

# MaSTEC 2023

MATERIALS SCIENCE AND TECHNOLOGY IN ENGINEERING CONFERENCE

## Materials Towards Carbon Neutrality

2 Nov (Thu) - 3 Nov (Fri) 2023

Royal Plaza Hotel | 193 Prince Edward Road West, Kowloon, Hong Kong

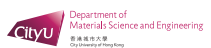


Organizer: Materials Division, HKIE

**HKIE** THE HONG KONG  
INSTITUTION OF ENGINEERS  
香港工程師學會

Materials Division  
材料分部

Supporting Organizations:





## Background

In recent years, carbon neutrality has become the talk of the town. The global community has also become increasingly aware of the need to address aggravated climate change and strive toward a carbon-neutral future. As part of this effort, the engineering community plays a leading role in developing and adopting sustainable materials and technologies that can significantly reduce carbon emissions to create a sustainable environment for our world. With this in mind, we are excited to announce the upcoming professional engineering conference on “**Materials Towards Carbon Neutrality.**”

This conference aims to assemble global and local experts across materials engineering and science to actively discuss and share experiences in the latest advances in research and development of materials and technology contributing to a carbon-neutral future.

## Theme

The two-day conference programme will include plenary keynote lectures and topics of interest including, but not limited to, the following:

Symposium A : **Low Carbon Materials**

Symposium B : **Sustainable Materials**

Symposium C : **Energy Materials & Smart Materials**

Symposium D : **Materials Compliance Assessment and Testing**

## Who Should Attend

Engineers and professionals from Government, public authorities, consultants, contractors and materials suppliers. Academics, scientists and graduates from universities, and public and private research institutions.

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## Conference Programme

**2 Nov 2023 (Thursday)**

### Opening Ceremony & Opening Speech

*Guest of Honour*

**Ir WAI Chi Sing GBS JP FHKEng**

*Managing Director of the Urban Renewal Authority*

### Keynote Speech

**Promoting Wider Use of GGBS Concrete for a Sustainable Construction Industry**

**Ir Jenny, Fei YEUNG**

*Deputy Head of Geotechnical Engineering Office (Planning and Standards), Civil Engineering and Development Department  
Chairperson, Standing Committee on Concrete Technology, HKSAR Government*

**Low Carbon Concrete Derived from Recycling of Concrete Waste**

**Ir Prof Chi Sun POON**

*Chair Professor and Head, Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University*

**Use of Mineralized CO<sub>2</sub> for Production of High Performance Concrete Materials and Products**

**Prof Caijun SHI**

*Chair Professor, College of Civil Engineering, Hunan University*

**Reducing Carbon Footprint in Construction:  
Optimizing Concrete with Ground Granulated Blast Furnace Slag (GGBS) for Sustainable and Low-Carbon Solutions**

**Ir Chun Ho TSE**

*Senior Engineering Manager–Material Capital Works, Mass Transit Railway Corporation Limited*

### Lunch

**Advancements for Lithium-ion Batteries Thermal Management Systems Integrating Smart Materials**

**Prof Richard, Kwok Kit YUEN**

*Chair Professor, Department of Architecture and Civil Engineering, City University of Hong Kong*

**Boosting Urban Renewable Energy Access through Innovative Photovoltaic Technologies**

**Prof Angus, Hin Lap YIP**

*Professor, Department of Materials Science & Engineering, City University of Hong Kong*

**Zn Batteries Stable Anode and High Energy Cathodes**

**Prof Chunyi ZHI**

*Chair Professor, Department of Materials Science & Engineering, City University of Hong Kong*

**Service Life Design of Concrete Infrastructure: Integrating Durability, Sustainability and Life Cycle Cost**

**Mr Nuno MESQUITA FERREIRA**

*Associate, Ove Arup & Partners Hong Kong Ltd*

*Subject to the latest amendment*

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## Conference Programme

**3 Nov 2023 (Friday)**

**Predicting the 28-day Compressive Strength by Mix Proportions: Insights from a Large Number of Observations of Industrially Produced Concrete**

**Prof Xueqing ZHANG**

*Professor, Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology*

**Advancing Construction Materials R&D: From Low-Carbon to Carbon Neutrality and Beyond**

**Dr Gordon LEUNG**

*Associate R&D Director (Construction), Nano and Advanced Materials Institute Ltd*

**Achieving Low-Carbon and Durable Infrastructure Using Cement-Free GGBS Concrete**

**Dr Hailong YE**

*Assistant Professor, Department of Civil Engineering, The University of Hong Kong*

**Natural Fiber-Magnesia Composites: A New Class of Carbon-Sequestering and Self-Healing Mortar**

**Prof Jishen QIU**

*Assistant Professor, Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology*

**Challenges and Solutions for Carbon Neutral Concrete**

**Mr James, M J WONG**

*Sr R&D Chemist—Construction Chemicals (Innovation), GCP-SAINT-GOBAIN CONSTRUCTION CHEMICALS*

**Lunch**

**How Does Nuclear Energy Help the Greater Bay Area and Hong Kong Achieve Decarbonisation?**

**Mr Eddie WU**

*Senior Director- Nuclear, CLP Holdings Limited*

**Product Certification of Building Materials and Components – To Enhance Quality of Manufacture and Reduce Materials Waste**

**Ir Prof Joseph, Yiu Wing MAK**

*Professor, School of Science and Technology, Hong Kong Metropolitan University*

**Foamed Concrete - Specification, Placement, Sampling, Testing, and Assessing Conformity**

**Ir Daniel BROWN**

*Technical Director, AECOM*

**Environmentally Friendly Recycling and Functionalising of Manganese from Spent Alkaline Batteries**

**Mr Yik Chun NG**

*Graduate Engineer, Mass Transit Railway Corporation Limited*

**Phase Change Materials for Energy Storage: Novel Solution Towards Carbon Neutrality**

**Ir Dr Tommy, Yiu LO**

*Chairman, Materials Division, The Hong Kong Institution of Engineers*

**Closing Ceremony**



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## Online Registration



Online Registration

Please simply go to the link  
<https://forms.gle/qFgK2GgPNy6mBjMY7>  
for online registration.

<https://sites.google.com/view/mastec2023110203/home>

Go to website:  
for details.



Website

# OR

## Paper Registration

(Only cheque is acceptable for paper registration)

### Personal Details

Name: ( I / Prof / Dr / Mr / Mrs / Ms )

HKIE Member: \* Yes / No.

If yes, please specify the Membership no.:

\_\_\_\_\_ (First Name)

\_\_\_\_\_ (Surname) (For printing onto the CPD Certificate)

\_\_\_\_\_ (\*please delete as appropriate)

Company: \_\_\_\_\_

Position: \_\_\_\_\_ Email: \_\_\_\_\_ Tel: \_\_\_\_\_

### Enrollment Fee

Date: 2 (Thurs) and 3 (Fri) Nov 2023

Venue: Royal Plaza Hotel, Mongkok, Hong Kong

Time: 9:00am - 5:30pm

		Registration Fee	Registration (please "✓" as appropriate)
Early bird	one day, 2 Nov :	HK\$ 1,300	
	one day, 3 Nov :	HK\$ 1,300	
	two day, 2 & 3 Nov :	HK\$ 2,500	
(Early bird registration before 7 Oct 2023)			
Normal price	one day, 2 Nov :	HK\$ 1,400	
	one day, 3 Nov :	HK\$ 1,400	
	two day, 2 & 3 Nov :	HK\$ 2,600	
(Normal price registration on or after 7 Oct 2023)			

- Remarks :**
- Attendance certificate will be issued after the conference.
  - Cancellation will be accepted only in writing via email no later than two weeks before the commencement of the Conference and only 50% of registration fee will be refunded.

### Payment Method

Please make the cheque payable to "THE HONG KONG INSTITUTION OF ENGINEERS-MATERIALS DIVISION" and post the cheque to MaSTEC Conference Secretary, Rm 108, 1/F, Sun Ling Plaza, 30 On Kui Street, Fanling, N.T. Hong Kong.

### Enquiries

Conference Secretary  
Tel: (852) 2789 2389  
Email: [hkiemastec2023@gmail.com](mailto:hkiemastec2023@gmail.com)  
Website: <https://sites.google.com/view/mastec2023110203/home>

### Privacy Statement

We are committed to protecting the privacy, confidentiality, and security of the personal information we may hold by complying with the requirements of Personal Data (Privacy) Ordinance and the Institution's relevant policy with respect to the management of personal information. We are equally committed to ensuring that all our committee members and agents uphold these obligations.

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Yau Lee Construction Co., Ltd.



Greentex Construction Materials Limited  
青泰建築材料有限公司

## Conference Organizing Committee

Chairman: **Ir Prof Jonathan, Chi Yuen CHUNG**  
FHKIE (Chairman, The HKIE Materials Discipline)

Deputy Chairman: **Ir Dr Herbert, Wei ZHENG**  
**Ir Andy, Chi Wing KWOK**

Members: **Ir Dr Tommy, Yiu LO**  
FHKIE (Chairman, The HKIE Materials Division)  
**Ir Chi Kong CHAN**  
**Ir Casey, Chun Ho CHAN**  
**Ir William, Tain Fai CHAN**

**Ir Billy, CHEEMA B S**  
**Ir Nigel, Chuk Leung CHEUNG**  
**Ir Chi Sing LAM**  
**Dr Christina, Wing Ha LAM**  
**Ir Dr Pui Lam NG**

**Ir Corey, Kam Chiu HO**  
**Ir Mark, Tak Lung LI**  
**Ir Anlam, Chi Lam TAM**  
**Ir Sam, Wing Sum YIP**

Secretariat: **Mr Eric, Yue Sing LEE**  
**Ms Shanne, Che Shan POON**  
**Ms Christine, Siu Ching TUNG**