

ACS NANO *In Celebration of the
30th Anniversary of CityUHK*

ACS Nano Summit

@ City University of Hong Kong

Chemistry for

Sustainable Life

HKIAS Lecture Theatre

Academic Exchange Building, City University of Hong Kong

20-21 May 2024

INVITED SPEAKERS



Prof. Rose AMAL
University of New South Wales
Australia



Prof. Natalie ARTZI
Massachusetts Institute of Technology
USA



Prof. Bin LIU
National University of Singapore
Singapore



Prof. Chad MIRKIN
Northwestern University
USA



Prof. Takao SOMEYA
University of Tokyo
Japan



Prof. Weihong TAN
Hunan University
China



Prof. Peidong YANG
University of California, Berkeley
USA



Prof. Vivian YAM
The University of Hong Kong
China

In Celebration of the 30th Anniversary

ACS Nano Summit Chemistry for Sustainable Life

20 – 21 May, 2024
Hong Kong

Programme



Organized by

**Department of Chemistry
City University of Hong Kong**

&

ACS Publications

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Organizing Committee

Chairman

Prof. Xin WANG

Dean, College of Science

Head and Chair Professor, Department of Chemistry

City University of Hong Kong

Members (listed in alphabetical order)

Prof. Hua ZHANG

Herman Hu Chair Professor of Nanomaterials, Department of Chemistry

City University of Hong Kong

Prof. Guangyu ZHU

Professor, Department of Chemistry

City University of Hong Kong

Prof. Zonglong ZHU

Associate Professor, Department of Chemistry

City University of Hong Kong

Programme

Day 1: 20 May 2024 (Monday)	
8:30 – 9:00 am	Registration
9:00 – 9:10 am	Welcome and Opening by President, City University of Hong Kong Prof. Freddy BOEY
9:10 – 9:20 am	Welcome Speech by ACS Nano Editor in Chief Prof. Xiaodong CHEN
9:20 – 9:30 am	Group Photos
9:30 – 10:30 am	Seminar 1 Control of Excited States, Nanostructures and Functions Through Molecular Design and Supramolecular Assembly Prof. Vivian Yam (<i>The University of Hong Kong, China</i>)
10:30 – 11:00 am	Tea Break
11:00 am – 12:00 nn	Seminar 2 Recent Advancements in Electronic Skin for Robotics and Wearables Prof. Takao Someya (<i>The University of Tokyo, Japan</i>)
12:00 nn – 2:00 pm	Lunch (City Chinese Restaurant, 8/F, Bank of China (Hong Kong) Complex)
2:00 – 3:00 pm	Seminar 3 AIEgen-based Photodynamic Therapy Prof. Bin Liu (<i>National University of Singapore, Singapore</i>)
3:00 – 4:00 pm	Seminar 4 Fundamental research and clinical trials with nucleic acids Prof. Weihong Tan (<i>Hunan University, China</i>)
4:00 – 4:30 pm	Tea Break
4:30 – 4:45 pm	Workshop 1 RNA G-Quadruplex (rG4)-Based PROTACs for Targeted DHX36 Protein Degradation and Gene Activity Modulation in Mammalian Cells Prof. Chun Kit Kwok <i>Associate Professor, Department of Chemistry</i>
4:45 – 5:00 pm	Workshop 2 The Gut Factor: Understanding the Impact of Gut Health on Anticancer Drug Efficacy Prof. Maria Babak <i>Assistant Professor, Department of Chemistry</i>
5:00 – 5:15 pm	Workshop 3 Controlled synthesis of low-dimensional metal nanomaterials for electrocatalytic applications Prof. Zhanxi Fan <i>Assistant Professor, Department of Chemistry</i>
5:15 – 5:30 pm	Workshop 4 Controllable Activation of Platinum Anticancer Drugs In Vivo Prof. Guangyu Zhu <i>Professor, Department of Chemistry</i>
	End of Day 1

Day 2: 21 May 2024 (Tuesday)	
9:00 – 10:00 am	Seminar 5 Liquid Sunlight®, Made from CO ₂ Prof. Peidong Yang (<i>University of California, Berkeley, USA</i>)
10:00 – 11:00 am	Seminar 6 Harnessing Solar Energy through Nano-Catalysis for Fuel and Chemical Synthesis Prof. Rose Amal (<i>University of New South Wales, Australia</i>)
11:00 – 11:20 am	Tea Break
11:20 am – 12:20 pm	Seminar 7 Tissue- and Cell-Responsive Materials for Medical Applications Prof. Natalie Artzi (<i>Massachusetts Institute of Technology, USA</i>)
12:20 – 2:15 pm	Lunch (Lodge Bistro, Academic Exchange Building)
2:15 – 2:30 pm	Workshop 5 Interface-Enhanced Stability for Halide Perovskite Photovoltaics Prof. Zonglong Zhu <i>Associate Professor, Department of Chemistry</i>
2:30 – 2:45 pm	Workshop 6 The Green Revolution: Innovations in Intelligent Building Envelope Materials for Carbon Neutrality Prof. Edwin Chi-Yan Tso <i>Associate Professor, School of Energy and Environment</i>
2:45 – 3:00 pm	Workshop 7 Supervariate Mineral Hydrogels: Biocompatible Synthesis, All-in-one Charge Storage, and Biomineralization/Demineralization Mechanisms Prof. Yangyang Li <i>Associate Professor, Department of Materials Science and Engineering</i>
3:00 – 3:30 pm	Tea Break
3:30 – 4:30 pm	Seminar 8 Repurposing the Blueprint for Life Through Colloidal Crystal Engineering with DNA Prof. Chad Mirkin (<i>Northwestern University, USA</i>)
4:30 – 5:30 pm	Panel Discussion Regarding Publishing Host by: Prof. Xiaodong CHEN Join by: Prof. Chad MIRKIN, Prof. Kenneth LO, Prof. Rose AMAL and Prof. Natalie ARTZI
5:30 – 5:40 pm	Closing Remarks
	End of Day 2/Conference

Information for Seminars

Seminars

We have 8 seminars in total, and each seminar will be 1 hour, including discussion. All seminars will take place at the Hong Kong Institute for Advanced Studies Lecture Theatre, Lower Ground, Academic Exchange Building, City University of Hong Kong.

Seminar 1

Date: 20 May 2024 (Monday)

Time: 9:30 – 10:30 am

Title: Control of Excited States, Nanostructures and Functions Through Molecular Design and Supramolecular Assembly

Speaker: Prof. Vivian Wing-Wah Yam, *Philip Wong Wilson Wong Professor in Chemistry and Energy and Chair Professor of Chemistry, Department of Chemistry, The University of Hong Kong*

Biography

Vivian W.-W. Yam obtained both her BSc (Hons) and PhD from The University of Hong Kong, and is currently the Philip Wong Wilson Wong Professor in Chemistry and Energy and Chair Professor of Chemistry at The University of Hong Kong. She was elected to Member of Chinese Academy of Sciences, International Member (Foreign Associate) of US National Academy of Sciences, Foreign Member of Academia Europaea, Fellow of TWAS and Founding Member of Hong Kong Academy of Sciences. She was Laureate of the 2011 L'Oréal-UNESCO For Women in Science Award. She has received a number of awards, including the Josef Michl ACS Award in Photochemistry, RSC Centenary Medal, RSC Ludwig Mond Award, Porter Medal, Bailar Medal, I-APS Presidential Award, FACS Foundation Lectureship Award, APA Masuhara Lectureship Award, JPA Honda-Fujishima Lectureship Award, JPA Eikohsha Award, JSCC International Award, State Natural Science Award, CCS-China Petroleum & Chemical Corporation (Sinopec) Chemistry Contribution Prize, CCS Huang Yao-Zeng Organometallic Chemistry Award, etc. Her research interests include inorganic/organometallic chemistry, supramolecular chemistry and controlled assembly of nanostructures, photophysics and photochemistry, and metal-based molecular and nano-assembled functional materials for sensing, organic optoelectronics and energy research.

Seminar 2

Date: 20 May 2024 (Monday)

Time: 11:00 – 12:00 am

Title: Recent Advancements in Electronic Skin for Robotics and Wearables

Speaker: Prof. Takao Someya, *Executive Director and Vice President and Professor, Department of Electrical and Electronic Engineering,, The University of Tokyo*

Biography

Takao Someya is Executive Director and Vice President and Professor at the University of Tokyo. He also serves as Director General of the Division of University Corporate Relations, with oversight of startup initiatives. He is recognized as an inventor of electronic skins, which was featured in TIME Magazine as one of the best inventions of the year in 2005. His current research focus is on next-generation wearables with organic electronics for application to healthcare, biomedical, and robotics.

Seminar 3**Date:** 20 May 2024 (Monday)**Time:** 2:00 – 3:00 pm**Title:** AI-Egen-based Photodynamic Therapy**Speaker:** Prof. Bin Liu, *Deputy President (Research and Technology) and Tan Chin Tuan Centennial Professor, National University of Singapore***Biography**

Professor Bin Liu is Tan Chin Tuan Centennial Professor at the National University of Singapore (NUS). Bin graduated with bachelor's degree from Nanjing University and a Ph.D. in Chemistry from NUS. She had postdoctoral training at the University of California, Santa Barbara before joining NUS in 2005. Bin has been well-recognized for her contributions to polymer chemistry and organic nanomaterials for energy and biomedical applications. She is an international member of the US National Academy of Engineering. Since 2019, she has served as the Deputy Editor to launch and develop ACS Materials Letters, a flagship materials journal of the American Chemical Society.

Seminar 4**Date:** 20 May 2024 (Monday)**Time:** 3:00 – 4:00 pm**Title:** Fundamental research and clinical trials with nucleic acids**Speaker:** Prof. Weihong Tan, *Professor, Hunan University***Biography**

Professor Weihong Tan earned his Ph.D. in physical chemistry at the University of Michigan in 1993. Currently, he is the director of Hangzhou Institute of Medicine, Chinese Academy of Sciences, the dean of Zhejiang Cancer Hospital. He is also the director of the State Key Laboratory of Chemo/Biosensing and Chemometrics at Hunan University, and the director of the Institute of Molecular Medicine at Renji Hospital and Shanghai Jiao Tong University. He served as a University Distinguished Professor and a V.T. and Louis Jackson Professor at the University of Florida for more than 20 years.

Professor Tan's research is in the area of bioanalytical chemistry, molecular medicine and chemical biology. He specializes in aptamer research, DNA nanotechnology, and cancer theranostics. Professor Tan has also been recognized as an Academician of the Chinese Academy of Sciences in 2015, Academician of the World Academy of Sciences in Developing Countries in 2016.

Seminar 5**Date:** 21 May 2024 (Tuesday)**Time:** 9:00-10:00am**Title:** Liquid Sunlight®, Made from CO₂**Speaker:** Prof. Peidong Yang, *S.K. and Angela Chan Distinguished Professor of Energy and Professor of Chemistry, Department of Chemistry, Department of Materials Science and Engineering, University of California, Berkeley*

Biography

Peidong Yang is a Chemistry professor, S. K. and Angela Chan Distinguished Chair Professor in Energy at the University of California, Berkeley. He is a senior faculty scientist at the Materials and Chemical Sciences Division, Lawrence Berkeley National Laboratory. He is a member of both the National Academy of Sciences and the American Academy of Arts and Sciences, and a foreign member of the Chinese Academy of Sciences. He is a MacArthur "Genius" Fellow.

Prof. Yang is known particularly for his work on semiconductor nanowires and their photonic and energy applications including artificial photosynthesis. He is the director for the California Research Alliance by BASF and the Kavli Energy Nanoscience Institute at Berkeley. He is an Executive Editor for the Journal of the American Chemical Society.

Dr. Yang received his B.A. in Chemistry from the University of Science and Technology in China in 1993. He then received his Ph.D. in Chemistry from Harvard University in 1997, and did his postdoctoral fellowship at the University of California, Santa Barbara. Soon after, he joined the faculty at the University of California, Berkeley. He is the recipient of Global Energy Prize, MacArthur Fellowship, E. O. Lawrence Award, Alan T. Waterman Award, ACS Nanoscience Award, MRS Medal, ACS Baekeland Medal, Julius Springer Prize for Applied Physics, Alfred P. Sloan research fellowship, the Arnold and Mabel Beckman Young Investigator Award, National Science Foundation Young Investigator Award, MRS Young Investigator Award, ACS Pure Chemistry Award. He is the 2014 Thomas Reuters Citation Laureate for Physics.

Seminar 6

Date: 21 May 2024 (Tuesday)

Time: 10:00-11:00 am

Title: Harnessing Solar Energy through Nano-Catalysis for Fuel and Chemical Synthesis

Speaker: Prof. Rose Amal, *Scientia Professor, School of Chemical Engineering, University of New South Wales*

Biography

Professor Rose Amal is a Scientia Professor in the School of Chemical Engineering, UNSW, Sydney. She is Co-Director of ARC Training Centre for the Global Hydrogen Economy and Lead of NSW Powerfuel including H2 Network. Her current research focuses on designing catalysts for solar and chemical energy conversion applications, making solar chemicals and fuels (such as H₂).

Professor Rose Amal has received numerous prestigious awards including CHEMECA medalist (2021) and named as 2019 NSW Scientist of the Year. She is a Fellow of Australian Academy of Technology and Engineering (FTSE), a Fellow of Australian Academy of Science (FAA), Fellow of Royal Society NSW (FRSN), Fellow of IChemE, and Honorary Fellow of Engineers Australia. She has received the nation's top civilian honour – the Companion of the Order of Australia - for her service to chemical engineering, particularly in the field of particle technology, through seminal contributions to photocatalysis, to education as a researcher and academic, and to women in science as a role model and mentor.

Seminar 7**Date:** 21 May 2024 (Tuesday)**Time:** 11:20 am – 12:20 pm**Title:** Tissue- and Cell-Responsive Materials for Medical Applications**Speaker:** Prof. Natalie Artzi, *Principal Research Scientist, Institute for Medical Engineering and Science, Massachusetts Institute of Technology; Associate Professor, Brigham and Women's Hospital, Department of Medicine, Division Engineering in Medicine, Harvard Medical School***Biography**

Dr. Artzi is an Associate Professor of Medicine at Harvard Medical School. She is a Principal Research Scientist at MIT, Associate Faculty at the Wyss Institute for Biologically Inspired Engineering, Head of Structural Nanomedicine at Mass General Brigham's Gene and Cell Therapy Institute (GCTI), and an Associate Member of the Broad Institute of Harvard and MIT. She completed her postdoctoral studies at MIT focusing on studying tissue:biomaterial interactions and designing smart biomaterials for therapy and diagnosis applications.

Dr. Artzi is the recipient of multiple grants and awards, including an ARPA-H grant, and prestigious awards including the inaugural Kabiller Rising Star Award in Nanotechnology and Nanomedicine, the Acta Biomaterialia Silver Medal, Society for Biomaterials Clemson Award for Applied Research, One Brave Idea Award, Stepping Strong Innovator, Mid-Career Award from the Society for Biomaterials, Bright Futures Prize, and the Massachusetts Life Science Center for Women Entrepreneurs. Dr. Artzi was recently inducted to the Controlled Release Society College of Fellows and the American Institute for Medical and Biological Engineering.

Currently, Dr. Artzi directs multiple research venues aiming to integrate science, engineering, and medicine to rationally design personalized materials to improve human health, and has cofounded a startup company, BioDevek, which develops next-generation biomaterials to improve outcomes following internal surgeries. She also founded Araneus Bio, a company that aims to take technology from the lab to the clinic for the treatment of patients with Glioblastoma.

Seminar 8**Date:** 21 May 2024 (Tuesday)**Time:** 3:30 – 4:30 pm**Title:** Repurposing the Blueprint for Life Through Colloidal Crystal Engineering with DNA**Speaker:** Prof. Chad Mirkin, *Director, International Institute for Technology; George B. Rathmann Professor of Chemistry, Chemical and Biological Engineering, Biomedical Engineering, Materials Science and Engineering, Northwestern University***Biography**

Chad Mirkin is the Director of the International Institute for Nanotechnology and Rathmann Professor of Chemistry, MSE, BME, CBE, and Medicine at Northwestern University. He invented and has developed spherical nucleic acids and various nanopatterning and materials discovery methodologies. He has authored >865 papers and >1,200 patents (>430 issued) and founded 10 companies. Mirkin has been recognized with >250 awards. He served for eight years on PCAST. He has given >900 invited lectures and educated >320 graduate students and postdocs.

General Information

Internet access

Free Wi-Fi service is provided to visitors on campus and the SSID used is “*Wi-Fi.HK via CityU*”. Upon connection, a web browser will be opened and you will be prompted to the welcome page of the Wi-Fi.HK via CityUHK. You will be required to read and accept the Conditions of Use and Disclaimers before an Internet connection is granted.

Lunch Arrangement

A set lunch has been arranged for guests and faculty members in City Chinese Restaurant, 8/F, Bank of China (Hong Kong) Complex on 20 May 2024 (Monday) and in Lodge Bistro, Academic Exchange Building on 21 May 2024 (Tuesday). There will be supporting staff giving directions to the venue.

Other participants can visit the catering outlets on campus at their own expense. All catering outlets on campus can be viewed via the link below:

<https://www.cityu.edu.hk/directories/catering>.

In addition, there are many restaurants in Festival Walk, which is within walking distance from CityUHK.

Health Services

Young Chung Yee Health Centre

Location: 4/F, Bank of China (Hong Kong) Complex

Opening hours: Monday to Friday: 09:00 - 13:00, 13:30 - 18:00

Saturday: 09:00 - 12:15

Phone: 3442 6066

For urgent medical attention, please go straight to the Accident & Emergency Department of any major hospital in Hong Kong. All regional hospitals offer 24-hour emergency service for acute illnesses or injuries. The nearest hospital with an A&E Department is Caritas Medical Centre (Address: 111 Wing Hong Street, Sham Shui Po, Kowloon; Phone: 3408 5678).

Security Control Centre

In case of lost and found, please contact the conference secretariat or visit the security office at Room R4051, 4/F, Bank of China (Hong Kong) Complex. All loss reports must be made in person at the security office.

Banking Facilities on Campus

1. Hang Seng Bank - City University Branch

Location: Level 3 Yeung Kin Man Academic Building
 (Next to the Run Run Shaw Library)
 Opening hours: Monday to Friday 09:00 -17:00
 Phone: 2198 5825

2. The Bank of China- City University Branch

Location: Level 3 Yeung Kin Man Academic Building
 (Next to the CityUHK Bookshop)
 Opening hours: Monday to Friday 09:00 -17:00
 Phone: 3988 2388

Programme Changes

Any necessary changes to the programme will be notified on the conference noticeboard near the reception desk. The confirmed programme for each session will also be posted on the door of presentation venues.

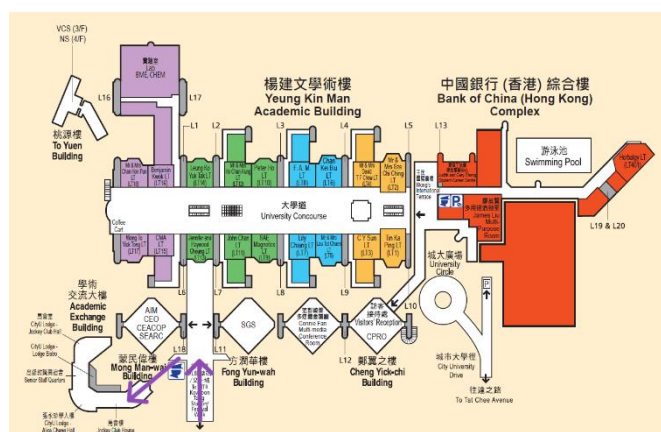
Conference Secretariat

Department of Chemistry

Address: Room B6708, Level 6, Blue Zone, Yeung Kin Man Academic Building (YEUNG),
 City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong SAR
 Phone: 3442 7402/ 3442 9405

Entering from CityUHK Main Exit (Travel by MTR)

When you arrive at MTR Kowloon Tong Station, please follow the instructions below to reach CityUHK. Details on how to get to campus can be viewed via the link below: <https://www.cityu.edu.hk/about/campus/getting-to-cityu>



After entering the campus of the City University of Hong Kong, please turn left, and you will see a set of stairs to the Academic Exchange Building. Please go down 2 sets of stairs, and you will see the entrance of the Hong Kong Institute for Advanced Study (HKIAS).

Entering from CityUHK Lodge (Travel by taxi)

Please show this to the taxi driver:

落客點：
香港九龍達之路 81 號 (桃源街方向，桃苑及香島中學旁)
香港城市大學學術交流大樓

Drop-off point:

Academic Exchange Building, 81 Tat Chee Avenue (facing To Yuen Street, Next to To Yuen Mansion and Heung To Middle School), Kowloon, Hong Kong

Phone: +852 3442 3600

