FACULTY of HEALTH SCIENCES

SWEEKLY SNEWSLETTER Issue 20 | 17 - 21 May



Publication

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1 Visit

Shanxi Province Delegation visits FHS for Collaborations

The Shanxi Province Delegation led by the Vice Chairperson of Shanxi Provincial Committee of the Chinese people's Political Consultative Conference and President of Shanxi Medical University (SXMU), Sijin LI, visited FHS on 17 May. The guests were warmly received by Prof. Chuxia DENG.

introduced Prof. Deng the latest developments, academic programmes, the cultivation of high-calibre students and the internationalization of FHS to the delegation. He also oriented the guests the research achievements of FHS, particularly the recent research accomplishments of Prof. Yutao XIANG, Prof. Gang LI and Prof. Zhen YUAN who also attended the meeting. Both parties had a discussion on establishing joint study programmes, student exchange programmes, cooperative research projects supervision of PhD students, and expressed their intention to develop close friendship and collaboration in the near future.











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PhD Oral Defences by Chirag JAYANTIBHAI PARSANIA and Pooja PRAKASHCHANDRA SETHIYA of Prof. Chris WONG's group, and Fuqiang XING of Prof. Chuxia DENG's group

Mr. Chirag JAYANTIBHAI PARSANIA and Ms. Pooja PRAKASHCHANDRA SETHIYA supervised by Prof. Chris WONG, and Mr. Fuqiang XING supervised by Prof. Chuxia DENG completed their PhD oral defences on 19 and 20 May. Their thesis titles are "Bioinformatics Tool Development for Analysis", Fungal Genomics Data Study Bioinformatics-driven of Candida Glabrata Response to Infection-relevant Conditions and Antifungal Drugs" and "3D Tumor Slice Culture Incorporating Label-free Techniques as a Model for Predicting Anticancer Drug Response" respectively.



Mr. Parsania introduced that fungus has a vast amount of genomics data in the public domain. He has developed some bioinformatics tools to analyze and interpret fungal genomics data in his project. He shared one of his tools,

FungiExpresZ, that it can facilitate bench scientists with the minimum computational skill to analyze and visualize the Genomics data. Moreover, he has built a model to classify the data of the inter-kingdom horizontal gene which is transferred from the genome-wide fungus. Furthermore, he has analyzed the transcriptomics data of human pathogenic fungi Candida glabrata and revealed that C. glabrata mounts a chronological transcriptional response to survive and replicate inside the human macrophages. He has also identified a transcription factor CgXbp1 and discovered that it has a central role in mounting a chronological response in C. glabrata inside the macrophage.



Ms. Sethiya shared that *Candida glabrata*, a human pathogenic fungus, can tolerate high levels of oxidative stress (OS) and even proliferate inside phagocytes. She reported the previous studies that they have mapped the transcriptional response of *C. glabrata* in the gene-expression regulation at temporal resolution upon the initial encounter of OS and lacking dynamics. She further reported that

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the transcriptional response of *C. glabrata* in a temporal manner of post OS displayed a dramatic gene-expression reprogramming. She found that the growth of the cells adapted to OS were re-initiated and elicited a profound impact on the extent of the drug resistance in *C. glabrata*. Furthermore, she claimed that her study showed that the mRNA stability was a much faster control of the transcriptional response adopted by *C. glabrata* to overcome the OS.



Mr. Xing said that the feasibility of the personalized medicine for the cancer treatment is largely hampered by the costly, labor-intensive, and time-consuming models for drug discovery. He reported his threedimensional tumor slice culture (3D-TSCs) platform which incorporated the label-free techniques for the time-course experiments to predict the anti-cancer drug efficacy. He further introduced that the 3D-TSCs accurately preserved the immune components of the original tumour, which enabled the successful achievement of the

immune checkpoint blockade (ICB) assays with the antibodies against PD-1 and/or PD-L1. He has performed the high-throughput drug screening using 3D-TSCs and validated the effective candidates within 7 days of surgery. multiphoton The label-free fluorescence imaging revealed that 3D-TSCs exhibited the lipofuscin autofluorescence features in the time-course monitoring of the drug response and efficacy. He considered this technology accelerated the personalized medicine by providing a platform for the anti-cancer drug discovery.





UPCOMING EVENTS

May / June		
Mon	Qualifying Examination Speaker: Guowen REN Supervisor: Prof. Joong Sup SHIM Time: 15:00 Venue: E12-4004	31
Tue	25	June 1
Wed	Qualifying Examination Speaker: Ruijing GENG Supervisor: Prof. Wei GE Time: 15:00 Venue: E12-4004 BCAT Meeting Speaker: Prof. Terrence POON Time: 17:00-18:00 Venue: E12-G004	
Thu	Qualifying Examination Speaker: Qiushuang WU Supervisor: Prof. Henry KWOK Time: 9:30 Venue: E12-4004 Qualifying Examination Speaker: Zihan LIU Supervisor: Prof. Yutao XIANG Time: 16:00 Venue: E12-3036 Qualifying Examination Speaker: Xianyuan WEI Supervisor: Prof. Jun ZHENG Time: 10:00 Venue: E12-4044 FHS Postdoc/ Student Seminar Session: Public Health Host: Prof. Garry WONG and Prof. Yutao XIANG Time: 17:00-18:00 Venue: N22-G002 and Zoom	
Fri	Qualifying Examination Speaker: Yan ZHOU Supervisor: Prof. Kin Yip TAM Time: 10:00 Venue: E12-4044	4