YUELIN YAO

y.yao-38@sms.ed.ac.uk @yaoyuelin11 https://yuelinyao.github.io/

Education

Nov 2020 – Ongoing
Ph.D. Bioinformatics, University of Edinburgh, UK
School of Informatics, IANC: Machine Learning, Computational Neuroscience, Computational Biology.
Thesis title: *Machine learning for investigating molecular mechanisms underlying cancer initiation and progression.*

Sep 2019 – Sep 2020
M.Sc. Bioinformatics, University of Edinburgh, UK
School of Biological Sciences, Graduated with Distinction.
Thesis title: *Comparative transcriptome in large-scale human and cattle populations.*

Sep 2015 - Jun 2019
B.Sc. Plant Protection, Zhejiang University.
College of Agriculture and Biotechnology, GPA: 3.63/4.0.
Thesis title: *Functional analysis of genes related to development and reproduction of Nilaparvata lugens*.

Experience

Biomedical AI Lab

Nov 2020 - Ongoing
- Developed state-of-the-art pipeline and computational tool for **scRNA-seq** data analysis.
- Estimated **mutational interactions** across pancancer from WGS data.
- Received training in **Causality in Biomedicine Course**, and **Neuromatch Deep Learning Course.**

Jan 2022 - Ongoing
- Teaching. Tutor and marker of **Methods for Causal Inference Course.**

Nov 2022
- Presented poster at **CSHL The Biological Data Science conference**, New York State, US.

Jun 2022
- Summer School. **Dynamics and Statistics of Cancer Evolution: Applying Mathematics to Experimental and Clinical Data** Summer School in Marseille, France.

May 2021
- Presented poster at **CSHL The Biology of Genomes virtual conference.**

Quantitative Genetics Lab

Jan 2020 - Sep 2020
- Systematic comparison of **transcriptional landscape & eQTL** of all orthologous genes across major tissues among mammals.
- Integrative analysis of characterised regulatory elements with **large-scale GWAS** to understand shared & divergent genetic architecture underlying complex phenotypes.

Awards and Achievements

2023
- **Chinese government award for outstanding self-financed students abroad**
- **IGC POGS event best poster**

2022
- **IGC early career award**
- **IGS PGR travel fund**

Experience (continued)

2020 **School of Informatics PhD Scholarship, University of Edinburgh**

Skills

Coding R, Python, Java, SQL, HTML, Shell, Docker, Git, Nextflow, LaTeX.

Technical Skills Machine learning, Statistical modelling, High-throughput bioinformatics analysis.

Languages Strong reading, writing and speaking competencies for English, Mandarin Chinese.

Publications

1. Z. Pan*, **Y. Yao***, H. Yin, *et al.*, "Pig genome functional annotation enhances the biological interpretation of complex traits and human disease," *Nature communications*, vol. 12, no. 1, p. 5848, 2021.
2. **Y. Yao**, S. Liu, C. Xia, *et al.*, "Comparative transcriptome in large-scale human and cattle populations," *Genome Biology*, vol. 23, no. 1, pp. 1–24, 2022.
3. S. H. Waddell*, **Y. Yao***, P. Olaizola, *et al.*, "Primary cilia loss promotes reactivation of morphogenesis and cyst-fission through a deregulated tgfβ-ecm-integrin axis in polycystic liver disease.," *bioRxiv*, pp. 2022–04, 2022.
4. S. Waddell*, **Y. Yao***, S. Macmaster, *et al.*, "Loss of cholangiocyte primary cilia drives reorganisation of the biliary tree and accelerates tumorigenesis," in *JOURNAL OF HEPATOLOGY*, ELSEVIER RADARWEG 29, 1043 NX AMSTERDAM, NETHERLANDS, vol. 75, 2021, S248–S249.
5. S. Liu, Y. Gao, O. Canela-Xandri, ..., **Y. Yao**, *et al.*, "A multi-tissue atlas of regulatory variants in cattle," *Nature genetics*, vol. 54, no. 9, pp. 1438–1447, 2022.
6. W. Yang, J. Yu, **Y. Yao**, *et al.*, "Comparative immune-relevant transcriptome reveals the evolutionary basis of complex traits," *Iscience*, vol. 25, no. 12, p. 105 572, 2022.
7. D. Guan, Z. Bai, X. Zhu, ..., **Y. Yao**, *et al.*, "The chickengtex pilot analysis: A reference of regulatory variants across 28 chicken tissues," *bioRxiv*, pp. 2023–06, 2023.
8. T. Jinyan, Y. Gao, ..., **Y. Yao**, *et al.*, "A compendium of genetic regulatory effects across pig tissues," *bioRxiv*, pp. 2022–11, 2022.
9. W. Wang, R.-R. Yang, L.-Y. Peng, L. Zhang, **Y.-L. Yao**, and Y.-Y. Bao, "Proteolytic activity of the proteasome is required for female insect reproduction," *Open Biology*, vol. 11, no. 2, p. 200 251, 2021.
10. S. Mi, Y. Tang, ..., **Y. Yao**, *et al.*, "Protective roles of folic acid in the responses of bovine mammary epithelial cells to different virulent staphylococcus aureus strains," *Biology*, vol. 10, no. 11, p. 1164, 2021.