

# Stanford

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## Lei (Stanley) Qi

Associate Professor of Bioengineering

### CONTACT INFORMATION

- **Administrative Contact**

Brandon Seale - Administrative Assistant

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### Bio

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#### BIO

Dr. Lei (Stanley) Qi is Associate Professor of Bioengineering, Sarafan ChEM-H, and a Chan Zuckerberg Biohub Investigator. Dr. Qi is a principal contributor to the development of CRISPR technologies for genome engineering beyond gene editing. His lab created the first nuclease-deactivated Cas9 (dCas9) for targeted gene regulation in cells. His lab has invented a CRISPR toolbox for engineering the epigenome, including CRISPRi and CRISPRa for targeted gene repression and activation, epigenome editing, LiveFISH for real-time DNA/RNA imaging, CRISPR-GO for 3D genome manipulation, CasMINI as a compact CRISPR system for gene therapy, hyperCas12a for multi-gene engineering, and CRISPR antivirals aimed at treating broad RNA viruses.

Dr. Qi obtained B.S. in Physics and Math from Tsinghua University in 2005, and Ph.D. in Bioengineering from the University of California, Berkeley in 2012. He was a Systems Biology Faculty Fellow at UCSF between 2012-2014, and joined Stanford faculty in 2014. His research focuses on mammalian synthetic biology, epigenetic engineering, immune cell engineering, directed evolution, and novel approaches for gene therapy.

#### ACADEMIC APPOINTMENTS

- Associate Professor, Bioengineering
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)
- Institute Scholar, Sarafan ChEM-H
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

#### ADMINISTRATIVE APPOINTMENTS

- Systems Biology Faculty Fellow, University of California San Francisco, (2012-2014)
- Assistant Professor, Stanford University, (2014-2022)
- Associate Professor, Stanford University, (2022- present)
- Chan Zuckerberg Biohub Investigator, Chan Zuckerberg Biohub, (2022- present)

## HONORS AND AWARDS

- NIH Director's Independence Award, National Institutes of Health (2013)
- Pew Biomedical Scholar, The Pew Charitable Trusts (2016)
- Alfred P. Sloan Fellow, Alfred P. Sloan Foundation (2017)
- Frontiers of Science Award, Society of Cosmetic Chemists (2017)
- 35 Innovators Under 35, MIT Technology Review (2018)
- Bioengineering Rising Star Lectureship, University of California Berkeley (2018)
- SN 10: Scientists to Watch, Science News (2019)
- ACS Synthetic Biology Young Innovator Award, American Chemical Society (2021)
- Blavatnik Fellow in the Life Sciences, Blavatnik Family Foundation (2021)
- NSF CAREER Award, National Science Foundation (2021)
- Thomas and Salma Haider Biomedical Breakthrough Lectureship, University of California Riverside (2021)
- Blavatnik Fellow in the Life Sciences, Blavatnik Family Foundation (2022)
- Chan Zuckerberg Biohub Investigator, Chan Zuckerberg Biohub (2022)
- Kenneth Fong Young Investigator Award, SCBA (2022)
- AIMBE Fellow, American Institute for Medical and Biological Engineering (AIMBE) (2023)
- Blavatnik Fellow in the Life Sciences, Blavatnik Family Foundation (2023)
- NIH Director's Pioneer Award, National Institutes of Health (2023)

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Phi Beta Kappa (2011 - present)
- Scientific Advisory Board, Caribou Biosciences (2015 - 2016)
- Scientific founder, Refuge Biotechnologies (2016 - 2021)
- Associate Editor, The CRISPR Journal (2017 - 2022)
- Member, Sigma Xi (2017 - present)
- Scientific Advisory Board, NIH Center for Genome Editing and Recording (CGER) (2018 - present)
- Founder and Scientific Advisory Board, Epicrispr Biotechnologies (2019 - present)
- Board of Reviewing Editors (BoRE), Science (2020 - present)
- Advisory Board Editor, Cell Reports Methods (2021 - present)
- Scientific Advisory Board, Laboratory of Genomics Research (2022 - present)
- Editorial Board Member, The CRISPR Journal (2023 - present)
- Fellow, American Institute for Medical and Biological Engineering (AIMBE) (2023 - present)
- Scientific Advisory Board, Kytopen Corp (2023 - present)

## PROFESSIONAL EDUCATION

- B.S., Tsinghua University , Math and Physics (2005)
- M.A., University of California, Berkeley , Physics (2007)
- Ph.D., University of California, Berkeley/UCSF , Bioengineering (2012)

## PATENTS

- Qi LS, Wang H. "United States Patent US provisional patent application No. 62/722,684 Systems and methods for polynucleotide spatial organization", Leland Stanford Junior University, Sep 1, 2018
- Qi LS, Dingal DCPD. "United States Patent US Patent NO. 9,856,497 Recombinant chimeric receptors for antigen sensing and genome manipulation", Leland Stanford Junior University, Dec 20, 2017
- Lei S Qi, Rachel E Haurwitz, Jennifer A Doudna, Adam P Arkin. "United States Patent US Patent application NO. 14/248,980 & WO 2011/143124; US Patent No. 9,745,610. Methods and compositions for controlling gene expression by RNA processing", University of California, Sep 29, 2017
- Lei S Qi, Chang Liu, Adam P Arkin. "United States Patent US Patent NO. 9,593,338 Synthetic transcriptional control elements and methods of generating and using such elements", University of California, Mar 14, 2017
- Qi LS, Liu Y. "United States Patent US provisional patent application NO. 27/998,407 Compositions and methods identifying and using stem cell differentiation markers", Leland Stanford Junior University, Jan 8, 2017
- Zalatan J, Lim WA, Qi LS. "United States Patent US Patent application No. 15/514,892 Scaffold RNAs", University of California, Dec 1, 2015
- Qi LS, Tanenbaum ME, Gilbert LA, Weissman JS, Vale RD. "United States Patent US provisional patent application NO. 62/024,241 A protein tagging system for in vivo single molecule imaging and control of gene transcription", University of California, Sep 1, 2014
- Gilbert LA, Horlbeck MA, Kampmann M, Weissman JS, Qi LS. "United States Patent US provisional patent application NO. 62/024,373 Genome-scale CRISPR-mediated control of gene expression", University of California, Sep 1, 2014
- Qi LS, Chen B, Huang B. "United States Patent International patent provisional application NO. PCT/US2014/058133 Optimized small guide RNAs and methods of use", University of California, San Francisco, Sep 1, 2013
- Lei S Qi, Jennifer A Doudna, Martin Jinek, Emmanuelle Charpentier, Krzysztof Chylinski, James HD Cate, Wendell A Lim. "United States Patent US Patent App. 13/842,859 Methods and compositions for RNA-directed target DNA modification and for RNA-directed modulation of transcription", University of California, Mar 15, 2013

## LINKS

- Stanley Qi Lab: <http://qilab.stanford.edu>
- Stanley Qi Google Scholar: <https://scholar.google.com/citations?user=7iV1PPYAAAAJ&hl=en>

## Teaching

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### COURSES

#### 2023-24

- Biology and Applications of CRISPR/Cas9: Genome Editing and Epigenome Modifications: BIOS 268, GENE 268 (Spr)
- Senior Capstone Design I: BIOE 141A (Aut)
- Senior Capstone Design II: BIOE 141B (Win)

#### 2022-23

- Biology and Applications of CRISPR/Cas9: Genome Editing and Epigenome Modifications: BIOS 268, GENE 268 (Spr)
- Senior Capstone Design I: BIOE 141A (Aut)
- Senior Capstone Design II: BIOE 141B (Win)

#### 2021-22

- Biology and Applications of CRISPR/Cas9: Genome Editing and Epigenome Modifications: BIOS 268, GENE 268 (Spr)
- Senior Capstone Design I: BIOE 141A (Aut)
- Senior Capstone Design II: BIOE 141B (Win)

#### 2020-21

- Fundamentals for Engineering Biology Lab: BIOE 44 (Aut, Win)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Kevin Aris, Carsten Charlesworth, Shivam Verma, Sifei Yin

#### Postdoctoral Faculty Sponsor

Mengting Han, Emmy Li, Yitong Ma, Jens Magnusson, Leanne Miles, Yanyu Zhu

#### Doctoral Dissertation Advisor (AC)

Sa Cai, Crystal Chen, Xinyi Chen, Maylin Fu, Izzi Gengaro, Goldie Roth

#### Doctoral (Program)

Shawn Cai, Xinyi Chen, Alex Hao, John Heath, Bianca Linden, Ben Ou, Crystal Tsui, Yan Wu, Allen Yesin

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Bioengineering (Phd Program)

## Publications

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### PUBLICATIONS

- **A versatile CRISPR-Cas13d platform for multiplexed transcriptomic regulation and metabolic engineering in primary human T cells.** *Cell*  
Tieu, V., Sotillo, E., Bjelajac, J. R., Chen, C., Malipatlolla, M., Guerrero, J. A., Xu, P., Quinn, P. J., Fisher, C., Klysz, D., Mackall, C. L., Qi, L. S.  
2024
- **Sonogenetic control of multiplexed genome regulation and base editing.** *Nature communications*  
Liu, P., Foiret, J., Situ, Y., Zhang, N., Kare, A. J., Wu, B., Raie, M. N., Ferrara, K. W., Qi, L. S.  
2023; 14 (1): 6575
- **Stable expression of large transgenes via the knock-in of an integrase-deficient lentivirus.** *Nature biomedical engineering*  
Chavez, M., Rane, D. A., Chen, X., Qi, L. S.  
2023
- **Advances in CRISPR therapeutics.** *Nature reviews. Nephrology*  
Chavez, M., Chen, X., Finn, P. B., Qi, L. S.  
2022
- **Nested epistasis enhancer networks for robust genome regulation.** *Science (New York, N.Y.)*  
Lin, X., Liu, Y., Liu, S., Zhu, X., Wu, L., Zhu, Y., Zhao, D., Xu, X., Chemparathy, A., Wang, H., Cao, Y., Nakamura, M., Noordermeer, et al  
2022: eabk3512
- **Scalable biological signal recording in mammalian cells using Cas12a base editors.** *Nature chemical biology*  
Kempton, H. R., Love, K. S., Guo, L. Y., Qi, L. S.  
2022
- **Broad-spectrum CRISPR-mediated inhibition of SARS-CoV-2 variants and endemic coronaviruses in vitro.** *Nature communications*  
Zeng, L., Liu, Y., Nguyenla, X. H., Abbott, T. R., Han, M., Zhu, Y., Chemparathy, A., Lin, X., Chen, X., Wang, H., Rane, D. A., Spatz, J. M., Jain, et al  
2022; 13 (1): 2766
- **Multiplexed genome regulation in vivo with hyper-efficient Cas12a.** *Nature cell biology*  
Guo, L. Y., Bian, J., Davis, A. E., Liu, P., Kempton, H. R., Zhang, X., Chemparathy, A., Gu, B., Lin, X., Rane, D. A., Xu, X., Jamiolkowski, R. M., Hu, et al  
2022
- **Engineering 3D genome organization.** *Nature reviews. Genetics*  
Wang, H., Han, M., Qi, L. S.  
2021
- **CRISPR technologies for precise epigenome editing.** *Nature cell biology*  
Nakamura, M., Gao, Y., Dominguez, A. A., Qi, L. S.  
2021; 23 (1): 11–22

- **Interrogation of the dynamic properties of higher-order heterochromatin using CRISPR-dCas9.** *Molecular cell*  
Gao, Y., Han, M., Shang, S., Wang, H., Qi, L. S.  
2021
- **Engineered miniature CRISPR-Cas system for mammalian genome regulation and editing.** *Molecular cell*  
Xu, X., Chemparathy, A., Zeng, L., Kempton, H. R., Shang, S., Nakamura, M., Qi, L. S.  
2021
- **Multiple Input Sensing and Signal Integration Using a Split Cas12a System.** *Molecular cell*  
Kempton, H. R., Goudy, L. E., Love, K. S., Qi, L. S.  
2020
- **Development of CRISPR as an Antiviral Strategy to Combat SARS-CoV-2 and Influenza.** *Cell*  
Abbott, T. R., Dhamdhare, G. n., Liu, Y. n., Lin, X. n., Goudy, L. n., Zeng, L. n., Chemparathy, A. n., Chmura, S. n., Heaton, N. S., Debs, R. n., Pande, T. n., Endy, D. n., La Russa, et al  
2020
- **Anti-CRISPR-mediated control of gene editing and synthetic circuits in eukaryotic cells.** *Nature communications*  
Nakamura, M., Srinivasan, P., Chavez, M., Carter, M. A., Dominguez, A. A., La Russa, M., Lau, M. B., Abbott, T. R., Xu, X., Zhao, D., Gao, Y., Kipniss, N. H., Smolke, et al  
2019; 10 (1): 194
- **CRISPR-mediated live imaging of genome editing and transcription.** *Science (New York, N.Y.)*  
Wang, H. n., Nakamura, M. n., Abbott, T. R., Zhao, D. n., Luo, K. n., Yu, C. n., Nguyen, C. M., Lo, A. n., Daley, T. P., La Russa, M. n., Liu, Y. n., Qi, L. S.  
2019
- **CRISPR-Mediated Programmable 3D Genome Positioning and Nuclear Organization.** *Cell*  
Wang, H., Xu, X., Nguyen, C. M., Liu, Y., Gao, Y., Lin, X., Daley, T., Kipniss, N. H., La Russa, M., Qi, L. S.  
2018
- **CRISPR Activation Screens Systematically Identify Factors that Drive Neuronal Fate and Reprogramming.** *Cell stem cell*  
Liu, Y., Yu, C., Daley, T. P., Wang, F., Cao, W. S., Bhate, S., Lin, X., Still, C. 2., Liu, H., Zhao, D., Wang, H., Xie, X. S., Ding, et al  
2018
- **Engineering cell sensing and responses using a GPCR-coupled CRISPR-Cas system.** *Nature communications*  
Kipniss, N. H., Dingal, P. C., Abbott, T. R., Gao, Y. n., Wang, H. n., Dominguez, A. A., Labanieh, L. n., Qi, L. S.  
2017; 8 (1): 2212
- **Complex transcriptional modulation with orthogonal and inducible dCas9 regulators.** *Nature methods*  
Gao, Y., Xiong, X., Wong, S., Charles, E. J., Lim, W. A., Qi, L. S.  
2016
- **Engineering Complex Synthetic Transcriptional Programs with CRISPR RNA Scaffolds** *CELL*  
Zalatan, J. G., Lee, M. E., Almeida, R., Gilbert, L. A., Whitehead, E. H., La Russa, M., Tsai, J. C., Weissman, J. S., Dueber, J. E., Qi, L. S., Lim, W. A.  
2015; 160 (1-2): 339-350
- **Dynamic Imaging of Genomic Loci in Living Human Cells by an Optimized CRISPR/Cas System** *CELL*  
Chen, B., Gilbert, L. A., Cimini, B. A., Schnitzbauer, J., Zhang, W., Li, G., Park, J., Blackburn, E. H., Weissman, J. S., Qi, L. S., Huang, B.  
2013; 155 (7): 1479-1491
- **CRISPR-Mediated Modular RNA-Guided Regulation of Transcription in Eukaryotes** *CELL*  
Gilbert, L. A., Larson, M. H., Morsut, L., Liu, Z., Brar, G. A., Torres, S. E., Stern-Ginossar, N., Brandman, O., Whitehead, E. H., Doudna, J. A., Lim, W. A., Weissman, J. S., Qi, et al  
2013; 154 (2): 442-451
- **Repurposing CRISPR as an RNA-Guided Platform for Sequence-Specific Control of Gene Expression** *CELL*  
Qi, L. S., Larson, M. H., Gilbert, L. A., Doudna, J. A., Weissman, J. S., Arkin, A. P., Lim, W. A.  
2013; 152 (5): 1173-1183
- **Nanoscale cellular organization of viral RNA and proteins in SARS-CoV-2 replication organelles.** *bioRxiv : the preprint server for biology*

Andronov, L., Han, M., Zhu, Y., Roy, A. R., Barentine, A. E., Garhyan, J., Qi, L. S., Moerner, W. E.  
2023

- **Inactive *S. aureus* Cas9 downregulates alpha-synuclein and reduces mtDNA damage and oxidative stress levels in human stem cell model of Parkinson's disease.** *Scientific reports*  
Sastre, D., Zafar, F., Torres, C. A., Piper, D., Kirik, D., Sanders, L. H., Qi, L. S., Schüle, B.  
2023; 13 (1): 17796
- **Building smart CAR T cell therapies: The path to overcome current challenges.** *Cancer cell*  
Cai, Q., Warren, S., Pietrobon, V., Maeurer, M., Qi, L. S., Lu, T. K., Lajoie, M. J., Barrett, D., Stroncek, D. F., Marincola, F. M.  
2023
- **Cas9-mediated knockout of *Ndr2* enhances the regenerative potential of dendritic cells for wound healing.** *Nature communications*  
Henn, D., Zhao, D., Sivaraj, D., Trotsyuk, A., Bonham, C. A., Fischer, K. S., Kehl, T., Fehlmann, T., Greco, A. H., Kussie, H. C., Moortgat Illouz, S. E., Padmanabhan, J., Barrera, et al  
2023; 14 (1): 4729
- **Targeted knock-ins with pseudovirus for the stable expression of large transgenes** *NATURE BIOMEDICAL ENGINEERING*  
Chavez, M., Qi, L.  
2023: 612-613
- **Nuclease-Dead Cas9-Mediated Downregulation of alpha-Synuclein as a Disease-Modulatory Therapeutic Strategy for Parkinson's Disease**  
Schuele, B., Torres, C., Zafar, F., Hermesky, D., Vazquez, J., Piper, D., Sastre, D., Qi, L., Sanders, L., Kirik, D.  
CELL PRESS.2023: 339
- **Statins improve endothelial function via suppression of epigenetic-driven EndMT.** *Nature cardiovascular research*  
Liu, C., Shen, M., Tan, W. L., Chen, I. Y., Liu, Y., Yu, X., Yang, H., Zhang, A., Liu, Y., Zhao, M. T., Ameen, M., Zhang, M., Gross, et al  
2023; 2 (5): 467-485
- **Nanoscale, antigen encounter-dependent, IL-12 delivery by CAR T cells plus PD-L1 blockade for cancer treatment.** *Journal of translational medicine*  
Yang, Z., Pietrobon, V., Bobbin, M., Stefanson, O., Yang, J., Goswami, A., Alphson, B., Choi, H., Magallanes, K., Cai, Q., Barrett, D., Wang, B., Qi, et al  
2023; 21 (1): 158
- **Multicolor super-resolution imaging to study human coronavirus RNA during cellular infection**  
Roy, A. R., Wang, J., Han, M., Wang, H., Moeckl, L., Zeng, L., Moerner, W. E., Qi, L. S.  
CELL PRESS.2023: 16A
- **Multicolor super-resolution imaging to study human coronavirus RNA during cellular infection.** *Biophysical journal*  
Roy, A. R., Wang, J., Han, M., Wang, H., Mockl, L., Zeng, L., Moerner, W. E., Qi, L. S.  
2023; 122 (3S1): 16a
- **Reversing the Central Dogma: RNA-guided control of DNA in epigenetics and genome editing.** *Molecular cell*  
Chang, H. Y., Qi, L. S.  
2023; 83 (3): 442-451
- **Nuclease-dead *S. aureus* Cas9 downregulates alpha-synuclein and reduces mtDNA damage and oxidative stress levels in patient-derived stem cell model of Parkinson's disease.** *bioRxiv : the preprint server for biology*  
Sastre, D., Zafar, F., Torres, C. A., Piper, D., Kirik, D., Sanders, L. H., Qi, S., Schule, B.  
2023
- **Programmable Drug Control of Receptor Valency Modulates the Potency of Cell Therapeutics.** *bioRxiv : the preprint server for biology*  
Finn, P. B., Chavez, M., Chen, X., Wang, H., Rane, D. A., Gurjar, J., Qi, L. S.  
2023
- **SARS-CoV-2 escapes direct NK cell killing through Nsp1-mediated downregulation of ligands for NKG2D.** *Cell reports*  
Lee, M. J., Leong, M. W., Rustagi, A., Beck, A., Zeng, L., Holmes, S., Qi, L. S., Blish, C. A.  
2022: 111892
- **Computation empowers CRISPR discovery and technology** *NATURE COMPUTATIONAL SCIENCE*  
Shang, S., Cai, X. S., Qi, L. S.  
2022; 2 (9): 533-535

- **Computation empowers CRISPR discovery and technology.** *Nature computational science*  
Shang, S., Cai, X. S., Qi, L. S.  
2022; 2 (9): 533-535
- **What are the current bottlenecks in developing and applying CRISPR technologies?** *CELL SYSTEMS*  
Kellogg, E. H., Gootenberg, J., Abudayyeh, O., Wong, A. L., Dahlman, J. E., Lapinaite, A., Myhrvoid, C., Liu, C. C., Hsu, P. D., Mali, P., Qi, L.  
2022; 13 (8): 589-593
- **Single-cell transcriptome analysis of regenerating RGCs reveals potent glaucoma neural repair genes.** *Neuron*  
Li, L., Fang, F., Feng, X., Zhuang, P., Huang, H., Liu, P., Liu, L., Xu, A. Z., Qi, L. S., Cong, L., Hu, Y.  
2022
- **Corrigendum to "Hormone sensitive lipase ablation promotes bone regeneration" [Biochim. Biophys. Acta Mol. Basis Dis. Volume 1868, Issue 9, 1 September 2022, 166449].** *Biochimica et biophysica acta. Molecular basis of disease*  
Shen, W. J., Still, C., Han, L., Yang, P., Chen, J., Wosczyzna, M., Rando, T. A., Salmon, B. J., Perez, K. C., Li, J., Cuevas, P. L., Liu, B., Azhar, et al  
2022; 1868 (11): 166506
- **Enhanced Myogenesis by Silencing Myostatin with Nonviral Delivery of dCas9 Ribonucleoprotein Complex.** *The CRISPR journal*  
Chen, Y., Banie, L., Breyer, B. N., Tan, Y., Wang, Z., Zhou, F., Wang, G., Lin, G., Liu, J., Qi, L. S., Lue, T. F.  
2022
- **Multiplex CRISPR genome regulation in the retina**  
Guo, L., Bian, J., Davis, A. E., Liu, P., Kempton, H., Zhang, X., Chemparathy, A., Gu, B., Lin, X., Rane, D., Jamiolkowski, R. M., Hu, Y., Wang, et al  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2022
- **Hormone sensitive lipase ablation promotes bone regeneration.** *Biochimica et biophysica acta. Molecular basis of disease*  
Shen, W. J., Chris Still, I. I., Han, L., Yang, P., Chen, J., Wosczyzna, M., Salmon, B. J., Perez, K. C., Li, J., Cuevas, P. L., Liu, B., Azhar, S., Helms, et al  
2022: 166449
- **Multiplexed Genome Regulation In Vivo with Hyper-Efficient Cas12a**  
Guo, L., Bian, J., Davis, A. E., Liu, P., Kempton, H. R., Zhang, X., Chemparathy, A., Gu, B., Lin, X., Rane, D. A., Jamiolkowski, R. M., Hu, Y., Wang, et al  
CELL PRESS.2022: 103
- **CRISPR-mediated Synergistic Epigenetic and Transcriptional Control.** *The CRISPR journal*  
Dominguez, A. A., Chavez, M. G., Urke, A., Gao, Y., Wang, L., Qi, L. S.  
2022
- **High-content CRISPR screening** *NATURE REVIEWS METHODS PRIMERS*  
Bock, C., Datlinger, P., Chardon, F., Coelho, M. A., Dong, M. B., Lawson, K. A., Lu, T., Maroc, L., Norman, T. M., Song, B., Stanley, G., Chen, S., Garnett, et al  
2022; 2 (1)
- **Dual CRISPR interference and activation for targeted reactivation of X-linked endogenous FOXP3 in human breast cancer cells.** *Molecular cancer*  
Cui, X., Zhang, C., Xu, Z., Wang, S., Li, X., Stringer-Reasor, E., Bae, S., Zeng, L., Zhao, D., Liu, R., Qi, L. S., Wang, L.  
2022; 21 (1): 38
- **Multi-color super-resolution imaging to study human coronavirus RNA during cellular infection.** *bioRxiv : the preprint server for biology*  
Wang, J., Han, M., Roy, A. R., Wang, H., Mockl, L., Zeng, L., Moerner, W. E., Qi, L. S.  
2022
- **The use of new CRISPR tools in cardiovascular research and medicine.** *Nature reviews. Cardiology*  
Nishiga, M., Liu, C., Qi, L. S., Wu, J. C.  
2022
- **High-content CRISPR screening.** *Nature reviews. Methods primers*  
Bock, C., Datlinger, P., Chardon, F., Coelho, M. A., Dong, M. B., Lawson, K. A., Lu, T., Maroc, L., Norman, T. M., Song, B., Stanley, G., Chen, S., Garnett, et al  
2022; 2 (1)
- **Multi-color super-resolution imaging to study human coronavirus RNA during cellular infection.** *Cell reports methods*  
Wang, J., Han, M., Roy, A. R., Wang, H., Möckl, L., Zeng, L., Moerner, W. E., Qi, L. S.  
2022: 100170

- **Contextual reprogramming of CAR-T cells for treatment of HER2+ cancers.** *Journal of translational medicine*  
Yang, Z., Li, L., Turkoz, A., Chen, P., Harari-Steinfeld, R., Bobbin, M., Stefanson, O., Choi, H., Pietrobon, V., Alphson, B., Goswami, A., Balan, V., Kearney, et al  
2021; 19 (1): 459
- **Enhanced Cas12a multi-gene regulation using a CRISPR array separator.** *eLife*  
Magnusson, J. P., Rios, A. R., Wu, L., Qi, L. S.  
2021; 10
- **Enhanced Cas12a multi-gene regulation using a CRISPR array separator** *ELIFE*  
Magnusson, J. P., Rios, A., Wu, L., Qi, L. S.  
2021; 10
- **Single-cell transcriptomic profiling reveals distinct mechanical responses between normal and diseased tendon progenitor cells.** *Cell reports. Medicine*  
Still, C. 2., Chang, W., Sherman, S. L., Sochacki, K. R., Dragoo, J. L., Qi, L. S.  
2021; 2 (7): 100343
- **Nanoscale, antigen-dependent, reversible IL-12 secretion by CAR T cells for cancer treatment.**  
Yang, Z., Bobbin, M., Choi, H., Stefanson, O., Magallanes, K., Yang, J., Wang, B., Cesano, A., Qi, L., Marincola, F. M.  
AMER ASSOC CANCER RESEARCH.2021
- **CRISPR/Cas9 Editing Of Autologous Dendritic Cells To Enhance Angiogenesis And Wound Healing**  
Henn, D., Zhao, D., Bonham, C. A., Chen, K., Greco, A. H., Padmanabhan, J., Sivaraj, D., Trotsyuk, A., Barrera, J. A., Januszyk, M., Qi, L., Gurtner, G. C.  
WILEY.2021: A31-A32
- **CRISPR-based genome editing in primary human pancreatic islet cells.** *Nature communications*  
Bevacqua, R. J., Dai, X., Lam, J. Y., Gu, X., Friedlander, M. S., Tellez, K., Miguel-Escalada, I., Bonas-Guarch, S., Atla, G., Zhao, W., Kim, S. H., Dominguez, A.  
A., Qi, et al  
2021; 12 (1): 2397
- **A comprehensive analysis and resource to use CRISPR-Cas13 for broad-spectrum targeting of RNA viruses.** *Cell reports. Medicine*  
Lin, X., Liu, Y., Chemparathy, A., Pande, T., La Russa, M., Qi, L. S.  
2021: 100245
- **CRISPRi/a Screening with Human iPSCs.** *Methods in molecular biology (Clifton, N.J.)*  
Nishiga, M., Qi, L. S., Wu, J. C.  
2021; 2320: 261-281
- **Regenerating Urethral Striated Muscle by CRISPRi/dCas9-KRAB-Mediated Myostatin Silencing for Obesity-Associated Stress Urinary Incontinence.** *The CRISPR journal*  
Yuan, H., Ruan, Y., Tan, Y., Reed-Maldonado, A. B., Chen, Y., Zhao, D., Wang, Z., Zhou, F., Peng, D., Banie, L., Wang, G., Liu, J., Lin, et al  
2020; 3 (6): 562–72
- **IMMUNOGENIC POTENTIAL OF CHIMERIC ANTIGEN RECEPTOR (CAR)-ENGINEERED T CELLS EXPRESSING INDUCIBLE NUCLEASE-DEACTIVATED SPCAS9 (DCAS9)**  
Patel, D., Patel, D., Goswami, A., Balan, V., Yang, Z., Li, L., Rajavel, S., Kearney, A., Harari-Steinfeld, R., Bobbin, M., Wang, B., Cesano, A., Qi, et al  
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