


## Robert Malenka

Nancy Friend Pritzker Professor of Psychiatry and Behavioral Sciences

 NIH Biosketch available Online

 Curriculum Vitae available Online

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### Bio

#### BIO

Dr. Robert C. Malenka is the Pritzker Professor of Psychiatry and Behavioral Sciences, Director of the Nancy Pritzker Laboratory and Deputy Director of the Wu Tsai Neurosciences Institute. After graduating from Harvard College he received an M.D. and a Ph.D. in neuroscience in 1983 from Stanford University School of Medicine. Over the ensuing 6 years he completed residency training in psychiatry at Stanford and 4 years of postdoctoral research at the University of California, San Francisco (UCSF). In 1989, he was appointed Assistant Professor of Psychiatry and Physiology at UCSF, at which he reached the rank of Full Professor in 1996. In addition to running an active research program at UCSF he was the Director of the Center for the Neurobiology of Addiction and Associate Director of the Center for Neurobiology and Psychiatry. He returned to the Stanford University School of Medicine in 1999.

He is an elected member of the National Academy of Sciences and the National Academy of Medicine as well as an elected fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science, and the American College of Neuropsychopharmacology. He has served on the National Advisory Council on Drug Abuse and as a Councilor for the Society for Neuroscience and the American College of Neuropsychopharmacology. He is on the scientific advisory boards of numerous non-profit foundations and biotech. He has been the recipient of several awards including: the Society for Neuroscience Young Investigator Award (1993); the Daniel Efron Award from the American College of Neuropsychopharmacology (1998); the Kemali Foundation International Prize in Neuroscience (2000); the CINP-Lilly Neuroscience Basic Research Award (2002), the Perl/UNC Neuroscience Prize (2006), the NARSAD Goldman-Rakic Prize for Outstanding Neuroscience Research (2010), the Pasarow Foundation Award for Extraordinary Accomplishment in Neuropsychiatry Research (2011), and the Society for Neuroscience Julius Axelrod Prize (2016). His laboratory continues to conduct research on the molecular mechanisms of neural communication as well as the role of circuit dysfunction in brain disorders including addiction, Alzheimer's, autism, and depression.

#### ACADEMIC APPOINTMENTS

- Professor, Psychiatry and Behavioral Sciences
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

#### ADMINISTRATIVE APPOINTMENTS

- Director, Nancy Pritzker Laboratory, (1999- present)
- co-Director, Stanford Institute for Neuro-Innovation and Translational Neurosciences, (2008-2013)
- Associate Chair, Dept. of Psychiatry & Behavioral Sciences, (2008- present)
- Deputy Director, Wu Tsai Neurosciences Institute, (2013- present)

## HONORS AND AWARDS

- Julius Axelrod Prize, Society for Neuroscience (2016)
- Julius Axelrod Mentorship Award, American College of Neuropsychopharmacology (2011)
- Medical Research Award in Neuropsychiatry, Robert and Claire Pasarow Foundation (2011)
- Member, National Academy of Sciences (2011)
- Fellow, American Association for the Advancement of Science (2009)
- Fellow, American Academy of Arts and Sciences (2005)
- Member, National Academy of Medicine (2004)
- Basic Neuroscience Research Award, Collegium Internationale Neuropsychopharmacologicum-Lilly (2002)
- International Prize in Neuroscience, Dargut and Milena Kemali Foundation (2000)
- Associate, Neurosciences Research Program (1999-2006)
- Daniel Efron Award, American College of Neuropsychopharmacology (1998)
- Distinguished Alumni Award, Stanford Medical School (1998)
- Young Investigator Award, Society for Neuroscience (1993)

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Program Committee, Society for Neuroscience (1999 - 2004)
- Scientific Advisory Board, Renovis, Inc. (2000 - 2008)
- Scientific Advisory Board, Merck, Inc. (2000 - 2008)
- Scientific Council, NARSAD, Brain and Behavior Research Foundation (2001 - present)
- Council, Society for Neuroscience (2006 - 2010)
- Scientific Advisory Board, Seaside Therapeutics, Inc. (2006 - 2015)
- Scientific Advisory Board, Stanley Center for Psychiatric Research, Broad Institute, Harvard/MIT (2006 - 2016)
- Scientific Advisory Board, Pfizer, Inc. (2008 - 2011)
- Board of Directors, The Brain Research Foundation (2010 - present)
- Scientific Advisory Board, International Mental Health Research Organization (2010 - present)
- Council, American College of Neuropsychopharmacology (2012 - 2015)
- Scientific Advisory Board, Cure Alzheimer's Fund (2012 - present)
- co-Founder/Scientific Advisory Board, Circuit Therapeutics, Inc. (2012 - present)
- Scientific Advisory Board, Neurocampus, Bordeaux, France (2013 - present)

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Long-lasting activity-dependent changes in the efficacy of synaptic transmission play an important role in the development of neural circuits and may mediate many forms of learning and memory. Work from my laboratory over the last 10 years has demonstrated that there are a variety of related but mechanistically distinct forms of synaptic plasticity. A major goal of my laboratory is to elucidate both the specific molecular events that are responsible for the triggering of these various forms of synaptic plasticity and the exact modifications in synaptic proteins that are responsible for the observed, long-lasting changes in synaptic efficacy. To accomplish this we use cellular electrophysiological recording techniques to examine synaptic plasticity in a variety of different in vitro preparations including thin slices of various regions of the rodent brain and primary neurons in culture. We also use cell biological and molecular techniques to examine the activity-dependent modulation

of neurotransmitter receptors and to express dominant negative forms of various synaptic proteins so that their exact functions can be determined. An additional complementary approach has involved examining synaptic physiology and synaptic plasticity in various mutant mouse lines lacking specific synaptic proteins.

A related but independent area of research in my laboratory is the elucidation of the synaptic action of drugs of abuse such as the psychostimulants cocaine and amphetamine. Toward this end, we have developed in vitro slice preparations of the nucleus accumbens and ventral tegmental area, brain regions which are thought to mediate several of the behavioral effects of drugs of abuse. We have characterized a novel form of synaptic plasticity in the nucleus accumbens and have done an extensive pharmacological characterization of the synaptic effects of dopamine, cocaine, and amphetamine. Currently we are examining in more detail the underlying mechanisms of dopamine's actions and determining how chronic treatment with drugs of abuse affect the synaptic responses of nucleus accumbens and ventral tegmental area cells. Because chronic exposure to drugs of abuse elicit long-term adaptive changes in critical neural circuits, it is hoped that the knowledge gained from the work on the molecular mechanisms underlying synaptic plasticity will provide important clues to the molecular mechanisms underlying the development of tolerance, dependence and addiction.

## CLINICAL TRIALS

- Engaging Self-regulation Targets to Improve Mood and Weight and Understand Mechanism in Depressed and Obese Adults, Recruiting

## Teaching

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### STANFORD ADVISEES

#### Med Scholar Project Advisor

Marija Kamceva

#### Postdoctoral Faculty Sponsor

Jinhee Baek, Anna Klawonn, Matthew Pomrenze, Benjamin Rein, Jason Tucciarone

#### Doctoral Dissertation Advisor (AC)

Daniel Cardozo Pinto

#### Postdoctoral Research Mentor

Nicholas Gregory, Zihui Zhang

## GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

## Publications

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### PUBLICATIONS

- **Amygdala-Midbrain Connections Modulate Appetitive and Aversive Learning.** *Neuron*  
Steinberg, E. E., Gore, F. n., Heifets, B. D., Taylor, M. D., Norville, Z. C., Beier, K. T., Földy, C. n., Lerner, T. N., Luo, L. n., Deisseroth, K. n., Malenka, R. C.  
2020
- **Complementary Genetic Targeting and Monosynaptic Input Mapping Reveal Recruitment and Refinement of Distributed Corticostriatal Ensembles by Cocaine.** *Neuron*  
Wall, N. R., Neumann, P. A., Beier, K. T., Mokhtari, A. K., Luo, L. n., Malenka, R. C.  
2019
- **Distinct neural mechanisms for the prosocial and rewarding properties of MDMA.** *Science translational medicine*  
Heifets, B. D., Salgado, J. S., Taylor, M. D., Hoerbelt, P. n., Cardozo Pinto, D. F., Steinberg, E. E., Walsh, J. J., Sze, J. Y., Malenka, R. C.  
2019; 11 (522)
- **5-HT release in nucleus accumbens rescues social deficits in mouse autism model.** *Nature*

Walsh, J. J., Christoffel, D. J., Heifets, B. D., Ben-Dor, G. A., Selimbeyoglu, A., Hung, L. W., Deisseroth, K., Malenka, R. C.  
2018

- **Robert Malenka** *NEURON*  
Malenka, R.  
2018; 98 (1): 12–15
- **Postsynaptic synaptotagmins mediate AMPA receptor exocytosis during LTP** *NATURE*  
Wu, D., Bacaj, T., Morishita, W., Goswami, D., Arendt, K. L., Xu, W., Chen, L., Malenka, R. C., Sudhof, T. C.  
2017; 544 (7650): 316–?
- **Gating of social reward by oxytocin in the ventral tegmental area.** *Science (New York, N.Y.)*  
Hung, L. W., Neuner, S. n., Polepalli, J. S., Beier, K. T., Wright, M. n., Walsh, J. J., Lewis, E. M., Luo, L. n., Deisseroth, K. n., Dölen, G. n., Malenka, R. C.  
2017; 357 (6358): 1406–11
- **Brains, environments, and policy responses to addiction.** *Science (New York, N.Y.)*  
Humphreys, K. n., Malenka, R. C., Knutson, B. n., MacCoun, R. J.  
2017; 356 (6344): 1237–38
- **Rabies screen reveals GPe control of cocaine-triggered plasticity.** *Nature*  
Beier, K. T., Kim, C. K., Hoerbelt, P. n., Hung, L. W., Heifets, B. D., DeLoach, K. E., Mosca, T. J., Neuner, S. n., Deisseroth, K. n., Luo, L. n., Malenka, R. C.  
2017
- **Input- and Output-Specific Regulation of Serial Order Performance by Corticostriatal Circuits.** *Neuron*  
Rothwell, P. E., Hayton, S. J., Sun, G. L., Fuccillo, M. V., Lim, B. K., Malenka, R. C.  
2015; 88 (2): 345–356
- **Circuit Architecture of VTA Dopamine Neurons Revealed by Systematic Input-Output Mapping** *CELL*  
Beier, K. T., Steinberg, E. E., DeLoach, K. E., Xie, S., Miyamichi, K., Schwarz, L., Gao, X. J., Kremer, E. J., Malenka, R. C., Luo, L.  
2015; 162 (3): 622–634
- **Circuit Architecture of VTA Dopamine Neurons Revealed by Systematic Input-Output Mapping.** *Cell*  
Beier, K. T., Steinberg, E. E., DeLoach, K. E., Xie, S., Miyamichi, K., Schwarz, L., Gao, X. J., Kremer, E. J., Malenka, R. C., Luo, L.  
2015; 162 (3): 622–634
- **Optogenetics and the circuit dynamics of psychiatric disease.** *JAMA*  
Deisseroth, K., Etkin, A., Malenka, R. C.  
2015; 313 (20): 2019–2020
- **Illuminating circuitry relevant to psychiatric disorders with optogenetics** *CURRENT OPINION IN NEUROBIOLOGY*  
Steinberg, E. E., Christoffel, D. J., Deisseroth, K., Malenka, R. C.  
2015; 30: 9–16
- **Chronic pain. Decreased motivation during chronic pain requires long-term depression in the nucleus accumbens.** *Science*  
Schwartz, N., Temkin, P., Jurado, S., Lim, B. K., Heifets, B. D., Polepalli, J. S., Malenka, R. C.  
2014; 345 (6196): 535–542
- **Decreased motivation during chronic pain requires long-term depression in the nucleus accumbens** *SCIENCE*  
Schwartz, N., Temkin, P., Jurado, S., Lim, B. K., Heifets, B. D., Polepalli, J. S., Malenka, R. C.  
2014; 345 (6196): 535–542
- **Social reward requires coordinated activity of nucleus accumbens oxytocin and serotonin** *NATURE*  
Doelen, G., Darvishzadeh, A., Huang, K. W., Malenka, R. C.  
2013; 501 (7466): 179–?
- **Leucine-Rich Repeat Transmembrane Proteins Are Essential for Maintenance of Long-Term Potentiation** *NEURON*  
Soler-Llavina, G. J., Arstikaitis, P., Morishita, W., Ahmad, M., Suedhof, T. C., Malenka, R. C.  
2013; 79 (3): 439–446
- **Diverging neural pathways assemble a behavioural state from separable features in anxiety** *NATURE*  
Kim, S., Adhikari, A., Lee, S. Y., Marshel, J. H., Kim, C. K., Mallory, C. S., Lo, M., Pak, S., Mattis, J., Lim, B. K., Malenka, R. C., Warden, M. R., Neve, et al

2013; 496 (7444): 219-223

- **LTP Requires a Unique Postsynaptic SNARE Fusion Machinery** *NEURON*  
Jurado, S., Goswami, D., Zhang, Y., Minano Molina, A. J., Suedhof, T. C., Malenka, R. C.  
2013; 77 (3): 542-558
- **Input-specific control of reward and aversion in the ventral tegmental area** *NATURE*  
Lammel, S., Lim, B. K., Ran, C., Huang, K. W., Betley, M. J., Tye, K. M., Deisseroth, K., Malenka, R. C.  
2012; 491 (7423): 212-?
- **Anhedonia requires MC4R-mediated synaptic adaptations in nucleus accumbens** *NATURE*  
Lim, B. K., Huang, K. W., Grueter, B. A., Rothwell, P. E., Malenka, R. C.  
2012; 487 (7406): 183-U64
- **Integrating synaptic plasticity and striatal circuit function in addiction** *CURRENT OPINION IN NEUROBIOLOGY*  
Grueter, B. A., Rothwell, P. E., Malenka, R. C.  
2012; 22 (3): 545-551
- **Distinct Neuronal Coding Schemes in Memory Revealed by Selective Erasure of Fast Synchronous Synaptic Transmission** *NEURON*  
Xu, W., Morishita, W., Buckmaster, P. S., Pang, Z. P., Malenka, R. C., Suedhof, T. C.  
2012; 73 (5): 990-1001
- **Postsynaptic Complexin Controls AMPA Receptor Exocytosis during LTP** *NEURON*  
Ahmad, M., Polepalli, J. S., Goswami, D., Yang, X., Kaeser-Woo, Y. J., Suedhof, T. C., Malenka, R. C.  
2012; 73 (2): 260-267
- **Comprehensive qPCR profiling of gene expression in single neuronal cells** *NATURE PROTOCOLS*  
Citri, A., Pang, Z. P., Suedhof, T. C., Wernig, M., Malenka, R. C.  
2012; 7 (1): 118-127
- **The neurexin ligands, neuroligins and leucine-rich repeat transmembrane proteins, perform convergent and divergent synaptic functions in vivo** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Soler-Llavina, G. J., Fuccillo, M. V., Ko, J., Suedhof, T. C., Malenka, R. C.  
2011; 108 (40): 16502-16509
- **Projection-Specific Modulation of Dopamine Neuron Synapses by Aversive and Rewarding Stimuli** *NEURON*  
Lammel, S., Ion, D. I., Roeper, J., Malenka, R. C.  
2011; 70 (5): 855-862
- **Postsynaptic TRPV1 triggers cell type-specific long-term depression in the nucleus accumbens** *NATURE NEUROSCIENCE*  
Grueter, B. A., Brasnjo, G., Malenka, R. C.  
2010; 13 (12): 1519-U107
- **A calcineurin/AKAP complex is required for NMDA receptor-dependent long-term depression** *NATURE NEUROSCIENCE*  
Jurado, S., Biou, V., Malenka, R. C.  
2010; 13 (9): 1053-1055
- **Understanding Synapses: Past, Present, and Future** *NEURON*  
Suedhof, T. C., Malenka, R. C.  
2008; 60 (3): 469-476
- **Endocannabinoid-mediated rescue of striatal LTD and motor deficits in Parkinson's disease models** *NATURE*  
Kreitzer, A. C., Malenka, R. C.  
2007; 445 (7128): 643-647
- **Deep posteromedial cortical rhythm in dissociation.** *Nature*  
Vesuna, S., Kauvar, I. V., Richman, E., Gore, F., Oskotsky, T., Sava-Segal, C., Luo, L., Malenka, R. C., Henderson, J. M., Nuyujukian, P., Parvizi, J., Deisseroth, K.  
2020

- **Loss of the neural-specific BAF subunit ACTL6B relieves repression of early response genes and causes recessive autism.** *Proceedings of the National Academy of Sciences of the United States of America*  
Wenderski, W., Wang, L., Krokhotin, A., Walsh, J. J., Li, H., Shoji, H., Ghosh, S., George, R. D., Miller, E. L., Elias, L., Gillespie, M. A., Son, E. Y., Staahl, et al  
2020
- **Brain-Responsive Neurostimulation for Loss of Control Eating: Early Feasibility Study.** *Neurosurgery*  
Wu, H. n., Adler, S. n., Azagury, D. E., Bohon, C. n., Safer, D. L., Barbosa, D. A., Bhati, M. T., Williams, N. R., Dunn, L. B., Tass, P. A., Knutson, B. D., Yutsis, M. n., Fraser, et al  
2020
- **Better living through chemistry: MDMA's prosocial mechanism as a starting point for improved therapeutics.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*  
Heifets, B. D., Malenka, R. C.  
2020
- **Long-term potentiation is independent of the C-tail of the GluA1 AMPA receptor subunit.** *eLife*  
Díaz-Alonso, J. n., Morishita, W. n., Incontro, S. n., Simms, J. n., Holtzman, J. n., Gill, M. n., Mucke, L. n., Malenka, R. C., Nicoll, R. A.  
2020; 9
- **Continuous and Discrete Neuron Types of the Adult Murine Striatum.** *Neuron*  
Stanley, G., Gokce, O., Malenka, R. C., Sudhof, T. C., Quake, S. R.  
2019
- **ELECTRICAL CIRCUIT INTEGRATION OF GLIOMA THROUGH NEURON-GLIOMA SYNAPSES AND POTASSIUM CURRENTS**  
Venkatesh, H., Morishita, W., Geraghty, A., Silverbush, D., Gillespie, S., Arzt, M., Tam, L., Ponnuswami, A., Ni, L., Woo, P., Taylor, K., Agarwal, A., Regev, et al  
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- **Electrical and synaptic integration of glioma into neural circuits.** *Nature*  
Venkatesh, H. S., Morishita, W., Geraghty, A. C., Silverbush, D., Gillespie, S. M., Arzt, M., Tam, L. T., Espenel, C., Ponnuswami, A., Ni, L., Woo, P. J., Taylor, K. R., Agarwal, et al  
2019
- **Disruptive Psychopharmacology.** *JAMA psychiatry*  
Heifets, B. D., Malenka, R. C.  
2019
- **Neurexin-1 Signaling Controls LTP and NMDA Receptors by Distinct Molecular Pathways** *NEURON*  
Wu, X., Morishita, W. K., Riley, A. M., Hale, W. D., Sudhof, T. C., Malenka, R. C.  
2019; 102 (3): 621-+
- **ELECTRICAL INTEGRATION OF GLIOMA INTO NEURAL CIRCUITRY**  
Venkatesh, H., Morishita, W., Geraghty, A., Silverbush, D., Arzt, M., Tam, L., Ponnuswami, A., Gillespie, S., Agarwal, A., Regev, A., Vogel, H., Bergles, D., Suva, et al  
OXFORD UNIV PRESS INC.2019: 73
- **Neurexin-1 Signaling Controls LTP and NMDA Receptors by Distinct Molecular Pathways.** *Neuron*  
Wu, X., Morishita, W. K., Riley, A. M., Hale, W. D., Sudhof, T. C., Malenka, R. C.  
2019
- **Nucleus Accumbens Modulation in Reward and Aversion.** *Cold Spring Harbor symposia on quantitative biology*  
Klawonn, A. M., Malenka, R. C.  
2019
- **Topological Organization of Ventral Tegmental Area Connectivity Revealed by Viral-Genetic Dissection of Input-Output Relations.** *Cell reports*  
Beier, K. T., Gao, X. J., Xie, S., DeLoach, K. E., Malenka, R. C., Luo, L.  
2019; 26 (1): 159
- **SynGO: An Evidence-Based, Expert-Curated Knowledge Base for the Synapse.** *Neuron*  
Koopmans, F. n., van Nierop, P. n., Andres-Alonso, M. n., Byrnes, A. n., Cijssouw, T. n., Coba, M. P., Cornelisse, L. N., Farrell, R. J., Goldschmidt, H. L., Howrigan, D. P., Hussain, N. K., Imig, C. n., de Jong, et al

2019

- **Cocaine-Induced Structural Plasticity in Input Regions to Distinct Cell Types in Nucleus Accumbens** *BIOLOGICAL PSYCHIATRY*  
Barrientos, C., Knowland, D., Wu, M. J., Lilascharoen, V., Huang, K., Malenka, R. C., Lim, B.  
2018; 84 (12): 893–904
- **Parallel circuits from the bed nuclei of stria terminalis to the lateral hypothalamus drive opposing emotional states.** *Nature neuroscience*  
Giardino, W. J., Eban-Rothschild, A., Christoffel, D. J., Li, S., Malenka, R. C., de Lecea, L.  
2018
- **Deletion of LRRTM1 and LRRTM2 in adult mice impairs basal AMPA receptor transmission and LTP in hippocampal CA1 pyramidal neurons.** *Proceedings of the National Academy of Sciences of the United States of America*  
Bhouri, M., Morishita, W., Temkin, P., Goswami, D., Kawabe, H., Brose, N., Sudhof, T. C., Craig, A. M., Siddiqui, T. J., Malenka, R.  
2018; 115 (23): E5382–E5389
- **EXCITATORY SYNAPSES BETWEEN PRESYNAPTIC NEURONS AND POSTSYNAPTIC GLIOMA CELLS PROMOTE DIPG PROGRESSION**  
Venkatesh, H., Geraghty, A., Morishita, W., Tam, L., Tirosh, I., Regev, A., Vogel, H., Suva, M., Malenka, R., Monje, M.  
OXFORD UNIV PRESS INC.2018: 49
- **A Critical Role for the Globus Pallidus in Cocaine-Triggered Plasticity Revealed Byrabies Activity Screen**  
Beier, K., Kim, C., Hoerbel, P., Hung, L., Heifets, B., DeLoach, K., Mosca, T., Neuner, S., Deisseroth, K., Luo, L., Malenka, R.  
ELSEVIER SCIENCE INC.2018: S235–S236
- **Closing the loop on impulsivity via nucleus accumbens delta-band activity in mice and man.** *Proceedings of the National Academy of Sciences of the United States of America*  
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2018; 115 (1): 192–97
- **Postsynaptic adhesion GPCR latrophilin-2 mediates target recognition in entorhinal-hippocampal synapse assembly** *JOURNAL OF CELL BIOLOGY*  
Anderson, G. R., Maxeiner, S., Sando, R., Tsetsenis, T., Malenka, R. C., Sudhof, T. C.  
2017; 216 (11): 3831–46
- **The Retromer Supports AMPA Receptor Trafficking During LTP** *NEURON*  
Temkin, P., Morishita, W., Goswami, D., Arendt, K., Chen, L., Malenka, R.  
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- **Conditional ablation of neuroligin-1 in CA1 pyramidal neurons blocks LTP by a cell-autonomous NMDA receptor-independent mechanism** *MOLECULAR PSYCHIATRY*  
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2017; 20 (2): 219–229
- **Single-cell RNAseq reveals cell adhesion molecule profiles in electrophysiologically defined neurons.** *Proceedings of the National Academy of Sciences of the United States of America*  
Földy, C., Darmanis, S., Aoto, J., Malenka, R. C., Quake, S. R., Südhof, T. C.  
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- **Cellular Taxonomy of the Mouse Striatum as Revealed by Single-Cell RNA-Seq** *CELL REPORTS*  
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- **Structural foundations of optogenetics: Determinants of channelrhodopsin ion selectivity** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*

- Berndt, A., Lee, S. Y., Wietek, J., Ramakrishnan, C., Steinberg, E. E., Rashid, A. J., Kim, H., Park, S., Santoro, A., Frankland, P. W., Iyer, S. M., Pak, S., Ahrlund-Richter, et al  
2016; 113 (4): 822-829
- **Optogenetic Approaches to Neural Circuit Analysis in the Mammalian Brain** *GENOMICS, CIRCUITS, AND PATHWAYS IN CLINICAL NEUROPSYCHIATRY*  
Lammel, S., Dolen, G., Malenka, R. C., Lehner, T., Miller, B. L., State, M. W.  
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  - **MDMA as a Probe and Treatment for Social Behaviors.** *Cell*  
Heifets, B. D., Malenka, R. C.  
2016; 166 (2): 269–72
  - **From Synapses to Behavior: What Rodent Models Can Tell Us About Neuropsychiatric Disease.** *Biological psychiatry*  
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Bacaj, T., Wu, D., Burre, J., Malenka, R. C., Liu, X., Suedhof, T. C.  
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