

Publication(s)

1. Zhao, X., Han, C., Zeng, Z., Liu, L., Wang, H., Xu, J., Feng, Z. P., Little, P. J., Quirion, R., and **Zheng, W.** (2020) Glutamate Attenuates the Survival Property of IGFR through NR2B Containing N-Methyl-D-Aspartate Receptors in Cortical Neurons. *Oxid Med Cell Longev* **2020**, 5173184 [5yr IF = 5.608]
2. Yang, S., Cao, B., Zhou, G., Zhu, L., Wang, L., Zhang, L., **Kwok, H. F.**, Zhang, Z., and **Zhao, Q.** (2020) Targeting B7-H3 Immune Checkpoint with Chimeric Antigen Receptor-Engineered Natural Killer Cells Exhibits Potent Cytotoxicity against Non-Small Cell Lung Cancer. *Front Pharmacol* **11**, 1089 [5yr IF = 4.604]
3. Liu, Z. H., Zhao, Y. J., Feng, Y., Zhang, Q., Zhong, B. L., Cheung, T., Hall, B. J., and **Xiang, Y. T.** (2020) Migrant Workers in China Need Emergency Psychological Interventions during the COVID-19 Outbreak. *Global Health* **16** (1), 75 [5yr IF = 3.127]

Academic Promotion

Prof. Gang LI promoted to Associate Professor



Congratulations to Prof. Gang LI for his promotion to the rank of Associate Professor. Prof. Li has accomplished tremendous achievements in the areas of cancer epigenetics, signal transduction pathways, posttranslational modification of epigenetic regulators and PcG proteins since he joined FHS in 2014. His research focuses on signal transduction pathways in epigenetic codes – the extra decorations (codes) to DNA and its packaging proteins that turn genes “on” or “off”.

Prof. Li's research team discovered a mutation in one of the DNA packaging proteins, histone H3, mobilized the cancer/testis antigens in childhood brain tumors, which might serve as ideal immunotherapeutic targets. They also demonstrated AMPK, as the central energy sensor of cells, alters epigenome through phosphorylating TET2, in turn, regulating muscle formation. This study further suggests the potential value of targeting AMPK to treat muscle wasting. In addition, his research group built a bioinformatic tool called TFmapper, which helps users perform data-mining and understand how genes are turned on or off, a complex process in which the secret in life and death is hidden. Prof. Li has published more than 80 peer-reviewed scientific papers with more than 2,700 citations in renowned journals such as *Genes Development*, *Development*, *Cancer Cell*, *Epigenetics & Chromatin*, *Journal of Biological Chemistry*, etc. He is currently an editorial board member of *Scientific Reports* in the field of epigenetics.

In addition to his research, Prof. Li has been dedicating himself to blending his research with his teaching. He integrates the basic knowledge with science history to arouse the students' interests. He excels in guiding the students to address scientific questions experimentally. Likewise, he has been working hard in student engagement, making his classroom the students' classroom with real-life topics.

Congratulations again to Prof. Li's promotion and we look forward to his continual contributions to FHS. You may learn more about Prof. Li via his profile page of our website (<https://fhs.um.edu.mo/en/staff/gang-li/>).



Event

FHS holds orientations for new students 2020/2021

FHS held two sessions of orientations to welcome more than 100 new undergraduate and postgraduate students for the 2020/2021 academic year on 3 September.

Speaking at the orientations, Prof. Chuxia DENG warmly received the freshmen and introduced the history, the latest research achievements and the educational programmes of FHS. He also introduced FHS senior management team, Prof. Renhe XU, Prof. Guokai CHEN, Prof. Xuanjun ZHANG, Prof. Kathy Qian LUO as Programme Coordinator, Prof. Garry Wong as General Education Coordinator of Area of Science & Technology. Prof. Deng encouraged the students to adapt to the new environment as quickly as possible and make the most of the opportunities available to them at UM to achieve a fruitful university life.

“Most of the breakthrough discoveries and remarkable inventions are the results of curiosity. The combination of persistence and curiosity is a very good predictor of the success in your studies,” said Prof. Deng in his speech for giving the undergraduate students some guidance. “The pragmatic advice from Aaron Ciechanover, the Nobel Laureate, for becoming a successful postgraduate student is a synthesis of passion, supervisor, diligence and luck.” He advised the postgraduate students that first and foremost they should be motivated by passion, communicate well with their supervisors, develop the habit of diligence, well prepare themselves, and luck is what happens when preparation meets opportunity.

Prof. Deng also emphasized that honesty and originality are the pillars of higher education. “We pursue research achievements of high quality, and have zero tolerance for plagiarism and substandard research ethics.” He gave the students exhortation to follow the rules and regulations of UM strictly.

At the end of the orientations, Miss. Aggie Yuzhao FENG, President of FHS Students' Association, introduced the structure and objectives of the union, and the upcoming student events to the undergraduate students. Besides, Mr. Elvo, Kuai Long SOU, Head of Student Counselling Section of Student Affairs Office (SAO), briefed the postgraduate students on the functions of SAO, particularly the services provided by the psychological counselling centre.



PhD Oral Defence

PhD Oral Defences by Shuhui GUO of Prof. Chris WONG's group, Xin LU of Prof. Terence POON's group, and Jianlin LIU of Prof. Xiaoling XU's group

Ms. Shuhui GUO supervised by Prof. Chris WONG, Mr. Xin LU supervised by Prof. Terence POON, and Mr. Jianlin LIU supervised by Prof. Xiaoling XU completed their PhD oral defences on 2 and 5 September respectively. Their thesis titles are "Systematic Activation and Characterization of the Regulation of Secondary Metabolism Gene Clusters in *Aspergillus nidulans*", "Functional and Structural characterization of Four Novel Protein Glutaminases" and "Characterization of BRCA1-deficient premalignant mammary tissues and breast cancers and identification of their drivers".



Ms. Guo claimed that filamentous fungi are prolific resources for secondary metabolites (SMs) which have pharmaceutical application. SM biosynthetic genes are physically clustered and affluent SM clusters are cryptic as gene silencing, which hampers the fully tap into natural products from fungi. To activate the silent gene clusters and elucidate the refined regulation mechanism for a SM cluster, she has applied an improved overexpression strategy to overexpress 48 SM associated TFs (SMTFs) in *Aspergillus nidulans* and to bind the targets of the TFs. She

also captured the transcriptional consequences throughout the genome upon overexpression by ChIP-seq technique, and discovered the distinct regulation models for the cryptic SMTFs. Moreover, she has screened five crude extracts and found potent anticancer activity but no hemolytic activity of them.



Mr. Lu reported that protein glutaminase (PG) is a deamidating enzyme that can specifically convert glutamine to glutamic acid residues in proteins or peptides without any side product. The deamidation reactions could remarkably improve the functionalities such as solubility, emulsification and foaming properties, etc. of the food proteins, and thus PG has great application potential in food industry. He has developed a simple one step purification method for the mass production of PG, and has discovered and characterized four novel PG proteins by the enzymatic

assay, proteomic identification and structural analysis. He concluded that the method provides a practical way for the mass production of PG and also sets the foundation for both enzymatic activity and structural stability optimizations.



Mr. Liu said that BRCA1 deficiency induces severe genome instability and tumorigenesis, and the tumor evolution process, genetic features, and driver events for the BRCA1-associated tumors are not fully understood. Therefore, he has performed WES for bulk tissues and single cells, and has identified unique SNV and CNV patterns for each tumor to reveal the inter- and intra-tumor heterogeneity. By analyzing the SNVs and CNVs simultaneously in single cells, he has discovered an evolution process through which the tumors initiated from cells with SNVs affecting driver

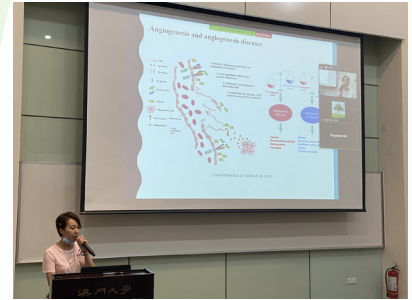
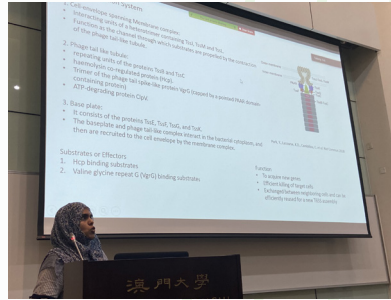
genes in the premalignant stage, and malignantly transform and progress via CNVs acquired in the chromosome regions with the cancer driver genes. In the result, he identified a novel tumor metastasis suppressor, *Plekha5*, which deficiency promoted cancer metastasis to the liver and/or lung.

FHS Postdoc Student Seminar

Presented by Prof. Wei GE's group and Prof. William CHAO's group

On 3 September, Dr. Nana AI of Prof. Wei GE's group presented "Evidence for Roles of Angiogenesis in Folliculogenesis of Zebrafish" and Ms. Nadia Rasheed of Prof. William CHAO's group presented "Structural Characterization of RhsP: A Novel Effector of Type VI Secretion System in *Vibrio Parahaemolyticus*".

The next seminar will be held on 17 September, and presented by the group members of Prof. Garry WONG and Prof. Yutao XIANG, via Zoom again.



Sep				
Mon	Tue	Wed	Thu	Fri
7	8	9	10	11
		Oral Defence Yiqi YANG Supervisor: Prof. Gang LI Time: 10:00 Venue: N6-2022 BCAT Meeting Speaker: Prof. Chuxia DENG Time: 17:00-18:00 Venue: E12-G004		
14	15	16	17	18
		Oral Defence Shuai LI Supervisor: Prof. Wenhua ZHENG Time: 10:00 Venue: N6-2022 Qualifying Exam Zhiqiang DONG Supervisor: Prof. Chris WONG Time: 10:00 Venue: E12-4004 Qualifying Exam Teng HUANG Supervisor: Prof. San Ming WANG Time: 14:00 Venue: E12-4004	FHS Postdoc/ Student Seminar Session: Public Health Host: Prof. Garry WONG and Prof. Yutao XIANG Time: 17:00-18:00 Venue: N22-G002 & ZOOM Qualifying Exam Wei SANG Supervisor: Prof. Yunlu DAI Time: 9:00 Venue: E12-4004 Qualifying Exam Zhan ZHANG Supervisor: Prof. Yunlu DAI Time: 11:00 Venue: E12-4004	
21	22	23	24	25
Qualifying Exam Lipeng ZHU Supervisor: Prof. Qi ZHAO Time: 14:00 Venue: E12-4044		BCAT Meeting Speaker: Prof. Tzu-Ming LIU Time: 17:00-18:00 Venue: E12-G004		