CURRICULUM VITAE

NAME, POSITION, ACADEMIC DEPARTMENT

Stephen L. Helfand
Professor
Department of Molecular Biology, Cell Biology and Biochemistry
Division of Biology and Medicine
Brown University
Rhode Island

EDUCATION

1975	Stanford University; Stanford, CA.	B. Sc.
1979	Albert Einstein College of Medicine; Bronx, NY.	M.D.

PROFESSIONAL APPOINTMENTS

1980	Medical Intern, Department of Internal Medicine, Montefiore Hospital and Medical Center, Bronx, NY
1980-83	Clinical Resident, Neurology, Massachusetts General Hospital Clinical Fellow, Neurology, Harvard Medical School, Boston, MA
1981	Visiting Scholar, Neuroimmunology, Queens University, Canada
1983-84	Postdoctoral fellow, Department of Biological Sciences, Stanford University, Stanford, CA
1984-85	Research Associate, Department of Biological Sciences; Department of Biochemistry, Stanford University, Stanford, CA
1985-90	Associate Research Scientist, Department of Biology, Yale University, New Haven, CT
1990-1997	Assistant Professor, Department of BioStructure and Function, School of Dental Medicine, UConn Health Center, (UCHC), CT
1991-2005	Member, Oral Biology Graduate Faculty, UConn Health Center, CT
1991-2005	Member, Developmental Biology Graduate Faculty, UConn Health Center, CT
1991-2005	Member, Neuroscience Graduate Faculty, UConn Health Center, CT
1993-2005	Member, Core Faculty of UConn Center on Aging, UConn Health Center, CT
1996-2005	Director, Genetics and Developmental Biology Graduate Program, UConn Health Center, CT
1997-1999	Associate Professor with Tenure, Department of BioStructure and Function, School of Dental Medicine, UConn Health Center, CT
1998	Acting Head Department BioStructure and Function: August
1999	Acting Head Department BioStructure and Function: March, May, August
1999-2003	Associate Professor with Tenure, Department of Genetics and Developmental Biology, School of Medicine, UCHC, CT
2000	Visiting Professor, University College London, Department of Biology (August-December)
2003-2005	Professor with Tenure, Department of Genetics and Developmental Biology, School of Medicine, UCHC, CT
2005-present	Professor with Tenure, Department of Molecular Biology, Cell Biology and Biochemistry, Brown University, RI
2009-2015	Founding Director, Brown University Biology of Aging Initiative, Brown University, RI
2015-present	Associate Director for Research, Brown University Biology of Aging Initiative, Brown University, RI
2014-present	Member, Center for Computational Molecular Biology, Brown University, RI
2019-present	Member Executive Committee, Center for Translational Neuroscience, Brown University, RI

2019-present Carney Institute for Brain Science, Brown University, RI
2019-present Vice-Chair of Research, Department of Neurology, Brown University, RI
2019-present George D. Eggleston Endowed Professor of Biochemistry, Brown University, RI

ACADEMIC HONORS, FELLOWSHIPS

1974 Fairclough Book Prize for Classics, Stanford University
1975 Distinction, Departmental Honors (Biology) Stanford University
1975 NSF Undergraduate Fellowship (Advisor: N.K. Wessells), Stanford University
1976 Predoctoral Trainee Fellowship (Advisor: D.P. Purpura and N.K. Wessells), Stanford University and Albert Einstein College of Medicine
1977 Roche Award in Neuroscience, American Medical Student Association-National Research Meeting Award
1978 Albert Cass Scholarship for Research in Neuroimmunology
1979 Medical Research Council Fellowship in Neuroimmunology (Advisor: M.C. Raff), Department of Zoology, University College, London
1981 Queen's University Development Fund Award-Neuroimmunology (Advisor: J.C. Roder), Department of Biology, Queen's University, Kingston, Ontario
1983 Boston Society of Psychiatry and Neurology Sandoz Award for Medical Research, Department of Neurology, Massachusetts General Hospital
1983-1984 NIH Postdoctoral Fellowship (Advisor: C.S. Goodman), Stanford University
1984-1989 NIH Physician Scientist Award (Advisors: C.S. Goodman, D.S. Hogness, J. Carlson, D. K. Kankel), Stanford University and Yale University
1986 Diplomate, American Board of Psychiatry and Neurology
1990 University of Connecticut Research Initiation Program Grant
1991 American Cancer Society Institutional Research Grant Award
1991 University of Connecticut Faculty Research Grant
1992-1996 National Science Foundation Grant
1992 American Federation of Aging Research Award
1993 Sandoz Award for Gerontological Research
1993 University of Connecticut Faculty Research Grant
1994-1996 The Patrick & Catherine Weldon Donaghue Medical Research Foundation Award, mentor for Dr. Blanka Rogina.
1995 American Federation of Aging Research Award
1995 Gordon Conference Travel Award
1995 1995 Summer Training Course in Experimental Aging Research, National Institutes on Aging
1995 American Federation of Aging Research Fellowship, mentor for Mr. Timothy Kuwada.
1995 Nathan W. and Margaret T. Shock Aging Research Foundation Award
1997-1999 National Institutes on Aging-R03
1998 University of Connecticut Faculty Research Grant
1999-2004 R01 National Institutes on Aging
2000-2005 The Donaghue Foundation Investigator Program for Health-Related Research Award
2000 Burroughs Wellcome Travel Grant to study in UK
2001-2005 Ellison Medical Foundation Senior Investigator Award
2003 American Federation of Aging Research Fellowship, mentor for Mr. Brian Silvia.
2004 American Federation of Aging Research Fellowship, mentor for Mr. Sanchez-Blanco.
2004-2016 R37 NIH MERIT Award, National Institutes on Aging
2004-2009 R01 National Institutes on Aging
2005-2010 R01 National Institute on Aging
2005-2009 K01 mentor for Dr. Yih-Woei Fridell

2005-2007	American Federation of Aging Research Fellowship, mentor for Postdoctoral Fellowship for Dr. Johannes Bauer
2007-2009	NIA K99—mentor for Dr. Johannes Bauer
2007	Frontiers in Aging Distinguished Speaker, Baylor Medical School
2007	Keynote speaker at Biology of Aging Gordon Conference, Switzerland
2007-2009	Glenn Award for Research in Biological Mechanisms of Aging
2009-2011	Glenn Award for Research in Biological Mechanisms of Aging
2010-2011	Glenn, American Federation of Aging Research Fellowship, mentor for Postdoctoral Fellowship for Dr. Jason Wood
2011-2012	Glenn, American Federation of Aging Research Fellowship, mentor for Postdoctoral Fellowship for Dr. Nan Jiang
2011	Keynote Speaker, Fifth Annual Division of Aging Biology New Investigators Forum, NIA
2012-2014	Johnson & Johnson / Brown OVPR TIPAP Award
2013	Keynote Speaker for AGE meeting in Baltimore, MD, June 2, 2013.
2014-2015	Brown University DEANS Emerging Areas of New Science Award
2014-2016	Glenn/AFAR Breakthroughs in Gerontology Award
2014-2019	R01 National Institutes on Aging
2017	Elected Fellow of the Gerontological Society of America
2017	Elected Fellow of the AAAS (American Association for the Advancement of Science)
2018-2021	Biological Sections Vice Chair, Chair for the Gerontological Society of America
2018-2022	NIA K99—mentor for Dr. Jackson Taylor
2019-	George D. Eggleston Endowed Professor of Biochemistry, Brown University, RI
2022-	Elected member of The Academy for Health and Lifespan Research

SOCIETIES

1980-1985	American Academy of Neurology
1980-1985	Massachusetts Medical Society
1985-2005	New York Academy of Sciences
1985-present	American Association for the Advancement of Science
1985-present	Genetics Society of America
1994-present	Gerontological Society of America
1998-2002	Society for Developmental Biology
2012-present	Alliance for Aging Research
2022-present	The Academy for Health and Lifespan Research

LICENSURE AND CERTIFICATION

National Board of Medical Examiners, No. 221305
Diplomate, American Board of Psychiatry and Neurology
Massachusetts Medical License, (inactive)
California Medical License Registration (inactive), No. G 50787
Connecticut Medical License Registration, No. 034003

PATENTS

Methods for Metabolic Maintenance Using Co transporters	60/255,013
Polynucleotides Encoding Cellular Transporters and Methods of Use Thereof	10/017,479 and PCT/US01/48130 Transporter Protein 10/167,994

PUBLICATIONS

Refereed original journal articles

1) **Helfand, S.L**., Smith, G.A., and Wessells, N.K. (1976) Survival and development in culture of dissociated parasympathetic neurons from ciliary ganglia. *Dev. Biol.* **50:** 541-547.

2) **Helfand, S.L**., Riopelle, R.J., and Wessells, N.K. (1978) Non-equivalence of conditioned medium and nerve growth factor for sympathetic, parasympathetic and sensory neurons. *Exp. Cell Res.* **113:** 39-45.

3) **Helfand, S.L**., Werkmeister, J., and Roder, J.C. (1982) The relationship between target cell binding, chemiluminescence and cytolysis. *J. Exp. Med.* **156:** 492-505.

4) Roder, J.C., **Helfand, S.L.**, Werkmeister, J., McGarry, R., Beaumont, T.J., and Duwe, A. (1982) Oxygen intermediates are triggered early in the cytoytic pathway of human NK cells. *Nature* **298:** 569-572.

5) Werkmeister, J.A., **Helfand, S.L.**, Rubin, P., Haliotis, T., Pross, H., and Roder, J.C. (1982) Tumor cell differentiation modulates susceptibility to natural killer cells. *Cell. Immun.* **69**: 122-127.

6) Roder, J.C., Todd, R.F., Rubin, P., Haliotis, T., **Helfand, S.L**., Werkmeister, J., Pross, H.F., Boxer, L.A., Schlossman, S.F., and Fauci, A.S. (1983) The Chediak-Higashi gene in humans III. Studies on the mechanism of NK impairment. *Clinical Exp. Immuno.* **51:** 359-368.

7) **Helfand, S.L**., Werkmeister, J., Pross, H., and Roder, J.C. (1983) Oxygen intermediates are required for interferon activation of NK cells. *J. Interferon Res.* **2:** 143-151.

8) Werkmeister, J., **Helfand, S.L**., Roder, J., and Pross, H. (1983) The chemiluminescence response of human natural killer cels. II. Association of a decreased response with low natural killer activity. *Eur. J. Immunol*. **13:** 514-520.

9) McGarry, R.C., **Helfand, S.L**., Quarles, R.H., and Roder, J.C. (1983) Recognition of myelin-associated gylcoprotein by the monoclonal antibody HNK-1. *Nature* **306:** 376-378.

10) Beachy, P.A., **Helfand, S.L**. Hogness, D.S. (1985) Segmental distribution of bithorax complex proteins during Drosophila development. *Nature* **313:** 545-551.

11) **Helfand, S.L**. and Carlson, J. (1989) Isolation and characterization of an olfactory mutant in Drosophila with a chemically specific defect. *Proc. Natl. Acad. Sci. USA* **86**: 2908-2912.

12) Woodward, C., Huang,T., Sun, H., **Helfand, S.L**., and Carlson, J. (1989) Genetic analysis of olfactory behavior in Drosophila: A new screen yields the *ota* mutants. *Genetics*. **123**: 315-326.

13) McKenna, M., Monte, P., **Helfand, S.L**., Woodard, C., and Carlson, J. A novel chemosensory response in Drosophila and the isolation of the acj mutations which affect it. (1989) *Proc. Natl. Acad. Sci. USA* **86:** 8118-8122.

14) Irvine, K.D., **Helfand, S.L**. and Hogness, D.S. The large upstream control region of the Drosophila homeotic gene *Ultrabithorax*. (1991) *Development* **111**: 407-424.

15) **Helfand, S.L.**, Blake,K.J., Rogina, B., Stracks, M.D., Centurion, A. and Naprta, B. Temporal patterns of gene expression in the antenna of the adult *Drosophila melanogaster*. (1995) *Genetics* **140**: 549-555.

16) Blake, K.J., Rogina, B., Centurion, A. and **Helfand, S. L.** Changes in gene expression during post-eclosional development in the olfactory system of *Drosophila melanogaster*. (1995) *Mechanisms of Development* **52**: 179-185.

17) Rogina, B. and **Helfand, S. L.** Regulation of gene expression is linked to life span in the adult Drosophila. (1995) *Genetics* **141**: 1043-1048.

18) Blake, K. J., Hoopengardner, B., Centurion, A. and **Helfand, S. L.** A molecular marker shows that adult maturation is independent of the rate of pre-adult development in *Drosophila melanogaster*. (1996) *Developmental Genetics* **18**: 125-130.

19) **Helfand, S. L.** and Naprta, B. The expression of a reporter protein, ß-galactosidase, is preserved during maturation and aging in some cells of the adult *Drosophila melanogaster*. (1996) *Mechanisms of Development* **55**:45-51.

20) Rogina, B. and **Helfand, S. L.** Timing of expression of a gene in the adult Drosophila is regulated by mechanisms independent of temperature and metabolic rate. (1996) *Genetics* 143: 1643-1651

21) Rogina, B. and **Helfand, S. L.** Spatial and temporal pattern of expression of the *wingless* and *engrailed* genes in the adult antenna is regulated by age-dependent mechanisms. (1997) *Mechanisms of Development* **63:** 89 - 97.

22) Rogina, B., Benzer, S., and **Helfand, S. L.** Drosophila *drop-dead* mutations accelerate the time course of age-related markers. (1997) *Proc. Natl. Acad. Sci*. (USA), **94**: 6303-6306.

23) Rogina, B., Vaupel, J. W., Partridge, L., **Helfand, S. L.** Regulation of gene expression is preserved in aging *Drosophila melanogaster*. (1998) *Current Biology*, **8**: 475-478.

24) Rogina, B. and **Helfand, S.L.** Cu, Zn superoxide dismutase deficiency accelerates the time course of an age-related marker in *Drosophila melanogaster*. (2000) *Biogerontology* 1: 161-167.

25) Rogina, B. Reenan, R. A., Nilsen S. P. and **Helfand, S. L.** Extended life-span conferred by cotransporter gene mutations in Drosophila. (2000) *Science*, **290**: 2137-40.

26) Hoopengardner, B and **Helfand, S. L.** Temperature Compensation and Temporal Expression Mediated by an Enhancer Element in *Drosophila*. (2002) *Mechanisms of Development*, **110**: 27-37.

27) Knauf, F., Rogina, B., Jiang, Z., Aronson, P. A., and **Helfand, S. L.** (2002) Functional Characterization and Immunolocalization of the Novel Transporter Encoded by the Life-Extending Gene *Indy*. *Proc. Natl. Acad. Sci*. (USA), **99**:14315-14319.

28) Rogina, B., **Helfand, S. L.** and Frankel, S. (2002) Longevity regulation by *Drosophila* Rpd3 deacetylase and caloric restriction, *Science*, **298**: 1745.

29) Marden, J.H., Rogina, B., Montooth,K.L. and **Helfand, S. L.** (2003) Conditional tradeoffs between aging and organismal performance of *Indy* long-lived mutant flies. . *Proc. Natl. Acad. Sci.* (*USA*), **100**: 3369-3373.

30) Fridell, Y-W., Sánchez-Blanco, Silvia, B. A. and **Helfand, S. L**., (2004) Functional Characterization of a *Drosophila* Mitochondrial Uncoupling Protein. *Journal of Bioenergetics and Biomembranes*, 36 (3): 219-228.

31) Woods, J, Rogina, B, Lavu, S., Howitz, K., ***Helfand, S. L**, *Tatar, M., and *Sinclair, D. (2004) Sirtuin activators mimic calorie restriction and delay aging in metazoans. *Nature*, 430 (7000): 686-9. (* co-contributing authors)

32) Bauer, J., Goupil, S., Garber, G., and **Helfand, S. L.** (2004) An accelerated assay for the identification of life span extending interventions in *Drosophila melanogaster*. *Proc. Natl. Acad. Sci.* (*USA*), **101**:12980-12985.

33) Rogina, B. and **Helfand, S. L.** (2004) Sir2 mediates longevity in the fly through a pathway related to calorie restriction. *Proc. Natl. Acad. Sci.* (*USA*), 101: 15998-16003.

34) Fridell, Y-W, Sanchez-Blanco, A., Silvia, B. and **Helfand, S. L.** (2005) Targeted Expression of the Human Uncoupling Protein 2 (hUCP2) to Adult Neurons Extends Life Span in the Fly. *Cell Metabolism*, 1: 145-152.

35) Zheng, J-Y, Mutcherson, R, and **Helfand, S. L.** Calorie restriction delays lipid oxidative damage in Drosophila melanogaster. Aging Cell 2005; 4: 209-16.

36) Bross, TG, Rogina, B, and **Helfand S.L.** (2005) Behavioral, physical, and demographic changes in Drosophila populations through dietary restriction. Aging Cell. 4: 309-17. (Cover picture)

37) Bauer JH, Poon PC, Glatt-Deeley H, Abrams JM, and **Helfand S.L.** (2005) Neuronal Expression of p53 Dominant-Negative Proteins in Adult *Drosophila melanogaster* Extends Life Span. *Curr Biol.* 15:2063-8.

38) Sanchez-Blanco A, Fridell YW, and **Helfand S.L.** (2006) Involvement of Drosophila Uncoupling Protein 5 in Metabolism and Aging. *Genetics* 172:1-12.

39) Knauf F, Mohebbi N, Teichert C, Herold D, Rogina B, Helfand S.L., Gollasch M, Luft FC, and Aronson, PA. (2006) The life-extending gene Indy encodes an exchanger for Krebs-cycle intermediates. Biochemical Journal 397: 25-29.

40) Bauer JH, Chang C, Morris SNS, Hozier S, Andersen S, Waitzman JS, **Helfand S.L.** (2007) Expression of dominant-negative Dmp53 in the adult fly brain inhibits insulin signaling. *Proc. Natl. Acad. Sci.* (*USA*), 14; 104(33):13355-60Aug 8; [Epub ahead of print]

41) Bauer J.H., Morris SNS, Chang C, Flatt T, Wood JG and **Helfand S.L.** (2009) dSir2 and Dmp53 interact to mediate aspects of CR-dependent life span extension in D. melanogaster. *Aging* 1: 38-48.

42) Neretti N, Wang PY, Brodsky AS, Nyguyen HH, White KP, Rogina B, **Helfand S.L**. (2009) Long-lived Indy induces reduced mitochondrial reactive oxygen species production and oxidative damage. *Proc Natl Acad Sci* U S A. 2009 Feb 17;106(7):2277-82. PMCID: 2629441

43) Wang PY, Neretti N, Whitaker R, Hosier S, Chang C, Lu D, Rogina B, **Helfand SL**. (2009) Long-lived Indy and calorie restriction interact to extend life span. *Proc Natl Acad Sci U S A.* 2009 Jun 9;106(23):9262-7. PMCID: PMC2685744

44) Fridell, Y-W, Hoh, M, Kreneisz, Orsolya, Hosier, S, Chengyi, C, Scantling D, Mulkey, D and **Helfand SL**. (2009) Increased Uncoupling Protein (UCP) activity in Drosophila Insulin-Producing neurons attenuates Insulin signaling and extends lifespan. *Aging* Jul 21;1(8):699-713.

45) Bauer JH, Chang C, Bae G, Morris SN, **Helfand SL**. (2010) Dominant-negative Dmp53 extends life span through the dTOR pathway in D. melanogasgter. Mech Ageing Dev. 2010 Mar;131(3):193-201. Epub 2010 Feb 1.

46) Bauer, JH, Antosh, M., Chang, C., Schorl, C., Kolli, S., *Neretti, **Helfand SL.** (2010) Comparative transcriptional profiling identifies *takeout* as a gene that regulates life span. Aging May;2(5):298-310.PMID: 20519778

47) Wood JG, Hillenmeyer S, Lawrence C, Chang C, Hosier S, Lightfoot W, Mukherjee E, Jiang N, Schorl C, Brodsky AS, Neretti N, **Helfand SL**. (2010) Chromatin remodeling in the aging genome of Drosophlia. Aging Cell. 2010 Dec;9(6):971-8. doi: 10.1111/j.1474-9726.2010.00624.x. Epub 2010 Oct 21.PMID: 20961390

48) Antosh M, Whitaker R, Kroll A, Hosier S, Chang C, Bauer J, Cooper L, Neretti N, **Helfand SL**. (2011) Comparative transcriptional pathway bioinformatic analysis of dietary restriction, Sir2, p53 and resveratrol life span extension in Drosophila. *Cell Cycle.* 2011 Mar 15;10(6).

49) Antosh M, Fox D, Helfand SL, Cooper LN and Neretti N. (2011) New comparative genomics approach reveals a conserved health span signature across species. *Aging* (Albany NY). 2011 Jun;3(6):576-83. PMID: 21775776

50) Birkenfeld AL, Lee HY, Guebre-Egziabher F, Alves TC, Jurczak MJ, Jornayvaz FR, Zhang D, Hsiao JJ, Martin-Montalvo A, Fischer-Rosinsky A, Spranger J, Pfeiffer AF, Jordan J, Fromm MF, König J, Lieske S, Carmean CM, Frederick DW, Weismann D, Knauf F, Irusta PM, De Cabo R, Helfand SL, Samuel VT and Shulman GI. (2011) Deletion of the mammalian INDY homolog mimics aspects of dietary restriction and protects against adiposity and insulin resistance in mice. *Cell Metabolism* 2011 Aug 3;14(2):184-95. PMID: 21803289

51) Chamseddin KH, Khan SQ, Nguyen ML, Antosh M, Morris SN, Kolli S, Neretti N, Helfand SL, Bauer JH. "takeout-dependent longevity in associated with altered Juvenile Hormone signaling". Mech Ageing Dev. 2012 Nov;133(11-12):637-46. Epub 2012 Aug 30. PMID: 22940452

52) Rogina B, and **Helfand SL** (2013). *Indy* mutations and Drosophila longevity. *Front Genet.*, 4: 47.doi: 10:3389/fgene.2013.00047. eCollection 2013. PMCID:PMC3619052.

53) Whitaker R, Faulkner S, Miyokawa R, Burhenn L, Henriksen M, Wood JG, and **Helfand SL** (2013). Increased expression of Drosophila Sir 2 extends life span in a dose-dependent manner. *Aging*, 5(9):682-691. PMID: 24036492.

54) Savva YA, Jepson JEC, Chang Y-J, Whitaker R, Jones BC, St. Laurent G, Tackett MR, Kapranov P, Jiang N, Du G, **Helfand SL** and Reenan RA (2013). RNA editing regulates transposon-mediated heterochromatic gene silencing. *Nature Comm*., 4:2745. Doi: 10.1048/ncomms3745.

55) Jiang N, Du GY, Tobias E, Wood JG, Whitaker R, Neretti N and **Helfand SL** (2013). Dietary and genetic effects on age-related loss of gene silencing reveal epigenetic plasticity of chromatin repression during aging. *Aging*, 5(11):813-824 (Cover picture). PMC Journal-in process.

56) Zhu CT, Chang C, Reenan JA and **Helfand** SL (2014). *Indy* gene variation in natural populations confers fitness advantage and life span extension through transposon insertion. *Aging*, 6(1): 58-69. PMID: 24519859; PMCID: PMC3927810.

57) Ding F, Gil MP, Franklin M, Ferreira J, Tatar M, **Helfand SL**, Neretti N (2014). Transcriptional response to dietary restriction in Drosophila melanogaster. *J Insect Physiol*. May 10. pii: S0022-1910(14)00076-6. Doi: 10.1016/j.insphys.2014.05.002 [Epub ahead of print].

58) Whitaker R, Gil MP, Ding F, Tatar M, ***Helfand SL**, *Neretti N (2014). Dietary switch reveals fast coordinated gene expression changes in Drosophila melanogaster. *Aging* May 6(5):355-368. 2014. PMCID: PMC4069263. (*co-contributing authors)

59) Pu, M., Ni Z., Wang M., Wang X., Wood J. G.**, Helfand S.** L., Yu H. and Lee S. S. (2015). "Trimethylation of Lys36 on H3 restricts gene expression change during aging and impacts life span." *Genes De***v** 29(7): 718-731.

60) Wood JG, Jones BC, Jiang N, Chang C, Hosier S, Wickremesinghe P, Garcia M, Hartnett DA, Burhenn L, Neretti N, ***Helfand S.L.** (2016). Chromatin-modifying genetic interventions suppress age-associated transposable element activation and extend life span in *Drosophila*. *Proc. Natl. Acad. Sci. USA.* Oct 4;113(40):11277-11282. PMID:27621458 PMCID: PMC5056045

This report was the subject of a Commentary in *Proc Natl Acad Sci USA* (Orr, W.C. (2016) Tightening the connection between transposable element mobilization and aging.; a focus of Research Highlights in *Nature Reviews Genetics*; reported in world-wide newspaper articles and the focus of a Providence NBC television news segment.

61) Jones BC, Wood, JG, Chang C, Tam AD, Franklin MJ., Siegel ER, ***Helfand SL** (2016). A somatic piRNA pathway in the *Drosophila* fat body ensures metabolic homeostasis and normal lifespan. *Nature Communications*, Dec 21: PMID:28000665 PMCID:PMC5187580 DOI: 10.1038/ncoms13856.

62) von Loeffelholz C, Lieske S, Neuschäfer-Rube F, Willmes DM, Raschzok N, Sauer IM, König J, Fromm M, Horn P, Chatzigeorgiou A, Pathe-Neuschäfer-Rube A, Jordan J, Pfeiffer AF, Mingrone G, Bornstein SR, Stroehle P, Harms C, Wunderlich FT, **Helfand SL**, Bernier M, de Cabo R, Shulman GI, Chavakis T, Püschel GP, Birkenfeld AL. (2017) The Human Longevity Gene Homolog INDY and Interleukin-6 Interact in Hepatic Lipid Metabolism. Hepatology. 2017 Jan 30. doi: 10.1002/hep.29089. PMID: 28133767 PMCID: PMC5519435

63) Wood, JG, Schwer B, Wickremesinghe, PC, Hartnett, DA, Burhenn,L, Garcia,M, Li,M, Verdin, E, and ***Helfand, SL**. *Sirt4 is a mitochondrial regulator of metabolism and lifespan in* Drosophila melanogaster. *Proc Natl Acad Sci U S A*. 2018 Feb 13;115(7):1564-1569 PMID:29378963 PMCID: PMC5816209

64) De Cecco, M., Ito, T., Elias, A.E., Skvir, N.J., Criscione, S.W., Caligliana, A., Brocculi, G., E.M., A., Boeke, J.D., Ambati, J., Simon, M., Seluanov, A., Gorbunova, V., E., S.P., **Helfand, S.L.**, Neretti, N., and Sedivy, J.M. (2019). *LINE-1 derepression in senescent cells triggers interferon and inflammaging. Nature* 2019 Feb;566(7742):73-78. doi: 10.1038/s41586-018-0784-9. Epub 2019 Feb 6. PMID: 30728521

65) Simon M, Van Meter M, Ablaeva J, Ke Z, Gonzalez RS, Taguchi T, De Cecco M, Leonova KI, Kogan V, **Helfand SL,** Neretti N, Roichman A, Cohen HY, Meer MV, Gladyshev VN, Antoch MP, Gudkov AV, Sedivy JM, Seluanov A, Gorbunova V. (2019). LINE1 Derrepression in Aged Wild-Type and Sirt6-Deficient Mice Drives Inflammation. *Cell Metab*. 2019 Apr 2;29(4):871-885.e5. doi: 10.1016/j.cmet.2019.02.014. Epub 2019 Mar 7.

66) Willmes DM, Daniels M, Kurzbach A, Lieske S, Bechmann N, Schumann T, Henke C, El-Agroudy NN, Da Costa Goncalves AC, Peitzsch M, Hofmann A, Kanczkowski W, Kräker K, Müller DN, Morawietz H, Deussen A, Wagner M, El-Armouche A, **Helfand SL**, Bornstein SR, de Cabo R, Bernier M, Eisenhofer G, Tank J, Jordan J, Birkenfeld AL. The longevity gene mIndy (I'm Not Dead, Yet) affects blood pressure through sympathoadrenal mechanisms. JCI Insight. 2021 Jan 25;6(2):136083. doi: 10.1172/jci.insight.136083.PMID: 33491666

67) Taylor, J.R., Wood, J.G., Mizerak, E., Hinthorn, S., Liu, J., Finn, M., Gordon, S., Zingas, L., Chang, C., Klein, M.A., Denu, J.M., Gorbunova, V., Seluanov, A., Boeke, J.D., Sedivy, J.M., and **Helfand, S.L.** (2022). Sirt6 regulates lifespan in Drosophila melanogaster. *Proc Natl Acad Sci U S A* **119** (PMID: 35091469).

68) Dirckx, N., Zhang, Q., Chu, E.Y., Tower, R.J., Li, Z., Guo, S., Yuan, S., Khare, P.A., Zhang, C., Verardo, A., Alejandro, L.O., Park, A., Faugere, M.C., **Helfand, S.L.**, Somerman, M.J., Riddle, R.C., de Cabo, R., Le, A., Schmidt-Rohr, K., and Clemens, T.L. (2022). A specialized metabolic pathway partitions citrate in hydroxyapatite to impact mineralization of bones and teeth. *Proc Natl Acad Sci U S A* **119**: e2212178119 (PMID: 36322718).

Refereed reviews/Perspectives

1) Goodman, C.S., Bastiani, M.M., Doe, C.Q., du Lac, S., **Helfand, S.L**., Kuwada, K.Y., Thomas, J.B. (1984) Neuronal recognition during development: cellular and molecular approaches. *Science* **225:** 1271-1279.

2) Bastiani, M.J., Doe, C.Q., **Helfand, S.L**., and Goodman, C.S. (1985) Neuronal specificity and growth cone guidance in grasshopper and Drosophila embryos. *Trends in Neuroscience* **84:** 257-266.

3) Hogness, D.S., Lipshitz, H.D., Beachy, P.A., Peattie, D.A., Saint, R.A., Goldschmidt-Clermont, M., Harte, P.J., Gavis, E.R., and **Helfand, S.L.** (1985) Regulation and products of the *Ubx* domain of the bithorax complex. *Cold Spring Harbor Symp. Quant. Biol.* **50:** 181-194.

4) **Helfand, S. L.** and Rogina, B. Regulation of gene expression during aging. (2000) In "Molecular Genetics of Aging" Pages 67-80 Results and Problems in Cell Differentiation, Vol. 29, ed. Siegfried Hekimi, Springer-Verlag, Germany.

5) **Helfand, S.L.** and Inouye, S.K. Rejuvenating views of the aging process. (2002) *Nature Reviews Genetics*, 3: 149-153.

6) **Helfand, S. L.** Chaperones Take Flight. (2002) *Science*, 295: 809-810.

7) **Helfand, S. L.** and Rogina, B. Genetics of aging in the fruit fly, Drosophila melanogaster. (2003) *Annual Review of Genetics*, 37: 329-48.

8) **Helfand, S. L.** and Inouye, S. L. Aging, life span, genetics and the fruit fly. (2003) Clinical Neuroscience Research, 2: 270-278.

9) **Helfand, S. L.** and Rogina, B. "From genes to aging in the Drosophila"(2003) *Advances in Genetics*, Vol. 49, pp 67-109. Edited by J. C. Hall, J. C. Dunlap and T. Friedman, Academic Press, San Diego.

10) **Helfand, S. L.** and Rogina, B. Molecular genetics of aging: Is this the end of the beginning? (2003) *BioEssays* 25: 134-141.

11) Bauer JH and **Helfand SL** (2006). New tricks of an old molecule: lifespan regulation by p53. *Aging Cell*, 5: 437-40.

12) Bauer JH and **Helfand SL** (2006). The humble fly: what a model system can reveal about the human biology of aging. *Rhode Island Medical Journal*, 89(9): 314-5.

13) Bauer JH and **Helfand SL** (2009). Sir2 and longevity: the p53 connection. *Cell Cycle*, 8(12):1821. PMCID:PMC2827152.

14) Blagosklonny MV, Campisi J, Sinclair DA, Bartke A, Blasco MA, Bonner WM, Bohr VA, Brosh RM Jr, Brunet A, Depinho RA, Donehower LA, Finch CE, Finkel T, Gorospe M, Gudkov AV, Hall MN, Hekimi S, **Helfand SL**, Karlseder J, Kenyon C, Kroemer G, Longo V, Nussenzweig A, Osiewacz HD, Peeper DS, Rando TA, Rudolph KL, Sassone-Corsi P, Serrano M, Sharpless NE, Skulachev VP, Tilly JL, Tower J, Verdin E, and Vijg J (2010) Impact Papers on Aging in 2009. *Aging*, Mar;2(3):111-21. PMCID:PMC2871240.

15) Baur JA, Chen D, Chini EN, Chua K, Cohen HY, de Cabo R, Deng C, Dimmeler S, Gius D, Guarente LP, **Helfand SL**, Imai S, Itoh H, Kadowaki T, Koya D, Leeuwenburgh C, McBurney M, Nabeshima Y, Neri C, Oberdoerffer P, Pestell RG, Rogina B, Sadoshima J, Sartorelli V, Serrano M, Sinclair DA, Steegborn C, Tatar M, Tissenbaum HA, Tong Q, Tsubota K, Vaquero A, Verdin E. (2010) Dietary restriction: Standing up for Sirtuins. Science 329(5995):1012-3; author reply 1013-4.

16) Shulman GI and **Helfand SL** (2011). Indy knockdown in mice mimics elements of dietary restriction. *Aging*, 3(8):701. PMCID:PMC3184973.

17) Wood JG, Whitaker R, and **Helfand SL** (2013). Genetic and biochemical tools for investigating sirtuin function in Drosophila melanogaster. *Methods Molecular Biology* 1077:57-67. PMID 24014399.

18) Wood JG and **Helfand SL** (2013). Chromatin structure and transposable elements in organismal aging. *Frontiers in Genetics of Aging*, 4;4:274 PMCID:3849598.

19) Gorbunova, V., Boeke, J.D., **Helfand, S.L.**, and Sedivy, J.M. (2014). Human Genomics. Sleeping dogs of the genome. *Science* **346**: 1187-1188 (PMID: 25477445).

20) Willmes, DM. **Helfand, SL**, and Birkenfeld, AL. (2016). The longevity transporter mIndy (Slc13A5) as a target for treating hepatic steatosis and insulin resistance. *Aging* **8** (2): 208-209.

21) Willmes DM, Kurzbach A, Henke C, Schumann T, Zahn G, Heifetz A, Jordan J, **Helfand SL**, Birkenfeld AL, (2017) The longevity gene INDY (I'm Not Dead Yet) in metabolic control: Potential as pharmacological target. Pharmacol Ther. PMID 28987323

22) Gorbunova V, Seluanov A, Mita P, McKerrow W, Fenyö D, Boeke JD, Linker SB, Gage FH, Kreiling JA, Petrashen AP, Woodham TA, Taylor JR, **Helfand SL**, Sedivy JM, (2021) The role of retrotransposable elements in ageing and age-associated diseases. Nature. Aug;596(7870):43-53. doi: 10.1038/s41586-021-03542-y. Epub 2021 Aug 4.PMID: 34349292

23) **Helfand SL** and de Cabo R (2021) News and views: How overnight fasting could extend lifespan Nature. 2021 Oct;598(7880):265-266. doi: 10.1038/d41586-021-01578-8.

Chapters in books

1) **Helfand, S.L.**, Werkmeister, J., and Roder, J.C. (1982) The role of free oxygen radicals in the activation of the NK cytolytic pathway. *In:* Herberman, R., Editor, *NK Cells and Other Natural Effector Cells.* Academic Press. Page: 1011-1020.

2) Werkmeister, J., **Helfand, S.L.**, Haliotis, T., Pross, H., and Roder, J.C. (1982) Specificity of natural killer (NK) cells: nature of target cell structure. *In:* Herberman, R., Editor, *NK Cells and Other Effector Cells.* Academic Press. Page: 743-750.

3) **Helfand, S. L.** and Rogina, B. Regulation of gene expression during aging. In: Hekimi, Siegfried, editor. Molecular Genetics of Aging: Results and Problems in Cell Differentiation, vol. 29. Germany: Springer-Verlag; 2000. p. 67-80.

4) **Helfand, S. L.** and Rogina, B. From genes to aging in the Drosophila. In: Hall, J.C., Dunlap, J. C., Friedman, T., editors. Advances in Genetics. San Diego: Academic Press; 2003 vol. 49, p 67-109.

5) **Helfand, S. L.** and Rogina, B. Genetics of aging in the fruit fly, Drosophila melanogaster. Annual Review of Genetics 2003; 37: 329-48.

6) **Helfand, S. L**., Bauer, J. H. and Wood, J. G. (2009) Calorie Restriction in lower organisms. In Molecular Biology of Aging edited by L. Guarente, L. Partridge, and D. Wallace. Vol 51; 73-93. Cold Spring Harbor Laboratory Press, New York.

7) Bauer J. H. and **Helfand S.L.** (2011) The Genetics of Dietary Modulation of Lifespan Book is Mechanisms of Life History Evolution edited by Thomas Flatt and Andrease Heyland, Oxford University Press, Oxford

8) Wood, J.G., Whitaker, R. and **Helfand S.L.** (2013) Genetic and biochemical tools for investigating sirtuin function in *Drosophila melanogaster*. Sirtuins: Methods and Protocols, Methods in Molecular Biology edited by Matthew Hirschey, Series Editor John M. Walker. vol. 1077: p57-67. Springer, Humana Press, New York, Heidelberg, Dordrecht, London.

9) Krieling, JA, Jones, BC, Wood, JG, De Cecco, M, Criscione, SW, Neretti, N, **Helfand, SL***, and Sedivy, JM*. (2017) Contribution of Retrotransposable Elements to Aging, In "Human

Retrotransposons in Health and Disease" Ed. G. Cristofari, Springer, New York, Heidelberg, Dordrecht, London. * Co-Contributing authors.

Abstracts (since 1991)

1) **S. L. Helfand**. Molecular genetics of olfaction: *pentagon* is a gene required for response to a specific odorant. Cold Spring Harbor meeting on Molecular neurobiology of Drosophila. September 1991.

2) **S. L. Helfand**. Molecular genetics of olfaction: pentagon is a gene required for response to a specific odorant. Association for Chemoreception Sciences 14th Annual meeting 1992 (*Chemical Senses*, vol **17**, issue 5, 1992).

3) **S. L. Helfand**. A molecular biology primer for the chemical sense. Enhancer trap technique: A simple means of identifying genes by visualizing their anatomic pattern of expression. Invited lecture at Association for Chemoreception Sciences 14th Annual meeting 1992.

4) **S. L. Helfand**. Molecular genetics of olfaction: *pentagon* is a gene required for response to a specific odorant. 33rd Annual Drosophila Research Conference 1992.

5) **S. L. Helfand**. A novel approach for visualizing gene regulation during aging. Cold Spring Harbor meeting on Biology of Aging, Chaired by C. E. Finch and S. Prusiner, April 1992.

6) B. G. Grimwade and **S. L. Helfand**. Molecular genetics of olfaction: Towards cloning *pentagon*, a Drosophila gene required for response to a specific odorant. Association for Chemoreception Sciences 15th Annual meeting 1993 (*Chemical Senses*, vol **18**, issue 5, 1993).

7) B. G. Grimwade and **S. L. Helfand**. Molecular genetics of olfaction: An analysis of *pentagon*, a mutation resulting in anosmia to a specific odorant. Cold Spring Harbor Neurobiology of Drosophila meeting. 1993.
8) **S. L. Helfand**. Regulation of gene expression during aging. American Federation for Aging Research Sixth Annual Grantee Conference, May 1993.

9) K.J. Blake, B. Rogina, and **S. L. Helfand**. Age-associated changes in adult *D. melanogaster*. American Society for Cell Biology 1993 (*Molecular Biology of the Cell* **4:** 368a, Oct. 1993).

10) K.J. Blake, M. D. Stracks and **S. L. Helfand**. Gene regulation during adult life in *Drosophila melanogster*. Society for Developmental Biology 52nd Annual Meeting. 1993.

11) **S. L. Helfand**, K.J. Blake, A. Centurion, B. Grimwade, B. Naprta, B. Rogina, & M.D. Stracks. Regulation of gene expression in adult *D. melanogaster*. 35th Annual Drosophila Research Conference 1994.

12) B. Rogina, K. J. Blake, and **S. L. Helfand**. Age-associated changes in adult *Drosophila melanogaster*. The 1994 Northeast Regional Developmental Biology Meeting. 1994.

13) **S. L. Helfand**, K. J. Blake, B. Rogina, M.D. Stracks, A. Centurion, S. Mallay, and B. Naprta. Regulation of gene expression during aging. 47th Annual Scientific Meeting, The Gerontological Society of America 1994 (*The Gerontologist*, vol.**34**, issue1, October 1994).

14) K. Blake, B. Rogina, A. Centurion, S. Mallya, B. Grimwade, and **S. L. Helfand**. Maturation and aging in adult *D. melanogaster*. 47th Annual Scientific Meeting, The Gerontological Society of America 1994 (*The Gerontologist*, vol.**34**, issue1, October 1994).

15) B. Rogina, K. J. Blake, A. Centurion, S. Mallya, and **S. L. Helfand**. Regulation of segment polarity genes during aging in *Drosophila melanogaster*. 47th Annual Scientific Meeting, The Gerontological Society of America 1994 (*The Gerontologist*, vol.**34**, issue1, October 1994).

16) **S. L. Helfand**, K. J. Blake, B. Naprta, M. Stracks, and B. Rogina. Age-dependent gene regulation in the adult fly. 36th Annual Drosophila Research Conference 1995.

17) B. Rogina, K. J. Blake, and **S. L. Helfand**. Regulation of gene expression during aging. Northeast Regional Developmental Biology Conference. April 1995.

18) K.J Blake, B. Rogina, and **S. L. Helfand**. Maturation and aging in adult *Drosophila melanogaster*. Northeast Regional Developmental Biology Conference. April 1995.

19) S**. L. Helfand** and B. Rogina. Age-dependent gene regulation in the adult fly. Gordon Conference, Biology of Aging, May 1995.

20) **S. L. Helfand**. Age-dependent gene regulation in the adult fly. 1995 Summer Training Course in Experimental Aging Research sponsored by the National Institute on Aging.

21) **S. L. Helfand** and B. Rogina. Gene expression is regulated by age-dependent mechanisms in the aging fly. 48th Annual Scientific Meeting, Gerontological Society of America, November, 1995.

22) B. Rogina and **S. L. Helfand**. *wingless* gene expression is regulated by age-dependent mechanisms. The American Society for Cell Biology Annual meeting 1995 (*Molecular Biology of the Cell* **6:** 93a, 1995).

23) **S. L. Helfand** and B. Rogina. *wingless* gene expression is regulated by age-dependent mechanisms. 37th Annual Drosophila Research Conference, April 1996.

24) B. Rogina and **S. L. Helfand**. A gene whose temporal expression is regulated by mechanisms independent of temperature and metabolic rate. 37th Annual Drosophila Research Conference, April 1996.

25) B. Rogina, **S. L. Helfand**, and T. Kuwada. Effects of increased O2 levels on *Drosophila melanogaster* life span and pattern of gene expression. American Geriatrics Society. May 1996.

26) Rogina, B. and **S. L. Helfand**. Regulation of 2216 gene expression is independent of temperature and metabolic rate, In : Northeast Regional Developmental Biology Conference, Woods Hole, May 1996.

27) **S. L. Helfand**, B. Hoopengardner, and B. Rogina. Control of gene expression during aging. American Federation for Aging Research Ninth Annual Grantee Conference, May 1996.

28) **S. L. Helfand** and B. Rogina. Age-dependent gene regulation. 49th Annual Scientific Meeting of the Gerontological Society of America, November 1996.

29) B. Rogina and **S. L. Helfand**. *wingless* gene expression is regulated by age-dependent mechanisms. 49th Annual Scientific Meeting of the Gerontological Society of America, November 1996.

30) **S. L. Helfand** and B. Rogina. Age-dependent regulation of *wingless* and *engrailed* gene expression. 38th Annual Drosophila Research Conference, April 1997.

31) B. Rogina and **S. L. Helfand**. Age-dependent regulation of *wingless* and *engrailed* gene expression1997 Gordon Conference on Biology of Aging, January 1997, Ventura California

32) B. Hoopengardner and **S. L. Helfand**. Identification of a Temporally-responsive Region in the Genome of *Drosophila melanogaster*. Northeast Regional Developmental Biology Conference, Woods Hole, April, 1997

33) B. Rogina, J.W. Vaupel, L. Partridge and **S. L. Helfand**: Regulation of gene expression is preserved in aging *Drosophila melanogaster*. Northeast Regional Developmental Biology Conference, Woods Hole, April, 1998.

34) B. Hoopengardner and **S. L. Helfand**. Temporal and age responsiveness of the epidermal enhancer of the Deformed gene in *Drosophila melanogaster*. Northeast Regional Developmental Biology Conference, Woods Hole, April, 1998

35) B. Rogina, J.W. Vaupel, L. Partridge and **S. L. Helfand**: Regulation of gene expression is preserved in aging *Drosophila melanogaster* Gordon Conference, Biology of Aging, Il Ciocco, Italy, May, 1998.

36) B. Rogina and **S.L. Helfand**: Cloning Two Genes with Different Regulation of Expression During Aging, American Federation of Aging Research Annual Grantee Conference, Santa Barbara, CA, 1999.

37) B. Hoopengardner and **S. L. Helfand**: Temporal-responsiveness of the epidermal enhancer of the Deformed gene in the adult *Drosophila melanogaster*. Gordon Conference on Biology of Aging, January 2000, Ventura California

38) B. Hoopengardner and **S. L. Helfand**: Temporal-responsiveness of the epidermal enhancer of the Deformed gene in the adult *Drosophila melanogaster*. 41st Annual Drosophila Research Conference, March 2000

39) B. Rogina, J. Carey, H. G. Muller, D. Love and **S. L. Helfand**: The effect of mating on egg production and mortality of female *Drosophila melanogaster*. Annual Pepper Center meeting, March 2000, Santa Barbara, CA.

40) B. Rogina, J. Carey, H. G. Muller, and **S. L. Helfand**: The effect of mating on egg production and mortality of female *Drosophila melanogaster*. 41st Annual Drosophila Research Conference, March 2000

41) **S. L.** Helfand: Molecular Genetics of aging in the fly. British Society of Cell Biology, July 3-5, 2002

42) B. Rogina, F. Knauf, P.A. Aronson and **S. L Helfand**: The Drosophila life-extending gene Indy is a new type of Krebs cycle intermediate transporter. Cold Spring Harbor Meeting on Molecular Genetics of Aging, October, 2002.

43) R. J. Mutcherson, II and **S. L. Helfand**: Long-lived *Indy* mutant Drosophila melanogaster accumulate mitochondrial lipid peroxidation products at a slower rate than wild type flies. Cold Spring Harbor Meeting on Molecular Genetics of Aging, October, 2002.

44) J. Bauer, R. A. .Reenan, and **S. L. Helfand**: . Overexpression of the novel protein *hitzschlag* in D. melanogaster. 44th Annual Drosophila Research Conference, March 2003.

45) B. Silvia, and **S. L. Helfand**: Identification of putative malate/oxygluterate carrier proteins and implications for longevity. 44th Annual Drosophila Research Conference, March 2003.

46) A. Sanchez-Blanco, B. Silvia, Y-W. Fridell, and **S. L. Helfand**: Mitochondrial uncoupling and aging. 44th Annual Drosophila Research Conference, March 2003

47) B. Rogina, P. A. Marden, K. L. Montooth, and **S. L. Helfand**: Conditional tradeoffs between aging and organismal performance of *Indy* long-lived mutant flies. Gordon Conference on Biology of Aging, January 2003, Ventura California

48) S. Frankel, **S. L. Helfand**, and B. Rogina: Longevity regulation by *Drosophila* Rpd3 deacetylase and caloric restriction. Gordon Conference on Biology of Aging, January 2003, Ventura, California

49) G. Garber and S. L. Helfand: The Involvement of Beta-catenin in Drosophila Longevity. 45th Annual Drosophila Research Conference, March 2003, Washington DC

50) P. Poon, J. Bauer, and **S. L. Helfand:** Overexpression of Proapoptotic Genes in Adult *Drosophila Melanogaster*. 45th Annual Drosophila Research Conference, March 2003, Washington DC

51) A. Sanchez-Blanco, Y.-W. Fridell, B. A. Silvia, and **S. L. Helfand:** The Newly Characterized *Drosophila* Uncoupling Protein 5 and its Involvement in Aging. 45th Annual Drosophila Research Conference, March 2003, Washington DC

52) R.J. Mutcherson, II, J. Zheng, and **S. L. Helfand**: Comprehensive Characterization of Oxidative Damage and Aging in *Drosophila melanogaster*. 45th Annual Drosophila Research Conference, March 2003, Washington DC

53) S. Goupil, S. J. Bauer, and **S. L. Helfand**: A rapid assay for identifying life span extension in the fly. Northeast Regional Developmental Biology 2004 Woods Hole, MA

54) T. Bross, B. Rogina, and **S. L. Helfand**: Diet and longevity in the fly. Northeast Regional Developmental Biology 2004 Woods Hole, MA

55) B. Rogina and **S. L. Helfand**: Lifespan extension in Indy mutant flies is associated with Sir2 and the calorie restriction pathway, CSHL Oct, 2004

56) J. H. Bauer, S. Goupil, G. Garber, and **S. L. Helfand**: An accelerated assay for the identification of life span extending interventions in Drosophila melanogster, CSHL Oct, 2004

57) A. Sanchez-Blanco, Y.-W. Fridell, and **S. L. Helfand**: Involvement of Drosophila uncoupling protein 5 in metabolism and aging, CSHL Oct, 2004

58) J. Zheng, R. J. Mutcherson,II and **S. L. Helfand**: Caloric restriction delays accumulation of lipid-related oxidative damage in adult Drosophila, CSHL Oct, 2004

59) B. Silvia and **S. L. Helfand**: Uncoupling, Mitochondria, and Aging: Identification and Characterization of Uncoupling Proteins in the Fruit Fly *Drosophila melanogaster*. GSA, Nov, 2004

60) Y.W. Fridell, A. Sanchez-Blanco, B. Silvia, and **S. L. Helfand**: Targeted adult neuronal expression of hUPC2 extends life span in *Drosophila melanogaster*. GSA, Nov, 2004.

61) Goupil, S; Bauer, J H; Garber, G B and **Helfand, S L** "Using a Biomarker of Aging Based Screening System to Identify Pharmacological Agents that Extend Life Span in *Drosophila melanogaster*", *46th Annual Drosophila Research Conference* (2005)

62) Bauer, J.H., Poon, P.C., Glatt-Deeley, H., Abrams, J.M. and **Helfand, S.L.** 'Neuronal expression of p53 dominat-negative proteins in adult *Drosophila melanogaster* extends life span.', *Gerontological Society of America Meeting* (2005)

63) Rogina, B. and **Helfand, S.L.** A pathway controlling longevity that involves calorie restriction and the Sir2, Indy, and Rpd3 genes. 17th Frontiers in Science Meeting, Irvine, CA, October 26-29, 2005.

64) Rogina, B. and **Helfand, S.L.** Role of Sir2 in Drosophila stress response. In: Gordon Conference, Ventura, CA, January, 2006.

65) Poon, P.C.; Bauer,J.H.; Rodriguez, S.M. and **Helfand, S.L.** 'Neuronal Apoptosis in Adult *Drosophila Melanogaster'*, 35th Annual Meeting of the American Aging Association (2006) Boston

66) Bauer, J.H., Poon, P.C., Glatt-Deeley, H., Abrams, J.M. and **Helfand, S.L.** 'Neuronal expression of p53 dominat-negative proteins in adult *Drosophila melanogaster* extends life span.', *Gordon Research Conference: The Biology of Aging* (2006); Best Poster Award

67) Fridell,YW, and **Helfand, S.L.** Increased UCP Expression in the *Drosophila* Insulin-like Peptide Producing Neurons Influences Insulin Signaling and Extends Life Span, Cold Spring Harbor Meeting on Molecular Genetics of Aging Oct, 2006

68) Reduction of p53 activity in the brain of adult D. melanogaster extends life span as part of the Sir2 life span extending pathway', Cold Spring Harbor Conference on the Molecular Genetics of Aging (2006)

69) Reduction of p53 activity in the brain of adult D. melanogaster extends life span as part of the Sir2 life span extending pathway', 48th Annual Drosophila Research Conference (2007)

70) **Helfand, SL.** Keynote Speaker, Gordon Conference on Biology of Aging 2007: "Calorie reduction and life span extension: a genetic pathway in the fly"

71) Gerber, G. Rogina, B, **Helfand, S.L**.: Calorie restriction and Aging. NIH, Washington, DC, August, 2008.

72) Neretti, N., Wang, P.Y., Brodsky, A.S., White, K.P., Rogina, B. and **Helfand S.L.**: Long-lived Indy induces reduced mitochondrial ROS production and oxidative damage. In: Biology of Aging, Cold Spring Harbor, September 24-28, 2008.

73) Wood, J. G., Hillenmeyer, S.P., Lawrence, C., Chang, C., Hosier, S., Lightfoot, W., Mukherjee, E., Jiang, N., Schorl, C., Brodsky, A. S., Neretti, N., and **Helfand, S. L.** (2010) "Chromatin remodeling in the aging genome of Drosophila." Cold Spring Harbor Laboratory meeting on Molecular Genetics of Aging Sept 2010.

74) Neretti, N. Carvalho, L.E., Hillenmeyer, S.P., Harrison, M. T., **Helfand, S. L**., Geman, S. and Lawrence, C. E. "Hidden Markov Model diagnostics with applications to ChIP-chip and ChIP-seq datasets", Cold Spring Harbor Laboratory meeting on Genome Informatics, October 2010.

75) Andreas L. Birkenfeld, Hui-Young Lee, Fitsum Guebre-Egziabher, Tiago C. Alves, Michael J. Jurczak, Francois R. Jornayvaz, Joachim Spranger, Andreas F. Pfeiffer, Rafael De Cabo, **Stephen L. Helfand**, Varman T. Samuel, and Gerald I. Shulman **"**Loss of the Mammalian *INDY* Homologue in Mice Protects from Diet and Age-Induced Adiposity and Insulin Resistance" World Diabetes Congress, 2011.

76) Nan Jiang, Guyu Du, Ethan Tobias and **Stephen L. Helfand** "Loss of heterochromatic repression with age in Drosophila." 53rd Annual Drosophila Conference, April 2012

77) Jason Wood, Peter V. Kharchencko, Sara Hillenmyer, Chengyi Chang, Meyrolin Garcia, Priyan Wickremesinghe, Nan Jiang, Peter J. Park, Nicola Neretti and **Stephen L. Helfand** "Chromatin remodeling during aging and dietary restriction in Drosophila melanogaster." 53rd Annual Drosophila Conference, April 2012

78) Rachel Whitaker, Shakeela Faulkner, Reika Miyokawa, Lucas Bruhenn, Will Donovan, **Stephen L. Helfand** "Dose dependent stress response to high levels of dSir2 in Drosophila melanogaster." 53rd Annual Drosophila Conference, April 2012

79) Nan Jiang, Guyu Du, Ethan Tobias, Jason Wood, Rachel Whitaker, Michael Antosh, Yianni Savva, Robert A. Reenan, Nicola Neretti and **Stephen L. Helfand**. "Epigenetics of chromatin remodeling, loss of gene silencing and gene dysregulation with age." Gordon Conference in Biology of Aging February 12-16, 2012. Oral presentation by Dr. Helfand.

80) B. Rogina, R.P.Rogers, N. Neretti, P.-Y. Wang, **S.L.Helfand.** "Indy mutations preserve health and homeostasis", Second International Conference "Genetics of Aging and Longevity" (Moscow,April 22-25, 2012).

81) Rachel Whitaker, Shakeela Faulkner, Reika Miyokawa, Lucas Bruhenn, Jason G. Wood, **Stephen L. Helfand** "Dose dependent stress response to high levels of dSir2 in Drosophila melanogaster." Cold Spring Harbor Molecular Biology of Aging, October, 2012--Oral Presentation by Ms. Whitaker

82) Jason G. Wood, Bjoern Schwer, Priyan Wikremesinghe, Myeroling Garcia, Eric M. Verdin, Stephen L. Helfand "The role of Sirt4 in regulating lifespan and metabolism in *Drosophila melanogaster*. Cold Spring Harbor Molecular Biology of Aging, October, 2012--Oral Presentation by Dr Wood.

83) Nan Jiang, Guyu Du, Ethan Tobias, Jason G. Wood and **Stephen L. Helfand** "Epigenetics of chromatin remodeling and loss of gene silencing with age." Cold Spring Harbor Molecular Biology of Aging, October, 2012--Oral Presentation by Dr. Helfand.

84) von Loeffelholz C, Lieske S, Doecke S, Neuschafer-Rube F, Pathe-Neuschafer-Rube P, Jordan J, Willmes DM, Sauer IM, Helfand SL, Bernier M, DeCabo R, Puschel GP, Pfeiffer AFH, Birkenfeld AL.

"The Human INDY Homolog is Induced in Obesity through Interleukin-6" American Diabetes Association, 2013

85) Birkenfeld AL, DeCabo R, Samuel VT, Shulman, GI, Reenan, RA, Zhu CT, **Helfand, SL.** "I'm not dead yet--flies and mice". Biophysical Society 58th Annual Meeting, Feb. 2014

86) Jones BC, Wood JG, Tam AD, Henriksen M, Chang, CY, **Helfand, SL**. "A somatic piRNA pathway in Drosophila fat body with aging-associated implications." CSHL meeting on Regulatory and Non-Coding RNAs, August 2014.

87) Wood JG, Schwer B, Burhenn L, Wickremesinghe P, Garcia M, Verdin E, **Helfand, SL**, "Sirt4 regulates lifespan and fat metabolism in *Drosophila melanogaster"* CSHL meeting on Molecular Genetics of Aging, Sept, 2014

89) Wood JG, Jiang N, Jones BC, **Helfand, SL.** "Maintaining repressive heterochromatin extends life span in Drosophila." CSHL meeting on Molecular Genetics of Aging, Sept, 2014

90) Jones BC, Wood, JG, Chang, CY, **Helfand SL** "Activation of Transposable Elements Across Multiple Tissues in Aging *Drosophila*", 56th Annual Drosophila Meeting, March 2015

91) Wood JG, Jones B, Jiang N, **Helfand SL**. "Dietary restriction reduces transposable element expression in aging *Drosophila* heads", 56th Annual Drosophila Meeting, March 2015

92) Wood JG, Jones B, Jiang N, **Helfand SL**, "Sirtuins in the fly: effect on mitochondria, gene regulation and chromatin maintenance controls metabolism and longevity." Keystone Symposium on Biology of Sirtuins, Santa Fe, New Mexico, March 2015,

93) Wood JG, Jones B, Jiang N, **Helfand SL** "Retrotransposons as agents of somatic diversity, disease and aging" Gordon Research Conference on the Biology of Aging, July 2015.

94) **Helfand SL** "Retrotransposons as agents of somatic diversity, disease and aging" Gerontology Society of America meeting, Nov 2015

95) Jones BC, Wood, JG, Chang C, Tam AD, Franklin MJ., Siegel ER, **Helfand SL** (2016). A somatic piRNA pathway in the *Drosophila* fat body ensures metabolic homeostasis and normal lifespan. CSHL Regulatory and Noncoding RNAs, August 2016

96) Jones BC, Wood, JG, Chang C, Tam AD, Franklin MJ., Siegel ER, **Helfand SL** (2016). A somatic piRNA pathway in the *Drosophila* fat body ensures metabolic homeostasis and normal lifespan. CSHL Mechanisms of Aging, September 2016

97) Wood JG, Jones BC, Jiang C., Neretti N., **Helfand SL** (2016). Chromatin modifying genetic interventions suppress age-associated transposable element activity and extend lifespan in Drosophila. CSHL Mechanisms of Aging, September 2016

98) **Helfand SL** (2016) Use of model systems for the development of biomarkers of human aging. National Academy of Medicine, Interest Group, NAM meeting October 2016

99) Jones BC, Wood, JG, Chang C, Tam AD, Franklin MJ., Siegel ER, **Helfand SL** (2016). A somatic piRNA pathway in the *Drosophila* fat body ensures metabolic homeostasis and normal lifespan. Northeast Regional Glenn Biology of Aging Meeting, November 2016

100) **Helfand SL**, Jones BC, Wood JG (2016) Transposable element activation as a molecular cause of aging. Gerontology Society of America 69th Annual Scientific Meeting, November 2016

101) **Helfand SL**, Jones BC, Wood JG (2017) Activation of transposable elements as a molecular cause of aging. IAGG World Congress on Aging, July 2017.

102) Taylor, JT and **Helfand SL** (2017) Regulation of lifespan by dSirt6 in *Drosophila melanogaster* Northeast Regional Glenn Biology of Aging Meeting, November 2017.

103) Taylor, JT **Helfand SL** (2018) Regulation of lifespan by dSirt6 in *Drosophila melanogaster* 69th Annual Drosophila meeting, April 2018

104) Taylor, JT and **Helfand SL** (2018) Regulation of lifespan by dSirt6 in *Drosophila melanogaster*. CSHL Mechanisms of Aging, October 2018

105) Wood, JG, Schwer, B. Verdin, E. and **Helfand SL** (2018) Sirt4 Is a Mitochondrial Regulator of Metabolism and Lifespan in Drosophila Melanogaster. CSHL Mechanisms of Aging, October 2018

106) Natarajan, M, Taylor, JT and Helfand SL (2018) Identification of novel genes and pathways regulating retrotransposition in *Drosophila melanogaster*. CSHL Mechanisms of Aging, October 2018

107) Taylor, JT and **Helfand SL** (2018) Regulation of lifespan by dSirt6 in *Drosophila melanogaster*. GSA Meeting, November 2018

108) Wood, JG and **Helfand SL** (2018) Sirt4 Is a Mitochondrial Regulator of Metabolism and Lifespan in Drosophila Melanogaster. Northeast Regional Glenn Biology of Aging Meeting, November 2018

109) Wood, JG, Schwer, B. Verdin, E. and **Helfand SL** (2018) Sirt4 Is a Mitochondrial Regulator of Metabolism and Lifespan in Drosophila Melanogaster. GSA Meeting, November 2018.

110) Wood, JG, Schwer, B. Verdin, E. and **Helfand SL** (2019) Sirt4 Is a Mitochondrial Regulator of Metabolism and Lifespan in Drosophila Melanogaster. Gordon Conference, Biology of Aging, July 2019.

111) Taylor, JT and **Helfand SL** (2019) Regulation of lifespan by dSirt6 in *Drosophila melanogaster*. Gordon Conference, Biology of Aging, July 2019.

112) Wood JG, Jones BC, Jiang C., Chang, Chengyi, Neretti N., **Helfand SL** (2019) Chromatin modifying genetic interventions suppress age-associated transposable element activation and extend lifespan in *Drosophila*. Chromatin and Epigenetic Regulation of Transcription, Penn State, July 2019.

113) Wood, JG, Hinthorn, S, and **Helfand SL** (2020) Transcriptomic and epigenetic profiling of neurodegenerative disease models in *Drosophila*. Keystone Conference on Intra- and Intercellular Mechanisms of Aging, February 2020.

114) Taylor, Jackson-----Wood, JG, Hinthorn, S, and **Helfand SL** (2020)----Genetics Society of America TAGC meeting April 2020. Regulation of lifespan by dSirt6 in *Drosophila melanogaster*.

INVITED ORAL PRESENTATIONS (since 1992)

1) 1992 Invited speaker at a workshop: "The process and promise of molecular biology for the chemical senses: A primer". At the Fourteenth annual meeting of the Association for Chemoreception Sciences.

2) 1992 Invited speaker, Cold Spring Harbor meeting on Biology of Aging, "A novel approach for visualizing gene regulation during aging."

3) 1994 Laboratory Seminar, Division of Biology, California Institute of Technology, hosted by Prof. Seymour Benzer, "Molecular genetics of aging: Temporal patterns of gene expression."

4) 1995 Seminar, Department of Biology, University of Pennsylvania, "Molecular genetics of aging: Temporal patterns of gene expression in the adult fly."

5) 1995 Seminar, Department of Biology, Southern Methodist University, "Molecular genetics of aging: Temporal patterns of gene expression in the adult fly."

6) 1995 Seminar, Frontiers in Aging Distinguished speaker, Huffington Center on Aging, Baylor College of Medicine, "Molecular genetics of aging: Temporal patterns of gene expression in the adult fly."

7) 1995 Seminar, Gerontology Research Center of the National Institute on Aging. "Molecular genetics of aging: Temporal patterns of gene expression."

8) 1995 Seminar, Department of Genetics, Harvard Medical School, "Molecular genetics of aging: Temporal patterns of gene expression in the adult fly."

9) 1995 Seminar, Department of Biochemistry, Stanford University Medical Center, "Molecular genetics of aging: Temporal patterns of gene expression in the adult fly. "

10) 1995 Laboratory Seminar, Division of Biology, California Institute of Technology, "Molecular genetics of aging: Temporal patterns of gene expression and the effect of *drop-dead*."

11) 1996 Seminar, Department of Molecular Biology, Princeton University, "Molecular genetics of aging: Temporal patterns of gene expression in the adult fly."

12) 1996 Seminar, Institute on Aging, University of Pennsylvania Medical School, "Molecular genetics of aging: Regulation of gene expression is linked to life span."

13) 1996 Seminar, Aging and Stress Workshop at the 37th Annual Drosophila Meeting, sponsored by the National Institute on Aging, "Temporal patterns of gene expression in the adult fly."

14) 1996 Seminar, Department of Biochemistry and Biophysics, University of California San Francisco, "Molecular genetics of aging: Regulation of gene expression is linked to life span."

15) 1996 Seminar, Division of Public Health Biology and Epidemiology, University of California, Berkeley, "Molecular genetics of aging: Regulation of gene expression is linked to life span."

16) 1996 Seminar, Department of Developmental Biology, Stanford University, "Molecular genetics of aging: Temporal patterns of gene expression in the adult fly."

17) 1997 Seminar, Gordon Conference on Biology of Aging, "Molecular genetics of aging: Temporal patterns of gene expression in the adult fly."

18) 1997 Seminar, National Institute on Aging, Bethesda, MD, "Molecular genetics of aging: Regulation of gene expression is linked to life span."

19) 1998 Seminar, Second Annual Meeting of the Danish Centre for Molecular Gerontology.

20) 1998 Invited lecture at the Annual Gerontology Society of America meeting.

21) 1999 Invited lecture at the 1999 Summer Research Institute sponsored by the NIA and Brookdale Foundation, July 1999.

22) 2000 Seminar, NIH/HHMI sponsored meeting Drosophila: Direct flight to understanding Human disease and behavior-"Aging: time flies, fruit flies"

23) 2000 Seminar, MRC LMCB, UC London, "Molecular genetics of aging: temporal patterns of gene expression in the adult fly."

24) 2000 Seminar, Department of Biology, UC London, "Molecular genetics of aging: temporal patterns of gene expression in the adult fly."

25) 2001 Invited Panel member, Talk Magazine/PaineWebber conference "Navigators and Innovators", Santa Barbara, March 2001.

26) 2001 Invited speaker, Developmental Biology Gordon Conference, "Molecular genetics of aging".

27) 2001 Invited speaker, Biology of Aging Gordon Conference, "Mutations in the Indy gene extend life span in fruitflies.", Oxford.

28) 2001 Invited lecturer, Molecular Biology of Aging Course, Marine Biology Laboratory, Woods Hole, sponsored by Ellison Medical Foundation.

29) 2001 Invited participant and speaker, Longevity Genes: From primitive organisms to man, International Longevity Center and American Federation for Aging Research, Arizona.

30) 2001 Seminar, Department of Physiology, UConn Storrs, "Molecular genetics of aging: temporal patterns of gene expression and a gene that doubles the life span of the fruit fly."

31) 2001 Seminar, Department of Cellular and Structural Biology, UT San Antonio, "Molecular genetics of aging: temporal patterns of gene expression and a gene that doubles the life span of the fruit fly."

31) 2001 Seminar, Metabolic Disorders Unit, Merck Research Laboratories, Rahway, NJ

32) 2001 Seminar, Keynote Speaker in Symposium on dedication of new Biology building Southern Methodist University, Dallas, TX, “I’m not dead yet”.

33) 2002 Seminar, Yale Medical School, Dept of Genetics, New Haven, CT, “Molecular genetics of aging: temporal patterns of gene expression and a gene that doubles the life span of the fruit fly.”

34) 2002 Seminar, Cornell Medical School, Dept of Neurology, “Molecular genetics of aging: temporal patterns of gene expression and a gene that doubles the life span of the fruit fly.”

35) 2002 Seminar, Albert Einstein College of Medicine, Department of Molecular Genetics, Bronx, NY, “Molecular genetics of aging: temporal patterns of gene expression and a gene that doubles the life span of the fruit fly.”

36) 2002 Seminar, Indiana University, Dept of Biology, Indianapolis, IN, “Molecular genetics of aging: temporal patterns of gene expression and a gene that doubles the life span of the fruit fly.”

37) 2002 Seminar, Association Research Neurological and Mental Disorders, NYC, “Molecular genetics of aging: temporal patterns of gene expression and a gene that doubles the life span of the fruit fly.”

38) 2002 Invited lecturer, Molecular Biology of Aging Course, Marine Biology Laboratory, Woods Hole, sponsored by Ellison Medical Foundation.

39) 2003 Seminar, Washington University, Department of Genetics, St. Louis, MO, “I’m not dead yet”.

40) 2003 Seminar, Pennington Biomedical Research Center. LSU, Baton Rouge, LA, “I’m not dead yet”.

41) 2003 Seminar, Dartmouth Medical School, Dept of Genetics, “I’m not dead yet”.

42) 2003 Seminar, Univ Mass, Amherst, Dept of Biology, “I’m not dead yet.”

43) 2003 Seminar, Trinity College, Department of Biology, “I’m not dead yet.”

44) 2003 Seminar, Univ Pennsylvania, Sleep research group, “I’m not dead yet.”

45) 2003 Invited lecturer, Molecular Biology of Aging Course, Marine Biology Laboratory, Woods Hole, sponsored by Ellison Medical Foundation.

46) 2004 Seminar, Georgia Medical School, Department of Biochemistry, “I’m not dead yet.”

47) 2004 Seminar, Hartford Foundation seminar hosted by Department of Cell Biology, the Department of Biological Chemistry and Molecular Pharmacology and the Division on Aging at Harvard Medical School, “Calorie reduction and life span extension: a genetic pathway in the fly.”

48) 2004 Seminar, Mt. Sinai, Department of Human Genetics, NY, NY, “Calorie reduction and life span extension: a genetic pathway in the fly”.

49) 2004 Seminar, Case Western Reserve Medical Center, Department of Genetics, "Calorie reduction and life span extension: a genetic pathway in the fly."

50) 2004 Presentation and Chair of session, Molecular Genetics of Aging, CSHL. Life span extension: a genetic pathway in the fly."

51) 2004 Presentation and Chair of Symposium, Gerontology Society of America Annual Meeting.

52) 2004 Seminar, Wesleyan University, Department of Biology, MA, "Calorie reduction and life span extension: a genetic pathway in the fly."

53) 2004 Seminar, The Scripps Research Institute, San Diego, CA, "Calorie reduction and life span extension: a genetic pathway in the fly."

54) 2004 Seminar, Brown University, Department of Molecular, Cellular and Biochemistry, "Calorie reduction and life span extension: a genetic pathway in the fly."

55) 2004 Invited lecturer, Molecular Biology of Aging Course, Marine Biology Laboratory, Woods Hole, sponsored by Ellison Medical Foundation.

56) 2005 Seminar, Yale Medical School, Division of Endocrinology, "Calorie reduction and life span extension: a genetic pathway in the fly."

57) 2005 Seminar, National Institutes on Aging, hosted by Dr. Richard Hodes, Director NIA, "Calorie reduction and life span extension: a genetic pathway in the fly."

58) 2005 Seminar, Samuel Luenfeld Research Institute at the Mt Sinai Hospital, Toronto, CA, "Calorie reduction and life span extension: a genetic pathway in the fly."

59) 2006 Chair and speaker in session at Gordon Conference Biology of Aging, January 2006

60) 2006 Invited Seminar, University of Arkansas for Medical Sciences, Department of Neurobiology and Developmental Sciences, March 6, 2006 (Calorie reduction and life span extension: a genetic pathway in the fly).

61) 2006 Invited Speaker, Annual Drosophila Conference, Workshop on Aging, Houston, TX March 31, 2006 (Calorie reduction and life span extension: a genetic pathway in the fly).

62) 2006 Invited Speaker, Theoretical Physics Conference "Determination of Longevity", Institute for Advanced Studies, Princeton, NJ IAS Center for Systems Biology & Kavli Institute, Princeton, NJ ("*Biomarkers of Aging and Molecules That Mediate Calorie Reduction Life Span Extension in Flies")*

63) 2006 Invited Speaker, American Aging Association meeting, Boston, MA June 2, 2006 (A Biochemical/Genetic Pathway for the Life Span Extending Effects of Calorie Restriction in the Fly)

64) 2006 Invited Speaker, The 2006 Harvard/Paul F. Glenn, Symposium on Aging, June 5, 2006 (I'm Not Dead Yet!)

65) 2006 Invited Speaker, Marine Biology Laboratory course on the Molecular Biology of Aging, August 4, 2006.

66) 2006 Invited Speaker, Ellison Medical Foundation Meeting August 17-19, 2006

67) 2006 Invited Speaker, MassGeneral Institute for Neurodegenerative Disease, Nov 8th, 2006.

68) 2007 Molecular Biology of Aging Course, Marine Biology Laboratories-August 10, 2007

69) 2007 Chair and Invited speaker at FASEB sponsored meeting-American Society for Biochemistry and Molecular Biology (ASMB) , Washington DC, May 1st, 2007 Symposium on Metabolism and Aging

70) 2007 Visiting Professor—Frontiers on Aging Seminar at Huffington Center on Aging and the Dept of MCB, Baylor Medical Center, Houston, TX, May 9th 2007

71) 2007 Visiting Professor—Molecular Biology of Aging course MBL, August 2007, lecture

72) 2007 Keynote Speaker, 2007 Gordon Conference on the Biology of Aging, Switzerland, September, 2007

73) 2007 Invited speaker AFAR/Ellison Foundation—Biomarkers of Aging Conference October 2, 2007, NYC

74) 2007 Invited speaker—Buck Institute meeting on Metabolism and Aging, Marin County, CA, Nov 12-14th, 2007 cancelled due to family illness

75) 2007 Invited speaker, Beth Israel Deaconess Medical Center-IMBIO series November 15, 2007

76) 2008 Invited speaker, UMass Med Center—Department of Medicine March 12, 2008

77) 2008 Invited speaker, University of Rochester—Department of Biology March 31, 2008

78) 2008 Invited Discussant, Boston Area Aging Meeting, May 15, 2008

79) 2009 Invited speaker, Gladstone Institute for Cardiovascular Research, UCSF, San Francisco, February 9, 2009

80) 2009 Invited lecturer, Molecular Biology of Aging Course, Marine Biology Laboratory, Woods Hole, sponsored by Ellison Medical Foundation. August, 2009

81) 2010 Invited speaker, National Institute on Aging Symposium, Genetic and molecular basis of longevity: Past, Present and Future. Sept 2010

82) 2011 Keynote speaker, Fifth Annual Division of Aging Biology New Investigators Forum, NIA

83) 2012 Invited speaker, Biology of Aging Gordon Conference, Ventura, CA, February 2012 "Epigenetics of chromatin remodeling, loss of gene silencing and gene dysregulation with age"

84) 2012 Invited speaker, National Institute on Aging Intramural Program, Baltimore, MD, April 2012 "I'm Not Dead Yet—flies and mice"

85) 2012 Invited speaker, Barshop Institute for Longevity and Aging Studies, July 16, 2012, "I'm Not Dead Yet—flies and mice"

86) 2012 Invited speaker, National Institute on Aging Workshop on Epigenetics and Aging, August 1, 2012, "Epigenetics of chromatin remodeling, loss of gene silencing and gene dysregulation with age"

87) 2012 Invited speaker, Yale University, Yale MCDB Seminar series, September 19, 2012 "I'm Not Dead Yet—flies and mice"

88) 2012 Speaker, Brown University, Biology of Aging Seminar Series, September 20, 2012 "I'm Not Dead Yet—flies and mice"

89) 2012 Invited speaker, Cold Spring Harbor Molecular Biology of Aging, October 10, 2012, Epigenetics of chromatin remodeling and loss of gene silencing with age.

90) 2012, Invited speaker, Lifespan Cardiovascular Research Core seminar, December 6, 2012, I'm Not Dead Yet—flies and mice"

91) 2013 Invited speaker, Yale University Medical School, Endocrinology Grand Rounds, February 15, 2013 "I'm Not Dead Yet—flies and mice"

92) 2013 Invited Speaker, Department of Biotechnology, BOKU-University of Natural Resources and Applied Life Science, Vienna Austria March 21, 2013, "I'm Not Dead Yet—flies and mice"

93) 2013 Keynote Speaker for American Association for Aging Research (AGE) meeting in Baltimore, MD, June 1, 2013. "I'm Not Dead Yet-Lessons from Flies and Mice about Healthier Longer Life".

94) 2013 Invited Speaker for Brown University Cancer and Stem Cell Series. October 11, 2013 "I'm Not Dead Yet—flies and mice"

95) 2014 Invited Speaker, Biophysical Society 58th Annual Meeting, February 15-19, 2014, "I'm Not Dead Yet—flies and mice"

96) 2014 Invited Speaker, National Institute on Aging Workshop on 3D Chromatin and their Interactions with Nuclear Structures in Aging, August 13, 2014, Maintaining Repressive Heterochromatin Extends Lifespan in *Drosophila*.

97) 2014 Invited Speaker, Cold Spring Harbor Molecular Biology of Aging, October 2014, Maintaining Repressive Heterochromatin Extends Lifespan in *Drosophila*.

98) 2015 Invited Speaker, Huffington Center on Aging, Baylor College of Medicine, Feb 2015.

99) 2015 Invited Speaker, "Brown University programs in aging and dementia" 5th Annual "Caregiver's Journey" Conference & Research Symposium, sponsored by the Rhode Island Alzheimer's Association, March, 2015

100) 2015 Invited Speaker, Keystone Symposium on Biology of Sirtuins, Santa Fe, New Mexico, March 2015, Sirtuins in the fly: effect on mitochondria, gene regulation and chromatin maintenance controls metabolism and longevity.

101) 2015 Invited Speaker, Gordon Research Conference on the Biology of Aging, July 2015. Retrotransposons as agents of somatic diversity, disease and aging

102) 2015 Invited Speaker, Barshop Institute for Longevity and Aging, University of Texas San Antonio, October 28, 2015. Retrotransposons as agents of somatic diversity, disease and aging

103) 2015 Chair and Invited Speaker, Gerontology Society of America Annual Meeting, Nov 2015. Retrotransposons as agents of somatic diversity, disease and aging.

104) 2016 Invited Speaker, Neurology Grand Rounds at Rhode Island Hospital, Brown University Department of Neurology, February 2016. Retrotransposons as agents of somatic diversity, disease and aging.

105) 2016 Invited Speaker, Department of Biology, Brandeis University, April 2016, Retrotransposons as agents of somatic diversity, disease and aging.

106) 2016 Speaker, The Allied Genetics Conference 2016 (TAGC), July 2016, A somatic piRNA pathway in the Drosophila fat body ensures metabolic homeostasis and normal lifespan.

107) 2016 Invited Speaker, National Academy of Medicine, Interest Group--Workshop on Biomarkers of Aging. October 2016. Use of model systems for the development of biomarkers of human aging.

108) 2016 Invited Speaker, University of Michigan Molecular and Integrative Physiology Departmental Seminar. October 2016. Retrotransposons as agents of somatic diversity, disease and aging.

109) 2016 Invited Speaker, Yale University, Department of Genetics, Departmental Seminar. November 2016. Retrotransposons as agents of somatic diversity, disease and aging.

110) 2016 Chair and Invited Speaker, Gerontology Society of America Annual Meeting, Nov 2016. Transposable element activation as a molecular cause of aging.

111) 2017 Invited Speaker Cornell-Weill Medical School, Department of Pharmacology, Weill Cornell Pharmacology Graduate Student Invited Seminar (Feb 21, 2017), Transposable element activation as a molecular cause of aging.

112) 2017 Invited Speaker Southern Methodist University, Department of Biology, (March 24, 2017), Transposable element activation as a molecular cause of aging.

113) 2017 Invited Speaker University of Texas Southwest Medical Center (March 27, 2017), Transposable element activation as a molecular cause of aging.

114) 2017 Invited Speaker Columbia University Medical School Department of Genetics and Development. (April 25, 2017), Retrotransposons as agents of somatic diversity, disease and aging.

115) 2017 Invited Speaker, School of Gerontology at the University of Southern California, Multidisciplinary Research Seminar (May 4, 2017)

116) 2017 Invited Speaker, Research Seminar University of California, Los Angeles, (May 5, 2017) Transposable element activation as a molecular cause of aging.

117) 2017 Awardee Speaker, Breakthroughs in Gerontology Glenn Award, American Federation for Aging Research Annual Meeting Santa Barbara, CA (June 5, 2017). Transposable element activation as a molecular cause of aging.

118) 2017 Speaker IAGG World Congress on Aging, San Francisco, CA, (July 27, 2017). Activation of transposable elements as a molecular cause of aging.

119) 2017 Invited Speaker, Yale Medical School Comparative Medicine and Immunobiology (Sept 11, 2017) Transposable element activation as a molecular cause of aging.

120) 2017 Invited Speaker, University of Queensland, Reproductive Medicine, Brisbane, Australia (October 18, 2017) Transposable element activation as a molecular cause of aging.

121) 2017 Invited Speaker, University New South Wales, School of Medical Sciences, Sydney, Australia (October 23, 2017) Transposable element activation as a molecular cause of aging.

121) 2017 Invited Speaker, The University of Sydney, Charles Perkins Centre, Sydney, Australia (October 24, 2017) Transposable element activation as a molecular cause of aging.

122) 2018 Invited Speaker, University of Connecticut Health Center, Department of Genetics and Genomics (May 10, 2018) Retrotransposons as agents of somatic diversity, disease and aging.

123) 2018 Invited Speaker, Lunenfeld-Tanenbaum Research Institute (LTRI) Seminar Series Toronto, Canada (May 23, 2018) Transposable element activation as a molecular cause of aging.

124) 2018 Invited Speaker, Graduate students invite for Genetics Training Grant, Brandeis University (September 11, 2018)

125) 2018 Invited Speaker, CSHL Molecular Biology of Aging meeting (October 1-5, 2018).

126) 2018 Invited Speaker, John B. Little Symposium, Harvard T. H. Chan School of Public Health on “Aging and stress resistance" (October 19, 2018) Retrotransposons as agents of somatic diversity, disease and aging.

127) 2018 Invited Speaker, Stanford University Frontiers in Aging Seminar Series (scheduled November 6, 2018) Retrotransposons as agents of somatic diversity, disease and aging. (Cancelled due to family illness)

128) 2018 Invited Speaker, University of Rhode Island Biological and Environmental Sciences Colloquium. “Retrotransposons as Agents of Somatic Diversity, Aging and Disease” (November 30, 2018).

129) 2019 Invited Speaker, NIA-NINDS Viruses & Transposable Genetic Elements in Neurodegenerative Diseases Workshop, "Retrotransposons as Agents of Aging and Disease", NIH , Bethesda, (September 23-24, 2019)

130) 2020 Invited Speaker, NIA, "Retrotransposons as Agents of Aging and Disease", NIA, Baltimore, MD, scheduled January 14, 2020

131) 2020 Invited Speaker, Buck Institute for Research on Aging, "Retrotransposons as Agents of Aging and Disease", Buck Institute for Research on Aging, Novato, CA, scheduled April 17, 2020 Postponed due to pandemic

132) 2020 Invited Speaker, NIA, Workshop "Retrotransposable Elements and Chromatin Fragments in Aging and Aging Diseases", "Retrotransposons as Agents of Aging and Disease" NIA, May 12-13, 2020

133) 2020 Invited Speaker, Barshop Masoro Bandera Meeting on Epigenetics and Aging and Age-Related Disease. UT San Antonio "Retrotransposons as Agents of Aging and Disease" (October 15-18, 2020)

RESEARCH GRANTS

a. Current grants

2 P01 AG051449-06 (Sedivy, PI) 9/1/21 – 8/31/26
Role of Retrotransposon Activity in Neurodegeneration and Alzheimer's Disease.
Project 2 Helfand (PI): Role of Retrotransposable Element Activity in Drosophila Models of Alzheimer's Disease. The major goals are to exploit the *Drosophila* model system to study the role of retrotransposable elements (RTEs) in the progression of cellular dysfunction that occurs during Neurodegeneration and Alzheimer's Disease.

Zimmerman award Carney Innovation Award (Helfand, MPI) 1/1/22 – 12/31/22
Phenotypes and Mechanisms in Epilepsy-Associated SCL13A5 Mutation

R01AG067306-01 (Helfand, PI) 4/01/20 – 3/31/25
NIH/NIA
The Effect of Life Span Modifying Interventions on Alzheimer's Disease in Drosophila and Mice.
The major goals are to determine whether potential genetic and pharmacological geroprotectors known to extend life span or health span in flies and mice delay the onset and progression of neurodegeneration and other AD-related phenotypes in AD models in mice and flies.

RF1 AG024353-16 (Helfand, PI) 9/30/04 – 5/31/24
NIH/NIA
Control of Gene Expression and Life Span
The major goals are to study the role of Sirt6 in *Drosophila* aging and Alzheimer's Disease.

TESS Foundation 7/1/17 – 6/30/23
(Treatments for Epilepsy & Symptoms of SLC13A5 Research Foundation.)

Creation of humanized mouse and fly models of SLC13A5 mutant syndrome to determine the cause of neurological dysfunction, and to identify and test treatments.

Brown Biomedical Innovations to Impact (Helfand, PI) 7/1/19 – 6/30/23
To develop small molecule inhibitors of the human citrate transporter INDY/SLC13A5

Pending

1 R01 AG078936-01 (Helfand, Reenan MPI) 7/1/22 – 6/30/27
Transposable elements, innate immunity and lipid dysregulation in Alzheimer's Disease (AD) and Related Dementia (ADRD) models in flies and mice.

1 R01 AG081439-01 (Reenan, Helfand, MPI) 4/1/23 – 3/31/28
Elucidating the Pathogenic Role of Lipid Droplets in Multi-gene Models of AD and ADRD in Drosophila and Mice.

1 R01 NS131865-01 (Liu, Helfand, MPI) 4/1/23 – 3/31/28
Genetic and Functional Mechanisms in Citrate Transporter Disorder associated with SLC13A5.

1 R01AG082810-01 (Helfand, Reenan MPI) 7/1/2023 – 6/30/28
Hierarchy and intersection of hallmarks of aging using genetic, pharmacologic, and dietary life span extending interventions in flies and mice.

Completed grants

Brown University Seed Award (Liu, Helfand PIs) 1/16/20 – 6/30/22
To determine the normal function of SLC13A5 in brain physiology and the mechanisms by which pathogenic mutations result in neural dysfunction as well as to identify genetic modifiers of disease expression.

P01 AG051449 (Sedivy, PI) 9/1/16 - 5/30/21
Somatic Activation of Retrotransposition: A New Molecular Mechanism of Aging?
Project 2 Helfand (PI): *Regulation of retrotransposable element activity in Drosophila*
The major goals are to exploit the *Drosophila* model system to study the role of retrotransposable elements (RTEs) in the progression of cellular dysfunction that occurs during aging, and to develop interventions that suppress RTE activity and extend healthy lifespan.

R13 AG067648-01 (D'Antonio, PI; Helfand, MPI) 9/1/19 – 6/30/2021
Biological Science Program at The Gerontological Society of America's 2020 Annual Scientific Meeting.
To support the funding of the invited speakers and underrepresented minorities to attend and participate in the meeting.

P01 AG051449-3S1 (Sedivy, PI) 9/1/19 - 5/30/20
Somatic Activation of Retrotransposition: A New Molecular Mechanism of Aging?
Project 2 Helfand (PI): *Regulation of retrotransposable element activity in Drosophila—AD Supplement*

R01 AG024353-15S1 (Helfand, PI) 9/01/18 – 4/30/20
NIH/NIA
Control of Gene Expression and Life Span—AD Supplement

R01 AG024353-14S1 (Helfand, PI) 9/01/17 – 4/30/18
NIH/NIA
Control of Gene Expression and Life Span—Supplement

R56 AG054710-01 (Helfand, PI; Reenan; PI) 9/15/17 – 8/31/19
NIH/NIA
Systems Biology of Humanized models of AD and genetic suppression in Drosophila.

R01 AG024353-15S1 (Helfand, PI) 9/01/18 – 4/30/19
NIH/NIA
Control of Gene Expression and Life Span--Supplement

R01 AG024353-14S1 (Helfand, PI) 9/01/17 – 4/30/18
NIH/NIA
Control of Gene Expression and Life Span--Supplement

P30AI042853
NIH/DAR
CFAR Developmental Award Helfand(PI) 7/1/16 – 6/30/17
CFAR
Identification of pathways that Repress HIV proviruses using an in vivo Drosophila-based screen. The overall goal for this project is to develop new drugs for treating and potentially curing HIV-AIDS.
Role: PI

Glenn AFAR BIG Award (Helfand, PI) 7/1/14 – 6/30/17
American Federation for Aging Research
Chromatin-regulated activation of retrotransposable elements – a novel molecular mechanism of aging.
The major goals are to identify the molecular genetic elements regulating the activity of retrotransposable during aging.

R37 AG016667 (Helfand, PI) 4/1/04 – 3/31/16
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila
The major goals are to study the molecular genetic mechanisms of the Indy gene.

R37 AG016667 (Helfand, PI) Closeout Supplement 5/1/014 – 3/31/16
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement
The major goals are to study the molecular genetic mechanisms of the Indy gene.

Brown Institute for Brain Science Innovation Award (Helfand, PI) 7/1/15 – 6/30/16
Brown University

How do SLC13A5 mutations cause severe infantile epilepsy and how can we use this knowledge to develop new and novel treatments for pediatric epilepsy?

DEANS Emerging Areas of New Science Award (Helfand, PI) 7/1/14 – 6/30/16
Brown University
Retroviral Inhibitors: Effects on Retrotransposons & Aging in Flies & Humans

Johnson & Johnson / Brown OVPR TIPAP Award (Helfand,PI) 8/1/11 - 6/27/13
High-throughput screen for small molecule inhibitors of mouse INDY (SLC13a5)
The major goal is to develop an assay for use in screening small molecule inhibitors of the mammalian Indy protein for potential use as interventions in obesity and diabetes.

R37 AG016667 (Helfand, PI) 6/1/011 – 3/31/12
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement
The goal of this supplement is to increase the presence of underrepresented minorities in biological research; we have hired an undergraduate student to participate in the project and receive mentoring by the PI.

The major goals are to study the molecular genetic mechanisms of the Indy gene.

P30 RR 031153-01 (Atwood, PI) (4/15/11-3/31/16) pilot: 7/1/11-3/31/12)
NIH
Center for Cancer Signaling Networks pilot subtitle: Chromatin Remodeling in the Aging Genome
The major goal of this pilot study was to investigate chromatin changes with age, using ChIP seq and bioinformatic analysis.

R37 AG016667 (Helfand, PI) 8/15/10 – 3/31/11
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement
The major goals are to study the molecular genetic mechanisms of the Indy gene.
The goal of this supplement is to increase the presence of underrepresented minorities in biological research; we have hired an undergraduate student to participate in the project and receive mentoring by the PI.

R37 AG016667 (Helfand, PI) 9/15/09 – 3/31/11
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement ARRA
The major goals are to study the molecular genetic mechanisms of the Indy gene.
The goal of this supplement is to accelerate the pace of the studies proposed in our MERIT award and to provide jobs; we have hired a research assistant to add to our effort on this project.

R37 AG016667 (Helfand, PI) 8/15/09 – 3/31/10
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement
The major goals are to study the molecular genetic mechanisms of the Indy gene.

The goal of this supplement is to increase the presence of underrepresented minorities in biological research; we have hired an undergraduate student to participate in the project and receive mentoring by the PI.

R01 AG24353 (Helfand, PI) 9/30/09 - 7/31/14
NIH/NIA
Control of Gene Expression and Life Span
The major goals are to study the role of Rpd3 and Sir2 in lifespan determination.

Glenn Award for Research in Biological Mechanisms of Aging Helfand (PI) 9/28/09-9/27/11
The goal of this work was to develop biomarkers to identify new longevity mutants in *Drosophila*.

R37 AG016667 (Helfand, PI) 8/15/07 – 3/31/08
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement
The goal of this supplement is to increase the presence of underrepresented minorities in biological research; we have hired an undergraduate student to participate in the project and receive mentoring by the PI.

R01 AG025277 (Helfand, PI) 9/30/05-6/30/11
NIH/NIA
Oxidative Damage, Aging and Life Span
The major goals are to understand the role of oxidative damage in aging and lifespan.
Glenn Award for Research in Biological Mechanisms of Aging Helfand (PI) 9/28/07-9/27/09
Biomarkers to identify new longevity mutants in Drosophila.
The goal of this work was to develop biomarkers to identify new longevity mutants in *Drosophila*.

R37 AG016667 (Helfand, PI) 6/15/04 – 3/31/05
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement

R01 AG016667 (Helfand, PI) 9/30/02 – 3/31/03
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement
The major goals are to study the molecular genetic mechanisms of the Indy gene.

Ellison Medical Foundation Senior Investigator (Helfand, PI) 10/1/01 – 9/30/08
Genetic Dissection of Aging in Drosophila
The goal of this project is to isolate new single gene mutations that extend lifespan in *Drosophila*.
R01 AG016667 (Helfand, PI) 2/15/01 – 3/31/01
NIH/NIA

Single Gene Mutants that Confer Longevity in Drosophila-Supplement (2S2)
The major goals are to study the molecular genetic mechanisms of the Indy gene.
The goal of this supplement is to increase the presence of underrepresented minorities in biological research; we have hired an undergraduate student to participate in the project and receive mentoring by the PI.

R01 AG016667 (Helfand, PI) 4/01/99 – 3/31/04
NIH/NIA
Single Gene Mutants that Confer Longevity in Drosophila-Supplement
The major goals are to study the molecular genetic mechanisms of the Indy gene.

R01 AG023088
NIH/NIA (Rogina, PI; Helfand Co-PI) 2/15/04-1/31/09
Molecular Genetics of Caloric Restriction in Aging Flies
The major goal of this project is to determine the effects of caloric restriction on mortality rate, intermediate metabolism and genomic transcriptional response in control and Indy mutant flies.

7K01AG021068 (Fridell, PI; Helfand, mentor) 9/01/07-4/30/08
NIH/NIA
Putative Drosophila Uncoupling Proteins and Aging
The major goal of this project is to study mitochondrial uncoupling in Drosophila.

Donaghue Medical Research Foundation (Helfand, PI) 1/1/00 – 12/31/04
Molecular Genetics of Aging
The major goals of this project are to develop biomarkers of aging in Drosophila and utilize them for isolating genes that extend lifespan.

R03 AG0114632 (Helfand, PI) 3/01/97-2/28/99
NIH/NIA
Gene Regulation in Drosophila—A model to study aging
The major goals of this project are to identify age-responsive regulatory elements in the genome.

Interim HCRAC Award (Helfand, PI) 9/01/97-8/31/98
University of Connecticut

Nathan W. and Margaret T. Shock Aging Research Foundation Award (Helfand, PI) 1995
Gerontology Society of America
The major goals of this project are to identify age-responsive regulatory elements in the genome.

American Federation for Aging Research (Helfand, PI) 9/01/95-8/31/96
Control of Gene Expression During Aging
The major goals of this project are to identify age-responsive regulatory elements in the genome.

Faculty Research Award (Helfand, PI) 9/01/94-8/31/96
University of Connecticut
Regulation of Gene Expression During Aging
The major goals of this project are to identify age-responsive regulatory elements in the genome.

Sandoz Foundation for Gerontological Research (Helfand, PI) 9/01/93-8/31/94
Gene Regulation During Aging
The major goals of this project are to identify age-responsive regulatory elements in the genome.

American Federation for Aging Research (Helfand, PI) 9/01/92-8/31/94
Regulation of Gene Expression During Aging
The major goals of this project are to identify age-responsive regulatory elements in the genome.

National Science Foundation (NSF) (Helfand, PI) 1/01/92-12/31/96
Molecular and Genetic Analysis of Olfaction in Drosophila
The major goals of this project are to identify new genes involved in olfaction

Faculty Research Award (Helfand, PI) 9/1/92-8/31/94
University of Connecticut
Molecular and Genetic Analysis of Olfaction in Drosophila

American Cancer Society Institutional Research Grant Award (Helfand, PI) 9/01/91-8/31/92
Genetic Studies of Signal Transduction in Olfaction

Research Initiation Program Grant (Helfand, PI) 9/1/91-8/31/92
University of Connecticut
Molecular and Genetic Analysis of Olfaction

SERVICE

(i) To the University

UNIVERSITY COMMITTEES AND ADMINISTRATIVE RESPONSIBILITIES:

University of Connecticut Health Center (School of Dental Medicine; School of Medicine) 1990-2005

1998	Acting Head Department BioStructure and Function, UConn Health Center, CT, August
1999	Acting Head Department BioStructure and Function, UConn Health Center, CT, March; May; August.
1999-2002	Senior Appointments and Promotions Committee (School of Dental Medicine)
1996-2005	Director of Genetics and Developmental Biology Graduate Program
1996-2005	Member of Graduate Program Committee
2002	LCME Re-accreditation committee
2002	University Committee on Research Conflicts of Interest
2003-2005	MSTP Steering Committee

Brown University 2005-

2007-2008	Executive committee MCB Department
2008-2009	Chair Faculty Search Committee (Systems Biology), Dept MCB, Brown University
2008-	Freshman Advisor
2008-	Sophomore Advisor
2009-2015	Founding Director, Brown University Biology of Aging Initiative
2009-2010	Executive committee MCB Department
2010-2011	Executive committee MCB Department
2010-2011	Co-Chair Faculty Search Committee (Bioinformatics), Biomed, Brown University
2011-2014	Member of Committee on Medical Faculty Appointments
2012-2013	Committee on Open Access
2013-2014	Chair Faculty Search Committee (Biology of Aging), Dept MCB, Brown University
2013-2014	CTSA Grant Planning Committee—University and Hospital-wide
2015-2021	Biology Concentration Advisor
2015-	Associate Director of Research Brown Center on the Biology of Aging
2016-2021	Health Careers Advising Committee
2019-	Vice-Chair for Research Department of Neurology
2020-	Executive committee Center for Translational Neuroscience

(ii) To the profession

EDITORAL BOARD

2001-2010 Faculty of 1000 charter member (2001-2010)
2001-2006 SAGE KE (Contributing Editor of Science of Aging Knowledge Environment a Science magazine web site for researchers in the field of aging
2006-2008 Editor-in-Chief, Reviews Section, Aging Cell
2008-2014 Associate Editor, Aging Cell
2009-present Founding Editorial Board, Aging
2012-2020 Editorial Board Mechanisms of Ageing and Development
2013-present Associate Editor, Journal of Gerontology

National Review Committees

2021-2022 Quinquennial Review of the Division of Aging Biology, NIA Intramural Program
2021 Board of Scientific Counselors Review of IRB NIA
2021- Member of External Advisory Board of the ADSP Consortium—a FunGen-AD consortium
2022 Board of Scientific Counselors Review of IRB NIA
2022- Member of The Academy for Health and Lifespan Research
2020 Vice-Chair responsible for the Biological Sciences Program for the 75th Annual Gerontology Society of America meeting, Nov 2020.
2021 Chair Biological Sciences Section Gerontology Society of America meeting Annual Gerontology Society of America meeting, Nov 2021.
2022 Past Chair Biological Sciences Section Gerontology Society of America meeting Annual Gerontology Society of America meeting, Nov 2022.

JOURNAL REVIEW

Biochemica et Biophysica Acta
Brain Research
Developmental Genetics
Evolution
Journal of Gerontology
Nature
Neurobiology of Aging
Trends in Genetics
Archives of Biochemistry and Biophysics
Genetics
Experimental Gerontology
FASEB Journal
Biotechnique
Biogerontology
Current Biology
Free Radical Biology
Science
Aging Cell
Cell
PNAS
Nature Genetics
Nature Communications

Cell Metabolism
Nature Cell Biology
Aging
Frontiers in Genetics
Journal of Gerontology
Experimental Gerontology
Mechanisms of Aging and Development
Genes
Genes and Development
Molecular Cell
Nature Reviews Genetics
Molecular Cellular Biology
PLOS Biology
PLOS Genetics
Journal of Insect Physiology
Journal of Cell Biology
Trends in Neuroscience
Archives of Insect Biochem Physiol
Acta Pathologica
Journal of Clinical Investigation
Nature Aging
eLife
Cell Metabolism
Progress in Neurobiology

STUDY SECTION

1993	Ad hoc reviewer, Sensory Systems, National Science Foundation
1995	Ad hoc reviewer, Behavioral Neuroscience, National Science Foundation
1995	Ad hoc reviewer, Geriatrics and Rehabilitation Medicine, National Institute of Health
1997	Ad hoc reviewer, Minority Dissertation Ad hoc Review Group B, National Institute of Health
1999	Ad hoc reviewer, Geriatrics and Rehabilitation Medicine, National Institute of Health
1999	Reviewer SEP Committee for Program Project, National Institute of Health
2000	Ad hoc reviewer, Geriatrics and Rehabilitation Medicine, National Institute of Health
2000	Ad hoc reviewer, Geriatrics and Rehabilitation Medicine, National Institute of Health
2002	Reviewer NIA Program Project Site visit, National Institute of Health
2002	Ad hoc reviewer Child Development (CDF-5) National Institute of Health
2002	Ad hoc reviewer Geriatrics and Rehabilitation Medicine, National Institute of Health
2004-2008	Charter member of Cellular Mechanisms in Aging and Development (CSR, NIH)
2004	Reviewer SEP Committee for Program Project, National Institute of Health
2004	Reviewer, Developmental Mechanisms Program, NSF
2005	Reviewer, Developmental Mechanisms Program, NSF
2010	Ad Reviewer, SEP, NIH
2013	Reviewer, SEP-CITP, NIA, NIH
2013	Reviewer, NHLB Institute, Intramural Review
2015	Reviewer, NIH Transformative grants
2016	Reviewer, SEP-CITP, NIA, NIH
2017	Reviewer ad hoc, Cellular Mechanisms in Aging and Development (CSR, NIH)
2019	Reviewer Second Stage P01 Review, NIA, NIH

2020 Reviewer ad hoc, Cellular Mechanisms in Aging and Development (CSR, NIH)

SCIENTIFIC ACTIVITIES

1992 Chairperson, Section on Behavior, 33rd Annual Drosophila Research Conference
1992 Invited Lecturer, Association for Chemoreception Sciences, 14th Annual Meeting
1993 Ad hoc reviewer for Research Initiation Support and Enhancement Program, University of Connecticut Health Center, CT
1994 Reviewer, research grant applications in olfaction, Louisiana Sea Grant College Program, State of Louisiana Board of Regents
1994 Ad hoc reviewer for Faculty Research Grants, University of Connecticut Health Center, CT
1996 Ad hoc reviewer for Research Initiation Support and Enhancement Program, University of Connecticut Health Center, CT
1996 Interim Chair, Session on Gene Regulation, 1996 Gerontology Society of America Meeting
1996 Reviewer, Human Frontier Science Program, Strasbourg, France
1997 Invited Lecturer, 1997 Gordon Conference on Biology of Aging
1997 Chairperson and Workshop Organizer, Section on Aging and Stress, 38th Annual Drosophila Research Conference
1997 Review Board of the Medical and Scientific Advisory Council of the Alzheimer's Association, Ronald and Nancy Reagan Research Institute
1997- Reviewer for Life Sciences Foundation
1997- Reviewer for Research Development awards for the NIH Pepper Center at Yale University
1997-1999 Reviewer for Allied Signal Award
1997-1999 Reviewer for Brookdale Foundation Award
2000-2001 Reviewer for Biotechnology and Biological Sciences Research Council, UK
2001- Instructor, MBL course on Molecular Biology of Aging, yearly
2002 Reviewer for Alzheimer’s Association
2003- Reviewer for American Federation of Aging Research
2003-2008 Internal Review Board, Ellison Medical Foundation
2004 Chairperson session at CSHL meeting on Molecular Biology of Aging
2004 Reviewer for National Science Foundation
2004 Chairperson for symposium at Gerontology Society of America Annual Meeting
2007 Chairperson session at ASBMB meeting, session on Aging and Metabolism
2012 Judge for Poster Sessions New England Science Symposium for Diversity Students, Harvard Medical School, April 2012.
2015 Chairperson for symposium at Gerontology Society of America Annual Meeting
2016 Chairperson for symposium at Gerontology Society of America Annual Meeting
2018 Chairperson for two sessions on Aging, Physiology and Metabolism at 59th Annual Drosophila meeting, April 2018, Philadelphia
2018 Chairperson and speaker for session on Epigenetics at the CSHL meeting on Molecular Biology of Aging, Scheduled for Oct 2018.
2020 Vice-Chair responsible for the Biological Sciences Program for the 75th Annual Gerontology Society of America meeting, Nov 2020.
2020 Reviewer ad hoc, NIA Board of Scientific Counselors Review (NIA, NIH)
2021-2022 Quinquennial Review of the Division of Aging Biology, NIA Intramural Program
2021- Chair Biological Sciences Section Gerontology Society of America meeting
2021- Member of External Advisory Board of the ADSP Consortium—a FunGen-AD consortium
2022 Reviewer ad hoc, NIA Board of Scientific Counselors Review (NIA, NIH)
2022- Member of The Academy for Health and Lifespan Research

2023 External Reviewer for Stony Brook University Centers for Molecular Medicine - Center for Development Genetics (CDM)

(iii) To the community

Communication to public:

2000 Interview for work published in *Science* in December 2000 appeared in hundreds of papers world wide, including several National News television stations, Fox network, Discovery channel, PBS and BBC radio. Some listed below.

2000 December 15, 2000 *The New York Times*: I'm Not Dead Yet: Stumbling on a Genetic Mutation That Lives Up to Its Name, National Report A 24 (Gina Kolata).

2000 December 15, 2000 Hartford Courant: Fruit Flies Provide Another Clue To Mystery of Aging, Bill Hathaway.

2000 December 15, 2000 *SCIENCE*: Old Flies May Hold Secrets of Aging, Elizabeth Pennisi.

2000 December 21, 2000, *Telegraph*: 'Indy" gene may be Holy Grail for longevity, Roger Highfield.

2000 December 15, 2000, *Associated Press*: Gene Mutation Doubles Fly's Life span, Paul Recer.

2000 December 15, 2000, *CNN*, Gene mutated in fruit flies doubles life span

2001 Panel Member, Talk Magazine/Pain Webber conference, "Navigators and Innovators", March 2001, Santa Barbara, CA.

2003 February 25, 2003 *The Hartford Courant*: Mutant Flies Offer Lesson In Longevity, Front page, By William Hathaway, Courant Staff Writer

2004 July 14, 2004 *The Hartford Courant*: In Wine, A Possible Key To A Long Life", Front page, By William Hathaway, Courant Staff Writer

2004 November 16, 2004 *The Hartford Courant*: "Adding Life to Years" page D3, By William Hathaway, Courant Staff Writer, also in Chicago Tribune on November 21, 2004

2004 December 28, 2004 Television interview for *ScienCentral News* "Genetic Timeclock" has been shown on NBC stations and is on web at: http://www.sciencentral.com/articles/view.php3?language=english&type=article&article_id=218392437

2004 Hosted Governor Rowland on visit to UCHC, June 2004, television segment on local Connecticut news.

2005 Television interview for Jim Lehrer Newshour televised on PBS, February, 2005.

2005 February 16, 2005, *The Hartford Courant:* "Time Flies, But Scientists May Have Way To Get More" By William Hathaway, Courant Staff Writer

2005 November 21, 2005, *London Daily Mail*: "Key gene link to increased lifespan", 23:54pm 21st November 2005, London Daily Mail

2005 November 22, 2005, The Hartford Courant: "Scientists Challenged To Boost A Gene's Benefits Without Downside", By William Hathaway, Courant Staff Writer

2006 November 1, 2006, *Associated Press*, "Wine Extract, Resveratrol, Keeps Fat Mice Healthy", By Seth Borenstein

2006 November 2, 2006, *The Washington Post*: "A Compound in Red Wine Makes Fat Mice Healthy" By Rob Stein, Washington Post Staff Writer

2006 November 2, 2006, *WNYC The Brian Lehrer Show: Left, Right and Independent*: Wine is Fine.

2007 Hosted Lt Governor Elizabeth Roberts of Rhode Island on her visit to Brown University, April 2007

2008 November 26, 2008, *Boston Globe*: "Harvard researchers gain new insight into aging." By Carolyn Y. Johnson, Globe Staff

2011 News article in Brown News—Interview with Stephen Helfand: 'Healthspan,' not lifespan, is the goal: http://news.brown.edu/features/2011/10/healthspan

2011 Brown short takes—August 8, 2011 on *Indy* mouse.

2011 August 15 "mINDY Mice - No Obesity, No Diabetes?"
http://pipeline.corante.com/archives/2011/08/15/mindy_mice_no_obesity_no_diabetes.php

2011 September 22 "Longevity Research Raises Hopes, and Questions" NY Times by Nicholas Wade. http://www.nytimes.com/2011/09/22/science/22longevity.html?_r=1&hp=&pagewanted=all

2011 September 21 "More questions arise about "life-extending" proteins", Rueters Health by Genevra Pittman.

2011 September 21 "Longevity Genes Challenged by New Data Showing No Extension of Lifespan" *Nature* by Heidi Ledford.

2011 October 13 Brown Short News—"Healthspan,' not lifespan, is the goal."

2011 November 1 "Substance in red wine shows promise in first human study on resveratrol and humans", Washington Post by Rob Stein.
http://www.washingtonpost.com/blogs/the-checkup/post/substance-in-red-wine-shows-promise-in-first-human-study/2011/10/31/gIQAtMZRcM_blog.html

2011 December 1 "Aging Genes: The Sirtuin story unravels", Newsfocus SCIENCE by Jennifer Couzin-Frankel.

2013 November 20 Brown News—"Aging erodes genetic control, but it's flexible"

2014 February 5 Brown News—"Longevity mutation found in flies far and wide"

2014 December 4 Brown News—"Sleeping dogs' threaten genome as we age"

2016 September 6, 2016 Brown News—"Brown to lead $9.7M grant to advance theory of aging."

2016 September 12 Brown Short News—"Study results advance "transposon theory of aging"".

2016 September 12 Providence Journal—"Major publication and grant look to longer, healthier lifespans"

2016 September 12 Providence Journal—"Brown research teams advance science of aging"

2016 September 15 NBC News 10 Providence—"Rogue elements may cause aging"

2016 September 15 Daily Mail, UK—"A step closer to the Fountain of Youth? Scientists get first glimpse of genes 'in the act of ageing' - and confirm low- calorie diet DOES keep you young".

2016 November 3 BioTechniques—"Rogue Transposons Accelerate Aging".

2016 December 21 Brown News—"RNA pathway plays key role in health, lifespan, fly study shows."

2017 November 20 Brown News—"Brown biology, engineering professors named AAAS fellows

2018 January 29 Brown News—"Boosting Sirt4 activity extends healthy lifespan in fruit flies.

TEACHING

UCHC
2002 Spring Co-Director MEDS 368 Current Topics in GMBB—Molecular Genetics of Aging.
2002 Spring MEDS 497 Introduction to Developmental Biology--2 lectures
2001-2003 Spring Yale Medical School Cell Biology Course—lecture on Biological determinants of Aging
2003- OS3 Human Genetics—small group sessions
2004- OS3 Human Genetics—small group sessions

Brown University

2007-present	Freshman Advisor
2008-present	Sophomore Advisor
2008-2021	Biology of Aging Biol 232—Course Director (Spring Semester)
2008-present	Freshman Seminar: "Development of Scientific Theories: Context and the Individual" then in 2017 "Pride and Prejudice in the Development of Scientific Theories" Biol. 0190P—Course Director (Fall Semester)
2009-present	CAPS course leader (Fall Semester)

POSTDOCTORAL FELLOWS

1992-1994	Kimberly Blake, Ph.D. Professor, Department of Biology, Mitchell College.
1992-1994	Boris Naprta, M.D. Clinician, Bedford, New Hampshire.
1992-1995	Brian Grimwade, Ph.D. Research Associate, Curagen Corporation.
1992-1993	Youxi Ai, M.D. Research Associate, Department of Pathology, UCHC.
1992-1996	Blanka Rogina, Ph.D. Associate Professor with Tenure, Deptartment of Genetics and Developmental Biology, UCHC.
1999-2001	Barry Hoopengardner, Ph.D. Associate Professor with Tenure, CCSU
2001-2008	Johannes Bauer, Ph.D. Assist Professor, UC Berkeley, CA

2004-2006 Aaron Haselton, Ph.D. Associate Professor with Tenure, SUNY, New Paltz, NY
2006-2008 Pei-Yu Wang, Ph.D. Associate Prof, National Taiwan University, Taipei,Taiwan
2006-2007 Matthew Bedoukian, Ph.D. Co-President, Bedoukian Research, Danbury,CT
2006-2007 Barbara Schreader, Ph.D. Florida Atlantic University
2008-2009 Lei Zhu, Ph.D. Analytics & Modeling Scientist at Monsanto Company, MO
2006-2011 Jason Wood, Ph.D. Investigator, MCB Program, Brown University, RI
2010-2016 Nan Jiang, Ph.D. Investigator, MCB Program, Brown University, RI
2016-present Jackson Taylor, Ph.D. Postdoctoral Fellow, MCB Program, Brown University, RI

GRADUATE STUDENTS (Thesis Students--Major advisor)
Barry Hoopengardner, 1998 thesis, Associate Professor Central Connecticut State University
Steven Nilsen. 2002 Thesis. Science Editor, Journal of Visualized Experiments.
Tyson Bross 2006 Thesis (DMD/PhD) Pediatric Dentistry, Baltimore Maryland
Brian Silvia 2006 Thesis (MD/PhD), Assistant Professor, Orthopedics, Boston Univ. Boston, MA
Raye Mutcherson 2006 Thesis, Eastern Connecticut State University, CT
Santosha Oliver (Odoms) 2005 Thesis-Assistant Superintendent for Instructional Services, Windsor Public Schools, Windsor, CT
Stephan Goupil 2005 Thesis, DO Family Practice, Emerson Hospital, Maynard, MA
Adolfo Sanchez-Blanco 2005 Thesis, Biology Instructor Capital Community College, Hartford, CT
Peter Poon 2007 Thesis, University of Southern California.
Graham Garber 2010 Thesis (DMD/PhD), Private Practice, Providence, RI
Rachel Whitaker 2013 Thesis, OPKO, Lexington, MA
Brian C. Jones 2012 – 2016 Thesis, Sangamo Therapeutics, Inc. Brisbane, CA
Samuel Hinthorn 2020

THESIS COMMITTEES
UCHC
Daria Bansescu, (Chair of temporary Thesis committee)-conferred 2004 Postdoc Yale
Vihra Sotirova, (Chair of temporary Thesis committee)-conferred 2006, UCHC Research Assistant
Dana Philipps, (Chair of temporary Thesis committee)-conferred 2004, High School teacher, NJ
Alicia Scillia, (Chair of temporary Thesis committee)-conferred 2002, U. Pittsburgh
Lee Ann Smith, (member of Thesis committee)-conferred 2004 Associate Professor Benedictine College
Katherine Parisky, (member of Thesis committee)-conferred 2004 Postdoc Brandeis
Tarun Bhalla, (member of Thesis committee)- conferred 2005, MD/PhD student

Brown University
Edward Peckham (Chair of Thesis committee) Brown University-MCB Program, conferred 2011
Marissa Holmbeck (Chair of Thesis committee) Brown University-MCB Program, conferred 2014
Xaioai Zhao (member of Thesis committee) Brown University-Pathobiology Program, conferred 2015
Takahiro Ito (Chair of Thesis committee) Brown University-MCB Program, conferred 2016
Steve Criscione, Brown University-MCB Program-MCB, conferred 2016
Anna Petrashen, (Chair of Thesis committee) Brown University-MCB Program, conferred 2020
Brett Baggett (Chair of Thesis committee)Brown University-MCB Program 2017
Kamil Cygan, Brown University-CCMB Program, conferred 2019
Yee Voan Teo, Brown University-MCB Program, conferred 2019
Abigail Brown (Chair of Thesis committee) Brown University-MCB Program, conferred 2021
Samuel Hinthorn (2021) Brown University-CCMB Program
Kelvin DeLeon, Brown University-Neuroscience Program

External Thesis Committee
Juan Carmona, outside reader--member of committee, Harvard Medical School 2009)
Heather McLaughlin, outside reader--member of committee Harvard Medical School 2014
Hassina Massudi, outside reader--member of committee, School of Physiology and Pharmacology, University New South Wales, Australia 2016
Michael Schultz, outside reader--member of committee, Dr. David Sinclair, Harvard Medical School 2019
Michael Cooney, outside reader—member of committee, Dept of Genetics, Harvard Medical School 2021

UNDERGRADUATES MENTORED

UCHC
Danielle Rudich-2002 Summer Fellowship, Barnard College
Matthew Hall-Summer 2003-4 Wesleyan University
Dane Scantling-Summer 2004, University of Massachusetts

Brown University Undergraduate Independent studies/Honors thesis students
Sandra Andersen 2005-2007
Sarah Rodriguez 2005- 2007
Sarah Morris 2005-2008
Daniel Lu 2005-2009
Matt Cohen 2005- 2008
Kenneth Morales 2005
Christine Livoti 2005
Gillian O'Reilly 2005
Joshua Waitzman 2005-2006
Hieu Nyguyen 2005-2008
Anita Mazloom 2005-2006
Angela Hua 2005
Eric Mukherjee- 2005-2009
Stewart Duncan-Smith-2006-2008
Jennifer Parks- 2006-2007
Gina Bae-2007-08
Michael Li-2007-2010
Meeghan Algeo-2007
Jonathan Mishoe-2008-2009
Adam Kroll-2009
Sanjay Trehan-2009
Priyan Wickremesinghe-2010-13
Shakeela Faulkner-2010-13
Guyu Du-2010-2011
Ethan Tobias-2011-2012
Reika Miyokawa-2011-13
Will Donovan-2011-12
Jimmy Chan-2011-12
William Bartel -2012-13
Kelly Shan-2012-13
Evan Lester-2012-13
Mark Hendriksen-2012-2014

Meyrolin Garcia-2011-2013
Lucas Burhenn-2011-2014—UTRA Award, Honors Thesis
Gillian Horwitz-2012-2014—UTRA Award, Honors Thesis
Adam Horowitz-2013-2014
Austin Tam-2013-2015—UTRA Award, Honors Thesis
Michael Franklin-2013-2015—UTRA Award, Honors Thesis
Emily Siegel-2014-2016—UTRA Award, Honors Thesis
Davis Hartnett-2014-2017—UTRA Award, Honors Thesis
Matthew Finn 2015-2018—UTRA Award, Honors Thesis
Dowon Kim 2016-2019—UTRA Award, Honors Thesis
Julianna Liu 2016-2020—UTRA Award, Honors Thesis
Abdul Ahmed 2017-2019
Evan Mizerak 2018-2022—UTRA Award, Honors Thesis and James F. Kidwell Prize in Genetics and Population Biology
Julius Sun 2018-2019
Sangho Myung 2019
Sam Hinthorn 2019-2020
Andrew Yan 2020- (UTRA Award)
Cole Heine 2021-
Kyler Hwa 2021-(PLME Award)
Hanna Wang 2021-- (UTRA Award)
Sarah Albert Rozenberg 2021-- (UTRA Award)