Stanford

Bianxiao Cui

Job and Gertrud Tamaki Professor of Chemistry

CONTACT INFORMATION

- **Administrative Contact**

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Bio

BIO

Dr. Bianxiao Cui is the Job and Gertrud Tamaki Professor of Chemistry and a fellow of the Wu Tsai Stanford Neuroscience Institute at Stanford University. She holds a Ph.D. degree in Chemistry from the University of Chicago and a BS degree from the University of Science and Technology of China. Dr. Cui develops new tools to study the nano-bio interface, membrane curvature, electrophysiology, and signal transduction in cells at normal and disease conditions. As a scientist and a teacher, she enjoys working with young scholars to explore the natural world with scientific innovations. Research in her group spans the disciplines of biophysics, cell biology, chemistry, material science, nanotechnology, and neurobiology. Her awards and distinctions include Ono Pharma Breakthrough Science Initiative award, Barany Award from the Biophysical Society, NIH New Innovator Award, NSF CAREER award, NSF Inspire award, Packard Fellowships in Science and Engineering, Hellman Scholar, Searle Scholar Award and Dreyfus New Faculty Award.

ACADEMIC APPOINTMENTS

- Professor, Chemistry
- Member, Bio-X
- Member, Cardiovascular Institute
- Faculty Fellow, Sarafan ChEM-H
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Affiliated Faculty and Scientific Leadership Council Member, Stanford Bio-X, (2014- present)

HONORS AND AWARDS

- Ono Pharma Breakthrough Science Initiative Award, Ono Pharma foundation (2022-2025)
- Blavatnik National Awards Finalist, Blavatnik Foundation (2018)
- Michael and Kate Barany Award, Biophysical Society (2018)
- NSF INSPIRE award, National Science Foundation (2013-2017)

- NIH New Innovator Award, National Institutes of Health (2012-2017)
- NSF CAREER award, National Science Foundation (2011-2016)
- Hellman Scholar, Hellman Foundation (2011)
- Packard Fellowships for Science and Engineering, David and Lucile Packard Foundation (2009-2014)
- Searle Scholar Award, Searle Scholars Program (2009-2012)
- Dreyfus New Faculty Award, Camille & Henry Dreyfus foundation (2008)
- Terman Fellowship, Stanford University (2008)
- NIH Pathway to Independence Career Award, National Institutes of Health (2006-2011)

PROFESSIONAL EDUCATION

- Postdoc, Stanford University Department of Physics , Biophysics (2008)
- Ph.D., University of Chicago , Physical Chemistry (2002)
- B.S., University of Science & Technology of China , Material Sci. & Eng. (1998)

LINKS

- The Cui Lab: https://cuilab.stanford.edu/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our objective is to develop new biophysical methods to advance current understandings of cellular machinery in the complicated environment of living cells. Creative applications of biophysical technologies such as crystallography, nuclear magnetic resonance and single-molecule fluorescence imaging have significantly advanced our understanding of biomolecular interactions and functions. However, traditional approaches that analyze purified biomolecules only yield insights that are removed from the cellular context. Our approach is to develop tools that precisely manipulate and measure biomolecular functions in live cells. Currently, we are focusing on four research areas: (1) Membrane curvature at the nano-bio interface; (2) Nanoelectrode arrays (NEAs) for scalable intracellular electrophysiology; (3) Electrochromic optical recording (ECORE) for neuroscience; and (4) Optical control of neurotrophin receptor tyrosine kinases.

https://cuilab.stanford.edu/

Teaching

COURSES

2025-26

- Biophysical Chemistry: CHEM 185 (Spr)
- Biophysical Chemistry: CHEM 285 (Spr)
- Chemistry Research Proposal: CHEM 211C (Win)
- Chemistry Research Seminar Presentation: CHEM 211B (Win)
- Electrochem Lab: Measuring the Invisible: CHEM 174, CHEM 274 (Aut)
- Research Progress in Chemistry: CHEM 211A (Win)

2024-25

- Biophysical Chemistry: CHEM 185 (Spr)
- Biophysical Chemistry: CHEM 285 (Spr)

2023-24

- Biophysical Chemistry: CHEM 185 (Spr)
- Biophysical Chemistry: CHEM 285 (Spr)
- Chemical Principles II: CHEM 31B (Win)

2022-23

- Biophysical Chemistry: CHEM 185 (Spr)
- Biophysical Chemistry: CHEM 285 (Spr)
- Chemical Principles II: CHEM 31B (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Sa Cai, Julisia Chau, Casey Decosto, Ajinkya Dhepe, Yi-Shiou Duh, Mark Fleck, Alex Hart, Nathalie Hong, Zixuan Jiang, Sarah Jones, Laura Leibfried, Cindy Shi, Jordyn Smith, Benjamin Tang, Ethan Trepka, Yating Yao, Yanbo Zhang

Postdoctoral Faculty Sponsor

Jinhong Du, Hongyan Gao, Qingyue Li, Huan Wang, He You

Doctoral Dissertation Advisor (AC)

Christina Lee, Krishna Raghavan, Pengwei Sun, Luis Valencia, Ray Xiang, Xingyuan Zhang

Postdoctoral Research Mentor

Lin Liu

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biophysics (Phd Program)

Publications

PUBLICATIONS

- **FCHo2, instead of talin, enables inside-out activation of integrin αvβ5 in curved adhesions.** *bioRxiv : the preprint server for biology*
  Lu, C. H., Lee, C. E., Zhang, W., Yang, Y., Valencia, L. A., You, H., Tsai, C. T., Cui, B.
  2025
- **A self-sufficient biocatalytic photo-Fenton system using immobilized glucose oxidase** *GREEN CHEMISTRY*
  Kang, S., Lei, C., Ding, C., Klausen, L., Cui, B., Cui, L.
  2025
- **Membrane curvature at the ER-PM contact sites.** *Trends in cell biology*
  Yang, Y., Valencia, L. A., Cui, B.
  2025
- **Nano-bio interfaces for electrical and biochemical signal transduction** *NATURE REVIEWS BIOENGINEERING*
  Yang, X., Tsai, C., Yang, Y., Zhang, W., You, H., Forro, C., Pasca, S. P., Cui, B.
  2025
- **Ultrasensitive label-free optical recording of bioelectric potentials using dioxythiophene-based electrochromic polymers.** *Nature communications*
  Zhou, Y., Liu, E., Österholm, A. M., Jones, A. L., Sun, P., Yang, Y., Tsai, C. T., Zaluska, T., Zhang, W., Müller, H., Reynolds, J. R., Cui, B.
  2025; 16 (1): 6776
- **Single Nanocrown Electrodes for High-Quality Intracellular Recording of Cardiomyocytes** *ADVANCED MATERIALS INTERFACES*

Tsai, C., Gao, H., Forro, C., Yang, Y., Shautsova, V., Zhang, X., Jahed, Z., Cui, B.
2025

- **Cellular Signaling at the Nano-Bio Interface: Spotlighting Membrane Curvature.** *Annual review of physical chemistry*
  Lu, C. H., Lee, C. E., Nakamoto, M. L., Cui, B.
  2025; 76 (1): 251-277
- **Intelligent in-cell electrophysiology: Reconstructing intracellular action potentials using a physics-informed deep learning model trained on nanoelectrode array recordings.** *Nature communications*
  Rahmani, K., Yang, Y., Foster, E. P., Tsai, C. T., Meganathan, D. P., Alvarez, D. D., Gupta, A., Cui, B., Santoro, F., Bloodgood, B. L., Yu, R., Forro, C., Jahed, et al
  2025; 16 (1): 657
- **Author Correction: Plasma membrane curvature regulates the formation of contacts with the endoplasmic reticulum.** *Nature cell biology*
  Yang, Y., Valencia, L. A., Lu, C. H., Nakamoto, M. L., Tsai, C. T., Liu, C., Yang, H., Zhang, W., Jahed, Z., Lee, W. R., Santoro, F., Liou, J., Wu, et al
  2024
- **Actin-driven nanotopography promotes stable integrin adhesion formation in developing tissue.** *Nature communications*
  Chen, T., Fernández-Espartero, C. H., Illand, A., Tsai, C. T., Yang, Y., Klapholz, B., Jouchet, P., Fabre, M., Rossier, O., Cui, B., Lévêque-Fort, S., Brown, N. H., Giannone, et al
  2024; 15 (1): 8691
- **Targeted protein relocalization via protein transport coupling.** *Nature*
  Ng, C. S., Liu, A., Cui, B., Banik, S. M.
  2024
- **Plasma membrane curvature regulates the formation of contacts with the endoplasmic reticulum.** *Nature cell biology*
  Yang, Y., Valencia, L. A., Lu, C. H., Nakamoto, M. L., Tsai, C. T., Liu, C., Yang, H., Zhang, W., Jahed, Z., Lee, W. R., Santoro, F., Liou, J., Wu, et al
  2024
- **Nanometer-resolution tracking of single cargo reveals dynein motor mechanisms.** *Nature chemical biology*
  Peng, C. S., Zhang, Y., Liu, Q., Marti, G. E., Huang, Y. A., Sudhof, T. C., Cui, B., Chu, S.
  2024
- **Light-Inducible Activation of TrkA for Probing Chronic Pain in Mice.** *ACS chemical biology*
  Liu, A., Mohr, M. A., Hope, J. M., Wang, J., Chen, X., Cui, B.
  2024; 19 (7): 1626-1637
- **Engineering the Cellular Microenvironment: Integrating Three-Dimensional Nontopographical and Two-Dimensional Biochemical Cues for Precise Control of Cellular Behavior.** *ACS nano*
  Sarikhani, E., Meganathan, D. P., Larsen, A. K., Rahmani, K., Tsai, C. T., Lu, C. H., Marquez-Serrano, A., Sadr, L., Li, X., Dong, M., Santoro, F., Cui, B., Klausen, et al
  2024
- **Endoplasmic reticulum exit sites are segregated for secretion based on cargo size.** *Developmental cell*
  Saxena, S., Foresti, O., Liu, A., Androulaki, S., Pena Rodriguez, M., Raote, I., Aridor, M., Cui, B., Malhotra, V.
  2024
- **Membrane Curvature Promotes ER-PM Contact Formation via Junctophilin-EHD Interactions.** *bioRxiv : the preprint server for biology*
  Yang, Y., Valencia, L. A., Lu, C. H., Nakamoto, M. L., Tsai, C. T., Liu, C., Yang, H., Zhang, W., Jahed, Z., Lee, W. R., Santoro, F., Liou, J., Wu, et al
  2024
- **Light-Inducible Activation of TrkA for Probing Chronic Pain in Mice** *ACS CHEMICAL BIOLOGY*
  Liu, A., Mohr, M. A., Hope, J. M., Wang, J., Chen, X., Cui, B.
  2024
- **Kirigami electronics for long-term electrophysiological recording of human neural organoids and assembloids.** *Nature biotechnology*
  Yang, X., Forro, C., Li, T. L., Miura, Y., Zaluska, T. J., Tsai, C., Kanton, S., McQueen, J. P., Chen, X., Mollo, V., Santoro, F., Pașca, S. P., Cui, et al
  2024
- **Compact Electrochromic Optical Recording of Bioelectric Potentials.** *ArXiv*

Nakasone, K., Zavik, C., Liu, E., Ahmed, B., Griffith, D., Maisenbacher, L., Singh, A., Zhou, Y., Cui, B., Müller, H.
2023

- **Curved adhesions mediate cell attachment to soft matrix fibres in three dimensions.** *Nature cell biology*
  Zhang, W., Lu, C. H., Nakamoto, M. L., Tsai, C. T., Roy, A. R., Lee, C. E., Yang, Y., Jahed, Z., Li, X., Cui, B.
  2023
- **Targeted Lysosomal Degradation of Secreted and Cell Surface Proteins through the LRP-1 Pathway.** *Journal of the American Chemical Society*
  Loppinet, E., Besser, H. A., Lee, C. E., Zhang, W., Cui, B., Khosla, C.
  2023
- **A NanoCurvS platform for quantitative and multiplex analysis of curvature-sensing proteins.** *Biomaterials science*
  Lu, C. H., Tsai, C. T., Jones Iv, T., Chim, V., Klausen, L. H., Zhang, W., Li, X., Jahed, Z., Cui, B.
  2023
- **Curved adhesions mediate cell attachment to soft matrix fibres in 3D.** *bioRxiv : the preprint server for biology*
  Zhang, W., Lu, C. H., Nakamoto, M. L., Tsai, C. T., Roy, A. R., Lee, C. E., Yang, Y., Jahed, Z., Li, X., Cui, B.
  2023
- **Expansion microscopy for imaging the cell-material interface.** *Biophysical journal*
  Nakamoto, M. L., Forro, C., Zhang, W., Tsai, C., Cui, B.
  2023; 122 (3S1): 133a
- **Development of an optogenetic TrkB.T1 probe.** *Biophysical journal*
  Valencia, L. A., Cui, B.
  2023; 122 (3S1): 431a-432a
- **Modulation of nuclear membrane repair machinery by nano-needle arrays.** *Biophysical journal*
  Hosseini, R., Shukla, S., Sarikhani, E., Meganathan, D., Badle, R., Spain, L., Okerblom, J., Tsai, C., Cui, B., Jahed, Z.
  2023; 122 (3S1): 552a
- **Plasma membrane curvature promotes ER-PM contact formation mediated by junctophilin.** *Biophysical journal*
  Yang, Y., Cui, B.
  2023; 122 (3S1): 379a-380a
- **High-resolution optical recording of bioelectric signals using electrochromic materials.** *Biophysical journal*
  Ahmed, B., Nakasone, K., Griffith, D., Zhou, Y., Liu, E., Alfonso, F. S., Cui, B., Mueller, H.
  2023; 122 (3S1): 540a
- **A versatile nanoelectrode platform for electrical recording of diverse cell types.** *Biophysical journal*
  Shukla, S. R., Tsai, C., Jahed, Z., Cui, B.
  2023; 122 (3S1): 431a
- **Label-free optical detection of cellular action potentials using electrochromic materials.** *Biophysical journal*
  Liu, E., Zhou, Y., Alfonso, F. S., Yang, Y., Ahmed, B., Nakasone, K., Xu, V., Mueller, H., Cui, B.
  2023; 122 (3S1): 540a-541a
- **Engineering cell morphology using maskless 2D protein micropatterning on 3D nanostructures.** *Biophysical journal*
  Sarikhani, E., Klausen, L., Pushpa Meganathan, D., Marquez Serrano, A., Tsai, C., Cui, B., Jahed, Z.
  2023; 122 (3S1): 553a
- **Probing mechanical forces in curvature-sensitive cell adhesions.** *Biophysical journal*
  Lee, C. E., Zhang, W., Cui, B.
  2023; 122 (3S1): 532a
- **A NanoCurvS platform for quantitative and multiplex analysis of curvature-sensing proteins** *Biomaterials Science*
  Lu, C., et al
  2023

- **Quantitative phase contrast imaging with a nonlocal angle-selective metasurface.** *Nature communications*
  Ji, A., Song, J. H., Li, Q., Xu, F., Tsai, C. T., Tiberio, R. C., Cui, B., Lalanne, P., Kik, P. G., Miller, D. A., Brongersma, M. L.
  2022; 13 (1): 7848
- **Dual-Color Optical Recording of Bioelectric Potentials by Polymer Electrochromism.** *Journal of the American Chemical Society*
  Zhou, Y., Liu, E., Yang, Y., Alfonso, F. S., Ahmed, B., Nakasone, K., Forro, C., Muller, H., Cui, B.
  2022
- **Stretchable mesh microelectronics for the biointegration and stimulation of human neural organoids.** *Biomaterials*
  Li, T. L., Liu, Y., Forro, C., Yang, X., Beker, L., Bao, Z., Cui, B., Pașca, S. P.
  2022; 290: 121825
- **Maturation and circuit integration of transplanted human cortical organoids.** *Nature*
  Revah, O., Gore, F., Kelley, K. W., Andersen, J., Sakai, N., Chen, X., Li, M. Y., Birey, F., Yang, X., Saw, N. L., Baker, S. W., Amin, N. D., Kulkarni, et al
  2022; 610 (7931): 319-326
- **Cardiotoxicity drug screening based on whole-panel intracellular recording.** *Biosensors & bioelectronics*
  Yang, Y., Liu, A., Tsai, C., Liu, C., Wu, J. C., Cui, B.
  2022; 216: 114617
- **A tissue-like neurotransmitter sensor for the brain and gut.** *Nature*
  Li, J., Liu, Y., Yuan, L., Zhang, B., Bishop, E. S., Wang, K., Tang, J., Zheng, Y., Xu, W., Niu, S., Beker, L., Li, T. L., Chen, et al
  2022; 606 (7912): 94-101
- **Expansion Microscopy for Imaging the Cell-Material Interface.** *ACS nano*
  Nakamoto, M. L., Forro, C., Zhang, W., Tsai, C., Cui, B.
  2022
- **Nanocrown electrodes for parallel and robust intracellular recording of cardiomyocytes.** *Nature communications*
  Jahed, Z., Yang, Y., Tsai, C., Foster, E. P., McGuire, A. F., Yang, H., Liu, A., Forro, C., Yan, Z., Jiang, X., Zhao, M., Zhang, W., Li, et al
  2022; 13 (1): 2253
- **Pericyte-to-endothelial cell signaling via vitronectin-integrin regulates blood-CNS barrier.** *Neuron*
  Ayloo, S., Lazo, C. G., Sun, S., Zhang, W., Cui, B., Gu, C.
  2022
- **Membrane curvature regulates the spatial distribution of bulky glycoproteins** *NATURE COMMUNICATIONS*
  Lu, C., Pedram, K., Tsai, C., Jones IV, T., Li, X., Nakamoto, M. L., Bertozzi, C. R., Cui, B.
  2022; 13
- **Nanotechnology Enables Novel Modalities for Neuromodulation.** *Advanced materials (Deerfield Beach, Fla.)*
  Yang, X., McGlynn, E., Das, R., Pasca, S. P., Cui, B., Heidari, H.
  2021: e2103208
- **Advancing models of neural development with biomaterials.** *Nature reviews. Neuroscience*
  Roth, J. G., Huang, M. S., Li, T. L., Feig, V. R., Jiang, Y., Cui, B., Greely, H. T., Bao, Z., Pasca, S. P., Heilshorn, S. C.
  2021
- **Nanoscale Surface Topography Reduces Focal Adhesions and Cell Stiffness by Enhancing Integrin Endocytosis.** *Nano letters*
  Li, X., Klausen, L. H., Zhang, W., Jahed, Z., Tsai, C., Li, T. L., Cui, B.
  2021
- **Light-inducible deformation of mitochondria in live cells.** *Cell chemical biology*
  Song, Y., Huang, P., Liu, X., Zhao, Z., Wang, Y., Cui, B., Duan, L.
  2021
- **New perspectives on the roles of nanoscale surface topography in modulating intracellular signaling.** *Current opinion in solid state & materials science*
  Zhang, W., Yang, Y., Cui, B.
  2021; 25 (1)

- **Optical Electrophysiology: Toward the Goal of Label-Free Voltage Imaging.** *Journal of the American Chemical Society*
  Zhou, Y., Liu, E., Müller, H., Cui, B.
  2021
- **Graphene Electric Field Sensor Enables Single Shot Label-Free Imaging of Bioelectric Potentials.** *Nano letters*
  Balch, H. B., McGuire, A. F., Horng, J., Tsai, H. Z., Qi, K. K., Duh, Y. S., Forrester, P. R., Crommie, M. F., Cui, B., Wang, F.
  2021
- **Exploring Cell Surface-Nanopillar Interactions with 3D Super-Resolution Microscopy.** *ACS nano*
  Roy, A. R., Zhang, W., Jahed, Z., Tsai, C. T., Cui, B., Moerner, W. E.
  2021
- **Towards biomimetic electronics that emulate cells** *MRS COMMUNICATIONS*
  Lubrano, C., Matrone, G., Forro, C., Jahed, Z., Offenhaeusser, A., Salleo, A., Cui, B., Santoro, F.
  2020; 10 (3): 398–412
- **A hierarchically ordered compacted coil scaffold for tissue regeneration** *NPG ASIA MATERIALS*
  Su, Y., Zhang, Z., Wan, Y., Zhang, Y., Wang, Z., Klausen, L., Huang, P., Dong, M., Han, X., Cui, B., Chen, M.
  2020; 12 (1)
- **Nanobar Array Assay Revealed Complementary Roles of BIN1 Splice Isoforms in Cardiac T-Tubule Morphogenesis.** *Nano letters*
  Li, L., Guo, Q., Lou, H., Liang, J., Yang, Y., Xing, X., Li, H., Han, J., Shen, S., Li, H., Ye, H., Di Wu, H., Cui, et al
  2020
- **NOTCH1 is Essential for Ventricular Cardiomyocyte Differentiation of Human Induced Pluripotent Stem Cells**
  Zhao, M., Ye, S., Zhang, J., Shao, N., Liu, C., Zhou, Y., Nishiga, M., Yang, Y., Cui, B., Garg, V., Wu, J. C.
  LIPPINCOTT WILLIAMS & WILKINS.2020
- **Production and Isolation of Magnetic Protein Crystals in HEK293T Cells.** *Bio-protocol*
  Li, T. L., Cui, B.
  2020; 10 (14): e3684
- **Production and Isolation of Magnetic Protein Crystals in HEK293T Cells** *BIO-PROTOCOL*
  Li, T. L., Cui, B.
  2020; 10 (14)
- **Label-free optical detection of bioelectric potentials using electrochromic thin films.** *Proceedings of the National Academy of Sciences of the United States of America*
  Alfonso, F. S., Zhou, Y., Liu, E., McGuire, A. F., Yang, Y., Kantarci, H., Li, D., Copenhaver, E., Zuchero, J. B., Muller, H., Cui, B.
  2020
- **Optical Activation of TrkB Signaling.** *Journal of molecular biology*
  Huang, P., Liu, A., Song, Y., Hope, J. M., Cui, B., Duan, L.
  2020
- **Construction of Light-Activated Neurotrophin Receptors Using the Improved Light-Induced Dimerizer (iLID).** *Journal of molecular biology*
  Hope, J. M., Liu, A., Calvin, G. J., Cui, B.
  2020
- **Light-Inducible Generation of Membrane Curvature in Live Cells with Engineered BAR Domain Proteins.** *ACS synthetic biology*
  Jones, T. n., Liu, A. n., Cui, B. n.
  2020
- **Dynamic Manipulation of Cell Membrane Curvature by Light-Driven Reshaping of Azopolymer.** *Nano letters*
  De Martino, S., Zhang, W., Klausen, L., Lou, H., Li, X., Alfonso, F. S., Cavalli, S., Netti, P. A., Santoro, F., Cui, B.
  2019
- **Engineering a Genetically Encoded Magnetic Protein Crystal.** *Nano letters*
  Li, T. L., Wang, Z., You, H., Ong, Q., Varanasi, V. J., Dong, M., Lu, B., Pasca, S. P., Cui, B.
  2019

- **A nanostructure platform for live-cell manipulation of membrane curvature.** *Nature protocols*
  Li, X., Matino, L., Zhang, W., Klausen, L., McGuire, A. F., Lubrano, C., Zhao, W., Santoro, F., Cui, B.
  2019
- **Electron Microscopy for 3D Scaffolds-Cell Biointerface Characterization** *ADVANCED BIOSYSTEMS*
  Iandolo, D., Pennacchio, F. A., Mollo, V., Rossi, D., Dannhauser, D., Cui, B., Owens, R. M., Santoro, F.
  2019; 3 (2)
- **Electron Microscopy for 3D Scaffolds-Cell Biointerface Characterization.** *Advanced biosystems*
  Iandolo, D., Pennacchio, F. A., Mollo, V., Rossi, D., Dannhauser, D., Cui, B., Owens, R. M., Santoro, F.
  2019; 3 (2): e1800103
- **Membrane curvature underlies actin reorganization in response to nanoscale surface topography.** *Proceedings of the National Academy of Sciences of the United States of America*
  Lou, H. Y., Zhao, W. n., Li, X. n., Duan, L. n., Powers, A. n., Akamatsu, M. n., Santoro, F. n., McGuire, A. F., Cui, Y. n., Drubin, D. G., Cui, B. n.
  2019
- **Soft conductive micropillar electrode arrays for biologically relevant electrophysiological recording** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Liu, Y., McGuire, A. F., Lou, H., Li, T. L., Tok, J. B. H., Cui, B., Bao, Z.
  2018; 115 (46): 11718–23
- **Cells Adhering to 3D Vertical Nanostructures: Cell Membrane Reshaping without Stable Internalization** *NANO LETTERS*
  Dipalo, M., McGuire, A. F., Lou, H., Caprettini, V., Melle, G., Bruno, G., Lubrano, C., Matino, L., Li, X., De Angelis, F., Cui, B., Santoro, F.
  2018; 18 (9): 6100–6105
- **The ambipolar transport behavior of WSe2 transistors and its analogue circuits** *NPG ASIA MATERIALS*
  Wang, Z., Li, Q., Chen, Y., Cui, B., Li, Y., Besenbacher, F., Dong, M.
  2018; 10: 703–12
- **Optical Activation of TrkA Signaling.** *ACS synthetic biology*
  Duan, L., Hope, J. M., Guo, S., Ong, Q., Francois, A., Kaplan, L., Scherrer, G., Cui, B.
  2018
- **Dynamic Clustering of Dyneins on Axonal Endosomes: Evidence from High-Speed Darkfield Imaging.** *Biophysical journal*
  Chowdary, P. D., Kaplan, L., Che, D. L., Cui, B.
  2018
- **Constructing Highly Uniform Onion-Ring-like Graphitic Carbon Nitride for Efficient Visible-Light-Driven Photocatalytic Hydrogen Evolution** *ACS NANO*
  Cui, L., Song, J., McGuire, A. F., Kang, S., Fang, X., Wang, J., Yin, C., Li, X., Wang, Y., Cui, B.
  2018; 12 (6): 5551–58
- **The Role of Membrane Curvature in Nanoscale Topography-Induced Intracellular Signaling** *ACCOUNTS OF CHEMICAL RESEARCH*
  Lou, H., Zhao, W., Zeng, Y., Cui, B.
  2018; 51 (5): 1046–53
- **Swedish Nerve Growth Factor Mutation (NGF(R100W)) Defines a Role for TrkA and p75(NTR) in Nociception** *JOURNAL OF NEUROSCIENCE*
  Sung, K., Ferrari, L. F., Yang, W., Chung, C., Zhao, X., Gu, Y., Lin, S., Zhang, K., Cui, B., Pearn, M. L., Maloney, M. T., Mobley, W. C., Levine, et al
  2018; 38 (14): 3394–3413
- **Interfacing Cells with Vertical Nanoscale Devices: Applications and Characterization.** *Annual review of analytical chemistry (Palo Alto, Calif.)*
  McGuire, A. F., Santoro, F. n., Cui, B. n.
  2018
- **Neurospheres on Patterned PEDOT:PSS Microelectrode Arrays Enhance Electrophysiology Recordings** *ADVANCED BIOSYSTEMS*
  Pas, J., Pitsalidis, C., Koutsouras, D. A., Quilichini, P. P., Santoro, F., Cui, B., Gallais, L., O'Connor, R. P., Malliaras, G. G., Owens, R. M.
  2018; 2 (1)

- **Rotation of endosomes demonstrates coordination of molecular motors during axonal transport.** *Science advances*
  Kaplan, L. n., Ierokomos, A. n., Chowdary, P. n., Bryant, Z. n., Cui, B. n.
  2018; 4 (3): e1602170
- **Visible-Light Neural Stimulation on Graphitic-Carbon Nitride/Graphene Photocatalytic Fibers.** *ACS applied materials & interfaces*
  Zhang, Z., Xu, R., Wang, Z., Dong, M., Cui, B., Chen, M.
  2017; 9 (40): 34736-34743
- **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
- **Nanoscale manipulation of membrane curvature for probing endocytosis in live cells.** *Nature nanotechnology*
  Zhao, W., Hanson, L., Lou, H., Akamatsu, M., Chowdary, P. D., Santoro, F., Marks, J. R., Grassart, A., Drubin, D. G., Cui, Y., Cui, B.
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