University (CMU), USA. Dr. Qian serves as the Associate

	Editor for IEEE Transactions on Affective Computing, Frontiers in Digital Health, and BIO Integration, and is the leading organiser of the special session on computer audition for healthcare (CA4H) in the ICASSP2021, Toronto, Canada. He reviews regularly for many prestigious journals (e.g., IEEE TNNLS/IoTJ/TCYB/TII/TAFFC, IEEE/ACM TASLP). Moreover, he was also the reviewer for the past ICASSP/INTERSPEECH/EMBC conferences. His main research interests include signal processing, machine learning, biomedical engineering, and deep learning. He (co-)authored more than 60 publications in peer reviewed journals (including the top journals IEEE Signal Processing Magazine, IEEE Internet of Things Journal, IEEE Journal of Biomedical and Health Informatics, and Journal of Acoustical Society of America), and conference proceedings (including the prestigious conferences ICASSP, INTERSPEECH, EMBC) having received more than 800 citations (h-index 17).
清華大學 Tsinghua University	
 **Prof. Zechun Hu**	Dr. Zechun Hu is currently an Associate Professor in Tsinghua University. He received the B.S. and Ph.D. degrees in electrical engineering from Xi'an Jiao Tong University, Xi'an, China, in 2000 and 2006, respectively. He worked in Shanghai Jiao Tong University after graduation and also worked in University of Bath as a research officer from 2009 to 2010. He serves as an Associate Editor of IEEE Transactions on Transportation Electrification. His major research interests include optimal planning and operation of power systems, electric vehicles and energy storage systems.

主办/承办单位（Host & Organizer）

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