

Publication(s)

1. Ries, L. N. A., Pardeshi, L., Dong, Z., **Tan, K.**, Steenwyk, J. L., Colabardini, A. C., Ferreira Filho, J. A., de Castro, P. A., Silva, L. P., Preite, N. W., Almeida, F., de Assis, L. J., Dos Santos, R. A. C., Bowyer, P., Bromley, M., Owens, R. A., Doyle, S., Demasi, M., Hernandez, D. C. R., Netto, L. E. S., Pupo, M. T., Rokas, A., Loures, F. V., **Wong, K. H.**, and Goldman, G. H. (2020) The *Aspergillus Fumigatus* Transcription Factor RglT Is Important for Gliotoxin Biosynthesis and Self-Protection, and Virulence. *Plos Pathog* **16** (7), e1008645 [5yr IF = 6.479]
2. Li, W., Zhou, F. C., Zhang, L., Ng, C. H., Ungvari, G. S., Li, J., and **Xiang, Y. T.** (2020) Comparison of Cognitive Dysfunction between Schizophrenia and Bipolar Disorder Patients: A Meta-Analysis of Comparative Studies. *J Affect Disord* **274**, 652-661 [5yr IF = 4.226]
3. Zhao, S., Li, S., Zhao, Z., Su, Y., Long, Y., Zheng, Z., Cui, D., Liu, Y., Wang, C., **Zhang, X.**, and Zhang, Z. (2020) Microwave-Assisted Hydrothermal Assembly of 2D Copper-Porphyrin Metal-Organic Frameworks for the Removal of Dyes and Antibiotics from Water. *Environ Sci Pollut Res Int* [5yr IF = 3.306]
4. Wang, X., Huang, S., Zheng, C., **Ge, W.**, Wu, C., and Tse, Y. C. (2020) RSU-1 Maintains Integrity of *Caenorhabditis Elegans* Vulval Muscles by Regulating Alpha-Actinin. *G3 (Bethesda)* **10** (7), 2507-2517 [5yr IF = 3.026]

BCAT Meeting

Investigate the Oncogenic Role of ADAMTS5 in Metastatic Ovarian Cancer - Prof. Henry KWOK

On 15 July, Prof. Henry KWOK presented his recent research on understanding the oncogenic role of A Disintegrin-like and Metalloproteinase with Thrombospondin Motifs 5 (ADAMTS5) in the ovarian cancer development.

In the first part of the presentation, Prof. Kwok introduced his newly developed specific ADAMTS5 inhibitory antibody named 2D3, and further demonstrated that the combined use of 2D3 along with the current FDA approved chemotherapy drugs as a potential treatment strategy for ovarian cancer. Moreover, Prof. Kwok presented the *in vitro* and clinical sample analysis data on evaluating the role of ADAMTS5 in metastatic ovarian cancer. Overall, the current results showed that ADAMTS5 acts as an oncogene/oncoprotein during ovarian cancer progression and highly promotes the motility of human ovarian cancer cells. The next milestone for this project is to dissect the pro-tumour effect of ADAMTS5 and its relevance of chemoresistance in ovarian cancer.

With the current data set plus by reaching the next milestone, Prof. KWOK believes that the inhibitory antibody (2D3) could provide a starting point for ADAMTS5 as potential targeted therapy along with chemotherapy drugs which offer an alternative option for ovarian cancer treatment.

PhD Oral Defence

PhD Oral Defences by Renbo DING of Prof. Chuxia DENG's group, Jin ZOU and Wenwen ZHANG of Prof. Jun ZHENG, and Yu JIN of Prof. Yutao XIANG's group

Mr. Renbo DING supervised by Prof. Chuxia DENG, Ms. Jin ZOU and Ms. Wenwen ZHANG supervised by Prof. Jun ZHENG and Ms. Yu JIN supervised by Prof. Yutao XIANG completed their PhD oral defences on 12, 15, 16 and 17 July respectively. Their thesis titles are "Molecular Landscape and Subtype-Specific Therapeutic Response of Nasopharyngeal Carcinoma Revealed by Integrative Pharmacogenomics for Precision Oncology", "Mechanistic Studies on Bacterial Tolerance and Persistence to Antibiotics", "Establishment of an Organism Dual RNA-Seq to Study the Host-pathogen Interaction during *Vibrio parahaemolyticus* Infection" and "Prevalence and Sociodemographic Correlates of Poor Mental Health Status, Major Depressive Disorder, and Poor Sleep Quality among Older Adults in Predominantly Agricultural Areas of China".



Mr. Ding said that nasopharyngeal carcinoma (NPC) is a malignant head and neck cancer with high morbidity in Southeast Asia. He has found that the epithelial carcinoma (EC) subtype was characterized by activation of microtubule polymerization and defective mitotic spindle checkpoint related genes, while sarcomatoid carcinoma (SC) and mixed sarcomatoid-epithelial carcinoma (MSEC) subtypes exhibited enriched epithelial-mesenchymal transition and invasion promoting genes by using integrative pharmacogenomics. Furthermore, he has performed patient-derived organoid (PDO) based drug test and has identified the potential subtype-specific treatment regimens. The SC and MSEC subtypes were sensitive to microtubule inhibitors, whereas EC subtype was more responsive to EGFR inhibitors, which was synergistically enhanced by combining with radiotherapy. He concluded that his study has provided the first example of applying integrative pharmacogenomics to establish a personalized precision oncology for NPC subtype-guided therapies.

Ms. Zhou claimed that tolerance and persistence facilitate the evolution of resistance. She has identified 140 genes which possibly contribute to gentamicin tolerance, and found that the deletion of *ksgA* increased the killing potency against the mid-log phase bacteria by aminoglycosides. She suggested that the compromise in the protein translational fidelity with the absence of *KsgA* is the root cause of an increased sensitivity to a bactericidal aminoglycoside. Furthermore, she found that the non-wall spherical bacterium is another important type of persister in *A. baumannii* upon β -lactam antibiotics treatment. These non-walled spherical bacteria persisted during the antibiotic therapy *in vivo* also. She concluded that targeting the bacterial cell membrane during β -lactam chemotherapy can enhance the therapeutic efficacy on *A. baumannii* infection.





Ms. Zhang claimed that monitoring the dynamic changes of transcriptomes in both pathogen and its host simultaneously by dual RNA-Seq has provided a critical window to understand the microbe-host interaction. She has developed an approach that allows monitoring genome-wide infection-linked transcriptional alterations in both pathogen and whole-animal host simultaneously with nematode *Caenorhabditis elegans* as the infection model for pathogenic *Vibrio parahaemolyticus*. She has also revealed

numerous dynamic alterations in transcriptomes of both *C. elegans* and *V. parahaemolyticus*, and identified that BarA/UvrY played an important role in *V. parahaemolyticus* pathogenesis through controlling bacterial virulence factors. Moreover, she discovered that BarA/UvrY repressed the innate immune responses of the host of P38 MAP kinase-mediated signaling cascades for bacteria successful infection.

Ms. Jin introduced that general mental health, major depressive disorder (MDD) and poor sleep quality are the common issues among the older adults, and these are affected by social, economic, environmental and political factors. She has performed an epidemiological study of Hebei province, which is a predominantly agricultural area and an economically underdeveloped region of China, to investigate the problems among the geriatric population. She reported the results that these issues appeared to be significantly related to the specific sociodemographic and clinical variables among the geriatric population in the Chinese context. She concluded that the identified risk factors have important implications for the future interventions in psychiatric and sleep problems among the older adults.



| Jul / Aug | | | | |
|---|---|---|--|-----------|
| Mon | Tue | Wed | Thu | Fri |
| 20 | 21 | 22 | 23 | 24 |
| <p><u>Qualifying Exam</u> Wenshu ZHOU Supervisor: Prof. Wenhua ZHENG Time: 14:30 Venue: E12-1018</p> | | | <p><u>FHS Postdoc/ Student Seminar</u> Session: Cancer Research Host: Prof. Gang LI and Prof. Ruiyu XIE Time: 17:00-18:00 Venue: N22-G002 and Zoom</p> <p><u>Qualifying Exam</u> Haibo TONG Supervisor: Prof. Kathy LUO Time: 15:00 Venue: E12-1017</p> <p><u>Oral Defence</u> Xiaoxiang CHENG Supervisor: Prof. Hongjie ZHANG Time: 15:00 Venue: N6-2022</p> | |
| 27 | 28 | 29 | 30 | 31 |
| <p><u>Qualifying Exam</u> Huadong LI Supervisor: Prof. William CHAO Time: 15:00 Venue: E12-4004</p> | <p><u>Qualifying Exam</u> Hao Weng WU Supervisor: Prof. William CHAO Time: 15:00 Venue: E12-4044</p> <p><u>Qualifying Exam</u> Meng HAO Supervisor: Prof. Kathy LUO Time: 10:00 Venue: E12-1017</p> | <p><u>BCAT Meeting</u> Speaker: Prof. William CHAO Time: 17:00-18:00 Venue: E12-G004</p> | <p><u>Oral Defence</u> Chunfei WANG Supervisor: Prof. Xuanjun ZHANG Time: 15:00 Venue: N6-2022</p> <p><u>Qualifying Exam</u> Muya ZHOU Supervisor: Prof. Kathy LUO Time: 10:00 Venue: E12-1017</p> <p><u>Qualifying Exam</u> Maoni GUO Supervisor: Prof. San Ming WANG Time: 14:30 Venue: E12-4004</p> | |
| Aug 3 | 4 | 5 | 6 | 7 |
| <p><u>Qualifying Exam</u> Zixin QIN Supervisor: Prof. San Ming WANG Time: 15:00 Venue: E12-4004</p> | <p><u>Qualifying Exam</u> Jun GONG Supervisor: Prof. Xuanjun ZHANG Time: 9:30 Venue: E12-4004</p> | | <p><u>FHS Postdoc/ Student Seminar</u> Session: Drug Development Host: Prof. Henry KWOK and Prof. Kin TAM Time: 17:00-18:00 Venue: N22-G002</p> | |