# Ji Sun, Ph.D.

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## Education

University of Washington — Seattle, WA
- Major: PhD in Pharmacology — Sep. 2008-Dec. 2013

University of Science of Technology of China — Hefei, China
- Major: BS in Life Science — Sep. 2003-Jul. 2007

## Research Training and Work Experience

St Jude Children's Research Hospital — Memphis, TN
*Assistant member* — Sep. 2019-present

The Rockefeller University — New York, NY
*Postdoctoral Associate* (mentor: Dr. Roderick MacKinnon) — Aug. 2014-Aug.2019

University of Washington — Seattle, WA
*Ph.D.* (mentor: Dr. Ning Zheng) — Aug. 2008-Jul. 2014

Institute of Biophysics, Chinese Academy of Science — Beijing, China
*Research Associate* (mentor: Dr. Fei Sun) — Jun. 2007-Jul. 2008

## Honors and Awards

- NIH Pathway to Independence Award (K99/R00) — Jul. 2018-2022
- Rockefeller University Postdoctoral Career Development Award — 2018
- American Heart Association Postdoctoral Fellowship — Jan.2016-Jul.2018
- Best Poster Award, BPSD program, University of Washington — 2013
- Outstanding Student Award, School of Life Science, USTC — 2007

## Presentation and Talks

- Invited speaker, Department of Pharmacology, University of Pittsburg — Dec. 2022
- Invited speaker, Shanghai Institute of Organic Chemistry, CAS — Nov. 2022
- Invited speaker, Cryo-EM Association of Chinese Young Scientists — Oct. 2022
- Invited speaker, Redox Biology Group, University of Vermont — Oct. 2022
- Invited speaker, Molecular Biophysics seminars series, University of Texas, Southwestern (UTSW) — Oct. 2022
- Invited speaker, Gordon Conference on NOX Family NADPH Oxidases — Jun. 2022
- Invited speaker, St Jude Structural Biology Symposium — May. 2022
- Invited speaker, Interline Therapeutics — Nov. 2021
- Keynote speaker, 12$^{th}$ club oxidase, France — Oct. 2021
- Invited speaker, LRRK2 Central seminar — Jul. 2021
- Invited speaker, Michael J. Fox Foundation — Jun. 2021
- Invited speaker, Department of Microbiology, Immunology and Biochemistry, University of Tennessee Health Science Center — May. 2021
- Kavli mini-symposium on Molecular Structure and Mechanism in Neuroscience — Mar. 2019
- Poster, Gordon Conference on Ion Channels, MA (poster) — Jul. 2018
- Invited speaker, Northwest Crystallography Workshop Program, OH — Jun. 2014

## Teaching

- Lecturer of the *Genes to Proteins* course at St Jude graduate school — Since 2019
- Teaching assistant, PHCOL510: Drug Discovery & Emerging Therapeutics — 2011
- Teaching assistant, Biochem442: Biochemistry — 2010

## Publications (* denotes the corresponding author)

- Wu J, **Sun J** and Chen L. Structural insights into the mechanism of DUOX1-DUOXA1 complex. (Book Chapter). ***NADPH Oxidases Revisited: From Function to Structure***. Edited by Edgar Pick. 2023 (*in press*)
- Filippini F, Nola S, Zahraoui A, Roger K, Esmaili M, **Sun J,** Wojnacki J, Vlieghe A, Bun P, Blanchon S, Rain JC, Taymans JM, Chartier-Harlin MC, Guerrera C, Galli T. ***Cell Reports***, 2023. PMID: 36905628
- Jiang M, Palicharla VR, Miller D, Hwang SH, Zhu H, Hixson P, Mukhopadhyay S* and **Sun J***. Human IFT-A complex structures provide molecular insights into ciliary transport. ***Cell Research***. 2023. PMID: 36775821
- Li C, Zhu H, Jin S, Maksoud LM, Jain N, **Sun J***, Gao Y*. Structural basis of DNA polymerase θ mediated DNA end joining. ***Nuclear Acids Research***, 2022. PMID: 36583344
- Zhu H, Tonelli F, Alessi DR, **Sun J***. Structural basis of human LRRK2 membrane recruitment and activation. ***BioRxiv***, 2022 (submitted).
- Sun D, Sang Z, Kim YJ, Xiang Y, Cohen T, Belford AK, Huet A, Conway JF, **Sun J**, Derek J Taylor DJ, Duhovny DS, Zhang C, Huang W, Shi Y. Potent neutralizing nanobodies resist convergent circulating variants of SARS-CoV-2 by targeting diverse and conserved epitopes. ***Nature Communications*** 12:4676, 2021.
- Liu H, Sun D, Myasnikov A, Damian M, Baneres J, **Sun J***, Zhang C*. Structural basis of human ghrelin receptor signaling by ghrelin and the synthetic agonist ibutamoren. ***Nature Communications*** 12:6410, 2021.
- Myasnikov A, Zhu H, Hixson P, Xie B, Yu K, Pitre A, Peng J and **Sun J***. Structural analysis of the full-length human LRRK2. ***Cell*** 184:3519–3527, 2021 (Highlighted by News & Views in Nature Structure & Molecular Biology).
- **Sun J**. Structures of mouse DUOX1–DUOXA1 provide mechanistic insights into enzyme activation and regulation. ***Nature Structural & Molecular Biology*** 27(11):1086-109, 2020.

*Before St Jude*

- **Sun J** and MacKinnon R. Structural basis of human KCNQ1 modulation and gating. ***Cell*** 180: 1–8, 2020.
- **Sun J** and MacKinnon R. Cryo-EM Structure of a KCNQ1/CaM Complex Reveals Insights into Congenital Long QT Syndrome. ***Cell*** 169(6): 1042-1050, 2017.
- Li H, Lim KS, Kim H, Hinds TR, Jo U, Mao H, Weller CE, **Sun J**, Chatterjee C, D'Andrea AD, Zheng N. Allosteric Activation of Ubiquitin-Specific Proteases by β-Propeller Proteins UAF1 and WDR20. ***Molecular Cell*** 63:1-12*,* 2016.

- **Sun J*** and Zheng N*. Molecular Mechanism Underlying the Plant NRT1.1 Dual-Affinity Nitrate Transporter. ***Frontiers in Physiology*** 6(386) 2015.
- **Sun J**, Bankston JR, Hinds TR, Payandeh J, Zagotta WN, and Zheng N. Crystal Structure of the Plant Dual-affinity Transporter NRT1.1. ***Nature*** 507(7490): 73-77, 2014 (Highlighted by *News and Views* in *Nature* and recommended by *F1000*).
- Zhang X, Ge X, Yu Y, Zhang Y, Wu Y, Luan Y, **Sun J**, Qu J, Jin ZB, Gu F. Identification of Three Novel Mutations in the FRMD7 Gene for X-linked Idiopathic Congenital Nystagmus. ***Scientific Reports*** 4(3745) 2014.
- Zhu Y, Zhuang J, Ge X, Zhang X, Wang Z, **Sun J**, Yang J, Gu F. Identification of a Novel Mutation p.I240T in the FRMD7 Gene in a Family with Congenital Nystagmus. ***Scientific Reports*** 3(3084) 2013.
- Reichow SL, Korotkov KV, Gonen M, **Sun J**, Delarosa J, Hol WGJ and Gonen T. The Binding of Cholera Toxin to the Periplasmic Vestibule of the Type II Secretion Channel. ***Channels*** 5(3): 215-218. 2011.
- Zhou Q, **Sun J**, Zhai Y, and Sun F. Prokaryotic Expression of Active Mitochondrial Uncoupling Protein 1. ***Progress in Biochemistry and Biophysics*** 37(1): 56-62. 2010.

## Research Support

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|---|---|
| • R01GM141357-Molecular Mechanisms Underlying Mammalian NADPH Oxidase Activation and Regulation (role PI) | 2021-2026 |
| • R00HL143037-NIH Pathway to Independence Award (Role: PI) | 2020-2022 |

## Other Activities

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| Ad hoc reviewer, NIH Molecular Biophysics and Biological Chemistry study session | Nov. 2022 |
| Ad hoc reviewer, NIH MSFC study session | Feb. 2022 |