WHAT HKUST PROFESSORS ARE DOING?

Biomedical Engineering
Traditional Chinese Medicine
Alzheimer's Disease
Social Media
Lithium-ion Battery
Endoluminal Technology
Metamaterials
Computational Linguistics
Cloud Computing
LED
S&T Policy
Nano Materials
Smart & Green Building
Green Wastewater Treatment
Stem Cell
5G Technology

THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Science-for-Lunch ™

Meet the university professors
Learn the latest in science and technology
Find collaboration and commercialization opportunities

12:30 pm – 2 pm
HKUST Business School Central
15/F, Hong Kong Club Building, 3A Chater Road Central, Hong Kong

http://science-for-lunch.ust.hk

Science-for-Lunch is one of the community engagement programs initiated by the Institutional Advancement and Outreach Committee of the University Council.

Sponsored by : 美心 Maxim's

2014/15 Talks

Mobile Privacy: What We Know and Don't Know
27 Oct 2014

Prof Kai-Lung Hui & Prof James Kwok -
Department of Information Systems, Business Statistics and Operations Management

Consumers are increasingly addicted to mobile applications. But their implications for personal privacy are insufficiently known. The personal privacy issue has only recently become a subject for intense public interest and concern due to recent world events and revelations. In this talk, the speakers will confront it head-on, taking the lid off the mystery surrounding how data in mobile phones can be accessed by others and what kinds of data are stored in them, and how such practice could affect or jeopardize personal privacy in a broader context. They will also speak to the emerging privacy challenges associated with mobile applications, and the corresponding government and usage policy considerations needed to address them.

What is the Big Idea behind Big Data?
11 Nov 2014

Prof Lionel Ni - *Department of Computer Science and Engineering*

Big data is a hot topic but it is still full of "mysteries". Few of us realize its multiple applications to various domains of human endeavor, from business to science and engineering, and from social service to public security. We should get to know it and embrace it for all its power. The speaker will explain what distinguishes Big Data from data, and how Big Data can change our way of thinking and even new technology itself. He will introduce the exciting "Big Data Triangle" concept made up of Ideas, Data and Technology, from which we can harvest deep insight and great value from Big Data. By using real examples from his research team, he will give us a glimpse of the great promise of Big Data. Finally, he wants our government to harness the super-abundant opportunities in the Big Data era.

How to Improve Air Quality and Visibility with an Air Quality Model
15 Jan 2015

Prof Jimmy Fung - *Department of Mathematics*

Visibility is impaired when fine particulate matter (or PM2.5) in the atmosphere scatters and absorbs light, thus creating haze. PM2.5 can foul the air as primary particulates or as secondary particulates formed from photochemical reactions and condensations of gas-phase precursors. Secondary particulates are especially serious in impairing visibility as these smaller pollutants can remain suspended in the atmosphere for longer periods and can be transported longer distances, thereby leading to visibility impairment on a regional scale. PM2.5 is difficult to quantify because its formation, transport and removal from the atmosphere is complex, making it difficult to know which pollutants should be controlled most effectively to improve visibility. But sophisticated air quality models may be the answer to our woes in this regard, helping to select the most effective strategies for reducing emissions, thereby improving air quality and visibility at the same time.

Harvesting the Potential of Massive Open Online Courses
13 Feb 2015

Prof Ting-Chuen Pong - *Senior Advisor to the Executive Vice-President & Provost*

Massive Open Online Courses or MOOC's are fast changing the design and delivery of education programs in brick-and-mortar institutions. They go beyond the mere offering of online courses. They have been used in blended learning, the integration of online learning with face-to-face on-campus education programs, while making quality learning content provided by top-notch universities globally accessible, more personalized and flexible. The vast amount of data abstracted from analyzing study patterns also allow teachers to better understand learning behavior, thereby making teaching and learning more effective. HKUST is one of the first institutions in Asia to sign onto this e-learning revolution. In this talk, the speaker will share the HKUST experience in harnessing this innovative global learning platform.

Saving the Concrete Jungle: How to Make Concrete Bendable
12 Mar 2015

Prof Christopher Leung - *Department of Civil and Environmental Engineering*

Concrete is everywhere in modern construction. Yet its major drawback is in being brittle. Its low bendability and energy absorption can result in catastrophic failure under severe loading conditions. It also has a poor ability to control the opening of cracks and the penetration of water and other chemicals leading to steel corrosion, a major problem in reinforced concrete structures around the world. But a solution is at hand. Through proper material design guided by mechanics theory, such materials can be made bendable and energy-absorbent by incorporating short fibres. Thus loaded, many harmless fine cracks will form instead of a few dangerously big cracks, significantly improving structural durability. The talk will explain the fundamental principles behind the design of these bendable materials, citing applications from around the world. Ongoing R & D at HKUST on these composites will be highlighted.

Indoor Position—Opportunities and Technologies for a New Age
26 Mar 2015

Prof Gary Chan - *Department of Computer Science and Engineering*

In the real estate business, the key catchphrase is "Location, location, location". Knowing the location of users can be just as advantageous for other commercial applications. Outdoors, we may use GPS, itself already a lucrative market. But indoors, GPS is unhelpful due to signal unavailability. The challenge is to develop a technology that pin-points users' indoor location which can translate into a wide variety of location-based services and high commercial potential. At HKUST, we have been developing indoor position technologies that locate potential users with high accuracy. In this talk, the speaker will walk you through the market opportunities and technologies of indoor location. Together they promise to be the "next big thing".

How to Cope with Population Aging in China
16 Apr 2015

Prof Albert Park - *Department of Economics*

China boasts the most spectacular sustained economic growth in world history. But there is a fly in the ointment. It also has the world's largest elderly population. As a consequence of its one-child policy, its share of the population aged 60 and over will spike alarmingly from 12% in 2010 to 34% in 2050, creating a tremendous socioeconomic burden for both families and government. Studies by the China Health and Retirement Longitudinal Study (CHARLS) show that 23% of the elderly are poor, 38% are somewhat handicapped in daily activities, and 40% suffer from serious depressive symptoms. These figures underline the vulnerabilities that raise a red flag in terms of the economic, social, physical and psychological well-being of China's elderly population and point to the priorities for future policy action. Studies using the CHARLS data assess the public and private responses to these vulnerabilities and point out priority areas for future policy action.

War against Cancer: Developing Anticancer Agents Friendly to Normal Cells
14 May 2015

Prof Liang Chun - *Division of Life Science*

Cancer is life-threatening. We know that cancer cells proliferate by accumulating many mutations in multiple cellular pathways. They invade and metastasize by defying normal constraints. But cancer cells have their inherent weakness. They gave up many of the cellular controls and safeguards for the sake of proliferation. Through intensive research, we have identified several genes essential to the proliferation of cancer cells. By interfering with these gene targets in both cell culture and animal models, we have been able to identify anticancer compounds capable of causing massive cancer cell death without harming normal cells. We are conducting further pre-clinical studies on these promising novel anticancer agents. We may be on the verge of seeing the light at the end of the tunnel in the prolonged war against cancer, a curse to human life and health.

Taking Healthcare Beyond Hospital via Information Technology

Prof Zhang Qian - *Department of Computer Science and Engineering*

Information Technology has been a game-changer for many services. It is about to go big in healthcare services by meeting the growing demand for patient-convenient medical care. With the new technology remote disease prevention and treatment is now not only a possibility but a reality. The speaker will introduce her team's design for a remote healthcare monitoring platform, capable of monitoring vital signs using various medical sensors and uploading the data to a medical datacenter via wireless networks. This capability will change the traditional hospital-centric disease treatment model to disease management outside hospital, merging in-hospital and out-hospital services into a networked treatment model, now adopted by several Mainland hospitals. The age of smart healthcare has arrived, thanks to the long arm of Information Technology.

How to Register

1. Visit Science-for-Lunch website *http://science-for-lunch.ust.hk* and register online
2. Registration opens one month before the talk
3. Confirmation notification will be sent to you by email about one week before the talk

* Seats are first-come-first-served.
* Priority will be given to new registrants and those who have registered for two previous talks but were not offered a seat due to oversubscription.

Recommend A Friend

Please fill in the form and we will invite your friend to future Science-for-Lunch. Please fill in all fields.

Your information

Name

Organization

Friend's contact

Mr / Ms / Mrs / Dr / Prof

Last Name

First Name

Title

Organization

Email Address

Contact Number

Kindly be reminded to have your friends' consent to provide their contact details.

Please scan the completed form and email to science.for.lunch@ust.hk or fax to (852) 2705 9119. For enquiries, please contact Ms Heidy Wan at (852) 2358 5019 or email to science.for.lunch@ust.hk.

"An enlightening talk and I enjoyed *face-to-face discussions* with the professor."

"Technology has become an integral part of our lives. Science-for-Lunch has enabled me to *catch up with what is going on in the world.*"

"It is more than a lecture. The *topics are unique* and relevant to our daily life."

"The smart materials developed by HKUST professor have *wide potential applications*. We are already in discussions with the professor on how to commercialize some of his inventions."

Enquiries

Ms Heidy Wan   Tel: **(852) 2358 5019**   Email: **science.for.lunch@ust.hk**

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