# **SWEEKLY NEWSLETTER** Issue 2 11 - 17 January

## **Publication**

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- Jia, H., and Luo, K. Q. (2020) Fluorescence Resonance Energy Transfer-Based Sensor Zebrafish for Detecting Toxic Agents with Single-Cell Sensitivity. *J Hazard Mater* 408, 124826 [2019]F = 9.038]
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- Jose de Assis, L. J., Silva, L. P., Bayram, O., Dowling, P., Kniemeyer, O., Kruger, T., Brakhage, A. A., Chen, Y., Dong, L., Tan, K., Wong, K. H., Ries, L. N. A., and Goldman, G. H. (2021) Carbon Catabolite Repression in Filamentous Fungi Is Regulated by Phosphorylation of the Transcription Factor Crea. *Mbio* 12 (1) [5yr IF = 7.349]
- Fornasaro, S., Berton, F., Stacchi, C., Farina, F., Esposito, A., Sergo, V., Di Lenarda, R., and Bonifacio, A. (2021) Label-Free Analysis of Gingival Crevicular Fluid (GCF) by Surface Enhanced Raman Scattering (SERS). *Analyst* [5yr IF = 3.978]

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#### UM Receives Ministry of Education's Approval to Establish Centre for Cutting-edge Research in Precision Oncology

UM has officially received approval from the Ministry of Education of the People's Republic of China (MoE) to establish a centre for cutting-edge scientific research in precision oncology. It will be the first cutting-edge scientific research centre in Hong Kong and Macao SARS. This Centre focuses on the prevention, occurrence, and metastasis of cancer cells, as well as drug resistance and other major issues related to common cancers in Macao. The centre carries out cutting-edge scientific research in four areas: cancer occurrence and development, tumour microenvironment and immune regulation, cancer metastasis and mechanisms of drug drug resistance. well efficient as as development and personalised cancer medicine.

The centre supports the Macao SAR government's effort to develop the city into an international tourism and leisure centre, promote the development of general health, and provides precise diagnosis and treatment for cancer patients in Macao, the Guangdong-Hong Kong-Macao Greater Bay Area, and the rest of the country.

Precision oncology is a key research area at UM. UM has assembled a high-quality

interdisciplinary team comprised of experts in different fields, including health sciences, Chinese medicine, physics, advanced materials, and engineering. UM provides long-term support and investment in terms of space, equipment, and personnel, aiming to establish a world-leading research centre for precision oncology.

The MoE plans to establish 30 to 40 cutting-edge scientific research centres at universities across the country. So far, 14 such centres have been established.





Morphological observation of three-dimensional organoids derived from breas<mark>t cancer pati</mark>ents

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**UM Open Day** 

The diversified and interactive activities of FHS at UM Open Day received overwhelming response! We would like to extend our immense thanks to the following students for their invaluable input on UM Open Day!

#### Year 1 students:

Vincent CHAO, Xuanqi CUI, Elaine HO, Ontong LEUNG, Cindy LYU, Annie NG, Angel PANG, Debbie SOU and Amy ZHENG Year 2 students: Pearl LIANG Year 3 students: Aggie FENG and Ceylon HE PhD students: Winnie CHONG, Gigi LEI and Henry YUAN



Here comes some photos to share with you!

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F M S F 健康科學學院 Faculdade de Ciências da Saú Faculty of Health Sciences



# FACULTY of HEALTH SCIENCES

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#### Prof. Yutao XIANG Shares Talk on Stress to UM Students



Prof. Yutao XIANG gave an open lecture on Research-Related Stress and Stress Management to UM students on 14 January. In the lecture, Prof. Xiang introduced the results of an earlier survey on mental health in UM PhD students. The survey results showed that the prevalence of depression in the PhD students are common, and increased with grades. In order to reduce the risk of mental health problems, particularly the researchrelated stress, Prof. Xiang introduced stress and its features, consequences, management and relaxation techniques.

Prof. Xiang shared that when a student experiences high level of stress, he or she usually suffers from certain symptoms in physiological, psychological and behavioral domains, such as physical symptoms, poor memory, poor sleep, smoking, drinking, or low work efficiency. If these problems last for a longer time, negative consequences such as lower life quality, depression and even suicidal behaviours could occur. Therefore, understanding the risk factors, assessment and management of high level of stress is important to adopt appropriate measures to reduce likelihood. Common its preventive measures on stress include correcting unreasonable beliefs, reasonable emotional regulation, establishing good interpersonal relationships, and using coping strategies.

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#### PhD Oral Defence by Ran KE of Prof. Leo LEE's Group



Ms. Ran KE supervised by Prof. Leo LEE completed her PhD oral defence on 15 January. Her thesis title is "Identification of GPCR Heterocomplexes in Regulating Reproductive System and Neuronal Differentiation".

Ms. Ke claimed that accumulating evidence suggests that G protein-coupled receptors (GPCRs) can form homodimers, heterodimers, or even oligomers to modify cell signaling and trafficking. This provides great flexibility for GPCRs to fine-tune cellular responses. Given the highly complex and diverse structure of GPCRs, the studies of GPCR dimerization/oligomerization are largely hurdled by the technological limitations. Therefore, she has constructed a GPCR library containing 130 human endo-GPCRs labelled with a fluorescent protein, and has employed them for screening GPCR heterocomplexes of the kisspeptin receptor (Kiss1R) and Pituitary adenylate cyclase-activating polypeptide type 1 receptor (PAC1R). After that, she has found that the formation of the heterocomplexes could negatively regulate the receptors signaling and modulate the role of Kiss1R and PAC1R in reproductive system and neuronal differentiation, respectively.





### **UPCOMING EVENTS**

Jan		
Mon	18	25
Tue	19	26
Wed	20 BCAT Meeting Speaker: Prof. Wakam CHANG Time: 17:00-18:00 Venue: E12-G004	27
Thu	21 <u>FHS Postdoc/ Student Seminar</u> Session: Bioimaging Host: Prof. Zhen YUAN Time: 17:00-17:30 Venue: Zoom only	28
Fri	22	29

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