

## CURRICULUM VITAE

### **JUN DING**

***CONTACT*** Department of Neurosurgery,  
Department of Neurology and Neurological Sciences (by Courtesy),  
Stanford University School of Medicine,  
1050A Arastradero Rd, A150, Palo Alto, CA 94304, USA  
Email: [dingjun@stanford.edu](mailto:dingjun@stanford.edu) Phone: (650)-723-5222 (OFFICE)

### ***EDUCATION***

06/2007 **Ph.D.** in Neuroscience, Department of Physiology, Northwestern University.  
06/2001 **M.S.** in Physiology, Shanghai Institute of Physiology, Chinese Academy of Sciences, China  
06/1998 **B.S.** in Biology, Department of Biology, East China Normal University, Shanghai, China

### ***EMPLOYMENT***

2012-present **ASSISTANT PROFESSOR**  
Department of Neurosurgery,  
Department of Neurology and Neurological Sciences, *by courtesy*,  
Stanford Institute for Neurosciences (SNI), Stanford University School of Medicine.  
2008-2012 **RESEARCH ASSOCIATE** with Dr. Bernardo L. Sabatini  
Department of Neurobiology, Howard Hughes Medical Institute, Harvard Medical School.  
2003-2007 **Ph.D.** Research, **GRADUATE STUDENT** with Dr. James D. Surmeier  
Interdepartmental Neuroscience Program, Northwestern University.  
1998-2002 **M.S.** research, **GRADUATE STUDENT** with Dr. Yu-Liang Shi  
Shanghai Institute of Physiology, Chinese Academy of Sciences.

### ***AWARDS, HONORS, FELLOWSHIPS***

2016 **Faculty Teaching Award**, Stanford Neuroscience PhD Program  
2014 **Kavli Fellow**, Kavli Frontiers of Science / The Kavli Foundation  
2013 **Klingenstein Fellowship Awards**, the Esther A. & Joseph Klingenstein Fund  
2011 **K99/R00 Pathway to Independence Award**, NINDS, NIH  
2011 **Postdoctoral Fellowship**, Parkinson's Disease Foundation  
2010 **Fundamental Neurobiology Postdoctoral Training Grant**, Harvard Medical School  
2009 **Travel award**, Gordon Research Conference: Dendrites, Lucca (Barga), Italy, 2009  
2007 **Chinese Government Award** (For outstanding self-financed students abroad)  
2007 **Okinawa Computational Neuroscience Course**  
2007 **Travel award**, Gordon Research Conference: Dendrites, Ventura, CA, 2007  
2002 **University Fellowship**, Northwestern University, Evanston, IL

### ***PUBLICATIONS***

1. Obaid A, Hanna ME, Wu YW, Kollo Mihaly, Racz R, Angle MR, Muller J, Brackbill N, Wray W, Franke F, Chichilnisky EJ, Hierlemann, A, **Ding JB**, Schaefer AT, and Melosh NA. Massively Parallel Microwire Arrays Integrated with CMOS chips for Neural Recording. **Science Advance**. 2019 (in press)

2. Villette V, Chavarha M, Dimov IK, Bradley J, Pradhan L, Mathieu B, Evans SW, Chamberland S, Shi D, Yang R, Kim BB, Ayon A, Jalil A, St-Pierre F, Schnitzer MJ, Bi G, Toth K, **Ding JB**, Dieudonne S, Lin MZ. Ultrafast Two-Photon Imaging of a High-Gain Voltage Indicator in Awake Behaving Mice. *Cell*. 2019;179(7):1590–1608.e23. doi:10.1016/j.cell.2019.11.004
3. Inoue S, Yang R, Tantry A, Davis CH, Yang T, Knoedler JR, Wei Y, Adams EL, Thombare S, Golf SR, Neve RL, Tessier-Lavigne M, **Ding JB**, and Shah NM. *Cell*. 2019 2019;179(6):1393–1408.e16. doi:10.1016/j.cell.2019.10.025
4. Neuronal O-GlcNAcylation Improves Cognitive Function in the Aged Mouse Brain. Wheatley EG, Albarran E, White CW 3rd, Bieri G, Sanchez-Diaz C, Pratt K, Snethlage CE, **Ding JB**, Villeda SA. *Curr Biol*. 2019 Oct 21;29(20):3359-3369.e4. doi: 10.1016/j.cub.2019.08.003. Epub 2019 Oct 3.
5. Maeder CI, Kim JI, Liang X, Kaganovsky K, Shen A, Li Q, Li Z, Wang S, Xu X.Z.S, Li JB, Xiang YK, **Ding JB\*** and Shen K\* The THO complex coordinates transcripts for dopamine neuron development and survival. *Cell*. 2018 Aug 21. pii: S0092-8674(18)30974-7. doi: 10.1016/j.cell.2018.07.046. (\* Corresponding author).
6. Gu Y, Servello D, Han Z, Lalchandani RR, **Ding JB**, Huang K, Gu C. Balanced Activity between Kv3 and Nav Channels Determines Fast-Spiking in Mammalian Central Neurons. *iScience*. 2018 Nov 30;9:120-137. doi: 10.1016/j.isci.2018.10.014. Epub 2018 Oct 18.
7. Diametric neural ensemble dynamics in parkinsonian and dyskinetic states. Parker JG, Marshall JD, Ahanonu B, Wu YW, Kim TH, Grewe BF, Zhang Y, Li JZ, **Ding JB**, Ehlers MD, Schnitzer MJ. *Nature*. 2018 May;557(7704):177-182. doi: 10.1038/s41586-018-0090-6. Epub 2018 May 2.
8. Du K, Wu YW, Lindroos R, Liu Y, Rózsa B, Katona G, **Ding JB\***, Kotaleski JH\*. Cell-type-specific inhibition of the dendritic plateau potential in striatal spiny projection neurons. *Proc Natl Acad Sci U S A*. 2017 Aug 21. pii: 201704893. doi: 10.1073/pnas.1704893114. (\* Corresponding author)
9. Chen CC, Lu J, Yang R, **Ding JB**, Zuo Y. Selective activation of parvalbumin interneurons prevents stress-induced synapse loss and perceptual defects. *Mol Psychiatry*. 2017 Aug 1. doi: 10.1038/mp.2017.159. [Epub ahead of print]
10. Luo SX, Timbang L, Kim JI, Shang Y, Sandoval K, Tang AA, Whistler JL, **Ding JB**, Huang EJ. TGF- $\beta$  Signaling in Dopaminergic Neurons Regulates Dendritic Growth, Excitatory-Inhibitory Synaptic Balance, and Reversal Learning. *Cell Reports*. 2016 Dec 20;17(12):3233-3245. doi: 10.1016/j.celrep.2016.11.068.
11. Xu T, Wang S, Lalchandani RR, **Ding JB**. Motor learning in animal models of Parkinson's Disease: Aberrant synaptic plasticity in the motor cortex. *Mov Disord*. 2017 Mar 25. doi: 10.1002/mds.26938.
12. Kim J-I, Ganesan S, Luo SX, Wu Y-W, Park E, Huang EJ, Chen L, and **Ding JB**. Aldehyde Dehydrogenase 1a1 Mediates a GABA Synthesis Pathway in Midbrain Dopaminergic Neurons. *Science*, 2015 Oct 2;350(6256):102-6. doi: 10.1126/science.aac4690.
13. Guo L, Xiong H, Kim J-I, Wu Y-W, Lalchandani RR, Cui Y, Shu Y, Xu T and **Ding JB**. Dynamic re-wiring of neural circuits in the motor cortex in mouse models of Parkinson's disease. *Nat Neurosci*, 2015 Sep;18(9):1299-309. doi: 10.1038/nn.4082. Epub 2015 Aug 3. (Previewed by: Calabresi and Di Filippo, Nature Neuroscience 18, 1196–1198 (2015) doi:10.1038/nn.4092)
14. Wu YW, Kim JI, Tawfik VL, Lalchandani, RR, Scherrer G and **Ding JB**. Input- and cell type-specific endocannabinoid-dependent LTD in the striatum. *Cell Reports*. 2015 Jan 6;10(1):75-87. doi: 10.1016/j.celrep.2014.12.005. Epub 2014 Dec 24.
15. Takasaki KT, **Ding JB**, Sabatini BL. Live-cell superresolution imaging by pulsed STED two-photon excitation microscopy. *Biophys J*. 2013 Feb 19;104(4):770-7. doi: 10.1016/j.bpj.2012.12.053.

16. Tritsch NX, **Ding JB**, Sabatini BL. Dopaminergic neurons inhibit striatal output via non-canonical release of GABA. *Nature*. 2012 Oct 11;490(7419):262-6. doi: 10.1038/nature11466. Epub 2012 Oct 3 (Highlighted by Williams JT *Nature* 2012 Oct 11;490(7419):178-9. doi: 10.1038/490178a).
17. **Ding JB\***, Oh WJ\*, Sabatini BL, Gu C. Semaphorin3E – Plexin-D1 signaling controls pathway specific thalamostriatal synapse formation. (\*Equal contribution), *Nat Neurosci*. 2011 Dec 18;15(2):215-23. doi: 10.1038/nn.3003.
18. Liu T, Kong D, Shah BP, Ye C, Koda S, Saunders A, **Ding JB**, Yang Z, Sabatini BL and Lowell BB. Fasting-induced activation of AgRP neurons requires NMDA receptors and involves increased glutamatergic tone and dendritic spinogenesis. *Neuron*. 2012 Feb 9;73(3):511-22.
19. **Ding JB**, Guzman JN, Peterson JD, Goldberg JA, Surmeier DJ. Thalamic gating of corticostriatal signaling by cholinergic interneurons. *Neuron*. 2010 July 29; 67(2):294-307. (Previewed by Thorn and Graybiel., *Neuron*. 2010 Jul 29;67(2):175-8.)
20. **Ding JB**, Takasaki KT, Sabatini BL. Supraresolution imaging in brain slices using stimulated-emission depletion 2-photon laser scanning microscopy. *Neuron*. 2009 Aug 27; 63(4):429-437. (Cover Illustration).
21. **Ding J\***, Peterson JD\*, Surmeier DJ. Corticostriatal and thalamostriatal synapses have distinctive properties. *J Neurosci*. 2008 June 18;28(25):6483-6492. (\* Equal contribution).
22. Bonsi P, Cuomo D, **Ding J**, Sciamanna G, Ulrich S, Tscherter A, Bernardi G, Surmeier DJ, Pisani A. Endogenous Serotonin Excites Striatal Cholinergic Interneurons via the Activation of 5-HT<sub>2C</sub>, 5-HT<sub>6</sub>, and 5-HT<sub>7</sub> Serotonin Receptors: Implications for Extrapyramidal Side Effects of Serotonin Reuptake Inhibitors. *Neuropsychopharmacology*. 2007 Aug;32(8):1840-54.
23. **Ding J**, Guzman JN, Tkatch T, Chen S, Goldberg JA, Ebert PJ, Levitt P, Wilson CJ, Hamm HE, Surmeier DJ. RGS4-dependent attenuation of M(4) autoreceptor function in striatal cholinergic interneurons following dopamine depletion. *Nat Neurosci*. 2006 Jun;9(6):832-842.
24. Wang Z, Kai L, Day M, Ronesi J, Yin HH, **Ding J**, Tkatch T, Lovinger DM, Surmeier DJ. Dopaminergic control of corticostriatal long-term synaptic depression in medium spiny neurons is mediated by cholinergic interneurons. *Neuron*. 2006 May 4;50(3):443-52. (Previewed by Wilson CJ., *Neuron*. 2006 May 4;50(3):347-8.)
25. Day M, Wang Z, **Ding J**, An X, Ingham CA, Shering AF, Wokosin D, Ilijic E, Sun Z, Sampson AR, Mugnaini E, Deutch AY, Sesack SR, Arbuthnott GW, Surmeier DJ. Selective elimination of glutamatergic synapses on striatopallidal neurons in Parkinson disease models. *Nat Neurosci*. 2006 Feb;9(2):251-9. (Previewed by Gerfen CR., *Nat Neurosci*. 2006 Feb;9(2):157-8.)
26. Xu TH, **Ding J** and Shi YL. Toosendanin increases free-Ca(2+) concentration in NG108-15 cells via L-type Ca(2+) channels. *Acta Pharmacol Sin*. 2004 May;25(5):597-601.
27. Xu TH, **Ding J**, Shi YL, Li MF, Lu CZ and Qiao J. Effects of myasthenia gravis patients' sera with different autoantibodies on slow K+ current at mouse motor nerve terminals. *Neurol Res*. 2003 Jan;25(1):58-62.
28. **Ding J**, Xu TH and Shi YL. Different effects of toosendanin on perineurially recorded Ca(2+) currents in mouse and frog motor nerve terminals. *Neurosci Res*. 2001 Nov;41(3):243-9.

*Review Articles / Book Chapters / Editorial*

29. Konstantin Kaganovsky and **Ding JB\***. The Locomotion Tug-of-War: Cholinergic and Dopaminergic Interactions Outside the Striatum. *Neuron* 2017, December 20; 96. doi:10.1016/j.neuron.2017.12.014
30. Wu YW and **Ding JB\***. A Cell-type-specific jolt for motor disorders. *Nat Neurosci*. 2017 May; 20, 763-765 (2017) doi:10.1038/nn.4565.

31. Xu TH, Wang SF, Lalchandani RR, and **Ding JB**. Motor learning in animal models of Parkinson's Disease: Aberrant synaptic plasticity in the motor cortex. *Mov Disord*. 2017 Mar 25. doi: 10.1002/mds.26938.
32. Goldberg JA, **Ding JB**, Surmeier DJ. Muscarinic modulation of striatal function and circuitry. In: Fryer A, Christopoulos A, Nathanson NM, editors. 2011. Muscarinic Receptors. Heidelberg: Springer Verlag *Handb Exp Pharmacol*. 2012;208:223-41.
33. Oldenburg IA and **Ding JB\***. Cholinergic modulation of synaptic integration and dendritic excitability in the striatum. *Curr Opin Neurobiol*. 2011, doi:10.1016/j.conb.2011.04.004. (\* Corresponding author)
34. Pisani A, Bernardi G, **Ding J** and Surmeier DJ. Re-emergence of striatal cholinergic interneurons in movement disorders *Trends Neurosci*. 2007 October;30(10):545-553.
35. Surmeier DJ, **Ding J**, Day M, Wang Z and Shen W. Dopaminergic modulation of dendritic excitability and glutamatergic signaling in striatal medium spiny neurons. *Trends Neurosci*. 2007 May;30(5):228-35.

#### **ONGOING RESEARCH SUPPORT**

1R01NS091144 (NINDS/NIH)	Ding, Jun (PI)	04/01/2015-03/31-2020
Dopamine modulation of synaptic plasticity and integration in the striatum, Stanford University School of Medicine		
Role: PI	Funding agency: NIH/NINDS	
1R01AA025721 (NIAAA/NIH)	Ding, Jun (PI)	09/01/2017-03/31-2022
Alcohol disrupts the balance between dopamine and GABA co-released by midbrain dopamine neurons		
Role: PI	Funding agency: NIH/NIAAA	
R01 NS103037 (NINDS/NIH)	Ding, Jun (PI)	09/01/2017-08/31/2022
Dopamine Degradation Pathway and Alpha-synuclein Aggregation		
Role: PI	Funding agency: NIH/NINDS	
R21NS1046861	Multi-PIs: Ding, Melosh	09/01/2018-08/31/2020
Massively parallel microwire arrays for deep brain stimulation		
Role: PI	Funding agency: NIH/NINDS	
U01NS113358	(Multi-PIs: Dan, Ding, Li, Lin)	06/01/2019-05/31/2023
Novel Fluorescent sensors for imaging neuromodulation		
Role: Co-PI	Funding agency: NIH/NINDS	

#### **PAST SUPPORT**

SNI Seed Grant	Ding, Jun (PI)	10/01/2015-09/31-2017
Massively parallel microwire arrays for deep brain stimulation		
Role: PI	Funding agency: Stanford University/Stanford Neuroscience Institute	
Innovation in Teaching Grant	Ding, Jun (PI)	4/01/2017-06/30-2017
Innovation in Teaching – “Advances in two-photon imaging of neural circuits”		
Role: Course Director	Funding agency: Stanford University School of Medicine	
4R00NS075136 (NINDS/NIH)	Ding, Jun (PI)	07/01/2012-06/30-2015

Functional organization of neural circuits underlying movement control, Stanford University School of Medicine

Role: PI

Funding agency: NIH/NINDS

Klingenstein Fellowship Awards

Ding, Jun (PI)

07/01/2013-06/30/2016

Synaptic integration mechanism underlying movement control, Stanford University School of Medicine

Role: PI

Funding agency: Klingenstein Fund

### ***SELECTED INVITED TALKS***

2020 Baylor College of Medicine, Houston, TX (Scheduled)  
2020 Texas A&M University, College Station, TX (Scheduled)  
2020 Tulane University, New Orleans, LA (Scheduled)  
2020 Duke University, Durham, NC  
2019 Vollum Institute, Oregon Health & Science University  
2019 Keystone Symposia, Windows on the Brain, Taos NM, USA  
2018 University of California, Riverside  
2018 Gordon Research Conference: Basal Ganglia  
2018 Tufts University School of Medicine, MA, USA  
2017 Dartmouth College, NH, USA  
2017 Gordon Research Conference: Inhibition in the CNS  
2017 Gordon Research Conference: Dendrites: Molecules, Structure and Function  
2017 University of Ottawa, Canada  
2016 University of Massachusetts, Amherst, MA, USA  
2016 University of North Carolina, Chapel Hill, NC, USA  
2016 Max Plank Florida Institute For Neuroscience, FL, USA  
2016 University of California, San Francisco, CA, USA  
2016 Vanderbilt University, Nashville, TN, USA  
2016 Gordon Research Conference: Alcohol & Nervous System  
2015 Gordon Research Conference: Parkinson's Disease  
2015 Northwestern University, Chicago, IL, USA  
2015 University of California, Irvine, CA, USA  
2015 Gordon Research Conference: Dendrites  
2014 Gordon Research Conference: Molecular & Cellular Neurobiology, Hong Kong  
2014 Photonic West Bios (co-Chair) San Francisco  
2013 International Symposium on "Visible Brainwide Networks", Wuhan, China  
2013 Dopamine, 2013, Alghero, Italy  
2012 Huazhong University of Science and Technology, Wuhan, China  
2012 Institute of Neuroscience, Chinese Academy of Sciences, Shanghai, China  
2011 Gordon Research Conference: Dendrites, Ventura, CA  
2010 Cutting-Edge Fluorescence Imaging Techniques, ASCB workshop, Philadelphia, PA  
2010 Keystone Symposia—Synapse: formation, function and malfunction, Snowbird, UT  
2009 Gordon Research Conference: Dendrites, Lucca (Barga), Italy  
2009 Italian Institute of Technology, Genova, Italy  
2008 Dystonia Medical Research Foundation, Boston, MA

### ***SELECTED TEACHING EXPERIENCE***

2017-2018	<b>COURSE DIRECTOR AND INSTRUCTOR</b> NSUR 262: Advances in Two-Photon Imaging of Neural Circuits (4 units)	Stanford University
2015-2016	<b>INSTRUCTOR</b> BIO 204: Neuroplasticity: From Synapses to Behavior (3 units)	Stanford University
2015-2017	<b>COURSE DIRECTOR AND INSTRUCTOR</b> BIOS 232: Mini Course "Two-photon Imaging of Neural Circuits" (2 units)	Stanford University
2014-2019	<b>COURSE CO-DIRECTOR AND INSTRUCTOR</b> Stanford Intensive Neuroscience boot camp (6 units)	Stanford University
2013-2014	<b>INSTRUCTOR</b> Stanford Intensive Neuroscience boot camp (6 units)	Stanford University

### ***AD HOC REVIEWER***

Nature, Nature Neuroscience, Neuron, Nature Communications, Cell Reports, Proceedings of the National Academy of Sciences, Elife, Journal of Neuroscience, Science Signaling, Science Advances, eNeuro, Journal of Physiology, Biophysical Journal, BMC Neuroscience, Current Alzheimer's Research. Biological Psychiatry, Molecular and Cellular Neuroscience, Journal of Biomedical Optics, Biomedical Optics Express, Neurophotonics, Plos One, Journal of Parkinson's Disease.

### ***SERVICE***

2019-	Member of NIH Study Section <b>Chronic Dysfunction and Integrative Neurodegeneration [CDIN]</b>	NIH
2015-2018	Ad Hoc Reviewer for NIH Study Section <b>Chronic Dysfunction and Integrative Neurodegeneration [CDIN]</b>	NIH
2017	Ad Hoc Reviewer for NIH Study Section Special Emphasis Panel <b>ZRG1-BDCN-W-04</b> Special Emphasis Panel <b>ZRG1-IFCN-T-50</b>	NIH NIH
2017	<b>STANFORD NEUROSCIENCE INSTITUTE</b> INTERDISCIPLINARY SCHOLAR AWARD COMMITTEE	Stanford University
2017	<b>STANFORD NEUROSCIENCE INSTITUTE</b> SEED GRANT REVIEW COMMITTEE	Stanford University
2017	<b>STANFORD CHILD HEALTH RESEARCH INSTITUTE</b> POSTDOCTORAL FELLOWSHIP REVIEW COMMITTEE	Stanford University
2016-2017	CDMRP Review panel	DoD
2015-present	Chair of <b>STANFORD NEUROSCIENCE INSTITUTE SEMINAR COMMITTEE</b>	Stanford University
2013-present	<b>CURRICULUM COMMITTEE</b> The Neuroscience PhD Program.	Stanford University
2013-2015	<b>REVIEWER AND TEAM LEADER</b> Biomedical Research Grants	Italian Ministry of Health
2014	<b>FELLOWSHIP EXTERNAL REVIEWER</b>	Medical Research Council (MRC), UK
2014	<b>GRANT REVIEWER</b>	Parkinson's, UK

### ***POSTDOC AND GRADUATE STUDENT TRAINEE***

PhD student trainee:	Renzhi Yang	Stanford University
	Eddy Albarran	Stanford University
	Konstantin Kaganovsky	Stanford University

Postdoc fellow:

Dr. Omar Jaidar, Dr. Yue Sun, Dr. Dongli Xu, Dr. Mengjun Sheng, Dr. Di Lu, and Dr. Daniel Bloodgood.

PhD student thesis committee member

University of California, San Francisco: Dr. Robyn Javier (2012), and Dr. Sarah Xinwei Luo (2015);

Stanford University: Huong Ha Thi Thanh (2013-2018), Dr. Xing Wei (2015), Dr. George Vidal (2016); Andrew Shuster (2015-present), Jordan Sorokin (2014-2019), Mark Plitt (2017-), and Stephen Evans (2017-); Chung-ha Oh Davis (2019-present)

Past Postdoc fellow:

Dr. Jae-Ick Kim, Assistant Professor, UNIST, Korea

Dr. Rupa Lalchandani, Assistant Professor, NDNU, CA, USA

Dr. Yu-Wei Wu, Assistant Professor, Academia Sinica, Taiwan

### ***FELLOWSHIPS AWARDED TO TRAINEES FOR RESEARCH WITHIN THE LAB***

2015-2017	Rupa Lalchandani:	Stanford Neuroscience Institute Interdisciplinary Scholar Awards
2015-2016	Yu-Wei Wu:	Parkinson's Disease Foundation Postdoctoral Fellowship
2018-2019	Yue Sun	Dean's Postdoctoral Fellowship, Stanford University
2016-2019	Renzhi Yang:	Stanford BioX Bowes Graduate Student Fellowship
2016-2018	Eddy Albarran:	Howard Hughes Medical Institute (HHMI) Gilliam Fellowship for Advanced Study
2016-2019	Eddy Albarran:	National Science Foundation (NSF) Graduate Research Fellowship
2018-2020	Eddy Albarran:	DARE Fellowship Stanford University
2017-2020	Konstantin Kaganovsky:	National Science Foundation (NSF) Graduate Research Fellowship
2019-2021	Konstantin Kaganovsky:	NIH/NIAAA NRSA F31 Graduate Research Fellowship

### ***PROFESSIONAL AFFILIATIONS***

Memberships:

2003-Present Member, AAAS

2003-Present Member, Society for Neuroscience

2013-Present Member, SPIE (the International Society for Optics and Photonics)

2019-Present Member, RSA (Research Society on Alcoholism)