YIQUAN WANG

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Professional summary

Passionate about the integration of biological and computational sciences, with 6+ years of collaborative research experience in deep learning applications and next-generation sequencing analysis. Interdisciplinary research experience in diverse fields (immunology, virology, structural biology and computational biology) and the ability to learn and adapt quickly.

Education & Work

2020-08 – Current	**Ph.D.** (Biochemistry, Bioinformatics), *University of Illinois Urbana - Champaign, IL*
2022-05 – 2022-12	**Intern** - gRED - Structural and Computational Biology, *Genentech, CA*
2019-09 – 2020-09	**Research Assistant**, HKU-Pasteur Research Pole, Chris Mok, Hong Kong, China
2015-09 – 2019-06	**Bachelor of Bioengineering** (Bioengineering), *Chongqing University - Chongqing, China*

Talks & Presentations

2022-06	**Keystone symposia** *Poster: A large-scale systematic survey reveals recurring molecular features of public antibody responses to SARS-CoV-2*
2022-07	**American Society for Virology Annual Meeting** *Talk: Antigenic evolution of human influenza H3N2 neuraminidase is constrained by charge balancing*

Publications

Preprints

Wang Y*, Lv H*, Lei R, Yeung YH, Shen IR, Choi D, Teo QW, Tan TJ, Gopal AB, Chen X, Graham CS. An explainable language model for antibody specificity prediction using curated influenza hemagglutinin antibodies. bioRxiv. 2023:2023-09.

Teo QW*, **Wang Y***, LYU H*, Tan TJ, Lei R, Mao KJ, Wu NC. "Stringent and complex sequence constraints of an IGHV1-69 broadly neutralizing antibody to influenza HA stem." bioRxiv (2023

Lamers MM*, Breugem TI*, Mykytyn AZ*, **Wang Y**, Groen N, Knoops K, Schipper D, van der Vaart J, Koopman CD, Zhang J, Wu DC, van den Doel PB, Bestebroer T, GeurtsvanKessel CH, Peters PJ, Muraro MJ, Clevers H, Wu NC, Haagmans BL. Human organoid systems reveal in vitro correlates of fitness for SARS-CoV-2 B.1.1.7. *bioRxiv* DOI: 10.1101/2021.05.03.441080

2023

Lei R, Garcia AH, Tan TJ, Teo QW, **Wang Y**, Zhang X, Luo S, Nair SK, Peng J, Wu NC. Mutational fitness landscape of human influenza H3N2 neuraminidase. Cell reports. Jan 31;42(1). (2023)

2022

Yuan M, **Wang Y**, Lv H, Tan TJC, Wilson IA, Wu NC. Molecular analysis of a public cross-neutralizing antibody response to SARS-CoV-2. Cell Reports 41:111650 (2022)

Lei R, Tan TJC, Hernandez Garcia A, **Wang Y**, Diefenbacher M, Teo C, Gopan G, Tavakoli Dargani Z, Teo QW, Graham CS, Brooke CB, Nair SK, Wu NC. Prevalence and mechanisms of evolutionary contingency in human influenza H3N2 neuraminidase. Nature Communications 13:6443 (2022)

Liu T, **Wang Y**, Tan TJC, Wu NC#, Brooke CB#. The evolutionary potential of influenza A virus hemagglutinin is highly constrained by epistatic interactions with neuraminidase. Cell Host & Microbe 30:1363-1369.e4 (2022)

Liang W, Tan TJC, **Wang Y**, Lv H, Sun Y, Bruzzone R, Mok CKP#, Wu NC#. Egg-adaptive mutations of human influenza H3N2 virus are contingent on natural evolution. PLoS Pathogens 18:e1010875 (2022)

Wang Y*, Yuan M*, Lv H, Peng J, Wilson IA, Wu NC. A large-scale systematic survey reveals recurring molecular features of public antibody responses to SARS-CoV-2. *Immunity* 55(6):1105-1117 (2022). (**Cover**)

2021

Wang Y*, Lei R*, Nourmohammad A, Wu NC. Antigenic evolution of human influenza H3N2 neuraminidase is constrained by charge balancing. *eLife* 10:e72516 (2021)

Lv H*, Tsang OTY*, So RTY, **Wang Y**, Yuan M, Liu H, Yip GK, Teo QW, Yihan Lin Y, Liang W, Wang J, Ng WW, Wilson IA, Peiris JSM, Wu NC#, Mok CKP#. Homologous and heterologous serological response to the N-terminal domain of SARS-CoV-2 in humans and mice. *European Journal of Immunology* 51:2296-2305 (2021)

Tan TJC*, Yuan M*, Kuzelka K, Padron GC, Beal JR, Chen X, **Wang Y,** Rivera-Cardona J, Zhu X, Stadtmueller BM, Brooke CB, Wilson IA#, Wu NC#. Sequence signatures of two public antibody clonotypes that bind SARS-CoV-2 receptor binding domain. *Nature Communications* 12:3815 (2021)

Lamers MM, Mykytyn AZ, Breugem TI, **Wang Y,** Wu DC, Riesebosch S, van den Doel PB, Schipper D, Bestebroer T, Wu NC, Haagmans BL. Human airway cells prevent SARS-CoV-2 multibasic cleavage site cell culture adaptation. *eLife* 10:e66815 (2021)

2020

Lv H*, Wu NC*, Tsang OTY*, Yuan M, Perera RAPM, Leung WS, So RTY, Chan JMC, Yip GK, Chik TSH, **Wang Y**, Choi CYC, Lin Y, Ng WW, Zhao J, Poon LLM, Peiris JSM#, Wilson IA#, Mok CKP#. Cross-reactive antibody response between SARS-CoV-2 and SARS-CoV infections. *Cell Reports* 31:107725 (2020)

2018

Wang, Y*, Wei Zhou*, Feng Chen, Kaiyao Sun, Jixi Zhang, Ezgi Özliselib, and Jessica M. Rosenholm. "Terbium complexes encapsulated in hierarchically organized hybrid MOF particles toward stable luminescence in aqueous media." *CrystEngComm* 20.30 (2018): 4225-4229.
(*equal contributors)

Awards & Fellowships

- "Life Inspiring" art competition Second Place Winner (2023)
- HERBERT E. CARTER FELLOWSHIP (2023)
- Biochemistry Department Graduate Student Conference (Travel) Awards (2022)
- Chongqing University Excellent Student Comprehensive Scholarship (2015 - 2019)
- National Encouragement Scholarship (2015 - 2019)
- "Meritorious Winner" in The Mathematical Contest in Modeling, COMAP (2017)