

# Xiaonan DONG (Dr.)

## Personal Information

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2011-2015 B.Sc. in Biological Sciences (2015), Sun Yat-sen University, Guangdong, China.

2015-2020 Ph.D. in Cell and Molecular Biology (2020), The Chinese University of Hong Kong, Hong Kong, China.

Postgraduate cumulative GPA: 3.7/4

Undergraduate Professional Ranking (Biological Sciences): 12/88

Extracurricular courses completion:

- Workshop on Science & Business of Biotechnology (City University of Hong Kong, HK, 2019.05).
- The Developing Brain Doctoral Course (Karolinska Institutet, Solna, Sweden, 2019.09). ¼ of Hong Kong.

## Research Interest and Publications

**Stem cell biology, regenerative medicine, mechanotransduction, and genomic regulation during mammalian development and degenerative disease pathogenesis.**

- ❖ Xiaonan Dong and Kin Ming Kwan (2020). *Yin Yang 1* is critical for mid-hindbrain neuroepithelium development and involved in cerebellar agenesis. *Molecular Brain*. 13:104.
- ❖ Xiaojie Li<sup>†</sup>, Jiajing Zhou<sup>†</sup>, Xiaonan Dong, Wai-Yin Cheng, Hongwei Duan, and Peter C. K. Cheung (2018). *In Vitro* and *In Vivo* Photothermal Cancer Therapeutic Effect of Mushroom  $\beta$ -Glucan Modified Gold Nanorods. *Journal of Agricultural and Food Chemistry*. 25;66(16):4091-4098.
- ❖ Zhijia Tan<sup>†</sup>, Peikai Chen<sup>†</sup>, Xiaonan Dong, Shuang Guo, Victor Y.L. Leung, Jason P.Y. Cheung, Danny Chan, Stephen M. Richardson, Judith A. Hoyland, Michael K.T. To and Kathryn S.E. Cheah (2024). Progenitor-like cells contributing to cellular heterogeneity in the nucleus pulposus are lost in intervertebral disc degeneration, *Cell Reports*, 43: 6114342.
- ❖ Wenfei Xu, Xinyi Luo, Yunzhu Wan, Xiaonan Dong, Xuhui Li, Jiasi Wang (2025). Microfluidic-free droplet digital RAA/RT-RAA assisted CRISPR/Cas12a system for the detection of DNA/RNA viruses, *Sensors and Actuators: B. Chemical*, 422:136633,
- ❖ Yuan Ma, Wenhao Xue, Yi Ren, Yi Tang, Ziqi Gong, Tianfang Zhang, Zoubing Chen, Xiaonan Dong, Xuezhi Ma, Ziyu Wang, Heng Xu, and Jiaqing Zhao (2025). Wearable devices for digital information interaction to assist blind and low-vision people. *Nature Reviews Electrical Engineering*. Accepted.
- ❖ Xiaonan Dong and Kin Ming Kwan (2018). Poster presentation in the Tokyo 2018 Cell and Developmental Biology Meeting - Joint Annual Meeting of 51st JSDB & 70th JSCB: Functional study of *Yin Yang 1* in mouse mid-hindbrain development.
- ❖ Xiaonan Dong, Cheng Wang, Zhijia Tan, Andrew Guo, Wilson C.W. Chan, Danny Chan and Kathryn S. E. Cheah (2023). Poster presentation in 2023 Gordon Conferences of Cartilage Biology and Pathology: Activation of the Integrated Stress Response Pathway in the Intervertebral Discs of a Mouse Model of Skeletal Dysplasia Results in Early Onset Disc Degeneration.
- ❖ Xiaonan Dong, Charles C.W. Cheng, Zhijia Tan, Peikai Chen, Shuang Guo, Tiffany Y.K. Au, Victor Y. L. Leung, Danny Chan, Stephen M. Richardson, Judith A. Hoyland, Jason Cheung, and Kathryn S.E. Cheah (2023). Poster presented in 2023 ISSCR Annual Meeting: Identifying Progenitor-like Cells in the Nucleus Pulposus Contributing to the Development and Maintenance of a Healthy Intervertebral Disc.
- ❖ Xiaonan Dong, Shuang Guo, Zhijia Tan, Peikai Chen, Tiffany Y.K. Au and Kathryn S.E. Cheah (2023). Poster presented in the Cold Spring Harbor Human Development - from Embryos to Stem Cell Models, AWAJI, JAPAN: Single-cell transcriptomic analyses of notochordal-like and chondrocyte-like cells in the human and mouse nucleus pulposus – implications for intervertebral disc degeneration.
- ❖ Xiaonan Dong, Shuang Guo, Zhijia Tan, Peikai Chen, Tiffany Y.K. Au and Kathryn S.E. Cheah (2024). Poster presented in the Osteoarthritis Research Society International 2024 annual meeting: Single-cell transcriptomic analyses of notochordal-like and chondrocyte-like cells in the human and mouse nucleus pulposus – implications for intervertebral disc degeneration.

## Work and Internship Experiences

<b>China Resources Research Institute of Science and Technology Scientific Research Manager</b>	<b>2023.07-now</b>
<b>The University of Hong Kong, Li Ka Shing Faculty of Medicine Honorary Research Associate</b>	<b>2023.07-now</b>
<b>The University of Hong Kong, Li Ka Shing Faculty of Medicine Postdoctoral Fellow</b>	<b>2021.03-2023.06</b>
<b>Indegene Greater China Medical Writer</b>	<b>2020.08-2021.03</b>
<b>Peking Union Medical College</b>	<b>2014.11-2015.06</b>
Department of medical genetics, Institute of Basic Medical Sciences, CAMS	
Undergraduate thesis project working on induced ESCs specification. Project initiation, background investigation, scheduling and design experiments, protocol optimization. Perform the experiments, analyze, and interpret research data, complete the thesis.	
Summer camps in the Center for Life Science (CLS, PKU), the Institute of Neuroscience (SIBS, CAS), Peking Union Medical College (CAMS), and Xishuangbanna Tropical Botanic Garden (XTBG, CAS).	
<b>Institute of Human Virology, Zhongshan School of Medicine, SYSU</b>	<b>2013.11-2014.07</b>
Mainly engage in constructing phage display antibody library, expression, and purification of HIV-related protein.	
<b>Stem Cell and Functional Genomics Laboratory, School of Life Sciences, SYSU</b>	<b>2013.10-2014.06</b>
Participated in the research project "Using CRISPR/Cas9 to establish <i>Bend5</i> gene knockout zebrafish model and to analyze its impact on neural development." Help to design experiments, complete gene cloning, and induced protein expression.	
<b>The third Institute of Oceanography</b>	<b>2013.07-2013.08</b>
State Oceanic Administration Marine Biology Laboratory of Genetic Resources Exploration and development of deep-sea biological resources.	
Engaged in the heat-resistant gene cloning from deep-sea tubeworms.	
<b>Yunnan Institute of Materia Medica</b>	<b>2012.7-2012.08</b>
Natural Resources Research Center and Drug Screening Center	
Engaged in plant powder microscopic identification, animal pathological modeling, medicine efficacy trials, etc.	

## Extracurricular Experiences

Present at the Inter-University Symposium in Biochemical Sciences (once a year).	<b>2015.08-2020.08</b>
Organization Secretary of class.	<b>2013.08-2014.06</b>
Organized and participated in Sun Yat-sen University East Campus orchestra 2014 New Year's Concert; and the South Campus orchestra 2014 New Year's Concert.	<b>2013.08-2014.06</b>
Minister of SYSU South Campus Orchestra wind instrument department; Vice Minister of Propaganda department of the SYSU Red Cross Society.	<b>2012.09-2013.07</b>
Monitor of the Class.	<b>2011.09-2012.07</b>

## Honors and Awards

<b>9<sup>th</sup> Youth Talent Nurturing Program</b> China Association for Science and Technology (National Talent Program)	<b>2023.12</b>
<b>Reaching out award</b> Hong Kong S.A.R. Government Scholarship Fund. (2020 Global Young Scientists Summit, Singapore. 1/5 of CUHK).	<b>2020.01</b>
<b>Best oral presentation award.</b> Graduate seminar series 2017-18, School of Life Sciences, CUHK.	<b>2018.06</b>
<b>Asia-Pacific Developmental Biology Network (APDBN) travel award.</b> (Tokyo 2018 Cell and Developmental Biology Meeting - Joint Annual Meeting of 51st JSDB & 70th JSCB, Japan).	<b>2018.06</b>
<b>Excellent teaching assistant</b> (BIOL4012 Field and Environmental Biology).	<b>2016.08</b>
<b>SYSU outstanding students Scholarship Second Prize.</b>	<b>2014.06</b>
<b>SYSU outstanding League member.</b>	<b>2014.06</b>
<b>National Scholarship.</b>	<b>2013.06</b>
<b>SYSU outstanding students Scholarship First Prize.</b>	<b>2013.06</b>
<b>Outstanding cadres of Student Association.</b>	<b>2013.06</b>
<b>The Third Prize outstanding students Scholarship.</b>	<b>2012.06</b>