ACADEMIC ACTIVITIES

Publication(s) of the week

1. Meng, Y., Ren, Z., Xu, F., Zhou, X., Song, C., Wang, V. Y., Liu, W., Lu, L., Thomson, J. A., and Chen, G. (2018) Nicotinamide Promotes Cell Survival and Differentiation as Kinase Inhibitor in Human Pluripotent Stem Cells. *Stem Cell Rep* **11**, 1347-1356

2. Downs, B., Sherman, S., Cui, J., Kim, Y. C., Snyder, C., Christensen, M., Luo, J., Lynch, H., and Wang, S. M. (2018) Common genetic variants contribute to incomplete penetrance: evidence from cancer-free BRCA1 mutation carriers. *Eur J Cancer* **107**, 68-78

Breaking news

The Associate Dean of FHS, Prof. Wei GE, was appointed as Interim Vice Rector (Research) on 13 December 2018. FHS wishes him the best of luck in his new position.

Seminar Series

The Exosome-Mediated Autocrine and Paracrine Role of Plasma Gelsolin in Ovarian Cancer Chemoresistance - Prof. Benjamin TSANG

Prof. Benjamin TSANG, Professor of Obstetrics & Gynecology and Cellular & Molecular Medicine, University of Ottawa, presented a talk on “The Exosome-Mediated Autocrine and Paracrine Role of Plasma Gelsolin in Ovarian Cancer Chemoresistance” on 12 December.

Ovarian Cancer (OVCA) is the most lethal gynecological cancer, due predominantly to late diagnosis, recurrence and chemoresistance. OVCA is considered to have a cold tumour microenvironment that patients are unresponsive to immunotherapy although melanoma and lung cancer patients respond well.

Prof. TSANG’s team has demonstrated that exosomal pGSN contributes to OVCA coldness by regulating OVCA responsiveness to CDDP and T cell modulation. Exosomal pGSN up-regulates HIF-1α–mediated pGSN expression in chemoresistant OVCA cells in an autocrine manner and confers cisplatin resistance in otherwise chemosensitive OVCA cells. They have studied the immunolocalization on 213 high grade serious ovarian tumors and have found out that the poor overall survival (OS) is correlated to the shorter disease free survival (DFS).

Observation of Prof. TSANG’s research showed that increased pGSN levels positively correlate with activated caspase-3 tumour infiltrated lymphocytes, poorer OS and shorter DFS. Therefore, Prof TSANG proposed pGSN as a therapeutic target in chemoresistant ovarian cancer by the finding of exosomal pGSN played an immunosuppressive role in the tumour microenvironment and in chemoresistance.

Seminar Series
Acetylcholinesterase: Protein Assembly and Transcriptional Control - Prof. Karl TSIM

Prof. Karl TSIM, Chair Professor of The Hong Kong University of Science and Technology, Division of Life Science, presented a talk on “Acetylcholinesterase: Protein Assembly and Transcriptional Control” on 13 December.

Acetylcholinesterase (AChE) is anchored onto cell membranes by a transmembrane protein PRiMA (Proline-Rich Membrane Anchor) as a tetrameric globular form that is prominently expressed in vertebrate brain. Several lines of evidence suggest that the dimer formation probably represents an intermediate in the assembly of the tetramer. In addition, the assembly of AChE tetramers with PRiMA requires the presence of a C-terminal “t-peptide” in the AChE catalytic subunit (AChET). This protein assembly could be affected by chaperons. The expression of AChE in cells could be regulated by protein assembly and transcription control. In the assembly of oligomeric AChE, the step-by-step assembly of enzyme in endoplasmic reticulum (ER) is being revealed. AChE inhibitors (AChEIs) are the most established treatment strategy for Alzheimer’s disease (AD), which could act as chemical chaperons in affecting the protein assembly of PRiMA-linked AChE in the endoplasmic reticulum (ER). Transcriptional regulation of AChE is happened during differentiation of various cell types, including myoblast, neuron, erythroblast, osteoblast and immune cells.

Prof. TSIM’s team identified the playing role of possible transcription factors in AChE expression in various cells during differentiation. In osteoblast, Runx-2 is a master transcriptional factor associated with differentiation. The expression of AChE was increased during osteoblastic differentiation, and which could be mediated by a Runx-2 binding site at the ACHE promoter. The findings from Prof. TSIM provided an insight into elucidating the possible role of AChE in different cell types.

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Seminar Series

Challenge and Promise of Human Embryonic Stem Cell-based Therapy - Prof. Yang XU

Prof. Yang XU, Professor of Sun Yat-sen University 8th Hospital in Shenzhen, presented a talk on "Challenge and Promise of Human Embryonic Stem Cell-based Therapy" on 14 December.

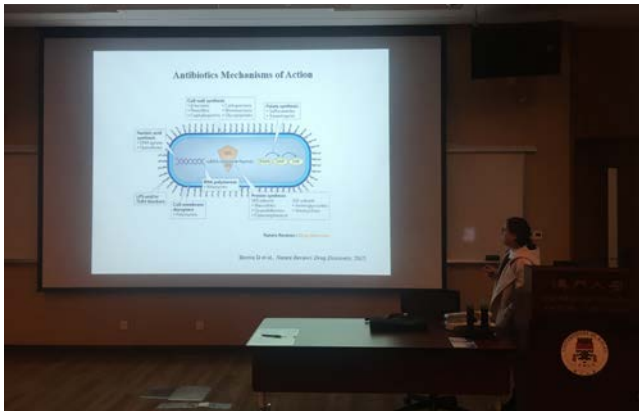
Human embryonic stem cells (hESCs) can undergo unlimited self-renewal and retain the pluripotency to differentiate into all cell types in human body. Therefore, as a renewable source of various cell types, hESCs hold great promise for cell therapy of many currently incurable diseases. Significant progress has been achieved in establishing the conditions to differentiate hESCs into many lineages of biologically active cells. In addition, hESC-based cell therapy of spinal cord injury, macular degeneration and type 1 diabetes has entered clinical trials. Despite these promising progresses, one major challenge for developing hESC-based therapy is the allogeneic immune rejection of hESC-derived cells by the recipient.

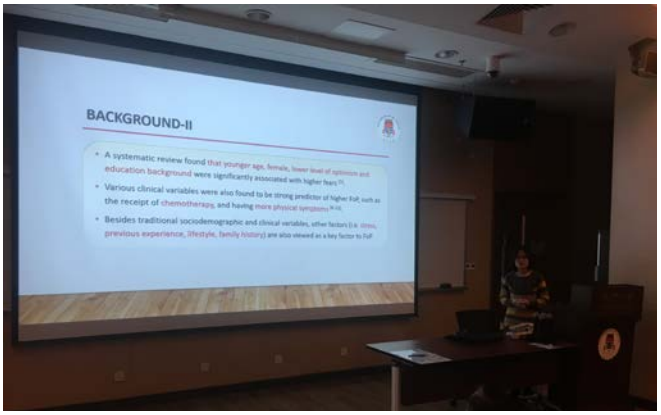
Prof. XU discussed the immunogenicity of human pluripotent stem cells and his effort to develop effective approaches to induce immune tolerance to hESC-derived allografts upon his research.

STUDENT ACTIVITIES

FHS Postdoc Student Seminar - Presented by Prof. Jun ZHENG's group and Prof. Yutao XIANG's group

This week, the 2018 FHS Postdoc Student Seminar series came to the end. On 13 December, Ms. Jin ZOU of Prof. Jun ZHENG's group presented "Studies on Aminoglycoside Susceptibility Identified a Novel Function of KsgA to Secure Translational Fidelity during Antibiotic Stress" and Ms. Yuan YANG of Prof. Yutao XIANG's group presented "Factors Associated with Fear of Progression in Chinese Cancer Patients: Sociodemographic, Clinical and Psychological Variables". The FHS Postdoc Student Seminar series will continue on 10 January 2019, presented by the groups of Prof. Chuxia DENG and Prof. Xuanjun ZHANG.





FACULTY ACTIVITIES

The FHS Year-end Tea Gathering was held on 12 December afternoon in E12. The professors and students of FHS joined the tea gathering. The tea party started with a warm welcome speech by Prof. Chuxia DENG. The professors and students had great chats and enjoyed the food in that wonderful afternoon.

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UPCOMING

DECEMBER / JANUARY

Mon	Tues	Wed	Thurs	Fri
17 **Seminar Series** RNA editing with CRISPR-Cas13 Speaker: David COX Host: Prof. Ren-he XU Time: 14:30-15:30 Venue: E12-G004	**18**	**19**	**20** Macau SAR Establishment Day	**21**
24 Christmas Eve	**25** Christmas Day	**26** First working day after the winter solstice	**27**	**28**
31 New Year's Eve (Afternoon)	**01** New Year's Day	**02** **Seminar Series** Spexin as a Novel Regulator for Feeding Control and Reproduction in Fish Model Speaker: Prof. Anderson O.L. WONG Host: Prof. Wei GE Time: 15:00-16:00 Venue: E12-G004	**03**	**04**

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