William J. Moody

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Education

B.S. 1972	Yale University	Molecular Biochemistry and Biophysics
Ph.D. 1977	Stanford University	Neuroscience (Profs David Prince and Donald Kennedy)
Postdoctoral	UCLA, 1977-1979	Neuroscience (Prof. Susumu Hagiwara)
Postdoctoral	University of Bristol (UK)	Neuroscience (Prof. Roger Thomas)
Postdoctoral	UCLA, 1980-1983	Neuroscience (Prof. Susumu Hagiwara)

Professional History

2022-present	**Professor Emeritus, Department of Biology, University of Washington**
1999-2022	Director, Undergraduate Neuroscience Major, University of Washington
2011	Visiting Professor, Institut de Neurosciences Cognitive et Integratives d'Aquitaine, University of Bordeaux 1, Bordeaux, France
2010	Teaching Award, Mortarboard Society, University of Washington
1997-1999	Member, Board of Directors, The Company of Biologists. UK.
1987	Royal Society Research Fellow, University of Bristol, Bristol, U.K.
1986	Distinguished Teaching Award, University of Washington
1989-2022	Professor, Department of Biology, University of Washington
1986-1989	Associate Professor, Department of Biology, University of Washington Seattle, WA
1983-1986	Assistant Professor, Department of Biology, University of Washington, Seattle, WA.
1980-1982	Postdoctoral Fellow of the Muscular Dystrophy Association
1977-1980	Postdoctoral Fellow of the Helen Hay Whitney Foundation
1977	Summer Fellow of the Grass Foundation, MBL, Woods Hole, MA

Teaching

Introduction to Animal Physiology and Development. (1983-1999, yearly). 100-450 students.
This was part of a 3-quarter introductory biology course for pre-professional students. It featured four lectures per week and weekly laboratory sections. I received the university's Distinguished Teaching Award as an Assistant Professor for my work in this course.

Undergraduate Neuroscience Major (University of Washington). In 1998 I collaborated with the late professors Wayne Crill (Chair, Physiology and Biophysics) and Bill Catterall (Chair, Pharmacology) to create an undergraduate neuroscience major. We obtained competitive internal funding from the university that provided seven faculty positions (FTEs) and other expenses. I designed the curriculum for this program and then acted as Director and taught the introductory course (see below) from 1999-2022.

Cellular and Synaptic Neuroscience. (1999-2022, yearly) 40-70 students. This is the first course taken by all students in the Neuroscience Major and consists of four lectures per week and weekly laboratory sections. I received a teaching award from the undergraduate Mortarboard Society for my work in this course.

Advanced Neuroscience. (2019-2022, yearly) 60-80 students. This is the upper-division neuroscience course for Biology majors and covers both cellular and systems neuroscience. It consists of two lectures per week and weekly discussion sections.

Introduction to the Brain for non-Scientists. (2019-2022, yearly) 60-80 students. This is a course designed to introduce non-science majors to the brain. Two lectures per week and weekly discussion sections. I co-taught this course with Prof. Thomas Daniel in the Biology Department.

The Biology of Human Consciousness. (2014-2024, yearly). 25 students. This is a special course for incoming freshmen at the University of Washington, administered by the College Dean's Office as part of their College Edge Program. Four sessions per day, 2.5 hrs each, for four weeks. The aim of the course was to introduce students to neuroscience, including anatomy and physiology as well as higher functions of the human brain. We were also charged with preparing students for the rigor of university-level courses.

Publications

Tabuena, D. R., Huynh, R., Metcalf, J., Richner, T., Stroh, A., Brunton, B. W., Moody, W. J., & Easton, C. R. (2022). Large-scale waves of activity in the neonatal mouse brain in vivo occur almost exclusively during sleep cycles. *Developmental Neurobiology*, *82*(7-8), 596–612. https://doi.org/10.1002/dneu.22901

Schwalm, M., Tabuena, D. R., Easton, C., Richner, T. J., Mourad, P., Watari, H., Moody, W. J., & Stroh, A. (2022). Functional states shape the spatiotemporal representation of local and cortex-wide neural activity in mouse sensory cortex. *Journal of Neurophysiology*, *128*(4), 763–777. https://doi.org/10.1152/jn.00424.2021

Linden, N. J., Tabuena, D. R., Steinmetz, N. A., Moody, W. J., Brunton, S. L., & Brunton, B. W. (2021). Go with the FLOW: visualizing spatiotemporal dynamics in optical widefield calcium imaging. *Journal of the Royal Society, Interface*, *18*(181), 20210523. https://doi.org/10.1098/rsif.2021.0523

Easton, C. R., Dickey, C. W., Moen, S. P., Neuzil, K. E., Barger, Z., Anderson, T. M., Moody, W. J., & Hevner, R. F. (2016). Distinct calcium signals in developing cortical interneurons persist despite disorganization of cortex by Tbr1 KO. *Developmental Neurobiology*, *76*(7), 705–720. https://doi.org/10.1002/dneu.22354

Barger, Z., Easton, C. R., Neuzil, K. E., & Moody, W. J. (2016). Early network activity propagates bidirectionally between hippocampus and cortex. *Developmental Neurobiology*, *76*(6), 661–672. https://doi.org/10.1002/dneu.22351

Gjorgjieva, J., Mease, R. A., Moody, W. J., & Fairhall, A. L. (2014). Intrinsic neuronal properties switch the mode of information transmission in networks. *PLoS Computational Biology*, *10*(12), e1003962. https://doi.org/10.1371/journal.pcbi.1003962

Barnett, H. M., Gjorgjieva, J., Weir, K., Comfort, C., Fairhall, A. L., & Moody, W. J. (2014). Relationship between individual neuron and network spontaneous activity in developing mouse cortex. *Journal of Neurophysiology*, *112*(12), 3033–3045. https://doi.org/10.1152/jn.00349.2014

Easton, C. R., Weir, K., Scott, A., Moen, S. P., Barger, Z., Folch, A., Hevner, R. F., & Moody, W. J. (2014). Genetic elimination of GABAergic neurotransmission reveals two distinct pacemakers for spontaneous waves of activity in the developing mouse cortex. *The Journal of Neuroscience 34*(11), 3854–3863. https://doi.org/10.1523/JNEUROSCI.3811-13.2014

Neuzil, KE, Moody, WJ, Easton, CR. Measuring the calcium dynamics of individual, genetically-labeled neurons of the developing mouse neocortex. *Journal of Visualized Experiments (JOVE)* e55443.

Mease, R. A., Famulare, M., Gjorgjieva, J., Moody, W. J., & Fairhall, A. L. (2013). Emergence of adaptive computation by single neurons in the developing cortex. *The Journal of Neuroscience 33*(30), 12154–12170. https://doi.org/10.1523/JNEUROSCI.3263-12.2013

Scott, A., Weir, K., Easton, C., Huynh, W., Moody, W. J., & Folch, A. (2013). A microfluidic microelectrode array for simultaneous electrophysiology, chemical stimulation, and imaging of brain slices. *Lab on a Chip*, *13*(4), 527–535. https://doi.org/10.1039/c2lc40826k

Moody, WJ, Okamura, Y. (2013). Neural development in simpler embryos: A retrospective of Dr. Kunitaro Takahashi's work. *Neuroscience Research* 75, 167-170.

Jacquin, TD, Yool A, Benoit, E, Spitzer, NC, Moody, WJ. (2012). Petites cellules excitables deviendront grandes: le rythme pour la raison. Medecine/Science 14, 63-71,

Conhaim, J., Easton, C. R., Becker, M. I., Barahimi, M., Cedarbaum, E. R., Moore, J. G., Mather, L. F., Dabagh, S., Minter, D. J., Moen, S. P., & Moody, W. J. (2011). Developmental changes in propagation patterns and transmitter dependence of waves of spontaneous activity in the mouse cerebral cortex. *The Journal of Physiology*, *589*(Pt 10), 2529–2541. https://doi.org/10.1113/jphysiol.2010.202382

Conhaim, J., Cedarbaum, E. R., Barahimi, M., Moore, J. G., Becker, M. I., Gleiss, H., Kohl, C., & Moody, W. J. (2010). Bimodal septal and cortical triggering and complex propagation patterns of spontaneous waves of activity in the developing mouse cerebral cortex. *Developmental Neurobiology*, *70*(10), 679–692. https://doi.org/10.1002/dneu.20797

Lischalk, J. W., Easton, C. R., & Moody, W. J. (2009). Bilaterally propagating waves of spontaneous activity arising from discrete pacemakers in the neonatal mouse cerebral cortex. *Developmental Neurobiology*, *69*(7), 407–414. https://doi.org/10.1002/dneu.20708

Currie, D. A., Corlew, R., de Vente, J., & Moody, W. J. (2009). Elevated glutamate and NMDA disrupt production of the second messenger cyclic GMP in the early postnatal mouse cortex. *Developmental Neurobiology*, *69*(4), 255–266. https://doi.org/10.1002/dneu.20697

McCabe, A. K., Easton, C. R., Lischalk, J. W., & Moody, W. J. (2007). Roles of glutamate and GABA receptors in setting the developmental timing of spontaneous synchronized activity in the developing mouse cortex. *Developmental neurobiology*, *67*(12), 1574–1588. https://doi.org/10.1002/dneu.20533

McCabe, A. K., Chisholm, S. L., Picken-Bahrey, H. L., & Moody, W. J. (2006). The self-regulating nature of spontaneous synchronized activity in developing mouse cortical neurones. *The Journal of Physiology*, *577*(Pt 1), 155–167. https://doi.org/10.1113/jphysiol.2006.117523

Currie, D. A., de Vente, J., & Moody, W. J. (2006). Developmental appearance of cyclic guanosine monophosphate (cGMP) production and nitric oxide responsiveness in embryonic mouse cortex and striatum. *Developmental Dynamics*, *235*(6), 1668–1677. https://doi.org/10.1002/dvdy.20732

Moody, W. J., & Bosma, M. M. (2005). Ion channel development, spontaneous activity, and activity-dependent development in nerve and muscle cells. *Physiological Peviews*, *85*(3), 883–941. https://doi.org/10.1152/physrev.00017.2004

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