

## CURRICULUM VITAE

### Joseph S. Takahashi

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**DATE OF BIRTH:** December 16, 1951

**NATIONALITY:** U.S. Citizen by birth

#### **EDUCATION:**

- 1981-1983 Pharmacology Research Associate Training Program, National Institute of General Medical Sciences, Laboratory of Clinical Sciences and Laboratory of Cell Biology, National Institutes of Health, Bethesda, MD
- 1979-1981 Ph.D., Institute of Neuroscience, Department of Biology, University of Oregon, Eugene, Oregon, Dr. Michael Menaker, Advisor.
- Summer 1977 Hopkins Marine Station, Stanford University, Pacific Grove, California
- 1975-1979 Department of Zoology, University of Texas, Austin, Texas
- 1970-1974 B.A. in Biology, Swarthmore College, Swarthmore, Pennsylvania

#### **PROFESSIONAL EXPERIENCE:**

- 2009-present Professor and Chair, Department of Neuroscience, UT Southwestern Medical Center
- 2009-present Loyd B. Sands Distinguished Chair in Neuroscience, UT Southwestern
- 2009-present Investigator, Howard Hughes Medical Institute, UT Southwestern
- 2009-present Professor Emeritus of Neurobiology and Physiology, and Walter and Mary Elizabeth Glass Professor Emeritus in the Life Sciences, Northwestern University
- 2001-2009 Director, Center for Functional Genomics, Northwestern University
- 1997-2009 Investigator, Howard Hughes Medical Institute, Northwestern University
- 1997-2009 Professor of Neurology, Northwestern University Medical School
- 1996-2009 Walter and Mary Elizabeth Glass Professor in the Life Sciences, Department of Neurobiology and Physiology, Northwestern University
- 1991-1996 Professor and Associate Chair, Department of Neurobiology and Physiology, Northwestern University
- 1991-1992 Acting Chair, Department of Neurobiology and Physiology, Northwestern University
- 1988-1995 Acting Associate Director, Institute for Neuroscience, Northwestern University
- 1987-1991 Associate Professor and Associate Chair, Department of Neurobiology and Physiology, Northwestern University
- 1983-1987 Assistant Professor, Department of Neurobiology and Physiology, Northwestern University

**AWARDS AND HONORS:**

2013	Maurice B. Visscher Distinguished Lectureship, Department of Integrative Biology and Physiology, University of Minnesota Medical School
2012	Plenary Lecturer, Pan-American Association for Biochemistry and Molecular Biology, SAIB, Mendoza, Argentina
2012	Outstanding Scientific Achievement Award, Sleep Research Society
2012	Pittendrigh/Aschoff Plenary Lecture, Society for Research on Biological Rhythms
2010	Special Lecturer, Society for Neuroscience Annual Meeting, San Diego, CA,
2009-present	Member, The Academy of Medicine, Engineering and Science of Texas
2007	Harvey Lecture, The Harvey Society, Rockefeller University, New York
2007	31 <sup>st</sup> Carl F. Schmidt Honorary Lecture, University of Pennsylvania
2006	Vernon B. Mountcastle Lectureship in Neuroscience, Johns Hopkins School of Medicine
2004	14 <sup>th</sup> Annual Einar Hille Memorial Lecture in Neuroscience, University of Washington
2003	Honorary Member, The Japanese Biochemical Society
2003-present	Member, National Academy of Sciences
2003	Eduard Buchner Prize, German Society for Biochemistry and Molecular Biology (GBM)
2002	Flexner Lecture, University of Pennsylvania, Philadelphia, PA
2001	W. Alden Spencer Award in Neural Science, College of Physicians and Surgeons, Columbia University
2001-present	Fellow, American Association for the Advancement of Science
2001	Neil D. Graham Lecture, University of Toronto, Canada
2000-present	Fellow, American Academy of Arts and Sciences
2000	Holiday Lectures on Science, <i>Clockwork Genes: Discoveries in Biological Time</i> (with Michael Rosbash), Howard Hughes Medical Institute
2000	Gildea Lecture, Washington University, St. Louis, MO
2000	Nobel Forum Research Lecture, Stockholm, Sweden
1999	Ruth Sager Memorial Lecture in Genetics, Woods Hole, MA
1999	A.J. Carlson Memorial Lecture, University of Chicago, IL
1998	Presidential Lecture, Society for Neuroscience, Los Angeles, CA
1996-2009	Walter and Mary Elizabeth Glass Chair in the Life Sciences
1995	6 <sup>th</sup> C.U. Ariëns Kappers Award, Netherlands Society for the Advancement of Natural Sciences, Medicine and Surgery
1995-1999	Bristol-Myers Squibb Unrestricted Grant for Neuroscience Research
1987-1997	MERIT Award, National Institute of Mental Health
1987	Faculty Honor Roll (Teaching), Associated Student Government
1986	Honma Prize in Biological Rhythms Research
1985-1990	NSF Presidential Young Investigator Award
1985-1988	Searle Scholars Award, The Chicago Community Trust
1983-1985	Alfred P. Sloan Research Fellowship in Neuroscience
1982	Finalist, Donald B. Lindsley Prize in Behavioral Neuroscience
1981-1983	Pharmacology Research Associate Program Fellowship, NIGMS
1979-1981	Public Health Service Predoctoral Training Grant Fellowship
1977-1979	Phi Kappa Phi Honor Society
1976-1979	National Science Foundation Graduate Fellowship
1975-1976	Public Health Service Predoctoral Training Grant Fellowship
Summer 1974	National Science Foundation Undergraduate Research Participant

**PROFESSIONAL SOCIETIES:**

1976-present	American Association for the Advancement of Science
1981-present	Society for Neuroscience
1983-1995	Association for Research in Vision and Ophthalmology
1986-present	Society for Research on Biological Rhythms
1987-1988	International Society for Neuroethology
1993-present	International Mammalian Genome Society
1999-present	Genetics Society of America
1999-present	American Society of Human Genetics
2000-present	American Academy of Arts and Sciences
2003-present	American College of Neuropsychopharmacology
2003-present	National Academy of Sciences
2009-present	The Academy of Medicine, Engineering and Science of Texas

**MAJOR FIELDS OF RESEARCH INTEREST:**

Molecular Neurobiology and Genetics  
Molecular Genetics of Mammalian Circadian Clocks  
Mouse and Human Genetics and Genomics

**PROFESSIONAL ACTIVITIES:**

**Scientific Advisory Boards**

2012	Scientific Advisory Board, Eli Lilly Neuroscience Discovery Research and Clinical Investigation
2012-present	Selection Committee, Aschoff and Honma Prize in Biological Rhythm Research, The Aschoff and Honma Memorial Foundation
2012-present	International Scientific Group of Circadian Rhythm Experts (INSPIRE) Board, Servier International
2011-2014	Center for Chronobiology, UCSD, External Advisory Board
2009-present	Founder and Scientific Advisory Board, <i>ReSet Therapeutics, Inc.</i>
2008-2010	Developmental Mouse Brain Atlas Project Advisory Board, Allen Institute for Brain Sciences
2008-2013	Member, Memory and Cognition Disorders Award Committee, McKnight Endowment Fund for Neuroscience
2008-2009	University of Pittsburgh Sleep Medicine Institute, External Advisory Board
2008-2010	Stanford Center for Narcolepsy, Scientific Advisory Board
2007-2012	Scientific Advisory Board, Allen Institute for Brain Sciences, Seattle
2006-2008	Scientific Advisory Board, Boston Autism Consortium
2005-2012	Scientific Advisory Board, Max Planck Institute for Biophysical Chemistry
2004-2008	Scientific Advisory Board, Searle Scholars Program
2003-2004	SfN/AstraZeneca Young Investigator Award Selection Committee
2002-2008	Scientific Advisory Board, Brain Atlas Project, Allen Institute for Brain Sciences
2000-2002	Scientific Advisory Board, Genomics Institute of the Novartis Research Foundation
2000-2007	Founder and Scientific Advisory Board, <i>Hypnion, Inc.</i> , Worcester, MA.
2000-2002	Genomics Advisory Committee, Eli Lilly and Company
1999-present	The Klingenstein Fund, Neuroscience Advisory Committee
1999-2004	Mouse Phenome Project, Governance Committee
1998-2009	Scientific Advisory Board, Restless Legs Syndrome Foundation
1997-2000	National Advisory Mental Health Council, Member, NIMH, NIH
1995-1999	Bristol-Myers Squibb Neuroscience Award Selection Committee, Chair 1998-99

### Editorial Boards

2008-present Advisory Board, *Journal of Biological Rhythms*  
2006-2012 Editorial Board, *PLoS Genetics*  
2005-present Editorial Board, *Proceedings of the National Academy of Sciences USA*  
2003-2010 Editorial Board, *Current Opinion in Neurobiology*  
2001-present Section Head, Animal Genetics, Biology Reports Ltd., Faculty of 1000  
2001-present Editorial Board, *Genes, Brain and Behavior*  
1999-2003 Editorial Board, *Physiological Genomics*  
1995-1999 Associate Editor, *Neuron*  
1984-1999 Advisory Board, *Journal of Biological Rhythms*

### NIH Committees

2011 Co-Chair, National Cancer Institute, Division of Cancer Biology, Circadian Clocks and Cancer Workshop, Rockville, MD  
2011 Consultant, National Advisory Council for Human Genome Research, NIH/NHGRI  
2007-2011 *Cre*-Driver Network Steering Committee, NIH, NIMH  
2006 NIMH Special Emphasis Panel, Conte Centers for Depression and Anxiety  
2006 Chair, NIMH Special Emphasis Panel, Development of Recombinase-Expressing Mouse Lines for Studying the Nervous System  
2006 NHGRI Special Emphasis Panel, Mouse KOMP RFA Review  
2001-2002 Member, Mouse Sequencing Liaison Group, NIH/NHGRI  
2002 Road Map Meeting with NIH Director, Elias Zerhouni, NIH  
2001 NIMH Workgroup on Epidemiology and Genetics of Mood Disorders  
2000 Co-Chair with Geoffrey Duyk, Setting Priorities for Phenotyping the Mouse Nervous System and Behavior, Workshop, NIMH  
2000 Second Follow-Up Workshop to Priority Setting for Mouse Genomics and Genetics Resources, NIH  
1998 NIMH IRP Genetics Research Advisory Panel, Co-Chair with David Cox  
1998 Priority Setting for Mouse Genomics and Genetics Resources, NIH, ENU  
Mutagenesis Subcommittee Co-Chair  
1997 NIMH Genetics Workgroup, Member  
1993-1994 NIH/NIMH Behavioral Neuroscience Review Committee, Member  
1990 NICHD Site Visit Committee (Review of Intramural Research)  
1988-1992 NIMH Psychobiology and Behavior Review Committee, Member  
1988 NIMH consultant on *Decade of the Brain* report to Congress  
1987 NIH Biopsychology Study Section, Special Reviewer  
1983 NIH Special Study Section, Committee Member

### Other

2013 Co-Organizer (with Garret FitzGerald), Keystone Symposium on Molecular Clockworks and the Regulation of Cardio-Metabolic Function  
2012 Co-Organizer (with Erin O'Shea), Janelia Farm Conference: Circadian Clocks: Mechanisms, Coordination, and Physiology, HHMI  
2012 Janelia Farm Group Leader Review Committee, HHMI  
2010-2012 Executive Committee, Society for Research on Biological Rhythms  
2010 Janelia Lab Head Recruiting Symposium, Review Committee, HHMI  
2008-2009 Sleep Research Society, Presidential Task Force on Genetics and Sleep  
2008-2010 President, Society for Research on Biological Rhythms  
2007-2009 Chair, 2009 Gordon Research Conference on Chronobiology  
2006-2008 Executive Committee, Society for Research on Biological Rhythms  
2005-2007 Vice-Chair, 2007 Gordon Research Conference on Chronobiology  
2005-2008 Society for Neuroscience, International Affairs Committee/US National Committee to IBRO

Curriculum Vitae: Joseph S. Takahashi

2005-2006 Janelia Farm Group Leader Review Committee, HHMI  
2005-2006 Program Committee, Society for Research on Biological Rhythms  
1997-2001 Education Committee, Society for Neuroscience, Chair 1998-2001  
1996 Organizer, Short Course, Society for Neuroscience, *What's Wrong With My Mouse? New Interplays Between Mouse Genetics and Behavior*  
1995-1998 Consultant, Neuroscience Institute, Morehouse School of Medicine  
1994-2009 Northwestern University Center for Sleep and Circadian Biology, Associate Director  
1994-1996 Executive Committee, Society for Research on Biological Rhythms  
1992-1994 Task Force on Biological Rhythms and Psychopathology, Member, MacArthur Foundation Research Network on Depression  
1991-2002 NSF Science and Technology Center for Biological Timing, Member and Advisory (Steering) Committee, University of Virginia, Northwestern University and Rockefeller University  
1991-1996 Minority Neuroscience Fellowship Program Advisory Committee, Society for Neuroscience  
1991-2009 Northwestern University Cancer Center, Full Member  
1990-1992 MacArthur Foundation Mental Health Research Network I, Consultant  
1988-2009 Northwestern University Institute for Neuroscience, Member  
1988 NSF Presidential Young Investigator Award Review Panel  
1987 Program Committee, Society for Research on Biological Rhythms  
1986-1996 Advisory Committee, Society for Research on Biological Rhythms  
1983-2009 Northwestern University Center for Reproductive Science, Member

Reviewer for: *Science, Nature, Cell, eLife, Neuron, Proceedings of the National Academy of Science USA, Nature Neuroscience, Nature Genetics, Current Biology, PLoS Biology, PLoS Genetics, Cell Metabolism, Genes and Development, Genome Research, EMBO Journal, Genomics, Mammalian Genome, Human Genetics, Journal of Neuroscience, Journal of General Physiology, American Journal of Physiology, Endocrinology, Molecular and Cellular Biology, Journal of Neurochemistry, Journal of Comparative Physiology, Journal of Neurobiology, Life Science, Journal of Biological Rhythms, Physiology and Behavior, Bioscience, Neuroendocrinology, Journal of Endocrinology, European Journal of Neuroscience, Annals of Neurology, American Scientist, National Science Foundation, National Institutes of Health, National Institute of Mental Health, Medical Research Council of Canada, Natural Sciences and Engineering Research Council of Canada, NATO Scientific Committee, Air Force Office of Scientific Research, Dutch Cancer Society, Institute of Medicine*

**PUBLICATIONS:**

1. Menaker, M., J.S. Takahashi and A. Eskin. 1978. The physiology of circadian pacemakers. *Annual Review of Physiology* **40**:501-526.
2. Takahashi, J.S., C. Norris and M. Menaker. 1978. Circadian photoperiodic regulation of testis growth in the house sparrow: Is the pineal gland involved? In: *Comparative Endocrinology*, P.J. Gaillard and H.H. Boer (eds.), Elsevier/North-Holland Biomedical Press, Amsterdam, pp. 153-156.
3. Takahashi, J.S. and M. Menaker. 1979. Physiology of avian circadian pacemakers. *Federation Proceedings* **38**:2583-2588.
4. Takahashi, J.S. and M. Menaker. 1979. Brain mechanisms in avian circadian systems. In: *Biological Rhythms and Their Central Mechanism*, M. Suda, O. Hayaishi and H. Nakagawa (eds.), Elsevier/North-Holland Biomedical Press, pp. 95-109.
5. Takahashi, J.S. and M. Menaker. 1980. On the organization of avian circadian systems: The role of the pineal and suprachiasmatic nuclei. In: *Acta XVII Congressus Internationalis Ornithologici Vol. I*, R. Nohring (ed.), Deuschen Ornithologen-Gesellschaft, Berlin, pp. 425-434.
6. Takahashi, J.S., H. Hamm and M. Menaker. 1980. Circadian rhythms of melatonin release from individual superfused chicken pineal glands *in vitro*. *Proc. Natl. Acad. Sci. USA* **77**:2319-2322.
7. Takahashi, J.S. and M. Menaker. 1980. Interaction of estradiol and progesterone: Effects on the circadian locomotor rhythm of female golden hamsters. *American Journal of Physiology* **239**:R497-R504.
8. Menaker, M., D.J. Hudson and J.S. Takahashi. 1981. Neural and endocrine components of circadian clocks in birds. In: *Biological Clocks in Seasonal Reproductive Cycles*, B.K. Follett and D.E. Follett (eds.), John Wright and Sons Ltd., Bristol, pp. 171-183.
9. Takahashi, J.S. 1982. Neural mechanisms in avian circadian systems: Hypothalamic pacemaking systems. In: *Vertebrate Circadian Systems*, J. Aschoff, S. Daan and G. Groos (eds.), Springer-Verlag, Berlin, Heidelberg, pp. 112-119.
10. Takahashi, J.S. 1982. Circadian rhythms of the isolated chicken pineal *in vitro*. In: *Vertebrate Circadian Systems*, J. Aschoff, S. Daan and G. Groos (eds.), Springer-Verlag, Berlin, Heidelberg, pp. 158-163.
11. Takahashi, J.S. and M. Menaker. 1982. Entrainment of the circadian system of the house sparrow: A population of oscillators in pinealectomized birds. *Journal of Comparative Physiology* **146**:245-253.
12. Takahashi, J.S. and M. Menaker. 1982. Role of the suprachiasmatic nuclei in the circadian system of the house sparrow, *Passer domesticus*. *Journal of Neuroscience* **2**:815-828.
13. Takahashi, J.S. and M. Zatz. 1982. Regulation of circadian rhythmicity. *Science* **217**:1104-1111.
14. Hamm, H., J.S. Takahashi and M. Menaker. 1983. Light-induced decrease of serotonin N-acetyltransferase activity and melatonin in the chicken pineal gland and retina. *Brain Research* **266**:287-293.

15. Eskin, A. and J.S. Takahashi. 1983. Adenylate cyclase activation shifts the phase of a circadian pacemaker. *Science* **220**:82-84.
16. Takahashi, J.S. and M. Menaker. 1984. Circadian rhythmicity: Regulation in the time domain. In: *Biological Regulation and Development*, Vol. 3B, R.F. Goldberger and K.R. Yamamoto (eds.), Plenum Press, New York, pp. 285-303.
17. Takahashi, J.S. and M. Menaker. 1984. Multiple redundant circadian oscillators within the isolated avian pineal gland. *Journal of Comparative Physiology A* **154**:435-440.
18. Takahashi, J.S., P.J. DeCoursey, L. Bauman and M. Menaker. 1984. Spectral sensitivity of a novel photoreceptive system mediating entrainment of mammalian circadian rhythms. *Nature (London)* **308**:186-188.
19. Reisine, T.D. and J.S. Takahashi. 1984. Somatostatin pretreatment desensitizes somatostatin receptors linked to adenylate cyclase and facilitates the stimulation of cyclic adenosine 3':5'-monophosphate accumulation in mouse anterior pituitary tumor cells. *Journal of Neuroscience* **4**:812-819.
20. Eskin, A., J.S. Takahashi, M. Zatz and G.D. Block. 1984. Cyclic guanosine 3':5'-monophosphate mimics the effects of light on a circadian pacemaker in the eye of *Aplysia*. *Journal of Neuroscience* **4**:2466-2471.
21. Dubocovich, M.L., R.C. Lucas and J.S. Takahashi. 1985. Light-dependent regulation of dopamine receptors in mammalian retina. *Brain Research* **335**:321-325.
22. Dubocovich, M.L., R.C. Lucas and J.S. Takahashi. 1986. Constant-light induced down-regulation of dopamine receptors in retina. In: *Dopaminergic Systems and Their Regulation*, G.N. Woodruff, J.A. Poat and P.J. Roberts (eds.), MacMillan Press, England, pp. 429-430.
23. Cassone, V.M., J.S. Takahashi, C.D. Blaha, R.F. Lane and M. Menaker. 1986. Dynamics of noradrenergic circadian input to the chicken pineal gland. *Brain Research* **384**:334-341.
24. Duncan, M.J., J.S. Takahashi and M.L. Dubocovich. 1986. Characterization of 2-[<sup>125</sup>I]-iodomelatonin binding sites in hamster brain. *European Journal of Pharmacology* **132**:333-334.
25. Keefe, D.L., D.J. Earnest, D. Nelson, J.S. Takahashi and F.W. Turek. 1987. A cholinergic antagonist, mecamylamine, blocks the phase-shifting effects of light on the circadian rhythm of locomotor activity in the golden hamster. *Brain Research* **403**:308-312.
26. Takahashi, J.S. and F.W. Turek. 1987. Anisomycin, an inhibitor of protein synthesis, perturbs the phase of a mammalian circadian pacemaker. *Brain Research* **405**:199-203.
27. Dubocovich, M.L. and J.S. Takahashi. 1987. Use of 2-[<sup>125</sup>I]-iodomelatonin to characterize melatonin binding sites in chicken retina. *Proc. Natl. Acad. Sci. USA* **84**:3916-3920.
28. Pratt, B.L. and J.S. Takahashi. 1987. Alpha-2 adrenergic receptor regulation of melatonin release in chick pineal cell cultures. *Journal of Neuroscience* **7**:3665-3674.
29. Takahashi, J.S. 1987. Cellular basis of circadian rhythms in the avian pineal. In: *Comparative Aspects of Circadian Clocks*, T. Hiroshige and K. Honma (eds.), Hokkaido University Press, Sapporo, pp. 3-15.

30. Robertson, L.M. and J.S. Takahashi. 1988. Circadian clock in cell culture: I. Oscillation of melatonin release from dissociated chick pineal cells in flow-through microcarrier culture. *Journal of Neuroscience* **8**:12-21.
31. Robertson, L.M. and J.S. Takahashi. 1988. Circadian clock in cell culture: II. *In vitro* entrainment to light of melatonin oscillation from dissociated chick pineal cells. *Journal of Neuroscience* **8**:22-30.
32. Duncan, M.J., J.S. Takahashi and M.L. Dubocovich. 1988. 2-[<sup>125</sup>I]-Iodomelatonin binding sites in hamster brain membranes: Pharmacological characteristics and regional distribution. *Endocrinology* **122**:1825-1833.
33. Pratt, B.L. and J.S. Takahashi. 1988. A pertussis toxin-sensitive G protein mediates the  $\alpha_2$ -adrenergic receptor inhibition of melatonin release in photoreceptive chick pineal cell cultures. *Endocrinology* **123**:277-283.
34. Inouye, S.T., J.S. Takahashi, F. Wollnik and F.W. Turek. 1988. Inhibitor of protein synthesis phase shifts a circadian pacemaker in mammalian SCN. *American Journal of Physiology* **255**:R055-R1058.
35. Takahashi, J.S., D.E. Nelson and A. Eskin. 1989. Immunocytochemical localization of serotonergic fibers innervating the *Aplysia* ocular circadian system. *Neuroscience* **28**:139-147.
36. Pierce, M.E., D. Barker, J. Harrington and J.S. Takahashi. 1989. Cyclic AMP-dependent melatonin production in Y79 human retinoblastoma cells. *Journal of Neurochemistry* **53**:307-310.
37. Hamm, H.E., D. Deretic, M.R. Mazzoni, C.A. Moore, J.S. Takahashi and M.M. Rasenick. 1989. A monoclonal antibody against the rod outer segment guanyl nucleotide-binding protein, transducin, blocks the stimulatory and inhibitory G-proteins of adenylate cyclase. *Journal of Biological Chemistry* **264**:1475-1482.
38. Duncan, M.J., J.S. Takahashi and M.L. Dubocovich. 1989. Characteristics and autoradiographic localization of 2-[<sup>125</sup>I]-iodomelatonin binding sites in Djungarian hamster brain. *Endocrinology* **125**:1011-1018.
39. Wollnik, F., F.W. Turek, P. Majewski and J.S. Takahashi. 1989. Phase shifting the circadian clock with cycloheximide: Response of hamsters with an intact or split rhythm of locomotor activity. *Brain Research* **496**:82-88.
40. Takahashi, J.S., N. Murakami, S.S. Nikaido, B.L. Pratt and L.M. Robertson. 1989. The avian pineal, a vertebrate model system of the circadian oscillator: Cellular regulation of circadian rhythms by light, second messengers and macromolecular synthesis. *Recent Progress in Hormone Research* **45**:279-352.
41. Pratt, B.L. and J.S. Takahashi. 1989. Vasoactive intestinal polypeptide (VIP) and  $\alpha_2$ -adrenoceptor agonists regulate cAMP accumulation and melatonin release in chick pineal cell cultures. *Endocrinology* **125**:2375-2384.
42. Nikaido, S.S. and J.S. Takahashi. 1989. Twenty-four hour oscillation of cAMP in chick pineal cells: Role of cAMP in the acute and circadian regulation of melatonin production. *Neuron* **3**:609-619.



43. Milette, J.J., J.S. Takahashi and F.W. Turek. 1990. The photic threshold for photoperiodic stimulation of neuroendocrine-gonadal activity in male Djungarian hamsters. *Brain Research* **512**:304-308.
44. Kornhauser, J.M., D.E. Nelson, K.E. Mayo and J.S. Takahashi. 1990. Photic and circadian regulation of *c-fos* gene expression in the hamster suprachiasmatic nucleus. *Neuron* **5**:127-134.
45. Janavs, J.L., M.E. Pierce and J.S. Takahashi. 1991. *N*-acetyltransferase and protein synthesis modulate melatonin production in Y79 human retinoblastoma cells. *Brain Research* **540**:138-144.
46. Nelson, D.E. and J.S. Takahashi. 1991. Sensitivity and integration in a visual pathway for circadian entrainment in the hamster, *Mesocricetus auratus*. *Journal of Physiology (London)* **439**:115-145.
47. Nelson, D.E. and J.S. Takahashi. 1991. Comparison of visual sensitivity for suppression of pineal melatonin and circadian phase shifting in the golden hamster. *Brain Research* **554**:272-277.
48. Takahashi, J.S. 1991. Circadian rhythms: From gene expression to behavior. *Current Opinion in Neurobiology* **1**:556-561.
49. Kornhauser, J.M., D.E. Nelson, K.E. Mayo and J.S. Takahashi. 1992. Light regulates *c-fos* gene expression in the hamster SCN: Implications for circadian and seasonal control of reproduction. In: *Follicle Stimulating Hormone: Regulation of Secretion and Molecular Mechanisms of Action*, M. Hunzicker-Dunn and N.B. Schwartz (eds.), Serono Symposia USA, Springer-Verlag, pp. 95-106.
50. Smith, R.D., F.W. Turek and J.S. Takahashi. 1992. Two families of phase-response curves characterize the resetting of the hamster circadian clock. *American Journal of Physiology* **262**:R1149-R1153.
51. Kornhauser, J.M., D.E. Nelson, K.E. Mayo and J.S. Takahashi. 1992. Regulation of *jun-B* messenger RNA and AP-1 activity by light and a circadian clock. *Science* **255**:1581-1584.
52. Takahashi, J.S. 1992. Circadian clock genes are ticking. *Science* **258**:238-240.
53. Kornhauser, J.M., K.E. Mayo and J.S. Takahashi. 1993. Immediate-early gene expression in a mammalian circadian pacemaker: the suprachiasmatic nucleus. In: *Molecular Genetics of Biological Rhythms*. M.W. Young (ed.), Marcel Dekker, New York, pp. 271-307.
54. Takahashi, J.S., J.M. Kornhauser, C. Koumenis and A. Eskin. 1993. Molecular approaches to understanding circadian oscillations. *Annual Review of Physiology* **55**:729-753.
55. Pierce, M.E., H.K. Sheshberadaran, Z. Zhang, L.E. Fox, M.L. Applebury and J.S. Takahashi. 1993. Circadian regulation of iodopsin gene expression in embryonic photoreceptors in retinal cell culture. *Neuron* **10**:579-584.
56. Zhang, Y., P.C. Zee, J.D. Kirby, J.S. Takahashi and F.W. Turek. 1993. A cholinergic antagonist, mecamylamine, blocks light-induced Fos immunoreactivity in specific regions of the hamster suprachiasmatic nucleus. *Brain Research* **615**:107-112.

57. Ginty, D.D., J.M. Kornhauser, M.A. Thompson, H. Bading, K.E. Mayo, J.S. Takahashi and M.E. Greenberg. 1993. Regulation of CREB phosphorylation in the suprachiasmatic nucleus by light and a circadian clock. *Science* **260**:238-241.
58. Takahashi, J.S. 1993. Circadian-clock regulation of gene expression. *Current Opinion in Genetics & Development* **3**:301-309.
59. Takahashi, J.S. 1993. Biological rhythms: From gene expression to behavior. In: *Light and Biological Rhythms*, L. Wetterberg (ed.), Pergamon Press, Oxford, UK, pp. 3-20.
60. Takahashi, J.S. 1993. Gene regulation: Circadian clocks à la CREM. *Nature News and Views* **365**:299-300.
61. Zhang, Y., O. Van Reeth, P.C. Zee, J.S. Takahashi and F.W. Turek. 1993. Fos protein expression in the circadian clock is not associated with phase shifts induced by a nonphotic stimulus, triazolam. *Neuroscience Letters* **164**:203-208.
62. Takahashi, J.S. 1994. Circadian rhythms: ICER is nicer at night (sir!). *Current Biology* **4**:165-168.
63. Janavs, J.L., M.E. Pierce and J.S. Takahashi. 1994. RNA synthesis inhibitors increase melatonin production in Y79 human retinoblastoma cells. *Molecular Brain Research* **23**:47-56.
64. <sup>1</sup>Vitaterna, M.H., D.P. King, A.-M. Chang, J.M. Kornhauser, P.L. Lowrey, J.D. McDonald, W.F. Dove, L.H. Pinto, F.W. Turek and J.S. Takahashi. 1994. Mutagenesis and mapping of a mouse gene, *Clock*, essential for circadian behavior. *Science* **264**:719-725.
65. Takahashi, J.S., L.H. Pinto and M.H. Vitaterna. 1994. Forward and reverse genetic approaches to behavior in the mouse. *Science* **264**:1724-1733.
66. Sheshberadaran, H.K. and J.S. Takahashi. 1994. Characterization of the chicken rhodopsin promoter: Identification of retina-specific and *glass*-like protein binding domains. *Molecular and Cellular Neurosciences* **5**:309-318.
67. Besecke, L.M., A.M. Wolfe, M.E. Pierce, J.S. Takahashi and J.E. Levine. 1994. Neuropeptide Y (NPY) stimulates luteinizing hormone-releasing hormone (LHRH) release from superfused hypothalamic GT<sub>1-7</sub> cells. *Endocrinology* **135**:1621-1627.
68. Turek, F.W., P. Penev, Y. Zhang, O. Van Reeth, J.S. Takahashi and P.C. Zee. 1995. Alterations in circadian system in advanced age. In: *Circadian Clocks and Their Adjustment*. Ciba Foundation Symposium, Wiley, Chichester, pp. 212-234.
69. Janavs, J.L., J.C. Florez, M.E. Pierce and J.S. Takahashi. 1995. Forskolin and camptothecin induce a 30 kDa protein associated with melatonin production in Y79 human retinoblastoma cells. *Journal of Neuroscience* **15**:298-309.
70. Max, M., P.J. McKinnon, K.J. Seidenman, R.K. Barrett, M.L. Applebury, J.S. Takahashi and R.F. Margolskee. 1995. Pineal opsin: A nonvisual opsin expressed in chick pineal. *Science* **267**:1502-1506.

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<sup>1</sup> This article was featured in *Trends in Neuroscience* (by C.P. Kyriacou, Vol. 17, pp. 313-314, 1994) and in the *Trends in Genetics Monitor* (Vol. 10, p. 229, 1994).

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232. Geyfman, M., V. Kumar, Q. Liu, R. Ruiz, W. Gordon, F. Espitia, E. Cam, S.E. Millar, P. Smyth, A. Ihler, J.S. Takahashi and B. Andersen. 2012. Brain and muscle Arnt-like protein-1 (BMAL1) controls circadian cell proliferation and susceptibility to UVB-induced DNA damage in the epidermis. *Proc. Natl. Acad. Sci. USA* **109**: 11758-11763. PMID: 3406811.
233. Hughes, M.E., H.K. Hong, J.L. Chong, A.A. Indacochea, S.S. Lee, M. Han, J.S. Takahashi and J.B. Hogenesch. 2012. Brain-specific rescue of clock reveals system-driven transcriptional rhythms in peripheral tissue. *PLoS Genetics* **8**: e1002835. PMID: 3405989.
234. Horvath, T.L., A. Abizaid, M.O. Dietrich, Y. Li, J.S. Takahashi and Joseph Bass. 2012. Ghrelin-immunopositive hypothalamic neurons tie the circadian clock and visual system to the lateral hypothalamic arousal center. *Molecular Metabolism* **1**: 79-85. PMID: 3757645.

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<sup>22</sup> This article was featured in a *Nature News and Views* (J. Bass, *Nature* **485**:45-46, 2012).

<sup>23</sup> This paper was featured in a *Science Perspective* (B.R. Crane, *Science* **337**:165-166, 2012).



235. <sup>24</sup>Koike, N., S.H. Yoo, H.C. Huang, V. Kumar, C. Lee, T.K. Kim and J.S. Takahashi. 2012. Transcriptional architecture and chromatin landscape of the core circadian clock in mammals. *Science* **338**: 349-354. Published online August 30, 2012. doi: 10.1126/science.1226339. PMID: 3694775.
236. Chen, Z., S.H. Yoo and J.S. Takahashi. 2013. Small molecule modifiers of circadian clocks. *Cellular and Molecular Life Sciences* **70**: 2985-2998. Published online November 16, 2012. doi: 10.1007/s00018-012-1207-y. PMID: 3760145.
237. Yoo, S.-H., J.A. Mohawk, S.M. Siepkka, Y. Shan, S.K. Huh, H.-K. Hong, I. Kornblum, V. Kumar, N. Koike, M. Xu, J. Nussbaum, X. Liu, Z. Chen, Z.J. Chen, C.B. Green and J.S. Takahashi. 2013. Competing E3 ubiquitin ligases govern circadian periodicity by degradation of CRY in nucleus and cytoplasm. *Cell* **152**: 1091–1105. doi: 10.1016/j.cell.2013.01.055. PMID: 3694781.
238. <sup>25</sup>Shimomura, K., V. Kumar, N. Koike, T.-K. Kim, J. Chong, E.D. Buhr, A.R. Whiteley, S.S. Low, C. Omura, D. Fenner, J.R. Owens, M. Richards, S.-H. Yoo, H.-K. Hong, M.H. Vitaterna, J. Bass, M.T. Pletcher, T. Wiltshire, J. Hogenesch, P.L. Lowrey and J.S. Takahashi. 2013. *Utsf1*, a suppressor of the circadian *Clock* mutant, reveals the nature of the DNA-binding of the CLOCK:BMAL1 complex in mice. *eLife* **2**: e00426. doi: 10.7554/eLife.00426. PMID: 3622178.
239. Buhr, E.D. and J.S. Takahashi. 2013. Molecular components of the mammalian circadian clock. In: A. Kramer and M. Meroz (eds.), *Circadian Clocks, Handbook of Experimental Pharmacology* **217**: 3-27. doi: 10.1007/978-3-642-25950-0\_1. PMID: 3762864.
240. Partch, C.L., C.B. Green and J.S. Takahashi. 2013. Molecular architecture of the mammalian circadian clock. *Trends in Cell Biology* Published online August 1, 2013, doi: 10.1016/j.tcb.2013.07.002. PMID: 23916625.
241. Bookout, A.L., M.H. de Groot, B.M. Owen, S. Lee, L. Gautron, H.L. Lawrence, X. Ding, J.K. Elmquist, J.S. Takahashi, D.J. Mangelsdorf and S.A. Kliewer. 2013. FGF21 regulates metabolism and circadian behavior by acting on the nervous system. *Nature Medicine* **19**: 1147-1152. doi: 10.1038/nm.3249. PMID: 3769420.
242. Gao, P., S.H. Yoo, K.J. Lee, C. Rosensweig, J.S. Takahashi, B.P. Chen and C.B. Green. 2013. Phosphorylation of the Cryptochrome 1 C-terminal tail regulates circadian period length. *Journal of Biological Chemistry* Published online October 24, 2013, doi: 10.1074/jbc.M113.509604
243. Yu, X., D. Rollins, K.A. Ruhn, J.J. Stubblefield, C.B. Green, M. Kashiwada, P.B. Rothman, J.S. Takahashi and L.V. Hooper. 2013. TH17 cell differentiation is regulated by the circadian clock. *Science* **342**: 727-730. doi: 10.1126/science.1243884.

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<sup>24</sup> This paper was featured in a *Science Perspective* (C.J. Doherty and S.A. Kay, *Science* **338**:338-340, 2012), and a *Research Highlight* (E. Niemitz, *Nature Genetics* **44**:1293, 2012).

<sup>25</sup> This article was featured in an *eLife* Insight Article (M. Demarque, U. Schibler, *eLife* **2**:e00659, 2013).

244. Kumar, V., B. Andersen and J.S. Takahashi. 2013. Epidermal stem cells ride the circadian wave. *Genome Biology* **14**: 140. doi: 10.1186/gb4142.
245. Kumar, V., K. Kim, C. Joseph, S. Kourrich, S.-H. Yoo, H.C. Huang, M.H. Vitaterna, F. Pardo-Manuel de Villena, G. Churchill, A. Bonci and J.S. Takahashi. 2013. C57BL/6N mutation in cytoplasmic FMRP interacting protein 2 regulates cocaine response. *Science* **342**: 1508-1512. doi: 10.1126/science.1245503.

#### **BOOKS:**

Takahashi, J.S., F.W. Turek and R.Y. Moore (Editors). 2001. *Handbook of Behavioral Neurobiology: Volume 12 Circadian Clocks*. Kluwer Academic/Plenum Publishing, New York, 770 pp.

#### **PATENTS:**

United States Patent No. 5,874,241. J.S. Takahashi, F.W. Turek and L.H. Pinto. *Clock gene and gene product*. Filed March 13, 1997. Issued February 23, 1999. (mouse *Clock* gene)

United States Patent No. 6,057,125. J.S. Takahashi, F.W. Turek and L.H. Pinto. *Clock gene and gene product*. Filed June 30, 1997. Issued May 2, 2000. (human *CLOCK* gene)

United States Patent No. 6,291,429. J.S. Takahashi, F.W. Turek and L.H. Pinto. *Clock gene and gene product*. Filed February 3, 2000. Issued September 18, 2001. (mammalian *CLOCK* polypeptide)

United States Patent No. 6,476,188 B1. M.W. Young, B. Kloss, J. Blau, J. Price, J.S. Takahashi and P.L. Lowrey. *A Novel Clock Gene and Methods of Use Thereof*. Filed April 20, 2000 by Rockefeller University. Issued November 5, 2002. (mammalian casein kinase Iepsilon)

#### **INVITED PRESENTATIONS:**

1. Symposium on Physiology of Circadian Rhythms, Seventeenth International Ornithological Congress, Berlin, West Germany, June 1978.
2. Naito-International Symposium on Biological Rhythms and Their Central Mechanism, Tokyo, Japan, August 1978.
3. Hopkins Marine Station, Stanford University, Pacific Grove, California, February 1980.
4. Summer Course, Hopkins Marine Station, Stanford University, Pacific Grove, California, July 1980.
5. Max-Planck-Gesellschaft Symposium on Vertebrate Circadian Systems: Structure and Physiology, Schloss Ringberg, Rottach-Egern, West Germany, September 1980.
6. Max-Planck-Gesellschaft Symposium on Vertebrate Circadian Systems: Structure and Physiology, Schloss Ringberg, Rottach-Egern, West Germany, October 1980.
7. Role of the Pineal Organ in the Avian Circadian System, Gordon Research Conference on Chronobiology, Andover, New Hampshire, June 1981.
8. Pacemakers in the Avian Circadian System, Workshop on the Suprachiasmatic Nuclei, Harvard Medical School, Boston, Massachusetts, June 1981.
9. Department of Neurobiology and Physiology, Northwestern University, Evanston, Illinois, May 1982.

10. Biology Department, University of South Carolina, Columbia, South Carolina, October 1982.
11. Biology Department, University of Virginia, Charlottesville, Virginia, December 1982.
12. Biology Department, Temple University, Philadelphia, Pennsylvania, December 1982
13. Cellular Properties of Identified Circadian Pacemakers, Winter Conference on Brain Research, Keystone, Colorado, January 1983.
14. Laboratory of Cell Biology, National Heart, Lung and Blood Institute, Bethesda, Maryland, April 1983.
15. Department of Biology, Swarthmore College, Swarthmore, Pennsylvania, April 1983.
16. Department of Anatomy, Uniformed Services University of the Health Sciences, Bethesda, Maryland, April 1983.
17. Worcester Foundation for Experimental Biology, Shrewsbury, Massachusetts, May 1983.
18. Chronopharmacology and Metabolism of Circadian Pacemakers *in vivo* and *in vitro*, Gordon Research Conference on Chronobiology, Colby-Sawyer College, June 1983.
19. Chronobiology: Basic and Clinical Aspects, Intramural Research Program, Director's Conference Series, National Institute of Mental Health, Bethesda, Maryland, October 1983.
20. Society for Neuroscience Symposium, Clocks in the Test Tube: Toward a Mechanistic Analysis of Circadian Oscillators, Boston, Massachusetts, November 1983.
21. Neuroscience Program, Michigan State University, East Lansing, Michigan, December 1983.
22. International Congress on Neuroreceptor Mechanisms in Human Diseases, Fondazione Internazionale Menarini, Florence, Italy, March 1984.
23. Neural and Behavioral Biology Program, University of Illinois at Urbana-Champaign, Illinois, April 1984.
24. Cellular Analysis of Circadian Rhythms in the Vertebrate Pineal, Timberline Symposium on Biological Clocks, Timberline Lodge, Oregon, July 1984.
25. Department of Anatomy, Stritch School of Medicine, Loyola University, Illinois, November 1984.
26. Life Science-Chemistry-BRI Colloquium, University of Wisconsin-Parkside, Wisconsin, December 1984.
27. Symposium on Pineal-Retinal Relationships, National Eye Institute and National Institute of Child Health and Human Development, Sarasota, Florida, May 1985.
28. Neurophysiology of Vertebrate Rhythms, Gordon Research Conference on Chronobiology, Plymouth State College, July 1985.
29. Department of Physiology and Biophysics, University of Illinois at Chicago, Illinois, October 1985.
30. Searle Life Science Forum, Northwestern University, Evanston, Illinois, November, 1985.
31. Biology Department, Loyola University of Chicago, Illinois, November 1985.
32. Committee on Neurobiology, University of Chicago, Illinois, January 1986.
33. Department of Physiology and Biophysics, Chicago Medical School, Illinois, April 1986.
34. Department of Biology, University of Houston, Texas, April 1986.
35. U.S.-Japan Seminar on Mechanisms of Circadian Rhythms, East West Center, Honolulu, Hawaii, July 1986.
36. Honma Prize Lecture, 1986 Sapporo Symposium on Biological Rhythms, Sapporo, Japan, August 1986.
37. Mitsubishi-Kasei Institute of Life Sciences, Tokyo, Japan, August 1986
38. Tokyo Metropolitan Institute for Neurosciences, Tokyo, Japan, September 1986.
39. Nagoya University, Nagoya, Japan, September 1986.
40. National Institute of Basic Biology, Okazaki, Japan, September 1986.
41. Plenary Session on Behavioral Rhythms, First International Congress of Neuroethology, Tokyo, Japan, September 1986.
42. Neuronal Mechanisms Underlying Melatonin Regulation by Neurotransmitters, Light and Circadian Rhythms, Winter Conference on Brain Research, Vail, Colorado, January 1987.
43. Department of General Biology, Vanderbilt University, Tennessee, March 1987.
44. Department of Biology, University of Virginia, Virginia, April 1987.
45. Dorothy T. Kreiger Memorial Symposium: Neuroendocrinology, Endocrine Society Meetings, Indianapolis, June 1987.

46. Cellular Circadian Pacemakers, Gordon Research Conference on Chronobiology, Plymouth State College, July 1987.
47. Marine Biological Laboratory, Woods Hole, Massachusetts, July 1987.
48. Symposium on Central Regulation of Circadian Rhythms, XVIII International Conference of the International Society for Chronobiology, Leiden, The Netherlands, July 1987.
49. Department of Biology, Wesleyan University, Middletown, Connecticut, November 1987.
50. Rockefeller University, New York, December 1987.
51. Center for Endocrinology and Metabolism, Northwestern University, February 1988.
52. Searle Scholars Meeting, Itasca, Illinois, May 1988.
53. Symposium on Organization of Animal Circadian Systems, Society for Biological Rhythms Meeting, Wild Dunes, South Carolina, May 1988.
54. Organizer, Workshop on Pineal and Retinal Oscillators In Vitro, Society for Biological Rhythms Meeting, Wild Dunes, South Carolina, May 1988.
55. Laurentian Hormone Conference lecture, Quebec, Canada, August 1988.
56. G.D. Searle-Northwestern Research Symposium, Lincolnwood, Illinois, September 1988.
57. Department of Biology, University of Virginia, Charlottesville, October 1988.
58. M.D.-Ph.D. Program, Northwestern University, February 1989.
59. Endocrine Grand Rounds, Massachusetts General Hospital, Harvard Medical School, March, 1989.
60. Department of Physiology, Northwestern University, March 1989.
61. Institute for Reproductive Sciences, College of Physicians & Surgeons, Columbia University, May 1989.
62. Discussion leader, Vertebrate Retina and Pineal, Gordon Research Conference on Chronobiology, Plymouth State College, June 1989.
63. Avian Pineal Clock Function, Gordon Research Conference on Pineal Cell Biology, Plymouth State College, August 1989.
64. Symposium on Melatonin: New Light on CNS Mechanisms of Action, Society for Neuroscience, Phoenix, Arizona, November 1989.
65. Department of Biochemistry, Molecular Biology and Cell Biology, Northwestern University, November 1989.
66. Symposium on Alcohol and Circadian Rhythms (sponsored by Floyd Bloom), Scripps Clinic, La Jolla, California, December 1989.
67. Symposium on Frontiers in Neuroendocrinology, Satellite Symposium of American Society of Zoologists Meeting, Boston University, Massachusetts, December 1989.
68. Center for Biological Approaches to Behavior, University of Chicago, January 1990.
69. Department of Anatomy and Cell Biology, University of Kansas Medical Center, February 1990.
70. Institute for Neuroscience, Northwestern University, March 1990.
71. Committee on Neurobiology, University of Chicago, May 1990.
72. Symposium on Cellular Mechanisms of Melatonin Regulation and Action, Society for Biological Rhythms Meeting, Amelia Island, Florida, May 1990.
73. Sero Symposium on Follicle Stimulating Hormone, Northwestern University, Evanston, October 1990.
74. Meeting on Biological Rhythms and Depression, MacArthur Foundation Mental Health Research Network I, Chicago, November 1990.
75. Department of Pharmacology, Northwestern University, January 1991.
76. Department of Biological Sciences, Stanford University, January 1991.
77. Committee on Neurobiology, University of Chicago, January 1991.
78. Markey Center, University of Virginia, Charlottesville, April 1991.
79. Gordon Research Conference on Biological Regulatory Mechanisms, Holderness School, Plymouth, NH, June 1991.
80. Gordon Research Conference on Pineal Cell Biology, Andover, New Hampshire, August, 1991.
81. Gordon Research Conference on Chronobiology, Irsee, West Germany, October 1991
82. Department of Neuroscience, Case Western Reserve University, Cleveland, October 1991.

83. Society for Neuroscience Symposium, How Cells Keep Time: The Molecular and Cellular Basis of Circadian Rhythms, New Orleans, November 1991.
84. MacArthur Foundation Mental Health Research Network I, Dallas, January 1992.
85. Symposium on Molecular Basis of Biological Timing, NSF Center for Biological Timing, Charlottesville, VA, January 1992.
86. Department of Biology, Brandeis University, Waltham, Massachusetts, April 1992.
87. Neuroscience Program, Florida State University, Tallahassee, Florida, April 1992.
88. NSF Center for Biological Timing, Summer Course in Biological Timing, Charlottesville, VA, July 1992.
89. Wenner-Gren Center Symposium on Light and Biological Rhythms in Man, Stockholm, Sweden, September, 1992.
90. EMBO Workshop on Molecular Chronobiology, Leicester, England, September, 1992.
91. University of Wisconsin-Parkside, April 1993.
92. Department of Pharmacology, University of Washington, Seattle, April 1993.
93. MARC Program, Howard University, Washington, D.C., April 1993.
94. Workshop on Sleep Disorders / Dog Genetics, Millennium Pharmaceuticals, Inc., Cambridge, MA, July, 1993.
95. NICHD Workshop on Molecular and Environmental Substrates of Behavioral Development, Rockville, MD, August 1993.
96. Ciba Foundation Symposium on Circadian Clocks and Their Adjustment, London, UK, September, 1993.
97. Cincinnati Neurofest '93 Symposium, University of Cincinnati College of Medicine, Ohio, October 1993.
98. Gordon Research Conference on Pineal Cell Biology, Casa Sirena Resort, Oxnard, CA, January 1994.
99. Department of Genetics and Division of Medical Genetics, University of Washington, Seattle, March 1994.
100. Department of Neuroscience, Johns Hopkins University School of Medicine, Baltimore, March 1994.
101. Millennium Pharmaceuticals, Cambridge, April 1994.
102. The Society Symposium, Society for Research on Biological Rhythms, Amelia Island, Florida, May 1994.
103. Searle Life Science Forum, Northwestern University, Chicago, June 1994.
104. Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, July 1994.
105. Glaxo Research and Development, Greenford, United Kingdom, September 1994.
106. Department of Genetics, University of Wisconsin, Madison, February 1995.
107. Bristol-Myers Squibb, CNS Drug Discovery, Wallingford, CT, March 1995.
108. Research in Canine and Human Genetic Disease, The Wellcome Trust, Surrey, U.K., March 1995.
109. Bristol-Myers Squibb, Drug Discovery and Management, Princeton, NJ, April 1995.
110. Department of Genetics, Harvard Medical School, Cambridge, June 1995.
111. Animal Models of Psychiatric Diseases, MacArthur Foundation Research Network on Psychopathology and Development, Chicago, IL, June 1995.
112. Bristol-Myers Squibb Eighth Annual Neurosciences Colloquium, Wallingford, CT, June 1995.
113. APS Conference: Understanding the Biological Clock: From Genetics to Physiology, Dartmouth Medical School, Hanover, NH, July 1995.
114. 6<sup>th</sup> C.U. Ariëns Kappers Lecture, Netherlands Institute for Brain Research, Amsterdam, August 1995.
115. Conference on The Biology and Genetics of Complex Mammalian Traits, The Jackson Laboratory, Bar Harbor, Maine, September 1995.
116. Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, October 1995.

Curriculum Vitae: Joseph S. Takahashi

117. Departments of Genetics, Neurobiology and Pharmacology, Duke University Medical Center, Durham, October 1995.
118. Biochronometry Tutorial, NSF Center for Biological Timing, Satellite Symposium, Society for Neuroscience, San Diego, November 1995.
119. Rockefeller University, New York, January 1996.
120. Department of Psychology, Smith College, Northampton, February 1996.
121. Plenary Speaker, Photoperiodism, Rhythms and Clocks Student Workshop, Smith College, Northampton, February 1996.
122. Department of Molecular and Cell Biology, University of California, Berkeley, April 1996.
123. Molecular and Cellular Sciences Program, Chicago Medical School, April 1996.
124. Photobiology Session Chair, Society for Research on Biological Rhythms, Amelia Island, Florida, May 1996.
125. 61st Cold Spring Harbor Symposium on Quantitative Biology, Function & Dysfunction in the Nervous System, Cold Spring Harbor Laboratory, May 1996.
126. The Jackson Laboratory, Bar Harbor, Maine, June 1996.
127. Invited Speaker, Mouse Molecular Genetics Meeting, Cold Spring Harbor Laboratory, August 1996.
128. Second Biennial Workshop in Mouse Molecular Neurogenetics, The Jackson Laboratory, Bar Harbor, Maine, September 1996.
129. Workshop-Conference on Response and Adaptation to the Environment, U.S. Army Research Office, Research Triangle Park, NC, October 1996.
130. University of Texas Southwestern Medical Center, Dallas, Texas, October 1996.
131. Something Old / Something New: Single Gene Mutations, Gene Knock-Outs, and New Opportunities in Behavioral Neuroscience, NIMH Satellite Symposium, Society for Neuroscience, Washington, D.C., November 1996.
132. Organizer, Short Course 1, What's Wrong with My Mouse? New Interplays Between Mouse Genetics and Behavior, Society for Neuroscience, Washington, D.C., November 1996.
133. Speaker, From Molecules to Behavior: NIMH's Mission in the 21st Century, NIMH Satellite Symposium, Society for Neuroscience, Washington, D.C., November 1996.
134. Banbury Center Conference, Genetic Approaches to Learning and Memory, Cold Spring Harbor Laboratory, December 1996.
135. Banbury Center Conference, Genomics to Physiology and Beyond: How Do We Get There?, Cold Spring Harbor Laboratory, February 1997.
136. Department of Genetics, University of Wisconsin, Madison, February 1997.
137. Program in Neuroscience, Yale University, New Haven, March 1997.
138. The Science of Brain Disease Symposium, Brain Awareness Week, National Institutes of Health, Bethesda, March 1997.
139. Neuroscience Symposium, University of California at San Francisco, March 1997.
140. Brigham and Women's Hospital, Harvard Medical School, Boston, April 1997.
141. Walter and Mary Elizabeth Glass Chair Lecture, April 1997.
142. Asher Basic & Clinical Sciences Seminar, Northwestern University Medical School, July 1997.
143. American Society of Neurochemistry / International Society of Neurochemistry, Symposium, Boston, MA, July 1997.
144. Asher Basic & Clinical Sciences Seminar, Northwestern University Medical School, July 1997.
145. Suprachiasmatic Nucleus Silver Anniversary Symposium, Harvard Medical School, Boston, MA, August 1997.
146. Experimental Genetics of the Laboratory Mouse, Jackson Laboratory, Bar Harbor, Maine, August 1997.
147. Bristol-Myers Squibb Tenth Annual Neurosciences Colloquium, Wallingford, CT, September 1997.
148. Air Force Office of Scientific Research Symposium, Air Force Academy, Fort Collins, CO, September 1997.
149. Ryan Lecture, Northwestern Alumni, Chicago, October 1997.

150. Silver Anniversary of the Sleep Disorders Center, Stanford University Medical Center, Palo Alto, CA, October 1997.
151. Mouse Behavior Course, Cold Spring Harbor Laboratory, November 1997.
152. Symposium, Chicago Chapter of the Society for Neuroscience, Chicago, November 1997.
153. Committee on Genetics, University of Chicago, January 1998.
154. Cell Biology, Anatomy and Neurobiology, Medical College of Wisconsin, Milwaukee, WI, February 1998.
155. Plenary Session Speaker and ENU Mutagenesis Co-Chair, Priority Setting for Mouse Genomics and Genetics Resources, NIH, Bethesda, MD, March 1998.
156. HHMI Conference on Molecular Genetic Approaches to Human Disease, Chevy Chase, MD, April 1998.
157. Northwestern University Medical School Alumni, April 1998.
158. Symposium, Society for Research on Biological Rhythms, Amelia Island, FL, May 1998.
159. Medical School Today Luncheon, Northwestern University Medical School, June 1998.
160. Neurobiology Course, Marine Biological Laboratory, Woods Hole, MA, July 1998.
161. Babraham Institute Fiftieth Anniversary Conference, Cambridge, MA, September 1998.
162. Priority Setting for Mouse Genomics and Genetics Resources: First Follow-Up Meeting, NIH, Bethesda, MD, October 1998.
163. Life Sciences Research Foundation Symposium, Keynote Lecture, Dallas, TX, October 1998.
164. Brain Research Interactive Conference, Genetically Dissecting Brain and Behavior, San Diego, CA, November 1998.
165. Presidential Lecture, Society for Neuroscience, Los Angeles, CA, November 1998.
166. NIH/NSF-Sponsored Sleep Workshop, Herndon, VA, December 1998.
167. Sequencing the Mouse Genome, Princeton University, Princeton, NJ, January 1999.
168. HHMI-NIH Research Scholars Program, Bethesda, MD, February 1999.
169. Howard Hughes Medical Institute, Headquarters Staff, Chevy Chase, MD, February 1999.
170. Howard Hughes Medical Institute Science Meeting, Bethesda, MD, April 1999.
171. American Society for Biochemistry and Molecular Biology "Biochemistry & Molecular Biology '99 Meeting," Symposium Speaker, San Francisco, CA, May 1999.
172. NIH Director's Seminar Series, Bethesda, MD, June 1999.
173. Genetics in the New Millennium: Directions for the Future, Bar Harbor, ME, July 1999.
174. Ruth Sager Memorial Lecture in Genetics, Woods Hole, MA, August 1999.
175. International Congress on Chronobiology, Plenary Speaker, Washington, D.C., August 1999.
176. A.J. Carlson Memorial Lecture, Division of Biological Sciences, University of Chicago, IL, September 1999.
177. Bristol-Myers Squibb Neuroscience Symposium, Wallingford, CT, September 1999.
178. Neuroscience Retreat, University of Chicago, Plenary Speaker, Chicago, IL, October 1999.
179. 1999 World Congress on Psychiatric Genetics, Symposium Speaker, Monterey, CA, October 1999.
180. Neurosciences Program, University of California at San Diego, CA, November 1999.
181. Howard Hughes Medical Institute, University of Iowa, College of Medicine, Symposium Speaker, Iowa, IO, December 1999.
182. Beckman Center 10<sup>th</sup> Anniversary, Stanford University School of Medicine, Stanford, CA January 2000.
183. NIH/National Institute of Mental Health, Bethesda, MD, January 2000.
184. Nobel Forum Research Lecture Series, Stockholm, Sweden, February 2000.
185. Gildea Lecture, Washington University, Department of Psychiatry, St. Louis, MO, February 2000.
186. Department of Molecular and Cellular Biology, Harvard University, Cambridge, MA, March 2000.
187. Department of Ophthalmology, Massachusetts Eye and Ear Institute, Harvard Medical School, Boston, MA, March 2000.
188. California Institute of Technology, Department of Biology, Pasadena, CA, April 2000.
189. Zaffaroni Foundation, Mountain View, CA, April 2000.

190. Plenary Lecture, Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL, April 2000.
191. Howard Hughes Medical Institute Science Meeting, Bethesda, MD, May 2000.
192. Department of Molecular Biology, Princeton University, Princeton, NJ, May 2000.
193. NIH Second Followup Workshop on Priority Setting for Mouse Genomics and Genetics Resources, Bethesda, MD, May 2000.
194. Royal Swedish Academy of Sciences, Symposium Speaker, Stockholm, Sweden, June 2000.
195. Co-Chair (with Geoffrey Duyk), NIMH NIH Workshop, Setting Priorities for Phenotyping the Mouse Nervous System and Behavior, Warrenton, VA, June 2000.
196. Human Genome Center, University of Tokyo, Tokyo, Japan, September 2000.
197. Plenary Lecture, Japan Neuroscience Society 23<sup>rd</sup> Annual meeting, Yokohama, Japan, September 2000.
198. Ellison Medical Foundation 3<sup>rd</sup> Annual Symposium on Differential Gene Expression in Development and Aging, California Institute of Technology, Pasadena, CA, October 2000.
199. Michigan Life Sciences Research Corridor Site Visit Review, Washington Advisory Group, Van Andel Research Institute, Grand Rapids, MI, October 2000.
200. Systems Neuroscience Advisory Committee to Dean Jeremy Knowles, Faculty of Arts and Sciences, Harvard University, Cambridge, MA, November 2000.
201. Holiday Lectures on Science, *Clockwork Genes: Discoveries in Biological Time* (with Michael Rosbash), Howard Hughes Medical Institute, Chevy Chase, MD, December 2000.
202. Symposium, American Society for Cell Biology 40<sup>th</sup> Annual meeting, San Francisco, CA, December 2000.
203. Committee on Genetics, University of Chicago, Hyde Park, IL, February 2001.
204. Cold Spring Harbor Laboratory meeting, Genetic Basis of Neurological and Behavioral Disorders, sponsored by Klingenstein Fund. Cold Spring Harbor, NY, March 2001.
205. Merck Research Laboratories Scientific meeting, Newark, NJ, March 2001.
206. Keystone Symposia 2001, Molecular Clocks: Regulation of Circadian Behavioral Rhythms, Tahoe City, CA, March 2001.
207. Pharmacology Department, University of Texas Southwestern, Dallas, TX, April 2001.
208. NIH/Mouse Neuroscience Steering Committee meeting, Bethesda, MD, May 2001.
209. WCAS Board and Alumni Meeting, Northwestern University, Evanston Campus, IL 2001.
210. Cell and Molecular Biology, Northwestern University, Chicago Campus, IL, May 2001.
211. Novartis Pharmaceuticals National Speaker program, Madison, WI, June 2001.
212. Wisconsin Symposium: The Analysis of Human Biology-Genes, Genomes and Molecules, University of Wisconsin-Madison, WI, June 2001.
213. Plenary Lecture, Associated Professional Sleep Societies, Chicago, IL, June 2001.
214. NIH/National Institute on Drug Abuse Workshop: *The Hypothalamus and Addiction*, Bethesda, MD, July 2001.
215. Mouse Genome Analysis Workshop, NIH/NHGRI, Cambridge, MA, September 2001.
216. Howard Hughes Medical Institute Scientific Meeting, Chevy Chase, MD, September 2001.
217. Lecturer, Neil D. Graham Lecture, University of Toronto, Canada, Octobers 2001.
218. Speaker, Symposium on Integrative Genomics, University Michigan, Ann Arbor, MI, November 2001.
219. W. Alden Spencer Award Presentation and Lecture, Columbia University, New York, November 2001.
220. NIMH Mouse Behavioral Workshop, Half Moon Bay, CA, December 2001.
221. NIMH/NIDA Workshop on Setting Priorities for Functional Molecular Neuroanatomy in the Post-Genomic Era, Laguna Beach, CA, January 2002.
222. Center for Biological Timing Symposium, University of Virginia, Charlottesville, VA, January 2002.
223. NIH Mouse SNP Meeting, Bethesda, MD, January 2002.
224. Advances in Genome Biology and Technology (AGBT), Marco Island, FL, February 2002.
225. Biomedical Research and Technology Transfer Partnership Panel Review Meeting, Washington, DC, April 2002.
226. Howard Hughes Medical Institute Science Meeting, Chevy Chase, MD, May 2002.



Curriculum Vitae: Joseph S. Takahashi

227. McGovern Institute Symposium, MIT, Cambridge, MA, May 2002.
228. Plenary Lecture, McKnight Conference on Neuroscience, Aspen, CO, June 2002.
229. Presidential Symposium, Society for Research on Biological Rhythms Annual Meeting, Amelia Islands, FL, May 2002.
230. Workshop on ENU Mutagenesis, Chantilly, VA, July 2002.
231. Keynote Lecturer, Deutsche Forschungsgemeinschaft, Munich, Germany, July 2002.
232. Road Map Meeting with NIH Director, Elias Zerhouni, NIH, Bethesda, MD, August 2002.
233. Novartis Foundation Symposium "Molecular Clocks and Light Signalling," London, September 2002.
234. The Physiological Society Meeting, London, September 2002.
235. Flexner Lecture, Institute for Neurological Sciences, University of Pennsylvania, Philadelphia, PA, October 2002.
236. Jane Coffin Childs Fund Symposium, Lakeville, CT, October 2002.
237. University of North Carolina Neuroscience Symposium, Chapel Hill, NC, October 2002.
238. American Society of Nephrology 35<sup>th</sup> Annual Meeting and Scientific Exposition, Philadelphia, PA, November 2002.
239. Chair, Session on Forward Genetics, Functional Genomics Conference, Cambridge Healthtech Institute, Boston, MA, November 2002.
240. Molecular and Cellular Physiology Seminar Series, Stanford University School of Medicine, Stanford, CA, December 2002.
241. Zaffaroni Foundation meeting of the "Consortium for the Mouse Genetics of Addiction", San Francisco, CA, January 2003.
242. Phenomix Corporation, La Jolla, CA, February 2003.
243. Stowers Institute for Medical Research, Kansas City, MO, February 2003.
244. Recipient Eduard Buchner Prize Award, Presentation and Lecture, 54<sup>th</sup> Mosbacher Kolloquium, German Society for Biochemistry and Molecular Biology (GBM), Germany, March 2003.
245. 50<sup>th</sup> Anniversary Symposium on the Discovery of DNA, Genes, Brain, Behavior: Before and Beyond Genomics, NHGRI/NIH, Bethesda, MD, April 2003.
246. Gordon Research Conference on Chronobiology, Barga, Italy, May 2003.
247. NIH Workshop, Making Sense of SCN Heterogeneity: The Tissue is the Issue, Washington, DC, June 2003.
248. Jackson Laboratory 44<sup>th</sup> Short Course in Medical and Experimental Mammalian Genetics, Lecturer, Bar Harbor, ME, July 2003.
249. ENU Mutagenesis Meeting, Washington, DC, July 2003.
250. Symposium, Society for Developmental Biology 62<sup>nd</sup> Annual Meeting, Boston, MA, August 2003.
251. 1<sup>st</sup> World Congress of Chronobiology, Plenary Lecturer, Sapporo, Japan, September 2003.
252. Sapporo Symposium on Biological Rhythm, Sapporo, Japan, September 2003.
253. 1<sup>st</sup> International Sleep Disorders Forum, Montreal, Canada, October 2003.
254. 76<sup>th</sup> Annual Meeting, Japan Biochemical Society, Plenary Lecturer, Yokohama, Japan, October, 2003.
255. Howard Hughes Medical Institute Scientific Meeting, Bethesda, MD, November 2003.
256. PAS-Clocks-AhR Symposium, CEHR at Texas A & M University, TX, December 2003.
257. Workshop, Winter Conference on Brain Research, Copper Mountain, CO, January 2004.
258. Howard Hughes Medical Institute Workshop for Janelia Farm, MD, January 2004.
259. Aventis Pharmaceuticals Scientific Advisory Meeting, Short Hills, NJ, April 2004.
260. 14<sup>th</sup> Annual Einar Hille Memorial Lecture in Neuroscience, Seattle, WA, May 2004.
261. The Jackson Laboratory Neurogenetics Conference V, Bar Harbor, Maine, June 2004.
262. Endocrine Society 86<sup>th</sup> Annual Meeting, Plenary Speaker, New Orleans, LA, June 2004.
263. Symposium, Society for Research on Biological Rhythms, Whistler, BC, June 2004.
264. Organizer, 50<sup>th</sup> Anniversary of Circadian Clock Symposium, Center for Functional Genomics, Northwestern University, Evanston, IL, June 2004.
265. Sanofi-Synthelabo Second International Sleep Disorders Forum, Paris, France, September 2004.

266. Pfizer Lectureship in Sleep, University of Michigan, Ann Arbor, MI, September 2004.
267. Howard Hughes Medical Institute Scientific Meeting, Bethesda, MD, October 2004.
268. Aventis Winter Lecture Series, Frankfurt, Mannheim, Munich, Berlin, Germany, November 2004.
269. HHMI-NIH Research Scholars, Science Dinner Lecturer, Bethesda, MD, December 2004.
270. Workshop, Winter Conference on Brain Research, Breckinridge, CO, January 2005.
271. Colloquium Lectures, University of Wisconsin, Madison, WI, February 2005.
272. XXXV International Congress of Physiological Sciences, San Diego, CA, April 2005.
273. Plenary Speaker, 9<sup>th</sup> Berlin Colloquium of the Gottlieb Daimler and Karl Benz Foundation, Berlin, Germany, May 2005.
274. Lecturer, Molecular Embryology of the Mouse Course, Cold Spring Harbor, June 2005.
275. Gordon Research Conference on Chronobiology, Salve Regina, Rhode Island, August 2005.
276. Perspectives Lecture, European Pineal and Biological Rhythms Society, X<sup>th</sup> Congress, Frankfurt, Germany, September 2005.
277. Speaker, 2<sup>nd</sup> Biannual F.M. Kirby Neuroscience Symposium, Harvard Medical School, Boston, September 2005.
278. Plenary Speaker, Latin American Symposium of Chronobiology Course, Buenos Aires, Argentina, October 2005.
279. Plenary Lecture, VIII Latin American Symposium of Chronobiology, Cordova, Argentina.
280. Speaker, Pineal Cell Biology Gordon Conference, Santa Barbara, CA, January 2006.
281. Vernon B. Mountcastle Lectureship in Neuroscience, Johns Hopkins School of Medicine, Baltimore, MD, March 2006.
282. Society for Research on Biological Rhythms Conference, Sandestin, FL, May 2006.
283. Monsanto Symposium, The Biology of Time, Chesterfield, MO, June 2006.
284. Karolinska Institute, Center for Biotechnology (CBT) Symposium on Nuclear Receptors 2006, Huddinge, Sweden, September 2006.
285. University of Illinois-Urbana, Champaign, CMB and Molecular Biophysics Training Grant Symposium, Keynote speaker, November 2006.
286. Howard Hughes Medical Institute Scientific Meeting, Janelia Farm, VA, December 2006.
287. Workshop Organizer, Winter Conference on Brain Research, Snowmass, CO, January 2007.
288. AstraZeneca Lecture, University of Manchester, Manchester, UK, February 2007.
289. MRC Laboratory of Molecular Biology, Cambridge, UK, February 2007.
290. Department of Molecular Biology, Princeton University, Princeton, NJ, February 2007.
291. Center for Genome Research and Biocomputing, Oregon State University, Corvallis, OR, March 2007.
292. Organizer (with Kevin Moses, Allan Bradley & Janet Rossant), Janelia Farm Conference on Expanding the Genetic Tool-Kit in Mouse, HHMI, Ashburn, VA, March 2007.
293. Lecturer, Graduate Training Program, University of Kentucky, Lexington, KY, April 2007.
294. Vice-Chair, Gordon Research Conference on Chronobiology, Aussois, France, May 2007.
295. Opening Lecture, Cold Spring Harbor Laboratory, 72<sup>nd</sup> Symposium: Clocks & Rhythms, May 2007.
296. 31<sup>st</sup> Carl F. Schmidt Honorary Lecture, Department of Pharmacology, University of Pennsylvania, Philadelphia, PA, June 2007.
297. Lecturer, Molecular Embryology of the Mouse Course, Cold Spring Harbor Laboratory, June 2007.
298. Lecturer, Workshop on Mechanisms of Arousal, Alertness & Attention, Banbury Conference Center, Cold Spring Harbor Laboratory, June 2007.
299. Howard Hughes Medical Institute Scientific Meeting, Janelia Farm, VA, September 2007.
300. Keynote lecture, NHLBI Workshop on Circadian-Coupled Cellular Function and Disease in Heart, Lung, and Blood Tissues, NIH, Baltimore, MD, September 2007.
301. Molecular & Integrative Physiology, 125<sup>th</sup> Anniversary Symposium, University of Michigan, September 2007.
302. Speaker, Department of Cellular and Molecular Medicine, UCSD, La Jolla, CA, October 2007.
303. Speaker, Harvey Lecture, Rockefeller University, New York, NY, October 2007.

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304. University of Texas Southwestern Medical Center, Dallas, TX, October 2007.
305. Salk Institute for Biological Studies, La Jolla, CA, January 2008.
306. Speaker, Keystone Symposium, Genetics and Biochemistry of Sleep, Tahoe City, CA, March 2008.
307. Speaker, Workshop to Consider the Feasibility of a Sleep/Circadian Rhythms Gene Chip, NIH, Bethesda, MD, April 2008.
308. Speaker, Gordon Research Conference on Pineal Cell Biology, Lucca, Italy, April 2008.
309. Speaker, Bollum Symposium on Circadian Clocks, Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota, May 2008.
310. Speaker, Society for Research on Biological Rhythms Conference, Sandestin, FL May 2008.
311. Visiting Professorship Lecture, Department of Psychiatry, University of Pittsburgh School of Medicine, PA, June 2008.
312. Lecturer, CSHL Molecular Embryology of the Mouse 2008, Cold Spring Harbor Laboratory, NY, June 2008.
313. Speaker, National Academies Institute of Medicine, Neuroscience Grand Challenges Workshop, Washington D.C. June 2008.
314. Chair and Speaker, XX International Congress of Genetics 2008, Berlin, Germany, July 2008.
315. NIH Workshop on Neurobiological Basis of Circadian Rhythms Interaction with Complex Behaviors, Bethesda, MD, July 2008.
316. Lecturer, 49<sup>th</sup> Annual Short Course on Medical and Experimental Mammalian Genetics, Jackson Laboratory, Bar Harbor, MA, July 2008.
317. Abbott State of the Art Lecture, American Thyroid Association 79<sup>th</sup> Annual Meeting, Chicago, IL, October 2008.
318. Neurobiology & Genetics of Sleep and its Disorders Symposium, Stanford University Medical School, Palo Alto, CA, December 2008.
319. Chair and Organizer, Central and peripheral clocks: Links to sleep and metabolism, 47<sup>th</sup> American College of Neuropsychopharmacology Meeting, Scottsdale, AZ, December 2008.
320. Joint Seminars in Neuroscience, UCLA Brain Research Institute, Los Angeles, CA, February 2009.
321. Keynote Address, Pennington Scientific Symposium, Circadian Biology & Sleep: Missing Links in Obesity and Metabolism? Baton Rouge, LA, April 2009.
322. Molecular Embryology of the Mouse Course, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, June 2009.
323. Board of Regents, University of Texas System, Austin, TX, July 2009.
324. Chair, Gordon Research Conference on Chronobiology, Salve Regina, Rhode Island, July 2009.
325. Lecture, Graduate School of Biomedical Sciences, Hiroshima University, Hiroshima, Japan, July 2009.
326. Special lecture, 36th International Union of Physiological Sciences 2009, Kyoto, Japan, August 2009.
327. Sapporo Symposium on Biological Rhythm, Sapporo, Japan, August 2009.
328. Plenary Lecture, XI Congress of the European Biological Rhythms Society, Strasbourg, France, August 2009.
329. Opening Speaker, Sanofi-Aventis Symposium on Circadian rhythm and clock genes: from molecular basis to therapeutic applications, Versailles, France, October 2009.
330. Speaker, Janelia Conference: Can new tools revolutionize understanding of hypothalamic neural circuits? October 2009.
331. WM Keck Center for Behavioral Biology distinguished lecture series, North Carolina State University, Raleigh, NC, November 2009.
332. Department of Pharmacology, UT Southwestern Medical Center, Dallas, TX, November 2009.
333. Speaker, President's Research Council, UT Southwestern Medical Center, Dallas, TX, January 2010.

334. Keynote Address, Nuclear Receptor Signaling Atlas (NURSA) annual meeting, Houston, TX, January 2010.
335. Plenary Lecture, NIDDK Workshop: Circadian Rhythms and Metabolic Disease, Bethesda, MD, April 2010.
336. NIH Wednesday Afternoon Lecture, National Institutes of Health, Bethesda, MD, May 2010.
337. NIA Workshop, Circadian Clocks and Their Role in Aging: Molecular Mechanisms, Bethesda, MD, June 2010.
338. Lecturer, Molecular Embryology of the Mouse Course, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, June 2010.
339. Speaker, UT Southwestern Obesity Alliance Seminar Series on Nutrition, Metabolism and Obesity, July 2010.
340. Speaker, NIH Sleep Disorders Research Advisory Board meeting, Bethesda, MD, August 2010.
341. Lecture, Center for Integrative Genomics (CIG), University of Lausanne, Switzerland, September 2010.
342. Life Sciences Seminar Series, Department of Molecular Biology, University of Geneva, Switzerland, September 2010.
343. Department of Genetics & Development, Columbia University Medical Center, New York, NY, October 2010.
344. Keynote Speaker, Genetics Symposium, Penn State College of Medicine, Hersey, PA, October 2010.
345. Symposium on Energy Metabolism, Department of Physiology and Biophysics, University of Sao Paulo, Brazil, October 2010.
346. Distinguished Lecture Series, Scripps Research Institute, Jupiter, FL, October 2010.
347. Howard Hughes Medical Institute Scientific Meeting, Chevy Chase, MD, November 2010.
348. Special Lecturer, Society for Neuroscience Annual Meeting, San Diego, CA, November 2010.
349. Keynote Speaker, Second International Conference on Cellular Dynamics and Chemical Biology, Laboratory of Division of Cellular Dynamics, University of Science & Technology of China, Hefei, China, November 2010.
350. Plenary Speaker, 13th Annual Cell and Molecular Biology Symposium, University of North Carolina, Chapel Hill, NC, January 2011.
351. UCSF Biomedical Sciences Seminar Series, San Francisco, CA, January 2011.
352. Workshop, Winter Conference on Brain Research, Keystone, Colorado, January 2011.
353. Speaker, Genetics Interest Group, University of Utah, Salt Lake City, UT, February 2011.
354. Speaker, Neuroscience Seminar, Caltech, Pasadena, CA, March 2011.
355. Speaker, Neurobiology Seminar Series, Waggoner Center, University of Texas, Austin, TX, April 2011.
356. Ruth K. Broad and Shepard Broad Foundation Seminar Series on Neurobiology and Disease, Department of Neurobiology, Duke University Medical Center, Durham, NC, April 2011.
357. John M. Brookhart Lecture, Department of Physiology and Pharmacology, Oregon Health & Science University, Portland, OR, May 2011.
358. Speaker, Gordon Research Conference on Chronobiology, Barga, Italy, June 2011.
359. Speaker, HHMI Alumni Dinner, UT Southwestern, Dallas, TX, June 2011.
360. Guest Lecturer, Center for Neuroscience, University of Pittsburgh, 25<sup>th</sup> Annual Retreat, Oglebay, WV, September 2011.
361. Speaker, The 32nd Naito Conference on Biological Basis of Mental Functions and Disorders, Yamanashi, Japan, October 2011.
362. Speaker, The 5th International Workshop on Cell Regulations in Division and Arrest, Okinawa Institute of Science and Technology (OIST), Okinawa, Japan, October 2011.
363. Plenary Lecture, Global Center of Excellence, Advanced Systems-Biology: Designing The Biological Function, Workshop on "Designing the Circadian Clock," Nagoya University, Nagoya, Japan, November 2011.
364. Co-Chair, NIH National Cancer Institute, Division of Cancer Biology, Circadian Clocks and Cancer Workshop, Rockville, MD, December 12, 2011.

365. Eliot B. Shoolman Visiting Professor Seminar, Harvard Reproductive Endocrine Sciences Center, Massachusetts General Hospital, Boston, MA, January 2012.
366. Speaker, Gordon Research Conference on Pineal Cell Biology, Galveston, TX, January 2012.
367. Speaker, Center for Chronobiology Symposium, UCSD, La Jolla, CA, February 2012.
368. Co-Organizer, Janelia Farm Conference: Circadian Clocks: Mechanisms, Coordination, and Physiology, Janelia Farm Research Campus, HHMI, March 2012.
369. Plenary Speaker, International Symposium, Frontiers in Behavioral Brain Science, Solving the Mystery of Sleep, Tokyo, Japan, March 2012.
370. Plenary Speaker, Leopoldina Symposium, The Circadian System: from Chronobiology to Chronomedicine, Frankfurt, Germany, March 2012.
371. Lecture, F.M. Kirby Neurobiology Center, Children's Hospital Boston, and Department of Neurobiology, Seminar Series, Harvard Medical School, April 2012.
372. Speaker, Max Planck Institute, Biology/Medicine Section, Exploratory Symposium: Biology of Sleep, Munich, Germany, May 2012.
373. Pittendrigh/Aschoff Plenary Lecture, Society for Research on Biological Rhythms, Sandestin, FL, May 2012.
374. Speaker, FENS Forum of Neuroscience, Symposium on Circuits of Motivation: Network Principles of the Hypothalamus, Barcelona, Spain, July 2012.
375. Howard Hughes Medical Institute Scientific Meeting, Janelia Farm, VA, September 2012.
376. Plenary Lecture, Japan Neuroscience Society 35th Annual Meeting: Neuro2012, Nagoya, Japan, September 2012.
377. University Lecture Series, UT Southwestern Medical Center, Dallas, TX, October 2012.
378. Keynote Speaker, University of Texas Health Science Center at Houston, Annual Medical School Research Retreat, Houston, TX, October 2012.
379. PABMB Plenary Lecturer, Pan-American Association for Biochemistry and Molecular Biology, Argentine Society for Research in Biochemistry and Molecular Biology (SAIB), Mendoza, Argentina, October 2012.
380. Speaker, HiT Center Symposium on Human System Biology, Johns Hopkins University, Baltimore, MD, November 2012.
381. Panel Discussant, Links between Activity, Sleep and Mental Function: Translational Models, ACNP Annual Meeting, Hollywood, FL, December 2012.
382. Panel Speaker, Circadian rhythms and mood disorders: Clock genes and new treatment implications, ACNP Annual Meeting, Hollywood, FL, December 2012.
383. Molecular and Cellular Biology Seminar Series, The Scripps Research Institute, La Jolla, CA, January 2013.
384. Inaugural Symposium Speaker, UCLA Integrative Center for Neurogenetics, Los Angeles, CA, February 2013.
385. Speaker, Symposium on the role of circadian rhythms in sleep disorders and daily life, Southern Sleep Society Annual Meeting, Dallas, TX, March 2013.
386. Opening Plenary Speaker, 1<sup>st</sup> INSPIRE Meeting, What makes a good clock? Circadian clocks, brain function and development, Servier, Viareggio, Italy, March 2013.
387. Speaker, 1st Annual IIS Symposium ~Solving the mystery of sleep~, World Premier International Research Center Initiative (WPI), International Institute for Integrative Sleep Medicine (IIS), University of Tsukuba, Japan, March 2013.
388. WPI-IIS Seminar, International Institute for Integrative Sleep Medicine (IIS), University of Tsukuba, Japan, March 2013.
389. Co-organizer (with Garret FitzGerald) and speaker, 2013 Keystone Symposia on Molecular Clockworks and the Regulation of Cardio-Metabolic Function, Snowbird, Utah, April 2013.
390. Plenary Lecture, joint Human Genome organization HGM conference and International Congress of Genetics meeting, Singapore, April 2013.
391. Speaker, 1st Annual ITbM Symposium, World Premier International Research Center Initiative (WPI), Institute of Transformative Bio-Molecules (ITbM), Nagoya University, April 2013.
392. Plenary Lecture, 2013 Seoul International Congress of Endocrinology and Metabolism, Korean Endocrine Society, Seoul, Korea, May 2013.

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393. Speaker, Symposium on Working Mechanisms of Body Clock, 2013 Seoul International Congress of Endocrinology and Metabolism, Seoul, Korea, May 2013.
394. Fourth Maurice B. Visscher Distinguished Lectureship, Department of Integrative Biology and Physiology, University of Minnesota Medical School, Minneapolis, MN, May 2013.
395. Seminar, National Institute on Drug Abuse, Intramural Research Program of NIDA Johns Hopkins Bayview Campus, Baltimore, MD, May 2013.
396. Keynote Speaker, Center for Sleep and Circadian Neurobiology Research Retreat, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, May 2013.
397. Seminar, Instituto de Medicina Molecular, Lisbon, Portugal, June 2013.
398. Speaker, Gordon Research Conference on Chronobiology, Newport, RI, July 2013.
399. Speaker, National Space Biomedical Research Institute (NSBRI) Symposium, Genetics of Neurobehavioral Functions during the 12-Month ISS Mission (ISS12): Capitalizing on Discoveries in Circadian, Sleep and Stress Neurobiology, Houston, TX, August 2013.
400. Plenary Lecture, XII Congress of the European Biological Rhythms Society, Munich, Germany, August 2013.
401. Speaker, Symposium on Beyond Jet Lag: Targeting Aberrant Circadian Rhythm to Attack Diseases from Diabetes to Depression, 2013 American Chemical Society meeting, Indianapolis, IN, September 2013.
402. Speaker, Allen Institute for Brain Science, Annual Symposium: Open Questions in Neuroscience, Seattle, WA, September 2013.
403. Guest Speaker, Annual Retreat, Neuroscience Graduate Program, University of Southern California, Lake Arrowhead, CA, September 2013.
404. Speaker, TEDxSMU 2013 Annual Conference, <http://www.tedxsmu.org/talks/joseph-takahashi-tedxsmu-2013/>, Dallas, TX, October 2013.
405. Speaker, Neuroscience Colloquium, Washington University School of Medicine, St. Louis, MO, October 2013.

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## **GRANT SUPPORT:**

### **Current Research Grants**

*Howard Hughes Medical Institute, Investigator Award*, J.S. Takahashi, renewed for five years, 7/01/97-8/31/18, (negotiated annually). This award covers the full salary and benefits of J.S. Takahashi, four postdoctoral associates, three research technicians and one administrative assistant. A supply budget for seven positions and animal care is also provided.

*NIH R01 GM104496, Molecular Interactions of Mammalian Circadian Clock Proteins*, Hong Zhang, MPI, J.S. Takahashi, MPI. 07/01/2013-02/28/2017.

*NIH R01 AG045795, Transcriptional Architecture and Chromatin Landscape of Circadian Clocks in Aging Tissue*, J.S. Takahashi, MPI, Carla Green, MPI. 07/01/2013-06/30/2018.

### **Pending**

*NIH R01 AR056439, Circadian Clock Regulation in Skin*, Bogi Andersen, P.I., J.S. Takahashi, Subcontract P.I., 8/01/13 – 6/30/18.

*NIH R21 EY024103, Circadian post-transcriptional gene regulation in the eye*, C.B. Green, P.I., J.S. Takahashi, Co-Investigator. 09/01/13-08/31/15.

### **Completed Research Support (in past three years)**

*NIH P50 MH074924, Silvio O. Conte Center for Neuroscience Research: Chemical and Genetic Manipulation of Circadian Systems*. J.S. Takahashi, Director and P.I. Project 1, 4.20 calendar months effort, M. Menaker, University of Virginia, P.I. Project 2, S.L. McKnight, UT Southwestern Medical Center, P.I. Project 3, C.B. Green, University of Virginia, P.I. Project 4, J.B. Hogenesch, University of Pennsylvania, P.I. Project 5, L. Ptacek, UCSF, P.I. Project 6. 9/15/05-7/31/11.

*NIH F30 NS056551, NRSA Predoctoral M.D./Ph.D. Fellowship, Loss of Bmal1 in the SCN/brain of adult mice*. Martina Pejchal (Sponsor, J.S. Takahashi), 9/1/2006-8/31/2011.

*NIH F32 DA024556, NRSA Postdoctoral Fellowship, Characterization & Cloning of the Response Psychostimulant Mutant Gridlock'd*. Vivek Kumar (Sponsor, J.S. Takahashi), 3/1/2008-2/28/2011.

*NIH R01 MH078024, Identifying Circadian Rhythm Genes from Mouse Mutants*, J.S. Takahashi, P.I., 0.6 calendar month effort, S.M. Siepka, Co-P.I. 5/01/07-10/30/12.

*NIH R01 AR056439, Regulation of Hair Follicle Cycling*, Bogi Andersen, P.I., J.S. Takahashi, Subcontract P.I., 7/01/10 – 6/30/13.

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### **Previous Grant Support**

*Searle Foundation Leadership Fund for the Life Sciences*, period of support 7/1/83 - 6/30/85.

*Alfred P. Sloan Research Fellowship in Neuroscience*, Alfred P. Sloan Foundation, grant no. SLN FDN BR-2366, period of support 9/16/83 - 9/15/85.

*NIMH R01 MH39592-03*, Cellular Analysis of Vertebrate Circadian Pacemakers. J.S. Takahashi, P.I. 9/1/84 - 8/31/87.

*1985 Searle Scholars Program Fellowship*, No. 85-H-107. The Chicago Community Trust. J.S. Takahashi, P.I. 7/1/85 - 6/30/88.

*NIMH F32 MH09466-02*, NRSA Postdoctoral Fellowship, Barbara L. Pratt (Sponsor, J.S. Takahashi), Adrenergic Control of Melatonin Synthesis, 8/1/86 - 7/31/88.

*Upjohn Company Protocol #0157*, Proposed experiments to examine the effects of triazolam on the mammalian circadian system. F.W. Turek and J.S. Takahashi, Co-investigators. 12/15/87 - 12/14/88.

*NIMH F31 MH09465-03*, NRSA Predoctoral Fellowship, Linda M. Robertson (Sponsor, J.S. Takahashi), Photic Entrainment of a Cellular Circadian System, 9/1/86 - 8/31/89.

*NIH R01 DK38607-03*, Characterization of Melatonin Receptors in Brain. M.L. Dubocovich, P.I., J.S. Takahashi, Co-P.I. 4/1/87 - 3/31/90.

*NIMH F31 MH09572-03*, NRSA Predoctoral Fellowship, Selene S. Nikaido (Sponsor, J.S. Takahashi), Cyclic Nucleotide Control of Avian Circadian Oscillator. 9/1/87 - 8/31/90.

*NIH F32 EY06167-02*, NRSA Postdoctoral Fellowship, Mary E. Pierce (Sponsor, J.S. Takahashi), Regulation of Melatonin in Retinal Cell Culture, 12/15/88 - 12/14/90.

*NSF DCB-8451642*, 1985 Presidential Young Investigator Award. J.S. Takahashi, P.I. 8/1/85 - 1/31/91.

*NIMH R13 MH46738-01*, Conference Grant: Society for Research on Biological Rhythms, F.W. Turek, P.I., J.S. Takahashi, Co-P.I. 6/1/90 - 5/31/91.

*NIH S15 HD27646-01*, Small Instrumentation Grant: Direct Quantification Systems Using Phosphoimaging. R.I. Morimoto, P.I., J.S. Takahashi, Co-P.I. 8/1/90 - 7/31/91.

*NIMH F31 MH09929-02*, NRSA Predoctoral Fellowship, Jina Janavs (Sponsor, J.S. Takahashi), Regulation of Melatonin in Y79 Retinoblastoma Cells, 10/1/89 - 9/30/92.

*NIMH R01 MH41211-03*, Circadian Rhythms in Mammals: Role of Protein Synthesis. F.W. Turek, P.I., J.S. Takahashi and S.I. Inouye, Co-P.I. 4/1/87 - 8/31/92.

*NIH P01 HD21921-03*, Program Project Grant, Follicle Stimulating Hormone: Control and Action. N.B. Schwartz, Program Director., F. Turek, P.I., J.S. Takahashi and J. Levine, Co-P.I. Photoperiodic Control of FSH Secretion. 8/1/87 - 11/30/92.

*Higher Education Cooperation Act Grant*, Science and Technology Center in Biological Timing, F.W. Turek, P.I., J.S. Takahashi, Co-P.I. 9/1/91 - 8/31/92.



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*NIH T32 HD07068-15*, Training Grant in Reproductive Biology, Director: F.W. Turek, period of support 7/1/88 - 6/30/93. Preceptors: Goldberg, Hunzicker-Dunn, Klein, Levine, Linzer, Mayo, Schwartz, Takahashi, Turek.

*NIH T32 NS07223-10*, Training Grant in Sensory Physiology and Psychophysics, Director: A. Farbman, period of support 7/1/87 - 6/30/92. Preceptors: Dallos, Enroth-Cugell, Farbman, Ferster, Linsenmeier, Peterson, Pinto, Rosenfeld, Seagraves, Siegel, Takahashi, Troy.

*NIMH R37 MH39592-08*, Cellular Analysis of a Vertebrate Circadian Pacemaker. J.S. Takahashi, P.I. 12/1/87 - 12/31/92.

*MacArthur Foundation*, Mental Health Research Network I, Identification of Circadian Clock Mutants in the Mouse, J.S. Takahashi, P.I., F.W. Turek, Co-I., L.H. Pinto, Co-I., 6/1/92 - 5/31/93.

*NIH T32 GM08061-10*, Cellular and Molecular Basis of Disease Training Program, Director: J.D. Engel, period of support 7/1/88 - 6/30/93. Preceptors consist of 47 faculty on both the Evanston and Chicago campuses.

*NIH T32 NS07140-10*, Training Grant in Cellular and Molecular Neuroscience, Director: T. Narahashi, period of support 7/1/88 - 6/30/93. Preceptors: Dubocovich, Farbman, Klein, Lipton, MacDonald, Paterson, Silinsky, Takahashi, Ten Eick, Yeh.

*NSF DIR-8920162*, Science and Technology Center in Biological Timing, G.D. Block, P.I., University of Virginia. Consortium with Northwestern University and Rockefeller University. F.W. Turek, P.I., J.S. Takahashi, Co-P.I., of Northwestern component of consortium proposal. Period of support: 2/1/91 - 1/31/94.

*NIMH F32 MH10225-02*, NRSA Postdoctoral Fellowship, Marianna Max (Sponsor, J.S. Takahashi), Circadian Function in Immortalized Chick Pineal Cells, 6/27/92 - 6/26/94.

*NIMH F31 MH10241-02* NRSA Predoctoral Fellowship, Jon Kornhauser (Sponsor, J.S. Takahashi), Photic and Circadian Regulation of SCN Gene Expression, 9/25/92-9/24/94.

*NIH R01 EY08467-05*, Melatonin Synthesis in Retinal and Retinoblastoma Cells, J.S. Takahashi, P.I. 1/1/90 - 12/31/95.

*NIMH F30 MH10189-03*, NRSA Predoctoral M.D./Ph.D. Fellowship, Jose C. Florez (Sponsor, J.S. Takahashi), Circadian and Light-Induced Protein Expression in Cultured Chick Pineal Cells, 9/1/91 - 7/01/95.

*NIMH F31 MH10287-03*, NRSA Predoctoral Fellowship, Ken Seidenman (Sponsor, J.S. Takahashi), Neurotransmitter & Circadian Regulation of SCN *c-fos*, 6/1/92 - 5/31/95.

*NIMH F32 MH10369-02*, NRSA Postdoctoral Fellowship, R. Keith Barrett (Sponsor, J.S. Takahashi), Circadian Clock Regulation: Role of Protein Synthesis, 6/1/93 - 5/31/95.

*NIH R01 MH41211-06*, Circadian Rhythms in Mammals: Role of Protein Synthesis. F.W. Turek, P.I., J.S. Takahashi, Co-P.I. 9/1/92 - 8/31/95.

*NIH R01 MH49241-03*, Circadian Regulation of Immediate-Early Genes in SCN. J.S. Takahashi, P.I., K.E. Mayo, Co-P.I. 1/1/93 - 12/31/95.

*NIH R37 MH39592-13*, MERIT Award, Cellular Analysis of a Vertebrate Circadian Pacemaker. J.S. Takahashi, P.I. 1/1/93 - 12/31/97.

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*Bristol-Myers Squibb*, Unrestricted Grant for Neuroscience Research, J.S. Takahashi, P.I., 7/1/95 - 6/30/00.

*Air Force Office of Scientific Research*, 97NL170, Genetic Analysis of Daily Activity in Humans and Mice, J.S. Takahashi, P.I., 6/1/97 - 6/30/99.

*NIH P30 HD28048*, Center for Research on Fertility and Infertility. F.W. Turek, P.I. This is a Center Core Grant to support research in reproduction and involves ten investigators that have access to five scientific core facilities for approved NIH projects. 4/1/96 - 3/31/01.

*Army Research Office*, 38532-LS, Uncovering the Genetic Basis of Sleep: Use of *Clock* Mutant Mice. F.W. Turek, P.I., J.S. Takahashi, Co-investigator, 4/1/98 - 3/31/01.

*NIH R01 HL59598-01*, Genetic Analysis of Sleep Regulation in the Mouse. F.W. Turek, P.I., J.S. Takahashi, Co-Investigator. 9/30/97 - 9/29/01.

*NIH P01 AG11412-05*, Program Project Grant, Alterations of Circadian Timing in Aging, E. Van Cauter, University of Chicago, Program Director. Project 4: Effects of Aging on Photic Entrainment and Immediate Early Gene Expression. J.S. Takahashi, P.I., 11% effort, 12/1/97 - 11/30/01.

*NSF DIR-8920162*, Science and Technology Center in Biological Timing, G.D. Block, P.I., University of Virginia. Consortium with Northwestern University, Rockefeller University and Brandeis University. J.S. Takahashi, P.I., F.W. Turek and L.H. Pinto, Co-P.I., of Northwestern component of consortium proposal. Period of support: 2/1/97 - 1/31/02.

*NIH F30 MH12250-03*, NRSA Predoctoral M.D./Ph.D. Fellowship, Ashvin M. Sangoram (Sponsor, J.S. Takahashi), Analysis of Circadian Rhythms in *Clock* Knockout Mice, 7/1/99 - 6/30/02.

*NIH R01 MH60789*, QTL Analysis of Depressive, Stress-Hyperactive Behavior. E. Redei, P.I., J.S. Takahashi, Co-Investigator, 5% effort, 12/01/99-11/30/04.

*Sandler Program of Asthma Research*, Genome-Wide Mutagenesis to Find Genes that Regulate Airway Constrictor Responsiveness. J. Solway, U. Chicago, P.I., L.H. Pinto, P.I., and J.S. Takahashi, Co-Investigator, 5% effort, Northwestern Subcontract. 7/01/00-6/30/04.

*NIH T32 GM008061*, Cell and Molecular Basis of Disease Training Program, Director/PI: R. Holmgren, period of support 7/01/1983-6/30/2008. Preceptors consist of faculty on both the Evanston and Chicago campuses.

*NIH T32 GM008152-21*, Medical Scientist Training Program, Director: D. Engman, period of support 1/01/1987-6/30/2012. Preceptors consist of faculty on both the Evanston and Chicago campuses.

*NIH T32 EY007128-11* Multidisciplinary Visual Science Training Program, Director: V. Sarthy, period of support 2/01/1997-1/31/2010. Preceptors consist of faculty on both the Evanston and Chicago campuses.

*NIH T32 HL007909-10*, Training Grant in Sleep Research, Director: F.W. Turek, period of support 7/01/1998-6/30/2008. Preceptors: J.S. Takahashi, R. Allada, J. Bass and P. Zee.

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*NIH T32 AG020418-07, Neuroscience in the Early Years: Predoctoral Training, E. Mugnaini, PI, period of support 5/1/2001-4/30/2011. Preceptors consist of faculty on both the Evanston and Chicago campuses.*

*NIH T32 NS041234-07, General Motor Control Mechanisms and Disease Training Grant. Director: D.J. Surmeier, period of support 7/15/2001-6/30/2011. Preceptors consist of faculty on both the Evanston and Chicago campuses.*

*NIH T32 AG020506-06, Mechanisms of Aging and Dementia Training Program, Director: J. Disterhoft, period of support 5/01/2002-4/30/2012. Preceptors consist of faculty on both the Evanston and Chicago campuses.*

*NIH T32 MH067564-05, Training Program in Neurobiology of Information Storage, Director: A. Routtenberg, period of support 7/01/2003-6/30/2008. Preceptors consist of faculty on both the Evanston and Chicago campuses.*

*Zaffaroni Foundation, Consortium for Mouse Genetics of Addiction. M.G. Caron, Coordinator, Duke University. J.S. Takahashi, P.I., 10% effort. Project 1: ENU Mutagenesis: Recessive Screen for Psychostimulant Action; M.G. Caron, P.I., Duke University, Project 2: ENU Mutagenesis Modifier Screen and Analysis of Monominergic Transmission; S. Barak Caine, P.I., Harvard Medical School, Project 3: Analysis of Drug Self-Administration Behavior. 04/01/01-3/31/06.*

*F31 NS47799, NIH Ruth L. Kirschstein National Research Service Award. Reproductive Defects in the Clock Mutant Mouse. B. Miller, Predoctoral Fellow, and J.S. Takahashi, Sponsor. The award covers tuition, health insurance and stipend for school year 3/01/04-6/30/06.*

*NIH R13NS059218, 2007 Chronobiology Gordon Research Conference. J.S. Takahashi, P.I., 2/15/07-1/31/08.*

*NIH P01 AI056352, Program Project, Molecular Mechanism of Asthma. J. Solway, Univ. of Chicago, P.I., L.H. Pinto, P.I., J.S. Takahashi, Co-Investigator, Northwestern University, 0.6 calendar month effort, 3/01/03-2/28/08.*

*NIH U01 MH61915, Mouse Mutagenesis: Phenotype-Driven Neuroscience Screens. J.S. Takahashi, PI. Consortium with Eric Kandel, Columbia University, Marc Caron, Duke University, and Val Sheffield, University of Iowa. The objectives of this proposal are to create a Center focused on large-scale ENU mutagenesis screens in the mouse. Five phenotypic domains are targeted for screening: 1) circadian rhythms; 2) fear conditioning; 3) vision; 4) neuroendocrine hormones; and 5) response to psychostimulants. The center is a consortium involving investigators at Columbia University, Duke University and University of Iowa. 04/01/01-08/31/07.*

*NIH U01 MH61915, Administrative Supplement 2 Mouse Neuroscience Phenotyping and Distribution Center. J.S. Takahashi, PI, W.A. Kibbe, M.H. Vitaterna, Co-PI, Northwestern. W.N. Frankel, PI, The Jackson Laboratory, D. Goldowitz, PI, U of Tennessee Health Sciences Center. The goal of this project is to provide for the formation of the Neuromice.org consortium to facilitate distribution of the mutant mice as well as disseminate information about the different mutant lines. 04/01/02-08/31/07.*

*Rett Syndrome Research Foundation, Fellowship, Genetic Dissection of Rett Syndrome: A Screen for Modifiers of MeCP2 in the Mouse. Hee-Kyung Hong (Sponsor, J.S. Takahashi), 10/1/2007-9/30/2009.*

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*Award to Others: Takeda Pharmaceuticals of North America, Effects of Ramelteon on circadian rhythm of Suprachiasmatic Nucleus in Clock mutant mice.* K. Shimomura, P.I., M.H. Vitaterna, Co-P.I., 10/1/07-9/30/08.

*NIH R13NS065580, 2009 Chronobiology Gordon Research Conference.* J.S. Takahashi, P.I., 3/1/09-2/28/10.

*NARSAD 2008 Young Investigator Award.* Mariko Izumo (Sponsor, J.S. Takahashi), 7/1/08-6/30/10.

*Rett Syndrome Research Foundation, Regular Research Grant, Genetic Dissection of Rett Syndrome: A Screen for Modifiers of MeCP2 in the Mouse.* Hee-Kyung Hong, P.I., (J.S. Takahashi, sponsor) 10/1/2009-9/30/2011.

**TEACHING EXPERIENCE:**

- 1977            Laboratory instructor, summer course on "Biological Clocks" organized by Professor C.S. Pittendrigh, Hopkins Marine Station, Stanford University, Pacific Grove, CA
- 1980            Lecturer, summer course on "Biological Clocks" organized by Professor C.S. Pittendrigh, Hopkins Marine Station, Stanford University, Pacific Grove, CA
- 1984-1985      Course Instructor, undergraduate lecture course entitled "Behavioral Neuroscience," (412-C23), Department of Neurobiology and Physiology
- 1985-1989      Course Instructor, graduate level seminar course entitled "Advanced Behavioral Neuroscience," (412-D07), Department of Neurobiology and Physiology
- 1986            Course Instructor, undergraduate lecture course entitled "Neural Systems and Behavior," (412-C23), Department of Neurobiology and Physiology
- 1986            Course Instructor, graduate level seminar course entitled "Cellular Physiology of Circadian Rhythms," (412-D21), Department of Neurobiology and Physiology
- 1986            Lecturer, Continuing Education Daytime Course entitled "New Topics in Human Biology," Organized by Professor N.B. Schwartz.
- 1987-1989      Course Instructor, undergraduate lecture course entitled "Neural Systems and Behavior," (412-C07), Department of Neurobiology and Physiology
- 1989-1999      Course Director, graduate level lecture course entitled "Cellular and Molecular Neuroscience," (845-D05), Core curriculum course in the Institute for Neuroscience Graduate Program
- 1990-1992      Course Director, graduate level lecture course entitled "Behavioral Neuroscience," (845-D20), Core curriculum course in the Institute for Neuroscience Graduate Program
- 1990            Guest lecturer, graduate level seminar course entitled "Central Pattern Generation," (1445-D16), Department of Physiology, Northwestern University Medical School
- 1992-1999      Course Director, graduate level lecture course entitled "Neural Systems and Behavior," (845-D20), Core curriculum course in the Institute for Neuroscience Graduate Program
- 1992            Guest lecturer, graduate level lecture course entitled "Cellular Physiology," (1404-D30), Integrated Graduate Program, Northwestern University Medical School
- 1992            Lecturer, summer course in "Biological Timing," NSF Center for Biological Timing, Charlottesville, VA
- 1993            Guest Speaker on "Asian Americans in Science," undergraduate student organized seminar on "The Asian American Experience"

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- 1995                   Lecturer, short course entitled "Biochronometry Tutorial," NSF Center for Biological Timing, in conjunction with Society for Neuroscience meeting, San Diego.
- 1996                   Guest lecturer, graduate level lecture course entitled "Cell Biology," Interdepartmental Graduate Program in Biological Sciences, Northwestern University
- 1996                   Organizer, Short Course, What's Wrong with My Mouse? New Interplays Between Mouse Genetics and Behavior, Society for Neuroscience, Washington, D.C.,
- 1997-1999            Lecturer, graduate level lecture course entitled "Molecular Biology and Development," (D02), Interdepartmental Graduate Program in Biological Sciences, Northwestern University
- 1997                   Lecturer, one day course on "An Introduction to Genetics: from Genes to Populations," Department of Preventative Medicine, Northwestern University Medical School
- 1997                   Lecturer, Experimental Genetics of the Laboratory Mouse Course, Jackson Laboratory, Bar Harbor, Maine
- 1997                   Lecturer, Mouse Behavior Course, Cold Spring Harbor Laboratory, New York
- 1998                   Lecturer, Neurobiology Course, Marine Biological Laboratory, Woods Hole, MA
- 1999-2000           Lecturer, Institute for Neuroscience, Fundamentals of Neuroscience, (team taught)
- 2000                   Holiday Lectures on Science, *Clockwork Genes: Discoveries in Biological Time* (with Michael Rosbash), Howard Hughes Medical Institute, Chevy Chase, MD. Nationwide educational outreach program for high school students via satellite TV, web cast and live audience.  
See: <http://www.holidaylectures.org/>
- 2001-2007           Course Instructor, new undergraduate lecture course entitled "Functional Genomics," (Biol Sci 378), Undergraduate Program in Biological Sciences
- 2001                   Lecturer, Mouse Behavior Course, Cold Spring Harbor Laboratory, New York
- 2003                   Lecturer, 44<sup>th</sup> Annual Short Course in Medical and Experimental Mammalian Genetics, Jackson Laboratory, Bar Harbor, Maine
- 2005                   Lecturer, Molecular Embryology of the Mouse Course, Cold Spring Harbor Laboratory, New York
- 2005                   Latin American Symposium, Chronobiology Course, Buenos Aires, Argentina
- 2007                   Lecturer, Molecular Embryology of the Mouse Course, Cold Spring Harbor Laboratory, New York

## Curriculum Vitae: Joseph S. Takahashi

- 2007                   Lecturer, Workshop on Mechanisms of Arousal, Alertness & Attention, Banbury Conference Center, Cold Spring Harbor Laboratory, New York
- 2008                   Lecturer, CSHL Molecular Embryology of the Mouse 2008, Cold Spring Harbor Laboratory, New York
- 2008                   Lecturer, 49<sup>th</sup> Annual Short Course on Medical and Experimental Mammalian Genetics, Jackson Laboratory, Bar Harbor, Maine
- 2009                   Lecturer, CSHL Molecular Embryology of the Mouse 2009, Cold Spring Harbor Laboratory, New York
- 2010-present        Lecturer, Fundamentals of Neuroscience graduate core course, UT Southwestern
- 2010                   Lecturer, CSHL Molecular Embryology of the Mouse 2010, Cold Spring Harbor Laboratory, New York
- 2013                   Lecturer, CSHL Mouse Development, Stem Cells and Cancer 2013, Cold Spring Harbor Laboratory, New York

### **SERVICE AS ADVISOR:**

#### **Previous Research Associates**

Dr. Shin-Ichi T. Inouye, Visiting Scholar/Senior Research Associate (August 1985-December 1985). Present position: Professor, Department of Biology and Chemistry, Yamaguchi University, Yoshida, Yamaguchi 753-8512, Japan.

Dr. Barbara L. Pratt, Postdoctoral Fellow (July 1985-August 1988). Recipient of an individual NRSA Postdoctoral Fellowship (*NIMH F32 MH09466*). Subsequent position: Assistant Professor, Department of Biology, Allegheny College, Pennsylvania. Present position: Coordinator of Instruction and Advertisement, Community College of Vermont.

Dr. Marilyn J. Duncan, Postdoctoral Fellow (October 1985-August 1988). Jointly advised with Dr. M. Dubocovich. Recipient of an individual NRSA Postdoctoral Fellowship (*NIH F32 NS07909*). Present position: Professor, Department of Anatomy and Neurobiology, University of Kentucky Medical School, Lexington, KY.

Dr. Noboru Murakami, Visiting Scholar/Senior Research Associate (June 1987-May 1989). Present position: Associate Professor, Department of Veterinary Physiology, Miyazaki University, Miyazaki City, Japan.

Dr. Ken Ohi, Visiting Scholar/Senior Research Associate (May 1989-March 1992). Present position: Associate Professor, Department of Psychiatry, Shiga University Medical School, Shiga, Japan.

Dr. Mary E. Pierce, Research Associate (December 1987-June 1992). Recipient of an individual NRSA postdoctoral fellowship (*NIH F32 EY06167*). Subsequent position:

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Assistant Professor, Department of Physiology, SUNY Health Sciences Center, Syracuse, NY.

Dr. Hooshmand Sheshberadaran, Research Associate (November 1989-July 1992). Studied the regulation of opsin gene expression in chick retinal and pineal cells. Present position: Clinical Research Associate, Pharmacia Sverige AB, Medical Department, SE-112 87 Stockholm, Sweden.

Dr. Marianna Max, Postdoctoral Fellow (June 1991-June 1995). Cloning and expression of photoreceptor visual pigments and G proteins in the avian pineal. Recipient of a NRSA Postdoctoral Fellowship (*NIMH F32 MH10225*). Present position: Associate Professor, Department of Neuroscience, Mount Sinai School of Medicine, New York, NY.

Dr. Sandra Gilbert, Associate, Howard Hughes Medical Institute (Nov 1999-Aug 2000). Genetic analysis of behavior in mice. Present position: Research Associate, Department of Human Genetics, with Dr. Bruce Lahn, University of Chicago.

Dr. R. Keith Barrett, Postdoctoral Fellow (June 1992-Jan 2001). Genetics of circadian rhythms in zebrafish. Recipient of a NRSA Postdoctoral Fellowship (*NIMH F32 MH10369*). Self employed.

Dr. Marina Antoch, Research Associate (September 1994-July 1999). Research Specialist, Howard Hughes Medical Institute (August 1999-May 2001). Physical mapping of the *Clock* region in mice, and BAC expression and mutant rescue in transgenic mice. Current position: Associate Member, Department of Molecular and Cellular Biology, Roswell Park Cancer Institute, Buffalo, New York.

Dr. David King, Postdoctoral Fellow (February 1999-November 2000). Associate, Howard Hughes Medical Institute (December 2000-October 2001). Genetic and molecular analysis of circadian rhythms in the mouse. Current position: Principal Scientist, Pharmacogenomics, Translational and Molecular Medicine, Pfizer Global R&D, Groton, CT.

Dr. Phillip L. Lowrey, Postdoctoral Fellow, CCBM, Northwestern, (December 2000-May 2001) Associate, Howard Hughes Medical Institute (June 2001-present). Functional characterization of the role of casein kinase I epsilon in the mammalian circadian system. Current position: Associate Professor, Department of Biology, Rider University, Lawrenceville, NJ.

Dr. Sharon Low, Postdoctoral Fellow, (July 2001-August 2002), Visiting Scientist and proprietor of MusWorks, as recipient of NIH SBIR (Small Business Innovation Research) grant. (September 2002-) Chimera analysis of the mouse circadian mutation, *Clock*.

Dr. Erin McDearmon Blondell (Ph.D. with James Ervasti, Univ. of Wisconsin, Madison), Associate, Howard Hughes Medical Institute (2001-2007). Conditional regulation of *Bmal1* in central and peripheral circadian tissues. Current position: Senior Publications Manager, Global Medical Affairs, Global Pharmaceutical Research and Development Division, Abbott Laboratories, North Chicago, IL.



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Dr. Martha Hotz Vitaterna, Sr. Research Associate (June 1992-Nov. 2001). Isolation and genetic analysis of circadian clock mutants in the mouse. Research Assistant Professor, Center for Functional Genomics, Northwestern (2001-2006). Current position: Executive Director, Center for Sleep and Circadian Biology, Northwestern.

Dr. Kazuhiro Shimomura, Research Associate (1994-1998 and 2000) Associate, Howard Hughes Medical Institute (September 1998-July 2000). Research Assistant Professor, Center for Functional Genomics (2001-2009). Quantitative trait loci (QTL) analysis of circadian rhythms in mice. Current position: Senior Scientist, Amano Enzyme U.S.A. Co., Ltd., Elgin, IL.

Dr. Carrie Partch, Associate, HHMI, Department of Neuroscience, UT Southwestern Medical Center (October 2010-August 2011). Current position: Assistant Professor, Department of Chemistry, University of California, Santa Cruz, CA.

Dr. Hee-Kyung Hong (Ph.D. with Aravinda Chakravarti, Case Western), Associate, Howard Hughes Medical Institute (2000-2005). Senior Research Scientist, Center for Functional Genomics (2005-2009). Recipient of Rett Syndrome Research Foundation, Fellowship and Regular Research Grant. Positional cloning of hydrocephaly mutants. Conditional expression and analyses of *Clock* in the mammalian circadian system. ENU screening and positional cloning of novel neurological mutants in mouse. Current position: Research Assistant Professor, Department of Medicine, Feinberg School of Medicine, Northwestern University, Chicago. IL (2009-present).

Dr. Sandra Siepka, Associate, Howard Hughes Medical Institute (March 1998-June 2002). Research Associate, Center for Functional Genomics (July 2002-2009). Research Assistant Professor, Department of Neurobiology & Physiology, Northwestern University (April 2009-2013). ENU mutagenesis screening of circadian clock mutants.

Dr. Nobuya Koike (Ph.D. with Yoshiyuki Sakaki, University of Tokyo), Senior Research Associate, Department of Neuroscience, UT Southwestern Medical Center (2009-2013). Cistromic and transcriptomic analysis of circadian gene expression in mouse. Current position: Assistant Professor (tenure-track), Department of Physiology and Systems Bioscience. Kyoto Prefectural University of Medicine, Kyoto, Japan.

Dr. Seung Hee Yoo (Ph.D. in my lab, 1999-2003, Visiting Graduate Student, Korea Advanced Institute of Sciences and Technology), Postdoctoral Fellow (February 2006–2009), Center for Functional Genomics. Associate, Howard Hughes Medical Institute (2007-2009). Instructor, Department of Neuroscience, UT Southwestern (2009-2013). Biochemistry and genetics of circadian clock proteins. Current position: Assistant Professor, Department of Biochemistry and Molecular Biology, UT Health Science Center at Houston, Houston, TX

### Current Research Associates

Dr. Vivek Kumar (Ph.D. with M. Geof Rosenfeld, UCSD), Postdoctoral Fellow, Center for Functional Genomics (2004-2006, Supported by NIH grant to J.S.T.). Associate, Howard Hughes Medical Institute (October 2006-2009). Research Fellow II (2009-2011), Instructor

(2011-present), Department of Neuroscience, UT Southwestern Medical Center. Recipient of a NRSA Postdoctoral Fellowship (*F32 DA024556*). Forward genetic ENU screening and positional cloning of mouse mutants in response to psychostimulants.

Dr. Marleen de Groot (Ph.D. with Benjamin Rusak, Dalhousie), Postdoctoral Fellow, Center for Functional Genomics, (2004-2006, Supported by NIH grant to J.S.T.). Associate, Howard Hughes Medical Institute (2006-2011). Research Specialist, Howard Hughes Medical Institute (2011-2013). Genetic analysis of a circadian entrainment mutant in California mice (*Peromyscus californicus*). ENU screening and positional cloning of body weight and obesity mutants in mouse.

Dr. Mariko Izumo, (Ph.D. with Carl Johnson at Vanderbilt), Postdoctoral Fellow, Center for Functional Genomics (2006-2009). Research Fellow II, Department of Neuroscience, UT Southwestern Medical Center (April 2009-present). Recipient of a NARSAD 2008 Young Investigator Award. Molecular genetic analysis of CREB signaling mechanisms in the mammalian circadian clock.

Dr. Shuzhang Yang, (Ph.D. with Masaaki Yoshikawa at Kyoto University), Research Specialist, Howard Hughes Medical Institute (2008-2009), HHMI, Department of Neuroscience, UT Southwestern Medical Center (April 2009-present). Mechanisms of temperature entrainment.

Dr. Guocun Huang, (Ph.D. with Jing-San Sun at Institute of Botany, Chinese Academy of Sciences), Instructor, Department of Neuroscience, UT Southwestern Medical Center (July 2009-present). NAD biosensor development.

Dr. Yongli Shan, (Ph.D. with Xueliang Zhu at Shanghai Institute of Biochemistry and Cell Biology), Research Fellow II, Department of Neuroscience, UT Southwestern Medical Center (August 2009-present). Real-time bioluminescence and fluorescence circadian reporters.

Dr. Yan Li, (Ph.D. with Xueliang Zhu at Shanghai Institute of Biochemistry and Cell Biology), Research Fellow II, Department of Neuroscience, UT Southwestern Medical Center (October 2009-present). Analysis of single-cell period variation in fibroblasts, neurons and ES cells.

Dr. Junmei Fan, (Ph.D. with Tao Xu at Institute of Biophysics, Chinese Academy of Sciences), Senior Research Associate, Department of Neuroscience, UT Southwestern Medical Center (December 2009-present). Electrophysiological analysis of GABA neurotransmission in the SCN.

Dr. Jennifer Mohawk, (Ph.D. with Theresa Lee at University of Michigan), Associate (September 2010-2013), Research Specialist (2013-present) HHMI, Department of Neuroscience, UT Southwestern Medical Center. Role of MEF2 in mouse circadian rhythms, and circadian regulation of gene expression in the brain.

Dr. Lucia Pagani, (Ph.D. with Anne Eckert at University Basel), Postdoctoral Fellow, Department of Neuroscience, UT Southwestern Medical Center (October 2011-present).

Recipient of a Swiss National Foundation Fellowship. Circadian rhythms in bipolar I depression using actigraphy and cell-based fibroblasts assays for circadian rhythms.

Dr. Pin Xu, (Ph.D. with Alison K. Hall at Case Western Reserve University), Senior Research Associate, Department of Neuroscience, UT Southwestern Medical Center (August 2012-present). Forward genetic analysis and cloning of fear conditioning mutants in mouse.

Dr. Noheon Park, (Ph.D. with Kyungjin Kim at Seoul National University), Postdoctoral Fellow, Department of Neuroscience, UT Southwestern Medical Center (June 2013-present). Genome-wide circadian regulation of RNA polymerase II.

Dr. Victoria Acosta, Postdoctoral Fellow, Department of Neuroscience, UT Southwestern Medical Center (October 2013-present).

### Previous Graduate Students

Dwight E. Nelson (1983-1989). Ph.D. Neurobiology and Physiology, December 1989. Thesis title: Photic sensitivity of the circadian pacemaker and the visual pathway that subserves it in the golden hamster. Present position: Principal Scientist, Medtronic Neuromodulation Research, Minneapolis, MN.

Linda M. Robertson (1984-1990). Ph.D. Neurobiology and Physiology, October 1990. Thesis title: The avian pineal: Characterization of a cellular circadian system. Recipient of a NRSA Predoctoral Fellowship (*NIMH F31 MH09465*). Corporate Liaison, Merck Inc.

Selene S. Nikaido (1985-1990). Ph.D. Institute for Neuroscience, September 1990. Thesis title: Second messenger regulation of circadian melatonin production in chick pineal cells. Recipient of a NRSA Predoctoral Fellowship (*NIMH F31 MH09572*). Research Assistant Professor, University of Missouri.

Jina L. Janavs, M.D./Ph.D. Student (1988-1992). Ph.D. Neurobiology and Physiology, June 1992. M.D. June 1994. Thesis topic: The role of protein and RNA synthesis in the regulation of melatonin production by Y79 human retinoblastoma cells. Recipient of a NRSA Predoctoral Fellowship (*NIMH F31 MH09929*). Subsequent position: Resident, Department of Medicine, University of California, San Francisco, CA.

Jon M. Kornhauser (1989-1995). Ph.D. Institute for Neuroscience, August 1995. Jointly advised with Kelly Mayo. Thesis topic: Regulation of immediate early gene expression by light and by circadian oscillators in the suprachiasmatic nucleus. Recipient of a NRSA Predoctoral Fellowship (*NIMH F31 MH10241*). Present position: Scientific Editor, Cell Signaling Technology, Beverly, MA.

Jose C. Florez, M.D./Ph.D. Student (1990-1995). Ph.D. Institute for Neuroscience, July 1995. M.D. June 1997. Role of protein synthesis in circadian melatonin regulation in chick pineal cells. Recipient of a NRSA M.D./Ph.D. Fellowship (*NIMH F30 MH10189*). Current position: Associate Professor, Center for Human Genetic Research and the Department of

Curriculum Vitae: Joseph S. Takahashi

Medicine, Diabetes Unit in the Simches Research Center at Massachusetts General Hospital, Boston, MA.

Jonathan P. Wisor, Visiting Predoctoral Fellow, Neuroscience Program, UCLA (1993-1997). Ph.D. April 1997. Regulation of *vgf* gene expression in the suprachiasmatic nucleus. Current position: Associate Professor, Department of Veterinary Comparative Anatomy, Pharmacology and Physiology, Washington State University. Spokane, WA.

Kenneth J. Seidenman (1991-1998). Ph.D., Institute for Neuroscience, September 1998. Cloning of a Putative Chicken Clock Ortholog and Alteration of a Circadian Rhythm, In Vitro, by Overexpression of a CLOCK paralog, NPAS2 Recipient of a NRSA Predoctoral Fellowship (NIMH F31 MH10287). Current position: Patent Agent, Wilson, Sonsini, Goodrich & Rosati, San Diego, CA.

David P. King, (1993-1999). Ph.D., Institute for Neuroscience, February 1999. Positional Cloning of the Mouse Circadian *Clock* Gene: Genetic Mapping, Physical Mapping and Molecular Identification of a Mutant Allele. Current position: Principal Scientist, Pfizer, Inc., Groton, CT.

Ashvin M. Sangoram, (1995-2000). M.D./Ph.D. Institute for Neuroscience, April 2000. Molecular Foundations of Biological Clocks: Mammalian Circadian Autoregulatory Feedback Network and Analysis of the *Timeless* Gene. Recipient of a NRSA M.D./Ph.D. Fellowship (NIMH F30 MH12250). Current position: Neonatal Fellow (in Matt Scott's laboratory), Lucile Packard Children's Hospital, Stanford School of Medicine, Palo Alto, CA.

Yaliang Zhao, (1994-2000). Ph.D. Institute for Neuroscience, December 2000. The Role of Calcium/Calmodulin-dependent Protein Kinase II in Regulation of Circadian Rhythms in Mice. Current position: Research Scientist, Wyeth, Andover, MA.

Phillip L. Lowrey, (1992-2000). Ph.D. Institute for Neuroscience, December 2000. Genetic Mapping, Positional Syntenic Cloning and Functional Characterization of the Mammalian Circadian System Mutation *tau*. Current position: Associate Professor, Department of Biology, Rider University, Lawrenceville, NJ.

Sharon S. Low-Zeddies (and Sharon S. Low), (1994-2001). Ph.D. Institute for Neuroscience, June 2001. Chimera Analysis of the Effects of the *Clock* mutation on Circadian Behavior in Mice. Current position: Scientific Review Officer, Emerging Technologies and Training in Neuroscience IRG, Center for Scientific Review, National Institutes of Health, Bethesda, MD.

Lisa D. Wilsbacher, (1995-2001) M.D./Ph.D., Institute for Neuroscience June 2001. Role of *Bmall* in the Mouse Circadian System. Current position: Assistant Adjunct Professor, Department of Medicine, UCSF School of Medicine, San Francisco, CA.

Nasim Ahmadiyah (2000-2003) M.D./Ph.D. Student, Institute for Neuroscience, June 2003. Jointly advised with Eva Redei. Supported by MSTP program, NIH grants to E.R. and J.S.T. and HHMI funds. Identify genetic loci responsible for differences in stress reactivity and

coping styles in rats and create congenic strains of these loci. Subsequent positions: Resident, Surgery, Brigham and Women's Hospital, Boston, MA; and, Research Fellow, Dana Farber Cancer Institute, Boston, MA. Current position: Clinical Instructor Health Sciences, Department of Surgery, UCSF School of Medicine, San Francisco, CA.

Anne-Marie Chang (1996-2003) Ph.D., Institute for Neuroscience June 2003. Supported by University Fellowship, Teaching Assistantship, NIH Training Grant, NIH grant and HHMI funds to J.S.T. Phenotypic characterization and genetic analysis of human circadian rhythm sleep disorders. Postdoctoral fellow with Dr. Charles Czeisler, Brigham and Women's Hospital, Boston, MA. Current position: Instructor in Medicine, Brigham and Women's Hospital, Division of Sleep Medicine, Boston, MA. Position in Fall 2013: Assistant Professor (tenure-track), BioBehavioral Health Department, Penn State University, University Park, PA.

Seung-Hee Yoo, (1999-2003). Visiting Graduate Student, BMRC scholarship, Department of Biological Sciences, KAIST (Korea Advanced Institute of Sciences and Technology), 373-1 Kusong-dong, Yusong-gu, Taejon 305-701 Korea. Graduated December 2003. Current position: Assistant Professor, Department of Biochemistry and Molecular Biology, UT Health Science Center at Houston, Houston, TX

Brooke H. Miller (2001-2005) Ph.D., Institute for Neuroscience June 2005. Recipient of an NSF Graduate Fellowship and an NRSA Predoctoral Fellowship (*F31 NS47799*). Also supported by HHMI funds to J.S.T. Reproductive defects in *Clock* mutants; regulation of SCN gene expression patterns. Postdoctoral fellow with Mat Pletcher, Scripps Research Institute Florida. Current position: Assistant Professor (tenure-track), Departments of Psychiatry and Medicine, McKnight Brain Institute, University of Florida College of Medicine, Gainesville, FL.

Ethan D. Buhr (2000-2008), Ph.D., Institute for Neuroscience June 2008. Supported by University Fellowship, Teaching Assistantship, NIH Training Grant, NIH grants and HHMI funds to J.S.T. Temperature entrainment of central vs. peripheral circadian oscillators in the mouse. Current position: Postdoctoral Fellow with Russell Van Gelder, Department of Ophthalmology, University of Washington, Seattle, WA.

Jason Chong (2001-2009), Ph.D., Interdepartmental Biological Sciences Program (IBIS) June 2009. Supported by University Fellowship, Teaching Assistantship, NIH Training Grant, NIH grants and HHMI funds to J.S.T. Analysis of *Clock* null mutations and tissue-specific and conditional expression and rescue of the *Clock* locus in mice. Current position: Postdoctoral Fellow with Thomas E. Wellems, Laboratory of Malaria and Vector Research, NIAID, NIH, Bethesda, MD.

Caroline H. Ko (2001-2009), Visiting Graduate Student, Ph.D. June 2009, Department of Psychology, University of Toronto, Canada. Supported by NIH grants to J.S.T. and HHMI funds. Differential effects of circadian mutations on central vs. peripheral circadian oscillators in mouse. Current position: Postdoctoral Fellow with Chad Mirkin, Department of Chemistry, International Institute of Nanotechnology, Northwestern University, Evanston, IL.

## Curriculum Vitae: Joseph S. Takahashi

Martina Pejchal (2003-2009), M.D./Ph.D. Student, Ph.D., Institute for Neuroscience June 2010. Supported by MSTP program, NIH grants to J.S.T. and HHMI funds. Recipient of a NRSA M.D./Ph.D. Fellowship (*F30 NS056551*). Tissue-specific regulation of *Bmal1* and circadian rhythms in mouse. Current position: Resident, Feinberg School of Medicine, Northwestern University, Chicago. IL.

Aaron Schirmer (2004-2009), Ph.D., Institute for Neuroscience March 2009. Supported by University Fellowship, Teaching Assistantship, NIH Training Grant, NIH grants and HHMI funds to J.S.T. Conditional regulation of the *Cry* and *Per* genes and their effects on circadian behavior. Current position: Assistant Professor (tenure-track), Department of Biology, Northeastern Illinois University, Chicago, IL.

Ivan Lee (2009-2013), MSTP-M.D./Ph.D. Student, Integrative Biology Program, Department of Neuroscience, UT Southwestern Medical Center. Jointly advised with Masashi Yanagisawa. Ph.D. August 2013. Supported by MSTP program, grants to J.S.T. and M.Y. Cellular basis of behavioral circadian rhythms in mammals- the role of Neuromedin S (NMS)-ergic neurons in the suprachiasmatic nuclei. Current position: Medical Student, UT Southwestern Medical School.

### Current Graduate Students

Filipa Ferreira (2012-present), Visiting Ph.D. Student, Graduate Program in Areas of Basic and Applied Biology (GABBA), University of Porto (<http://gabba.up.pt/>). Supported by the GABBA program. Jointly advised with Luisa Figueiredo, Instituto de Medicina Molecular, Lisbon, Portugal (<http://www.imm.fm.ul.pt/web/imm/parasitemoleculargenetics>). Thesis title: How does *Trypanosoma brucei* disrupt host circadian rhythm?

### Visiting Scholars

Dr. Michikazu Samejima, Visiting Scientist (July 1989-August 1989). Home Institution: Department of Physiology, Hamamatsu University School of Medicine.

Dr. Robert Barlow, Jr., Visiting Scholar in Residence in Neurobiology & Physiology (October 1989- November 1989). Home Institution: Institute for Sensory Research, Syracuse University, New York.

Dr. William Gern, Visiting Scientist (sabbatical) (January 1990-May 1990). Home Institution: Department of Zoology, University of Wyoming.

Dr. Minoru Tanaka, Visiting Scientist (December 1996-December 1997). Home Institution: Institute for Basic Biology, Okazaki 444, Japan.

Dr. Tadashi Furukawa, Visiting Scientist (September 2001-August 2002). Home Institution: Medicinal Safety Research Laboratories, Sankyo Co., Ltd. Japan.

Dr. Karyn Esser, Visiting Scientist (September 2002-June 2003). Home Institution: University of Kentucky, Lexington, KY.

### Current Staff

Iza Kornblum, Laboratory Manager II, HHMI, UTSW  
Chryshanthi Joseph, Research Assistant II, UTSW  
Kyung In Kim, Research Associate, UTSW  
Lisa Thomas, Animal Care Coordinator, UTSW  
Yoga Chelliah, Research Specialist III, HHMI, UTSW  
Hung-Chung Huang, Ph.D., Bioinformatician, UTSW  
Delali Bassowou, Research Associate, UTSW

### Independent Study - Graduate Students

Barbara Liepe	412-D99	1984
Dwight Nelson	412-D99, E90	1984, 1985, 1986
Linda Robertson	412-D99, E90	1984, 1985, 1986
Selene Nikaido	860-D99, E90	1985, 1986, 1987
Mimi Montgomery	412-D99	1985 (Su)
Julie A. Watson	860-D99	1985 (F)
Jina Janavs	412-D99, E90	1988, 1989
Angela Bauer	860-D99	1988 (F)
Jon Kornhauser	860-D99	1989 (W, S)
Laure Haak	412-D99, E90	1989 (F), 1990, 1991 (W, S)
Zhe Zhang	412-E90	1990 (W, F), 1991 (W, S)
Andrew Wolfe	845-D99	1990 (F)
Ken Seidenman	845-D99, E90	1991 (W, S)
Phil Lowrey	845-D99, E90	1992 (S, Su, F), 1993 (W)
Nicole Singh	412-D99	1992 (F), 1993 (W, S)
James Lin	412-D99	1992 (F), 1993 (W, S)
Linda Lundin	845-D99	1993 (W)
John Hogenesch	845-D99	1993 (W)
Chi Zhang	845-D99	1993 (S)
Sharon Low	845-D99	1993 (F), 1994, 1995
David King	845-D99	1993 (F), 1994, 1995
Yaliang Zhao	845-D99	1994, 1995
Thomas Steeves	845-D99	1995 (Su), 1995 (F), 1996
Lisa Wilsbacher	845-D99	1995 (F), 1996, 1997
Ashvin Sangoram	845-D99	1995 (F), 1996, 1997
Anne-Marie Chang	845-D99	1996, 1997
Ethan Fruechte	845-D99	1998, 1999
Nathan Staff	845-D99	1999
Brian Macias	0815-D99	2000
Nicole Lapointe	845-D99	2001
Ethan Buhr	845-D99 NUIN 590	2001, 2003, 2004
Brooke Miller	845 D99 NUIN 590	2001, 2003, 2004
Jason Chong	845 D99 IBIS 590	2001, 2003, 2004

## Curriculum Vitae: Joseph S. Takahashi

Tina Pejchal	NUIN 590	2003, 2004
Aaron Schirmer	NUIN 590	2004, 2005
Saul Arellano	IBiS	2005
Ivan Lee	UTSWMC	2009
Nathaniel Schaffer	UTSWMC	2009
Jiaxi Wu	UTSWMC	2011
Clinton Taylor	UTSWMC	2011
Hunkar Gizem Yesilyurt	UTSWMC	2011

### Dissertation/Qualifying Exam Committee

Charles Bruehl	1983	Neuroscience Program
Keith Anderson	1983	Neurobiology and Physiology
Karen Lankford	1984	Neurobiology and Physiology
Richard Smith	1985	Neurobiology and Physiology
Dwight Nelson	1985	Neurobiology and Physiology
Julie A. Watson	1985	Neuroscience Program
Charles Yancy	1986	Neuroscience Program
Linda M. Robertson	1986	Neurobiology and Physiology, Chairman
Selene S. Nikaido	1987	Neuroscience Program, Chairman
Martha Hotz	1988	Neurobiology and Physiology
Jina Janavs	1989	Neurobiology and Physiology, Chairman
Carmen Wickland	1989	Neuroscience Program
Barbara Dau	1989	Neurobiology and Physiology
Howard Martin	1989	Institute for Neuroscience
Zhe Zhang	1990	Biochemistry, Cell Biology and Molecular Biology
Alfred Lord	1990	Neurobiology and Physiology
Renee Sanger Redman	1990	Cell, Molecular and Structural Biology
Jon Kornhauser	1990	Institute for Neuroscience, Chairman
Fe Abogadie	1990	Institute for Neuroscience
Peter J. Meberg	1990	Psychology
Jose Florez	1991	Institute for Neuroscience
Laure Haak	1991	Neurobiology and Physiology
Ken Seidenman	1991	Institute for Neuroscience
Cheryl Chamberlain	1992	Institute for Neuroscience
Yan Zhang	1993	Institute for Neuroscience
Plamen Penev	1993	Institute for Neuroscience
Philip Lowrey	1993	Institute for Neuroscience
Steven Bodovitz	1994	Institute for Neuroscience
Jonathan Wisor	1994	Neuroscience Program, U.C.L.A.
Sharon Low	1995	Institute for Neuroscience
Yaliang Zhao	1995	Institute for Neuroscience
Jordan Shavit	1996	Interdepartmental Program in Biological Sciences
Orfeu Buxton	1997	Institute for Neuroscience
David King	1997	Institute for Neuroscience
Y. Zhou	1997	Institute for Neuroscience
Sharon Low-Zeddies	1997	Institute for Neuroscience
Lisa Wilsbacher	1997	Institute for Neuroscience
Thomas Steeves	1997	Institute for Neuroscience
Ashvin Sangoram	1998	Institute for Neuroscience
Yaliang Zhao	1998	Institute for Neuroscience
Leah Solberg	1998	Institute for Neuroscience
Anne-Marie Chang	1998	Institute for Neuroscience
Dan Kolker	1998	Institute for Neuroscience
Stephanie Pangas	2000	Interdepartmental Program in Biological Sciences
Nasim Ahmadiyeh	2000	Institute for Neuroscience



## Curriculum Vitae: Joseph S. Takahashi

Jason Chong	2003	Interdepartmental Program in Biological Sciences
Brooke Miller	2003	Institute for Neuroscience
Ethan Buhr	2003	Institute for Neuroscience
Aaron Schirmer	2005	Institute for Neuroscience
Tina Pejchal	2005	Institute for Neuroscience
Billie Macheva	2007	Interdepartmental Biological Sciences Program
Debbie Fenner	2007	Interdepartmental Biological Sciences Program
Stan Atkin	2009	UT Southwestern, Mangelsdorf and Klierer
Victor Salinas	2010	UT Southwestern, Ranganathan
Jeremy J. Stubblefield	2010	UT Southwestern, Green
Makito Sato	2011	UT Southwestern, Yanagisawa
Chris Javadi	2011	UT Southwestern, Elmquist
Alexander Chang	2010	Integrated Biology, UT Southwestern, Yanagisawa
Ivan Lee	2011	Integrated Biology Program, UT Southwestern
Clark Rosensweig	2012	UT Southwestern, Green
Yasemin Onder	2013	UT Southwestern, Green
Miles Fontenot	2013	UT Southwestern, Konopka

### Master's Degree Final Exam Committee

Philip M. Majewski	1986	M.S., Neurobiology and Physiology, F. Turek
Fwu-Shan Sheu	1988	M.S., Psychology, A. Routtenberg
Peggy Polombi	1989	M.S., Neuroscience Program,
Celestine Smythe	1994	M.S., Neurobiology and Physiology, T. Siddique
Nicole Singh	1996	M.S., Neurobiology and Physiology, J. Takahashi
James Lin	1996	M.S., Neurobiology and Physiology, J. Takahashi
Thomas Steeves	1998	M.S., Neurobiology and Physiology, J. Takahashi
Ethan Fruechte	1999	M.S. Neurobiology and Physiology, J. Takahashi
Brian Macias	2001	M.S. Biotechnology Program, J. Takahashi

### Dissertation Final Exam Committee

David J. Earnest	1984	Ph.D., Neurobiology and Physiology, F. Turek
Jennifer Swann	1985	Ph.D., Neurobiology and Physiology, F. Turek
Kay L. Jorgenson	1985	Ph.D., Neuroscience Program, N. Schwartz
Charles L. Bruehl	1985	Ph.D., Neuroscience Program, R. Berry
Jill J. Millette	1986	Ph.D., Neurobiology and Physiology, F. Turek
Keith D. Anderson	1986	Ph.D., Neurobiology and Physiology, F. Turek
Richard Smith	1989	Ph.D., Neurobiology and Physiology, F. Turek
Dwight E. Nelson	1989	Ph.D., Neurobiology and Physiology, J. Takahashi
Linda Robertson	1990	Ph.D., Neurobiology and Physiology, J. Takahashi
Selene Nikaido	1990	Ph.D., Institute for Neuroscience, J. Takahashi
Renee S. Redman	1991	Ph.D., Cell, Molecular, Structural Biology, R. Berry
Jina Janavs	1992	Ph.D., Neurobiology and Physiology, J. Takahashi
Martha Hotz Vitaterna	1992	Ph.D., Neurobiology and Physiology, F. Turek
Carmen Wickland	1992	Ph.D., Neurobiology and Physiology, F. Turek
Peter Meberg	1993	Ph.D., Psychology, A. Routtenberg
Leslie Besecke	1994	Ph.D., Institute for Neuroscience, J. Levine
Jose Florez	1995	Ph.D., Institute for Neuroscience, J. Takahashi
Plamen Penev	1995	Ph.D., Institute for Neuroscience, F. Turek
Yan Zhang	1995	Ph.D., Institute for Neuroscience, F. Turek
Jon Kornhauser	1995	Ph.D., Institute for Neuroscience, J. Takahashi
Jonathan Wisor	1997	Ph.D., Neuroscience Program, U.C.L.A.
Jordan Shavit	1998	MSTP, M.D./Ph.D. Program, D. Engel
Ken Seidenman	1998	Institute for Neuroscience, J. Takahashi
David King	1998	Institute for Neuroscience, J. Takahashi

Curriculum Vitae: Joseph S. Takahashi

Orfeu Buxton	1999	Institute for Neuroscience, F. Turek
Yinghui Zhou	2000	Institute for Neuroscience, D. Engel
Erik Naylor	2000	Institute for Neuroscience, F. Turek
Ashvin Sangoram	2000	Institute for Neuroscience, J.S. Takahashi
Philip Lowrey	2000	Institute for Neuroscience, J.S. Takahashi
Yaliang Zhao	2000	Institute for Neuroscience, J.S. Takahashi
Sharon Low-Zeddies	2001	Institute for Neuroscience, J.S. Takahashi
Lisa Wilsbacher	2001	Institute for Neuroscience, J.S. Takahashi
Dan Kolker	2001	Institute for Neuroscience, F. Turek
Stephanie Pangas	2001	IBiS, T. Woodruff
Nasim Ahmadiyeh	2003	Institute for Neuroscience, J.S. Takahashi
Anne Marie Chang	2003	Institute for Neuroscience, J.S. Takahashi
Brooke Miller	2005	Institute for Neuroscience, J.S. Takahashi
Ethan Buhr	2008	Institute for Neuroscience, J.S. Takahashi
Jason Chong	2008	IBiS, J.S. Takahashi
Aaron Schirmer	2009	Institute for Neuroscience, J.S. Takahashi
Caroline H. Ko	2009	University of Toronto
Tina Pejchal	2010	Institute for Neuroscience, J.S. Takahashi
Alexander Chang	2010	Integrated Biology, UT Southwestern, Yanagisawa
Stan Atkin	2012	M.D./Ph.D. Program, UT Southwestern
Ivan Lee	2013	Integrated Biology Program, UT Southwestern
Makito Sato	2013	Integrated Biology, UT Southwestern, Yanagisawa

**Independent Study - Undergraduate Students**

Barbara Harris	ISP-C98	1989 (S)
John-Marc Chandonia	ISP-C98	1989 (F)
Kim Klausner	412-C99	1989 (F)
Elizabeth Ennis	ISP-C98	1990 (W)
Ashvin Sangoram	ISP-C98, 412-D99	1992 (F), 1993 (W, S)
Patricia Lee	412-C99	1992 (F), 1993 (W, S, F), 1994 (S)
Peter Zemenides	C99	1998, 1999, 2000
Jenny Wu	C99	1999
Evan Ransom	C99	2000
Sheraz Uddin	C99	2001 (W)
David Chih-dah Hsu	C99	2002 (W), 2003
Mark Richards	C99	2003, 2004 (W)
Kush Patel	ISP 398	2003 (W)
Anna Volerman	C99	2004 (W)
Seraz Uddin	Undergraduate Research, Biological Sciences	
David Chih-dah Hsu	Undergraduate Research, Biological Sciences	
Marc Richards	Undergraduate Research, Biological Sciences	
Joseph Konopka	Undergraduate Research, WCAS	
Rajeev Mannem	Undergraduate Research, WCAS	
Elaine Tsao	Northwestern, School of Music	
Katharine Lum	Undergraduate Research, WCAS (Honors)	
Kush Patel	Undergraduate, Integrated Science Program (Honors 2005)	
Vinfield Ta	Undergraduate Research, WCAS (Highest Honors 2007)	
Jennifer Mie Kasanuki	Undergraduate Research, Biological Sciences	
Yinin Hu	Undergraduate Research, Biological Sciences	
Tiffany Li Wen Ching,	Undergraduate Research, WCAS	
Peter Selim Hanna	Undergraduate Research, WCAS	
Samuel Sang Lee	Undergraduate Research, WCAS	
Vinfield Xuan Ta	Undergraduate Research, WCAS	

Curriculum Vitae: Joseph S. Takahashi

**Great Lakes Cluster Pew Science Undergraduate Research Fellow Program**

John-Marc Chandonia	1989	Computer Modeling
Tracy Thibert	1990	Molecular Neurobiology

**IBM-Integrated Science Program Summer Research Program for Women**

Elizabeth Ennis	1990	Melatonin in Retinoblastoma Cells
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**Cellular and Molecular Neuroscience Medical Student Summer Training (NIH)**

Richard Munson	1989	Protein Phosphorylation
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**NSF Center - Undergraduate Summer Research Fellow**

Ashvin Sangoram	1992	Molecular Neurobiology
Michael Szurek	1993	RAPD genetic markers in hamsters
Djerrick Tan	1994	Contextual fear conditioning in mice

**Minority Undergraduate Summer Research Program**

Charnita Ziegler	1991	Hamster Circadian Rhythms
Lashina Lewis	1992	Molecular Neurobiology

**Minority High School Student Research Apprentice Program (NIH)**

Kurt H. Huang	1988	Computer Modeling
Victoria Wang	1990, 1991	Molecular Neurobiology
Chaffee Tran	1992	Screening Mouse Mutants

**Howard Hughes Medical Institute Summer Research Students**

Peter Zemenides	1998	Genetic mapping and QTL analysis
Rachel Gianfortune (MIT)	1999	Zebrafish circadian rhythms
Andrew Lin	2000	QTL analysis of circadian rhythms
Katherine Lum	2001, 2003	Genetic mapping
David Jacobson	2001, 2002	Mouse Chr. 1 haplotype analysis
Katharine Lum	2003	Genetic mapping, RNA expression
Victoria Rodriguez	2004	HHMI EXROP
Annie Lum (Boston U)	2005	Genetic mapping
Annie Lum (Boston U)	2006	Genetic mapping and modeling
Erika Jang	2006	Food entrainment
Nikki Okonkwo	2006	HHMI EXROP
Meghan Tellon (UVA)	2007	Mouse obesity mutants
Richard C. Sando	2008	Casein kinase 1 epsilon mutants

**DEPARTMENTAL AND UNIVERSITY SERVICE:**

**1983-1984**

Graduate Curriculum Committee, Neurobiology and Physiology

Organizer: Departmental faculty seminars for new graduate students

Secretary to the Department

Ad hoc committee to prepare report to Chairperson Peter Dallos on long-range developments of the Department, Chaired by E. Frank

**1984-1985**

Chair, Professional Relations Committee, Neurobiology and Physiology

Faculty Search Committee, Neurobiology and Physiology

Ad hoc committee to prepare report to Dean Weingartner, Chaired by F. Turek

**1985-1986**

Curriculum Vitae: Joseph S. Takahashi

Chair, Professional Relations Committee, Neurobiology and Physiology  
Faculty Search Committee, Neurobiology and Physiology  
Committee on Academic Standing, College of Arts and Sciences  
Life Sciences Building Committee, College of Arts and Sciences  
Animal Care Committee, University

**1986-1987**

Faculty Search Committee, Neurobiology and Physiology  
Life Sciences Building Committee, College of Arts and Sciences  
Committee on Academic Standing, College of Arts and Sciences  
Animal Care Committee, University

**1987-1988**

Associate Chair, Neurobiology and Physiology  
Chair, Faculty Search Committee, Neurobiology and Physiology  
Committee on Academic Standing, College of Arts and Sciences  
Blue Ribbon Curriculum Committee, College of Arts and Sciences  
Curriculum Committee, Interdepartmental Graduate Program in Neuroscience  
Materials Science and Life Science Building Committee, College of Arts and Sciences  
Animal Care Committee, University  
University Appeals Board

**1988-1989**

Associate Chair, Neurobiology and Physiology  
Chair, Faculty Search Committee, Neurobiology and Physiology  
Acting Associate Director, Institute for Neuroscience  
Curriculum Committee, Institute for Neuroscience  
Admissions Committee, Institute for Neuroscience  
Materials Science and Life Science Building Committee, College of Arts and Sciences  
University Appeals Board

**1989-1990**

Associate Chair, Neurobiology and Physiology  
Faculty Search Committee, Neurobiology and Physiology  
Acting Associate Director, Institute for Neuroscience  
Curriculum Committee, Institute for Neuroscience  
Admissions Committee, Institute for Neuroscience  
Materials Science and Life Science Building Committee, College of Arts and Sciences  
University Appeals Board  
Neuroscience Working Group, University  
Basic Sciences Committee, Cancer Center

**1990-1991**

Associate Chair, Neurobiology and Physiology  
Faculty Search Committee, Neurobiology and Physiology  
Acting Associate Director, Institute for Neuroscience  
Curriculum Committee, Institute for Neuroscience  
Materials Science and Life Science Building Committee, College of Arts and Sciences  
University Appeals Board  
Neuroscience Working Group, University  
Basic Sciences Committee, Cancer Center  
Search Committee for Director of Institute for Neuroscience

**1991-1992**

Acting Chair, Neurobiology and Physiology

Curriculum Vitae: Joseph S. Takahashi

Acting Associate Director, Institute for Neuroscience  
Curriculum Committee, Institute for Neuroscience  
Materials Science and Life Science Building Committee, College of Arts and Sciences  
University Appeals Board  
Faculty Planning Committee, University  
Search Committee for Director of Institute for Neuroscience  
Advisory (Steering) Committee, NSF Center for Biological Timing

**1992-1993**

Associate Chair, Neurobiology and Physiology  
Acting Associate Director, Institute for Neuroscience  
Curriculum Committee, Institute for Neuroscience  
University Appeals Board  
Search Committee for Director of Institute for Neuroscience  
Advisory (Steering) Committee, NSF Center for Biological Timing

**1993-1994**

Associate Chair, Neurobiology and Physiology  
Acting Associate Director, Institute for Neuroscience  
Curriculum Committee, Institute for Neuroscience  
University Appeals Board  
Search Committee for Director of Institute for Neuroscience  
Advisory (Steering) Committee, NSF Center for Biological Timing  
Departmental Program Review Committee, Neurobiology and Physiology

**1994-1995**

Associate Chair, Neurobiology and Physiology  
Acting Associate Director, Institute for Neuroscience  
Faculty Search Committee, Neurobiology and Physiology  
Curriculum Committee, Institute for Neuroscience  
University Appeals Board  
Advisory (Steering) Committee, NSF Center for Biological Timing  
Life Sciences Planning Subcommittee  
Associate Director, Center for Circadian Biology and Medicine

**1995-1996**

Associate Chair, Neurobiology and Physiology  
Faculty Search Committee, Neurobiology and Physiology  
Curriculum Committee, Institute for Neuroscience  
University Appeals Board  
Advisory (Steering) Committee, NSF Center for Biological Timing  
Associate Director, Center for Circadian Biology and Medicine  
Committee on Intellectual Property, University  
Life Sciences Planning Subcommittee

**1996-1997**

Faculty Search Committee, Neurobiology and Physiology  
Curriculum Committee, Institute for Neuroscience  
University Appeals Board  
Advisory (Steering) Committee, NSF Center for Biological Timing  
Associate Director, Center for Circadian Biology and Medicine  
Committee on Intellectual Property, University  
Ad hoc committee for Promotion and Tenure Committee

**1997-1998**

Curriculum Vitae: Joseph S. Takahashi

Faculty Search Committee, Neurobiology and Physiology  
Curriculum Committee, Institute for Neuroscience  
University Appeals Board  
Advisory (Steering) Committee, NSF Center for Biological Timing  
Associate Director, Center for Circadian Biology and Medicine  
Medical School Genetics Search Committee

**1998-1999**

Curriculum Committee, Institute for Neuroscience  
University Appeals Board  
Advisory (Steering) Committee, NSF Center for Biological Timing  
Associate Director, Center for Circadian Biology and Medicine  
Medical School Genetics Search Committee  
Searle Life Sciences Committee

**1999-2000**

Curriculum Committee, Institute for Neuroscience  
Advisory (Steering) Committee, NSF Center for Biological Timing  
Medical School Genetics Search Committee  
Searle Life Sciences Advisory Group  
Life Sciences Vision Committee  
University Appeals Board  
Committee for Excellence in the Life Sciences  
Bioinformatics Task Force

**2000-2001**

Advisory (Steering) Committee, NSF Center for Biological Timing  
Searle Life Sciences Advisory Group  
Committee for Excellence in the Life Sciences  
Faculty Search Committee, Biological Sciences Division  
Shared Resource Committee, Department of Neurobiology and Physiology  
University Appeals Board

**2001-2002**

Director, Center for Functional Genomics  
Advisory (Steering) Committee, NSF Center for Biological Timing  
Searle Life Sciences Advisory Group  
Committee for Excellence in the Life Sciences  
Shared Resource Committee, Department of Neurobiology and Physiology  
University Appeals Board

**2002-2003**

Director, Center for Functional Genomics  
Committee on Animal Resources  
Shared Resource Committee, Department of Neurobiology and Physiology  
University Appeals Board  
Genetics Search Committee, NUMS  
WCAS Promotion and Tenure Ad Hoc Committee

**2003-2004**

Director, Center for Functional Genomics  
Committee on Animal Resources  
Shared Resource Committee, Department of Neurobiology and Physiology  
Genetics Search Committee, NUMS  
NU Roadmap for Research Committee

Curriculum Vitae: Joseph S. Takahashi

Center for Genetic Medicine Executive Committee  
Bioinformatics Consulting Group Advisory Committee

**2004-2005**

Director, Center for Functional Genomics  
Committee on Animal Resources  
Center for Genetic Medicine Executive Committee  
Shared Resource Committee, Department of Neurobiology and Physiology

**2005-2006**

Director, Center for Functional Genomics  
Committee on Animal Resources  
Advisory Committee for the Selection of Searle Leadership Fund Recipients  
Shared Resource Committee, Department of Neurobiology and Physiology

**2006-2007**

Director, Center for Functional Genomics  
Shared Resource Committee, Department of Neurobiology and Physiology  
Advisory Committee for the Selection of Searle Leadership Fund Recipients  
Committee on Animal Resources  
NRC Ratings Steering Committee

**2007-2008**

Director, Center for Functional Genomics  
Shared Resource Committee, Department of Neurobiology and Physiology  
Committee on Animal Resources

**2008-2009**

Director, Center for Functional Genomics  
Shared Resource Committee, Department of Neurobiology and Physiology  
Committee on Animal Resources

**2009-2010**

Chair, Department of Neuroscience, UT Southwestern Medical Center  
Animal Resource Center Advisory Committee Meeting, UT Southwestern Medical Center  
Dean's Advisory Committee, UT Southwestern Medical Center  
Faculty Council, UT Southwestern Medical Center  
6-Year Plan Research Sub-committee, UT Southwestern Medical Center  
Children's Medical Center, Pediatric Research Institute, Scientific Board

**2010-2011**

Chair, Department of Neuroscience, UT Southwestern Medical Center  
Animal Resource Center Advisory Committee Meeting, UT Southwestern Medical Center  
Dean's Advisory Committee, UT Southwestern Medical Center  
Faculty Council, UT Southwestern Medical Center  
Neuroscience Graduate Program, Advisory Committee  
Children's Medical Center, Pediatric Research Institute, Scientific Board  
Sleep Medicine Workgroup, UT Southwestern Medical Center  
UT Southwestern Scientific Computing Ad Hoc Committee  
Cell Biology Department Chair Search Committee

**2011-2012**

Chair, Department of Neuroscience, UT Southwestern Medical Center  
Animal Resource Center Advisory Committee Meeting, UT Southwestern Medical Center  
Dean's Advisory Committee, UT Southwestern Medical Center

Curriculum Vitae: Joseph S. Takahashi

Faculty Council, UT Southwestern Medical Center  
Endowed Scholars Committee  
Neuroscience Graduate Program, Advisory Committee  
Children's Medical Center, Pediatric Research Institute, Scientific Board

**2012-2013**

Chair, Department of Neuroscience, UT Southwestern Medical Center  
Animal Resource Center Advisory Committee Meeting, UT Southwestern Medical Center  
Dean's Advisory Committee, UT Southwestern Medical Center  
Faculty Council, UT Southwestern Medical Center  
Endowed Scholars Committee  
Neuroscience Graduate Program, Advisory Committee  
Bioinformatics Department Chair Search Committee

**2013-2014**

Chair, Department of Neuroscience, UT Southwestern Medical Center  
Animal Resource Center Advisory Committee Meeting, UT Southwestern Medical Center  
Dean's Advisory Committee, UT Southwestern Medical Center  
Faculty Council, UT Southwestern Medical Center  
Endowed Scholars Committee  
Neuroscience Graduate Program, Advisory Committee  
Bioinformatics Department Chair Search Committee