

Annual General Meeting Report of Hong Kong Society of Theoretical and Applied Mechanics March 28, 2015

1 Main Activities (Since March 2014)

1.1 Distinguished Lectures

There were four Distinguished Lectures before the HKSTAM 2015 annual conference, and another four Distinguished Lectures are organized in the HKSTAM annual conference. Therefore, a total of **8 Distinguished Lectures** were organized in this year.

The four Distinguished Lectures organized before the HKSTAM 2015 conference are:

1. Distinguished Lecture 1 by Prof. Yun SUN (University of Toronto) on 4 June 2014
2. Distinguished Lecture 2 by Prof. J. N. Reddy (Texas A&M University) on 17 July 2014
3. Distinguished Lecture 3 by Prof. Olivier A. Bauchau (HKUST) on 18 October 2013
4. Distinguished Lecture 4 by Prof. Moshe Eisenberger (Technion – Israel Institute of Technology) on 31 December 2014

A total of **over 120 participants** attended the lectures. Please find detail report of each lecture in the following sub-sections.

1.1.1 Cell Mechanobiology and Mechanics on Micro Devices (Prof. Yun SUN)

Prof. Yun SUN is Canada Research Chair in Micro and Nano Engineering Systems, at the Department of Mechanical and Industrial Engineering, University of Toronto, Canada. He is a fellow of the Canadian Academy of Engineering. The seminar went from 4-5 pm on 4 June 2014 (Wednesday) in Room 6573, Hong Kong University of Science and Technology. The seminar was chaired by Prof Gang WANG and there were **40 participants** (see Photo 1). The seminar was well organized and informative. There were a lot of discussions after the presentation. At the end of the seminar, Prof YK LEE presented the honorarium and souvenir to Prof Sun (see Photo 2)



Photo 1: Prof Yun SUN was delivering distinguished lecture.



Photo 2: HKSTAM President, Prof YK LEE (left), presents the souvenir and honorarium to Prof Yun SUN (right) after the seminar.

1.1.2 Distinguished Lecture 2: Nonclassical Structural Theories of Beams and Plates with Nonlocal and Strain Gradient Effects (Prof. J. N. Reddy)

Prof. Robert J.N. Reddy is the Oscar S. Wyatt Endowed Chair at the Department of Mechanical Engineering Texas A&M University, USA. The seminar started at 3:30pm on 17 July 2014 (Thursday) in P4704 (Academic 1 building, purple zone, level 4), City University of Hong Kong. The seminar was chaired by Dr. CW Lim. There were around **40 participants** (see Photo , 4).



Photo 3: Prof KM Liew introduces the speaker.

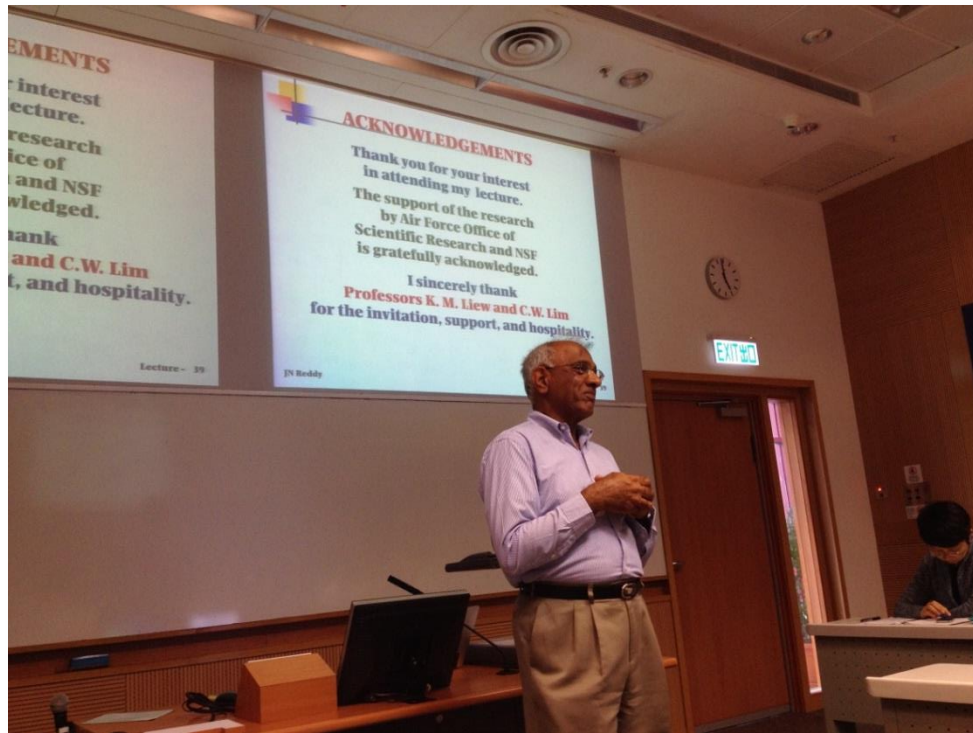


Photo 4: Prof Reddy's distinguished seminar.

1.1.3 Distinguished Lecture 3: Simulation Tools for Aerospace Flexible Multibody Systems Dynamics (Prof. Olivier A. Bauchau)

Prof Olivier Bauchau is a Professor at the Department of Mechanical and Aerospace Engineering, Hong Kong University of Science and Technology. The seminar was from 10-11 am on 18 December 2014 (Saturday) in Room 2571 B at HKUST. The seminar was chaired by Dr. Gang Wang. There were around **20 participants** in the seminar (see Photo 4). The discussion was very enthusiastic. At the end of the seminar, Prof YK LEE presented the honorarium and souvenir to Prof Bauchau (see Photo 5).



Photo 4: During Prof Bauchau's seminar.

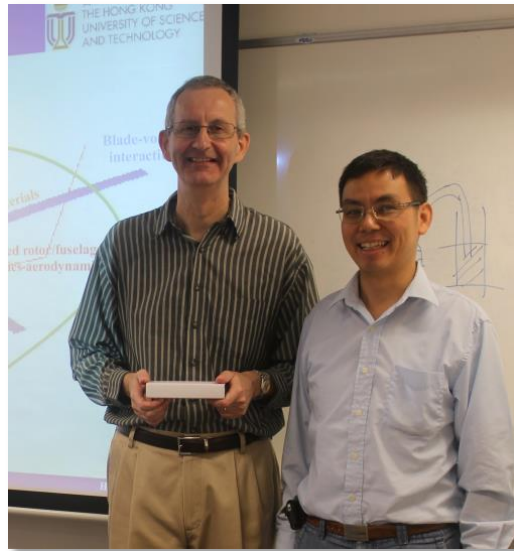


Photo 5: Prof YK LEE, President of HKSTAM, presents the honorarium and souvenir to Prof Bauchau.

1.1.4 Distinguished Lecture 4: Static Analysis for Vibration Problems (Prof. Moshe Eisenberger)

Professor Eisenberger is Sigmund Sommer Chair in Structural Engineering, Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology (see Photo 6). The seminar went from 10 -11 am on 31 December 2014 (Wednesday) in Room 2571 B, HKUST. The seminar was chaired by Prof YK LEE and there were more than **20 participants**.

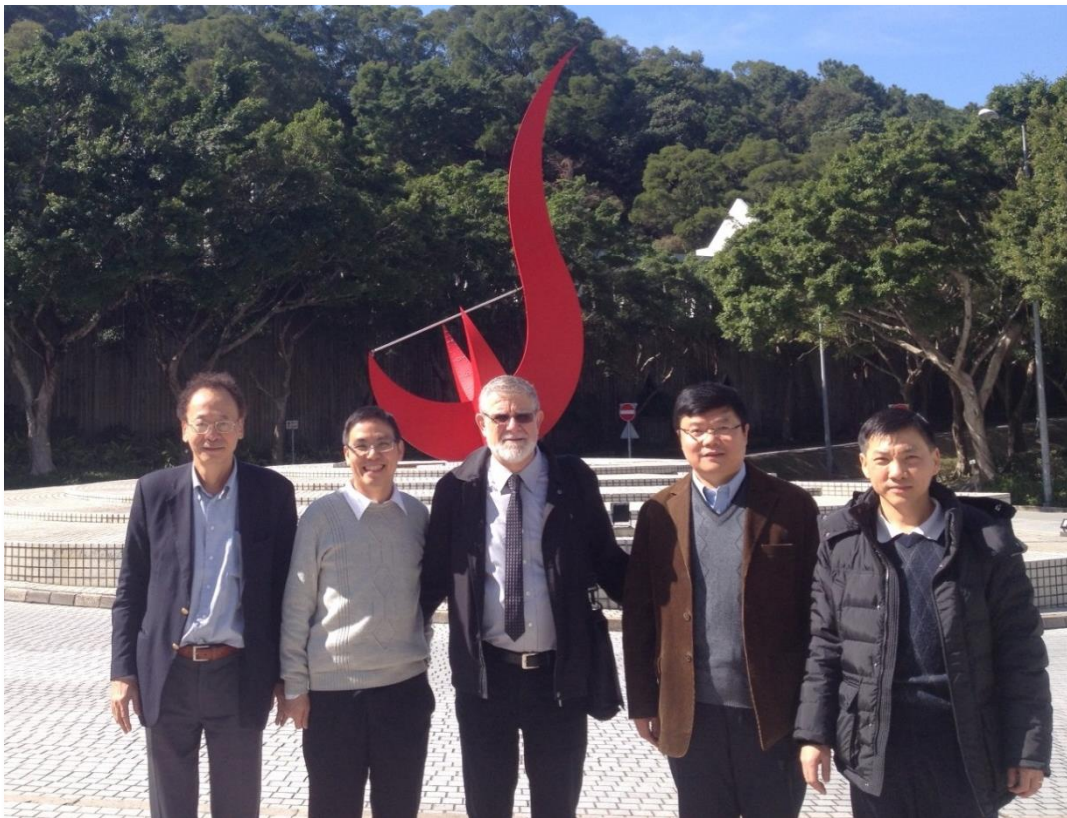


Photo 6: Prof Eisenberger (middle) with Prof YK LEE and faculty members at HKUST.

1.2 HKSTAM Annual Conference 2015

The 19th Annual Conference of HKSTAM (2015) in conjunction with the 11th Jiangsu – Hong Kong Forum on Mechanics and Its Application is held on **March 28, 2015 at Hong Kong University of Science and Technology**. This conference is co-organized by the Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM), the Jiangsu Society of Theoretical and Applied Mechanics (JSTAM), and the Hong Kong University of Science and Technology (HKUST). The one-day conference aims to provide a platform for all scientists, engineers, and mathematicians working on mechanics and related areas to share, communicate and exchange ideas, and to enhance co-operations within relevant parties.

This proceeding consists of **51** abstracts including **4 Distinguished Lectures** by **Prof. Tongyi ZHANG** from Hong Kong University of Science and Technology, **Prof. Jinhao QIU** from Nanjing University of Aeronautics and Astronautics, **Prof. Wen J. LI** from City University of Hong Kong, and **Prof. Junhua ZHAO** from Jiangnan University. The conference also contains 8 parallel sessions with 47 presentations.

Distinguished Lectures



Prof. Tong-Yi Zhang

Fang Professor of Engineering and Chair Professor of Mechanical and Aerospace Engineering, Hong Kong University of Science and Technology

“The Surface Eigenstress Model and Size-dependent Young’s Modulus and Ultimate Tensile Strength”



Prof. Jinhao Qiu

Changjiang Chair Professor at the Nanjing University of Aeronautics and Astronautics; Deputy Director, State Key Laboratory of Mechanics and Control of Mechanical Systems.

“Lamb Waves Based Detection of Fatigue Damage Accumulation in Composites”



Prof. Wen J. Li

Chair Professor of Biomedical Engineering, Department of Mechanical and Biomedical Engineering, City University of Hong Kong

“Rapid Determination of Single Cancer Cell Mass and State by Opto-electrokinetics”



Prof. Junhua Zhao

Professor, School of Mechanical Engineering, Jiangnan University

“The Interface Strength and Debonding for Composite Structures: Review and Recent Developments”

A total of **69 registered participants** in the conference including 14 EC members, 5 JSTAM participants, 4 invited speakers, 46 other local participants.

Based on the decision of the EC meeting on 14 March 2015, for the first time, **“Best Student Presentation Award”** will be given to honor best student presenters in the annual conference. Eight students were awarded in this conference.

1.3 Other Events

1.3.1 ASCE Engineering Mechanics Institute 2015 International Conference (EMI2015)

In this year, HKSTAM also sponsored the ASCE Engineering Mechanics Institute 2015 International Conference (EMI2015), 7-9 January 2015 at Hong Kong Polytechnic University.

1.3.2 International Union of Theoretical and Applied Mechanics (IUTAM)

Prof. A.T.Y. Leung continues to serve as the representative of HKSTAM in the IUTAM general assembly.

1.3.3 International Association of Computational Mechanics (IACM)

HKSTAM decided to nominate **Prof. Jidong ZHAO** (HKSTAM member) for IACM John Argyris Award for Young Scientist.

1.3.4 10th Jiangsu-Hong Kong Forum on Theoretical and Applied Mechanics

Prof YK LEE joined the forum on **8 November 2-14** in Nanjing and gave a keynote presentation. On behalf of HKSTAM, Prof LEE presented the souvenir to JSTAM.

1.3.5 CSTAM Council Meeting (中國力學學會 2014 年全國會員代表大會暨第九屆、第十屆理事會擴大會議)

HKSTAM President **Prof YK LEE** and Secretary **Prof Gang WANG** joined the CSTAM Council Meeting from **14-16 November 2014** in Shanghai (Photo 8). On behalf of HKSTAM, Prof LEE presented the souvenir to CSTAM. Prof LEE and Prof WANG are nominated as CSTAM Invited Council Members (中國力學學會特邀理事).



Photo 8: CSTAM Council Meeting opening ceremony

1.4 Current Status of HKSTAM

HKSTAM has 148 members including 40 life members. In this year, HKSTAM has 12 institutional members. They are:

1. Department of Architecture and Civil Engineering, City University of Hong Kong
2. Department of Mathematics, City University of Hong Kong
3. Department of Mechanical and Biomedical Engineering, City University of Hong Kong
4. Department of Physics and Materials Science, City University of Hong Kong
5. Department of Applied Mathematics, The Hong Kong Polytechnic University
6. Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University
7. Department of Mechanical Engineering, The Hong Kong Polytechnic University
8. Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology
9. Department of Mechanical and Aerospace Engineering, The Hong Kong University of Science and Technology
10. Department of Mechanical Engineering, The University of Hong Kong
11. Department of Civil and Environmental Engineering, University of Macau
12. Department of Electromechanical Engineering, University of Macau

2 Plan for Next Year

1. Basic activities:
 - a. A total of 8 Distinguished Lectures (including 4 in the next annual conference)
 - b. HKSTAM annual conference in conjunction with Shanghai-HK forum
2. Promote HKSTAM and attract more members (full, student and institutional)
 - a. Explore the possibility to run Continuous Professional Development (CPD) Seminars for local engineers
 - b. Attract international participants to HKSTAM annual conference.
 - c. Development of Graduate Student Conferences with institutional members and RGC support
 - d. Support the organization of GRC (Gorden Research Conference) in Hong Kong
3. Strengthen the collaboration with other mechanics related associations, especially in Pearl River Delta Region.
4. Encourage to submit proposals for IUTAM Symposium or summer school (<http://iutam.org/site/propSymp.asp>).

3 Executive Committee of HKSTAM for 2014-2016

President	Dr. Y. K. LEE (李貽昆), Department of Mechanical Engineering, Hong Kong University of Science and Technology (Email: meyklee@ust.hk, Tel: 23588663)
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	Dr. Jidong ZHAO (趙吉東), Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology (Email: jzhao@ust.hk, Tel: 23588481)
	Dr. Wan-Huan ZHOU (周萬歡), Department of Civil and Environmental Engineering, University of Macau (Email: hannahzhou@umac.mo, Tel: +853 8822-2426) Starting from Mar 28 2015
IUTAM Representative	Prof. Andrew Y. T. LEUNG (梁以德), Department of Civil and Architectural Engineering, City University of Hong Kong (Email: andrew.leung@cityu.edu.hk, Tel: 34427600)