Curriculum vitae

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Education

Year	Degree (Honors)	Field of Study (Thesis advisor for PhDs)	Institution
1999	Ph.D.	Neuroscience, Dr. Y. Anzai	Keio University, Tokyo, Japan
1996	M.S.	Computational Neuroscience	Keio University, Tokyo, Japan
1994	B.S.	Electrical Engineering	Keio University, Tokyo, Japan

Postdoctoral Training [*Include residency/fellowship*]

Year(s)	Titles	Specialty/Discipline (Lab PI for postdoc research)	Institution
2008 - 2017	Senior Research Sci.	Neuroscience / Tonegawa Lab	Massachusetts Institute of Technology (MIT)
2002 - 2008	Post Doc	Neuroscience / Wilson Lab	Massachusetts Institute of Technology (MIT)
2001 - 2002	Post Doc	Neuroscience / Tani Lab	RIKEN Brain Science Institute, Japan
1999 - 2000	Visiting Scholar	Psychiatry / Sandner Lab	University of Strasbourg (ULP), France

Current Licensure and Certification

Licensure [*Do not include license number*]

Board and Other Certification

Honors and Awards

Year	Name of Honor/Award	Awarding Organization
2024	R21	National Institute of Mental Health (NIMH)

2020	R01	National Institute of Mental Health (NIMH)
2019	3 Years Research Grant	Whitehall Foundation
2018	2 Years Research Grant	Brain and Behavior Research Foundation (NARSAD)
2017	1 Year Research Grant	Sumitomo Foundation (Japan)

Faculty Academic Appointments

Year(s)	Academic Title	Department	Academic Institution
2020 -	Assistant Professor (Tenure Track)	Psychiatry Neuroscience	UT Southwestern Medical Center
2017 - 2020	Assistant Professor (Research Track)	Psychiatry Neuroscience	UT Southwestern Medical Center
2001-1999	Instructor	Neuroscience	Tamagawa University (Japan)

Appointments at Hospitals/Affiliated Institutions

Past			
Year(s)	Position Title	Department/Division	Institution
2017	Research Scientist	MassGeneral Institute for Neurodegenerative Disease (MIND) , Department of Neurology	Massachusetts General Hospital (MGH) / Harvard Medical School
2017 - 2020	Assistant Professor (Research Track)	Psychiatry Neuroscience	UT Southwestern Medical Center
Current			
Year(s)	Position Title	Department/Division	Institution
2020 -	Assistant Professor (Tenure Track)	Psychiatry Neuroscience	UT Southwestern Medical Center

Other Professional Positions *[Industry, foundation, private practice]*

Year(s)	Position Title	Institution
1995 - 1999	Student Engineering Developer	SONY Computer Science Laboratory, Tokyo, Japan

Major Administrative/Leadership Positions *[Do not include Professional Society positions]*

Year(s)	Position Title	Institution

Committee Service (*Member, unless noted otherwise) [Do not include Professional Society positions]*

Year(s)	Name of Committee	Institution/Organization
UTSW		
2018-	Neuroscience Graduate Program (L. Quigley)	UT Southwestern Medical Center
2020-	Neuroscience Graduate Program (R. Pendry)	UT Southwestern Medical Center
2021-	Neuroscience Graduate Program (F. Dybowski)	UT Southwestern Medical Center
2024-	Neuroscience Graduate Program (D. Bui)	UT Southwestern Medical Center
Hospital		
State/Regional		
National/International		

Professional Societies *[List all society committees, leadership, and course leadership roles here*]

Dates	Society Name, member
1996 -	Society for Neuroscience, regular member
2018 -	Japanese Neuroscience Society, overseas regular member
	Fellowships

Grant Review Activities

Year(s)	Name of Review Committee	Organization
2019 -	WNPRC Pilot Research Program Grant	Wisconsin Nat. Primate Res. Ctr.
2022-	F01A: F30/F31/F32/F33/F99/K00 Review	NIH/NIMH
2022-	Early-Career Award Research Grant	Wellcome Trust (UK)
2024-	Special Emphasis Panel ZRG Review Group	NIH/NIMH
2024-	NC3Rs	National Centre for the Replacement, Refinement and Reduction of

		Animals in Research (UK)

Editorial Activities

Year(s)	Journal Name
Editor/Associate Editor	
Editorial Board	
Ad Hoc Reviewer	
2010 -	*Science, Cell, Neuron, eLife, eNeuro, Journal of Neuroscience, Journal of Neurophysiology, Frontiers in Neuroscience, Journal of Neuroscience Methods, Journal of Visualized Experiments (JoVE), Molecular Brain, PLOS One, Neurobiology of Stress, Physiology and Behaviour, Molecular Psychiatry, Progress in Neurobiology, Current Opinion in Neurobiology, Expert Systems With Applications, and iScience.*

Grant Support

Present	National Institute of Mental Health (NIMH) R01MH120135
	Neural Mechanism for Successful Memory Access in the Cortico-Hippocampal Networks
	Principal Investigator
	$250,000 ($160,000 F&A, total $410,000) for 5 years
	$2,050,000 [DC and F&A total] (2020-2025, NCE until 2026)
	National Institute of Mental Health (NIMH) R21MH136525
	Deciphering Dentate Gyrus Malfunction in Age-Dependent Hippocampal Hyperactivity: Implications for Psychogenesis
	Principal Investigator
	$150,000 ($96,000 F&A, total $246,000) for 2 years
	$451,000 [DC and F&A total] (2024-2026)
Pending	National Institute of Mental Health (NIMH) R01AG096704
	ApoE Receptor-Mediated Synaptic and Network Regulation in the Entorhinal-Hippocampal System
	Multi-Principal Investigator (Contact PI)
	$481,031 ($293,106 F&A, total $774,137) for 5 years
	$3,870,686 [DC and F&A total] (2025-2030)

	National Institute of Mental Health (NIMH) R01MH142472
	Dentate Gyrus-Dependent Regulation of Hippocampal and Entorhinal Circuitry in Learning and Memory
	Principal Investigator
	$376,563 ($233,252 F&A, total $609,816) for 5 years
	$3,049,078 [DC and F&A total] (2025-2030)

Past	The Whitehall Foundation
	Neural Mechanism for Successful Memory Access and Execution
	Principal Investigator
	$75,000 for 3 Years
	$225,000 (2019-2022)
	Brain & Behavior Research Foundation (NARSAD)
	Millisecond Scale Neural Communication in Cortico-Hippocampal Networks
	Principal Investigator
	$35,000 for 2 Years
	$70,000 (2018-2020)
	Sumitomo Foundation
	Development of Fully Automated Single Unit Spike Isolator Using Optogenetics
	Principal Investigator
	$12,000 (2017-2019)

Clinical Trials Activities

Present	*Grantor:*
	Title of Project:
	Role (Principal Investigator, Co-Investigator):

Past	*Grantor:*
	Title of Project:
	Role (Principal Investigator, Co-Investigator):

Teaching Activities

Year(s)	Activity

Medical and graduate school didactic and small group teaching	
2017 -	Neurobiology of Mental Illness, NGP at UT Southwestern Medical Center
Dissertation committees	
2018 -	Neuroscience Graduate Program at UT Southwestern Medical Center
Qualifying examination committees	
2020 -	Neuroscience Graduate Program at UT Southwestern Medical Center
Committees concerned with medical and graduate student education	
Graduate student rotations	
Medical student rotations	
Graduate student trainees	
2025-	Neehar Girimaji (UTD)
2018 - 2022	Yoshiyuki Ohmura, M.D. (PYN) (joint mentoring)
2012 - 2017	Gregory Hale (MIT)
2010 - 2015	Hector Penagos (MIT/Harvard)
Postgraduate medical education (graduate & continuing medical education)	
Postdoctoral trainees	
2023 -	Kazushi Fukumasu, Ph.D. (PYN)
2023-	Muthumeenakshi Subramanian, Ph.D. (PYN)
2022 -	Shogo Takamiya, Ph.D. (PYN)
2022 -	Yoshiyuki Ohmura, MD, Ph.D. (joint mentoring)
2021 - 2022	Pietro Scaduto, Ph.D. (PYN)
2018 -	Hisayuki Osanai, Ph.D. (PYN) (joint mentoring)

Invited Lectures

Year(s)	Title	Location
International		

2024	Dynamics of hippocampal hyperactivity arising from age-dependent modulation of the dentate gyrus in a reverse-translational mouse model of schizophrenia.	NEURO 2024, Fukuoka, Japan
2023	Machine Learning Approach to Investigate Biomarkers of Early Psychotic States Using Reverse-Translational ScZ Model Mice .	University of Tsukuba, Japan
2023	Neural Dynamics of Hippocampal Activities in Psychiatric Disease, Special Seminar	The University of Tokyo, Japan
2022	Learning and Memory: Hippocampal Sharp-Wave Ripples, Graduate School Special Lecture	Osaka University, Japan
2022	A Fine-time Scale Analysis of Cortico-Hippocampal Interactions and Dysfunctions in Psychosis Model Mice, Invited Seminar	Osaka University, Japan
2022	A Fine-time Scale Analysis of Cortico-Hippocampal Interactions and Dysfunctions in Psychosis Model Mice, Invited Seminar	Doshisha University, Japan
2020	Role of Reverberating Neural Oscillations in Entorhinal-Hippocampus Circuits during Episodic Memory Task.	NEURO 2020, Session Chair, Kobe, Japan (virtual)
2020	Role of Reverberating Neural Oscillations in Entorhinal-Hippocampus Circuits during Episodic Memory Task.	Doshisha University, Japan (virtual)
2019	Dynamics of Hippocampal –Entorhinal Memory System in Mice.	Toyama University, Japan
2019	Dynamics of Hippocampal –Entorhinal Memory Systems in Mice.	NEURO 2019, Niigata, Japan
2016	Spatio-Temporal Learning Mechanisms in The Hippocampus.	Tokyo Metropolitan Inst. Med. Sci.
2016	Degraded Episodic Memory Expression in Early AD Model Mice.	University of Tokyo, Japan
2015	Selective Awake Replay Impairments in Early Alzheimer's Disease Model.	University of Tsukuba, Japan
2015	Oscillatory Phase Synchrony is Crucial for Successful Working Memory Execution.	National Institute for Physiological Sciences, Japan
2015 2015	Interdisciplinary Research in Systems Neuroscience. Interdisciplinary Research in Systems Neuroscience.	Keio University, Japan University of Tokyo, Japan
2009	Large-Scale Chronically Implantable Precision Motorized Microdrive Array.	Intl. Conference on Cognitive Neurodynamics, Hangzhou, CN
<u>National</u>		
2021	TBD	Baylor College of Medicine
2017	Dynamics of Hippocampal –Entorhinal Memory	University of Massachusetts Medical

	System in Mice.	School
2017	Dynamics of Hippocampal –Entorhinal Networks during Sleep/Awake and Higher Cognitive Functions.	Massachusetts General Hospital (MGH) / Harvard Medical School
2009	Next Generation Large-Scale Chronically Implantable Precision Motorized Microdrive Arrays for Freely Behaving Animals.	California Institute of Technology
2009	Next Generation Large-Scale Chronically Implantable Precision Motorized Microdrive Arrays for Freely Behaving Animals.	Harvard University
Regional/Local		
2018	Dynamics of Hippocampal –Entorhinal Memory System in Mice.	The University of Texas at Dallas
2016	State-Dependent Interactions of Entorhinal-Hippocampal Networks during Sleep/Awake and Higher Cognitive Functions.	UT Southwestern Medical Center

Technological and Other Scientific Innovations

Innovation
Patent, if any, pending or awarded /If described in print/on web, provide citation

Service to the Community

Year(s)	Role	Organization or institution
May include a brief, one-sentence description of each role if needed (optional)		

Bibliography

Peer-Reviewed Publications *(List in chronological order with complete pagination. Authors should be listed in the same order as they appear in the published article. Do not include abstracts or submitted works.)*

Original Research Articles

1.	Scott D, Subramanian M, **Yamamoto J*,** Tamminga CA*, Schizophrenia pathology reverse-translated into mouse shows hippocampal hyperactivity, psychosis behaviors and hyper-synchronous events, ***Mol Psychiatry***. 2024 Oct 16. doi: 10.1038/s41380-024-02781-5. (2024) [* Co-Correspondence]
2.	Osanai H, **Yamamoto J**, Kitamura T., Extracting electromyographic signals from multi-channel LFPs using independent component analysis without direct muscular recording., ***Cell Rep Methods***. 2023 May 17;3(6):100482. doi: 10.1016/j.crmeth.100482. (2023)
3.	Murano T, Nakajima R, Nakao A, Hirata N, Amemori S, Murakami A, Kamitani Y, **Yamamoto J**, Tsuyoshi Miyakawa, Multiple types of navigational information are independently encoded in the population activities of the dentate gyrus neurons, **PNAS**, Aug 9; 9;119(32) (2022)
4.	Terranova J, Yokose J, Osanai H, Marks WD, **Yamamoto J**, Ogawa SK, Kitamura T, Hippocampal-Amygdala Memory Circuits Govern Experience-Dependent Observational Fear, ***Neuron***, PMID: 35139362 DOI: 10.1016/j.neuron.2022.01.019 (2022)
5.	Marks WD, Osanai H, **Yamamoto J**, Ogawa SK, Kitamura T. Novel nose poke-based temporal discrimination tasks with concurrent in vivo calcium imaging in freely moving mice. ***Mol Brain***. Nov 6;12(1):90. (2019)
6.	Osanai H, Kitamura T, **Yamamoto J**., Hybrid Microdrive System with Recoverable Opto-Silicon Probe and Tetrode for Dual-Site High Density Recording in Freely Moving Mice., ***J Vis Exp.*** Aug 10;(150). (2019)
7.	**Yamamoto J***, and Tonegawa S, Direct Medial Entorhinal Cortex Input to Hippocampal CA1 Is Crucial for Extended Quiet Awake Replay, ***Neuron***, 96 (1): 217-227 (2017)
8.	Sun C, Kitamura T, **Yamamoto J**, Martin J, Pignatelli M, Kitch LJ, Schnitzer MJ, Tonegawa S., Distinct speed dependence of entorhinal island and ocean cells, including respective grid cells. ***Proc Natl Acad Sci U S A***., Jul 28;112(30):9466-71 (2015)
9.	**Yamamoto J**, Suh J, Takeuchi D, Tonegawa S., Successful execution of working memory linked to synchronized high-frequency gamma oscillations., ***Cell.***, 157 (4): 845-57 (2014)
10.	Chen Z, Gomperts SN, **Yamamoto J**, Wilson MA., Neural representation of spatial topology in the rodent hippocampus., ***Neural Comput***., (1):1-39 (2014)
11.	Jinde S, Belforte JE, **Yamamoto J**, Wilson MA, Tonegawa S, Nakazawa K., Lack of kainic acid-induced gamma oscillations predicts subsequent CA1 excitotoxic cell death., ***Eur J Neurosci***., (6):1036-55 (2009)
12.	**Yamamoto J***, Wilson MA., Large-scale chronically implantable precision motorized microdrive array for freely behaving animals, ***J Neurophysiol***., 100 (4):2430-40 (2008)
13.	Fresquet N, **Yamamoto J**, Sandner G., Frontal lesions do not alter the differential extinction of taste aversion conditioning in rats, when using two methods of sucrose delivery., ***Behav Brain Res***., (1):25-34 (2003)
14.	**Yamamoto J**, Fresquet N, Sandner G., Conditioned taste aversion using four different means to deliver sucrose to rats. ***Physiol Behav***., 75 (3):387-96 (2002)

15.	Miyazaki T, Okanda M, **Yamamoto J**, Sasaki H, Tsukada M, Anzai Y, Optical recording of hippocampal stimulus intensity dependent responses to a sound in the auditory cortex., ***Japanese Neural Networks Society Journal***., (12):11-15 (2005)
16.	**Yamamoto J**, Monji H, Okanda M, Tsukada M, Sasaki H, Fukunishi K, Anzai Y., An evoked dynamic interaction in the guinea pig auditory cortex by compound acoustic hippocampal stimuli, ***Japanese Neural Networks Society Journal***., (6):11-16 (1999)
17.	**Yamamoto J***, Takahashi M, Tsukada M, Anzai Y., A new multi-unit acquisition system for free-moving animal using field programmable analog array and on chip MCU -Neuroscope1-, ***Japanese Neural Networks Society Journal***., (6):3-10 (1999)

Reviews, Chapters, Monographs and Editorials

1.	**Yamamoto J**, Next generation large-scale chronically implantable precision motorized microdrive arrays for freely behaving animals., ***Advances in Cognitive Neurodynamics (II)***., Rubin Wang, Fanji Gu (Eds.), 67-72, ***Springer-Verlag*** (2011)
2.	
3.	

Books/Textbooks

1.	**Yamamoto J** and Anzai Y, Autonomous Robot with Evolving Algorithm Based on Biological Systems, ***Lecture Notes in Computer Science***, Tetsuya Higuchi, Masaya Iwata, Weixin Liu (Eds.), Vol. 1259, pp.220-233, ***Springer-Verlag*** (1997)
2.	

Case Reports

1.	Okanda M, **Yamamoto J**, Sasaki H, Mizuno M, Tsukada M., The dynamical modification of hippocampal stimuli on auditory evoked responses in guinea pig auditory cortex., ***IEICE Technical Report***., (673):31-35 (1999)
2.	

Letters to the Editor

1.	
2.	

Proceedings of Meetings

1.	**Yamamoto J**, Scott, D and Tamminga CA, State-Dependent Hippocampal Hyper Synchronous Activity in A Reverse Translational Psychosis Model Mouse, 61st Annual Meeting of the American Collage of Neuropsychopharmacology (ACNP: 2022)
2.	Marks WD, Osanai H, Ogawa SK, **Yamamoto J**, Kitamura T, Novel behavioral approaches for analyzing temporal-tracking, context-time integration, and time cell activity in mice, Society for Neuroscience Annual Meeting SfN (2019)
3.	Yokose J, Terranova JI, Makes WD, **Yamamoto J**, Ogawa SK, Kitamura T, Self-recognition in

	the mouse hippocampus, Society for Neuroscience Annual Meeting SfN (2019)
4.	Terranova JI, Yokose J, Marks WD, **Yamamoto J**, Ogawa SK, Kitamuta T, A hippocampal-amygdala circuit for experience-dependent observational fear, Society for Neuroscience Annual Meeting SfN (2019)
5.	**Yamamoto J**, Suh J, Tonegawa S., Direct input from MECIII to hippocampal CA1 is crucial for long-range “active” replay during wake but not during sleep, Society for Neuroscience Annual Meeting SfN (2015)
6.	**Yamamoto J**, Suh J, Takeuchi D, Tonegawa S., Successful execution of working memory linked to synchronized high-frequency gamma oscillations., Society for Neuroscience Annual Meeting SfN (2014)
7.	**Yamamoto J**, Large-scale chronically implantable precision motorized microdrive array, International Conference on Cognitive Neurodynamics (ICCN'09), Hangzhou, China (2009)
8.	**Yamamoto J**, Kinjoh H, Taukada M, Sandner G, The dynamical neural ensemble coding in classical conditioned taste aversion, Abstracts of Society for Neuroscience 31th Annual Meeting SfN (2001)
9.	**Yamamoto J**, Anzai Y, Tsukada M, A New Multi-Unit Acquisition System for Free-moving Animal Using Field Programmable Analog Array and On Chip MCU -Neuroscope1-, Proceedings of The 6th International Conference on Neural Information Processing ICONIP'99 (1999)
10.	**Yamamoto J**, Anzai Y and Tsukada M, Multi-Unit Recording System for Free-Moving Animal Using Field Programmable Analog Array: -Neuroscope1-, Abstracts of Society for Neuroscience 29th Annual Meeting SfN (1999)
11.	**Yamamoto J**, Matsuda H, Monji H, Sasaki H, Mizuno M, Tsukada M and Anzai Y, The Dynamical Effect of Hippocampal Excitation to Auditory Evoked Responses in Guinea Pig Reveled by Optical Imaging Method, Abstracts of Society for Neuroscience 28th Annual Meeting SfN (1998)
12.	**Yamamoto J**, Okanda M, Sasaki H, Tsukada M and Anzai Y, The Effect of Hippocampal Activity to Auditory Evoked Responses in Guinea Pig Revealed by Optical Imaging, Proceedings of The Fifth International Conference on Neural Information Processing ICONIP'98 (1998)
13.	Takahashi S, **Yamamoto J** and Anzai Y, Visualization Tools for Firing Correlation Based on The Joint-PSTH, Proceedings of The Fifth International Conference on Neural Information Processing ICONIP'98 (1998)
14.	**Yamamoto J**, Matsuda H, Monji H, Sasaki H, Mizuno M, Tsukada M, The Effect of Hippocampal Activity on Auditory Evoked Responses in Guinea Pig, Proceedings of The 2nd R.I.E.C. International Symposium on Design and Architecture of Information Processing Systems Based on The Brain Information Principles DAIPS'98 (1998)
15.	**Yamamoto J**, Matsuda H, Monji H, Sasaki H, Mizuno M, Tsukada M, Fukunishi K, A Spatio Temporal Interaction Between the Information Processing in Auditory Cortex And The Hippocampal Stimulation., Proceedings of Second International Dynamic Brain Forum DBF'97 (1997)
16.	Tani J, **Yamamoto J**, Nishi H, The Dynamical Interactions Among Learning, Visual Attention, and Behavior: An Experiment with a Vision-Based Mobile Robot, Proceedings of the Fourth European Conference of Artificial Life ECAL'97 (1997)
17.	**Yamamoto J** and Anzai A, Biologically Inspired Learnable Autonomous Robot, Proceedings of The Second ECPD International Conference on Advanced Robotics: Intelligent Automation and Active Systems, pp149-154 (1996)
18.	**Yamamoto J** and Anzai Y, An Autonomous Robot with Biological Brain Model Based on Basal Ganglia and Hippocampus, Proceedings of International Workshop on Brainware IWB'96 (1996)

Clinical Practice Guidelines

1.	
2.	

Non-peer reviewed scientific or medical publications/materials in print or other media

1.	BBRF/NARSAD website (2025): https://bbrfoundation.org/content/research-probes-links-between-hippocampal-hyperactivity-adolescence-and-development
2.	
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