

**BIOGRAPHICAL SKETCH**

NAME	POSITION TITLE
Michael E. Dailey	Associate Professor of Biological Sciences

EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Geneva College, Beaver Falls, PA	B.S.	1981-1985	Biology
Washington University Sch. of Med., St. Louis, MO	Ph.D.	1985-1990	Neural Science
Stanford University Medical School, Stanford, CA	Postdoc	1990-1996	Physiology

**RESEARCH AND/OR PROFESSIONAL EXPERIENCE**

- 1985-1990 **Graduate Research Assistant**, Dept. of Anatomy & Neurobiology, Washington University Medical School, St. Louis, MO, with Dr. P. Bridgman
- 1986-1988 NIH Training Grant (GM08151), Washington Univ. Division of Biology & Biomedical Sciences
- 1990-1996 **Postdoctoral Fellow**, Dept. of Molecular & Cellular Physiology, Stanford Univ. Med. Sch.
- 1991-1994 National Research Service Award (NS09027), NIH
- 1996-2002 **Assistant Professor**, Dept. of Biological Sciences, Univ. of Iowa, Iowa City, IA
- 1996-present Director, Carver Bio-Imaging Facility, Dept. of Biological Science, Univ. of Iowa
- 2002-present **Associate Professor**, Dept. of Biological Sciences, Univ. of Iowa, Iowa City, IA

**PUBLICATIONS: RESEARCH ARTICLES**

- Jakeman LB, Reier PJ, Bregman BS, Wade EB, Dailey M, Kastner RJ, Himes BT, and Tessler A (1989) Differentiation of substantia gelatinosa-like regions in intraspinal and intracerebral transplants of embryonic spinal cord tissue in the rat. **Exp. Neurol.** 103:17-33.
- Bridgman PC and Dailey ME (1989) The organization of myosin and actin in rapid frozen nerve growth cones. **J. Cell Biol.** 108:95-109.
- Dailey ME and Bridgman PC (1989) Dynamics of the endoplasmic reticulum and other membranous organelles in growth cones of cultured neurons. **J. Neurosci.** 9(6):1897-1909. [with journal cover]
- Dailey ME and Bridgman PC (1991) Structure and organization of membrane organelles along distal microtubule segments in growth cones. **J. Neurosci. Res.** 30:242-258.
- O'Rourke NA, Dailey ME, Smith SJ, and McConnell SK (1992) Diverse migratory pathways in the developing cerebral cortex. **Science** 258:299-302. [with journal cover]
- Dailey ME and Bridgman PC (1993) Vacuole dynamics in growth cones: correlated EM and video observations. **J. Neurosci.** 13(8):3375-3393.
- Dailey ME and Smith SJ (1993) Confocal imaging of mossy fiber growth in live hippocampal slices. **Jpn. J. Physiol.**, 43:S183-S192.
- Dailey ME, Buchanan J, Bergles D, and Smith SJ (1994) Mossy fiber growth and synaptogenesis in rat hippocampal slices *in vitro*. **J. Neurosci.** 14(3):1060-1078.
- Dailey ME and Smith SJ (1994) Spontaneous Ca<sup>2+</sup> transients in developing hippocampal pyramidal cells. **J. Neurobiol.** 25(3):243-251.
- Dailey ME and Smith SJ (1996) The dynamics of dendritic structure in developing hippocampal slices. **J. Neurosci.** 16(9): 2983-2994. [with journal cover]
- Rochlin MW, Dailey ME, and Bridgman PC (1999) Polymerizing microtubules activate site-directed F-actin assembly in nerve growth cones. **Mol. Biol. Cell** 10(7):2309-2327.
- Dailey ME, and Waite M (1999) Confocal imaging of microglial cell dynamics in hippocampal slice cultures. **Methods** 18(2):222-230.
- Marrs G, Green SH, and Dailey ME (2001) Rapid formation and remodeling of postsynaptic densities in developing dendrites. **Nature Neurosci.** 4(10):1006-1013. [see also News & Views, pp. 967-968]

**PUBLICATIONS: RESEARCH ARTICLES** (continued)

14. Stence N, Waite M, and Dailey ME (2001) Dynamics of microglial activation: A confocal time-lapse analysis in hippocampal slices. **Glia** 33:256-266.
15. Qin L, Marrs GS, McKim R, and Dailey ME (2001) Hippocampal mossy fibers induce assembly and clustering of PSD95-containing postsynaptic densities independent of glutamate receptor activation. **J. Comp. Neurol.** 440:284-298.
16. Castejón OJ, Dailey ME, Apkarian RP, and Castejón HV (2002) Correlative microscopy of cerebellar Bergmann glial cells. **J. Submicrosc. Cytol. Pathol.** 34(2):131-142.
17. Yu J-R, O'Hara SP, Lin JL-C, Dailey ME, Cain G, and JJ-C Lin (2002) A common oocyst surface antigen of *Cryptosporidium* recognized by monoclonal antibodies. **Parasitology Res.** 88:412-420
18. Grossmann R, Stence N, Carr J, Fuller L, Waite M, and Dailey ME (2002) Juxtavascular microglia migrate along brain capillaries following activation during early postnatal development. **Glia** 37: 229-240. [cover]
19. Castejón OJ, Fuller L, and Dailey ME (2004) Localization of Synapsin-I and PSD-95 in developing cerebellar cortex of postnatal rat. **Dev. Brain Res.** 151:25-32.
20. Petersen MA, and Dailey ME (2004) Diverse microglial motility behaviors during clearance of dead cells in hippocampal slices. **Glia** 46(2):195-206.
21. Zha X-M, Green SH, and Dailey ME (2005) Regulation of hippocampal synapse remodeling by epileptiform activity. **Molec. Cell. Neurosci.** 29(4):494-506. [with journal cover]
22. Benediktsson AM, Schachtele SJ, Green SH, and Dailey ME (2005) Ballistic labeling and dynamic imaging of astrocytes in organotypic hippocampal slice cultures. **J. Neurosci. Methods** 141:41-53.
23. Ahmed R, Zha X-M, Green SH, and Dailey ME (2006) Synaptic activity and F-actin coordinately regulate CaMKII $\alpha$  localization to dendritic postsynaptic sites in developing hippocampal slices. **Molec. Cell. Neurosci.** 31:37-51.
24. Kurpius D, Wilson N, Fuller L, Hoffman A, and Dailey ME (2006) Early activation, motility, and homing of neonatal microglia to injured neurons does not require protein synthesis. **Glia** 54:58-70.
25. Marrs G, Honda T, Fuller L, Thangavel R, Balsamo J, Lilien J, Dailey ME, Arregui C (2006) Dendritic arbors of developing retinal ganglion cells are stabilized by  $\beta$ 1-integrins. **Molec. Cell. Neurosci.** 32:230-241.
26. Haynes SE, Hollopeter G, Yang G, Kurpius D, Dailey ME, Gan W-B, Julius D (2006) The P2Y<sub>12</sub> receptor regulates microglial activation by extracellular nucleotides. **Nature Neuroscience** 9(12):1512-1519.
27. Kurpius D, Nolley EP, Dailey ME (2006) Purines induce directed migration and rapid homing of microglia to injured pyramidal neurons in developing hippocampus. (submitted)

**PUBLICATIONS: BOOK CHAPTERS/REVIEWS**

1. Terasaki M and Dailey ME (1995) Confocal microscopy of living cells. In, *Handbook of Biological Confocal Microscopy, 2<sup>nd</sup> Edition* (Pawley JB, ed.) New York: Plenum, pp. 327-346.
2. Dailey ME (1996) Dynamic optical imaging of neuronal structure and physiology: Confocal fluorescence microscopy in living brain slices. In, *Brain Mapping: The Methods* (Toga A and Mazziotta J, eds.) Academic Press, pp. 29-54.
3. Dailey ME, Marrs G, Satz J, and Waite M (1999) Concepts in imaging and microscopy: Exploring biological structure and function with confocal microscopy. **Biol. Bull.** 197:115-122.
4. Dailey ME (2002) Optical imaging of neural structure and physiology: Confocal fluorescence microscopy in live brain slices. In, *Brain Mapping: The Methods, 2<sup>nd</sup> Edition* (Toga A and Mazziotta J, eds.) Elsevier Science, pp. 49-76.
5. Dailey ME, Marrs GS, and Kurpius D (2005) Maintaining live cells and tissue slices in the imaging setup. In, *Imaging in Neuroscience and Development* (Yuste R, Konnerth A) Cold Spring Harbor Lab Press: Cold Spring Harbor, NY.
6. Kurpius D, and Dailey ME (2005) Imaging microglia in live brain slices and slice cultures. In, *Imaging in Neuroscience and Development* (Yuste R, Konnerth A) Cold Spring Harbor Laboratory Press, NY.
7. Dailey ME, Manders E, Soll D, and Terasaki M (2006) Confocal microscopy of live cells. In, *Handbook of Biological Confocal Microscopy, 3<sup>rd</sup> Edition* (J.B. Pawley, ed.) New York: Plenum.