

**Wei Wang**  
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## **EDUCATION**

*Arizona State University* Tempe, AZ, US  
Ph. D in Biochemistry Jul 2014

**Dissertation:** Exploring the Nature of Nonspecific Peptide Protein Interactions on Surfaces

**Advisor:** Dr. Neal W. Woodbury; **Committee:** Dr. John Chaput and Dr. Yan Liu

*Tsinghua University* Beijing, China  
B. S. in Biological Sciences Jun 2008

**Thesis:** Crystallization and Preliminary Crystallographic Analysis of Human Ca<sup>2+</sup> loaded Calbindin-D28k

## **HONORS & AWARDS**

- Science Foundation Arizona Fellowship Award (2008-2010)
- Scholarship for Outstanding Student of Tsinghua University (2007)

## **TEACHING EXPERIENCE**

*Arizona State University-Poly Campus*    *Instructor*    *Mesa, AZ,*    Aug 2015-Present

- Actively teaching *Introductory Chemistry* (CHM101) lecture, laboratory, and recitation sections for undergraduate students. (11 semesters)
- Actively teaching *Principles of Biochemistry* (BCH361) for undergraduate students as the primary lecturer. (8 semesters)
- Actively teaching *Elements of Biochemistry Laboratory* (BCH367) recitation and lab classes for undergraduate students as the primary lecturer. (12 semesters)
- Actively mentoring undergraduate students for honor projects and thesis projects
- Lectured *General Chemistry I* (CHM113) Lecture for undergraduate students as the primary lecturer. (2 semesters)
- Instructed *Organic Chemistry* (CHM235, CHM237) Laboratory and recitation sections for undergraduate students. (2 semesters)

- Developed the lecture plans, PowerPoint presentation slides, new lab activities and new learning assessment tools for CHM101, BCH361, CHM235 and BCH367 taught on ASU poly campus. [SEP]
- Designed, prepared, and graded the exams for CHM101, BCH361, CHM235 and BCH367 taught on ASU poly campus. [SEP]

*Arizona State University-Poly Campus Instructional Professional Mesa, AZ Aug 2014 – Jul 2015*

- Lectured *Principles of Biochemistry (BCH361)* for undergraduate students majored in Science and Engineering. (1 semester as a substitute to Dr. Holly Huffman)
- Instructed *Elements of Biochemistry Laboratory (BCH367)* recitation and lab classes for undergraduate students. (2 semesters)
- Instructed *Organic Chemistry (CHM235, CHM237)* Laboratory and recitation sections for [SEP]undergraduate students (1 semester)

*Arizona State University-Tempe Teaching Assistant Tempe, AZ Aug 2010 - Dec 2013*

- Instructed *General Chemistry I&II (CHM113 & CHM116)* laboratory sections for undergraduate students (Primary Lecturer: Dr. Gary Cabric and Dr. Allan Scruggs)
- Instructed *General Biochemistry Lab (BCH367)* classes for undergraduate students (Primary Lecturer: Dr. Scott Lefler)
- Assisted and involved in the exams design and grading of *General Biochemistry I&II (BCH461 & BCH462)* for undergraduate students majored in Chemistry and Biochemistry (Primary Lecturer: Dr. Neal Woodbury)
- Graded and lectured review sections of *Principles of Biochemistry (BCH361)* for undergraduate students majored in Science and Engineering (Primary Lecturer: Dr. Scott Lefler)

*Arizona State University-Tempe Mentor Tempe, AZ Dec 2010 -May 2012*

- Mentored two undergraduate students in research laboratory.

*Centennial Middle School K12 outreach teacher Tempe, AZ Aug 2009 -May 2010*

- Co-designed and taught an after-school program for 8th grade. Students learned the basics of neuromuscular control by comparing human and prosthetic anatomy.

## **RESEARCH EXPERIENCE**

*Arizona State University*      *Graduate Research Associate*      *Tempe, AZ*      *Sept2008-Aug2014*

- Exploring selective peptide protein interactions at surface using 5K peptide arrays (*Wang, et al. Acta Biomater 2014*)
- Exploring the role of sequence motifs in affinity and specificity for unstructured peptide protein interactions on 4K peptide arrays (*Wang, et al. Acta Biomater 2015*)
- Investigate sequence dependence, contact dependence and potential binding models for surface bound peptides with 330K peptide arrays
- Enzyme thermo-stability study, genetically modifying the enzyme with the peptide selected from 10K peptide array to increasing enzyme thermo-stability

*Tsinghua University*      *Undergraduate researcher*      *Beijing, China*      *Dec 2006 - Jul2008*

- Independent study on regulatory mechanism of Class I PI3Ks with crystallography
- Thesis study on solving the crystal structure of Calbindin D<sub>28k</sub> protein  
Mentor: Chang Zhang (Graduate Student of Dr. Zihe Rao)
- Performed molecular cloning and protein purification assays in determining crystal structure of LadA and its complex with the FMN coenzyme

## **RESEARCH SKILLS**

- Molecular cloning: PCR, Gel-electrophoresis (Agarose and Polyacrylamide), DNA isolation and characterization, Enzymatic techniques and recombinant DNA technology, Cell culturing, Clones selection and identification, Aseptic technique, Centrifugation.
- Biochemistry techniques: High performance liquid chromatography (HPLC), Fast protein liquid chromatography (FPLC), Affinity chromatography (AC), Gas Chromatography (GC), Enzyme-linked immunosorbent assay (ELISA), SDS-PAGE.
- Bioconjugation: Protein cross-linking, protein-peptide conjugation, protein conjugations with dyes and biotin.
- Optical: Spectrophotometry, Time-resolved fluorescence spectroscopy
- Array-based technology: Peptide array binding assays, Protein-peptide conjugation assays, Protein conjugations with dyes and biotin, Peptide chemistry, Peptide array analysis

- Research Software: DNA design (BioEdit, Primer Premier), Protein structure analysis (PyMOL) Array analysis (GeneSpring, Gene Pix), Mathematical and statistical analysis (GraphPad, Origin, Matlab, Shell), Graphics (ChemDraw, Adobe Illustrator)
- Excellent oral communication and presentation skills.

## **PROFESSIONAL ACTIVITIES**

- **REMOTE 2021**, 2021
- **McMillian Achieve online learning workshop**, 2020, 2021
- **Zoom Workshop** 2020, 2021
- **Canvas learning workshop**, 2018, 2019
- **McMillian Sapling online learning workshop**, 2016, 2018
- **Volunteer**, Night of the open door, Arizona State University (2014, 2015, 2017,2018, 2019)
- **Responsible Conduct in Research** (RCR training, 2012-2013)
- **ACS on Campus Workshops** (Oct 22-23, 2013, Arizona State University)
- **Innovation Advancement Program**, 2013, Arizona State University
  - Review provisional patents filed at AZTE
  - Conduct market research on new technologies in Chemistry and Electrical Engineer fields
  - Draft commercialization plan and NCS document for pending patents
  - Business consulting for local small business and start-ups
- **Student Member**, since 2013, the American Association for the Advancement of Science.
- **Volunteer**, Scottsdale Healthcare Osborn Campus, 2010-2011
  - Transporter
  - Front desk clerk

## **PUBLICATIONS**

1. **Wang W**, Woodbury NW. Unstructured Interactions Between Peptides and Proteins: Exploring the Role of Sequence Motifs in Affinity and Specificity. *Acta Biomater* 2015;11:88-95.
2. **Wang W**, Woodbury NW. Selective protein-peptide interactions at surfaces. *Acta Biomater* 2014;10:761-8.
3. Li L, Liu X, Yang W, Xu F, **Wang W**, Feng L, Bartlam M, Wang L, Rao Z. Crystal structure of long-

chain alkane monooxygenase (LadA) in complex with coenzyme FMN: unveiling the long-chain alkane hydroxylase. J. Mol Biol. 2008 Feb 15;376(2):453-65.

4. Zhang C, Sun Y, **Wang W**, Zhang Y, Ma M, Lou Z. Crystallization and preliminary crystallographic analysis of human  $\text{Ca}^{2+}$ -loaded calbindin-D28k. Acta Crystallogr Sect F Struct Biol Cryst Commun. 2008 Feb 1;64(Pt 2):133-6.

## **PATENTS**

- **Wei Wang** and Neal Woodbury, “Selecting Surfaces with Specific Chemical Properties Relative to Complex Mixtures“ US Provisional 61/778,137

## **CONFERENCE**

- **Wei Wang**, Science Foundation Arizona Grand Challenges Summit, **2011**.
- **Wei Wang**, Science Foundation Arizona Grand Challenges Conference, **2010**.
- **Wei Wang**, Science Foundation Arizona Grand Challenges Summit, **2009**.

## **REFERENCES**

**Available upon request**