

ACADEMIC ACTIVITIES

Publication(s) of the week

1. Yang, Z., Dai, Y., Shan, L., Shen, Z., Wang, Z., Yung, B. C., Jacobson, O., Liu, Y., Tang, W., Wang, S., Lin, L., Niu, G., Huang, P., and Chen, X. (2019) Tumour Microenvironment-responsive Semiconducting Polymer-based Self-assembling Nanotheranostics. *Nanoscale Horizons* **4**, 426-433 [IF=9.391]
2. Li, X. H., Zhong, X. M., Lu, L., Zheng, W., Wang, S. B., Rao, W. W., Wang, S., Ng, C. H., Ungvari, G. S., Wang, G., and Xiang, Y. T. (2019) The Prevalence of Agranulocytosis and Related Death in Clozapine-treated Patients: a Comprehensive Meta-analysis of Observational Studies. *Psychol Med*, 1-12 [IF=5.96]
3. Zhang, Q., Yu, S., Lam, M. M. T., Poon, T. C. W., Sun, L., Jiao, Y., Wong, A. S. T., and Lee, L. T. O. (2019) Angiotensin II Promotes Ovarian Cancer Spheroid Formation and Metastasis by Upregulation of Lipid Desaturation and Suppression of Endoplasmic Reticulum Stress. *J Exp Clin Cancer Res* **38**, 116 [IF=5.28]
4. Zheng, W., Li, X. H., Zhu, X. M., Cai, D. B., Yang, X. H., Ungvari, G. S., Ng, C. H., Ning, Y. P., Hu, Y. D., He, S. H., Wang, G., and Xiang, Y. T. (2019) Adjunctive Ketamine and Electroconvulsive Therapy for Major Depressive Disorder: A Meta-analysis of Randomized Controlled Trials. *J Affect Disord* **250**, 123-131 [IF=4.035]
5. Li, K., Dai, Y., Chen, W., Yu, K., Xiao, G., Richardson, J. J., Huang, W., Guo, J., Liao, X., and Shi, B. (2019) Self-Assembled Metal-Phenolic Nanoparticles for Enhanced Synergistic Combination Therapy against Colon Cancer. *Advanced Biosystems* **3** [IF is not available currently]

B-CAT Meeting

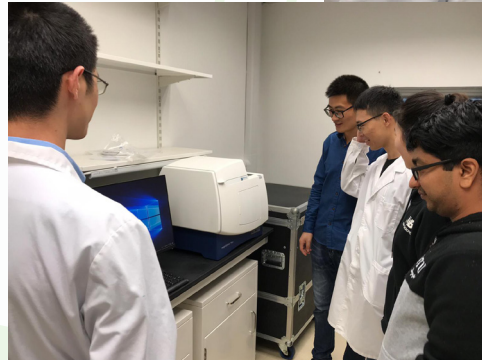
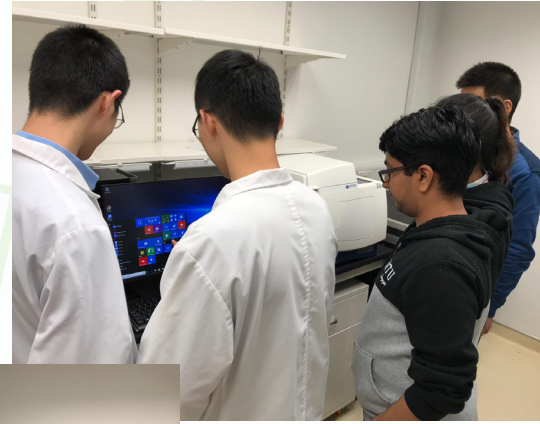
Discovery and Characterization of Novel Coregulatory Factors of Nuclear Hormone Receptors in Cancer Cells - Prof. Edwin CHEUNG

At the B-CAT meeting on 13 March, Prof. Edwin CHEUNG presented the latest research findings from his lab on novel nuclear hormone receptor (NR) coregulators that they recently identified. NRs such as estrogen receptor (ER) and androgen receptor (AR) are important for numerous biological processes including cancer, but how they function is still not completely clear. Prof. CHEUNG's team aims to understand how NRs work by identifying all the factors (protein and non-protein) that functionally interact with them. To achieve this, his team has been using the latest genomics and proteomics approaches. Previously, his lab developed a co-motif discovery software called CEN^YDIST to identify motifs that are enriched in ChIP-seq peaks. His team then went on to show AP-2 and ERG are bona fide collaborative factors of ER- and AR-mediated transcription, respectively. More recently, using a new proteomics method called rapid immunoprecipitation mass spectrometry of endogenous proteins (RIME), his team was able to identify many novel protein interactors of AR and ER. Among these new protein partners are members of the tripartite motif family (TRIM) of proteins. Detailed characterization of these TRIM proteins showed that at least one member of this family functions as a coactivator AR transcriptional activity, possibly by stabilizing and facilitating the recruitment of the receptor to chromatin. Because of the importance of coregulator factors in NR transcriptional activity, Prof. CHEUNG's team has identified several promising small molecules that can inhibit the activity of these coregulatory factors.

Seminar and Workshop on ImageXpress Pico Automated Cell Imaging System

Professional Health Trading Company offered a seminar and workshop about ImageXpress Pico Automated Cell Imaging System on 13 March. They introduced the newest equipment and shared a lot of operating and analyzing techniques.

The system equips with four objectives: 4x, 10x, 20x and 40x with six channels: DAPI, FITC, TRITC, CY5, white light and RGB. It offers unparalleled analytic capabilities that simplify image analysis for cell-based assays. The demo is going to end on 21 March.



PhD Oral Defense

PhD Oral Defense by Hui ZHONG of Prof. Guokai CHEN's group

Ms. Hui ZHONG, supervised by Prof. Guokai CHEN, completed her PhD Oral Defense on 14 March. The title of her thesis was "Keratinocyte Differentiation and Extracellular Calcium Modulation in Human Pluripotent Stem Cell".

Ms. ZHONG reported how she established an *in vitro* platform to study Keratinocyte cell fate determination and created an efficient protocol to produce Keratinocytes for disease models and applications using human embryonic stem cells. She explained how the Keratinocyte cell fate is further specified through NOTCH inhibition and by adjustment of the calcium concentration to induce Keratinocyte maturation. She demonstrated that the epidermal ectoderm and subsequent Keratinocyte cell fates are determined step-by-step under the temporal regulation of specific pathways. The inhibition of TGF β initiated ectodermal lineage differentiation, the activation of the BMP pathway drove epidermal and extraembryonic cell fates, and the timely activation of the WNT pathway narrowed the cell fate to the epidermal lineage.

Moreover, she used human embryonic stem cells to demonstrate that cell survival and pluripotency can be maintained in hypo-calcium medium conditions via the inhibition in ROCK kinase and MYH9. She then concluded that the physical confinement in Matrigel suppressed actinomyosin contraction to sustain cell survival. The existence of the MYH9 gene demands the necessity of physiological Calcium. Human ESCs can maintain common functions under an extremely low calcium level.



MARCH / APRIL				
Mon	Tues	Wed	Thurs	Fri
18	19	20	21	22
		<p><u>Seminar Series</u> Deciphering Enhancer Regulation of Tumor Immune Evasion to Develop New Combination Immunotherapies Speaker: Prof. Alfred CHENG Host: Prof. Edwin CHEUNG Time: 11:00-12:00 Venue: N22-G002</p> <p><u>Seminar Series</u> Acetylation and Phosphorylation, Which One is More Critical in Signal Transduction? Speaker: Prof. Yueh Eugene CHINN Host: Prof. Gang LI Time: 11:00-12:00 Venue: E12-G004</p>	<p><u>Seminar Series</u> The Hippo Pathway in Cell Growth, Organ Size, and Cancer Speaker: Prof. Kun-Liang GUAN Host: Prof. Chuxia DENG Time: 11:00-12:00 Venue: N22-G002</p> <p><u>FHS Postdoc/ Student Seminar</u> Host: Prof. Greta MOK and Prof. Zhen YUAN Time: 17:00-18:00 Venue: N22-G002</p>	<p><u>Seminar Series</u> Precision Medicine for Cell Therapy in ARDS Speaker: Prof. Haibo ZHANG Host: Prof. Wenhua ZHENG Time: 15:00-16:00 Venue: N22-G002</p>
25	26	27	28	29
		<p><u>Seminar Series</u> Immunological Approaches Targeting Cancer Stem Cells Speaker: Prof. Qiao LI Host: Prof. Chuxia DENG Time: 11:00-12:00 Venue: E12-G004</p> <p><u>B-CAT Meeting #06</u> Speaker: Prof. Guokai CHEN Time: 17:00 Venue: E12-G004</p>	<p><u>Seminar Series</u> Can We Create a Variety of Coordination Compounds from a Single Kind of Amino Acid? Speaker: Prof. Takumi KONNO Host: Prof. Xuanjun ZHANG Time: 15:00-16:00 Venue: E12-G004</p>	
1	2	3	4	5
	<p><u>Oral Defense</u> Ms. Xia JI Supervisor : Prof. Jun ZHENG Time: 10:00 Venue: N6-G010</p>		<p><u>FHS Postdoc/ Student Seminar</u> Host: Prof. Terence POON and Prof. Xiaoling XU Time: 17:00-18:00 Venue: N22-G002</p>	