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CURRICULUM VITAE

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Date of Birth: January 15, 1947

Education: 1969 A.B. Harvard University
1976 Ph.D. Harvard University; Thesis: Catecholamine synthesis and release from a rat pheochromocytoma. Advisor: Robert L. Perlman
1977-1982 Postdoctoral Fellow with Sydney Brenner, MRC Laboratory of Molecular Biology, Cambridge, England

Positions: 1982-1989 Assistant Professor, Columbia University
1989-1993 Associate Professor, Columbia University
1994-present Professor, Columbia University
2002-present William R. Kenan, Jr. Professor of Biological Sciences, Columbia University
2007-2010 Chair, Department of Biological Sciences, Columbia University

Memberships: Genetics Society of America, American Society for Cell Biology, Society for Developmental Biology, Society for Neuroscience

Honors: Joseph J. Napolitano Memorial Lecture (Adelphi University), 1984
Speaker, Presidential Symposium (Society for Neuroscience), 1992
McKnight Neuroscience Development Award 1991-1994
N.I.H. Method to Extend Research in Time (MERIT) Award, 1999
H. Niemeyer Lecture (Society for Biology, Chile) 2000
Fellow, American Academy of Arts and Sciences, elected 2003
Member, National Academy of Sciences, elected 2004
Lewis S. Rosenstiel Award for Distinguished Work in Basic Medical Science (Brandeis University). corecipient with Roger Tsien, 2006
Fellow, American Association for the Advancement of Science, elected 2007
E.B. Wilson Medal (American Society for Cell Biology; corecipient with Roger Tsien), 2008
Nobel Prize in Chemistry (corecipient with Osamu Shimomura and Roger Y. Tsien), 2008
Michael Smith Lecture, University of British Columbia, 2009
Honorary Fellow, Royal Society of Chemistry, elected 2009
Member, Institute of Medicine, elected 2009
Fellow, Polish Medical Society and Albert Schweitzer Medical Society, elected 2010
Simão Mathias Medal, Brazilian Chemical Society, 2010
Sydney Brenner Lecture, Salk Institute, 2010
Oliver Smithies Lecture, University of Wisconsin, 2010
Shipley Lectures, Clarkson University, 2010
James E. Beall II Memorial Lectureship, University of Texas Medical Branch, 2010
Distinguished Scientist Award, American Heart Association, 2010
Honorary Doctorate of Science, Niagara University, 2011
Pioneer in Photonics Award, Fitzpatrick Institute of Photonics, Duke University, 2011
Princesses Lecture, Victor Chang Cardiac Research Institute, Sydney, Australia, 2011

Extramural activities:

Meeting Organizer: First and Fourth East Coast *C. elegans* Meetings, 1986 & 1992; 1991 *C. elegans* Meeting;

2005 Mechanosensation and Gravitational Signaling Gordon Conference (Co-chair, 2003)
 Consultant, Cambridge NeuroScience Research, Inc., 1988 to 1993; Member, Scientific Board, Layton Bioscience, Inc., 1994 to 1998
 Current Editorial Boards: *Mechanisms of Development* (since 1990), *WormBook*, Editor-in-chief (since 2004)
 Member, NIH Molecular Cytology Study Section (CTY), 1992 to 1996 (Chair, 1994 to 1996), NIH Molecular, Cell, and Developmental Neurobiology Study Section 7 (MCDN7), 1999 to 2000 (Chair, 1999 to 2000)
 Member, NINDS Strategic Planning Panel for Neurogenetics (1999)
 Speaker, Congressional Biomedical Research Caucus, May 19, 1999, May 20, 2009.
 Current Advisory Boards: WormBase (since 2000); Northeast Structural Genomics (NESG) Consortium, (since 2001); Institute for Cerebral and Medullary Disorders, France (since 2005); Whitney Laboratory, University of Florida (since 2007); National Aquarium Conservation Center (2010); Italian Institute of Technology (since 2010); New York Academy of Sciences Board of Governors (since 2010)

PATENTS

1. M. Chalfie, M. Driscoll, and E. Wolinsky, DNA sequences involved in neuronal degeneration: Multicellular organisms containing same and uses thereof. US Patent #5,196,333 (issued March 23, 1993)
2. M. Chalfie and D. Prasher, Uses of a green-fluorescent protein. US Patent #5,491,084 (issued February 13, 1996)
3. W. W. Ward and M. Chalfie, Expression of a gene for a modified green-fluorescent protein. US Patent #5,741,668 (issued April 21, 1998).
4. M. Chalfie and D. Prasher, Green fluorescent protein. US Patent #6,146,826 (issued November 14, 2000).

PUBLICATIONS

1. M. Chalfie, A.H. Neufeld, and J. A. Zadunaisky (1972) Action of epinephrine and other cyclic AMP-mediated agents on the chloride transport of the frog cornea. *Invest. Ophthalmol.* **11**: 644-650.
2. J.A. Zadunaisky, M.A. Lande, M. Chalfie, and A.H. Neufeld (1973) Ion pumps in the cornea and their stimulation by epinephrine and cyclic-AMP. *Exp. Eye Res.* **15**: 557-584.
3. M. Chalfie and R.L. Perlman (1976) Studies of a transplantable rat pheochromocytoma: biochemical characterization and catecholamine secretion. *J. Pharmacol. Exp. Ther.* **197**: 615-622.
4. M. Chalfie, D. Hoadley, S. Pastan, and R.L. Perlman (1976) Calcium uptake into a rat pheochromocytoma. *J. Neurochem.* **27**: 1405-1409.
5. M. Chalfie and R.L. Perlman (1977) Regulation of catecholamine biosynthesis in a transplantable rat pheochromocytoma. *J. Pharmacol. Exp. Ther.* **200**: 588-597.
6. R.L. Perlman and M. Chalfie (1977) Catecholamine release from the adrenal medulla. *Clinics Endocrinol. Metab.* **6**: 551-576.
7. M. Chalfie, L. Settiani, and R.L. Perlman (1978) Activation of tyrosine 3-mono-oxygenase in pheochromocytoma cells by lasalocid. *Biochem. Pharmacol.* **27**: 673-677.
8. M. Chalfie, L. Settiani, and R.L. Perlman (1979) The role of cyclic 3':5'-monophosphate in the regulation of tyrosine 3-mono-oxygenase. *Molec. Pharmacol.* **15**: 263-271.
9. M. Chalfie and J.N. Thomson (1979) Organization of neuronal microtubules in the nematode *Caenorhabditis elegans*. *J. Cell Biol.* **82**: 278-289.
10. M. Chalfie and J. Sulston (1981) Developmental genetics of the mechanosensory neurons of *Caenorhabditis elegans*. *Develop. Biol.* **82**: 358-370.
11. M. Chalfie, H.R. Horvitz, and J.E. Sulston (1981) Mutations that lead to reiterations in the cell lineages of *Caenorhabditis elegans*. *Cell* **24**: 59-69.
12. M. Chalfie and J.N. Thomson (1982) Structural and functional diversity in the neuronal microtubules of *Caenorhabditis elegans*. *J. Cell Biol.* **93**: 15-23.
13. H.R. Horvitz, M. Chalfie, C. Trent, J.E. Sulston, and P.D. Evans (1982) Serotonin and octopamine in the nematode *Caenorhabditis elegans*. *Science* **216**: 1012-1014.
14. M. Chalfie (1982) Microtubule structure in *Caenorhabditis elegans* neurons. *Cold Spring Harb. Symp. Quant. Biol.* **46**: 255-261.
15. M. Chalfie, J.N. Thomson, and J.E. Sulston (1983) Induction of neuronal branching in *Caenorhabditis elegans*. *Science* **221**: 61-63.
16. M. Chalfie (1984) Genetic analysis of nematode nerve cell differentiation. *Bioscience* **34**: 295-299.

17. M. Chalfie (1984) Neuronal development in *Caenorhabditis elegans*. *Trends Neurosci.* **7**: 197-202.
18. M. Chalfie, J.E. Sulston, J.G. White, E. Southgate, J.N. Thomson, and S. Brenner (1985) The neural circuit for touch sensitivity in *Caenorhabditis elegans*. *J. Neurosci.* **5**: 956-964.
19. M. Chalfie, E. Dean, E. Reilly, K. Buck, and J.N. Thomson (1986) Mutations affecting microtubule structure in *Caenorhabditis elegans*. *J. Cell Sci. Suppl.* **5**: 257-271.
20. M. Chalfie and J. White (1988) The nervous system. in *The Nematode Caenorhabditis elegans*. W.B. Wood, ed. Cold Spring Harbor Laboratory, pp. 337-391.
21. W.W. Walthall and M. Chalfie (1988) Cell-cell interaction in the guidance of late-developing neurons in *Caenorhabditis elegans*. *Science* **239**: 643-645.
22. J.C. Way and M. Chalfie (1988) *mec-3*, a homeobox-containing gene that specifies differentiation of the touch receptor neurons in *C. elegans*. *Cell* **54**: 5-16.
23. M. Chalfie and M. Au (1989) Genetic control of differentiation of the *C. elegans* touch receptor neurons. *Science* **243**: 1027-1033.
24. C. Savage, M. Hamelin, J.G. Culotti, A. Coulson, D.G. Albertson, and M. Chalfie (1989) *mec-7* is a β -tubulin gene required for the production of 15-protofilament microtubules in *Caenorhabditis elegans*. *Genes and Develop.* **3**: 870-881.
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26. J.C. Way and M. Chalfie (1989) The *mec-3* gene of *Caenorhabditis elegans* requires its own product for maintained expression and is expressed in three neuronal cell types. *Genes and Develop.* **3**: 1823-1833.
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28. C. Li and M. Chalfie (1990) Organogenesis in *C. elegans*: Positioning of neurons and muscles in the egg-laying system. *Neuron* **4**: 681-695.
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31. H.R. Horvitz and M. Chalfie (1991) Implications of nematode neuronal cell death for human neurological disorders. in *Neurodegenerative Disorders. Mechanisms and Prospect for Therapy*, D.L. Price, H. Thoenen, and A.J. Aguayo, eds. John Wiley and Sons, Chichester, pp. 5-19.
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33. C. Savage and M. Chalfie (1991) Genetic aspects of microtubule biology in the nematode *Caenorhabditis elegans*. *Cell Motil. Cytoskel.* **18**: 159-163.
34. M. Chalfie (1991) The differentiation of the touch receptor neurons in *Caenorhabditis elegans*. *Discussions in Neuroscience* **7**: 21-24. (*Neural Development*, T. Wiesel, D. Anderson, & L. Katz, eds., Elsevier Science Publishers)
35. M. Driscoll and M. Chalfie (1992) Developmental and Abnormal Cell Death in *C. elegans*. *Trends Neurosci.* **15**: 15-19.
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44. C. Savage, Y. Xue, S. Mitani, D. Hall, R. Zakhary, and M. Chalfie (1994) Mutations in the *C. elegans* β -tubulin gene *mec-7*: Effects on microtubule assembly and stability and on tubulin autoregulation. *J. Cell Sci.* **107**: 2165-2175.
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 65. H. Du and M. Chalfie (2001) Genes regulating touch cell development in *C. elegans*. *Genetics* **158**: 197-207.
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 71. A. S. Toker, Y. Teng, H. B. Ferreira, S. W. Emmons, and M. Chalfie (2003) The *Caenorhabditis elegans* gene *sem-4* regulates terminal differentiation and anteroposterior patterning of neurons in the tail. *Development* **130**: 3831-3840.
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- (2003) Nucleotide binding by the MDM2 RING domain facilitates ARF-independent MDM2 nucleolar localization. *Molec. Cell* **12**: 875-887.
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 74. S. Zhang, J. Arnadottir, C. Keller, G. A. Caldwell, C. A. Yao, and M. Chalfie (2004) MEC-2 is recruited to the putative mechanosensory complex in *C. elegans* touch receptor neurons through its stomatin-like domain. *Curr. Biol.* **14**: 1888-1896.
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 77. R. O'Hagan and M. Chalfie (2005) Mechanosensation on *Caenorhabditis elegans*. *International Rev. Neurobiol.* **69**: 169-203.
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 86. A. Bounoutas, R. O'Hagan, and M. Chalfie (2009) The multipurpose 15-protofilament microtubules in *C. elegans* have specific roles in mechanosensation. *Curr. Biol.* **19**: 1362-1367.
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