

Chen WANG

I am a highly skilled professional specializing in **Genetic neurological and neurodevelopmental disease**. Currently, I am research associate in **the Chinese University of Hong Kong**. My research interests encompass the field of neurological and neurodevelopmental diseases, cell and animal models for genetic diseases, electrophysiological detection for 2D or 3D cell models, molecular interference caused by variants, gene/RNA/ASO therapies for genetic diseases.



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AREA OF COMPETENCY

- Diagnosis and treatment for neurological diseases
- Neurogenetic diseases
- Gene testing and variants interpretation
- Epilepsy and electrophysiology
- Applications of iPSC/ESC modelling for genetic disease

EDUCATION

2021/08-2024/08 Ph.D. of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong

2017/09-2020/06 Master of Neurology, Tongji Medical College, Huazhong University of Science and Technology, China

2012/09-2017/07 B.Sc. for Five-Year Program of Clinical Medicine, Wuhan University, China

PROFESSIONAL POSITIONS

2025/2-current Postdoctoral fellowship, The Chinese University of Hong Kong, Hong Kong

2024/11-2025/02 Research Associate (Honorary), The Chinese University of Hong Kong, Hong Kong

2021/09-2024/08 Ph.D. student, The Chinese University of Hong Kong, Hong Kong

2021/09-2024/05 Teaching Assistant in courses of Human structure, Molecular Medicine and Genetics, Medical genetics, Pharmacology and Therapeutics and course of laboratory practical for Site-Directed Mutagenesis, RT-PCR, gene editing, The Chinese University of Hong Kong, Hong Kong

2020/10-2021/08 Research Assistant, The Chinese University of Hong Kong, Hong Kong

2017/09-2020/07 Research Assistant, Department of Neurology, Wuhan Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China; participating in clinical work such as patient management and routine rounds in Department of Neurology in Union Hospital of Tongji Medical College

2016/03-2017/04 Clinical medical intern, in departments of Neurology and several departments of Medicine in The Second Affiliated School of Clinical Medicine of Wuhan University, Wuhan, China.

RESEARCH PROJECTS

2021/08-2024/05 Functional characterization of the variants of uncertain significant identified in patients with early-life-epilepsy in Hong Kong. (Founded by **Health and Medical Research Fund 22/23**), Role: **Chief Investigator**

- Solely responsible for construction of wildtype and mutant plasmids, basic molecular and protein experiments, and detection of ion flux indicators for sodium/potassium/calcium channels
- Generated stable cell lines by lentivirus and conducted whole cell recording by traditional patch clamp for 7 types of wildtype and mutant voltage-gated sodium/potassium/calcium channels
- Analyzed electrophysiological data using corresponding software such as patchmaster and Clampfit

2022/03-2023/02 Monoallelic variation of *DHX9* in neurodevelopmental disease and Charcot-Marie-Tooth disease. (Founded by the **General Research Fund of the Research Grants Council (RGC) of Hong Kong**), Role: **Chief Investigator**

- Responsible for plasmid construction, ATPase assay, and protein purification for DHX9 helicase activity assay
- Lead junior PhD student in performing experiments and troubleshooting

2021/03-2022/08 Data-driven analysis of carrier frequencies of autosomal recessive and X-linked diseases in the Asian population. (Founded by **Health and Medical Research Fund 21/22**)

- Responsible for reference paper searching and manual data output checking using the constructed pipeline

2017/09–2020/07 The clinical and genetic features of Hereditary spastic paraplegia. (Founded by **Huazhong University of Science and Technology**), Role: **Chief Investigator**

- Investigated de novo variants in exons of SPAST and SPG11, and splicing mutation site in intron and missense mutation site in exon of B4GALNT1 (SPG26)
- Analyzed variant in splicing site by constructing minigene in plasmid to analyze abnormality of alternative splicing

2017/09-2018/06 The role of NLRP3 inflammasome in microglial inducing neuroinflammation. (Founded by the **National Natural Science Foundation of China**), Role: **Chief Investigator**

- Responsible for BV2 cell culture, LPS activation, protein extraction, and western blot

2016/03–2017/01 Role of HPV E6 on caspase-10-inducing apoptosis in cervical cancer cells. (Project of Innovation and Entrepreneurship Training for Undergraduates founded by Wuhan University) Supervisor: Prof. Dr. Hongbing Cai

- Responsible for HeLa cell culture and protein extraction

RESEARCH OUTCOMES

REFEREED JOURNAL ARTICLES

1. Calame DG, Guo T, **Wang C**, Garrett L, Jolly A et al. (2023). Monoallelic variation in DHX9, the gene encoding the DExH-box helicase DHX9, underlies neurodevelopment disorders and Charcot-Marie-Tooth disease. *Am J Hum Genet.*, Jul 13; S0002-9297(23)00214-8.
2. Zhu W, **Wang C**, Mullapudi N, Cao Y, Li L et al. (2022). A robust pipeline for ranking carrier frequencies of autosomal recessive and X-linked Mendelian disorders., *NPJ Genom Med.*, 2022 Dec 19;7(1):72.
3. **Wang C**, Zhang YJ, Xu CH, Li D, Liu ZJ, Wu Y. (2021). The investigation of genetic and clinical features in patients with hereditary spastic paraplegia in central-Southern China., *Mol Genet Genomic Med.*, 2021 May;9(5): e1627.
4. **Wang C**, Xing HY, Jiang XB, Zeng JS, Liu ZJ, Chen JX and Wu Y. (2019). Cerebral Phaeohyphomycosis Caused by *Exophiala dermatitidis* in a Chinese CARD9-Deficient Patient: A Case Report and Literature Review. *Front. Neurol.*, 2019 Sep 3;10:938.
5. Wang J, Xing H, Wan L, Jiang X, **Wang C**, Wu Y. (2018) Treatment targets for M2 microglia polarization in ischemic stroke. *Biomed Pharmacother.* 2018 Sep; 105:518-525.
6. Jiang X, Xing H, Wu J, Du R, Liu H, Chen J, Wang J, **Wang C**, Wu Y. (2017) Prognostic value of thyroid hormones in acute ischemic stroke - a meta-analysis. *Sci Rep.* 2017 Nov 24;7(1):16256.