

Annual General Meeting Report of Hong Kong Society of Theoretical and Applied Mechanics April 9, 2016

1 Main Activities (Since March 2015)

1.1 Distinguished Lectures

There were four Distinguished Lectures before the HKSTAM 2016 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 2016 conference are:

1. Distinguished Lecture 1 by Prof. Arieh Iserles (University of Cambridge) on 9 October 2015
2. Distinguished Lecture 2 by Prof. Xiqiao Feng (Tsinghua University) on 4 January 2016
3. Distinguished Lecture 3 by Prof. Hans G. Hornung (Caltech) on 20 January 2016
4. Distinguished Lecture 4 by Prof. Huiling Duan (Peking University) on 27 January 2016

A total of **over 130 participants** attended the lectures. Please find detail report of each lecture in the following sub-sections.

1.1.1 Distinguished Lecture 1: Quadrature of Highly Oscillatory Integrals (Prof. Arieh Iserles)

Prof. Arieh Iserles has recently retired from the Chair in the Numerical Solution of Differential Equations at University of Cambridge. He is a world-class numerical analyst with broad interests in numerical differential equations, approximation theory, fast algorithms, applied analysis and the computation of highly oscillatory phenomena. The seminar went from 10:3-11:30 am on 9 October 2015 (Friday) in Room 2571B, Hong Kong University of Science and Technology. The seminar was chaired by Prof Gang WANG and there were **30 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 Iserles (see Photo 2)

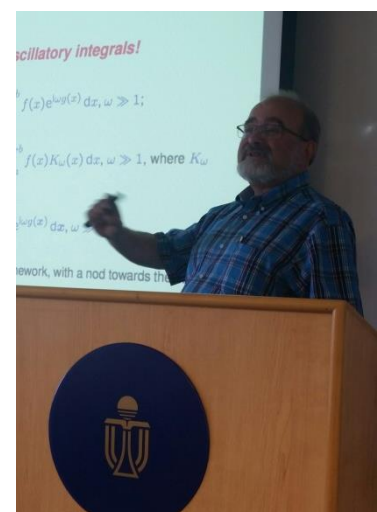


Photo 1: Prof Iserles was delivering distinguished lecture.



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

1.1.2 Distinguished Lecture 2: Fracture Mechanics of Biological Composites (Prof. Xiqiao Feng)

Professor Xi-Qiao Feng is a Chang Jiang Chair Professor and the head of Department of Engineering Mechanics, Tsinghua University. Currently, he is the director of Institute of Biomechanics and Medical Engineering (IBME). In addition, he was the secretary-general of Chinese Society of Theoretical and Applied Mechanics (CSTAM) during 2010–2014. The seminar started at 10 am on 4 January 2016 (Monday) in 2571B Hong Kong University of Science and Technology. The seminar was chaired by Dr. YK Lee. There were around **30 participants** (see Photo , 4).

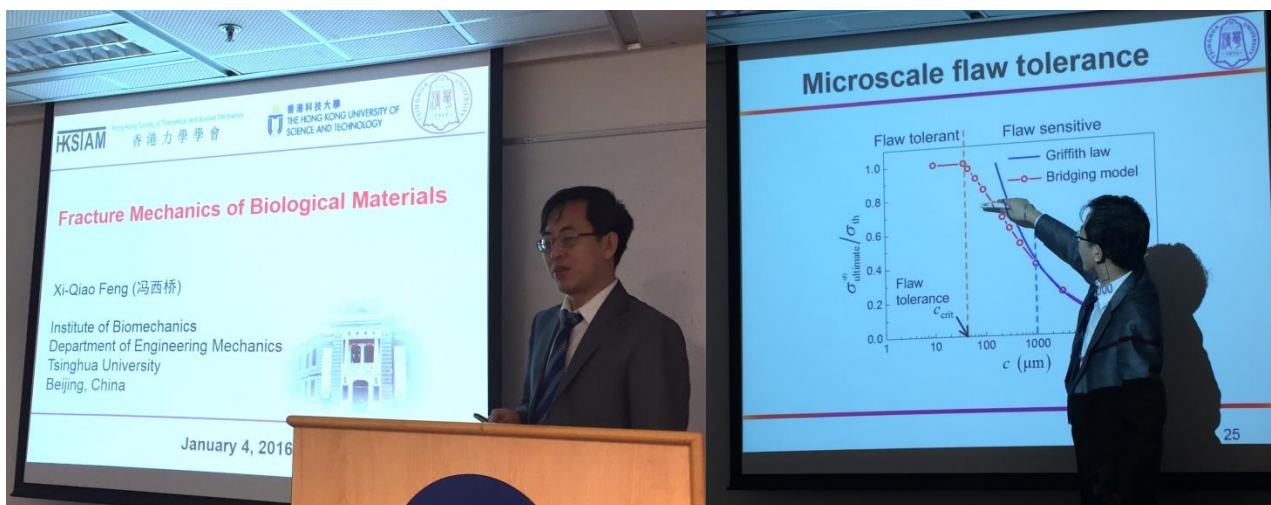


Photo 3: Prof Feng during his lecture



Photo 4: Prof Feng with HKSTAM EC members

1.1.3 Distinguished Lecture 3: Oblique shock reflection of a shock wave from an axis of symmetry (Prof. Hans G. Hornung)

Professor Hans G. Hornung is an emeritus C.L. “Kelly” Johnson Professor of Aeronautics and Director of the Guggenheim Aeronautical Laboratory of Caltech, and he has been working on the study of supersonic/hypersonic flows for almost all of his career.

The seminar was from 11 am -12:30 pm on 20 January 2016 (Wednesday) in Room M1603 at Hong Kong Polytechnic University. There were more than **40 participants** in the seminar (see Photo). The discussion was very enthusiastic. At the end of the seminar, Prof YK LEE presented the honorarium and souvenir to Prof Hornung.



Photo 5: Audiences in Prof Hornung's seminar.

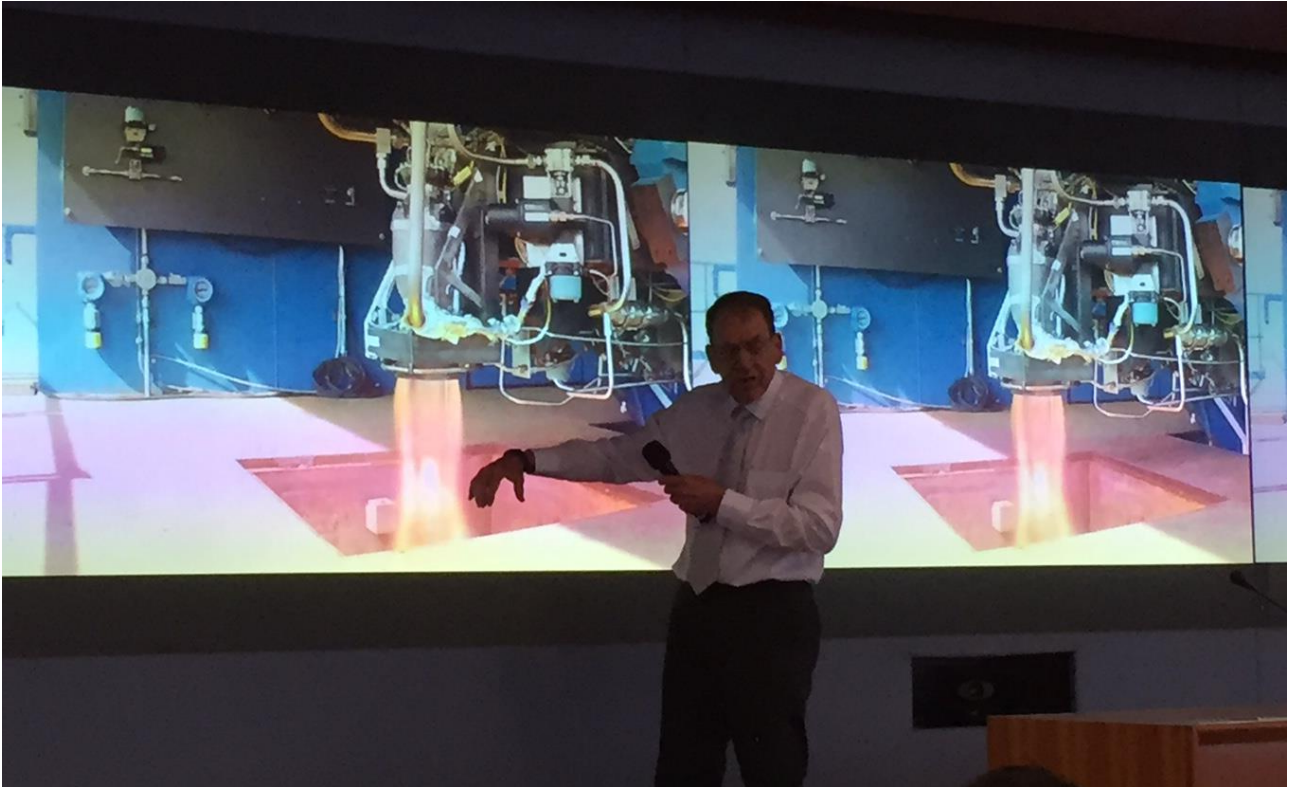


Photo 6: Prof Hornung's was delivering distinguished lecture



Photo 7: Prof. Hornung with HKSTAM EC members

1.1.4 Distinguished Lecture 4: Underwater Superhydrophobicity: Fundamentals and Applications (Prof. Huiling Duan)

Dr. Huiling Duan is “Cheung Kong Scholar” Chair Professor, and the Chairman of Department of Mechanics and Engineering Science. Her research focuses on nanomechanics, micromechanics, and fluids/solids interaction (see Photo). The seminar went from 11 am - 12 pm on 27 January 2016 (Wednesday) in Room LT-9, City University of Hong Kong. The seminar was chaired by Prof Gang WANG and there were more than **30 participants**.

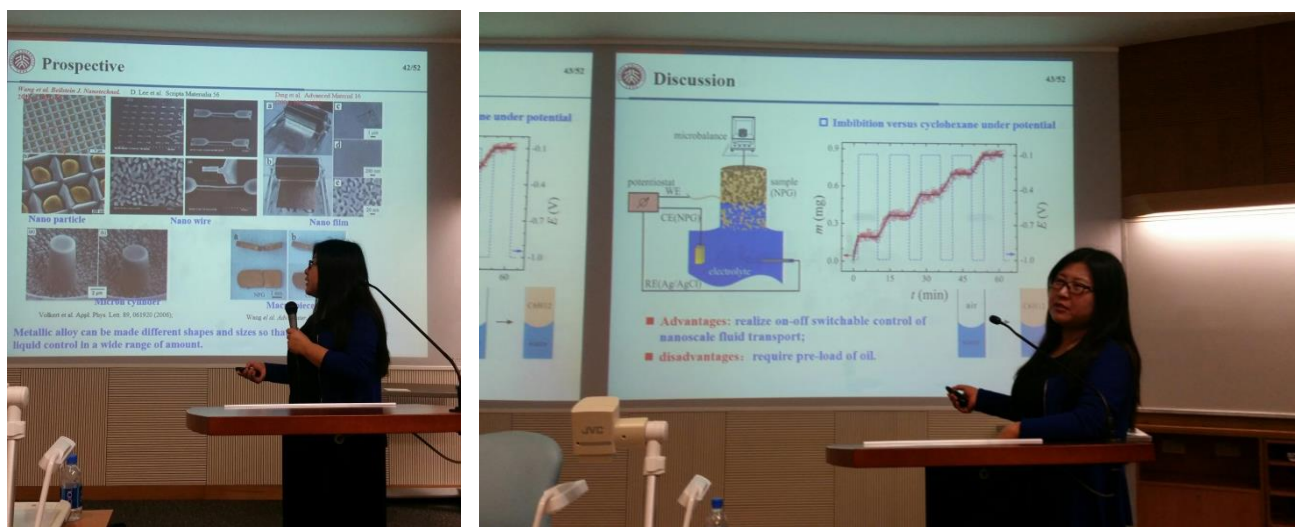


Photo 8: Prof Duan was delivering distinguished lecture.

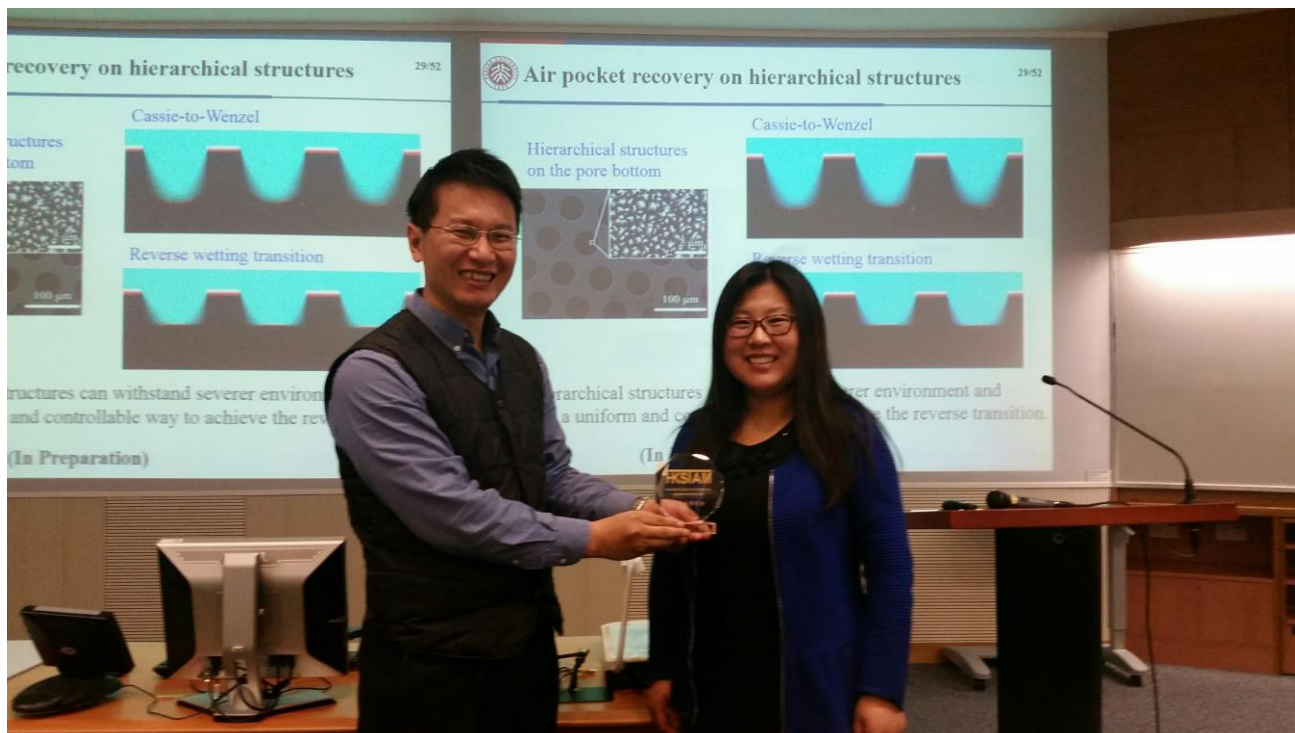


Photo 9: Prof Gang WANG, Secretary of HKSTAM, presents souvenir to Prof. Duan

1.2 HKSTAM Annual Conference 2016

The 20th Annual Conference of HKSTAM (2015) in conjunction with the 12th Shanghai – Hong Kong Forum on Mechanics and Its Application is held on **April 9, 2016 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 Shanghai Society of Theoretical and Applied Mechanics (SSTAM), 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. Shan-Tung TU** from East China University of Science and Technology, **Prof. Xin ZHANG** from Hong Kong University of Science and Technology, **Prof. Dongqiang LU** from Shanghai University, and **Prof. Zikang TANG** from University of Macau. The conference also contains 8 parallel sessions with 43 presentations.

Distinguished Lectures



Prof. Shan-Tung TU

Changjiang Chair Professor, East China University of Science and Technology
“Some Fundamental Aspects of High Temperature Fracture”



Prof. Xin ZHANG

Swire Professor of Aerospace Engineering, Hong Kong University of Science and Technology
“Broadband Noise Simulations for Aero-Engines”



Prof. Dongqiang LU

Professor, Shanghai University
“Hydroelastic Wave Responses of a Thin Plate Floating on a Two-layer Fluid”



Prof. Zikang TANG

Chair Professor, Director of Institute of Applied Physics and Materials Engineering, University of Macau

A total of **63 registered participants** in the conference including 14 EC members, 9 Shanghai SSTAM participants, 4 invited speakers, 38 other local participants.

Based on the decision of the EC meeting on 14 March 2015, “**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 International Union of Theoretical and Applied Mechanics (IUTAM)

24th International Congress of Theoretical and Applied Mechanics (ICTAM 2016) organized by IUTAM will be held on Montreal, Canada, 21-26 Aug. 2016. Prof. QP Sun and Prof. CW Lim will attend the congress.

1.3.2 International Association of Computational Mechanics (IACM)

No nomination was made for IACM Awards 2016.

1.3.3 11th Shanghai-Hong Kong Forum on Theoretical and Applied Mechanics

HKSTAM Vice President, Prof. Li Cheng, attended Shanghai STAM annual meeting and 11th Shanghai-HK forum in 19 June 2015 on behalf of HKSTAM. He delivered a keynote speech.

1.3.4 CCTAM 2015 (中國力學大會 2015)

HKSTAM President, Prof. YK Lee, attended Chinese Congress of Theoretical and Applied Mechanics (CCTAM 2015) in Shanghai, 15-18 August 2015. He was invited to give a keynote speech on bio-MEMS/NEEMS devices for mobile health.



Photo 10: CCTAM 2015 in Shanghai

1.3.5 Jiangsu STAM Annual Conference

Prof. Li Cheng and Prof. Paul Lam attended Jiangsu STAM annual conference 2015 (江苏省力学大会'2015 暨江苏力学青年论坛) on Nov. 7-8, 2015. They delivered keynote speeches in the conference.

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 Jiangsu-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 2016-2018

President	Prof. Li CHENG (成利), Department of Mechanical Engineering, The Hong Kong Polytechnic University (Email: mmlcheng@polyu.edu.hk, Tel: 27666769)
Vice President	Dr. Paul H. F. LAM (林向暉), Department of Civil and Architectural Engineering, City University of Hong Kong (Email: paullam@cityu.edu.hk, Tel: 34427303)
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Treasurer	Dr. Shuhuai YAO (姚舒懷), Department of Mechanical Engineering, Hong Kong University of Science and Technology (Email: meshyao@ust.hk, Tel: 23587205)
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IUTAM Representative	Prof. Q. P. SUN (孫慶平), Department of Mechanical Engineering, Hong Kong University of Science and Technology (Email: meqpsun@ust.hk, Tel: 2358 8655)

Composed by

Gang WANG, Secretary of HKSTAM (2014-2016)

Yi-Kuen LEE, President of HKSTAM (2014-2016)

9 April 2016