Yao Tong

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Education	**University of Pittsburgh**, Graduate School of Public Health	2020-Present
	Biostatistics Ph.D. Program	

Cornell University, College of Agriculture and Life Sciences   2017-2019
Magna Cum Laude, GPA: 3.93
B.S. in Biological Sciences (Concentration: Computational Biology)
B.S. in Biometry & Statistics (Concentration: General Statistics)
Minor in Computer Science
2 + 2 Program with China Agricultural University

Research Experience

CHILDREN'S HOSPITAL OF PHILADELPHIA   2019-2020
UNIVERSITY OF PENNSYLVANIA
Research Tech, Department of Pathology
Supervisor: Kai Wang

- Develop bioinformatic tools to detect genome-wide short tandem repeat.
- Detect DNA modification on the Oxford Nanopore long-read sequencing data by deep learning approaches.
- Software development: DeepMod, NanoMod, and RepeatHMM.
- Analyze RNA-seq data on Moesin knockout mice.

CORNELL UNIVERSITY   2017-2019
Research Assistant, Department of Molecular Biology and Genetics
Supervisor: Amnon Koren

- Analyze DNA replication timing (rt) profiles.
- Identify rtQTLs in *trans* and characterize the rtQTLs using computational and statistical methods.

GUANGDONG GASTROINTESTINAL HOSPITAL   2018-2019
Research Assistant
Supervisor: Feng Gao

- Use public high-throughput datasets to identify novel gene signature for cancer prognosis.

CHINESE ACADEMY OF SCIENCES   2015-2017
Research Assistant, State Key Laboratory of Stem Cell and Reproductive Biology
Supervisor: Zhaoqian Teng

- Explore roles of inhibiting the proliferation of microglia in regulating gliosis and neurodegeneration after traumatic brain injury.

Publications	• Liu, Q.#, **Tong, Y.#**, Wang, K. (2020). Genome-wide detection of short tandem repeat expansions by long-read sequencing. BMC bioinformatics, 21(21), 1-15.
	• Zhang, L., Zhu, P., **Tong, Y.** *et al*. (2019). An immune-related gene pairs signature predicts overall survival in serous ovarian carcinoma. OncoTargets and therapy, 12, 7005.
	• Shu, P., Wu, J., **Tong, Y.** *et al*. (2018). Gene pair based prognostic signature for colorectal colon cancer. Medicine, 97(42).
	• Ding, Q., Edwards, M.M., Hulke, M.L., Bracci, A.N., Hu, Y., **Tong, Y.** *et al*. The Genetic Architecture of DNA Replication Timing in Human Embryonic Stem Cells. (Under review by *Nature*)
	• Lai, W., Wang, Y., **Tong, Y.** *et al*. Functional evaluation of behavioral phenotypes in a Moesin knockout mouse model. (In preparation)

Softwares	• [DeepMod] A deep-learning tool for genomic-scale, strand-sensitive and single-nucleotide based detection of DNA modifications.
	• [RepeatHMM] A novel computational tool to detect any microsatellites from given long reads for a subject of interests.

Teaching Experience	**Graduate Teaching Assistant**, University of Pittsburgh BIOST 2063: Bayesian Data Science, Spring 2021 BIOST 2036: Introduction to Health Data Science, Fall 2020

Technical Skills	**Programming Language:** R (Advanced), python (Advanced), MATLAB (Intermediate), C (Intermediate), SAS (Basic), SPSS (Basic), Java (Basic) **Computer:** Linux bash shell, LaTex, Markdown, Github, MS office suite

Relevant Courses	**Statistics:** Theory of Statistics ▪ Statistical Methods ▪ Applied Time Series Analysis ▪ Linear Models with Matrices ▪ Statistical Computing ▪ Quantitative Genomics and Genetics ▪ Survival Analysis ▪ Applied Regression Analysis **Computer Science:** Numerical Analysis ▪ Algorithm Design ▪ Computer System Organization ▪ Machine Learning ▪ Discrete Structures ▪ Object-oriented Programming & Data Structure **Biology:** Molecular Biology ▪ Bioinformatics ▪ Immunology ▪ Cell Biology ▪ Biochemistry ▪ Genetics ▪ Evolutionary Biology ▪ Cancer Genetics