May 4, 2020 CURRICULUM VITAE

**Martin Chalfie**

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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

2002-2013 William R. Kenan, Jr. Professor of Biological Sciences, Columbia University

2007-2010 Chair, Department of Biological Sciences, Columbia University

2013-present University Professor, Columbia University

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

*Honors*: Lectures: Joseph J. Napolitano Memorial Lecture (Adelphi University), 1984; Speaker, Presidential Symposium (Society for Neuroscience), 1992; H. Niemeyer Lecture (Society for Biology, Chile) 2000; Michael Smith Lecture, University of British Columbia, 2009; 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; Princesses Lecture, Victor Chang Cardiac Research Institute, Sydney, Australia, 2011; Albert Einstein Memorial Lecture, Princeton Regional Chamber of Commerce, 2012; Harvey Society Lecture, 2012; Prof. Tushar K. Chowdhury Memorial Lecture, Oklahoma University, 2013; Oliver Smithies Lecture, University of North Carolina, 2014; 34th Arthur Sweeny, Jr. Lecture, Lehman College, 2014; Distinguished Lecturer 2013-2014, Department of Chemistry, University of Louisville, 2014; CCIB Lecture, University of Virginia, 2014; Dakin Lecture, Adelphi University, 2015; IUMBM Lecture, Combined IUBMB and SBBq Meeting, 2015; 18th Putcha Venkateswarlu Memorial Lecture, Alabama Agricultural and Mechanical University, 2015; 19th Annual Richard P. Bunge Memorial Lecture, University of Miami, 2016; 30th Louis H. Nahun Lecture in Physiology, Yale, 2016; Paterson Lecture, Western University, 2017; Hyderabad Lecture, University of Hyderabad, 2018; Commencement Address, North South University, Bangladesh, 2018; Schultz Lecture, University of Miami Medical School, 2018; Inaugural Drs. Peter and Marlene MacLeish endowed Lectureship, Morehouse School of Medicine, 2018; Dr. Jaya Haldar Memorial Seminar, St. Johns University, 2018; Inaugural Lu Panglin Lecture, Teachers College, 2019; Arthur Whitely Lecture, NW Regional Meeting of the Society for Developmental Biology, 2019

Honorary Societies: Fellow, American Academy of Arts and Sciences, elected 2003; Member, National Academy of Sciences, elected 2004; Fellow, American Association for the Advancement of Science, elected 2007; 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; Fellow, Academy of the American Association for Cancer Research, 2013; Honorary Member, Bilim Akademisi (Science Academy, Turkey), elected 2016; Honorary Member, New York Academy of Sciences, 2017; Foreign Member, Royal Society, 2018

Research Awards: McKnight Neuroscience Development Award 1991-1994; N.I.H. Method to Extend

Research in Time (MERIT) Award, 1999-2009

Honorary Doctorates: Niagara University, 2011; Ilan University, 2012; National University of Brasilia, 2014; Middlebury College, 2015; University of Chile, 2015; University of the Republic of Uruguay, 2017; Macao University of Science and Technology, 2018; Connecticut College, 2019.

Awards: Lewis S. Rosenstiel Award for Distinguished Work in Basic Medical Science (Brandeis

University), corecipient with Roger Tsien, 2006; 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; Science and the City Award, New York Academy of Sciences, 2009; Simão Mathias Medal, Brazilian Chemical Society, 2010; Distinguished Scientist Award, American Heart Association, 2010; Pioneer in Photonics Award, Fitzpatrick Institute of Photonics, Duke University, 2011; Golden Goose Award, 2012; Gold Medal of the Republic of Armenia Ministry of Science and Education, 2012; Illustrious Visitor, Montevideo, Uruguay, 2018; Honorary Professor, Fudan University, 2018; Honorary Professor, Pirogov Russian National Research Medical University, 2019; Lomonosov Medal, Russian Academy of Science, 2019; Honorary Member, Harvard College Alpha Iota Chapter, Phi Beta Kappa, 2019

*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

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 and May 20, 2009.

Editor-in-chief, *WormBook*, 2004-2015

At-large Member, Coalition for the Life Sciences, since 2010

Chair, Public Policy Committee, Genetics Society of America, 2011-2014

Member (since 2013) and Chair (since 2015) Committee on Human Rights, U.S. National Academies of Sciences, Engineering,

Member, Executive Committee of the International Human Rights Network of Academies and Scholarly Societies, since 2015

President, Society for Developmental Biology, 2013-2014

Council Member, American Society for Cell Biology, 2013 - 2015

Recent Advisory Boards: WormBase (2000-2008); Columbia Science Honors Program (since 2008); Italian Institute of Technology (since 2010); New York Academy of Sciences Board of Governors (2010-2016); Gruber Foundation Genetics Prize (2010-2015); Sackler International Biophysics Prize, Tel Aviv University (since 2011); Leon M. Lederman Frontiers of STEM Symposium, Illinois Math and Science Academy (2011-2013), Sagol School of Neuroscience, Tel Aviv University (since 2012); Sackler Institute Honoring Herb Pardis, Columbia (since 2012); Blavatnik Awards Scientific Advisory Council (since 2013); Gruber Foundation Neuroscience Prize (2014-2017); Beijing Advanced Innovation Center for Genomics Science Advisory Board (chair; since 2017); Society for Science and the Public Board of Trustees (since 2017; vice-chair since 2019)

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

**Research Articles**

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. 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.
3. M. Chalfie, D. Hoadley, S. Pastan, and R.L. Perlman (1976) Calcium uptake into a rat pheo­chromocytoma. *J. Neurochem.* **27**: 1405-1409.
4. M. Chalfie and R.L. Perlman (1977) Regulation of catecholamine biosynthesis in a transplant­able rat pheochromocytoma. *J. Pharmacol. Exp. Ther.* **200**: 588-597.
5. M. Chalfie, L. Settipani, and R.L. Perlman (1978) Activation of tyrosine 3-mono-oxygenase in pheochromocytoma cells by lasalocid. *Biochem. Pharmacol.* **27**: 673-677.
6. M. Chalfie, L. Settipani, 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.
7. M. Chalfie and J.N. Thomson (1979) Organization of neuronal microtubules in the nematode *Caenorhabditis elegans*. *J. Cell Biol.* **82**: 278-289.
8. M. Chalfie and J. Sulston (1981) Developmental genetics of the mechanosensory neurons of *Caenorhabditis elegans*. *Develop. Biol.* **82**: 358-370.
9. 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.
10. M. Chalfie and J.N. Thomson (1982) Structural and functional diversity in the neuronal microtubules of *Caenorhabditis elegans*. *J. Cell Biol.* **93**: 15-23.
11. 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.
12. M. Chalfie, J.N. Thomson, and J.E. Sulston (1983) Induction of neuronal branching in *Caeno­rhabditis elegans*. *Science* **221**: 61-63.
13. 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.
14. W.W. Walthall and M. Chalfie (1988) Cell-cell interaction in the guidance of late-developing neurons in *Caenorhabditis elegans*. *Science* **239**: 643-645.
15. 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.
16. M. Chalfie and M. Au (1989) Genetic control of differentiation of the *C. elegans* touch receptor neurons. *Science* **243**: 1027-1033.
17. 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.
18. M. Driscoll, E. Dean, E. Reilly, E. Bergholz, and M. Chalfie (1989) Genetic and molecular analysis of a *C. elegans* β-tubulin that conveys benomyl sensitivity. *J. Cell Biol.* **109**: 2993-3003.
19. 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.
20. C. Li and M. Chalfie (1990) Organogenesis in *C. elegans*: Positioning of neurons and muscles in the egg-laying system. *Neuron* **4**: 681-695.
21. M. Chalfie and E. Wolinsky (1990) The identification and suppression of inherited neurodegen­eration in *Caenorhabditis elegans*. *Nature* **345**: 410-416.
22. M. Driscoll and M. Chalfie (1991) The *mec-4* gene is a member of a family of *Caenorhabditis elegans* genes that can mutate to induce neuronal degeneration. *Nature* **349**: 588-593.
23. D. Xue, M. Finney, G. Ruvkun, and M. Chalfie (1992) Regulation of the *mec-3* gene by the *C. elegans* homeoproteins UNC-86 and MEC-3. *EMBO J.* **11**: 4969-4979.
24. M. Chalfie, M. Driscoll, and M. Huang (1993) Degenerin similarities. *Nature* **361**: 504.
25. D. Xue, Y. Tu, and M. Chalfie (1993) Cooperative interactions between the C. elegans homeoproteins UNC-86 and MEC-3. *Science* **261**: 1324-1328.
26. S. Mitani, H. Du, D.H. Hall, M. Driscoll, and M. Chalfie (1993) Combinatorial control of touch receptor neuron expression in *Caenorhabditis elegans*. *Development* **119**: 773-783.
27. M. Huang and M. Chalfie (1994) Gene interactions affecting mechanosensory transduction in *Caenorhabditis elegans*. *Nature* **367**: 467-470.
28. M. Chalfie, Y. Tu, G. Euskirchen, W.W. Ward, and D.C. Prasher (1994) Green fluores­cent protein as a marker for gene expression. *Science* **263**: 802-805.
29. 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.
30. J. García‑Añoveros, C. Ma, and M. Chalfie (1995) An extracellular domain regulates degenerin channel activity. *Curr. Biol.* **5**: 441-448.
31. M. Treinin and M. Chalfie (1995) A mutated acetylcholine receptor subunit causes neuronal degeneration in *C. elegans*. *Neuron* **14**: 871-877.
32. M. Huang, G. Gu, E.L. Ferguson, and M. Chalfie (1995) A stomatin-like protein necessary for mechanosensation in *C. elegans*. *Nature* **378**: 292-295.
33. H. Du, G. Gu, C. William, and M. Chalfie (1996) Extracellular proteins needed for C. elegans mechanosensation. *Neuron* **16**: 183-194.
34. G. Gu, G.A. Caldwell, and M. Chalfie (1996) Genetic interactions affecting touch sensitivity in *Caenorhabditis elegans*. *Proc. Natl. Acad. Sci. USA* **93**: 6577-6582.
35. C.-C. Lai, K. Hong, M. Kinnell, M. Chalfie, and M. Driscoll (1996) Sequence and transmembrane topology of MEC-4, an ion channel subunit required for mechanotransduction in *C. elegans*. *J. Cell Biol.* **133**: 1071‑81.
36. D.H. Hall, G. Gu, J. García‑Añoveros, L. Gong, M. Chalfie, and M. Driscoll (1997) Neuropathology of degenerative cell death in C. elegans. *J. Neurosci.* **17**: 1033-1045.
37. A. Duggan, C. Ma, and M. Chalfie (1998) Regulation of touch receptor differentiation by the *C. elegans* *mec-3* and *unc-86* genes. *Development* **125**: 4107-4119.
38. M. Treinin, B. Gillo, L. Liebman, and M. Chalfie (1998) Two functionally dependent acetylcholine subunits are encoded in a single *C. elegans* operon. *Proc. Natl. Acad. Sci. USA*, **95**: 15492-15495.
39. R.Y.N. Lee, E.R. Sawin, M. Chalfie, H.R. Horvitz, and L. Avery (1999) EAT-4, a homolog of a mammalian sodium-dependent inorganic phosphate cotransporter, is necessary for glutamatergic neurotransmission in *Caenorhabditis elegans*. *J. Neurosci.* **19**: 159-167.
40. [Retracted] J. Taub, J. F. Lau, C. Ma, J. H. Hahn, R. Hoque, J. Rothblatt, and M. Chalfie (1999) A cytosolic catalase is needed to extend adult life-span in *C. elegans* *daf-c* and *clk-1* mutants. *Nature* **399**: 162-166.
41. J. Wu, A. Duggan, and M. Chalfie (2001) Inhibition of touch cell fate by *egl-44* and *egl-46* in *C. elegans*. *Genes Develop.* **15**: 789-802.
42. H. Du and M. Chalfie (2001) Genes regulating touch cell development in *C. elegans*. *Genetics* **158**: 197-207.
43. M. B. Goodman, G. G. Ernstrom, D. S. Chelur, R. O’Hagan, C. A. Yao, and M. Chalfie (2002) MEC-2 regulates *C. elegans* DEG/ENaC channels needed for mechanosensation. *Nature* **415**: 1039-1042.
44. Y. Zhang, C. Ma, T. Delohery, B. Nasipak, B. C. Foat, A. Bounoutas, H. J. Bussemaker, S. K. Kim, and M. Chalfie (2002) Identification of genes expressed in *C. elegans* touch receptor neurons. *Nature* **418**: 331-335.
45. Y. Zhang and M. Chalfie (2002) MTD-1, a touch-cell-specific membrane protein with a subtle effect on touch sensitivity. *Mech. Develop.***119**: 3-7.
46. D. S. Chelur, G. G. Ernstrom, M. B. Goodman, C. A. Yao, L. Chen, R. O’Hagan, and M. Chalfie (2002) The mechanosensory protein MEC-6 is a subunit of the *C. elegans* touch-cell degenerin channel. *Nature* **420**: 699-673.
47. 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.
48. M. Poyurovsky, X. Jacq, C. Ma, O. Karni-Schmidt, P. J. Parker, M. Chalfie, J. L. Manley, and C. Prives (2003) Nucleotide binding by the MDM2 RING domain facilitates ARF-independent MDM2 nucleolar localization. *Molec. Cell* **12**: 875-887.
49. S. Zhang, C. Ma, and M. Chalfie (2004) Combinatorial marking of cells and organelles with reconstituted fluorescent proteins. *Cell* **119**: 137-144.
50. 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.
51. L. Emtage, G. Gu, E. Hartwieg, and M. Chalfie (2004) Extracellular proteins organize the mechanosensory channel complex in *C. elegans* touch receptor neurons. *Neuron* **44**: 795-807.
52. R. O’Hagan, M. Chalfie, and M. B. Goodman (2005) The MEC-4 DEG/ENaC channel of *C. elegans* touch receptor neurons transduces mechanical signals. *Nature Neurosci.* **8**: 43-50.
53. B. Lehner, A. Calixto, C. Crombie, J. Tischler, A. Fortunato, M. Chalfie, and A. G. Fraser (2006) Loss of LIN-35, the *Caenorhabditis elegans* ortholog of the tumor suppressor p105Rb, results in enhanced RNA interference. *Genome Biology* **7:** R4     doi:10.1186/gb-2006-7-1-r4
54. T. B. Huber, B. Schermer, R. U. Müller, M. Höhne, M. Bartram, A. Calixto, H. Hagmann, C. Reinhardt, F. Koos, K. Kunzelmann, E. Shirokova, D. Krautwurst, C. Harteneck, M. Simons, H. Pavenstädt, D. Kerjaschki, C. Thiele, G. Walz, M. Chalfie, and T. Benzing (2006) Podocin and MEC-2 bind cholesterol to regulate the activity of associated ion channels. *Proc. Natl. Acad. Sci. USA* **103**:17079-17086.
55. D. Chelur and M. Chalfie (2007) Targeted cell killing by reconstituted caspases. *Proc. Natl. Acad. Sci. USA* **104**: 2283-2288.
56. 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.
57. A. Bounoutas, Q. Zheng, M. L. Nonet, and M. Chalfie (2009) *mec-15* encodes an F-box protein required for touch receptor neuron mechanosensation, synapse formation, and development. *Genetics* **183**: 607-617.
58. A. Calixto, C. Ma, and M. Chalfie (2010) Conditional Gene Expression and RNAi Using MEC-8-Dependent Splicing in *C. elegans*. *Nature Meth.* **7**: 407-411.
59. A. Calixto, D. Chelur, I. Topalidou, X. Chen, and M. Chalfie (2010) Enhanced neuronal RNAi in *C. elegans* using SID-1. *Nature Meth.* **7**: 554-559.
60. A. Bounoutas, J. Kratz, L. Emtage, C. Ma, K. C. Q. Nguyen, and M. Chalfie (2011) Microtubule depolymerization in *C. elegans* touch receptor neurons reduces gene expression through a p38 MAPK pathway. *Proc. Natl. Acad. Sci. USA* **108**: 3982-3927.
61. I. Topalidou, A. van Oudenaarden, and M. Chalfie (2011) The *C. elegans* *aristaless/Arx* gene *alr-1* restricts variable gene expression. *Proc. Natl. Acad. Sci. USA* **108**: 4063-4068.
62. J. Árnadóttir, R. O’Hagan, Y. Chen, M. B. Goodman, and M. Chalfie (2011) The DEG/ENaC protein MEC-10 regulates the transduction channel complex in *C. elegans* touch receptor neurons. *J. Neurosci.* **31**: 12695-12704.
63. I. Topalidou and M. Chalfie (2011) Shared gene expression in distinct neurons expressing common selector genes. *Proc. Natl. Acad. Sci. USA* **108**:19258-19263.
64. Topalidou, C. Keller, N. Kalebic, K. C. Nguyen, H. Somhegyi, K. A. Politi, P. Heppenstall, D. H. Hall, and M. Chalfie (2012) Genetically separable functions of the MEC-17 tubulin acetyltransferase affect microtubule organization. *Curr. Biol.* **22**: 1057-1065.
65. M. Doitsidou, N. Flames, I. Topalidou, N. Abe, T. Felton, L. Remesal, T. Popovitchenko, R. Mann, M. Chalfie, and O. Hobert (2013) A combinatorial regulatory signature controls terminal differentiation of the dopaminergic nervous system in *C. elegans*. *Genes Develop.* ***15****:* 1391-1405.
66. C. Zheng, S. Karimzadegan, V. Chiang, and M. Chalfie (2013) Histone methylation restrains the expression of subtype-specific genes during terminal neuronal differentiation in *Caenorhabditis elegans*. *PLoS Genetics* **9**: e1004017.
67. E.-M. Schurek, L.A. Völker, J. Tax, T. Lamkemeyer, M.M. Rinschen, D. Ungrue, J.E. Kratz, III, L. Sirianant, K. Kunzelmann, M. Chalfie, B. Schermer, T. Benzing, and M. Höhne, (2014) A disease-causing mutation illuminates protein membrane topology of the kidney-expressed PHB domain protein podocin. J. Biol. Chem. **289**: 11262-11271.
68. X. Chen and M. Chalfie (2014) Modulation of *C. elegans* touch sensitivity is integrated at multiple levels. *J. Neurosci.* **34**: 6522-6536.
69. X. Chen and M. Chalfie (2015) Regulation of mechanosensation in *C. elegans* through ubiquitination of the MEC-4 mechanotransduction channel. *J. Neurosci.* **35**: 2200-2212.
70. X. Chen, M. Diaz Cuadros, and M. Chalfie (2015) Identification of non-viable genes affecting touch sensitivity in *C. elegans* using neuronally-enhanced feeding RNAi. *G3* **5**: 467-475.
71. M. Kelley, J. Yochem, M. Krieg, A. Calixto, M. G. Heiman, A. Kuzmanov, V. Meli, M. Chalfie, M. B. Goodman, S. Shaham, A. Frand, and D. S. Fay (2015)FBN-1, a fibrillin-related protein, is required for resistance of the epidermis to mechanical deformation during *C. elegans* embryogenesis. *eLife* **4**: e06565.
72. Y. Chen, S. Bharill, E. Y. Isacoff, and M. Chalfie (2015) Subunit composition of a DEG/ENaC mechanosensory channel of *C. elegans*. *Proc. Natl. Acad. Sci. USA* **112**:11690-11695.
73. C. Zheng, M. Diaz-Cuadros, and M. Chalfie (2015) Hox genes promote neuronal subtype diversification through posterior induction in *Caenorhabditis elegans*. *Neuron* **88**: 514-527.
74. C. Zheng, M. Diaz-Cuadros, and M. Chalfie (2015) Dishevelled attenuates the repelling activity of Wnt signaling during neurite outgrowth in *Caenorhabditis elegans*. *Proc. Natl. Acad. Sci. USA* **112**: 13243-13248.
75. C. Zheng, F. Q. Jin, and M. Chalfie (2015) Hox proteins act as transcriptional guarantors to ensure terminal differentiation. *Cell Reports* **13**: 1-10.
76. Y. Chen, S. Bharill, E. Y. Isacoff, and M. Chalfie (2016) MEC-10 and MEC-19 reduce the neurotoxicity of the MEC-4(d) DEG/ENaC channel in *C. elegans*. *G3* **6**: 1121-1130.
77. Y. Chen, S. Bharill, Z. Altun, R. O’Hagan, B. Coblitz, E. Y. Isacoff, and M. Chalfie (2016) *C. elegans* paraoxonase-like proteins control the folding and transport of DEG/ENaC mechanosensory proteins. *Molec. Biol. Cell* **27**: 1272-1285.
78. C. Zheng, M. Diaz-Cuadros, and M. Chalfie (2016) GEFs and Rac GTPases control directional specificity of neurite extension along the anterior–posterior axis *Proc. Natl. Acad Sci. USA* **113**: 6973-6978.
79. S. Shi, T. M. Buck, C. L. Kinlough, A. L. Marciszyn, R. P. Hughey, M. Chalfie, J. L. Brodsky, and T. Kleyman (2017) Regulation of the Epithelial Na+ Channel by Paraoxonase-2. *J. Biol. Chem.* **292**: 15927-15938.
80. C. Zheng, M. Diaz-Cuadros, K.C.Q. Nguyen, D.H. Hall, and M. Chalfie (2017) Distinct effects of tubulin isotype mutations on neurite growth in *Caenorhabditis elegans*. *Molec. Biol. Cell* **28**: 2786-2801.
81. C. Zheng, F. Q. Jin, B. L. Trippe, J. Wu, and M. Chalfie (2018) Inhibition of cell fate repressors secures the differentiation of the touch receptor neurons of *Caenorhabditis elegans. Development*, **145(22)**. pii: dev168096.
82. C. Zheng, E. Atlas, H. M. T. Lee, S. L. J. Jao, K. C. Q. Nguyen, D. H. Hall, and M. Chalfie (2020) Opposing effects of an F-box protein and the HSP90 chaperone network on microtubule stability and neurite growth in *Caenorhabditis elegans*. *Development*, in press.

**Reviews**

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2. R.L. Perlman and M. Chalfie (1977) Catecholamine release from the adrenal medulla. *Clinics Endocrinol. Metab.* **6**: 551-576.
3. M. Chalfie (1982) Microtubule structure in *Caenorhabditis elegans* neurons. *Cold Spring Harb. Symp. Quant. Biol.* **46**: 255-261.
4. M. Chalfie (1984) Genetic analysis of nematode nerve cell differentiation. *Bioscience* **34**: 295-299.
5. M. Chalfie (1984) Neuronal development in *Caenorhabditis elegans*. *Trends Neurosci.* **7**: 197-202.
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7. 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.
8. M. Chalfie (1989) *Caenorhabditis elegans* development. *Curr. Opin. Cell Biol.* **1**: 1122-1126.
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