

AFMI 2018

**The 2nd International Conference on
Advanced Functional Materials & Interfaces**

CONFERENCE BOOK

November 01-05, Wuhan, China

Huazhong University of Science and Technology

China Morefound Technology Ltd & Wuhan University of Science and Technology

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Paul K. Chu	City University of Hong Kong
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Honored Speakers

Plenary Speakers:



Sumio Iijima

Meijo University



Paul K. Chu

City University of Hong Kong

Keynote Speakers:

Yury Gogotsi	Drexel University
Kenji Hata	National Institute of AIST
Esko Kauppinen	Aalto University
Don N. Futaba	National Institute of AIST
Fei Wei	Tsinghua University
Jin Zhang	Peking University
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Xinglong Wu	Nanjing University
Xin Guo	Huazhong University of Science and Technology
Yugang Wang	Peking University
Xiubo Tian	Harbin Institute of Technology
Xingwang Zhang	The Institute of Semiconductors, CAS

AFMI 2018 Program

DAY 1: Thursday, November 1st

14:00-18:00	Registration: The Westin Wuhan Wuchang Lobby
18:00-20:00	Welcome Reception: WUCHANG, 3 rd Floor

* On-site Registration is available during Nov. 01-04 at conference site.

DAY 2: Friday, November 2nd

THE WESTIN GRAND BALLROOM I

Opening Ceremony Chair: Ming Xu		
08:00-08:30	Welcome and Opening Address of AFMI 2018 Chairs The Distinguished Guests Address	
Plenary Talk Chair: Ming Xu		
08:30-09:10	Paul K. Chu <i>City University of Hong Kong</i>	Surface Functionalization of Biomaterials
09:10-09:30	Group Photo	
09:30-09:50	Coffee Break	
Carbon Summit Chair: Ming Xu		
09:50-10:20	Kenji Hata <i>National Institute of AIST</i>	
10:20-10:50	Jin Zhang <i>Peking University</i>	CVD Growth of Singled-walled Carbon Nanotubes Array with Controlled Structure
10:50-11:20	Fei Wei <i>Tsinghua University</i>	Defects free Ultralong Carbon Nanotubes Synthesis, Manipulation and Its Unique Properties
11:20-11:50	Summit Talk	
12:00-13:30	Lunch	

Abstracts

PL01

Surface Functionalization of Biomaterials

Paul K Chu

Department of Physics and Department of Materials Science and Engineering, City University of Hong Kong

Tat Chee Avenue, Kowloon, Hong Kong, China

Email: paul.chu@cityu.edu.hk

Abstract

The interactions between biomaterials and biological tissues and fluids depends on the surface properties of the biomaterials and concomitant biological response. Biomaterials with favorable bulk attributes sometimes may not produce the desirable biological and biochemical functions and surface modification is one of the effective means to tailor selective surface properties of biomaterials and biomedical implants. By implementing plasma surface modification, pre-designed surface properties such as biocompatibility and antibacterial characteristics can be introduced, while the favorable bulk properties such as mechanical strength and robustness can be preserved. In particular, plasma immersion ion implantation and deposition (PIII&D) which is a non-line-of-sight technique is one of the common plasma treatment techniques to treat biomaterials and biomedical implants with a complex geometry. Moreover, since the interface between biodegradable biomaterials and tissues and body fluids is dynamic, PIII&D offers the unique capability of optimizing the interfacial physics and chemistry to achieve controlled and timely degradation. In this plenary presentation, recent research activities in the Plasma Laboratory of City University of Hong Kong pertaining to surface treatment of biomaterials and biomedical devices, especially biodegradable and antibacterial materials, will be highlighted.