

# Lily (Shi-tao) Zhang

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## Postdoctoral fellow

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Department of Nutrition, School of Medicine, Case Western Reserve University  
Cleveland, Ohio, U.S.

**Advisor:** Prof. Sichun Yang

03/2022 – 07/2025

## Education

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**Master** Department of Population and Quantitative Health Sciences, Case Western Reserve University

Major: Biostatistics

Cleveland, Ohio, U.S.

08/2025 – now

**Ph.D.** School of Life Science, Jilin University

Major: biochemistry and molecular biology

Changchun, China

**Advisor:** Prof. Xueqi Fu

09/2015 – 12/2021

**Bachelor of Science** in School of Life Science, Jilin University

Major: life science

Changchun, China

09/2011 – 06/2015

## Research Interests

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Biochemistry. Molecular biology. Bioinformatics.

Drug discovery. Cell signaling pathways. Cellular and molecular mechanisms of diseases.

Molecular dynamics simulations and analysis. Data analysis.

## Research Experience

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Exploring binding of Human Estrogen Receptor alpha CDE with nucleic acid.

Exploring the binding mode of key enzymes and ligands in major diseases based on molecular dynamics simulation.

Study of therapeutic mechanism of small peptide extracted from sunflower on mice model of high uric acid.

Inhibitors based on mutation of tyrosine kinase FLT3D835.

Effects of Shenqijiangtang Tablets on GLP-1 Secretion of human L-cells.

## Skills

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Single particle Cryo-Electron Microscopy.

Bioinformatics, design and analysis of experiments.

Molecular dynamics with AMBER packages and analysis.

Expression and purification of proteins. Western blotting. ELISA.

Cell culturing.

DNA and RNA related experiments.

Data analysis, mining and visualization with R, Python, Originlab and Excel.

## Publications

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### Journal articles:

**Zhang S**, Zuo C, Li W, Fu X, Xing S, Zhang X. Identification of key genes associated with the effect of estrogen on ovarian cancer using microarray analysis. Arch Gynecol Obstet. 2016 Feb;293(2):421-7. doi: 10.1007/s00404-015-3833-8. Epub 2015 Aug 12. PMID: 26264810.

**Zhang S**, Zhang X, Fu X, Li W, Xing S, Yang Y. Identification of common differentially-expressed miRNAs in ovarian cancer cells and their exosomes compared with normal ovarian surface epithelial cell cells. Oncol Lett. 2018 Aug;16(2):2391-2401. doi: 10.3892/ol.2018.8954. Epub 2018 Jun 12. PMID: 30013629; PMCID: PMC6036573.

**Zhang S**, Wang Y, Han L, Fu X, Wang S, Li W, Han W. Targeting N-Terminal Human Maltase-

Glucoamylase to Unravel Possible Inhibitors Using Molecular Docking, Molecular Dynamics Simulations, and Adaptive Steered Molecular Dynamics Simulations. *Front Chem.* 2021 Aug 30;9:711242. doi: 10.3389/fchem.2021.711242. PMID: 34527658; PMCID: PMC8435576.

**Zhang S**, Lv S, Fu X, Han L, Han W, Li W. Molecular Dynamics Simulations Study of the Interactions between Human Dipeptidyl-Peptidase III and Two Substrates. *Molecules.* 2021; 26(21):6492. <https://doi.org/10.3390/molecules26216492>