

## ACADEMIC ACTIVITIES

### Publication(s) of the week

1. Zhang, Z., Fang, X., Liu, Z., Liu, H., Chen, D., He, S., Zheng, J., Yang, B., Qin, W., **Zhang, X.**, and Wu, C. (2019) Semiconducting Polymer Dots with Dually Enhanced NIR-IIa Fluorescence for through-Skull Mouse Brain Imaging. *Angew Chem Int Ed Engl* [5yr IF=12.359]
2. Yang, Y., Ren, Z., Xu, F., Meng, Y., Zhang, Y., Ai, N., Long, Y., Fok, H. I., Deng, C., Zhao, X., Huang, L., Zhao, Q., Wang, J., **Liu, W.**, **Ge, W.**, and **Chen, G.** (2019) Endogenous IGF Signaling Directs Heterogeneous Mesoderm Differentiation in Human Embryonic Stem Cells. *Cell Rep* **29**, 3374-3384 e3375 [5yr IF=8.652]
3. Zhang, L., Bhaskaran, S. P., Huang, T., Dong, H., Chandratre, K., Wu, X., Qin, Z., Wang, X., Cao, W., Chen, T., Lynch, H., and **Wang, S. M.** (2020) Variants of DNA Mismatch Repair Genes Derived from 33,998 Chinese Individuals with and without Cancer Reveal Their Highly Ethnic-Specific Nature. *Eur J Cancer* **125**, 12-21 [5yr IF=6.73]
4. Lian, Z. W., Hu, Z. Q., Xian, H. Y., Jiang, R., Huang, H. Y., Jiang, Y. X., Zheng, Z. D., Lloyd, R. S., Yuan, J. H., Sha, Y., **Wang, S. M.**, and Hu, D. L. (2019) Exosomes Derived from Normal Human Bronchial Epithelial Cells Down-Regulate Proliferation and Migration of Hydroquinone-Transformed Malignant Recipient Cells Via up-Regulating PTEN Expression. *Chemosphere* **244**, 125496 [5yr IF=5.089]
5. leong, H. F., Gao, F., and **Yuan, Z.** (2019) Machine Learning: Assessing Neurovascular Signals in the Prefrontal Cortex with Non-Invasive Bimodal Electro-Optical Neuroimaging in Opiate Addiction. *Sci Rep* **9**, 18262 [5yr IF=4.525]
6. Zhao, Z., Lan, M., Li, J., Dong, Q., Li, X., Liu, B., **Li, G.**, Wang, H., Zhang, Z., and Zhu, B. (2019) The Proinflammatory Cytokine Tnfalpha Induces DNA Demethylation-Dependent and -Independent Activation of Interleukin-32 Expression. *J Biol Chem* **294**, 6785-6795 [5yr IF=4.279]
7. Zhang, Y. S., Rao, W. W., Zeng, L. N., Lok, G. K. I., Cui, L. J., Li, J. F., Li, L., Ungvari, G. S., Hall, B. J., Li, K. Q., and **Xiang, Y. T.** (2019) Prevalence and Correlates of Bipolar Disorder in the Adult Population of Hebei Province, China. *J Affect Disord* **263**, 129-133 [5yr IF=4.16]
8. **Yuan, Z.**, Zhang, X., and Ding, M. (2019) Editorial: Techniques Advances and Clinical Applications in Fused EEG-fNIRS. *Front Hum Neurosci* **13**, 408 [5yr IF=3.964]
9. Li, H., Zheng, D., Li, Z., Wu, Z., Feng, W., Cao, X., Wang, J., Gao, Q., Li, X., Wang, W., Hall, B. J., **Xiang, Y. T.**, and Guo, X. (2019) Association of Depressive Symptoms with Incident Cardiovascular Diseases in Middle-Aged and Older Chinese Adults. *JAMA Netw Open* **2**, e1916591 [This is a newly established journal without an IF, but it is a JAMA journal and will have a high IF soon in the coming years]

## Seminar Series

### Regulation of D1 Dopamine Receptor Signaling in Physiology and Diseases – Prof. Xuechu ZHEN

Prof. Xuechu ZHEN, Professor and Dean of Department of pharmacology, Soochow University College of Pharmaceutical Sciences, presented “Regulation of D1 Dopamine Receptor Signaling in Physiology and Diseases” on 13 December.

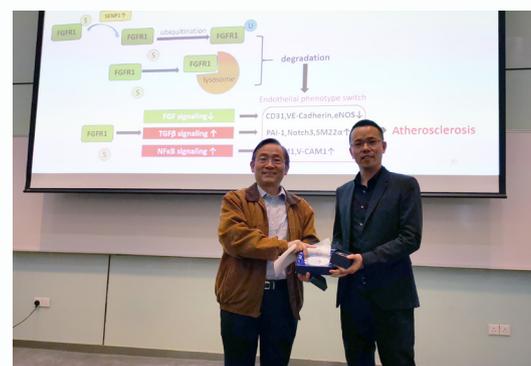
Prof. ZHEN introduced the essential role of dopamine neurotransmission in the function of brain. He introduced the dopamine receptors including D1-and D2-like are subjected to regulation by a number of molecules such as protein kinases, anchor proteins. Prof. ZHEN presented his previous finding that PSD-95 is physically interacting with both D1 and D2-like receptor and their different functions. He also shared the recent findings about the identification on GSK3 $\beta$  which is physically associated with D1 receptor in D1 transfected cells and in native brain tissues, and also the detection on the site of the interaction between D1Rs and GSK-3 $\beta$  by mutation and functional assay.

Prof. ZHEN concluded that he demonstrated that inhibition of GSK-3 $\beta$  impaired D1R activation along with a decrease in the D1R-GSK-3 $\beta$  interaction. Inhibition of GSK-3 $\beta$  also altered the D1R desensitization and endocytosis and beta-arrestin binding. Besides, he further demonstrated that impaired D1R function in prefrontal cortex in schizophrenia may associate with the altered D1/ GSK-3 $\beta$  interaction. The present data revealed a novel mechanism for D1R functional regulation.



## Joint Symposium - Cell Homeostasis and Health Science

FHS hosted a two-day joint symposium with the School of Life Science of Zhejiang University on Cell Homeostasis and Health Science on 11 and 13 December. Students and researchers from Zhejiang University and FHS reported and exchanged their research achievements and ideas.



## PhD ORAL DEFENSE

### PhD Oral Defenses by Ang LI of Prof. Chris WONG's group and Yuan WANG of Prof. Lijun DI's group

Mr. Ang LI supervised by Prof. Chris WONG and Ms. Yuan WANG supervised by Prof. Xuanjun ZHANG completed their PhD oral defenses on 12 December. Their thesis titles are "Genome-wide Characterization of AreA Function and Regulation in *Aspergillus Nidulans*" and "Global View of Enhancer Functions in Pan-Cancer Development Based on Multi-omics Data Analysis", respectively.



Mr. LI introduced that a highly conserved GATA transcription factor AreA and its corepressor NmrA govern expression of genes involved in extracellular nitrogen sources breakdown, nitrogen uptake and nitrogen catabolism in *Aspergillus nidulans*. He reported his research on the analysing on the function of AreA in genome wide scale and he found that AreA regulates not only nitrogen metabolism, but also many other biological processes like energy production, lipid biosynthesis, secondary metabolism and asexual sporulation. He concluded that the study revealed the role of AreA acting as a co-factor or mediator in most of AreA binding events. The C-terminal 153 amino acid of AreA is identified as the most important protein-protein interaction region. A regulatory loop consists of AreA, PnmB and NmrA that accelerates *A. nidulans* nitrogen starvation response is also identified.

Ms. WANG introduced her research with the starting from a global analysis on enhancer methylome in breast cancer as enhancer plays a pivotal role in gene, and she has found its potential abilities in subtype plasticity and predictability in prognostic. Then she conducted a more comprehensive and extensive study on enhancers with multi-omics and multi-cancer data. She finally identified the key enhancer-target pairs for regulating different cancer hallmarks in different cancers, especially PVR and its enhancer in prostate cancer immune evading pathway. She concluded that her results provided evidence that enhancers take important roles in cancer development and gave examples on how to dissect mechanism of transcription regulation in cancer from the view of enhancers.



## STUDENT ACTIVITY

### FHS Postdoc/Student Seminar - Presented by Prof. San Ming WANG's group and Prof. Douglas ZHANG's group

On 12 December, Ms. Li ZHANG of Prof. San Ming WANG's group presented "MMR Gene Mutation in Chinese Population is Highly Chinese-specific" and Mr. Dongliang LENG of Prof. Douglas ZHANG's group presented "Comprehensive Transcriptome Analysis of Peripheral Blood Unravels Key lncRNAs Guiding Diagnosis and Therapy in ABPA and Asthma".



This comes the end of the FHS Post/Studnet seminar in this year and the next seminar will be held on 9 January in 2020, and presented by the group members of Prof. Kathy Qian LUO and Prof. Tzu-Ming LIU.



December				
Mon	Tues	Wed	Thurs	Fri
<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<p><b>Seminar Series</b> Mapping Cell Landscapes by Single-cell Analysis Speaker: Prof. Guoji GUO Host: Prof. Renhe XU Time: 16:00 - 17:00 Venue: N22-G002</p> <p><b>Advanced Training for Fluidigm Hyperion data analysis</b> Time: 09:30 – 13:30 Venue: N22-3042</p> <p><b>Joint Symposium</b> Frontiers of Life Science Time: 9:30-12:00 Venue: E12-G004</p>	<p><b>Advanced Training for Fluidigm Hyperion data analysis</b> Time: 09:30 – 13:30 Venue: N22-3042</p>	<p><b>Oral Defense</b> Rui MA Supervisor : Prof. Henry Hang Fai KWOK Time: 16:30 Venue: N6-2022</p> <p><b>B-CAT Meeting #22</b> Speaker: Prof. Zhen YUAN Time: 17:00 Venue: E12-G004</p>	<p><b>UM Talk</b> Evolution in action - Why is cancer different from other diseases and is that bad? Speaker: Prof. Chung-I WU Host: Prof. Sanming WANG Time: 11:00 - 12:30 Venue: E12-G004</p> <p><b>Joint Symposium of FHS-Zhejiang University on Precision Medicine and Immunology</b> Time: 9:30-12:00 Venue: N22-G002</p>	<p><b>Holiday</b> Macau SAR Establishment Day</p>
<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>
<p><b>Holiday</b> The first working day after Winter Solstice</p>	<p><b>Holiday</b> Christmas Eve</p>	<p><b>Holiday</b> Christmas Day</p> 		
<b>30</b>	<b>31</b>	<b>1</b>	<b>2</b>	<b>3</b>
	<p><b>Holiday (afternoon)</b> New Year's Eve</p>	<p><b>Holiday</b> New Year's Day</p>		