

CAO YUJIE

PhD candidate

Room L7-55, Laboratory Block, 21 Sassoon Road,
Pokfulam, Hong Kong, P.R.China
boxyjcao@gmail.com
(+852) 2831 5122

EDUCATION

PhD candidate in Genetics, Genomics and Bioinformatics The University of Hong Kong	Expected August 2020
Master of Agriculture (Crop Science) Zhejiang University	March 2016
Bachelor of Agriculture Shandong Agricultural University	July 2013

RESEARCH INTERESTS

Human traits/diseases, quantitative genetics

GWAS strategy for complex diseases - autoimmune disease SLE, IBD

WES/WGS strategy for Mendelian diseases - Thalassaemia, primary immunodeficiency disease, short stature, Hirschsprung's disease

Population screening by next-generation sequencing

Development of a tailored NGS platform for molecular diagnosis of thalassaemia

Contribute to the development of a molecular diagnosis tool for PID

Omics data analysis

Disease microenvironment/heterogeneity profiling by single-cell RNA sequencing

Single-cell RNA sequencing analysis of iPSC derived enteric neural crest

PUBLICATIONS

Yujie Cao, Yu Lung Lau, Shau Yin HA, Chi-Chiu So, Jing Yang, Ho Wan Ip, Huoru Zhang, Rui Liang, Maria-Mercè Garcia-Barcelo, Clara Sze-Man Tang, Tong Ming For, Nattiya Hirankarn, Wanling Yang. Development of a one-stop thalassaemia molecular diagnosis and screening platform by next generation sequencing (In preparation)

Huang, Bing*, Zhanghua Chen*, Lanlan Geng*, Jun Wang*, Huiying Liang*, **Yujie Cao**, Huan Chen et al. "Mucosal Profiling of Pediatric-Onset Colitis and IBD Reveals Common

Pathogenics and Therapeutic Pathways." Cell 179, no. 5 (2019): 1160-1176.(*: These authors contributed equally)

Qi, Ting, **Yujie Cao**, Liyong Cao, Yongming Gao, Shuijin Zhu, Xiangyang Lou, and Haiming Xu. "Dissecting genetic architecture underlying seed traits in multiple environments." Genetics 199, no. 1 (2015): 61-71.

Xu, Haiming, Beibei Jiang, **Yujie Cao**, Yingxin Zhang, Xiaodeng Zhan, Xihong Shen, Shihua Cheng, Xiangyang Lou, and Liyong Cao. "Detection of epistatic and gene-environment interactions underlying three quality traits in Rice using high-throughput genome-wide data." BioMed research international 2015 (2015).

PROJECTS EXPERIENCES

Development of a genetic testing method by next generation sequencing for Thalassaemia--a pilot study; CHILDREN THALASSAEMIA FOUNDATION, 2016/02; Period: 2017/04-2019/04; 442,000.00HKD; Major Researcher

Development of a one-stop thalassaemia screening method by next generation sequencing; CHILDREN THALASSAEMIA FOUNDATION, 2018/05; Period: 2018/11-2019/11; 337,000.00HKD; Draft the grant and serve as the Major Researcher

Mucosal profiling of pediatric-onset Colitis and IBD reveals a common pathogenesis and therapeutic pathways; Contribute to the GWAS part

Single cell RNA sequencing reveals a developmental trajectory difference for Hirschsprung's disease by iPSC derived enteric neural crest; Contribute to the bioinformatics part

Development of a molecular diagnosis tool for Primary Immunodeficiency patients; Innovation and Technology Fund, ITS/417/18; Team member

NGS clinical molecular diagnosis for PID, Short Status, Hirschsprung's disease

CONFERENCE PRESENTATIONS

Joint 30th International Conference on Genome Information & Australian Bioinformatics and Computational Biology Society Annual Conference; Abstract and poster presentation; Development of a one-stop thalassaemia screening method by next generation sequencing

American Society of Human Genetics 2018 Annual Meeting, abstract and poster presentation; PgmNr 2245: Development of a genetic testing method by next-generation sequencing for screening of Thalassemia mutations

Department research seminar (December 18, 2018) of Department of Paediatrics & Adolescent Medicine, HKU; Development of a one-stop thalassaemia screening method by next-generation sequencing

Hong Kong Grid Community meeting 2018; Development of a one-stop thalassaemia screening method by Next-Generation Sequencing(NGS) technology

PPROFESSIONAL EXPERIENCE

Sub-reviewer for Molecular Genetics & Genomic Medicine

Sub-reviewer for APBC 2020

Member of American Society of Human Genetics

LANGUAGES

Chinese

English

INTERNSHIP

Nov 2018-May 2019, Exchange student at Guangzhou Women and Children's Medical Centre

June 2016-August 2016, Bioinformatics R&D Intern at OEbiotech®

CORE KNOWLEDGE

Human Genetics, Bioinformatics, Immunology, Frequentist and Bayesian statistics, Python, R, NGS, GWAS

REFERENCES

Wanling Yang, M.Med, Ph.D.

Associate Professor

Department of Paediatrics and Adolescent Medicine, The University of Hong Kong

Office: Room 1-05F, 1/F, Jockey Club Building, 5 Sassoon Road, Pokfulam, Hong Kong

Mailing: Room L7-55, Laboratory Block, 21 Sassoon Road, Pokfulam, Hong Kong

Tel: (852)283-15077, Email: yangwl@hku.hk, url: wyanglab.org

Yu-lung Lau, MBChB, MD (Hon), FRCPCH, FHKAM, FHKCPaed
Professor
Department of Paediatrics and Adolescent Medicine, The University of Hong Kong
Office: Room 106, 1/F, New Clinical Building, 102 Pokfulam Road, Queen Mary Hospital, Hong Kong
Tel: (852) 2255-4481, Fax: (852) 2855-1523, Email: laulylung@hku.hk

Yan-Zhang, Ph.D.
Principle Investigator
Department of Gastroenterology, Guangzhou Institute of Paediatrics, Guangzhou Women and Children's Medical Centre
9 Jinsui Road, 510623 Guangzhou, P.R.China
Email: yannizy@gmail.com

Xu, Haiming, Ph.D.
Professor
College of Agriculture and Biotechnology, Zhejiang University
866 Yuhangtang Road, 310058 Hangzhou, P.R.China
Tel: (+86) 13018951758, Email: hmxu@zju.edu.cn

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