

**Applied Mechanics** 



The 22<sup>nd</sup> HKSTAM Annual Conference in conjunction with The 14<sup>th</sup> Shanghai-HK Forum on Mechanics and Its Application

## **Conference Program (14 April 2018)**

Conference Venue: Lee Shau Kee Building (李兆基樓) at The Hong Kong Polytechnic University (PolyU)

## April 14, 2018, Saturday Morning (Y304, Lee Shau Kee Building, PolyU)

08:30 – 12:00	Registration and Reception [3/F Lobby, Lee Shau Kee Building, PolyU]				
09:00 – 09:10 [10 mins]	Opening addresses (MC: Professor Zhongqing SU (蘇衆慶), PolyU, Secretary of HKSTAM)				
	Professor Li CHENG (成利) Professor Jian XU (徐鑒)				
	President of HKSTAM President of SSTAM				
	Chair: Professor Li CHENG (成利), The Hong Kong Polytechnic University, President of HKSTAM				
	Distinguished Lecture I				
09:10 - 09:50	Professor Wei-Hsin LIAO (廖維新)				
[40 mins]	Associate Dean and Professor, Department of Mechanical and Automation Engineering				
	The Chinese University of Hong Kong				
	"Smart Materials, Adaptive Structures and Intelligent Systems"				



	Chair: Professor Paul H.F. LAM (林向暉), City University of Hong Kong, Vice President of HKSTAM				
	Distinguished Lecture II				
09:50 - 10:30	Professor Jianbing CHEN (陳建兵) Professor, Department of Civil Engineering				
[40 mins]					
	Tongji University				
	"Probability Density Evolution Analysis of Dynamic Response and Reliability of Complex Civil Engineering Structures under Disastrous Actions"				
10:30 – 11:00	Photo Taking				
[30 mins]	Coffee Break (3/F Lobby, Lee Shau Kee Building, PolyU)				
	Chair: Professor Zhongqing SU (蘇衆慶), The Hong Kong Polytechnic University, Secretary of HKSTAM				
	Distinguished Lecture III				
11:00 – 11:40	Professor Qingping SUN(孫慶平)				
[40 mins]	Associate Department Head and Professor, Department of Mechanical and Aerospace Engineering				
	Hong Kong University of Science and Technology				
	"Novel Property of Materials through Nanoscale Phase Transition Microstructure Design and Processing"				
	Chair:Prof. Jian XU (徐鑒), Tongji University, President of SSTAM				
	Distinguished Lecture IV				
11:40 – 12:20	Professor Yinfeng LI (李寅峰)				
[40 mins]	Associate Professor, Department of Engineering Mechanics				
	Shanghai Jiao Tong University				
	"Mechanical Properties and Biomechanical Behaviors of Low Dimensional Materials"				
12:20 – 14:00	<b>Buffet Lunch</b> at 4/F of the Communal Building, PolyU (香港理工大學南北小廚)				
[1 hour 40 mins]	Speakers of the following sessions please load their presentation files onto the computers in this break.				



## April 14, 2018, Saturday Afternoon (Lee Shau Kee Building, PolyU)

	Chair: Professor Zhongqing SU (蘇衆慶), The Hong Kong Polytechnic University, Secretary of HKSTAM											
14:00 – 14:40 [40 mins]	Distinguished Lecture V Professor Paul Heung-Fai LAM(林向暉) Associate Professor, Department of Architecture and Civil Engineering											
							City University of Hong Kong					
							"Bayesian Model Updating and Structural Health Monitoring Utilizing Ambient Vibration Data"					
	14:50 – 15:50 [60 mins]	Session A1 [Seminar Room Y304] Chair: Prof. YAO Haimin	Session B1 [Seminar Room Y305] Chair: Prof. NIU Xinrui	Session C1 [Seminar Room Y306] Chair: Prof. LU Yang	Session D1 [Seminar Room Y602] Chair: Prof. HUANG Duruo							
	14:50 – 15:05 [15 mins]	ZHANG Hongti (CityU) Deep Ultra-Strength of Silicon Nanowires and Their Fracture Behaviour	GAO Rundong (SRIBS) 装配整體式混凝土結構檢測技術研 究與標準編制	REN Xiaodan (TongJi U) 基於 SPH 的松質骨力學行為類比與 骨植入性能研究	PENG Yongbo (TongJi U) 基於正交展開的非線性振子系統多 項式隨機最優控制							
13:05 – 15:20 [15 mins]	CAO Ke (CityU) Size-dependent fracture behavior of silver nanowires	ADEAGBO Mujib Olamide (CityU) Bayesian model updating in ballasted tracks with the consideration of non-linear ballast stiffness	FU Jimin (PolyU) Microscopic ridge-like surface morphology: An antifouling strategy learn from nature	LIN Zhiyang (Shanghai U) 一個考慮出行時間和路徑選擇的二 維連續型動態交通分配模型								
15:20 – 15:35 [15 mins]	CHEN Yongzhan (UMac) Oxidative Removal and Strength Properties of Bisphenol-A Contaminated Soil by Activated Persulfate	CHENG Zhiliang (UMac) Prediction of field-monitored soil suction using genetic programming	SHAO Xueying (HKU) Traumatic retraction of neurons regulated by cell adhesion	HU Min (Fudan U) Coefficient of Restitution of Spheroid Particles Impacting on a Wall								
15:35 – 15:50 [15 mins]	GAO Libo (CityU)  Mechanically stable ternary heterogeneous electrodes for energy storage and conversion	KATO Bence (HKUST) Fully integrated 3D ground motion simulation on Site-City Interaction in an urban transport hub	DANG Chaoqun (CityU) Direct quantification of mechanical responses of TiSiN/Ag multilayer coatings through uniaxial compression of micropillars	AHMAD Shakeel (PolyU) Droplet impact dynamics on convex nanotextured bumps								
15:50 – 16:05	Coffee Break (3/F Lobby, Lee Shau Kee Building, PolyU)											
[15 mins]	Speakers of the following sessions please load their presentation files onto the computers in this break.											

16:05 – 17:35 [1 hour 30 mins]	Session A2 [Seminar Room Y304] Chair: Prof. YE Wenjing	Session B2 [Seminar Room Y305] Chair: Prof. TANG Hui	Session C2 [Seminar Room Y306] Chair: Prof. LIN Yuan	Session D2 [Seminar Room Y602] Chair: Prof. LEE Yi-Kuen		
16:05 – 16:20 [15 mins]	HOU Youmin (HKUST) Balance Between Water Nucleation and Transport: Effect of Nanoscale Bumpy Topography with Wetting Contrast	FENG Kewei (HKUST) Numerical simulation of debris flow using Material Point Method	LUO Huahuang (HKUST) The Surface Hydrophobicity Effect on the Capture Efficiency of Cancer Cells in Microfluidic-Elasto-Filtration Chips	PAN Wangbai (Fudan U) Performance Prediction for Mistuned Bladed Disk by Gaussian Process Regression		
16:20 – 16:35 [15 mins]	YANG Haokun (CityU) From brittle to ductile fracture in Au-Al intermetallic compounds with atom ratio controlling	CHEN Weibin (UMac) Analysing the effect of tensile stiffness on geogrid pullout behaviour using discrete element method	YAN Zishen (HKU) A platform for rapid drug-resistance identification of non-small cell lung cancer (NSCLC) cells	LI Wenye (HKU) RANS study of flows over surface across roughness transition		
16:35 – 16:50 [15 mins]	SANDEEP C.S. (CityU) Tribological study of sand-grain contacts	ZHANG Liyuan (CityU) Deployment of tensegrity towers driving by the length changes of structural components	RONG Junjie (HKUST) Topology optimization design of broadband elastic hyperbolic metamaterial	ZHAO Shiyu (HKUST) Debris flow-structure interaction using coupled CFD-DEM simulation		
16:50 – 17:05 [15 mins]	ZHAN Yujie (HKUST) Modelling and Design for Surface Diffusion	YU Zhijie (HKUST) A Data-driven Method for DEM-based Multiscale Modelling	FAN Sufeng (CityU) Tensile properties and fracture behaviour of high porosity nickel foams	ZHAO Fuwang (PolyU) Flexibility effect of a passively flapping hydrofoil on flow energy extraction		
17:05 – 17:20 [15 mins]	SURJADI James Utama (CityU)  Mechanical Enhancement of Core-Shell Microlattices through High- Entropy Alloy Coating	LIU Yiming (CityU)  The Tip speed ratio effect on the near wake structure of a five-straight-bladed Vertical Axis Wind turbine Measured by Particle Image Velocimetry	HAN Ying (CityU) Mechanically assisted self-healing of ultrathin gold nanowires	LI Zhen (HKUST)  Numerical Simulations and Model Reduction of a Building Model for the Design of Smart HVAC Control System		
17:20 – 17:35 [15 mins]		<b>WANG Zhaokun</b> (PolyU) Simulation of a flexible beam in uniform flows	FAN Rong (CityU) Recent Advances in In-situ Mechanical Characterization of Bamboo			
17:35– 17:50	Closing Ceremony and Award Presentation [Y304, Lee Shau Kee Building, PolyU]					
[15 mins]	Attendees: All conference participants					
17:50 – 18:50 [60 mins]	HKSTAM Annual General Meeting [Y304, Lee Shau Kee Building, PolyU]  Attendees: Representatives of all Institution Members and all Full HKSTAM Members					
18:50 – 20:05	Conference Banquet at Lunch at 4/F of the Communal Building, PolyU (香港理工大學南北小廚)					

