



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

School of Professional Education
and Executive Development
專業進修學院

SPEED

Regional Conference on Green Technologies and Sustainable Development
Information Sheet



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

COLLEGE OF PROFESSIONAL AND
CONTINUING EDUCATION
專業及持續教育學院



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and Executive Development
專業進修學院
SPEED



Co-organisers:



Register at:

<https://forms.office.com/r/WEMK1zYfEJ>

* This conference is partially supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project No. UGC/IDS/R24/20).

Date: 6 December 2022
Time: 9:15 am – 5:00 pm (Registration starts at 9:00 am)
Venue: UG05, PolyU Hung Hom Bay Campus, 8 Hung Lok Road, Hung Hom, Kowloon
Mode: Hybrid (Online via Zoom)

1. Introduction

Regional Conference for Green Technologies and Sustainable Development 2022 (RCGTSD 2022) aims to provide an exchange platform for academic scholars, industrial practitioners, students, and the general public, to present and discuss their cutting-edge research findings and inspiring ideas in various areas of green technologies including green energy, smart transportation, green buildings, electric vehicles, smart cities, and etc. The conference promotes academic and practical activities for the advancement of both theoretical and practical aspects related to green technologies and sustainable development. It also provides opportunities for forming academic and business collaborations with regional partners in the Asia-Pacific region, especially the Greater Bay Area.

The RCGTSD 2022 is jointly organised by School of Professional Education and Executive Development, The Hong Kong Polytechnic University (PolyU SPEED) and College of Professional and Continuing Education (CPCE), and is technically supported by the co-organising partners including University of Macau, Hainan University, Department of Aeronautical and Aviation Engineering under The Hong Kong Polytechnic University, and the regional industrial/engineering organisations. The **one-day hybrid presentations** will be held in the PolyU Hung Hom Bay Campus on **6 December 2022**. On behalf of the organising committee, we warmly welcome academic scholars, industrial practitioners, researchers, engineers and students, who are interested to share their recent findings on the following topics:

2. Topics and Theme

A. GREEN ENERGY

- Green technologies for conventional energy
- Solar power
- Wind power
- Other renewable energy
- Smart grid

B. GREEN TRANSPORT

- Electric vehicles
- Unmanned aerial vehicles
- Smart mobility systems
- Digital service for connected cars
- Smart city

C. GREEN BUILDING

- Carbon footprint
- Smart building service technologies
- Energy efficiency and audit
- Indoor air quality
- Dispersion of plumes in building

- Ventilation and lighting design

Organisers

- School of Professional Education and Executive Development, The Hong Kong Polytechnic University (PolyU SPEED)
- College of Professional and Continuing Education (CPCE)

Co-Organisers

- University of Macau
- Hainan University
- Department of Aeronautical and Aviation Engineering, PolyU

Language and Format

- The Conference will be conducted in English
- Including technical presentations, question and answer sessions

Organizing Committee

- Professor Peter P. YUEN, CPCE
- Professor Warren C.K. CHIU, CPCE
- Professor C.W. LEUNG, SPEED/CPCE
- Dr Jason K.Y. CHAN, MH, JP, CPCE
- Dr Jack M.K. LO, SPEED/CPCE
- Dr Anthony W.K. LOH, SPEED/CPCE
- Dr Zerance S.P. NG, SPEED/CPCE
- Dr Andrew Y. WU, SPEED/CPCE

3. Programme Rundown

MC: Dr Chandler Zhou and Dr Flora Zhang

TIME	AGENDA	
09:00 – 09:15	Registration	
09:15 – 09:25	Welcoming Remarks	<u>Professor Peter P. YUEN</u> Professor and Dean College of Professional and Continuing Education The Hong Kong Polytechnic University
09:25 – 09:35	Opening Remarks by Guest of Honour	<u>Ir Dr Barry C.H. LEE</u> Senior Vice President The Hong Kong Institution of Engineers
09:35 – 09:45	Presentation of Souvenirs & Photo-taking	
Morning Session A		
09:45 – 10:10	Exploring Green Energy Potential and Carbon Reduction in High-density Cities: Taking Urban Wind Power Harvesting and Optimal Thermal Design of Data Centers as Cases	<u>Professor Chih-yung WEN</u> Chair Professor of Aeronautical Engineering and Head of Department of Aeronautical and Aviation Engineering Associate Director of Research Institute for Sports Science and Technology The Hong Kong Polytechnic University
10:10 – 10:15	Q&A Session	
10:15 – 10:40	Towards Green Building: Functional Materials and Devices for Clean Air and Water Supplies	<u>Professor Wei HAN</u> Research Associate Professor Division of Environment and Sustainability Also Associate Director of HKUST-CIL Joint Laboratory of Environment Health Technologies Hong Kong University of Science and Technology
10:40 – 10:45	Q&A Session	
10:45 – 11:10	Development of Ammonia-Hydrogen Blend into a Future Carbon-free Fuel	<u>Professor Haisheng ZHEN</u> Professor Mechanical and Electrical Engineering College Hainan University
11:10 – 11:15	Q&A Session	
11:15 – 11:30	Break	
Morning Session B		
11:30 – 11:55	Achieving Carbon Neutrality through Electrification (tentative)	<u>Ir Mr Kin W.K. LEUNG</u> Head of Customer Business Development Customer Services Division The Hongkong Electric Company Limited
11:55 – 12:00	Q&A Session	
12:00 – 12:15	Hydrogen-enriched LPG: Towards Decarbonisation of Domestic Fuel	<u>Dr Udaya KAHANGAMAGE</u> Senior Lecturer Division of Science, Engineering and Health Studies School of Professional Education and Executive Development The Hong Kong Polytechnic University
12:15 – 12:20	Q&A Session	



12:20 – 13:50	Lunch	
Afternoon Session C		
13:50 – 14:05	Ventilating Sound Barrier with Acoustic Metamaterials	<u>Dr Junot S.J. LIANG</u> Lecturer Division of Science, Engineering and Health Studies School of Professional Education and Executive Development The Hong Kong Polytechnic University
14:05 – 14:10	Q&A Session	
14:10 – 14:35	Optimisation of Biodiesel Ratio for Automotive Engines using Machine Learning and Metaheuristic Optimisation Techniques	<u>Professor Pak-kin WONG</u> Interim Dean of Graduate School University of Macau
14:35 – 14:40	Q&A Session	
14:40 – 14:55	A Novel Integration of Vapor Compression Refrigeration Cycle with the Organic Rankine Cycle for Ultra-low Grade Waste Heat Recovery Using Pure and Mixture Refrigerants.	<u>Dr Muhammad ASIM</u> Lecturer Division of Science, Engineering and Health Studies School of Professional Education and Executive Development The Hong Kong Polytechnic University
14:55 – 15:00	Q&A Session	
15:00 – 15:15	Numerical Investigation of Vertical Airborne Transmission through Semi-closed Shafts in Residential High-rise Buildings	<u>Dr Flora H. ZHANG</u> Lecturer Division of Science, Engineering and Health Studies School of Professional Education and Executive Development The Hong Kong Polytechnic University
15:15 – 15:20	Q&A Session	
15:20 – 15:35	Break	
Afternoon Session D		
15:35 – 15:50	Mapping Potential Charging Facilities in Outlying Islands in Hong Kong - A Pilot Study of Ap Lei Chau Island	<u>Dr Andrew Y. WU</u> Lecturer Division of Science, Engineering and Health Studies School of Professional Education and Executive Development The Hong Kong Polytechnic University
15:50 – 15:55	Q&A Session	
15:55 – 16:10	Greening Hong Kong High-Rise Residential Buildings: Potentiality in Launching the Lean Premise Design Scheme	<u>Dr Edmond W.M. LAM</u> Senior Lecturer Division of Science, Engineering and Health Studies School of Professional Education and Executive Development The Hong Kong Polytechnic University
16:10 – 16:15	Q&A Session	
16:15 – 16:30	Elevator Energy-Efficient Projects in High-Rise Green Buildings	<u>Dr Edmund T.M. WUT</u> Senior Lecturer Division of Business and Hospitality Management School of Professional Education and Executive Development



		The Hong Kong Polytechnic University
16:30 – 16:35		Q&A Session
16:35 – 16:45		Presentation of Souvenirs & Photo-taking
16:45 – 17:00	Closing Remarks	<u>Professor C. W. LEUNG</u> Professor and Associate Dean (Research) <i>Also</i> Head of Research College of Professional and Continuing Education The Hong Kong Polytechnic University <i>Also</i> Interim Director School of Professional Education and Executive Development The Hong Kong Polytechnic University

For further enquiries, please contact the following responsible personnel:

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