Chao Hou (侯超), Ph.D.

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Academic Curriculum Vitae (Update: Sep 2023)

Personal:

➢ Name: Chao Hou

➢ Native place: Shandong, China

➢ Language: Chinese, English

➢ Hobbies: Basketball, Skiing, Photography, Badminton

Research Interests:

➢ Functional Analysis of Genetic Mutations

➢ Transcription regulation and genome organization

➢ Precision medicine based on multi-omics data

➢ Protein language model

➢ Drug designation and effect prediction via deep learning

➢ Studying cell differentiation and drug response using single-cell data

Work Experience:

➢ Postdoc Research Scientist   Columbia University   Sep 2023 -

     ✦ Advisor: Assoc. Prof. Yufeng Shen

Education:

➢ Ph.D. in Biomedical Informatics   Peking University   Sep 2020 - Jul 2023

     ✦ Advisor: Prof. Tingting Li

➢ Bachelor of Medicine and Economics   Peking University   Sep 2015 - Jul 2020

Main Publications:

(# indicates co-first author)

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;51(D1):D460-D465.

2. **Hou C**, Li Y, Wang M, Wu H, Li T. Systematic prediction of degrons and E3 ubiquitin ligase binding via deep learning. **BMC Biology.** 2022 Jul 14;20(1):162.

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;22(4):bbaa271.

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;119(24):e2115369119.

5. Zhu P#, **Hou C#**, Liu M, Chen T, Li T, Wang L. Investigating phase separation properties of

chromatin-associated proteins using gradient elution of 1,6-hexanediol. **BMC Genomics**. 2023 Aug 28;24(1):493.

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;13:884462.

Other Publications:

7. Xu X, Li Y, Chen T, **Hou C**, Yang L, Zhu P, Zhang Y, Li T. investigating variant impact on phosphorylation events driving carcinogenesis. Accepted.

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;434(1):167292.

9. 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;22(1):229.

Oral Presentations

2023.07   The degradation regulation of phase separating proteins. The student symposium in Fudan international summer school of life science, Shanghai, China.

2023.06   The degradation regulation of phase separating proteins. Excellent graduates symposium of Peking University School of Basic Medical Sciences, Beijing, China.

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

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

Honors and Awards

2023   First prize in the student symposium in Fudan international summer school of life science

2023   Peking University Excellent Graduate

2022   Peking University President Scholarship

2021   Peking University Doctoral Innovation Scholarship

2020   Peking University Junior Scholar

2016   National Scholarship

2014   Silver medal in the final of Chinese Physics Olympiad