CURRICULUM VITAE

NAME: **Stephen J Smith**

EDUCATION:

1977-1980 Miller Research Fellow
Department of Physiology-Anatomy
University of California, Berkeley
Supervisor: Robert S. Zucker, Ph.D.

1977 Ph.D. in Physiology and Psychology
University of Washington, Seattle
Supervisors: Charles F. Stevens, M.D., Ph.D.; Wolfhard Almers, Ph.D.

1970 B.A. in Psychology
Reed College, Portland

EMPLOYMENT:

2023-Pres Neural Dynamics Fellow
2023-Pres Investigator Emeritus
2017-2023 Meritorious Investigator
2014-2017 Senior Investigator
Allen Institutes for Brain Science and Neural Dynamics

2014-Pres Professor Emeritus
1995-2014 Professor
1989-1994 Associate Professor
Department of Molecular and Cellular Physiology
Stanford University School of Medicine

1987-1989 Associate Investigator
1984-1987 Assistant Investigator
Howard Hughes Medical Institute
Yale University School of Medicine

1987-1989 Associate Professor
1984-1987 Assistant Professor
Section of Molecular Neurobiology
Yale University School of Medicine

1980-1984 Assistant Professor
Department of Physiology
Yale University School of Medicine

STANFORD TEACHING AND SERVICE:

1991-2007	MCP 201, Endocrine Physiology (Lectures)
1992-2003	MCP 215, Synaptic Transmission (Organizer)
1992-2014	MCP 222, Imaging: Biological Light Microscopy (Organizer)
2005-2012	MCP 232, Advanced Biophysical Imaging Laboratory (Organizer)
1990-2014	Doctoral Committee Service (22x)
1991-2014	Founder and Principal Faculty Advisor, Beckman CSIF
1998-1999	Member, Medical School Appointments and Promotions Committee
1999-2001	Chair, Medical School Appointments and Promotions Committee
2001-2002	Member, Committee on the Professoriate
2003-2014	Member, Medical School Associate Dean's Review Committee
2005-2014	Stanford Comprehensive Cancer Center Shared Resource Leadership
2010-2014	SINTN Neuroscience Microscopy Service Steering Committee
2009-2014	Center for Biomedical Imaging at Stanford Steering Committee
2014-present	Neuroscience Microscopy Service Faculty Advisory Committee

NATIONAL AND INTERNATIONAL ACADEMIC AND SCIENTIFIC SERVICE:

1994-2004	External Advisor, National Center for Microscopy & Imaging Research, La Jolla, CA
1994-1995	Course Director, *Imaging Neuronal Structure and Function*, Cold Spring Harbor, NY
1996-1999	Director, Section on Imaging, *Neurobiology* Course, Woods Hole, MA
1999-2004	Board of Scientific Counselors, NICHD, NIH
2000-2004	Scientific Advisory Board, Max Planck Institute, Heidelberg, Germany
2001-2014	Resident Faculty, Section on Imaging, *Neurobiology* Course, Woods Hole, MA
2011-2015	Member, NIH Study Section NOIT

INDUSTRIAL CONSULTING AND BOARDS:

1989-1991	Consultant on Optical Imaging Technologies, BioRad, Inc.
1990-1992	Consultant on Fluorescence Detection, Affymax Research Institute, Inc.
1990-1992	Consultant on Advanced Microscopy Methods, Newport Corp.
1991-1996	Consultant on Imaging Technologies and IP Litigation, Molecular Dynamics, Inc.
1995-2004	Consultant of Microarray and Microscopy Technologies, Axon Instruments, Inc.
2004-2005	Consultant on Microscopy Technologies, Molecular Devices, Inc.
2000-2004	Board of Scientific Advisors, Cytokinetics, Inc.
2004-2013	Board of Directors, Nanometrics, Inc. (Nano), Milpitas, CA
2011-2013	Chair, Scientific Advisory Board, Nanometrics, Inc.
2011-Present	Board of Directors, Aratome, LLC, Menlo Park, CA
2011-Present	Chair, Scientific Advisory Board, Aratome, LLC
2022-Present	Scientific Advisory Board, E11 Bio

PUBLICATIONS:

149. Micheva KD, Gong B, Collman F, Weinberg RJ, Smith SJ, Trimmer JS, Murray KD. (2023) Developing a Toolbox of Antibodies Validated for Array Tomography-Based Imaging of Brain Synapses. *eNeuro.* Dec 22;10(12):ENEURO.0290-23.2023. doi: 10.1523/ENEURO.0290-23.2023. PMID: 37945352.

148. Mahalingam G, Torres R, Kapner D, Trautman ET, Fliss T, Seshamani S, Perlman E, Young R, Kinn S, Buchanan J, Takeno MM, Yin W, Bumbarger DJ, Gwinn RP, Nyhus J, Lein E, Smith SJ, Reid RC, Khairy KA, Saalfeld S, Collman F, Macarico da Costa N. (2022) A scalable and modular automated pipeline for stitching of large electron microscopy datasets. *Elife.* Jul 26;11:e76534. PMID: 35880860.

147. Smith SJ, von Zastrow M. (2022) A Molecular Landscape of Mouse Hippocampal Neuromodulation. *Front Neural Circuits*. 2022 May 6;16:836930. PMID: 35601530.

146. Liu YH, Smith SJ, Mihalas S, Shea-Brown E, Sümbül U. (2021) Cell-type-specific neuromodulation guides synaptic credit assignment in a spiking neural network. *Proc Natl Acad Sci U S A*. 21;118(51):e21118. PMID: 34916291

145. Smith SJ. (2021) Transcriptomic evidence for dense peptidergic networks within forebrains of four widely divergent tetrapods. *Curr Opin Neurobiol.* 71:100-109. PMID: 34775262

144. Smith SJ, Hawrylycz M, Rossier J, Sümbül U. (2020) New light on cortical neuropeptides and synaptic network plasticity. *Curr Opin Neurobiol*. 2020 Jul 14;63:176-188. PMID: 32679509.

143. Micheva KD, Weinberg RJ, Smith SJ. (2020) A synapse census for the ages. *Science* 369(6501):253-254. PMCID: PMC7398587.

142. Smith SJ, Sümbül U, Graybuck LT, Collman F, Seshamani S, Gala R, Gliko O, Elabbady L, Miller JA, Bakken TE, Rossier J, Yao Z, Lein E, Zeng H, Tasic B, Hawrylycz M. (2019) Single-cell transcriptomic evidence for dense intracortical neuropeptide networks. *Elife* 8:e47889. PMCID: PMC6881117.

141. Micheva KD, Chang EF, Nana AL, Seeley WW, Ting JT, Cobbs C, Lein E, Smith SJ, Weinberg RJ, Madison DV. (2018) Distinctive Structural and Molecular Features of Myelinated Inhibitory Axons in Human Neocortex. *eNeuro.* 16;5(5). PMCID: PMC6220577.

140. Vogelstein JT, Perlman E, Falk B, Baden A, Gray Roncal W, Chandrashekhar V, Collman F, Seshamani S, Patsolic JL, Lillaney K, Kazhdan M, Hider R Jr, Pryor D, Matelsky J, Gion T, Manavalan P, Wester B, Chevillet M, Trautman ET, Khairy K, Bridgeford E, Kleissas DM, Tward DJ, Crow AK, Hsueh B, Wright MA, Miller MI, Smith SJ, Vogelstein RJ, Deisseroth K, Burns R. (2018) A community-developed open-source computational ecosystem for big neuro data. *Nature Methods.* 15(11):846-847. PMCID: PMC6481161.

139. Smith SJ. (2018) Q&A: Array tomography. *BMC Biol.* 6;16(1):98 PMCID:PMC6127925.

138. Simhal AK, Gong B, Trimmer JS, Weinberg RJ, Smith SJ, Sapiro G, Micheva KD. (2018) A Computational Synaptic Antibody Characterization Tool for Array Tomography. *Front Neuroanat.* 12:51. PMCID: PMC6057115.

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136. Wang GX, Smith SJ, Mourrain P. (2016) Sub-synaptic, multiplexed analysis of proteins reveals Fragile X related protein 2 is mislocalized in Fmr1 KO synapses. *Elife.* 5. pii: e20560. PMCID: PMC5098911.

135. Micheva KD, Wolman D, Mensh BD, Pax E, Buchanan J, Smith SJ, Bock DD. (2016) A large fraction of neocortical myelin ensheathes axons of local inhibitory neurons. *Elife.* 5 PMCID: PMC4972537.

134. Hiu T, Farzampour Z, Paz JT, Wang EHJ, Badgely C, Olson A, Micheva KD, Wang G, Lemmens R, Tran K, Nishiyama Y, Liang X, Hamilton SA, O'Rourke N, Smith SJ, Huguenard JR, Bliss TM Steinberg GK. (2016) Enhanced phasic GABA inhibition during the repair phase of stroke: a novel therapeutic target. *Brain* 139 (Pt 2):468-80. PMCID: PMC4805083.

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131. Collman F., Buchanan J., Phend K.D., Micheva K.D., Weinberg R.J., Smith S.J (2105) Mapping synapses by conjugate light-electron array tomography. *J. Neuroscience* 35(14):5792-807. PMCID: PMC4388933.

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regulation and hypocretin-melatonin interaction in zebrafish. *Proc Natl Acad Sci U S A* 106(51):21942-7.

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109. Eroglu, C., Allen, N.J., Susman, MW, O'Rourke, N.A., Park, C.Y., Ozkan, E., Chakraborty, C., Mulinyawe, S.B., Annis, D.S., Huberman, A.D., Green, E.M., Lawler, J., Dolmetsch, R., Garcia, K.C., Smith, S.J, Luo, Z.D., Rosenthal, A., Mosher, D.F. and Barres, B.A. (2009) Gabapentin receptor alpha2delta-1 is a neuronal thrombospondin receptor responsible for excitatory CNS synaptogenesis. *Cell* 139:380-92.

108. Isacoff, E. and Smith, S.J (2009) New Technologies. *Curr. Opin. Neurobiol.* 19:511-2.

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104. Smith, S.J (2007) Circuit Reconstruction Tools Today. *Curr. Opin. In Neurobiol.* 17:601-608.

103. Stevens, B., Allen, N.J., Vazquez, L.E,. Howell, G.R.,Christopherson, K.S., Nouri, N., Micheva, K.D., Mehalow, A., Huberman, A.D., Stafford, B., Sher, A., Litke, A.M., Lambris, J.D., Smith, S.J., John, S.W.M., & Barres, B.A. (2007) The classical complement cascade mediates CNS synapse elimination. *Cell* 131:1164-78.

102. Micheva, K.D., and Smith, S.J (2007) Array tomography: A new tool for imaging the molecular architecture and ultrastructure of neural circuits. *Neuron* 55:25-36.

101. Levi, O., Lee, T.L., Lee, M.M., Smith, S.J, and Harris, J.S. (2007) Integrated semiconductor optical sensors for cellular and neural imaging. *Applied Optics* 46:1881-1889.

100. Lee, T.L., Levi, O., Cang, J., Kaneko, M., Stryker, M.P., Smith, S.J., Shenoy, K.V., and Harris, J.S. (2006) Integrated Semiconductor Optical Sensors for Chronic, Minimally-Invasive Imaging of Brain Function. *Proceedings of IEEE Engineering in Medicine and Biology Conference*. pp. 1025 -1028.

99. Micheva, K.D., Taylor, C.P. & Smith, S.J (2006) Pregabalin reduces the release of synaptic vesicles from cultured hippocampal neurons. *Mol. Pharm.* 70: 467-76.

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