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Centre of Super-Diamond
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香港城市大學
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CAS-CityU Joint Laboratory for
Nano-organic Functional Materials and Devices

APCCOM 2023

The 4th Asian Pacific Conference on Chemistry of Materials

 6-9 December 2023

City University of Hong Kong, Hong Kong, China

CONFERENCE PROGRAMME



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Electronic Booklet

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Center Of Super-Diamond and Advanced Films (COSDAF), City University of Hong Kong

CAS-CityU Joint Laboratory for Nano-organic Functional Materials and Devices

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Conference Overview

6 December 2023 (Wednesday)		
15:00-18:00	Registration	<i>4/F University Concourse (Outside YEUNG LT9)</i>
18:00-21:00	Welcome Reception (Plenary, Keynote, Invited Speakers, and Exhibitors)	<i>CityU Chinese Restaurant, 8/F BOC</i>
7 December 2023 (Thursday)		
08:15-09:00	Registration	<i>4/F University Concourse (Outside YEUNG LT9)</i>
09:00-09:30	Welcome & Opening	<i>BOC LT401</i>
09:30-10:30	Plenary Session (1)	
10:30-10:50	Coffee Break <i>Outside BOC-LT401</i>	
10:50-11:50	Plenary Session (2)	<i>BOC LT401</i>
12:00-14:00	Lunch Break (For Plenary, Keynote Invited and Speakers, and Exhibitors - <i>CityU Chinese Restaurant, 8/F BOC</i> ; For Students – <i>AC2 Canteen, 3/F Li</i>)	
14:00-15:45	Synthesis, Characterization and Manipulation of Materials (Session 1.1)	<i>YEUNG LT5</i>
	Biological and Biomedical Materials (Session 2.1)	<i>YEUNG LT6</i>
	Flexible Materials and Devices (Session 3.1)	<i>YEUNG LT7</i>
	Materials for Energy and Environment (Session 4.1)	<i>YEUNG LT8</i>
	Materials for Optoelectronics and Electronics (Session 5.1)	<i>YEUNG LT9</i>
	Materials for Energy and Environment (Session 4.2)	<i>YEUNG LT10</i>
	Coffee Break <i>4/F University Concourse (Outside YEUNG LT9)</i>	
15:45-17:00	Poster Session	<i>Wong's International Terrace (Outside Lift 13, 4/F BOC)</i>
18:00-21:00	Conference Dinner (For Plenary, Keynote and Invited Speakers, and Exhibitors – <i>Hung Kee Seafood Restaurant, Sai Kung</i> , round-trip transportation provided. Bus Departure: G/F of YEUNG (Lift 2) at 17:15)	

8 December 2023 (Friday)		
09:30-10:30	Plenary Session (3)	<i>BOC LT401</i>
10:30-10:45	Coffee Break	<i>4/F University Concourse (Outside YEUNG LT9)</i>
10:45-12:10	Synthesis, Characterization and Manipulation of Materials (Session 1.2)	<i>YEUNG LT5</i>
	Biological and Biomedical Materials (Session 2.2)	<i>YEUNG LT6</i>
	Materials for Catalysis (Session 6.1)	<i>YEUNG LT7</i>
	Materials for Energy and Environment (Session 4.3)	<i>YEUNG LT8</i>
	Materials for Optoelectronics and Electronics (Session 5.2)	<i>YEUNG LT9</i>
	Materials for Optoelectronics and Electronics (Session 5.3)	<i>YEUNG LT10</i>
12:10-14:00	Lunch Break (For Plenary, Keynote and Invited Speakers, and Exhibitors - <i>CityU Chinese Restaurant, 8/F BOC</i> For Students – <i>AC2 Canteen, 3/F Li</i>)	
14:00-15:30	Synthesis, Characterization and Manipulation of Materials (Session 1.3)	<i>YEUNG LT5</i>
	Biological and Biomedical Materials (Session 2.3)	<i>YEUNG LT6</i>
	Materials for Catalysis (Session 6.2)	<i>YEUNG LT7</i>
	Materials for Energy and Environment (Session 4.4)	<i>YEUNG LT8</i>
	Materials for Optoelectronics and Electronics (Session 5.4)	<i>YEUNG LT9</i>
	Materials for Optoelectronics and Electronics (Session 5.5)	<i>YEUNG LT10</i>
15:30-15:45	Coffee Break <i>4/F University Concourse Outside YEUNG LT9</i>	
15:45-17:30	Synthesis, Characterization and Manipulation of Materials (Session 1.4)	<i>YEUNG LT5</i>
	Biological and Biomedical Materials (Session 2.4)	<i>YEUNG LT6</i>
	Materials for Energy and Environment (Session 4.5)	<i>YEUNG LT7</i>
	Materials for Energy and Environment (Session 4.6)	<i>YEUNG LT8</i>
	Materials for Optoelectronics and Electronics (Session 5.6)	<i>YEUNG LT9</i>
	Materials for Optoelectronics and Electronics (Session 5.7)	<i>YEUNG LT10</i>
18:00-21:00	Conference Banquet (All participants – <i>Jasmine, G/F, Festival Walk</i>)	

9 December 2023 (Saturday)		
09:00-10:30	Synthesis, Characterization and Manipulation of Materials (Session 1.5)	<i>YEUNG LT5</i>
	Biological and Biomedical Materials (Session 2.5)	<i>YEUNG LT6</i>
	Materials for Catalysis (Session 6.3)	<i>YEUNG LT7</i>
	Materials for Energy and Environment (Session 4.7)	<i>YEUNG LT8</i>
10:30-10:50	Coffee Break <i>4/F University Concourse Outside YEUNG LT9</i>	
10:50-11:10	Poster Awards Ceremony	<i>YEUNG LT9</i>
11:10-11:25	Closing Remarks	
12:15-14:00	Lunch Break (For Plenary, Keynote and Invited Speakers, and Exhibitors – <i>CityU Chinese Restaurant, 8/F BOC</i> ; For students – <i>AC2 Canteen, 3/F Li</i>)	
14:00-18:00	/	
18:00-21:00	Speaker Dinner (For Plenary, Keynote and Invited Speakers, and Exhibitors – <i>Fai Gor's Kitchen, Jordan</i>)	

Plenary Speakers



Huiming Cheng

Huiming Cheng graduated from Hunan University, China in 1984 and received his Ph.D. in 1992 from the Institute of Metal Research, Chinese Academy of Sciences (IMR CAS). He has been the director of the Advanced Carbon Research Division of Shenyang National Laboratory for Materials Science, IMR CAS since 2001 and the director of the Institute of Technology for Carbon Neutrality, Faculty of Materials Science and Energy Engineering, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences since 2021. He is a member of the Chinese Academy of Sciences and a fellow of TWAS. He worked at Kyushu Research Center of AIST and Nagasaki University, Japan from 1990 to 1993, and MIT, USA from 1997 to 1998.

His research activities mainly focus on energy materials and devices, carbon nanotubes, graphene and other 2D materials. He has published over 800 papers with an h-index of 158, and is a Highly Cited Researcher in three fields of materials science, chemistry, and environment and ecology. He has given over 230 plenary/keynote/invited lectures at various conferences, and won three State Natural Science Award of China (2nd class in 2006, 2017 and 2020), Charles E. Pettinos Award from American Carbon Society, Felcht Award from SGL, Germany, and ACS Nano Lecture Award. He has also spun off several high-tech companies. He used to be an Editor of Carbon from 2000 to 2015 and Editor-in-Chief of New Carbon Materials from 1998 to 2015, and is the founding Editor-in-Chief of Energy Storage Materials since 2015.

Exploration of New 2D Materials and Their New Properties

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Identification of two-dimensional (2D) materials in the monolayer limit has led to discoveries of new phenomena and unusual properties. In this lecture, I'll first report the growth of large-area high-quality 2D ultrathin Mo₂C crystals by CVD^[1], which show 2D characteristics of superconducting transitions that are consistent with Berezinskii–Kosterlitz–Thouless behaviour and show strong dependence of the superconductivity on the crystal thickness. Furthermore, when we introduce elemental silicon during CVD growth of nonlayered molybdenum nitride, we have obtained centimeter-scale monolayer films of MoSi₂N₄ which does not exist in nature and exhibits semiconducting behavior, high strength, and excellent ambient stability^[2]. On the other hand, we have found that a class of membranes assembled with 2D transition-metal phosphorus trichalcogenide nanosheets give exceptionally high ion conductivity and superhigh lithium ion conductivity^[3]. Interestingly, we even demonstrate an anomalously large magneto-birefringence effect in transparent suspension of magnetic 2D crystals^[4], with orders of magnitude larger than that in previously known transparent materials. Moreover, based on this phenomenon, we develop a stable and birefringence-tunable deep-ultraviolet modulator from 2D hexagonal boron nitride which gives rise to a ultra-high specific magneto-optical Cotton–Mouton coefficient, about five orders of magnitude higher than other potential deep-ultraviolet-transparent media^[5]. These findings indicate a great promise of 2D materials.

[1] C. Xu et al., “Large-area high-quality 2D ultrathin Mo₂C superconducting crystals”, *Nature Materials* 14, p. 1135 (2015).

[2] Y. L. Hong et al., “Chemical vapor deposition of layered two-dimensional MoSi₂N₄ materials”, *Science* 369, p. 670 (2020).

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Jian Lu

Jian Lu is Chair Professor of Mechanical Engineering and Dean of College of Engineering at the City University of Hong Kong (CityU). He started his university study at Peking University and obtained the Dip. Ing., Master (DEA) degree and Doctoral degree from University of Technology of Compiègne in 1984 and 1986 respectively. From 2010 to 2013, he was the Dean of College of Science and Engineering at CityU. Professor LU's primary research interest is advanced nanomaterials and its integration in energy and biomedical systems. He has also branched out into several other areas of interest including surface science and engineering, biomechanics, residual stresses, and mechanics of nanomaterials. He has published more than 450 SCI journal papers including papers in Nature (cover story), Science, Nature Materials, Nature Chemistry, Nature Communications, Science Advances, Materials Today, Advanced Materials, PRL, Acta Materialia and his research works are cited more than 41000 times. He received the French Knight of the National Order of Merit and French Knight of the National Order of Légion d'Honneur in 2006 & 2017 respectively. He was elected as an academician by the National Academy of Technologies of France in 2011. He received the Guanghai Engineering Science and Technology Award in 2018.

Recent Progress in Surface Nanocrystallization and Amorphization

Jian Lu

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To develop highly efficient and advanced energy system, the creation of new materials and associated systems is one of the key directions. This presentation will feature recent development of surface nanocrystallization and amorphization of metallic materials for the potential applications in mechanical and energy systems. The mechanisms of nanomaterials processing with different nano-structures by highly efficient physical methods will firstly be reported by illustrating our latest research progress on the nanomaterials with high strength and high ductility, nanostructure materials with gradient structure, hierarchical nano-twinned materials, nanomaterials with multiphase embedded structure and the supra-nanostructured materials. We will also present our recent work on an approach that combines the strengthening benefits of nanocrystallinity with those of amorphization to produce a dual phase material that exhibits near-ideal strength at room temperature and without sample size effects. The feasibility of applying different nanomaterials including Turing nanostructures on various catalysis for splitting water (HER) will be discussed. The application of new nanomaterials on the newly designed light-weight structures; the biomimetic morphing systems; and the 3D printed nanostructured materials on advanced aerospace structures will be presented.

References:

- [1] G.Wu, K.C.Chan, L.L.Zhu, L.G.Sun, J.Lu., **Nature**, 4th May 2017, Pages:80-83
- [2] G.Liu, Y.Zhao, G.Wu, J.Lu, **Science Advances**, 17 August 2018 4: eaat0641, pp1-10
- [3] F.Lyu, S.Zeng, Z.Jia, F.X.Ma, L.G.Sun, L.Cheng, J.Pan, Y.Bao, Z.Mao, Y.Bu, Y.Y.Li, J.Lu, **Nature Communications**, 13(1). 21 Oct 2022
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- [5] C.Y.Dan, Y.C.Cui, Y.Wu, Z.Chen, H.Liu, G.Ji, Y.K.Xiao, H.Chen, M.L.Wang, J.Liu, L.Wang, Y.Li, A.Addad, Y.Zhou, S.M.Ma, Q.W.Shi, H.W.Wang, J.Lu, **Nature Materials**, Vol.22, pages1182–1188, Oct. 2023
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Ning Gu

Ning Gu, Professor in Medical School of Nanjing University, Academician of Chinese Academy of Sciences, Member of the Faculty of the Chinese Academy of Medical Sciences, American Institute for Medical and Biological Engineering (AIMBE) Fellow, Yangtze River Scholars Distinguished Professor. Prof. Gu received his BS, MS and PhD from Southeast University. He has dedicated himself to the research in nanomedicine for more than 30 years, with special interests in the fields of biomedical nanomaterials, including fabrication, characterization and biomedical application of iron-based magnetic nanomaterials and synthetic phospholipids. Prof. Gu has published over 600 scientific papers in peer-reviewed journals, including *Nat. Mater.*, *J. Am. Chem. Soc.*, *Angew. Chem. Int. Ed.*, *Adv. Mater.*, etc, and obtained over 100 patents for invention.

Iron Based Nanomaterials for Medical Theranostics of Cardiovascular Diseases

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Despite advances in medical theranostics for cardiovascular diseases (CVDs), it remains a leading cause of mortality and morbidity worldwide. This underscores the urgency for innovative approaches aiming at early and precise detection and treatment of CVDs to reduce the disease burden. Iron based nanomaterials, with their unique magnetism and enzyme-like activity, have shown great potential in this regard ^[1]. For example, the iron oxide nanoparticles as a kind of important contrast agents for contrast-enhanced magnetic resonance imaging demonstrate good diagnostic performance and excellent safety in the diagnosis of significant coronary stenosis, providing an alternative to coronary CT angiography for the diagnosis of coronary artery disease ^[2]. The prussian blue nanoparticles with excellent enzyme-like activity can be designed to simultaneously target and eliminate various proinflammatory factors within the plaque microenvironment, exhibit a much stronger efficacy to resolve the proinflammatory plaque microenvironment and attenuate atherosclerosis in comparison to the approach that merely eliminates one single risky factor in the plaque ^[3]. The ongoing research and development of iron based nanomaterials are highly likely to effectively address current challenges and offer more personalized and efficient options for the medical theranostics of CVDs.

References:

1. Xue Bao, Yu Mao, Guangxiang Si, et al. Iron oxide nanoparticles: A promising approach for diagnosis and treatment of cardiovascular diseases. *Nano Research*, 2023, 16, 12453–12470.
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3. Hongliang He, Qing gong Han, Shi Wang, et al. Design of a Multifunctional Nanozyme for Resolving the Proinflammatory Plaque Microenvironment and Attenuating Atherosclerosis. *ACS Nano*, 2023, 17, 15, 14555–14571.



Jin Zhang

Jin Zhang received his PhD from Lanzhou University in 1997. After a two-year postdoctoral fellowship at the University of Leeds, UK, he returned to Peking University where he was appointed Associate Professor (2000) and promoted to Full Professor in 2006. In 2013, he was appointed as Changjiang professor. He was elected as an academician of the Chinese Academy of Sciences in 2019. He also is the Fellow of RSC. He has long been devoted to the research on the growth mechanism, characterization technology and application carbon nanomaterials. He has published over 350 peer-reviewed journal articles and has been granted more than 50 patents. He has won the second prize of the National Natural Science Award (twice).

Growth of Single-Walled Carbon Nanotubes with Controlled Structure

Jin Zhang

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Single-walled carbon nanotubes (SWNTs) are star candidates for next-generation micro- and nano-electronic devices due to their unique one-dimensional nanostructures and excellent electrical properties. However, due to the structural diversity of carbon nanotubes, the preparation of SWNTs is still facing the challenge of achieving high purity and high yield at the same time, which has become a bottleneck in realizing their applications. Synthesis determines the future. In order to promote carbon nanotubes to the industrial production and real application, the controlled growth of SWNTs is imperative. Based on the major demand of 'carbon-based chips', this report focuses on the structural controlled growth of SWNTs, aiming at realizing the direct growth of wafer-scale, high-density, structurally controllable horizontal arrays of SWNTs. It mainly includes: the controlled preparation of SWNTs with specific chirality through the design of solid catalysts and the regulation of nucleation thermodynamics and growth kinetics[1-3]; growth of ultra-high-density SWNT arrays using Trojan catalysts[4]; the development of a new catalyst loading method and growth technique through the simultaneous optimization of catalysts, substrates, and gas flow, and the combination of optical characterization techniques to achieve the direct growth and high-throughput characterization of wafer-scale uniform and high-density horizontal arrays of SWNTs[5]; controlled growth of high-purity semiconducting SWNT horizontal arrays through catalyst design and external field.

References:

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- [4] Y. Hu, L. Kang, J. Zhang* et al. *Nat. Commun.* 6, 6099 (2015).
- [5] Y. Xie, L. Qian, J. Zhang* et al. *Angew. Chem. Int. Ed.* 60, 9330 (2021).



Alex Jen

Alex Jen is the Lee Shau-Kee Chair Professor and Director of the Hong Kong Institute for Clean Energy at the City University of Hong Kong. He also served as the Provost of CityU during 2016-2020. He received his B.S. from the National Tsing Hua University in Taiwan and Ph.D. from the University of Pennsylvania in USA. Before arriving at CityU, he had served as the Boeing-Johnson Chair Professor and Chair of the Department of Materials Science & Engineering at the University of Washington, Seattle. He was also appointed as the Chief Scientist for the Clean Energy Institute endowed by the Washington State Governor. He is a distinguished researcher who published more than 1000 SCI papers with >87,000 citations and an H-index of 152. He also co-invented 67 patents and invention disclosures.

For his pioneering contributions in organic photonics and electronics, Professor Jen was elected as Academician by both the European Academy of Sciences and the Washington State Academy of Sciences. He was also elected as Fellow for several professional societies, including AAAS, MRS, ACS, PMSE, OSA, and SPIE. He was named by the Times Higher Education (THE) in 2018 as one of the “Top 10 University Researchers in Perovskite Solar Cell Research”. In addition, he was recognized by Thomson Reuters as one of the "World's Most Influential Scientific Minds of 2015 and 2016 and by Clarivate as a "Highly Cited Researcher" in Materials Science from 2014-2022.

Printable Organic and Perovskite Solar Cells for Clean Energy

Alex Jen

Lee Shau Kee Chair Professor

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Minimizing energy loss and increasing the field factor are key aspects to transcend the current limitations on the performance of organic photovoltaics (OPV). However, an inherent limit has set for an organic bulk-heterojunction (BHJ) blends from prominent non-geminate recombination through non-radiative charge transfer states. Our recent study on charge recombination in BHJ and Planar-Mixed Heterojunction (PMHJ) blends comprising a crystalline polymer donor with Se-containing Y6-derived non-fullerene acceptors has shown both high photovoltaic internal quantum efficiencies and high external electroluminescence quantum efficiencies. Crystallographic and spectroscopic studies reveal that the pseudo-2D, fused-ring molecular acceptors are not only intrinsically highly luminescent but also meets the criteria in achieving intrinsically radiative recombination within the blend, by promoting delocalized excitons with much longer luminescent lifetime and reduced exciton binding energies. These results provide the important demonstration of radiative non-geminate charge recombination in efficient OPV blends to achieve PCEs close to 20%. Moreover, a new “Dilution Effect” concept is introduced to explain the commonly observed composition-dependent V_{oc} and reduced photovoltage loss in highly efficient ternary-based devices due to significantly reduced phonon-electron coupling. At the end, several novel interface/additive engineering approaches will be discussed to demonstrate high PCE (~26%) could be achieved in inverted perovskite solar cells and very efficient lead-capturing from decomposed perovskite devices. Their applications in various clean energy generation fields will also be discussed.

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2. “Dilution Effect for Highly Efficient Multiple-Component Organic Solar Cells”, L. Zuo, S. B. Jo, Y. K. Li, Y. Meng, R. J Stoddard, Y. Liu, F. Lin, F. Liu, D. S. Ginger, H-Z. Chen, A. K-Y. Jen, *Nature Nanotech*, **2022**, 17, 53.
3. “Planar-Mixed Heterojunction Organic Photovoltaic Suppresses Recombination Loss”, K. Jiang, J. Zhang, C. Zhong, F. Lin, F. Qi, Q. Li, Z. Peng, W. Kaminsky, S. H. Jang, J. Yu, X. Deng, H. Hu, D. Shen, F. Gao, H. Ade, M. Xiao, C. Zhang, and A. K-Y. Jen, *Nature Energy*, **2022**, 7, 1076.
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5. “2D Metal–Organic Framework for Stable Perovskite Solar Cells with Minimized Lead Leakage”, Shengfan Wu, Zhen Li, Mu-Qing Li, Yingxue Diao, Francis Lin, Jie Zhang, Peter Tieu, Wenpei Gao, Feng Qi, Xiaqing Pan, Zhengtao Xu, Zonglong Zhu, Alex K.-Y. Jen, *Nature Nanotech*, **2020**, 15, 934.



Huijun Zhao

Huijun Zhao is the Funding Director of the Centre for Catalysis and Clean Energy at Griffith University, the elected Fellow of Australian Academy of Science (FAA) and Australian Academy of Technological Sciences & Engineering (FTSE), the Fellow of Royal Society of Chemistry (FRSC) and the Fellow of the Royal Australian Chemical Institute (FRACI). He has extensive expertise in functional materials, energy conversion and storage, catalysis and sensing technologies, and has published over 550 refereed journal papers and gained 68 international patents within 8 world-wide patent families. One of his current research pursuits is to explore new ways to unlock the catalytic capabilities of nonprecious materials as high performance catalysts for important catalysis reactions.

Electrocatalytic Conversion of Earth-Abundant Simple Molecules into Valuable Chemicals and Fuels

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Keywords: Electrocatalysis, water splitting, CO₂ reduction reaction, N₂ reduction reaction.

To date, the petroleum-based feedstocks are almost exclusively used for industrial production of chemicals and fuels through thermal-refining and/or thermo-catalytic processes. Such conventional manufacturing processes are energy-intensive, environmentally-hostile and fully relying on the rapidly-diminished petroleum resources, impeding energy and environment sustainability. In recent years, the electrocatalysis has emerged as a new means for green production of chemicals and fuels. Such electrocatalysis-based manufacturing processes can be powered by renewable electricity, and importantly, chemicals and fuels can be produced from cheap and earth-abundant feedstocks such as renewable biomass and re-generable simple molecules of N₂, CO₂, O₂, H₂O and NaCl. However, cheap and plentiful materials-based catalysts are needed to realize economically-viable electrocatalytic production of chemicals and fuels. Therefore, exploring effective means to endow nonprecious materials with superior catalytic power is a must, but highly challenging.

This presentation intends to illustrate the pressing issues for developing practically applicable catalysts and effective approaches to activate nonprecious materials as high performance catalysts for electrocatalytic conversion of simple molecules and biomass-derived compounds into valuable chemicals and fuels. A number of findings¹⁻⁵ resulting from our recent investigations will be used to exemplify the effectiveness and applicability of new synthetic approaches and activation principles.

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4. S. Zhang, M. Jin, H. Xu, W. Li, Y. Ye, T. Shi, H. Zhou, C. Chen, G. Wang, Y. Zhang, Y. Lin, L. Zgeng, H. Zhang, H. Zhao, *Adv. Sci.*, **9**, 2204043, (2022)
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Conference Programme

6 December 2023 (Wednesday)

15:00-18:00	Registration <i>4/F University Concourse (Outside YEUNG LT9)</i>
18:00-21:00	Welcoming Reception <i>(For Plenary, Keynote and Invited Speakers, and Exhibitors)</i>

7 December 2023 (Thursday)

Opening Ceremony			BOC LT401
09:00-09:25		Opening Speech: <u>Freddy Boey Yin Chiang</u> , <i>President,</i> <i>City University of Hong Kong</i> Speech by Guest of Honors: <u>Shuit-tong Lee</u> , <i>CAS Academician,</i> <i>Soochow University</i> <u>Zhenhe Tong</u> , <i>CAS Academician,</i> <i>Technical Institute of Physics and Chemistry, CAS</i>	
09:25-09:30		Group Photo	
Plenary Session (1) Session Chairs: <i>Shuit-tong Lee</i>			BOC LT401
09:30-10:00	T1	<i>Exploration of New 2D Materials and Their New Properties</i>	Huiming Cheng Shenzhen Institutes of Advanced Technology, CAS
10:00-10:30	T2	<i>Recent Progress in Surface Nanocrystallization and Amorphization</i>	Jian Lu City University of Hong Kong
10:30-10:50		Coffee Break <i>Outside BOC-LT401</i>	
Plenary Session (2) Session Chairs: <i>Zhenhe Tong</i>			BOC LT401
10:50-11:20	T3	<i>Iron Based Nanomaterials for Medical Theranostics of Cardiovascular Diseases</i>	Ning Gu Nanjing University
11:20-11:50	T4	<i>Growth of Single-Walled Carbon Nanotubes with Controlled Structure</i>	Jin Zhang Peking University
11:50-14:00		Lunch Break <i>(For Plenary, Keynote and Invited Speakers, and Exhibitors - CityU Chinese Restaurant, 8/F BOC; For Students – AC2 Canteen, 3/F Li)</i>	

Session 1.1 Synthesis, Characterization and Manipulation of Materials Session Chairs: <i>Xun Wang</i>			YEUNG LT5
14:00-14:20	K1	<i>Sub-Inm Nanocrystals</i>	Xun Wang Tsinghua University
14:20-14:40	K51	<i>High-Performance Fuel Cell Electrocatalysts</i>	Minhua Shao Hong Kong University of Science and Technology
14:40-15:00	K3	<i>Exploration of Some Thiol/thioether Functionalized Metal-Organic Frameworks</i>	Jun He Guangdong University of Technology
15:00-15:15	I1	<i>Engineering Signal-enhanced Functional Heterojunctions for Photoelectrochemical Sensing</i>	Miaomiao Chen Hubei University
15:15-15:30	I2	<i>Modulation of Triplet Excited State by Supramolecular Assembly</i>	Yuzhe Chen Technical Institute of Physics and Chemistry, CAS
15:30-15:45	I3	<i>Electromagnetic Regulation and Microwave Absorption Property of Dielectric-type Materials</i>	Junye Cheng Shenzhen MSU-BIT University
Session 2.1 Biological and Biomedical Materials Session Chairs: <i>Qiangbin Wang, Yanglong Hou</i>			YEUNG LT6
14:00-14:20	K4	<i>Advanced In Vivo Fluorescence Imaging: Seeing is Believing</i>	Qiangbin Wang Suzhou Institute of Nanotech and Nano-bionics, CAS
14:20-14:40	K5	<i>Chemical Construction of Magnetic Nanoprobes and the Regulation of Their Cancer Theranostic Function</i>	Yanglong Hou Sun Yat-Sen University
14:40-15:00	K6	<i>DNA Supramolecular Hydrogels</i>	Dongsheng Liu Tsinghua University
15:00-15:15	I4	<i>Optoelectronic Nanomaterials and Flexible Devices for Photodynamic Therapy</i>	Qingyan Jia Northwestern Polytechnical University
15:15-15:30	I5	<i>Tumor Microenvironment-responsive Phototheranotics</i>	Minhuan Lan Central South University
15:30-15:50	K7	<i>Atomic Resolved Mechanical Testing System and Approach of Synergy of High Strength Yet Ductile Alloys</i>	Xiaodong Han Beijing University of Technology
Session 3.1 Flexible Materials and Devices Session Chairs: <i>Wenlong Cheng, Guozhen Shen</i>			YEUNG LT7
14:00-14:20	K8	<i>AI-powered Wearable Skins for Connected Healthcare</i>	Wenlong Cheng Monash University
14:20-14:40	K9	<i>MXene-based Flexible Photodetectors</i>	Guozhen Shen Beijing Institute of Technology
14:40-15:00	K10	<i>Linearly Polarized Light Emission and Detection from Small-molecule Organic Single Crystal</i>	Jiansheng Jie Soochow University
15:00-15:15	I6	<i>Triboelectric Nanogenerator for Energy Harvesting and Self-Powered Sensing</i>	Xuhui Sun Soochow University
15:15-15:30	I7	<i>Two-dimensional Skin-like Materials for Nerve Theranostics</i>	Nan Liu Beijing Normal University
15:30-15:45	I8	<i>Smart Soft Materials with Responsive Structures</i>	Songshan Zeng Macau University of Science and Technology

Session 4.1 Materials for Energy and Environment Session Chairs: <i>Zaiping Guo, Quan Li</i>			YEUNG LT8
14:00-14:20	K11	<i>Non-flammable Electrolytes for Large Scale Rechargeable Batteries</i>	Zaiping Guo University of Adelaide
14:20-14:40	K12	<i>Insight into Materials Science from A Reductionist Perspective</i>	Lin Gu Tsinghua University
14:40-15:00	K13	<i>Crystallographic Texture of Alkaline Metal for Alkaline Metal Batteries of Long Cycle Stability</i>	Quan Li The Chinese University of Hong Kong
15:00-15:15	I9	<i>Efficient Inverted Perovskite Solar Cells Enabled by Molecule Coordination</i>	Zhubing He Southern University of Science and Technology
15:15-15:30	I10	<i>Multiscale Simulations to Investigate Electrochemical Interface and Interphase</i>	Tao Cheng Soochow University
Session 5.1 Materials for Optoelectronics and Electronics Session Chairs: <i>Zuliang Du, Shilie Pan</i>			YEUNG LT9
14:00-14:20	K15	<i>II-VI Quantum Dot based Electroluminescent Devices</i>	Zuliang Du Henan University
14:20-14:40	K16	<i>Fluorooxoborates: Novel Candidates for Deep-UV Nonlinear Optical Materials</i>	Shilie Pan Xinjiang Technical Institute of Physics and Chemistry, CAS
14:40-15:00	K17	<i>High Performance OPV Materials with ADA Type Structure</i>	Yongsheng Chen Naikai University
15:00-15:15	I13	<i>Chiral Nano-Inorganics for Disclosing the Origin of Biochemical Homochirality</i>	Zhifeng Huang The Chinese University of Hong Kong
15:15-15:30	I11	<i>Novel Device Structure Enabled Highly Efficient and Flexible Perovskite/Organic Integrated Solar Cells</i>	Yulin Cao Shenzhen Polytechnic University
15:30-15:45	I12	<i>Supramolecular Engineering of Charge Transfer in Organic Luminophores</i>	Wencheng Chen Guangdong University of Technology
Session 4.2 Materials for Energy and Environment Session Chairs: <i>Qiang Zhang, Zonglong Zhu</i>			YEUNG LT10
14:00-14:20	K18	<i>The Promotion of Energy Storage Materials for Rechargeable Batteries through Lithium Bond Chemistry</i>	Qiang Zhang Tsinghua University
14:20-14:40	K19	<i>Materials Design for Electrochemical Catalysis and Batteries</i>	Guoxiu Wang University of Technology Sydney
14:40-15:00	K20	<i>Bioinspired Nano- and Micro-channel Materials</i>	Liping Wen Technical Institute of Physics and Chemistry, CAS
15:00-15:15	I14	<i>Materials and Device Design for Aqueous Zinc Batteries</i>	Chunpeng Yang Tianjin University
15:15-15:30	I15	<i>Interaction between High Temperature Molten Salts and Materials</i>	Xingtai Zhou Shanghai Institute of Applied Physics, CAS
15:30-15:45	I16	<i>Interface-Driven Stability for Halide Perovskite Photovoltaics: A Fundamental Understanding</i>	Zonglong Zhu City University of Hong Kong
Coffee Break 4/F University Concourse (Outside YEUNG LT9)			

15:45-17:00	Poster Session	<i>Wong's International Terrace (Outside Lift 13, 4/F BOC)</i>
18:00-20:45	Conference Dinner (For Plenary, Keynote and Invited Speakers, and Exhibitors – <i>Hung Kee Seafood Restaurant, Sai Kung</i> , round-trip transportation provided. Bus Departure: G/F, YEUNG (Lift 2) at 17:15)	

8 December 2023 (Friday)

Plenary Session (3) Session Chairs: Pengfei Wang, Huijun Zhao			BOC LT401
09:30-10:00	T5	<i>Printable Organic and Perovskite Solar Cells for Clean Energy</i>	Alex Jen City University of Hong Kong
10:00-10:30	T6	<i>Electrocatalytic Conversion of Earth-Abundant Simple Molecules into Valuable Chemicals and Fuels</i>	Huijun Zhao Griffith University
10:30-10:45	Coffee Break 4/F University Concourse Outside YEUNG LT9		
Session 1.2 Synthesis, Characterization and Manipulation of Materials Session Chairs: Bingbing Liu, Haitao Ye			YEUNG LT5
10:45-11:05	K21	<i>New Carbon Materials Constructed by Amorphous Building Blocks under High Pressure</i>	Bingbing Liu Jilin University
11:05-11:25	K22	<i>Using Diamond to Fight Fungi in Space</i>	Haitao Ye University of Leicester
11:25-11:40	I17	<i>Salt-assisted Synthesis of Unconventional-phase Transition Metal Dichalcogenides</i>	Zhuangchai Lai The Hong Kong Polytechnic University
11:40-11:55	I19	<i>Taming Tris(bipyridine)Ru(II) and its Reactions in Water</i>	Chaoyi Yao Central South University
Session 2.2 Biological and Biomedical Materials Session Chairs: Chia-Ching Chang, Jianjun Wang			YEUNG LT6
10:45-11:05	K23	<i>Immune Stealth VP28-heparin Nanocomplex Development and Application</i>	Chia-Ching Chang National Yang Ming Chiao Tung University
11:05-11:25	K24	<i>Construction of Ice-binding Materials for Cryopreservation of Cells and Tissues</i>	Jianjun Wang Technical Institute of Physics and Chemistry, CAS
11:25-11:40	I20	<i>Organelle Targeted Photosensitizers Based on Curcumin</i>	Wemin Liu Technical Institute of Physics and Chemistry, CAS
11:40-11:55	I21	<i>Full-API Nanodrug (FAND) for Cancer Therapy</i>	Jinfeng Zhang Beijing Institute of Technology
11:55-12:10	I22	<i>Ginkgo Seed Shell Provides a Unique Model for Bioinspired Design</i>	Yuanyuan Zhang Inner Mongolia University
Session 6.1 Materials for Catalysis Session Chairs: Bolong Huang, Guangqin Li			YEUNG LT7
10:45-11:00	I23	<i>Advanced Atomic Catalysts Design for Energy Systems</i>	Bolong Huang The Hong Kong Polytechnic University
11:00-11:15	I24	<i>Converting NO_x into High-valued Organic Chemicals via Electrocatalysis</i>	Guangqin Li Sun Yat-sen University
11:15-11:30	I25	<i>Structural Modulation of Carbon-supported Single Atom Catalysts for Electrocatalysis</i>	Weng-Chon Cheong Macau University of Science and Technology
11:30-11:45	I26	<i>Z-scheme Heterojunction for Bifunctional Photocatalysis Bioinspired Design</i>	Ping She Jilin University

Session 4.3 Materials for Energy and Environment Session Chairs: <i>Nianjun Yang, Shu Ping Lau</i>			YEUNG LT8
10:45-11:05	K25	<i>Diamond Electrochemistry</i>	Nianjun Yang Hasselt University
11:05-11:25	K26	<i>Electrocatalytic CO₂ Reduction to C₂H₄ over 1000 Hours of Stability Using Pure H₂O</i>	Shu Ping Lau The Hong Kong Polytechnic University
11:25-11:40	I27	<i>The Regulation of Mass Transport in Bioinspired Confined Channels</i>	Xiangyu Kong Technical Institute of Physics and Chemistry, CAS
11:40-11:55	I28	<i>Two-dimensional Halide Perovskite Semiconductors and Their Heterostructures</i>	Enzheng Shi Westlake University
11:55-12:10	I29	<i>Highly Efficient Perovskite Indoor Photovoltaics</i>	Zhao-Kui Wang Soochow University
Session 5.2 Materials for Optoelectronics and Electronics Session Chairs: <i>Qiang Zhao, Hin-Lap Yip</i>			YEUNG LT9
10:45-11:05	K27	<i>Responsive Photofunctional Metal Complexes</i>	Qiang Zhao Nanjing University of Posts and Telecommunications
11:05-11:25	K28	<i>Interface and Optical Design for High-efficiency White Perovskite LEDs</i>	Hin-Lap Yip City University of Hong Kong
11:25-11:40	I30	<i>Long-Term Fluorescence Imaging Analysis and Targeted Detection of Eye Disease</i>	Yao He Soochow University
11:40-11:55	I31	<i>Suppressing Thermal Quenching in Perovskite Nanocrystals via Introducing Fluoride</i>	Liang Li Macau University of Science and Technology
11:55-12:10	I32	<i>Quantum Dot Solar Cells</i>	Wanli Ma Soochow University
Session 5.3 Materials for Optoelectronics and Electronics Session Chairs: <i>Haoli Zhang, Chaoliang Tan</i>			YEUNG LT10
10:45-11:05	K29	<i>New Organic Semiconductors Based on 2D Fused Acene Framework</i>	Haoli Zhang Lanzhou University
11:05-11:25	K30	<i>Ultrafast Laser Therapies Based on Nonlinear Optical Properties of Two-Dimensional Phosphorene</i>	Han Zhang Shenzhen University
11:25-11:40	I33	<i>Electronics and Optoelectronics Based on 2D Tellurium</i>	Chaoliang Tan The University of Hong Kong
11:40-11:55	I34	<i>Study of MoTe₂-based Electronic and Optoelectronic Devices</i>	Wenfeng Zhang Huazhong University of Science and Technology
11:55-12:10	I36	<i>Ultrahigh-Performance Optoelectronic Devices based on CdS (Se) nanobelts (NBs)/Cs₃Sb₂Br₉ nanoflake</i>	Yingkai Liu Yunnan Normal University
12:10-14:00	Lunch Break <i>(For Plenary, Keynote, Invited Speakers, and Exhibitors - CityU Chinese Restaurant, 8/F BOC; For Students – AC2 Canteen, 3/F Li)</i>		

Session 1.3 Synthesis, Characterization and Manipulation of Materials Session Chairs: Zhong Zhang, Yu Tang			YEUNG LT5
14:00-14:20	K31	<i>Nanocomposites Applied for Extreme Environments</i>	Zhong Zhang University of Science and Technology of China
14:20-14:40	K32	<i>Studies on the Smart Luminescent Materials Based on Rare-Earth Complexes</i>	Yu Tang Lanzhou University
14:40-14:55	I35	<i>Operando Characterization Techniques for Mechanism Study</i>	Qiong Lei Macau University of Science and Technology
14:55-15:10	I37	<i>Electrochemical Organic Synthesis</i>	Xuefeng Tan City University of Hong Kong
15:10-15:25	I38	<i>The Development of Multimodal Time-Resolved Spectroscopy in Photochemistry</i>	Heng Lu Technical Institute of Physics and Chemistry, CAS
Session 2.3 Biological and Biomedical Materials Session Chairs: Shutao Wang, Aimin Yu			YEUNG LT6
14:00-14:20	K33	<i>Bio-inspired Multiscale Adhesive Interfacial Materials</i>	Shutao Wang Technical Institute of Physics and Chemistry, CAS
14:20-14:35	I39	<i>Type I and Type II Photosensitizers Based on Conjugated Polymers for Enhanced Photodynamic Therapy</i>	Benhua Wang Central South University
14:35-14:50	I40	<i>Engineering Cell-based biomaterials for Cancer Immunotherapy</i>	Chao Wang Soochow University
14:50-15:05	I41	<i>Endoperoxides-based Singlet Oxygen Carrier for Cancer Therapy</i>	Lei Wang Dalian University of Technology
15:05-15:20	I42	<i>Polydopamine-A Versatile Coating Platform</i>	Aimin Yu Swinburne University of Technology
Session 6.2 Materials for Catalysis Session Chairs: Tong-Bu Lu, Chundong Wang			YEUNG LT7
14:00-14:20	K34	<i>Precise Regulation of the Catalytic Microenvironment for Improving the Efficiency of Artificial Photo</i>	Tong-Bu Lu Tianjin University of Technology
14:20-14:35	I43	<i>Single-atom Electrocatalysts: from Design to Application</i>	Chundong Wang Huazhong University of Science and Technology
14:35-14:50	I44	<i>Single Atom Catalysis Toward Hydrogen Evolution</i>	Huabin Zhang King Abdullah University of Science and Technology
14:50-15:05	I45	<i>Heterostructured Electrocatalysts for Water-Hydrogen Conversion : Design and Regulation</i>	Qin Zhang Wuhan University of Science and Technology
15:05-15:20	I46	<i>Controlled Synthesis of Low-dimensional Metal Nanomaterials for Electrocatalytic Applications</i>	Zhanxi Fan City University of Hong Kong

Session 4.4 Materials for Energy and Environment Session Chairs: <i>Feng Li, Yongbing Tang</i>			YEUNG LT8
14:00-14:20	K35	<i>Mixing for Charge Storage in Carbon Materials</i>	Feng Li Institute of Metal Research, CAS
14:20-14:40	K36	<i>Research Progress on Novel Dual-ion Batteries</i>	Yongbing Tang Shenzhen Institute of Advanced Technology, CAS
14:40-15:00	K38	<i>Precise Construction of Porous Carbon Materials for Energy Conversion</i>	Jian Liu Inner Mongolia University
15:00-15:15	I47	<i>Solid Electrolyte Interphase Study by Electrochemical Atomic Force Microscopy in Lithium-ion Battery</i>	Zhenyu Zhang University of Exeter
15:15-15:30	I48	<i>Research Progress on Li-rich Li-B Composite Anode</i>	Libao Chen Central South University
Session 5.4 Materials for Optoelectronics and Electronics Session Chairs: <i>Liangsheng Liao, Yang Jiang</i>			YEUNG LT9
14:00-14:20	K37	<i>Near-Infrared Electroluminescence from Organic and Quantum Dot Materials</i>	Liangsheng Liao Soochow University
14:20-14:40	K39	<i>Doped Lead-Free Perovskites for the Application of WLEDs and Information Encryption</i>	Yang Jiang Hefei University of Technology
14:40-14:55	I49	<i>Engineering Anisotropic 2D Materials for Polariton Nanophotonics</i>	Qingdong Ou Macau University of Science and Technology
14:55-15:10	I50	<i>Wide-bandgap Antimony Sulfide Planar Thin Film Solar Cells</i>	Haisheng Song Huazhong University of Science and Technology
15:10-15:25	I51	<i>Optical and Electrical Contact for Crystal Silicon Solar Cell</i>	Baoquan Sun Macau University of Science and Technology
Session 5.5 Materials for Optoelectronics and Electronics Session Chairs: <i>Yanlin Song, Feng Yan</i>			YEUNG LT10
14:00-14:20	K40	<i>Nano Green Printing and Manufacturing Technology</i>	Yanlin Song Institute of Chemistry, CAS
14:20-14:40	K41	<i>Flexible Organic Transistors for Sensing Applications</i>	Feng Yan The Hong Kong Polytechnic University
14:40-15:00	K42	<i>Multispectral Organic Photodetectors and Applications</i>	Furong Zhu Hong Kong Baptist University
15:00-15:15	I52	<i>High-efficiency Perovskite/Organic Tandem Optoelectronic Devices</i>	Yuemin Xie Soochow University
15:15-15:30	I53	<i>Metal-organic Frameworks Based Thin Film Gas Sensor</i>	Gang Xu Fujian Institute of Research on the Structure of Matter, CAS
15:30-15:45	Coffee Break <i>4/F University Concourse Outside YEUNG LT9</i>		

Session 1.4 Synthesis, Characterization and Manipulation of Materials Session Chairs: <i>Qingwen Li, Fei Wei</i>			YEUNG LT5
15:45-16:05	K43	<i>Molecular Evolutionary Growth of Carbon Nanotubes</i>	Fei Wei Tsinghua University
16:05-16:25	K44	<i>Tailoring Carbon Nanotube Fibers for Wearable Smart Devices</i>	Qingwen Li Suzhou Institute of Nanotech and Nano-bionics, CAS
16:25-16:40	I54	<i>Heterostructured Microparticles: From Emulsion Interfacial Polymerization to Separation</i>	Yongyang Song Technical Institute of Physics and Chemistry, CAS
16:40-16:55	I55	<i>Precise Synthesis and Application of Single-Walled Carbon nanotubes</i>	Yue Hu Wenzhou University
16:55-17:10	I56	<i>Surface-enhanced Raman Scattering Revealed by Scattering-type Scanning Near-field Optical Microscopy</i>	Xuejin Zhang Nanjing University
Session 2.4 Biological and Biomedical Materials Session Chairs: <i>Mingyuan Gao, Jun Lin</i>			YEUNG LT6
15:45-16:05	K45	<i>Nanoprobes for in vivo Imaging</i>	Mingyuan Gao Soochow University
16:05-16:25	K46	<i>Nanomaterials-Assisted Cancer Immunotherapy</i>	Jun Lin Changchun Institute of Applied Chemistry, CAS
16:25-16:40	I57	<i>Bioactive Nanoplatfrom for Cancer Theranostics</i>	Liang Cheng Soochow University
16:40-16:55	I58	<i>Design and Synthesis of Hypocrellin Derivatives as Phototheranostic Agents</i>	Xiuli Zheng Technical Institute of Physics and Chemistry, CAS
16:55-17:10	-	<i>Publishing in Wiley Materials Science and Chemistry Journals</i>	Xiaoyu Zhang
Session 4.5 Materials for Energy and Environment Session Chairs: <i>Feiyu Kang, Lianzhou Wang</i>			YEUNG LT7
15:45-16:05	K47	<i>Carbon Materials Enables to Realize Carbon Neutralization</i>	Feiyu Kang Tsinghua University
16:05-16:25	K48	<i>Nanomaterials for Photoelectrochemical Energy Conversion</i>	Lianzhou Wang The University of Queensland
16:25-16:45	K49	<i>Non-Chemometric Design for High Performance P2@O3 Mixed Layered Oxide Cathode</i>	Xiaobo Ji Central South University
16:45-17:00	I59	<i>High-Stable Lead-free Solar Cells Achieved by Crystal Regulation and Surface Interface Modification</i>	Meng Li Henan University
17:00-17:15	I60	<i>Electrochemical Lithium Intercalation & Exfoliation in 2D TMDs and Its in-situ Studies</i>	Zhiyuan Zeng City University of Hong Kong
Session 4.6 Materials for Energy and Environment Session Chairs: <i>Quan-Hong Yang, Minhua Shao</i>			YEUNG LT8
15:45-16:05	K50	<i>Sieving Carbons Promise Superhigh Capacity Anodes for Sodium Ion Batteries</i>	Quan-Hong Yang Tianjin University
16:05-16:20	I61	<i>In-situ Probing on the Crystallization and Degradation of Metal Halide Perovskites</i>	Stephen Sai-wing Tsang City University of Hong Kong
16:20-16:35	I62	<i>Manipulating Charge Transport in Oxides for Solar Power-to-X</i>	Hao Wu Macau University of Science and Technology
16:35-16:50	I63	<i>Hollow Bismuth Vanadate Spheres for Excellent Performance Li-S Battery with a Wide Temperature Range</i>	Qihui Wu Jimei University

Session 5.6 Materials for Optoelectronics and Electronics Session Chairs: Meiyong Liao, Yang Lu			YEUNG LT9
15:45-16:05	K52	<i>Diamond as An Extreme Semiconductor for Electronics and MEMS</i>	Meiyong Liao National Institute for Materials Science, Japan
16:05-16:25	K53	<i>Strain Engineering of Nanoscale Semiconductors for Unprecedented Optoelectronics Applications</i>	Yang Lu The University of Hong Kong
16:25-16:45	K54	<i>Stimuli-Responsive Luminescence in Doped Crystals</i>	Feng Wang City University of Hong Kong
16:45-17:00	I64	<i>Controllable Preparation and Optoelectronic Devices of Anisotropic 2D Materials</i>	Hua Xu Shaanxi Normal University
17:00-17:15	I65	<i>Preparation and Optoelectronic Properties of Organic Cocrystals</i>	Xiaotao Zhang Tianjin University
Session 5.7 Materials for Optoelectronics and Electronics Session Chairs: Hongbing Fu, Dongge Ma			YEUNG LT10
15:45-16:05	K55	<i>A Journey to Electrically Injected Organic Semiconductor Laser?</i>	Hongbing Fu Capital Normal University
16:05-16:25	K56	<i>Hot Exciton Regulation and High Efficiency Blue Fluorescence OLEDs</i>	Dongge Ma South China University of Technology
16:25-16:45	K57	<i>Photoelectric Effect in Diamond</i>	Chongxin Shan Zhengzhou University
16:45-17:00	I66	<i>Organic Thin-Film Synaptic Devices</i>	Sui-Dong Wang Soochow University
18:00-21:00	Conference Banquet (All participants – Jasmine, G/F, Festival Walk)		

9 December 2023 (Saturday)

Session 1.5 Synthesis, Characterization and Manipulation of Materials Session Chairs: <i>Xianfeng Chen, Chengzhong Yu</i>			YEUNG LT5
09:00-09:20	K58	<i>Cost-effective and rapid 3D printing of microfluidic devices for biomedical applications</i>	Xianfeng Chen The University of Edinburgh
09:20-09:40	K59	<i>Anisotropic Nano-MOFs</i>	Chengzhong Yu University of Queensland
09:40-09:55	I67	<i>In situ study of structural evolution of TiAl films with helium ions implantation</i>	Lifeng Tian Technical Institute of Physics and Chemistry, CAS
09:55-10:10	I68	<i>Design of High-performance High-entropy Nitride Ceramics via Machine Learning-driven Strategy</i>	Feng Xu Nanjing University of Aeronautics and Astronautics
10:10-10:25	I69	<i>In Situ Transmission Electron Microscopy on Two-Dimensional Ferrioc Chalcogenides</i>	Jiong Zhao The Hong Kong Polytechnic University
Session 2.5 Biological and Biomedical Materials Session Chairs: <i>Ka-Leung Wong, Junqing Hu</i>			YEUNG LT6
09:00-09:20	K60	<i>Valorization of PET Radiotracers into Multimodal Theranostic Agents for Achieving PET-MRI Fusion</i>	Ka-Leung Wong The Hong Kong Polytechnic University
09:20-09:40	K61	<i>Development of New Photothermal Nano-agents and Their Applications in Cancer Theranostics</i>	Junqing Hu Shenzhen Technology University
09:40-09:55	I70	<i>Design and Application of Bio-inspired Anti-adhesive Interfacial Materials</i>	Jingxin Meng Technical Institute of Physics and Chemistry, CAS
09:55-10:10	I71	<i>Self-pumping Wound Dressings</i>	Lianxin Shi Technical Institute of Physics and Chemistry, CAS
10:10-10:25	I72	<i>Supervariate Mineral Hydrogels: Biocompatible Synthesis, All-in-One Charge Storage, Biomineralization/Demineralization Mechanisms</i>	Yangyang Li City University of Hong Kong
Session 6.3 Materials for Catalysis Session Chairs: <i>Porun Liu, Xiao Zhang</i>			YEUNG LT7
09:00-09:20	K62	<i>Modulation of Transition Metal Single Atom Catalysts for Energy Conversion</i>	Porun Liu Griffith University
09:20-09:35	I73	<i>Interface Engineering and Chemical Reactor Design for Electrochemical Production of Valuable Chemical</i>	Xiao Zhang Hong Kong Polytechnic University
09:35-09:50	I74	<i>Synthesis of Metal Nanomaterials with Unconventional Crystal Phases and Their Catalytic Properties</i>	Ye Chen The Chinese University of Hong Kong
09:50-10:05	I75	<i>Interactive Single Atom Catalysts for Water Electrolysis</i>	Jieqiong Shan City University of Hong Kong
10:05-10:20	I76	<i>High Energy Lithium Battery Electrolytes Design: from aqueous to non-aqueous</i>	Jijian Xu City University of Hong Kong

Session 4.7 Materials for Energy and Environment Session Chairs: Zhengxiao Guo, Jinsong Hu			YEUNG LT8
09:00-09:20	K63	<i>Valence Engineering for High Performance Electrocatalysis</i>	Zhengxiao Guo The University of Hong Kong
09:20-09:40	K64	<i>Electrocatalytic Materials for Anion Exchange Membrane Fuel Cells</i>	Jinsong Hu Institute of Chemistry, CAS
09:40-09:55	I77	<i>Design of Photo/Electrocatalytic Materials and Their Performance for Hydrogen Production</i>	Bin Liu Beijing University of Chemical Technology
09:55-10:10	I78	<i>Tailoring the Molecular Interfaces for Boosted CO₂ Reduction</i>	Ruquan Ye City University of Hong Kong
10:10-10:25	I79	<i>Atomic Design of Transition Metal Catalysts for High-Efficient Hydrogen Production and Utilization</i>	Jingjie Ge The Hong Kong Polytechnic University
10:30-10:50	Coffee Break <i>4/F University Concourse Outside YEUNG LT9</i>		
10:50-11:10	Poster Awards Ceremony		YEUNG LT9
11:10-11:25	Closing Remarks		
12:15-14:00	Lunch Break (For Plenary, Keynote and Invited Speakers, and Exhibitors – <i>CityU Chinese Restaurant, 8/F BOC</i> ; For students – <i>AC2 Canteen, 3/F Li</i>)		
14:00-18:00	/		
18:00-21:00	Speaker Dinner (For Plenary, Keynote and Invited Speakers, and Exhibitors – <i>Fai Gor's Kitchen, Jordan</i>)		

Poster Presentation

Session Chair: Qichun Zhang

Time: 15:45-17:00, 7 December (Thursday)

Location: Wong's International Terrace (Outside Left 13, 4/F BOC)

Moderators: Man Keung Fung Macau University of Science and Technology
Yanqing Li East China Normal University
Xiangmin Meng Technical Institute of Physics and Chemistry, CAS
Shilun Qiu Jilin University
Wensheng Shi Technical Institute of Physics and Chemistry, CAS
Jun Tan Jihua Laboratory
Jianxin Tang Macau University of Science and Technology
Ying Wang Technical Institute of Physics and Chemistry, CAS
Jiasheng Wu Technical Institute of Physics and Chemistry, CAS
Yang Yang Shenzhen Institute of Advanced Technology, CAS
Liping Zhang Technical Institute of Physics and Chemistry, CAS



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P2	Yidan An	Tailoring Crystallization of Wide-Bandgap Perovskites for High-Efficiency Perovskite-Organic Tandem Solar Cells
P3	Leyu Bi	Deciphering The Roles of MA-based Volatile Additives for α -FAPbI ₃ Enable Efficient Inverted Perovskite Solar Cells
P4	Shuyu Bu	Oxygen Functionalized Diamond Nanocone Arrays Coupling Cobalt Phthalocyanine for Enhanced Performance of CO ₂ Electrochemical Reduction
P5	Jiawei Cai	Organic Thin Film Memcapacitors
P6	Chen Cao	Intramolecular Cyclization: A convenient Strategy to Realize Efficient BT 2020 Blue Multi-Resonance Emitter for Organic Light-emitting Diodes
P7	Jiangkun Chen	Ultrafast and Multicolor Luminescence Switching in a Lanthanide-Based Hydrochromic Perovskite
P9	Guoqiang Gan	Carbon-based Materials for Electrochemical Dechlorination
P10	Qili Gao	In situ Conversion of 3D Conformal Bi ₂ O ₃ /rGO Nanosheet Assemblies into Bi-O Stabilized Nanocomposite for Enhanced Electroreduction of CO ₂ towards HCOOH
P11	Chuannan Geng	Catalytic Conversion of Li ₂ S for High-Performance Lithium-Sulfur Batteries
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P13	Zhiqiang Guan	Probe Perovskite/Fullerene Interfacial Hybrid States Using Two Photon-Photoemission Spectroscopy
P14	Junjun Guo	Dual-Interface Modulation with Covalent Organic Framework Enables Efficient and Durable PSCs
P15	Xun Guo	Solid-Electrolyte Interphase Governs Zinc Ion Transfer Kinetics in High-Rate and Stable Zinc Metal Batteries
P16	Yunhu He	Light Stimuli Responsive Materials and Devices
P17	Shuhe Hu	Pressure-Induced Emission Enhancement of π -conjugated CT Materials with Different Molecular Stacking
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P88	Jing Zhong	Precise Electronic Structures of Amorphous Solids: Unraveling the Color Origin and Photocatalysis of Black Titania
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P90	Anquan Zhu	Concurrently Electrochemical Modifying Electrode and Electrolyte to Unveil the Mechanism on Efficient Water-to-Hydrogen Conversion
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Useful information

1. Getting to CityU

Location: City University of Hong Kong, 83 Tat Chee Avenue, Kowloon, Hong Kong

地址：香港九龍達之路 83 號香港城市大學，

Drop-off point: Nam Shan Estate entrance to University

落客點：香港城市大學南山邨入口（沿桃源街駛入南山邨入口）

Maps:



1) From airport:

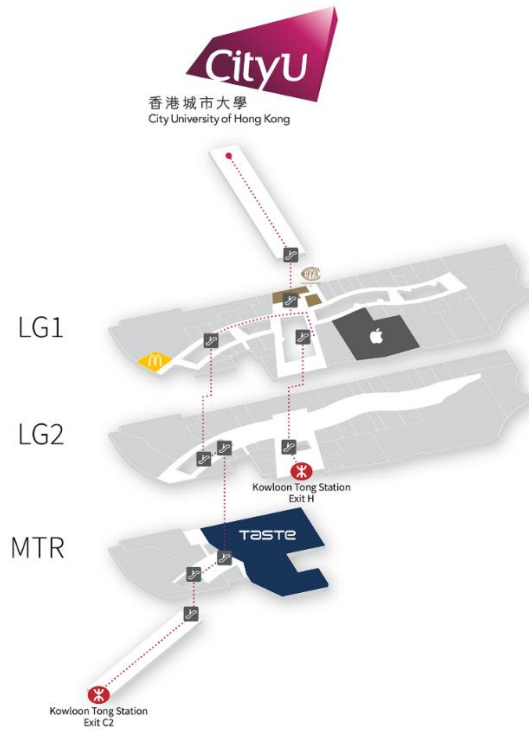
Suggested means of transportation: Urban taxi (red taxi)

Estimated travelling time: 30 min

Estimated fare: HK\$300; Extra charge: HK\$6/baggage

2) By MTR

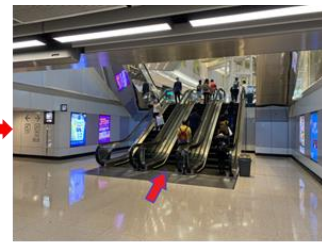
CityU is located adjacent to MTR Kowloon Tong Station and Festival Walk Shopping Centre. It is just a 5-minute walk from MTR station via Festival Walk to the Campus. When you arrive at MTR Kowloon Tong Station, please follow the instructions below to reach CityU:



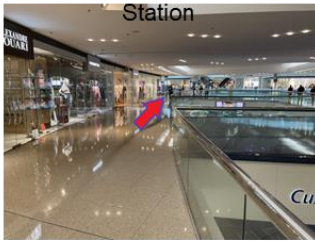
1. Go to Exit C (Festival Walk) at Kowloon Tong Station



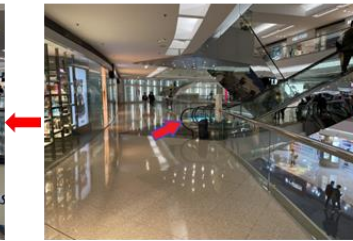
2. Walk through the pedestrian subway



3. Take the escalator up to MTR level



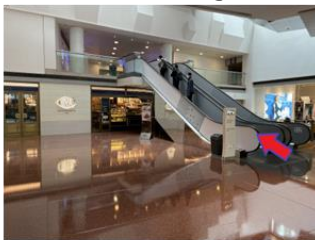
6. Find Shop LG1-02 (Atsuro Tayama), turn right and walk straight



5. Find Shop LG2-66 (Venchi) and turn right, take the escalator up to LG1



4. Take the escalator up to LG2



7. Take the escalator next to Shop LG1-10 (Cova)



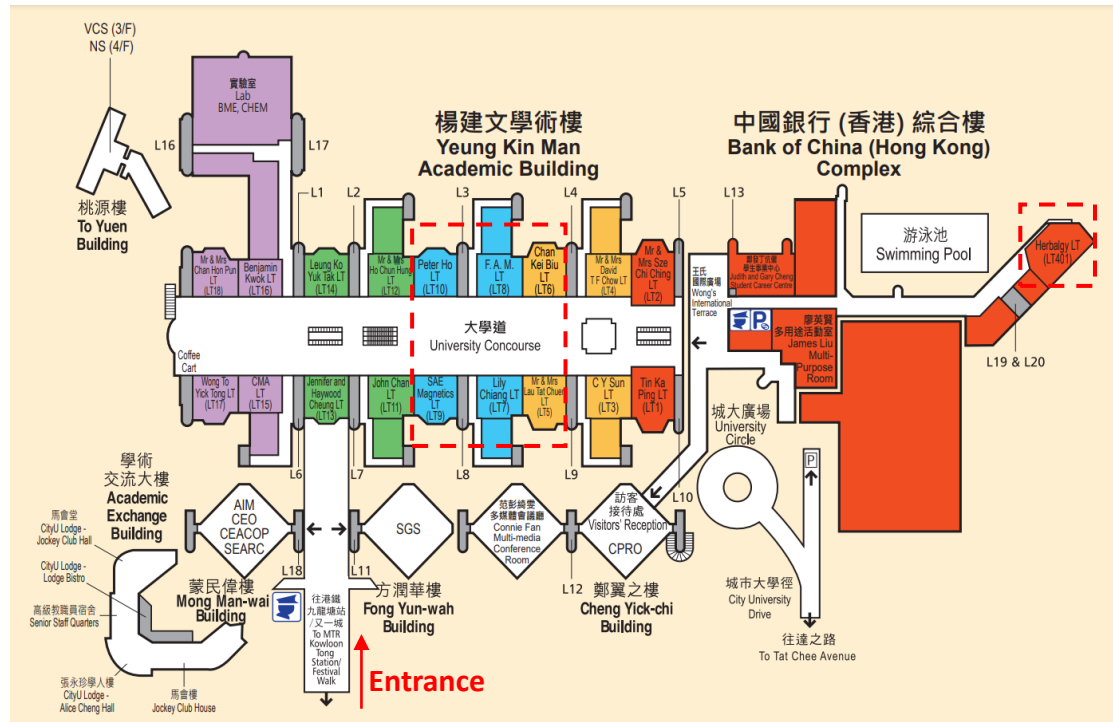
8. Walk through the CityU subway



9. Arrive at CityU campus

2. Getting to venue

Venue: YEUNG L5, L6, L7, L8, L9, L10; and BOC LT401 (in dashed box)



3. Accommodation

1) The Cityview Hotel 城景國際

Address: 23 Waterloo Road, Kowloon, Hong Kong

地址: 香港九龍旺角窩打老道 23 號

Getting to CityU by MTR (Kwun Tong Line; to Tiu Keng Leng):

Get on the subway at Yau Ma Tei Station and Get off at Kowloon Tong Station Exit C2

港鐵油麻地站乘坐地鐵觀塘線 (往調景嶺方向)前往九龍塘站 C2 出口

Phone 電話: +852 2783 3888



2) Royal Plaza Hotel 帝京酒店

Address: 193 Prince Edward Road West, Kowloon, Hong Kong

地址: 香港九龍旺角太子道西 193 號

Getting to CityU by MTR (East Rail Line to Lo Wu/Lok Ma Chau):

Get on the subway at Mong Kok Station and Get off at Kowloon Tong Station Exit H

港鐵旺角東站乘坐地鐵東鐵線 (往羅湖/落馬洲方向) 前往九龍塘站 H 出口

Phone 電話: +852 2783 3888



3) CityU Lodge

Address: Academic Exchange Building, 81 Tat Chee Avenue,
Kowloon, Hong Kong

地址: 香港九龍達之路 81 號香港城市大學學術交流大樓

Phone 電話: +852 3442 3600



4. Wifi network (free)

1) Connect the Wifi network named 'Wi-Fi. HK via CityU'

2) Click 'ACCEPT & CONNECT' in the pop-up page



5. Dinning

For the Plenary, Keynote and Invited Speakers, and Exhibitors:

6 December 2023 (Wednesday)	
Lunch 11:50-14:00	CityU Chinese Restaurant 城大中菜廳 8/F, Bank of China Complex, CityU
Dinner 18:00-20:30	Welcome Reception: Chinese Restaurant 城大中菜廳 8/F, Bank of China Complex, CityU
7 December 2023 (Thursday)	
Lunch 11:50-14:00	CityU Chinese Restaurant 城大中餐廳 8/F, Bank of China Complex, CityU
Dinner 18:00-21:00	Hung Kee Seafood Restaurant Sai Kung Waterfront Square 洪記海鮮酒家, 西貢海傍廣場, +852 2792 1348. Bus Departure: G/F, YEUNG (Lift 2) at 17:15
8 December 2023 (Friday)	
Lunch 12:10-14:00	CityU Chinese Restaurant 城大中餐廳 8/F, Bank of China Complex, CityU
Dinner 18:00-21:00	Jasmine (Kowloon Tong) G floor in Festival Walk Shopping Centre 八月花, 又一城購物中心 G 層
9 December 2023 (Saturday)	
Lunch 12:15-14:00	CityU Chinese Restaurant 城大中菜廳 8/F, Bank of China Complex, CityU
Dinner 18:00-21:00	Fai Gor's Kitchen 2nd floor, 18 Cheong Lok Street 輝哥私房菜, 油麻地長樂街 18 號 2 樓

For student registrants: Meal coupons are distributed to you in the registration package.

Location for lunch: AC2 Canteen, 3/F Li

Conference banquet: 18:00-21:00, 8 December 2023
Jasmine (Kowloon Tong)
G floor in Festival Walk Shopping Centre
八月花, 又一城購物中心 G 層

6. Registration

Link: <https://www.cityu.edu.hk/cosdaf/apccom2023/page9.html>



QR code:

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Yuzhe	Chen	I2
Libao	Chen	I48
Ye	Chen	I74
Yongsheng	Chen	K17
Xianfeng	Chen	K58
Tao	Cheng	I10
Junye	Cheng	I3
Liang	Cheng	I57
Wenlong	Cheng	K8
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Weng-Chon	Cheong	I25
Zuliang	Du	K15
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Zhengxiao	Guo	K63
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Jinsong	Hu	K64
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Qingwen	Li	K44
Liangsheng	Liao	K37
Meiyong	Liao	K52
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Minhua	Shao	K51
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Enzheng	Shi	I28
Lianxin	Shi	I71
Haisheng	Song	I50
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Ka-Leung	Wong	K60
Hao	Wu	I62
Qihui	Wu	I63
Yuemin	Xie	I52
Gang	Xu	I53
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Feng	Xu	I68
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Hin-Lap	Yip	K28
Aimin	Yu	I42
Chengzhong	Yu	K59
Zhiyuan	Zeng	I60
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Yuanyuan	Zhang	I22
Wenfeng	Zhang	I34
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Qin	Zhang	I45
Zhenyu	Zhang	I47

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Xiao	Zhang	I73
Qiang	Zhang	K18
Han	Zhang	K30
Haoli	Zhang	K29
Zhong	Zhang	K31
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Jiong	Zhao	I69
Qiang	Zhao	K27
Huijun	Zhao	T6
Xiuli	Zheng	I58
Xingtai	Zhou	I15
Zonglong	Zhu	I16
Furong	Zhu	K42

Sponsorship



BMEMat (BioMedical Engineering Material)



Bruker China



EcoEnergy



EcoMat



Electron



Functional Diamond



HORIBA Scientific



Interdisciplinary Medicine



Jiangsu MNT Micro and Nanotech Co., Ltd



Light: Science and applications



Materials Chemistry Frontiers



Smart Medicine



Smart Molecules



SmartMat

