XIN ZHOU

Curriculum Vitae

CONTACT INFORMATION

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EDUCATION

01/2017-present	Postdoctoral fellow, University of California, San Francisco
10/2011-12/2016	Doctor of Philosophy in Bioengineering, Stanford University
09/2007-06/2011	Bachelor of Science in Chemistry, Peking University

INTERNSHIP AND PROGRAMS

6/2015-9/2015	Internship, Genentech, Department of Molecular Biology
9/2014	The Comprehensive Cancer Research Training Program, Stanford University
3/2014	Drug Discovery and Development Project Simulation, Novartis & Stanford University

RESEARCH INTEREST

Protein engineering; antibody engineering; biosensor engineering; optogenetics; protein design and directed evolution; phage display; cancer immunotherapy; cancer cell signaling; autoimmune diseases.

AWARDS AND HONORS

European Molecular Biology Organization (EMBO) Travel Grant, 2018
Merck Fellow of the Damon Runyon Cancer Research Foundation, 2017-2021
Fellow of the Jane Coffin Childs Memorial Fund, 2017-2020 (Declined)
Michael Davidson and Roger Tsien Commemorative Travel Award, 2017
Janelia Conference Travel Award, 2017
Howard Hughes Medical Institute International Student Fellow, 2013-2016
Stanford Graduate Fellow, 2011-2016
Chinese Government Award for Outstanding Self-financed Students Abroad, 2015
Protein Society Best Poster Award, 2015
Stanford System Biology Symposium Best Poster Award, 2015
Protein Society Young Investigator Travel Award, 2013
Biophysical Society Education Committee Travel Award, 2013
Stanford Bioengineering Department Best Presentation Award, 2012
Stanford Undergraduate Visiting Research Scholarship, 2010
University of Michigan Visiting Research Scholarship, 2009
Skyray Scholarship, 2009
Peking University Outstanding Student, 2007, 2009
Peking University Freshman Scholarship, 2007

PUBLICATIONS

Mou, Y., Zhou, X., Leung, K., Martinko, A., Yu, J., Chen, W., Mayo, S., Wang, L., Wells, J. 2018. Improved phosphotyrosine antibody by structure-guided design. Under revision.
Zhou, X., Zou, X., Lin, M. 2017. A single-chain photoswitchable Cas9 architecture for inducible gene editing and transcription. ***ACS Chemical Biology***. 13(2): 443–448. 2018.
Zhou, X., Fan, L., Li, P., Shen, K., Lin, M. 2017. Optical Control of Cell Signaling by Single-chain Photoswitchable Kinases. ***Science***. 355: 836 – 842.
Bajar, B., Lam, A., Radiee, R., Oh, Y., Chu, J., Zhou, X., Kim, N., Kim, B., Chung, M., Yablonovitch, A., Cruz, B., Kulalert, K., Tao, J., Meyer, T., Su, X., Lin, M. 2016. Fluorescent indicators for simultaneous reporting of all four cell cycle phases. ***Nature Methods***. 13: 993 – 996.
Zhou, X., Pan, M., Lin, M. 2015. Investigating neuronal function with optically controllable proteins.

2015. ***Frontiers in Molecular Neuroscience***. 8: 37.
Zhou X.**,** Lin M. 2015. Experimental systems for optogenetic control of protein activity with photodissociable fluorescent proteins. ***Proc. SPIE 9305***, Optical Techniques in Neurosurgery, Neurophotonics, and Optogenetics II, 930534.
Zhou, X., Lin, M. 2013. Photoswitchable fluorescent proteins: ten years of colorful chemistry and exciting applications. ***Curr. Opin. Chem. Biol.*** 17: 682 – 690.
Zhou, X., Chung, H., Lam, A., Lin, M. 2012. Optical control of protein activity by fluorescent protein domains. ***Science*** 338: 810 – 814.

RESEARCH EXPERIENCE

01/2017-present Postdoctoral scholar, University of California, San Francisco, Laboratory of Dr. James A. Wells
Engineering protein-specific phosphotyrosine antibodies to probe aberrant phosphotyrosine signaling in cancer; engineering functional antibodies to modulate extracellular protein post-translational modification in autoimmune diseases.

10/2011-12/2016 Doctoral Student, Stanford University, Laboratory of Dr. Michael Z. Lin
Identified, characterized, and optimized the first synthetic light-dependent protein-protein interaction; designed a modular protein architecture to construct light-controlled proteins (GTPases, proteases, and kinases) by structure-guided protein design; studied the mechanism involved in the light-controlling process by molecular dynamics simulations; used the engineered light-inducible proteins to study signaling pathways in mammalian cells and in *c. elegans*.

06/2015-09/2015 Intern with Dr. Keith Anderson, Genentech, Laboratory of Dr. Søren Warming
Investigated a new method to improve the efficiency of CRISPR/Cas9-guided homology-direct DNA repair.

04/2009-06/2011 Undergraduate thesis student, Peking University, Laboratory of Dr. Xiao-dong Su
Crystallized and solved the structure of a red-shifted far-red fluorescent protein and explained the mechanism of wavelength shift based on the obtained structure; the project was selected into the Chinese Undergraduate Innovation Research Program.

07/2010-09/2010 Undergraduate visiting scholar, Stanford University, Laboratory of Dr. Michael Z. Lin
Discovered a light-controlled tetramer to monomer interaction in a photoswitchable fluorescent protein; developed a novel method to control protein translocation with light.

06/2009-08/2009 Undergraduate visiting scholar, University of Michigan, Laboratory of Dr. John P. Wolfe.
Investigated the synthetic methodology toward *trans*-2,5-disubstituted pyrrolidine, an important structure motif found in many chiral auxiliaries, catalysts, and biologically active compounds.

PRESENTATIONS

The 2018 EMBO Workshop – Chemical Biology, Heidelberg, Germany, 2018 (selected talk)
PKUAANC Biohub seminars – From Scientific Discoveries to Therapeutic Antibodies, Stanford University, Stanford, CA, 03/2018 (invited talk)
Celgene JSC Meeting, San Francisco, CA, 03/2018 (selected talk)
The 2017 Damon Runyon Cancer Research Foundation Retreat, Beverly, MA, 09/2017 (poster presentation)
Janelia Chemical Tools for Complex Biological Systems Meeting, Washington, DC, 04/2017 (selected talk).
The Fifth Annual Winter Q-Bio Meeting, Kauai, Hawaii, 02/2017 (selected talk).

New Advances in Optical Imaging of Live Cells and Organisms at Cold Spring Harbor Laboratory, Suzhou, China, 12/2015 (selected talk).
Cell Symposia Engineering the Brain Conference, Chicago, IL, 11/2015 (selected talk).
The 29th Annual Symposium of The Protein Society, Boston, MA, 08/2015 (poster presentation).
Stanford System Biology Symposium, Stanford, CA, 03/2015 (poster presentation).
Stanford Department of Bioengineering 2014 Annual Retreat, Pacific Grove, CA, 11/2014 (oral presentation).
Janelia Fluorescent Proteins and Biological Sensors Conference, Washington, DC, 09/2014 (poster presentation).
Stanford Department of Chemical & System Biology Seminar, Stanford, CA, 03/2014 (oral presentation).
The 27th Annual Symposium of The Protein Society, Boston, MA, 07/2013 (poster presentation).
Biophysical Society 57th Annual Meeting, Philadelphia, PA, 02/2013 (poster presentation).
American Society For Cell Biology Annual Meeting, San Francisco, CA, 12/2012 (poster presentation).
Stanford Department of Bioengineering 2012 Annual Retreat, Santa Cruz, CA, 10/2012 (oral presentation).
Chinese National Innovation Research Program Symposium, 10/2010 (oral presentation).
Undergraduate Visiting Program Symposium, Stanford, CA, 08/2010 (poster presentation).
Science and Engineering Undergraduate Research Symposium, Notre Dame, IN, 08/2009 (poster presentation).

PATENT

Zhou, X., Lin, M. 2017. Optical control of protein function by internal insertion of photodissociable fluorescent protein domains. Provisional application for patent submitted.
Zhou, X., Lin, M. 2012. Optical control of protein activity and localization by fusion to photochromic fuorescent protein domains. Patent US8735096.

GRANT

Zhou X., Hsin J., Shi H., Huang K., Lin M., MCB140014, "Computational Design of Optically Activated Proteins", 2013 and 2015.

OTHER ACTIVITIES

2017 to 2018, Chair of UCSF Academic Path Club for Chinese Scholars (APCC)
2012 and 2014, Teaching Assistant, Stanford University
2007-2010, Volunteer to teach sign language and communicate with students who have hearing disability