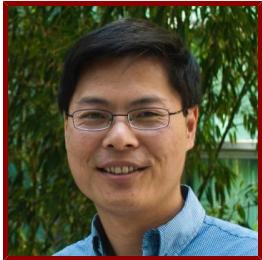


# Stanford

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## Michael Lin

Associate Professor of Neurobiology, of Bioengineering and, by courtesy, of Chemical and Systems Biology

NIH Biosketch available Online

Curriculum Vitae available Online

### CONTACT INFORMATION

- **Administrative Contact**

Alissa Ceja - Administrative Assistant

**Email** [alceja@stanford.edu](mailto:alceja@stanford.edu)

**Tel** (650) 498-1780

### Bio

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#### BIO

Our lab applies biochemical and engineering principles to the development of protein-based tools for imaging and control of biochemical processes. Topics of investigation include fluorescent proteins structure and biophysics, fluorescent protein-based biosensors, neuronal activity sensors, spatiotemporal analysis of protein translation pathways, chemical control of protein translation, and light-responsive proteins.

#### ACADEMIC APPOINTMENTS

- Associate Professor, Neurobiology
- Associate Professor, Bioengineering
- Associate Professor (By courtesy), Chemical and Systems Biology
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)
- Faculty Fellow, Sarafan ChEM-H
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

#### HONORS AND AWARDS

- Burroughs Wellcome Career Award for Medical Scientists, Burroughs Wellcome Foundation (2007-2013)
- Damon Runyon-Rachleff Cancer Innovation Award, Damon Runyon Foundation (2012-2014)
- Pioneer Award, NIH (2013-2018)
- Roger Tsien Award for Excellence in Chemical Biology, World Molecular Imaging Society (2019)

#### PROFESSIONAL EDUCATION

- BA, Harvard University , Biochemical Sciences (1994)
- PhD, Harvard Medical School , Biological & Biomedical Sciences, Lab of Michael E. Greenberg (2002)

- MD, UCLA , Medicine (2004)
- Postdoctoral Fellowship, UCSD , Lab of Roger Y. Tsien (2009)

## LINKS

- Lin Lab Web Site: <https://linlab.stanford.edu>

## **Research & Scholarship**

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our lab applies biochemical and engineering principles to the development of protein-based tools for investigating biology in living animals. Topics of investigation include fluorescent protein-based voltage indicators, synthetic light-controllable proteins, bioluminescent reporters, and applications to studying animal models of disease.

## **Teaching**

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### COURSES

#### 2023-24

- Protein Engineering: BIOE 231, BIOE 331 (Spr)

#### 2022-23

- Protein Engineering: BIOE 231, BIOE 331 (Win)

#### 2021-22

- Protein Engineering: BIOE 231, BIOE 331 (Win)

#### 2020-21

- Protein Engineering: BIOE 231, BIOE 331 (Win)

### STANFORD ADVISEES

#### Med Scholar Project Advisor

David Wang

#### Doctoral Dissertation Reader (AC)

Yuxi Ke, Marija Pavlovic

#### Postdoctoral Faculty Sponsor

Sungmoo Lee, Mikkel Madsen, Daesun Song, Xinzhi Zou

#### Doctoral Dissertation Advisor (AC)

Julisia Chau, Alex Hao, Pengli Wang, Yan Wu

#### Master's Program Advisor

Hunter Hendrix

#### Doctoral (Program)

Andy Chen, Chan Yu Kuo, Shuyu Shi, Jiaqi Wu, Aurora Xu

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

## Publications

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### PUBLICATIONS

- **A positively tuned voltage indicator for extended electrical recordings in the brain.** *Nature methods*  
Evans, S. W., Shi, D., Chavarha, M., Plitt, M. H., Taxidis, J., Madruga, B., Fan, J. L., Hwang, F., van Keulen, S. C., Suomivuori, C., Pang, M. M., Su, S., Lee, et al 2023; 20 (7): 1104-1113
- **Kinase-Modulated Bioluminescent Indicators Enable Noninvasive Imaging of Drug Activity in the Brain.** *ACS central science*  
Wu, Y., Walker, J. R., Westberg, M., Ning, L., Monje, M., Kirkland, T. A., Lin, M. Z., Su, Y.  
2023; 9 (4): 719-732
- **Optobiochemistry: Genetically Encoded Control of Protein Activity by Light.** *Annual review of biochemistry*  
Seong, J., Lin, M. Z.  
2021
- **A compact synthetic pathway rewires cancer signaling to therapeutic effector release.** *Science (New York, N.Y.)*  
Chung, H. K., Zou, X. n., Bajar, B. T., Brand, V. R., Huo, Y. n., Alcudia, J. F., Ferrell, J. E., Lin, M. Z.  
2019; 364 (6439)
- **StaPLs: versatile genetically encoded modules for engineering drug-inducible proteins.** *Nature methods*  
Jacobs, C. L., Badiee, R. K., Lin, M. Z.  
2018; 15 (7): 523–26
- **Optical control of cell signaling by single-chain photoswitchable kinases.** *Science*  
Zhou, X. X., Fan, L. Z., Li, P., Shen, K., Lin, M. Z.  
2017; 355 (6327): 836-842
- **Fluorescent indicators for simultaneous reporting of all four cell cycle phases.** *Nature methods*  
Bajar, B. T., Lam, A. J., Badiee, R. K., Oh, Y., Chu, J., Zhou, X. X., Kim, N., Kim, B. B., Chung, M., Yablonovitch, A. L., Cruz, B. F., Kulalert, K., Tao, et al 2016
- **High-fidelity optical reporting of neuronal electrical activity with an ultrafast fluorescent voltage sensor.** *Nature neuroscience*  
St-Pierre, F., Marshall, J. D., Yang, Y., Gong, Y., Schnitzer, M. J., Lin, M. Z.  
2014; 17 (6): 884-889
- **Non-invasive intravital imaging of cellular differentiation with a bright red-exitable fluorescent protein** *NATURE METHODS*  
Chu, J., Haynes, R. D., Corbel, S. Y., Li, P., Gonzalez-Gonzalez, E., Burg, J. S., Ataie, N. J., Lam, A. J., Cranfill, P. J., Baird, M. A., Davidson, M. W., Ng, H., Garcia, et al  
2014; 11 (5): 572-578
- **Imaging of Evoked Cortical Depolarizations Using Either ASAP2s, or chi-VSFP, or Di-4-Anepps, or Autofluorescence Optical Signals.** *Journal of integrative neuroscience*  
Milicevic, K. D., Zhu, M. H., Barbeau, B. L., Baser, O., Erol, Z. Y., Liu, L. X., Lin, M. Z., Antic, S. D.  
2023; 22 (6): 160
- **Machine learning identifies experimental brain metastasis subtypes based on their influence on neural circuits.** *Cancer cell*  
Sanchez-Aguilera, A., Masmudi-Martín, M., Navas-Olive, A., Baena, P., Hernández-Oliver, C., Priego, N., Cordón-Barris, L., Alvaro-Espínosa, L., García, S., Martínez, S., Lafarga, M., Lin, M. Z., Al-Shahrour, et al  
2023
- **Kinase-Modulated Bioluminescent Indicators Enable Noninvasive Imaging of Drug Activity in the Brain** *ACS CENTRAL SCIENCE*  
Wu, Y., Walker, J. R., Westberg, M., Ning, L., Monje, M., Kirkland, T. A., Lin, M. Z., Su, Y.  
2023
- **An optimized bioluminescent substrate for non-invasive imaging in the brain.** *Nature chemical biology*  
Su, Y., Walker, J. R., Hall, M. P., Klein, M. A., Wu, X., Encell, L. P., Casey, K. M., Liu, L. X., Hong, G., Lin, M. Z., Kirkland, T. A.  
2023
- **Non-invasive bioluminescent imaging of kinase inhibition in mouse brain**

- Su, Y., Wu, Y., Lin, M.  
WILEY.2023
- **Rational Design of Improved and Novel Photodissociable GFPs and RFPs**  
Westberg, M., Trigo, M. L., Devenish, S., Huang, P., Lin, M. Z.  
WILEY.2023
  - **Track: Protein Phase Separation in Biomolecular Condensates Using Phase Separation as Mechanism to Enhance Inducibility of a Synthetic Therapeutic Pathway**  
Chau, J., Westberg, M., Song, D., Lin, M.  
WILEY.2023
  - **Combinatorial effects of RhoA and Cdc42 on the actin cytoskeleton revealed by photoswitchable GEFs** *SENSORS AND ACTUATORS B-CHEMICAL*  
Ryu, H., Lee, H., Ju, J., Park, J., Oh, E., Lin, M. Z., Seong, J.  
2022; 369
  - **Optical regulation of endogenous RhoA reveals selection of cellular responses by signal amplitude.** *Cell reports*  
Ju, J., Lee, H. N., Ning, L., Ryu, H., Zhou, X. X., Chun, H., Lee, Y. W., Lee-Richerson, A. I., Jeong, C., Lin, M. Z., Seong, J.  
2022; 40 (2): 111080
  - **Enhanced safety and efficacy of protease-regulated CAR-T cell receptors.** *Cell*  
Labanieh, L., Majzner, R. G., Klysz, D., Sotillo, E., Fisher, C. J., Vilches-Moure, J. G., Pacheco, K. Z., Malipatlolla, M., Xu, P., Hui, J. H., Murty, T., Theruvath, J., Mehta, et al  
2022
  - **A red fluorescent protein with improved monomericity enables ratiometric voltage imaging with ASAP3.** *Scientific reports*  
Kim, B. B., Wu, H., Hao, Y. A., Pan, M., Chavarha, M., Zhao, Y., Westberg, M., St-Pierre, F., Wu, J. C., Lin, M. Z.  
2022; 12 (1): 3678
  - **FRET Imaging of Rho GTPase Activity with Red Fluorescent Protein-Based FRET Pairs.** *Methods in molecular biology (Clifton, N.J.)*  
Bajar, B. T., Guan, X., Lam, A., Lin, M. Z., Yasuda, R., Laviv, T., Chu, J.  
2022; 2438: 31-43
  - **A Bright, Nontoxic, and Non-aggregating red Fluorescent Protein for Long-Term Labeling of Fine Structures in Neurons.** *Frontiers in cell and developmental biology*  
Ning, L., Geng, Y., Lovett-Barron, M., Niu, X., Deng, M., Wang, L., Ataie, N., Sens, A., Ng, H., Chen, S., Deisseroth, K., Lin, M. Z., Chu, et al  
2022; 10: 893468
  - **Optical control of fast and processive engineered myosins in vitro and in living cells.** *Nature chemical biology*  
Ruijgrok, P. V., Ghosh, R. P., Zemsky, S. n., Nakamura, M. n., Gong, R. n., Ning, L. n., Chen, R. n., Vachharajani, V. T., Chu, A. E., Anand, N. n., Eguchi, R. R., Huang, P. S., Lin, et al  
2021
  - **Brightening up Biology: Advances in Luciferase Systems for in Vivo Imaging.** *ACS chemical biology*  
Liu, S., Su, Y., Lin, M. Z., Ronald, J. A.  
2021
  - **Simultaneous Detection of Four Cell Cycle Phases with Live Fluorescence Imaging.** *Methods in molecular biology (Clifton, N.J.)*  
Bajar, B. T., Lin, M. Z.  
2021; 2274: 25-35
  - **Integrated Neurophotonics: Toward Dense Volumetric Interrogation of Brain Circuit Activity-at Depth and in Real Time.** *Neuron*  
Moreaux, L. C., Yatsenko, D., Sacher, W. D., Choi, J., Lee, C., Kubat, N. J., Cotton, R. J., Boyden, E. S., Lin, M. Z., Tian, L., Tolias, A. S., Poon, J. K., Shepard, et al  
2020; 108 (1): 66–92
  - **Novel NanoLuc substrates enable bright two-population bioluminescence imaging in animals.** *Nature methods*  
Su, Y., Walker, J. R., Park, Y., Smith, T. P., Liu, L. X., Hall, M. P., Labanieh, L., Hurst, R., Wang, D. C., Encell, L. P., Kim, N., Zhang, F., Kay, et al  
2020
  - **On the cutting edge: protease-based methods for sensing and controlling cell biology.** *Nature methods*

Chung, H. K., Lin, M. Z.

2020

● **Kilohertz two-photon fluorescence microscopy imaging of neural activity in vivo.** *Nature methods*

Wu, J., Liang, Y., Chen, S., Hsu, C., Chavarha, M., Evans, S. W., Shi, D., Lin, M. Z., Tsia, K. K., Ji, N.  
2020

● **Two-Photon Voltage Imaging of Spontaneous Activity from Multiple Neurons Reveals Network Activity in Brain Tissue.** *iScience*

Li, B. n., Chavarha, M. n., Kobayashi, Y. n., Yoshinaga, S. n., Nakajima, K. n., Lin, M. Z., Inoue, T. n.  
2020; 23 (8): 101363

● **An Axonal Blueprint: Generating Neuronal Polarity with Light-Inducible Proteins** *CELL CHEMICAL BIOLOGY*

Lin, M. Z.  
2019; 26 (12): 1634–36

● **An Axonal Blueprint: Generating Neuronal Polarity with Light-Inducible Proteins.** *Cell chemical biology*

Lin, M. Z.  
2019; 26 (12): 1634-1636

● **Ultrafast Two-Photon Imaging of a High-Gain Voltage Indicator in Awake Behaving Mice.** *Cell*

Villette, V., Chavarha, M., Dimov, I. K., Bradley, J., Pradhan, L., Mathieu, B., Evans, S. W., Chamberland, S., Shi, D., Yang, R., Kim, B. B., Ayon, A., Jalil, et al  
2019; 179 (7): 1590

● **Novel NanoLuc substrates enable bright and sustained bioluminescence imaging in animals**

Walker, J., Park, Y., Smith, T., Wang, D., Hall, M., Liu, L., Hurst, R., Su, Y., Encell, L., Kim, N., Casey, K., Kirkland, T., Lin, et al  
AMER CHEMICAL SOC.2019

● **Novel substrates for NanoLuc luciferase with improved brightness and signal duration for bioluminescence imaging in vivo**

Walker, J. R., Park, Y., Lin, M., Kirkland, T. A., Hall, M. P., Encell, L. P., Oh, Y., Liu, L.  
AMER ASSOC CANCER RESEARCH.2019

● **SYNTHETIC BIOLOGY A compact synthetic pathway rewires cancer signaling to therapeutic effector release** *SCIENCE*

Chung, H. K., Zou, X., Bajar, B. T., Brand, V. R., Huo, Y., Alcudia, J. F., Ferrell, J. E., Lin, M. Z.  
2019; 364 (6439): 451-+

● **An orange calcium-modulated bioluminescent indicator for non-invasive activity imaging** *NATURE CHEMICAL BIOLOGY*

Oh, Y., Park, Y., Cho, J. H., Wu, H., Paulk, N. K., Liu, L., Kim, N., Kay, M. A., Wu, J. C., Lin, M. Z.  
2019; 15 (5): 433-+

● **An orange calcium-modulated bioluminescent indicator for non-invasive activity imaging.** *Nature chemical biology*

Oh, Y., Park, Y., Cho, J. H., Wu, H., Paulk, N. K., Liu, L. X., Kim, N., Kay, M. A., Wu, J. C., Lin, M. Z.  
2019

● **Kinase pathway inhibition restores PSD95 induction in neurons lacking fragile X mental retardation protein.** *Proceedings of the National Academy of Sciences of the United States of America*

Yang, Y. n., Geng, Y. n., Jiang, D. n., Ning, L. n., Kim, H. J., Jeon, N. L., Lau, A. n., Chen, L. n., Lin, M. Z.  
2019

● **A Suite of Transgenic Driver and Reporter Mouse Lines with Enhanced Brain-Cell-Type Targeting and Functionality** *CELL*

Daigle, T. L., Madisen, L., Hage, T. A., Valley, M. T., Knoblich, U., Larsen, R. S., Takeno, M. M., Huang, L., Gu, H., Larsen, R., Mills, M., Bosma-Moody, A., Siverts, et al  
2018; 174 (2): 465-+

● **Excitation wavelength optimization improves photostability of ASAP-family GEVis** *MOLECULAR BRAIN*

Xu, F., Shi, D., Lau, P., Lin, M. Z., Bi, G.  
2018; 11: 32

● **A Single-Chain Photoswitchable CRISPR-Cas9 Architecture for Light-Inducible Gene Editing and Transcription.** *ACS chemical biology*

Zhou, X. X., Zou, X., Chung, H. K., Gao, Y., Liu, Y., Qi, L. S., Lin, M. Z.  
2018; 13 (2): 443-448

- **Understanding CRY2 interactions for optical control of intracellular signaling** *NATURE COMMUNICATIONS*  
Duan, L., Hope, J., Ong, Q., Lou, H., Kim, N., McCarthy, C., Acero, V., Lin, M. Z., Cui, B.  
2017; 8: 547
- **The Growing and Glowing Toolbox of Fluorescent and Photoactive Proteins** *TRENDS IN BIOCHEMICAL SCIENCES*  
Rodriguez, E. A., Campbell, R. E., Lin, J. Y., Lin, M. Z., Miyawaki, A., Palmer, A. E., Shu, X., Zhang, J., Tsien, R. Y.  
2017; 42 (2): 111-129
- **A Single-Chain Photoswitchable CRISPR-Cas9 Architecture for Light-Inducible Gene Editing and Transcription** *A Single-Chain Photoswitchable CRISPR-Cas9 Architecture for Light-Inducible Gene Editing and Transcription*  
Zhou, X. X., Zou, X., Chung, H. K., Gao, Y., Liu, Y., Qi, L. S., Lin, M. Z.  
2017: 443–48
- **Fast two-photon imaging of subcellular voltage dynamics in neuronal tissue with genetically encoded indicators.** *eLife*  
Chamberland, S. n., Yang, H. H., Pan, M. M., Evans, S. W., Guan, S. n., Chavarha, M. n., Yang, Y. n., Salesse, C. n., Wu, H. n., Wu, J. C., Clandinin, T. R., Toth, K. n., Lin, et al  
2017; 6
- **Cell-Type-Specific Optical Recording of Membrane Voltage Dynamics in Freely Moving Mice** *CELL*  
Marshall, J. D., Li, J. Z., Zhang, Y., Gong, Y., St-Pierre, F., Lin, M. Z., Schnitzer, M. J.  
2016; 167 (6): 1650-?
- **The Growing and Glowing Toolbox of Fluorescent and Photoactive Proteins.** *Trends in biochemical sciences*  
Rodriguez, E. A., Campbell, R. E., Lin, J. Y., Lin, M. Z., Miyawaki, A., Palmer, A. E., Shu, X., Zhang, J., Tsien, R. Y.  
2016
- **Simultaneous dual-color fluorescence lifetime imaging with novel red-shifted fluorescent proteins.** *Nature methods*  
Laviv, T., Kim, B. B., Chu, J., Lam, A. J., Lin, M. Z., Yasuda, R.  
2016
- **A Guide to Fluorescent Protein FRET Pairs** *SENSORS*  
Bajar, B. T., Wang, E. S., Zhang, S., Lin, M. Z., Chu, J.  
2016; 16 (9)
- **Genetically encoded indicators of neuronal activity.** *Nature neuroscience*  
Lin, M. Z., Schnitzer, M. J.  
2016; 19 (9): 1142-1153
- **Structure-guided wavelength tuning in far-red fluorescent proteins.** *Current opinion in structural biology*  
Ng, H., Lin, M. Z.  
2016; 39: 124-133
- **A bright cyan-exitable orange fluorescent protein facilitates dual-emission microscopy and enhances bioluminescence imaging in vivo.** *Nature biotechnology*  
Chu, J., Oh, Y., Sens, A., Ataie, N., Dana, H., Macklin, J. J., Laviv, T., Welf, E. S., Dean, K. M., Zhang, F., Kim, B. B., Tang, C. T., Hu, et al  
2016; 34 (7): 760-767
- **Subcellular Imaging of Voltage and Calcium Signals Reveals Neural Processing In Vivo** *CELL*  
Yang, H. H., St-Pierre, F., Sun, X., Ding, X., Lin, M. Z., Clandinin, T. R.  
2016; 166 (1): 245-257
- **Quantitative Multiscale Cell Imaging in Controlled 3D Microenvironments.** *Developmental cell*  
Welf, E. S., Driscoll, M. K., Dean, K. M., Schäfer, C., Chu, J., Davidson, M. W., Lin, M. Z., Danuser, G., Fiolka, R.  
2016; 36 (4): 462-475
- **Improving brightness and photostability of green and red fluorescent proteins for live cell imaging and FRET reporting** *SCIENTIFIC REPORTS*  
Bajar, B. T., Wang, E. S., Lam, A. J., Kim, B. B., Jacobs, C. L., Howe, E. S., Davidson, M. W., Lin, M. Z., Chu, J.  
2016; 6
- **Replication-Competent Influenza Virus and Respiratory Syncytial Virus Luciferase Reporter Strains Engineered for Co-Infections Identify Antiviral Compounds in Combination Screens.** *Biochemistry*

Yan, D., Weisshaar, M., Lamb, K., Chung, H. K., Lin, M. Z., Plemper, R. K.  
2015; 54 (36): 5589-5604

● **Tunable and reversible drug control of protein production via a self-excising degron** *NATURE CHEMICAL BIOLOGY*

Chung, H. K., Jacobs, C. L., Huo, Y., Yang, J., Krumm, S. A., Plemper, R. K., Tsien, R. Y., Lin, M. Z.  
2015; 11 (9): 713-?

● **Optical control of biological processes by light-switchable proteins** *WILEY INTERDISCIPLINARY REVIEWS-DEVELOPMENTAL BIOLOGY*

Fan, L. Z., Lin, M. Z.  
2015; 4 (5): 545-554

● **Tunable and reversible drug control of protein production via a self-excising degron.** *Nature chemical biology*

Chung, H. K., Jacobs, C. L., Huo, Y., Yang, J., Krumm, S. A., Plemper, R. K., Tsien, R. Y., Lin, M. Z.  
2015; 11 (9): 713-720

● **Optical control of biological processes by light-switchable proteins.** *Wiley interdisciplinary reviews. Developmental biology*

Fan, L. Z., Lin, M. Z.  
2015; 4 (5): 545-554

● **Designs and sensing mechanisms of genetically encoded fluorescent voltage indicators.** *Current opinion in chemical biology*

St-Pierre, F., Chavarha, M., Lin, M. Z.  
2015; 27: 31-38

● **Experimental systems for optogenetic control of protein activity with photodissociable fluorescent proteins** *Conference on Optical Techniques in Neurosurgery, Neurophotronics, and Optogenetics II*

Zhou, X. X., Lin, M. Z.  
SPIE-INT SOC OPTICAL ENGINEERING.2015

● **Investigating neuronal function with optically controllable proteins.** *Frontiers in molecular neuroscience*

Zhou, X. X., Pan, M., Lin, M. Z.  
2015; 8: 37-?

● **Optobiology: optical control of biological processes via protein engineering** *BIOCHEMICAL SOCIETY TRANSACTIONS*

Kim, B., Lin, M. Z.  
2013; 41: 1183-1188

● **Photoswitchable fluorescent proteins: ten years of colorful chemistry and exciting applications.** *Current opinion in chemical biology*

Zhou, X. X., Lin, M. Z.  
2013; 17 (4): 682-690

● **Fluorescent and photo-oxidizing TimeSTAMP tags track protein fates in light and electron microscopy** *NATURE NEUROSCIENCE*

Butko, M. T., Yang, J., Geng, Y., Kim, H. J., Jeon, N. L., Shu, X., Mackey, M. R., Ellisman, M. H., Tsien, R. Y., Lin, M. Z.  
2012; 15 (12): 1742-?

● **New Alternately Colored FRET Sensors for Simultaneous Monitoring of Zn<sup>2+</sup> in Multiple Cellular Locations** *PLOS ONE*

Miranda, J. G., Weaver, A. L., Qin, Y., Park, J. G., Stoddard, C. I., Lin, M. Z., Palmer, A. E.  
2012; 7 (11)

● **Optical Control of Protein Activity by Fluorescent Protein Domains** *SCIENCE*

Zhou, X. X., Chung, H. K., Lam, A. J., Lin, M. Z.  
2012; 338 (6108): 810-814

● **Improving FRET dynamic range with bright green and red fluorescent proteins** *NATURE METHODS*

Lam, A. J., St-Pierre, F., Gong, Y., Marshall, J. D., Cranfill, P. J., Baird, M. A., McKeown, M. R., Wiedenmann, J., Davidson, M. W., Schnitzer, M. J., Tsien, R. Y., Lin, M. Z.  
2012; 9 (10): 1005-?

● **Beyond the rainbow: new fluorescent proteins brighten the infrared scene** *NATURE METHODS*

Lin, M. Z.  
2011; 8 (9): 726-728

- **Toward the Second Generation of Optogenetic Tools** *JOURNAL OF NEUROSCIENCE*  
Knoepfel, T., Lin, M. Z., Levskaya, A., Tian, L., Lin, J. Y., Boyden, E. S.  
2010; 30 (45): 14998-15004
- **TimeSTAMP tagging of newly synthesized proteins.** *Current protocols in protein science / editorial board, John E. Coligan ... [et al.]*  
Lin, M. Z., Tsien, R. Y.  
2010; Chapter 26: Unit 26 5-?
- **Autofluorescent Proteins with Excitation in the Optical Window for Intravital Imaging in Mammals** *CHEMISTRY & BIOLOGY*  
Lin, M. Z., McKeown, M. R., Ng, H., Aguilera, T. A., Shaner, N. C., Campbell, R. E., Adams, S. R., Gross, L. A., Ma, W., Alber, T., Tsien, R. Y.  
2009; 16 (11): 1169-1179
- **Mammalian Expression of Infrared Fluorescent Proteins Engineered from a Bacterial Phytochrome** *SCIENCE*  
Shu, X., Royant, A., Lin, M. Z., Aguilera, T. A., Lev-Ram, V., Steinbach, P. A., Tsien, R. Y.  
2009; 324 (5928): 804-807
- **Characterization of Engineered Channel rhodopsin Variants with Improved Properties and Kinetics** *BIOPHYSICAL JOURNAL*  
Lin, J. Y., Lin, M. Z., Steinbach, P., Tsien, R. Y.  
2009; 96 (5): 1803-1814
- **A drug-controllable tag for visualizing newly synthesized proteins in cells and whole animals** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Lin, M. Z., Glenn, J. S., Tsien, R. Y.  
2008; 105 (22): 7744-7749
- **Improving the photostability of bright monomeric orange and red fluorescent proteins** *NATURE METHODS*  
Shaner, N. C., Lin, M. Z., McKeown, M. R., Steinbach, P. A., Hazelwood, K. L., Davidson, M. W., Tsien, R. Y.  
2008; 5 (6): 545-551
- **Selective labeling of proteins with chemical probes in living cells** *PHYSIOLOGY*  
Lin, M. Z., Wang, L.  
2008; 23 (3): 131-141
- **Eph-dependent tyrosine phosphorylation of ephexin1 modulates growth cone collapse** *NEURON*  
Sahin, M., Greer, P. L., Lin, M. Z., Poucher, H., Eberhart, J., Schmidt, S., Wright, T. M., Shamah, S. M., O'Connel, S., Cowan, C. W., Hu, L., Goldberg, J. L., Debant, et al  
2005; 46 (2): 191-204
- **Survival factor-mediated BAD phosphorylation raises the mitochondrial threshold for apoptosis** *DEVELOPMENTAL CELL*  
Datta, S. R., Ranger, A. M., Lin, M. Z., Sturgill, J. F., Ma, Y. C., Cowan, C. W., Dikkes, P., Korsmeyer, S. J., Greenberg, M. E.  
2002; 3 (5): 631-643
- **Neurotrophins use the Erk5 pathway to mediate a retrograde survival response** *NATURE NEUROSCIENCE*  
Watson, F. L., Heerssen, H. M., BHATTACHARYYA, A., Klesse, L., Lin, M. Z., Segal, R. A.  
2001; 4 (10): 981-988
- **EphA receptors regulate growth cone dynamics through the novel guanine nucleotide exchange factor ephexin** *CELL*  
Shamah, S. M., Lin, M. Z., Goldberg, J. L., Estrach, S., Sahin, M., Hu, L., Bazalakova, M., NEVE, R. L., Corfas, G., Debant, A., Greenberg, M. E.  
2001; 105 (2): 233-244
- **Neurogenin promotes neurogenesis and inhibits glial differentiation by independent mechanisms** *CELL*  
Sun, Y., Nadal-Vicens, M., Misono, S., Lin, M. Z., Zubiaga, A., Hua, X. X., Fan, G. P., Greenberg, M. E.  
2001; 104 (3): 365-376
- **EphB receptors interact with NMDA receptors and regulate excitatory synapse formation** *CELL*  
Dalva, M. B., Takasu, M. A., Lin, M. Z., Shamah, S. M., Hu, L., Gale, N. W., Greenberg, M. E.  
2000; 103 (6): 945-956
- **Rapid nuclear responses to target-derived neurotrophins require retrograde transport of ligand-receptor complex** *JOURNAL OF NEUROSCIENCE*  
Watson, F. L., Heerssen, H. M., Moheban, D. B., Lin, M. Z., Sauvageot, C. M., BHATTACHARYYA, A., Pomeroy, S. L., Segal, R. A.

1999; 19 (18): 7889-7900

● **Akt promotes cell survival by phosphorylating and inhibiting a forkhead transcription factor *CELL***

Brunet, A., Bonni, A., Zigmond, M. J., Lin, M. Z., Juo, P., Hu, L. S., ANDERSON, M. J., Arden, K. C., Blenis, J., Greenberg, M. E.

1999; 96 (6): 857-868