



Steven Chu

William R. Kenan Jr. Professor and Professor of Molecular and Cellular Physiology
Physics

CONTACT INFORMATION

- **Administrative Contact**

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Bio

BIO

Steven Chu is the William R. Kenan, Jr., Professor of Physics and Professor of Molecular & Cellular Physiology in the Medical School at Stanford University. He has published over 280 papers in atomic and polymer physics, biophysics, biology, bio-imaging, batteries, and other energy technologies. He holds 15 patents, and an additional 9 patent disclosures or filings since 2015.

Dr. Chu was the 12th U.S. Secretary of Energy from January 2009 until the end of April 2013. As the first scientist to hold a Cabinet position and the longest serving Energy Secretary, he recruited outstanding scientists and engineers into the Department of Energy. He began several initiatives including ARPA-E (Advanced Research Projects Agency – Energy), the Energy Innovation Hubs, and was personally tasked by President Obama to assist BP in stopping the Deepwater Horizon oil leak.

Prior to his cabinet post, he was director of the Lawrence Berkeley National Laboratory, where he was active in pursuit of alternative and renewable energy technologies, and Professor of Physics and Applied Physics at Stanford University, where he helped launch Bio-X, a multi-disciplinary institute combining the physical and biological sciences with medicine and engineering. Previously he was head of the Quantum Electronics Research Department at AT&T Bell Laboratories.

Dr. Chu is the co-recipient of the 1997 Nobel Prize in Physics for his contributions to laser cooling and atom trapping, and has received numerous other awards. He is a member of the National Academy of Sciences, the American Philosophical Society, the American Academy of Arts and Sciences, the Academia Sinica, and is a foreign member of the Royal Society, the Royal Academy of Engineering, the Chinese Academy of Sciences, the Korean Academy of Sciences and Technology and the National Academy of Sciences, Belarus. He is the President Elect of the American Association for the Advancement of Science. He received an A.B. degree in mathematics and a B.S. degree in physics from the University of Rochester, and a Ph.D. in physics from the University of California, Berkeley, as well as 32 honorary degrees.

ACADEMIC APPOINTMENTS

- Professor, Physics
- Professor, Molecular & Cellular Physiology
- Member, Bio-X

- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Academician, Pontifical Academy of Sciences (2018)
- ARISE Hall of Fame, 2018, Texas A&M University (2018)
- Co-winner in Physics, Nobel Prize (1997)
- Pioneer Award, Fitzpatrick Institute for Photonics, Duke Univ. (2018)
- Foreign Member, National Academy of Sciences of Belarus (2017)
- Richard Ernst Medal, ETH Zurich (2015)
- Robert Fletcher Award, Thayer School of Engineering, Dartmouth (2015)
- Fellow, National Academy of Inventors (2014)
- Foreign Member, Royal Society (2013)
- George Eastman Medal, University of Rochester (2013)
- Franklin Founder Award, - (2012)
- Alumnus of the Year, University of California-Berkeley (2011)
- Foreign Member, Royal Academy of Engineering (2011)
- Hans Bethe Award, Federation of American Scientists (2011)
- Harold Berger Award, Penn School of Engineering and Applied Science (2011)
- Arthur L. Schawlow Award, Laser Institute of America (2010)
- Honorary Fellow, Institute of Physics (2009)
- Hutchinson Medal for Distinguished Public Service, University of Rochester (2009)
- Honorary Lifetime Member, Optical Society of America (2004)
- Foreign Member, Korean Academy of Sciences and Technology (1998)
- Foreign Member, Chinese Academy of Sciences (1998)
- Member, American Philosophical Society (1998)
- Science for Art Prize, Moët Hennessey-Louis Vuitton (LVMH) (1995)
- Senior Scientist Award, Humboldt Foundation (1995)
- Distinguished Traveling Lecturer, Am. Phys. Soc. Division of Laser Science (1994-1996)
- Academician, Academia Sinica (1994)
- Arthur Schawlow Prize for Laser Science, American Physical Society (1994)
- William Meggers Award for Spectroscopy, Optical Society of America (1994)
- Co-winner, King Faisal International Prize for Science (1993)
- Member, National Academy of Sciences (1993)
- Member, American Academy of Arts and Sciences (1992)
- Fellow, Optical Society of America (1990)
- Richtmyer Memorial Prize Lecturer, Am. Phys. Soc./Am Assoc. Physics Teachers (1990)
- Broida Prize for Laser Spectroscopy, American Physical Society (1987)
- Fellow, American Physical Society (1987)
- Guggenheim Fellowship, John Simon Guggenheim Foundation (1996)
- 32 Honorary Degrees, Various universities, colleges and institutions. (till present time)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Siemens Science Innovation and Technology Council (2015 - present)

PROFESSIONAL EDUCATION

- Ph.D., University of California, Berkeley , Physics (1976)
- B.S., University of Rochester , Physics (1970)
- A.B., University of Rochester , Mathematics (1970)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Synthesis, functionalization and applications of nanoparticle bioprobes for molecular cellular in vivo imaging in biology and biomedicine. Linear and nonlinear difference frequency mixing ultrasound imaging. Lithium metal-sulfur batteries, new approaches to electrochemical splitting of water. CO₂ reduction, lithium extraction from salt water

Teaching

COURSES

2021-22

- Foundations of Modern Physics: PHYSICS 70 (Aut)

2020-21

- The Physics of Energy and Climate Change: PHYSICS 199, PHYSICS 201 (Spr)

2019-20

- The Physics of Energy and Climate Change: PHYSICS 199, PHYSICS 201 (Spr)

2018-19

- The Physics of Energy and Climate Change: PHYSICS 199 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Jamie Jeffries, Brett Larsen

Postdoctoral Faculty Sponsor

Albert Liu, G. Edward Marti, Yan-Kai Tzeng

Doctoral Dissertation Co-Advisor (AC)

Yi-Shiou Duh, Bingyi Wang

Publications

PUBLICATIONS

- **Three-Dimensional Analysis of Particle Distribution on Filter Layers inside N95 Respirators by Deep Learning.** *Nano letters*
Lee, H. R., Liao, L., Xiao, W., Vailionis, A., Ricco, A. J., White, R., Nishi, Y., Chiu, W., Chu, S., Cui, Y.
2020
- **Lithium Extraction from Seawater through Pulsed Electrochemical Intercalation** *JOULE*
Liu, C., Li, Y., Lin, D., Hsu, P., Liu, B., Yan, G., Wu, T., Cui, Y., Chu, S.

2020; 4 (7): 1459–69

- **Household Materials Selection for Homemade Cloth Face Coverings and Their Filtration Efficiency Enhancement with Triboelectric Charging.** *Nano letters*
Zhao, M., Liao, L., Xiao, W., Yu, X., Wang, H., Wang, Q., Lin, Y. L., Kilinc-Balci, F. S., Price, A., Chu, L., Chu, M. C., Chu, S., Cui, et al
2020
- **Can N95 Respirators Be Reused after Disinfection? How Many Times?** *ACS nano*
Liao, L., Xiao, W., Zhao, M., Yu, X., Wang, H., Wang, Q., Chu, S., Cui, Y.
2020
- **Difference-Frequency Ultrasound Imaging With Non-Linear Contrast** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Li, Y., Polyak, D., Johnson, E., Yecies, D., Shevidi, S., de la Zerda, A., Gephart, M., Chu, S.
2020; 39 (5): 1759–66
- **Tackling the grand challenges** *PHYSICS WORLD*
Chu, S., Blaustein, R.
2020; 33 (3): 13
- **Single-particle spectroscopy for functional nanomaterials.** *Nature*
Zhou, J., Chizhik, A. I., Chu, S., Jin, D.
2020; 579 (7797): 41–50
- **Synergistic enhancement of electrocatalytic CO₂ reduction to C₂ oxygenates at nitrogen-doped nanodiamonds/Cu interface.** *Nature nanotechnology*
Wang, H., Tzeng, Y., Ji, Y., Li, Y., Li, J., Zheng, X., Yang, A., Liu, Y., Gong, Y., Cai, L., Li, Y., Zhang, X., Chen, et al
2020
- **Electrochemical generation of liquid and solid sulfur on two-dimensional layered materials with distinct areal capacities.** *Nature nanotechnology*
Yang, A. n., Zhou, G. n., Kong, X. n., Vilá, R. A., Pei, A. n., Wu, Y. n., Yu, X. n., Zheng, X. n., Wu, C. L., Liu, B. n., Chen, H. n., Xu, Y. n., Chen, et al
2020
- **A Single-Molecule Surface-Based Platform to Detect the Assembly and Function of the Human RNA Polymerase II Transcription Machinery.** *Structure (London, England : 1993)*
Park, S. R., Hauver, J. n., Zhang, Y. n., Revyakin, A. n., Coleman, R. A., Tjian, R. n., Chu, S. n., Pertsinidis, A. n.
2020
- **A scalable method of applying heat and humidity for decontamination of N95 respirators during the COVID-19 crisis.** *PLoS one*
Anderegg, L., Meisenhelder, C., Ngooi, C. O., Liao, L., Xiao, W., Chu, S., Cui, Y., Doyle, J. M.
2020; 15 (7): e0234851
- **Electrochemical generation of liquid and solid sulfur on two-dimensional layered materials with distinct areal capacities** *Nature Nanotechnology*
Yang, A., Zhou, G., et al
2020
- **Decontamination of SARS-CoV-2 and Other RNA Viruses from N95 Level Meltblown Polypropylene Fabric Using Heat under Different Humidities.** *ACS nano*
Campos, R. K., Jin, J. n., Rafael, G. H., Zhao, M. n., Liao, L. n., Simmons, G. n., Chu, S. n., Weaver, S. C., Chiu, W. n., Cui, Y. n.
2020
- **Electrotunable liquid sulfur microdroplets.** *Nature communications*
Zhou, G. n., Yang, A. n., Wang, Y. n., Gao, G. n., Pei, A. n., Yu, X. n., Zhu, Y. n., Zong, L. n., Liu, B. n., Xu, J. n., Liu, N. n., Zhang, J. n., Li, et al
2020; 11 (1): 606
- **Sub-20 nm Core-Shell-Shell Nanoparticles for Bright Upconversion and Enhanced Forster Resonant Energy Transfer.** *Journal of the American Chemical Society*
Siefe, C., Mehlenbacher, R. D., Peng, C. S., Zhang, Y., Fischer, S., Lay, A., McLellan, C. A., Alivisatos, A. P., Chu, S., Dionne, J. A.
2019
- **Nanodiamond Integration with Photonic Devices** *LASER & PHOTONICS REVIEWS*
Rodulaski, M., Zhang, J., Tzeng, Y., Lagoudakis, K. G., Ishiwata, H., Dory, C., Fischer, K. A., Kelaita, Y. A., Sun, S., Maurer, P. C., Alassaad, K., Ferro, G., Shen, et al

2019

- **A Magneto-Optical Nanoplatfrom for Multimodality Imaging of Tumors in Mice.** *ACS nano*
Song, G., Zheng, X., Wang, Y., Xia, X., Chu, S., Rao, J.
2019
- **Upper limit for angular compounding speckle reduction** *APPLIED PHYSICS LETTERS*
Winetraub, Y., Wu, C., Collins, G. P., Chu, S., de la Zerda, A.
2019; 114 (21)
- **Bright sub-20-nm cathodoluminescent nanoprobe for electron microscopy** *NATURE NANOTECHNOLOGY*
Prigozhin, M. B., Maurer, P. C., Curtis, A. M., Liu, N., Wisser, M. D., Siefe, C., Tian, B., Chan, E., Song, G., Fischer, S., Aloni, S., Ogletree, D., Barnard, et al
2019; 14 (5): 420+
- **Bright sub-20-nm cathodoluminescent nanoprobe for electron microscopy.** *Nature nanotechnology*
Prigozhin, M. B., Maurer, P. C., Curtis, A. M., Liu, N., Wisser, M. D., Siefe, C., Tian, B., Chan, E., Song, G., Fischer, S., Aloni, S., Ogletree, D. F., Barnard, et al
2019
- **Breathing-Mimicking Electrocatalysis for Oxygen Evolution and Reduction** *JOULE*
Li, J., Zhu, Y., Chen, W., Lu, Z., Xu, J., Pei, A., Peng, Y., Zheng, X., Zhang, Z., Chu, S., Cui, Y.
2019; 3 (2): 557–69
- **Direct electrochemical generation of supercooled sulfur microdroplets well below their melting temperature.** *Proceedings of the National Academy of Sciences of the United States of America*
Liu, N., Zhou, G., Yang, A., Yu, X., Shi, F., Sun, J., Zhang, J., Liu, B., Wu, C., Tao, X., Sun, Y., Cui, Y., Chu, et al
2019
- **Upper limit for angular compounding speckle reduction**
Winetraub, Y., Wu, C., Chu, S., de la Zerda, A., Fujimoto, J. G., Izatt, J. A.
SPIE-INT SOC OPTICAL ENGINEERING.2019
- **Frequency Tunable Single-Photon Emission From a Single Atomic Defect in a Solid**
Sun, S., Zhang, J., Fischer, K. A., Burek, M. J., Dory, C., Lagoudakis, K. G., Tzeng, Y., Radulaski, M., Kelaita, Y., Safavi-Naeini, A., Shen, Z., Melosh, N. A., Chu, et al
IEEE.2019
- **Optimization of the Trade-Off Between Speckle Reduction and Axial Resolution in Frequency Compounding** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Li, Y., Winetraub, Y., Liba, O., de la Zerda, A., Chu, S.
2019; 38 (1): 107–12
- **Address harassment now** *SCIENCE*
Hamburg, M., Hockfield, S., Chu, S.
2018; 361 (6408): 1167
- **Single upconversion nanoparticle imaging at sub-10 W cm⁻² irradiance** *NATURE PHOTONICS*
Liu, Q., Zhang, Y., Peng, C., Yang, T., Joubert, L., Chu, S.
2018; 12 (9): 548–53
- **Cavity-Enhanced Raman Emission from a Single Color Center in a Solid.** *Physical review letters*
Sun, S., Zhang, J. L., Fischer, K. A., Burek, M. J., Dory, C., Lagoudakis, K. G., Tzeng, Y., Radulaski, M., Kelaita, Y., Safavi-Naeini, A., Shen, Z., Melosh, N. A., Chu, et al
2018; 121 (8): 083601
- **An Ultrastrong Double-Layer Nanodiamond Interface for Stable Lithium Metal Anodes** *JOULE*
Liu, Y., Tzeng, Y., Lin, D., Pei, A., Lu, H., Melosh, N. A., Shen, Z., Chu, S., Cui, Y.
2018; 2 (8): 1595–1609
- **Efficient electrocatalytic CO₂ reduction on a three-phase interface** *NATURE CATALYSIS*
Li, J., Chen, G., Zhu, Y., Liang, Z., Pei, A., Wu, C., Wang, H., Lee, H., Liu, K., Chu, S., Cui, Y.
2018; 1 (8): 592–600

- **Strongly Cavity-Enhanced Spontaneous Emission from Silicon-Vacancy Centers in Diamond** *NANO LETTERS*
Zhang, J., Sun, S., Burek, M. J., Dory, C., Tzeng, Y., Fischer, K. A., Kelaita, Y., Lardakis, K. G., Radulaski, M., Shen, Z., Melosh, N. A., Chu, S., Loncar, et al
2018; 18 (2): 1360–65
- **Strongly Cavity-Enhanced Spontaneous Emission from Silicon-Vacancy Centers in Diamond** *NANO LETTERS*
Zhang, J. L., Sun, S., Burek, M. J., Dory, C., Tzeng, Y., Fischer, K. A., Kelaita, Y., Lagoudakis, K. G., Radulaski, M., Shen, Z., Melosh, N. A., Chu, S., Lonc#ar, et al
2018; 18: 1360 -1365
- **Speckle-Modulation for Speckle Reduction in Optical Coherence Tomography**
Liba, O., Lew, M. D., SoRelle, E. D., Dutta, R., Sen, D., Moshfeghi, D. M., Chu, S., de la Zerda, A., Izatt, J. A., Fujimoto, J. G., Tuchin, V. V.
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Single upconversion nanoparticle imaging at sub-10 W cm⁻² irradiance.** *Nature photonics*
Liu, Q. n., Zhang, Y. n., Peng, C. S., Yang, T. n., Joubert, L. M., Chu, S. n.
2018; 12 (9): 548–53
- **Atomic structure of sensitive battery materials and Interfaces revealed by cryo-electron microscopy** *SCIENCE*
Li, Y., Li, Y., Pei, A., Yan, K., Sun, Y., Wu, C., Joubert, L., Chin, R., Koh, A., Yu, Y., Perrino, J., Butz, B., Chu, et al
2017; 358 (6362): 506–10
- **STEVEN CHU** *NATURE*
Chu, S.
2017; 550 (7675): S64
- **THE REAL CLIMATE DEBATE** *NATURE*
Hodson, R., Agre, P.
2017; 550 (7675): S62
- **A half-wave rectified alternating current electrochemical method for uranium extraction from seawater** *NATURE ENERGY*
Liu, C., Hsu, P., Xie, J., Zhao, J., Wu, T., Wang, H., Liu, W., Zhang, J., Chu, S., Cui, Y.
2017; 2 (4)
- **Vertical-Substrate MPCVD Epitaxial Nanodiamond Growth.** *Nano letters*
Tzeng, Y., Zhang, J. L., Lu, H., Ishiwata, H., Dahl, J., Carlson, R. M., Yan, H., Schreiner, P. R., Vuckovic, J., Shen, Z., Melosh, N., Chu, S.
2017
- **The path towards sustainable energy** *NATURE MATERIALS*
Chu, S., Cui, Y., Liu, N.
2017; 16 (1): 16-22
- **Complete coherent control of silicon vacancies in diamond nanopillars containing single defect centers** *OPTICA*
Zhang, J. L., Lagoudakis, K. G., Tzeng, Y., Dory, C., Radulaski, M., Kelaita, Y., Fischer, K. A., Sun, S., Shen, Z., Melosh, N., Chu, S., Vuckovic, J.
2017; 4 (11): 1317-1321
- **Speckle-modulating optical coherence tomography in living mice and humans.** *Nature communications*
Liba, O. n., Lew, M. D., SoRelle, E. D., Dutta, R. n., Sen, D. n., Moshfeghi, D. M., Chu, S. n., de la Zerda, A. n.
2017; 8: 15845
- **Complete Coherent Control of Silicon-Vacancies in Diamond Nanopillars Containing Single Defect Centers**
Zhang, J., Lagoudakis, K. G., Tzeng, Y., Dory, C., Radulaski, M., Kelaita, Y., Fischer, K. A., Shen, Z., Melosh, N. A., Chu, S., Vuckovic, J., IEEE
IEEE.2017
- **Atomic structure of sensitive battery materials and interfaces revealed by cryo–electron microscopy** *SCIENCE*
Li, Y., Li, Y., Pei, A., Yan, K., Sun, Y., Wu, C., Joubert, L. M., Chin, R., Koh, A. L., Yu, Y., Perrino, J., Butz, B., Chu, et al
2017; 358: 506–510
- **Complete Coherent Control of Silicon-Vacancies in Diamond Nanopillars Containing Single Defect Centers** *OPTICA*
Zhang, J. L., Lagoudakis, K. G., Tzeng, Y., Dory, C., Radulaski, M., Kelaita, Y., Fischer, K. A., Shen, Z., Melosh, N. A., Chu, S., Vu#kovi#, J.
2017; 4: 1317-1321

- **A half-wave rectified alternating current electrochemical method for uranium extraction from seawater** *NATURE ENERGY*
Liu, C., Hsu, P., Xie, J., Zhao, J., Wu, T., Wang, H., Liu, W., Zhang, J., Chu, S., Cui, Y.
2017; 2: 17007
- **Speckle-modulating optical coherence tomography in living mice and humans** *NATURE COMMUNICATIONS*
Liba, O., Lew, M. D., SoRelle, E. D., Dutta, R., Sen, D., Moshfeghi, D. M., Chu, S., de la Zerda, A.
2017; 8: 15845
- **The path towards sustainable energy.** *Nature materials*
Chu, S., Cui, Y., Liu, N.
2016; 16 (1): 16-22
- **High-Performance Lithium Metal Negative Electrode with a Soft and Flowable Polymer Coating** *ACS ENERGY LETTERS*
Zheng, G., Wang, C., Pei, A., Lopez, J., Shi, F., Chen, Z., Sendek, A. D., Lee, H., Lu, Z., Schneider, H., Safont-Sempere, M. M., Chu, S., Bao, et al
2016; 1 (6): 1247-1255
- **Sr Betavoltaic Power Source.** *Scientific reports*
Dixon, J., Rajan, A., Bohlemann, S., Coso, D., Upadhyaya, A. D., Rohatgi, A., Chu, S., Majumdar, A., Yee, S.
2016; 6: 38182-?
- **Evaluation of a Silicon Sr-90 Betavoltaic Power Source** *SCIENTIFIC REPORTS*
Dixon, J., Rajan, A., Bohlemann, S., Coso, D., Upadhyaya, A. D., Rohatgi, A., Chu, S., Majumdar, A., Yee, S.
2016; 6
- **Super-resolution molecular imaging with photostable nanoprobes**
Prigozhin, M., Maurer, P., Courtis, A., Zheng, X., Liu, N., Collins, J., Aloni, S., Ogletree, F., Macfarlane, R., Cui, Y., Rao, J., Alivisatos, P., Chu, et al
AMER CHEMICAL SOC.2016
- **Wafer-Size and Single-Crystal MoSe₂ Atomically Thin Films Grown on GaN Substrate for Light Emission and Harvesting** *ACS APPLIED MATERIALS & INTERFACES*
Chen, Z., Liu, H., Chen, X., Chu, G., Chu, S., Zhang, H.
2016; 8 (31): 20267-20273
- **Enhancing Quantum Yield via Local Symmetry Distortion in Lanthanide-Based Upconverting Nanoparticles** *ACS PHOTONICS*
Wisser, M. D., Fischer, S., Maurer, P. C., Bronstein, N. D., Chu, S., Alivisatos, A. P., Salleo, A., Dionne, J. A.
2016; 3 (8): 1523-1530
- **Nanofiber Air Filters with High-Temperature Stability for Efficient PM_{2.5} Removal from the Pollution Sources** *NANO LETTERS*
Zhang, R., Liu, C., Hsu, P., Zhang, C., Liu, N., Zhang, J., Lee, H. R., Lu, Y., Qiu, Y., Chu, S., Cui, Y.
2016; 16 (6): 3642-3649
- **Selective deposition and stable encapsulation of lithium through heterogeneous seeded growth** *NATURE ENERGY*
Yan, K., Lu, Z., Lee, H., Xiong, F., Hsu, P., Li, Y., Zhao, J., Chu, S., Cui, Y.
2016; 1
- **Super-Resolution Molecular Imaging with Photostable Nanoprobes**
Prigozhin, M. B., Maurer, P. C., Liu, N., Courtis, A. M., Aloni, S., Ogletree, F. D., MacFarlane, R. M., Cui, Y., Alivisatos, P. A., Chu, S.
CELL PRESS.2016: 161A
- **Shelterin Protects Chromosome Ends by Compacting Telomeric Chromatin** *CELL*
Bandaria, J. N., Qin, P., Berk, V., Chu, S., Yildiz, A.
2016; 164 (4): 735-746
- **DOI: 10.1038/srep38182** *Evaluation of a Silicon ⁹⁰Sr Betavoltaic Power Source*
Dixon, J., et al
2016; 6
- **Emitter-Cavity Coupling in Hybrid Silicon Carbide-Nanodiamond Microdisk Resonators**
Radulaski, M., Tzeng, Y., Zhang, J., Ishiwata, H., Lagoudakis, K. G., Souliere, V., Ferro, G., Shen, Z., Melosh, N. A., Chu, S., Vuckovic, J., IEEE
IEEE.2016

- **THE NAI FELLOW PROFILE: AN INTERVIEW WITH DR. STEVEN CHU** *TECHNOLOGY AND INNOVATION*
Chu, S., Macquare, K. A.
2016; 17 (4): 187-92
- **Powernet for Distributed Energy Resource Networks**
Radovanovic, A., Ramesh, A., Koningstein, R., Fork, D., Weber, W., Kim, S., Schmalzried, J., Sastry, J., Dikovskiy, M., Bozhkov, K., Pinheiro, E., Lebsack, C., Collyer, et al
IEEE.2016
- **Ras-GTP dimers activate the Mitogen-Activated Protein Kinase (MAPK) pathway** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Nan, X., Tamgueney, T. M., Collisson, E. A., Lin, L., Pitt, C., Galeas, J., Lewis, S., Gray, J. W., McCormick, F., Chu, S.
2015; 112 (26): 7996-8001
- **Polymer Nanofiber-Guided Uniform Lithium Deposition for Battery Electrodes** *NANO LETTERS*
Liang, Z., Zheng, G., Liu, C., Liu, N., Li, W., Yan, K., Yao, H., Hsu, P., Chu, S., Cui, Y.
2015; 15 (5): 2910-2916
- **Microscopy 2.0**
Chu, S., IEEE
IEEE.2015
- **Artificial Graphene and Related Photonic Lattices Generated With a Simple Method** *IEEE PHOTONICS JOURNAL*
Gao, Y., Song, D., Chu, S., Chen, Z.
2014; 6 (6)
- **Ultrathin two-dimensional atomic crystals as stable interfacial layer for improvement of lithium metal anode.** *Nano letters*
Yan, K., Lee, H., Gao, T., Zheng, G., Yao, H., Wang, H., Lu, Z., Zhou, Y., Liang, Z., Liu, Z., Chu, S., Cui, Y.
2014; 14 (10): 6016-6022
- **Ultrathin Two-Dimensional Atomic Crystals as Stable Interfacial Layer for Improvement of Lithium Metal Anode** *NANO LETTERS*
Yan, K., Lee, H., Gao, T., Zheng, G., Yao, H., Wang, H., Lu, Z., Zhou, Y., Liang, Z., Liu, Z., Chu, S., Cui, Y.
2014; 14 (10): 6016-6022
- **Interconnected hollow carbon nanospheres for stable lithium metal anodes.** *Nature nanotechnology*
Zheng, G., Lee, S. W., Liang, Z., Lee, H., Yan, K., Yao, H., Wang, H., Li, W., Chu, S., Cui, Y.
2014; 9 (8): 618-623
- **In vitro and in vivo radiosensitization of human glioma U251 cells induced by upregulated expression of SLC22A18** *CANCER GENE THERAPY*
Chu, S., Zhou, Z., Karri, S., Li, Z., Zhao, J.
2014; 21 (3): 103-109
- **Super-Resolution Imaging of Telomeres Reveals that Compaction of Telomeric DNA by Shelterin Protects Chromosome Termini**
Bandaria, J. N., Berk, V., Chu, S., Yildiz, A.
CELL PRESS.2014: 435A
- **Single-molecule superresolution imaging allows quantitative analysis of RAF multimer formation and signaling** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Nan, X., Collisson, E. A., Lewis, S., Huang, J., Tamgueney, T. M., Liphardt, J. T., McCormick, F., Gray, J. W., Chu, S.
2013; 110 (46): 18519-18524
- **Ultrahigh-resolution imaging reveals formation of neuronal SNARE/Munc18 complexes in situ.** *Proceedings of the National Academy of Sciences of the United States of America*
Pertsinidis, A., Mukherjee, K., Sharma, M., Pang, Z. P., Park, S. R., Zhang, Y., Brunger, A. T., Südhof, T. C., Chu, S.
2013; 110 (30): E2812-20
- **Ultrahigh-resolution imaging reveals formation of neuronal SNARE/Munc18 complexes in situ** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Pertsinidis, A., Mukherjee, K., Sharma, M., Pang, Z. P., Park, S. R., Zhang, Y., Brunger, A. T., Südhof, T. C., Chu, S.
2013; 110 (30): E2812-E2820

- **Studying calcium-triggered vesicle fusion in a single vesicle-vesicle content and lipid-mixing system.** *Nature protocols*
Kyoung, M., Zhang, Y., Diao, J., Chu, S., Brunger, A. T.
2013; 8 (1): 1-16
- **Studying calcium-triggered vesicle fusion in a single vesicle-vesicle content and lipid-mixing system** *NATURE PROTOCOLS*
Kyoung, M., Zhang, Y., Diao, J., Chu, S., Brunger, A. T.
2013; 8 (1): 1-16
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