

Chao Hou (侯超), MD, Bioinformatics

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Academic Curriculum Vitae

Personal:

- Native place: Shandong, China
- Gender: Male
- Born: 1997
- Language: Chinese, English
- Hobbies: Basketball, Skiing, Photography, Badminton

Education:

- MD, Medical Bioinformatics Peking University Sep 2020-present
 - ✧ Advisor: [Associate Prof. Tingting Li](#)
 - ✧ Anticipated graduation: Jul 2023
- Bachelor of Medicine Peking University Sep 2015-Jun 2020
- Bachelor of Economics (double degree) Peking University Sep 2016-Jun 2020

Research Interests:

- Transcription regulation and genome organization
- Precision medicine based on multi-omics data and single-cell data
- Understanding protein function and regulation via deep learning
- Drug designation and effect prediction via deep learning

Publications:

1. **Hou C#**, Wang X#, Xie H#, Chen T, Zhu P, Xu X, You K, Li T. PhaSepDB in 2022: annotating phase separation-related proteins with droplet states, co-phase separation partners and other experimental information. **Nucleic Acids Res.** 2023 Jan 6.
2. **Hou C**, Li Y, Wang M, Wu H, Li T. Systematic prediction of degrons and E3 ubiquitin ligase binding via deep learning. **BMC Biol.** 2022 Jul 14.
3. **Hou C#**, Xie H#, Fu Y#, Ma Y#, Li T. MloDisDB: a manually curated database of the relations between membraneless organelles and diseases. **Brief Bioinform.** 2021 Jul 20.
4. Chen Z#, **Hou C#**, Wang L#, Yu C, Chen T, Shen B, Hou Y, Li P, Li T. Screening membraneless organelle participants with machine-learning models that integrate multimodal features. **Proc Natl Acad Sci U S A.** 2022 Jun 14. (co-first author)
5. Zhu P#, **Hou C#**, Liu M, Li T. Exploring Nuclear Phase Separating Proteins Using Gradient 1,6-Hexanediol Elution. Submitting. (co-first author)
6. Han P, **Hou C**, Zheng X, Cao L, Shi X, Zhang X, Ye H, Pan H, Liu L, Li T, Hu F, Li Z. Serum Antigenome Profiling Reveals Diagnostic Models for Rheumatoid Arthritis. **Front Immunol.** 2022 Apr 20.

7. Shi M, You K, Chen T, **Hou C**, Liang Z, Liu M, Wang J, Wei T, Qin J, Chen Y, Zhang MQ, Li T. Quantifying the phase separation property of chromatin-associated proteins under physiological conditions using an anti-1,6-hexanediol index. *Genome Biol.* 2021 Aug 17.
8. Yu C, Lang Y, **Hou C**, Yang E, Ren X, Li T. Distinctive Network Topology of Phase-Separated Proteins in Human Interactome. *J Mol Biol.* 2022 Jan 15.
9. Xu X, Li Y, Chen T, **Hou C**, Yang L, Zhu P, Zhang Y, Li T. VIPpred: A novel tool for predicting variant impact on phosphorylation (VIP) events driving carcinogenesis. Submitting.

Oral Presentations

2022.12 Targeting disordered degrons on phase separating proteins. Silk Road International Symposium for Distinguished Young Scholars at Xi'an Jiaotong University, Virtual meeting.

2023.04 The degradation regulation of phase separating proteins. Multidisciplinary Conference on New ideas and New Technologies at Peking University, Beijing, China.

Honors and Awards

- 2014 Silver medal in the Chinese Physics Olympiad
- 2016 National Scholarship
- 2020 Peking University Junior Scholar
- 2021 Peking University Doctoral Innovation Scholarship
- 2022 Peking University President Scholarship

Technical Strength

- Data analysis: Python, R, Bash
- Website construction: Django, HTML, JS, CSS
- Deep learning: PyTorch
- Bioinformatics: High-throughput Sequencing, Proteomics
- Other Skills: Photoshop, Illustrator, Markdown, GitHub

References

- [Associate Prof. Tingting Li](#)
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Department of Biomedical Informatics, Peking University School of Basic Medical Sciences
E-mail: litt@hsc.pku.edu.cn
- [Prof. Zhanguo Li](#)
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Chief of Department of Rheumatology and Immunology, Peking University People's Hospital
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- [Prof. Cai-Hong Yun](#)
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