

Curriculum Vitae

Fangfang Zhang

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Summary

Solid research background in structural biology including protein science, x-ray crystallography and Cryo-EM for structure-based drug discovery. Good science communication skills and customer relationship maintenance. Self-motivated and quick learning.

Working Experience

2022.12 – 2023.06

Technical Supervisor, Application Scientist III
ThermoFisher Scientific, Shanghai

- Ownership of SPA and MicroED workflow, including sample preparation, sample screening, data collection and 3D reconstruction, and supervise new team member with SPA and MicroED workflow.
- Collaborated with Sales, BD and FSE team for successful demo jobs and customer training on Talos L120C, Talos F200C, Glacios and Krios G4.
- Collaborated with Application Scientists from Material Science to perform STEM-EDX Tomography with customer samples of high-density areas.
- Tomography and sub-tomography averaging workflow skillset development ongoing.

2020.11 – 2022.12

Application Scientist EM, Life Science, MSD
ThermoFisher Scientific, Shanghai

- Successfully demonstrated on-site pre-sale sample demo jobs and post-sale customer training in Cryo-EM techniques in top universities and research institutes including Tsinghua University, IBP, SUSTec, CAS, built good customer relationships.
- Collaborated with Sales, BD and FSE team for onsite & remote workshops.
- Ownership of the apoferritin resolution test projects for success customer sign-off e.g. SUSTec Krios G4 1.5Å, Nanoport Glacios 1.73Å, developed excellent team work and application skills.
- Tool owner for Talos L120C for one year, experienced with tool maintenance routine.

2019.11 – 2020.10

Postdoctoral Fellow at iHuman Research Institute
ShanghaiTech University, China

Supervisors:

Prof. Guisheng Zhong, ShanghaiTech University, China

Prof. Fei Xu, ShanghaiTech University, China

- Successfully crystallized the A_{2a}R adenosine receptor bound to the antagonist ZM241385 using LCP method.
- Initial Negative Stain EM and Cryo-EM analysis accomplished for a novel motor protein, prestin, from the outer hair cells of mammalian cochlea after extensive optimization.
- Cryo-EM data collected for a collaboration project to determine the atomic structure of the SARS-CoV-2 spike trimer in complex with selected high affinity neutralizing antibody.

Education

2015.10 – 2020.01

PhD in Structural Biology
University of Warwick, UK

Project:

PINs: structures for morphogenesis

Supervisors:

Prof. Richard Napier, University of Warwick, UK

Prof. Alex Cameron, University of Warwick, UK

- Bioinformatics analysis of the structure of the *Arabidopsis* PIN protein family
- Screened and optimized multiple PIN protein constructs in detergents, lipids, and buffer components suitable for structural analysis.
- Developed a protocol for successful heterologous expression and immunopurification of PIN1 from Sf9 insect cells for crystallization and structural determination.

2010.09 – 2015.07

Bachelors in Grape and Grape Wine Engineering (Top 5%)
Northwest A&F University, China

- Gained cross-discipline knowledge background in Biology/Microbiology, Biochemistry, Marketing, and Engineering.

Experiences

Postgraduate Symposium Organizing Committee

2017.11 – 2018.04

Organizing member

University of Warwick, UK

- Used strong organizational and collaborational skills in an international team for the planning, preparation and execution of the symposium.
- Facilitated the organization of the symposium with cross-cultural communication skills mainly in abstract collection and poster display boards set-up.

Decision Making and Leadership

2018.01 – 2018.01

Trainee

University of Warwick, UK

- Learned the working modes of different group leaders and made clear professional career plans.

Science Communication

2016.05 – 2016.05

Trainee

University of Warwick, UK

- Mimicked the scenarios of presenting my PhD project to audiences from a wide range of backgrounds with good presentation skills.
- Planned and interviewed the general public about their understanding of a specific scientific topic and presented the interview in the Coventry BBC studio as a 15 min radio programme.

Teamworking in a Research Environment

2016.06 – 2016.06

Trainee

University of Warwick, UK

- Collaborated with PhD students from different research backgrounds, drafted a start-up proposal and presented the proposal for mock investment interviews.

OB360° Bio-Entrepreneurship Programme

2015.11– 2016.02

Trainee

University of Oxford, UK

- Discussed deeply on how to develop a bio-science idea into business.
- Understood the development of bio-entrepreneurship including team management, marketing, finance, investment and intellectual property protection.

National Undergraduate Innovation Program

2015.10 – 2015.12

Team leader

University of Warwick, UK

- Collected and analyzed 120 groups of Cabernet Sauvignon grapes periodically after veraison for anthocyanin content.
- Developed a quantitative model based on the hyperspectral imaging technique in collaboration with data scientists for rapid and non-destructive detection of the anthocyanin content of wine grapes during ripening.

Skills

- **Computer & Software:** Cryo-EM system operation (UI, TIA, EPU, EPU-D, Tomography, SerialEM), 3D reconstruction (Relion, CryoSparc), Protein modelling and visualization (Pymol, Chimera, Modeller), Microsoft Office (ppt/excel/word).
- **Laboratory Techniques:** Molecular cloning, *E.coli*, yeast and baculovirus insect cell (Sf9, Hi5) expression system, detergent solubilization, immobilized metal ion affinity chromatography (IMAC), Affinity purification, fluorescence-detection size-exclusion chromatography (FSEC), Surface plasmon resonance (SPR), confocal laser scanning microscopy (CLSM), SMALPs purification, Radioisotope uptake assay, Mass Spectrometry (MS), SDS-PAGE, Fluorescence imaging, Western blot, Cryo-EM (SPA, MicroED and Tomography), Vitrobot, Talos 120C G2, Glacios /Arctica, Titan Krios G4.

- **Language:** Chinese (native speaker), English (fluent)

Conferences and Presentations

- 2021.05 Getting Acquainted with Cryo-EM: 6th Chinese Workshop for Structural biologists, Beijing, China: 15th-20th May 2021. Demonstrator.
- 2021.03 1st SUSTECH Cryo-EM Workshop. Shenzhen, China: 15th-19th March 2021. Demonstrator.
- 2018.09 European Auxin Workshop, University of Leeds, UK: 13th -14th September 2018.
- 2018.09 The 24th Annual Conference of Chinese Life Scientists Society in UK (CLSS-UK), University of Cambridge, UK: 08th September 2018. Talk.
- 2018.06 SLS Crop Seminar, University of Warwick, UK: 07 June 2018. Talk.
- 2018.03 SLS Postgraduate Symposium, University of Warwick, UK: 22nd-23rd March 2018. Talk.
- 2017.11 EMBL Conference on Revolutions in Structural Biology: Celebrating the 100th Anniversary of Sir John Kendrew, Heidelberg, Germany: 16th-17th November 2017. Abstract and Poster.
- 2017.10 "Frontiers in Cryo-EM" Conference, University of Leicester, UK: 3rd-4th October 2017. Abstract and Poster.
- 2017.09 Microscopy and Microspectroscopy of Nanomaterials in Liquids Workshop, York Plasma Institute, University of York, UK: 18th September 2017. Abstract and Poster.
- 2017.09 WDSI school on Principles and Practice of Data Analysis for Reproducible Research in R, University of Warwick, UK: 11th-15th September 2017.
- 2017.08 CLSS-UK 23rd Annual Conference, Imperial College London, UK: 25th August 2017. Abstract and Poster.
- 2017.07 Molecular Mechanisms Seminar, University of Warwick, UK: 5th July 2017. Talk: Structural analysis of the auxin efflux carriers PIN proteins.
- 2017.03 SLS Postgraduate Symposium, University of Warwick, UK: 22nd-23rd March 2017. Abstract and Poster.
- 2016.07 SEB Annual Meeting, Brighton, UK: 4th-7th July 2016.
- 2016.04 SLS Postgraduate Symposium, University of Warwick, UK: 18th-19th April 2016.

Awards

- 2015.07 Warwick-Chinese Scholarship Council Joint Awards for 4-year PhD studentship
- 2014.03 Funded National Undergraduate Innovation Program
- 2013.12 National Motivational Scholarship
- 2012.12 National Motivational Scholarship
- 2011.12 National Motivational Scholarship

