

CRS Taiwan Local Chapter Meeting

2019 International Advanced Drug Delivery Symposium & Annual Meeting of Biomaterials and Controlled Release Society (IADDS-BCRS 2019)

Event Date: March 28-29, 2019

Attendee Total: 400

Venue: Department of Biomedical Engineering and Environmental Science, National Tsing Hua University, Hsinchu, Taiwan

The 2019 International Advanced Drug Delivery Symposium & Annual Meeting of Biomaterials and Controlled Release Society (IADDS-BCRS 2019) was held on March 28–29, 2019, at the Department of Biomedical Engineering and Environmental Science, National Tsing Hua University in Hsinchu, Taiwan. The 400 participants included 24 scientists from industry, 370 scientists from academia (of which 207 were students), and 6 representatives from governmental offices. The meeting was sponsored by Ministry of Education in Taiwan, the National Tsing Hua University, CRS, BCRS, and 20 industrial companies (Bestgen Biotech Corp. etc.), which allowed the organizers to invite outstanding scientists from industry, academia as well as clinicians to present recent developments and rising trends in the emerging drug delivery systems and biomaterials technology for medical application, and to bridge the Asian academic research in the fields of drug delivery and biomaterials technology. Fourteen international experts who came from the United States, Korea, China, Hong Kong, Australia, Singapore and United Kingdom were here to share their successful stories in imaging/drug/gene delivery systems.



Wonderful venues and cover images of 2019 IADDS-BCRS conference.

The symposium brought together experts in biomaterial science around the world and the attendees took full advantage of organized events and scientific sections. Invited speakers, young investigators and graduate students gave lectures or scientific reports to deliver the cutting-edge studies and technologies on pharmaceuticals and biomaterials science. We provided the participants the opportunities for tacking the most updated information and building potential collaborations through the dynamic scientific and social events. The participants had the chance for discussing current advancements and future trends in biomaterials for biomedical and pharmaceutical applications. Moreover, by co-sponsoring this activity, CRS Taiwan local chapter is known to more and more international scientists in the DDS field.



Plenary speaker, Liangfang Zhang (University of California San Diego) and lively participation from audience members.

The IADDS-BCRS 2019 was opened by San-Yuan Chen (President of BCRS&CRS



Taiwan local chapter), who warmly welcomed the participants, giving a brief introduction on the conference program. Briefly, the program included four plenary lectures (40 minutes, including 10 minutes for discussion), 20 invited lectures (30 minutes, including 5 minutes for discussion), 22 young investigator oral competitions (YIC, 12 minutes, including two minutes for discussion), 35 oral communications (10 minutes, including one minute for discussion), and 137 poster communications (authors were near the poster at predetermined times for lively discussion) over the two days of the conference. The first session started with our first plenary speaker, Liangfang Zhang (University of California San Diego), giving his presentation entitled “Cell Membrane-Coated Nanoparticles as a Vaccine Delivery Platform” and chaired by Hsing-Wen Sung (National Tsing Hua University). His talk focused on the preparation of a polymeric nanoparticle enclosed in the plasma membrane of natural human cells (e.g., RBCs, cancer cells, etc.) and applying the cell membrane-coated nanoparticle technology to develop multi-antigenic vaccines against cancer and infectious disease.

Coffee break sessions saw lively discussion and exchange of thoughts in all participants.

The second plenary lecture was given by Gabe Kwong (Georgia Tech and Emory School of Medicine), who created biological bits using proteases to construct the biological equivalent of Boolean logic gates, comparators and analog-to-digital converters. The use of biological enzymes as biological bits is a foundational step towards hybrid computing and programmable medicine. There were three talks presented in the following session and chaired by Ming-Thau Sheu (Taipei Medical University). Lintao Cai (Chinese Academy of Sciences) described his research on versatile small-molecule theranostic probes that may be promising for cancer targeted imaging and precision therapy. Continuing the oral delivery theme, organic semiconductor nanoparticles for cancer therapies was described by Chun Sing Lee (City

University of Hong Kong), while Guangjun Nie (University of Chinese Academy of Sciences) ended the session with an interesting talk on biomolecule-based nanorobots to target and regulate tumor microenvironment for cancer treatment.



Active discussion took place during poster communication.

The afternoon started with a YIC session, one of the major highlights of the conference of CRS Taiwan local chapter. This provided young scientists from across Taiwan an opportunity to discuss and highlight their innovative finding or development on technologies for biomaterials and drug delivery. BCRS sponsored two awards for the best YIC presentation at the conference and the awardees will also be granted by CRS in traveling expenses to attend the CRS annual meeting in 2020. The selection of awardee is to be based on the quality of the science as reflected in the research presentation in the local chapter meeting. The winners of this year's competition were Wei-Chen Huang (Taipei Medical University) and Tsai-Te Lu (National Tsing Hua University). Also, BCRS provided four best student oral presentation awards and nine outstanding student poster presentation awards. Congratulations to these outstanding young investigators and students! The day ended with the traditional conference dinner at Pengyuan Restaurant in Hsinchu.



Outstanding young scientists shared their interesting findings in YIC sessions.

The second day of the 2019 IADDS&BCRS conference started with an inspiring plenary talk from Jinjun Shi (Harvard Medical School), who demonstrated that the synthetic mRNA NP-mediated tumor suppressor restoration could become a novel therapeutic modality for cancer treatment. This talk was followed by our last plenary lecture by Rongjun Chen (Imperial College London), which gave an insightful vision on a versatile delivery platform, suitable for targeted therapeutic delivery and cell therapy for treatment of various diseases including but not limited to cancer.



The closing ceremony and the conference dinner at Pengyuan Restaurant in Hsinchu.

The conference ended with the BCRS General Assembly, CRS Taiwan local chapter took the opportunity to highlight the current achievements of our organization, our financial situation, and our goals for the upcoming year. We hope to hold local regional events to build new local collaborations and to ensure that biomaterials and controlled release technology is active. Overall, the two-day symposium was a great success. Not only were we able to fit in great science with networking opportunities, there was also an excellent banquet that allowed BCRS members to simply chat with old and new friends. We invite everybody to join us at next year's annual symposium. For more information regarding the annual symposium and local events in the upcoming year, please visit our website: <http://mx.nthu.edu.tw/~yunching/crs/about%20us.html>.