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Publication list

Work presented in this thesis

1. **Daipeng Chen**, Yanni Xiao and Sanyi Tang. "Air quality index induced non-smooth system for respiratory infection." Journal of Theoretical Biology 460 (2019): 160-169.

2. **Daipeng Chen**, Yuyi Xue and Yanni Xiao. "Determining travel fluxes in epidemic areas." PLoS computational biology 17.10 (2021): e1009473.

3. **Daipeng Chen**, Zary Forghany, Xinxin Liu, Haijiang Wang, Roeland Merks and David Baker. "A new model of Notch signalling: Control of Notch receptor cis-inhibition via Notch ligand dimers." PLoS computational biology 19.1 (2023): e1010169.

4. **Daipeng Chen**, Xiaodan Sun and Robert A. Cheke. "Inferring a causal relationship between environmental factors and respiratory infections using convergent cross-mapping." Entropy 25.5 (2023): 807.

Other work

1. Xue, Yuyi, **Daipeng Chen**, Stacey R. Smith, Xiaoe Ruan, and Sanyi Tang. "Coupling the Within-Host Process and Between-Host Transmission of COVID-19 Suggests Vaccination and School Closures are Critical." Bulletin of Mathematical Biology 85.1 (2023): 6.

2. Shixiong Cheng, Chris Jacobs, Elisa Pérez, **Daipeng Chen**, Joep Sanden, Kevin Bretscher, Femke Verweij, Jelle Bosman, Amke Hackmann, Roeland Merks,

Publication list

Joost Heuvel and Maurijn Zee. "A life-history allele of large effect shortens developmental time in a wild insect population." Nature Ecology and Evolution (2023): 1-13.

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Curriculum Vitae

Daipeng Chen was born and brought up in Ankang, China, and attended high school at his hometown. He went to study mathematics at Northwest University, Xi'an, China in 2012 and received his BSc degree in the summers of 2016. In the fall of 2016, he started his research as a master student at the School for Mathematics and Statistics of Xi'an Jiaotong University (XJTU). During this period, he went to Shanghai for three months to learn biology at the Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences. In 2018 he began his doctoral research on modeling the transmission of infectious disease, under the supervision of Prof. Yanni Xiao at XJTU. In 2020, sponsored by the China Scholarship Council, he joined the double-PhD program of XJTU and Leiden University (LU), the Netherlands where he was supervised by Prof. Roeland Merks at the Mathematical Institute of Leiden University. He is also co-supervised by Dr. David Baker of Leiden University Medical Center. At this stage, his research focuses on developing mathematical models to investigate the mechanisms of Notch signaling and its role in angiogenesis. He is also active in teaching: at LU he has supervised a Bachelor student on the topic of "Mathematical modeling of Notch ligands heterodimerization during angiogenesis". As a teaching assistant, He has taught "Linear Algebra (XJTU)", "Systems Biology (LU)", "Physics and Chemistry for biodynamic modelling (LU)" and "Elementary and Practical Mathematics for non-mathematicians (LU)".