Mary C. Wildermuth, Associate Professor

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Education & Academic Appointments

B.S.	Chemical Engineering, Cornell University, Ithaca, NY
Ph.D.	Biochemistry, University of Colorado, Boulder, CO
Postdoctoral Research	Molecular Genetics, Harvard Medical School/Massachusetts General Hospital, Boston, MA
Assistant Professor	Department of Plant & Microbial Biology, UC Berkeley
Faculty Scientist	Lawrence Berkeley National Laboratory, Berkeley, CA
Associate Professor	Department of Plant & Microbial Biology, UC Berkeley

Honors and Awards

2005	Phytochemistry Society of North America, Neish Young Investigator Award
2005-2006	Presidential Chair Fellow, University of California, Berkeley
2007	Winkler Family Foundation Award, University of California, Berkeley
2013	Bakar Fellow, University of California, Berkeley
2013	NSF Creativity Extension Award

Selected Professional Activities

2003-2007	Guest Editor, *Current Protocols in Molecular Biology*
2004- 2006	Monitoring Editor, *Plant Physiology*
2004-	Federal Grant Review Panels: NSF, USDA, and NIH
2004-	*Ad hoc* grant reviewer for NSF, USDA, NIH, and international scientific agencies: French National Institute for Research (INRA), German Research Foundation (DFG), and the United States-Israel Binational Agricultural Research & Development Fund (BARD).
2004-	Conference Workshop Organizer/Session Chair: International Symposium on Biocatalysis and Agricultural Biotechnology (ISBAB) 2012, International Conference on Arabidopsis Research (ICAR) 2011, ICAR 2008, Asilomar Trans-kingdom Innate Immunity Workshop 2006, International Conference on Plant Growth Substances 2004
2005	Guest Member of Editorial Committee, *Annual Review of Plant Biology*
2007-	Editorial Board, *Plant Metabolic Network*
2013-	Organizing Committee for *International Congress on Molecular Plant-Microbe Interactions*, Portland 2016
2013-	Initiator and Developer of "Be A Scientist" UC Berkeley STEM Outreach Program for 7th graders at Berkeley Public Middle Schools

Teaching/Advising

2003-	Primary Research Supervisor/Advisor to 13 undergraduates, 6 graduate students, 7 postdoctoral scientists. Includes participation in UC Berkeley programs to increase diversity in STEM research.
2004-2011	Course Developer & Instructor, Undergraduate General Microbiology (4 units) with Dr. Ryan
2006	Course Developer & Instructor, Graduate Seminar Regulation of Specialized Metabolism (1 unit)
2008-2010	Course Developer & Instructor, Graduate Plant Biochemistry (1.5 units)
2011-	Faculty Advisor for the Undergraduate Major in Genetics and Plant Biology
2012-	Course Developer & Instructor, Discovery-Based Undergraduate Experimental Plant Biology Laboratory (3 units)
2014-	Faculty Equity Advisor, Microbiology

Selected University Service

2004-	Mentor and Selection Committee, UC Berkeley Biology Scholars Program
2005-2012	Member, Committee on the Berkeley Faculty Research Fund for the Biological Sciences
2007-	Reviewer, UC Berkeley- and UC Agricultural and Natural Resources- sponsored research awards
2012-	Elected Member, College of Natural Resources Executive Committee

Peer-Reviewed Publications (2000-)

Chandran D, Rickert J, Huang Y, Steinwand MA, Marr SK, **Wildermuth MC**. (2014) Atypical E2F transcriptional repressor DEL1 acts at the intersection of plant growth and immunity by controlling the hormone salicylic acid. *Cell Host Microbe* 15: 506-13.

Chandran D., Rickert J.C., Cherk C., Dotson B.R., and **M.C. Wildermuth** (2013) Host ploidy underlying the fungal feeding site is a determinant of powdery mildew growth and reproduction. *Mol. Plant Microbe Interact.* 26(5): 537-45.

Dempsey, D.A., Vlot, A.C., **Wildermuth*, M.C**., and Klessig, D.F. (2011) Salicylic acid biosynthesis and metabolism. *The Arabidopsis Book* 2011; 9:e0156. *co-first and co-senior/corresponding author.

Okrent, R.A. and **M.C. Wildermuth** (2011) Evolutionary history of the GH3 family of acyl adenylases in rosids. *Plant Molecular Biology* 76: 489-505.

Jones A.M. and **M.C. Wildermuth** (2011) The phytopathogen Pseudomonas syringae pv.tomato DC3000 has three high-affinity iron-scavenging systems functional under iron limitation conditions but dispensable for pathogenesis. *J. Bacteriol.*193: 2767-75.

Chandran, D., Hather, G., and **M.C. Wildermuth** (2011) Global expression profiling of RNA from laser microdissected cells at fungal-plant interaction sites. *Methods Mol Biol.* 712: 263-81.

Chandran D., Inada N., and **M.C. Wildermuth** (2011) Laser microdissection of plant-fungus interaction sites and isolation of RNA for downstream expression profiling. *Methods Mol Biol.* 712: 241-62.

Ford, K.A., Casida, J.E., Chandran, D., Gulevich, A.G., Okrent, R.A., Durkin, K.A., Sarpong, R., Bunnelle, E.M., and **M.C. Wildermuth** (2010) Neonicotinoid insecticides induce salicylate-associated plant defense responses. *Proc. Natl. Acad. Sci. USA* 107:17527-17532.

Wildermuth M.C. (2010) Modulation of host nuclear ploidy: a common plant biotroph mechanism. *Current Opinion in Plant Biology* 13:449-58.

Chandran, D., Inada, N., Hather, G., Kleindt, C.K., and **M.C. Wildermuth** (2010) Laser microdissection of Arabidopsis cells at the powdery mildew infection site reveals site specific processes and regulators. *Proc. Natl. Acad Sci USA* 107: 460-5.

Okrent, R.A., Brooks, M.D, and **M.C. Wildermuth** (2009) Arabidopsis GH3.12 (PBS3) conjugates amino acids to 4-substituted benzoates and is inhibited by salicylate. *Journal of Biological Chemistry* 284: 9742-54.

Chandran, D., Tai, Y.C., Hather, G., Dewdney, J., Denoux, C., Burgess, D.G., Ausubel, F.M., Speed, T.P., and **M.C. Wildermuth** (2009) Temporal global expression data reveals known and novel salicylate-impacted process and regulators mediating powdery mildew growth and reproduction on Arabidopsis, *Plant Physiology* 149: 1435-1451.

Zhang, N.R., **Wildermuth, M.C.,** and T.P. Speed (2008) Transcription factor binding site prediction with multivariate gene expression data. *Annals of Applied Statistics* 2: 332-365.

Jones, A.M., Lindow, S.E., and **M. C. Wildermuth** (2007) Salicylic acid, yersiniabactin, and pyoverdin production by the model phytopathogen Pseudomonas syringae pv tomato DC3000: Synthesis, regulation, and impact on tomato and Arabidopsis host plants. *Journal of Bacteriology* 189: 6773-6786.

Nobuta, K., Okrent, R.A., Stoutemyer, M., Rodibaugh N., Kempema, L., Innes[†], R.W., and **M.C. Wildermuth**[†]*(2007) The GH3 acyl adenylase family member PBS3 regulates salicylic-acid dependent defense responses in Arabidopsis. *Plant Physiology* 144: 1144-1156. †= co-senior authors; *= corresponding author.

Strawn, M.A., Marr, S.K., Inoue, K., Inada, N., Zubieta, C., and **M.C. Wildermuth** (2007) Arabidopsis isochorismate synthase functional in pathogen-induced salicylate biosynthesis exhibits properties consistent with a role in diverse stress responses. *Journal of Biological Chem* 282: 5919-5933.

Wildermuth, M.C. (2006) Variations on a theme: synthesis and modification of plant benzoic acids. *Current Opinion in Plant Biology* 9: 288-296.

Inada, N. and **M.C. Wildermuth** (2005) Novel tissue preparation method and cell-specific marker for laser microdissection of Arabidopsis mature leaf. *Planta* Apr;221(1): 9-16.

Gu, Y.-Q., **Wildermuth, M.C.,** Chakravarthy, S., Loh, Y.-T., Yang, C., He, X., Han, Y., and G.B. Martin (2002) Tomato transcription factors Pti4, Pti5, and Pti6 activate defense responses in *Arabidopsis*. *Plant Cell* 14: 817-831.

Wildermuth, M.C., Dewdney, J., Wu, G., and F.M. Ausubel (2001) Isochorismate synthase is required to synthesize salicylic acid for plant defense. *Nature* 414: 562-565.

Dewdney, J., Reuber, T.L., **Wildermuth, M.C.,** Devoto, A., Cui, J., Stutius, L.M., Drummond, E.P., and F.M. Ausubel (2000) Three unique mutants of Arabidopsis identify *EDS* loci required for limiting growth of a biotrophic fungal pathogen. *Plant Journal* 24: 205-218.