Publication(s)

1. Huang, B., Yip, W. K., Wei, N., and **Luo, K. Q.** (2020) Acetyltanshinone IIA Is More Potent Than Lapatinib in Inhibiting Cell Growth and Degrading HER2 Protein in Drug-Resistant HER2-Positive Breast Cancer Cells. *Cancer Lett* **490**, S0304-3835(0320)30340-30342 **[2019 IF=7.36]**

2. Shen, R., **Jia, Y. W.**, Mak, P. I., and Martins, R. P. (2020) Clip-to-Release on Amplification (Croa): A Novel DNA Amplification Enhancer on and Off Microfluidics. *Lab Chip* **20** (11), 1928-1938 **[5yrIF=6.692]**

3. Liu, L., Zhao, X., Silva, M., Li, S., Xing, X., and **Zheng, W.** (2020) Artemisinin Protects Motoneurons against Axotomy-Induced Apoptosis through Activation of the PKA-Akt Signaling Pathway and Promotes Neural Stem/Progenitor Cells Differentiation into NeuN(+) Neurons. *Pharmacol Res*, 105049 **[2019 IF=5.893]**

4. Lee, J. E., Cho, Y. W., **Deng, C. X.**, and Ge, K. (2020) MLL3/MLL4-Associated PAGR1 Regulates Adipogenesis by Controlling Induction of C/Ebpβ and C/Ebpδ. *Mol Cell Biol* **[5yrIF=3.96]**

5. Zhou, Y., Yang, Y., Shi, T., Song, Y., Zhou, Y., Zhang, Z., Guo, Y., Li, X., Liu, Y., Xu, G., Cheung, T., **Xiang, Y. T.**, and Tang, Y. (2020) Prevalence and Demographic Correlates of Poor Sleep Quality among Frontline Health Professionals in Liaoning Province, China During the COVID-19 Outbreak. *Front Psychiatry* **11**, 520 **[5yrIF=3.359]**

BCAT Meeting

Molecular Probes and Nanoreactors for Biomedical Applications – Prof. Xuanjun ZHANG

Prof. Xuanjun ZHANG presented his recent research about molecular probes and nanoreactors for bioimaging and therapy in the BCAT meeting on 1 July.

In the first part, Prof. Zhang introduced the strategy for nanoprobe design. By controlling of the distance between energy donor and acceptor, two nanoprobes were designed for the measurement of pH and temperature change in live cells. In the second part, Prof. Zhang introduced the design of nanoreactor by loading semiconducting polymer dots (as photocatalyst) into liposome for *in situ* photocatalytic generation of hydrogen. Hydrogen therapy is promising for the treatment of many diseases, but the low solubility of hydrogen gas in water and blood restricts its effective delivery. Upon light shine, the newly designed nanoreactors produce hydrogen for effective *in situ* therapy. In the third part, Prof. Zhang introduced wash-free probes. Wash-free probes are very promising for continuous study of biological process without washing procedure. Three classes of wash-probes fluorescent probes were discussed. These molecules are very useful platforms for further design of advanced probes for various biological studies.

健康科學學院
Faculdade de Ciências da Saúde
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NEWSLETTER ISSUE 22
29 JUN - 3 JULY 2020

News

Effective from 1 July, two FHS members are appointed to new faculty positions. Prof. Guokai CHEN is appointed as FHS Associate Dean (Teaching) and Prof. Xuanjun ZHANG is appointed as FHS Assistant Dean (Student Affairs). Congratulations!

Introduction of Dean Promotion - Series 1
Prof. Xuanjun ZHANG assumes office as FHS Assistant Dean (Student Affairs)

Prof. Xuanjun ZHANG assumed office as Assistant Dean (Student Affairs) of FHS on 1 July. He expressed his hope to acclimatize himself with the new post as soon as possible, motivate students in their studies, and foster their interaction with the Faculty.

"Due to the epidemic, many students are unable to return to the campus. It is challenging to fully understand the situation of each student and effectively inspire them in their studies and boost their connection with us," said Prof. Zhang. "I will work closely with residential colleges, Student Affairs Office, and the student union to communicate with students and help them in every aspect." Prof. Zhang also noticed that the freshmen were very eager to conduct scientific research but were puzzled in setting their objectives. Thus, Prof. Zhang concerned to guide the students in finding their research interests and keeping their enthusiasm throughout their whole student lives. Prof. Zhang also promised to strive to work out with all the faculty members to nurture the students to be not only excellent in classroom learning but also outstanding in resolving scientific problems and teamwork.

Prof. Zhang received his PhD in Chemistry from University of Science & Technology of China. After working as a postdoctoral fellow and visiting scientist in Mainland, Singapore, Sweden, and USA, he worked as an assistant professor at Linköping University (Sweden) in 2011 and promoted to Docent in 2014. He had finished three-level pedagogy for higher education from Faculty of Education at Linköping University. He joined FHS as an assistant professor in 2015. Prof. Zhang was the awardee of the Incentive Award Scheme for Outstanding Academic Staff of UM in 2017, and FHS's Best Teacher Award (excellence in teaching) in 2019.

Prof. Zhang has broad research interests in synthetic chemistry ranging from small molecules, oligomers, semiconducting polymers, coordination polymers, to nanomaterials with main applications in biomedical imaging and nanomedicine. He has published more than 120 SCI papers in international renowned journals, including *Advanced Materials* (IF 26.44), *ACS Nano* (IF 15.21), *Coordination Chemistry Reviews* (IF 14.61), *Journal of the American Chemical Society* (IF 14.55), *Angewandte Chemie* (IF 12.66), *Chemical Science* (IF 8.95),etc. Since he joined UM, he has been the principal investigator of three research projects funded by the Science and Technology Development Fund, Macao SAR (FDCT), one joint grant supported by FDCT and the Ministry of Science and Technology (MOST) of the People's Republic of China, and three UM's multi-year research grants. He is currently a regular reviewer of more than 50 SCI journals.

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PhD Oral Defence

PhD Oral Defences by Chang CHEN of Prof. Douglas ZHANG's group, Menglei ZHANG of Prof. Garry WONG and Wenwang RAO of Prof. Yutao XIANG's group

Ms. Chang CHEN supervised by Prof. Douglas ZHANG, Ms. Menglei ZHANG supervised by Prof. Garry WONG and Mr. Wenwang RAO supervised by Prof. Yutao XIANG completed their PhD oral defences on 30 June, 1 July and 2 July respectively. Their thesis titles are "Comparison of Computing Programs and Improvement of Calculating Methods on Sample Entropy and its Application in Investigating the Impact of Exercise on Health", "Genome Sequencing of Pelodera Strongyloides Reveals Adaption to a Facultative Parasitic Lifestyle" and "Prevalence and Correlates of Major Psychiatric Disorders in a Chinese Adult Population".

Ms. Chen introduced that sample entropy is a widely used metric to assess the irregularity of physiological signals. She first summarized the calculation program of sample entropy in R language, and obtained the best usage through the comparison of various program parameters. Then she proposed a new method to calculate the sample entropy of the signal containing missing value. It retained the signal structure and minimize the influence of the missing value. Finally, she designed a comprehensive experiment to measure how exercise influences the heart rate variability (HRV) of healthy young adults. The result showed that multiscale sample entropy is more sensitive than the time and frequency domains when observing the tiny change in HRV. She concluded that these results provide new viewpoints and cases for the development and the generalization of sample entropy.

Ms. Zhang claimed that Pelodera strongyloides is a facultative nematode with dauer stage being infective and the genomic data remains unknown. She then identified 3 dauer formation genes and examined the dauer animals in the starved plates with transcriptome assembled. She assembled its genome and miRNAome. She compared the results with *C. elegans* and *Brugia malayi* on the pfam domain copies, and the parasitic nematode derived miRNA proportion indicated that *P. strongyloides* is more similar to a free-living animal with additional parasitic nematode derived homologs. The dauer formation related to the CDS phylogeny of the 87 species suggested that those genes are not the key genes leading to the parasitic evolution. She concluded that the immune response genes (free-living animal expanded) and the food digestion genes (parasite expanded) may be a mechanism that allows *P. strongyloides* to maintain a facultative lifestyle.

Mr. Rao introduced that major psychiatric disorders are common. His study aimed to examine the lifetime and one-month prevalence of schizophrenia (SCH), major depressive disorder (MDD), and bipolar disorder (BP) in the adult population in Hebei province and their associations of social-demographic characteristics. The research was an epidemiological survey using multistage, stratified and random sampling, and a total of 20,884 subjects were included in his study. He explained the results that the prevalence of SCH, MDD and BP were relatively low compared to most findings reported in other countries and in other areas of China. Some social-demographic characteristics were associated with SCH, MDD and BP. He concluded that mental health policies and interventions should be carried out to decrease the risk of SCH, MDD and BP.

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UPCOMING

Jul 2020

	Mon	Tue	Wed	Thu	Fri
5	6	7	8	9 **FHS Postdoc/ Student Seminar** Field: Stem Cell Host: Prof. Ren-He XU and Prof. Guokai CHEN Time: 17:00-18:00 Venue: N22-G002 and Zoom	10 **Qualifying Exam** Wen LI Supervisor: Prof. Yutao XIANG Time: 10:00 Venue: E12-4004 **Qualifying Exam** Min DENG Supervisor: Prof. Douglas ZHANG Time: 14:30 Venue: E12-1018
12 **Oral Defence** Renbo DING Supervisor: Prof. Chuxia DENG Time: 10:00 Venue: E12-1017	13	14	15 **BCAT Meeting** Speaker: Prof. Henry KWOK Time: 17:00-18:00 Venue: E12-G004 **Oral Defence** Jin ZOU Supervisor: Prof. Jun ZHENG Time: 10:00 Venue: N6-2022	16 **Oral Defence** Wenwen ZHANG Supervisor: Prof. Jun ZHENG Time: 10:00 Venue: N6-2022	17 **Oral Defence** Yu JIN Supervisor: Prof. Yutao XIANG Time: 15:00 Venue: N6-2022
19	20	21	22	23 **FHS Postdoc/ Student Seminar** Field: Cancer Research Host: Prof. Gang LI and Prof. Ruiyu XIE Time: 17:00-18:00 Venue: N22-G002 and Zoom	24
26	27	28	29 **BCAT Meeting** Speaker: Prof. William CHAO Time: 17:00-18:00 Venue: E12-G004	30 **Oral Defence** Chunfei WANG Supervisor: Prof. Xuanjun ZHANG Time: 15:00 Venue: N6-2022	31

For more information or submission of articles to be featured, please contact Ms. Mathilde CHEANG at mathildec@um.edu.mo or 8822 4909.