

Gordon J. Lithgow Ph.D.

Professor

Curriculum Vitae

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Nationality: British (Motherwell, Scotland)

Education

- Braidhurst High School, Motherwell, Scotland
- 1981-1985 University of Strathclyde, Glasgow, Scotland. B.Sc. Honours (2.1) Applied Microbiology.
- 1985-1989 University of Glasgow, Scotland. Ph.D. Genetics.

Current positions

- 2013- Director of Interdisciplinary Research, The Buck Institute for Age Research, Novato, California, USA
- 2009- Professor, The Buck Institute for Age Research, Novato, California, USA
- 2001-2009 Associate Professor, The Buck Institute for Age Research, Novato, California, USA
- 2001- Honorary Senior Lecturer in Molecular Gerontology, School of Biological Sciences, University of Manchester, Manchester, England.

Previous employment

- 1989-1991 Postdoctoral Research Fellow, Biotechnology Unit, Ciba Giegy AG, Basel, Switzerland.
- 1991-1995 Postdoctoral Research Fellow, Institute for Behavioral Genetics, University of Colorado, Boulder, USA. Laboratory of Dr. Thomas E. Johnson.
- 1995-2001 Lecturer in Molecular Gerontology, School of Biological Sciences, University of Manchester, Manchester, England.
- 2001 Senior Lecturer in Molecular Gerontology, School of Biological Sciences, University of Manchester, Manchester, England.

Awards and Honors

- The 2013 Tenovus Medal Lecturer for Outstanding Research in Biomedicine. University of Glasgow, Scotland.
- Chair, Biological Sciences Section, Gerontological Society of America, 2010.
- Chair, Biology of Aging, Gordon Research Conference, 2004.
- Ellison Senior Scholarship, 2002.
- The Nathan Shock Memorial Lecture, "For contributions that have enhances our understanding of the genetic regulation of aging and longevity in invertebrate models" Awarded by the Staff of the National Institute on Aging, Baltimore Maryland. September 12th, 2002.
- The Ben Cohen Lecture, University of Michigan, Ann Arbor, October 2001.
- The 2001 Busse Award for Biomedical Sciences (for contributions to Biomedical Gerontology).
- MRC New Generation Poster Award. Manchester, June 1999 (awarded to Glenda Walker from my laboratory)
- "Best in Trust" Poster award. Manchester Healthcare trust R and D exhibition. 10 Nov, 1999 (Awarded to Matt Gill from my Laboratory)
- The Hans Selye Award. At the "Stress of Life" congress, Budapest, Hungary. 1-5 July, 1997.

Journal Publications

1. Johnson TE, Lithgow GJ. The search for the genetic basis of aging: the identification of gerontogenes in the nematode *Caenorhabditis elegans*. **J Am Geriatr Soc.** 1992;40(9):936-45. PubMed PMID: 1355097.
2. Johnson TE, Tedesco PM, Lithgow GJ. Comparing mutants, selective breeding, and transgenics in the dissection of aging processes of *Caenorhabditis elegans*. **Genetica.** 1993;91(1-3):65-77. PubMed PMID: 8125279.
3. Brooks A, Lithgow GJ, Johnson TE. Mortality rates in a genetically heterogeneous population of *Caenorhabditis elegans*. **Science.** 1994;263(5147):668-71. PubMed PMID: 3606.
4. Lithgow GJ, White TM, Hinerfeld DA, Johnson TE. Thermotolerance of a long-lived mutant of *Caenorhabditis elegans*. **J Gerontol.** 1994;49(6):B270-6. PubMed PMID: 7963273.
5. Vaupel JW, Johnson TE, Lithgow GJ. Rates of mortality in populations of *Caenorhabditis elegans*. **Science.** 1994;266(5186):826; author reply 8. PubMed PMID: 7973641.
6. Lithgow GJ, White TM, Melov S, Johnson TE. Thermotolerance and extended life-span conferred by single-gene mutations and induced by thermal stress. **Proc Natl Acad Sci U S A.** 1995;92(16):7540-4. PubMed PMID: 7638227; PMCID: PMC41375.
7. Melov S, Lithgow GJ, Fischer DR, Tedesco PM, Johnson TE. Increased frequency of deletions in the mitochondrial genome with age of *Caenorhabditis elegans*. **Nucleic Acids Res.** 1995;23(8):1419-25. PubMed PMID: 7753635; PMCID: PMC306871.
8. Johnson TE, Lithgow GJ, Murakami S. Hypothesis: interventions that increase the response to stress offer the potential for effective life prolongation and increased health. **J Gerontol A Biol Sci Med Sci.** 1996;51(6):B392-5. PubMed PMID: 8914487.
9. Lithgow GJ. Invertebrate gerontology: the age mutations of *Caenorhabditis elegans*. **Bioessays.** 1996;18(10):809-15. doi: 10.1002/bies.950181007. PubMed PMID: 8885718.
10. Lithgow GJ, Kirkwood TB. Mechanisms and evolution of aging. **Science.** 1996;273(5271):80. PubMed PMID: 8658201.
11. Lithgow GJ. Aging mechanisms from nematodes to mammals. **Nutrition.** 1998;14(6):522-4. PubMed PMID: 9646294.
12. Walker GA, Walker DW, Lithgow GJ. A relationship between thermotolerance and longevity in *Caenorhabditis elegans*. **J Invest Dermatol Symp Proc.** 1998;3(1):6-10. PubMed PMID: 9732049.

13. Walker GA, Walker DW, Lithgow GJ. Genes that determine both thermotolerance and rate of aging in *Caenorhabditis elegans*. **Ann N Y Acad Sci.** 1998;851:444-9. PubMed PMID: 9668638.
14. Babar P, Adamson C, Walker GA, Walker DW, Lithgow GJ. P13-kinase inhibition induces dauer formation, thermotolerance and longevity in *C. elegans*. **Neurobiol Aging.** 1999;20(5):513-9. PubMed PMID: 10638524.
15. Brack C, Lithgow G, Osiewacz H, Toussaint O. EMBO WORKSHOP REPORT: Molecular and cellular gerontology Serpiano, Switzerland, September 18-22, 1999. **EMBO J.** 2000;19(9):1929-34. doi: 10.1093/emboj/19.9.1929. PubMed PMID: 10790359; PMCID: PMC305699.
16. Lithgow GJ. Stress response and aging in *Caenorhabditis elegans*. **Results Probl Cell Differ.** 2000;29:131-48. PubMed PMID: 10838698.
17. Lithgow GJ, Andersen JK. The real Dorian Gray mouse. **Bioessays.** 2000;22(5):410-3. doi: 10.1002/(SICI)1521-1878(200005)22:5<410::AID-BIES2>3.0.CO;2-C. PubMed PMID: 10797480.
18. McColl G, Jenkins NL, Walker DW, Lithgow GJ. Testing evolutionary theories of aging. **Ann N Y Acad Sci.** 2000;908:319-20. PubMed PMID: 10911975.
19. Melov S, Ravenscroft J, Malik S, Gill MS, Walker DW, Clayton PE, Wallace DC, Malfroy B, Doctrow SR, Lithgow GJ. Extension of life-span with superoxide dismutase/catalase mimetics. **Science.** 2000;289(5484):1567-9. PubMed PMID: 3593.
20. Sampayo JN, Jenkins NL, Lithgow GJ. Using stress resistance to isolate novel longevity mutations in *Caenorhabditis elegans*. **Ann N Y Acad Sci.** 2000;908:324-6. PubMed PMID: 10911977.
21. Walker DW, McColl G, Jenkins NL, Harris J, Lithgow GJ. Evolution of lifespan in *C. elegans*. **Nature.** 2000;405(6784):296-7. doi: 10.1038/35012693. PubMed PMID: 10830948.
22. Barsyte D, Lovejoy DA, Lithgow GJ. Longevity and heavy metal resistance in *daf-2* and *age-1* long-lived mutants of *Caenorhabditis elegans*. **FASEB J.** 2001;15(3):627-34. doi: 10.1096/fj.99-0966com. PubMed PMID: 11259381.
23. Lithgow GJ. Hormesis--a new hope for ageing studies or a poor second to genetics? **Hum Exp Toxicol.** 2001;20(6):301-3; discussion 19-20. PubMed PMID: 11506284.
24. Walker GA, White TM, McColl G, Jenkins NL, Babich S, Candido EP, Johnson TE, Lithgow GJ. Heat shock protein accumulation is upregulated in a long-lived mutant of *Caenorhabditis elegans*. **J Gerontol A Biol Sci Med Sci.** 2001;56(7):B281-7. PubMed PMID: 11445592.
25. GuhaThakurta D, Palomar L, Stormo GD, Tedesco P, Johnson TE, Walker DW, Lithgow G, Kim S, Link CD. Identification of a novel cis-regulatory element involved in the heat shock response in *Caenorhabditis elegans* using microarray gene expression and computational methods. **Genome Res.** 2002;12(5):701-12. doi: 10.1101/gr.228902. PubMed PMID: 11997337; PMCID: PMC186591.
26. Lithgow GJ, Walker GA. Stress resistance as a determinate of *C. elegans* lifespan. **Mech Ageing Dev.** 2002;123(7):765-71. PubMed PMID: 11869734.
27. Gill MS, Olsen A, Sampayo JN, Lithgow GJ. An automated high-throughput assay for survival of the nematode *Caenorhabditis elegans*. **Free Radic Biol Med.** 2003;35(6):558-65. PubMed PMID: 319.
28. Hybl JD, Lithgow GA, Buckley SG. Laser-induced breakdown spectroscopy detection and classification of biological aerosols. **Appl Spectrosc.** 2003;57(10):1207-15. PubMed PMID: 14639747.
29. Lithgow GJ. Does anti-aging equal anti-microbial? **Sci Aging Knowledge Environ.** 2003;2003(25):PE16. PubMed PMID: 12844540.
30. Lithgow GJ, Gill MS. Physiology: Cost-free longevity in mice? **Nature.** 2003;421(6919):125-6. doi: 10.1038/421125a. PubMed PMID: 12520289.
31. Muriel JM, Brannan M, Taylor K, Johnstone IL, Lithgow GJ, Tuckwell D. M142.2 (*cut-6*), a novel *Caenorhabditis elegans* matrix gene important for dauer body shape. **Dev Biol.** 2003;260(2):339-51. PubMed PMID: 12921736.
32. Sampayo JN, Gill MS, Lithgow GJ. Oxidative stress and aging--the use of superoxide dismutase/catalase mimetics to extend lifespan. **Biochem Soc Trans.** 2003;31(Pt 6):1305-7. doi: 10.1042/. PubMed PMID: 14641049.
33. Sampayo JN, Olsen A, Lithgow GJ. Oxidative stress in *Caenorhabditis elegans*: protective effects of superoxide dismutase/catalase mimetics. **Ageing Cell.** 2003;2(6):319-26. PubMed PMID: 3884.
34. Walker GA, Lithgow GJ. Lifespan extension in *C. elegans* by a molecular chaperone dependent upon insulin-like signals. **Ageing Cell.** 2003;2(2):131-9. PubMed PMID: 12882326.
35. Gill MS, Held JM, Fisher AL, Gibson BW, Lithgow GJ. Lipophilic regulator of a developmental switch in *Caenorhabditis elegans*. **Ageing Cell.** 2004;3(6):413-21. PubMed PMID: 15204.

36. Jenkins NL, McColl G, Lithgow GJ. Fitness cost of extended lifespan in *Caenorhabditis elegans*. **Proc Biol Sci**. 2004;271(1556):2523-6. doi: 10.1098/rspb.2004.2897. PubMed PMID: 15590605; PMCID: PMC1440519.
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38. Lithgow GJ, Gill MS, Olsen A, Sampayo JN. Pharmacological intervention in invertebrate aging. **Age (Dordr)**. 2005;27(3):213-23. doi: 10.1007/s11357-005-3625-3. PubMed PMID: 23598654; PMCID: PMC3458493.
39. McColl G, Vantipalli MC, Lithgow GJ. The *C. elegans* ortholog of mammalian Ku70, interacts with insulin-like signaling to modulate stress resistance and life span. **FASEB J**. 2005;19(12):1716-8. doi: 10.1096/fj.04-2447fje. PubMed PMID: 16099946; PMCID: PMC1400606.
40. Warner H, Anderson J, Austad S, Bergamini E, Bredesen D, Butler R, Carnes BA, Clark BF, Cristofalo V, Faulkner J, Guarente L, Harrison DE, Kirkwood T, Lithgow G, Martin G, Masoro E, Melov S, Miller RA, Olshansky SJ, Partridge L, Pereira-Smith O, Perls T, Richardson A, Smith J, von Zglinicki T, Wang E, Wei JY, Williams TF. Science fact and the SENS agenda. What can we reasonably expect from ageing research? **EMBO Rep**. 2005;6(11):1006-8. doi: 10.1038/sj.embor.7400555. PubMed PMID: 16264422; PMCID: PMC1371037.
41. Fisher AL, Lithgow GJ. The nuclear hormone receptor DAF-12 has opposing effects on *Caenorhabditis elegans* lifespan and regulates genes repressed in multiple long-lived worms. **Aging Cell**. 2006;5(2):127-38. PubMed PMID: 16626392.
42. Held JM, White MP, Fisher AL, Gibson BW, Lithgow GJ, Gill MS. DAF-12-dependent rescue of dauer formation in *Caenorhabditis elegans* by (25S)-cholestenoic acid. **Aging Cell**. 2006;5(4):283-91. PubMed PMID: 16913876.
43. Lin YT, Hoang H, Hsieh SI, Rangel N, Foster AL, Sampayo JN, Lithgow GJ, Srinivasan C. Manganous ion supplementation accelerates wild type development, enhances stress resistance, and rescues the life span of a short-lived *Caenorhabditis elegans* mutant. **Free Radic Biol Med**. 2006;40(7):1185-93. doi: 10.1016/j.freeradbiomed.2005.11.007. PubMed PMID: 16545686.
44. Lithgow GJ. Why aging isn't regulated: a lamentation on the use of language in aging literature. **Exp Gerontol**. 2006;41(10):890-3. doi: 10.1016/j.exger.2006.06.051. PubMed PMID: 16959457.
45. Olsen A, Vantipalli MC, Lithgow GJ. Lifespan extension of *Caenorhabditis elegans* following repeated mild hormetic heat treatments. **Biogerontology**. 2006;7(4):221-30. doi: 10.1007/s10522-006-9018-x. PubMed PMID: 16826446.
46. Olsen A, Vantipalli MC, Lithgow GJ. Using *Caenorhabditis elegans* as a model for aging and age-related diseases. **Ann N Y Acad Sci**. 2006;1067:120-8. doi: 10.1196/annals.1354.015. PubMed PMID: 16803977.
47. Olsen A, Vantipalli MC, Lithgow GJ. Checkpoint proteins control survival of the postmitotic cells in *Caenorhabditis elegans*. **Science**. 2006;312(5778):1381-5. doi: 10.1126/science.1124981. PubMed PMID: 16741121; PMCID: PMC2568993.
48. Pan KZ, Palter JE, Rogers AN, Olsen A, Chen D, Lithgow GJ, Kapahi P. Inhibition of mRNA translation extends lifespan in *Caenorhabditis elegans*. **Aging Cell**. 2007;6(1):111-9. doi: 10.1111/j.1474-9726.2006.00266.x. PubMed PMID: 17266680; PMCID: PMC2745345.
49. Benedetti MG, Foster AL, Vantipalli MC, White MP, Sampayo JN, Gill MS, Olsen A, Lithgow GJ. Compounds that confer thermal stress resistance and extended lifespan. **Exp Gerontol**. 2008;43(10):882-91. Epub 2008/08/30. doi: S0531-5565(08)00289-1 [pii] 10.1016/j.exger.2008.08.049. PubMed PMID: 18755260.
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51. McColl G, Killilea DW, Hubbard AE, Vantipalli MC, Melov S, Lithgow GJ. Pharmacogenetic analysis of lithium-induced delayed aging in *Caenorhabditis elegans*. **J Biol Chem**. 2008;283(1):350-7. PubMed PMID: 17959600.
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- (Albany NY)**. 2009;1(4):402-11. doi: 10.18632/aging.100042. PubMed PMID: 20148189; PMCID: PMC2818025.
53. McColl G, Rogers AN, Alavez S, Hubbard AE, Melov S, Link CD, Bush AI, Kapahi P, Lithgow GJ. Insulin-like signaling determines survival during stress via posttranscriptional mechanisms in *C. elegans*. **Cell Metab**. 2010;12(3):260-72. doi: 10.1016/j.cmet.2010.08.004. PubMed PMID: 20816092; PMCID: PMC2945254.
54. Alavez S, Lithgow GJ. A new look at old compounds. **Aging (Albany NY)**. 2011;3(4):338-9. doi: 10.18632/aging.100317. PubMed PMID: 21512207; PMCID: PMC3117445.
55. Alavez S, Vantipalli MC, Zucker DJ, Klang IM, Lithgow GJ. Amyloid-binding compounds maintain protein homeostasis during ageing and extend lifespan. **Nature**. 2011;472(7342):226-9. Epub 2011/04/01. doi: 10.1038/nature09873. PubMed PMID: 21451522.
56. Lucanic M, Held JM, Vantipalli MC, Klang IM, Graham JB, Gibson BW, Lithgow GJ, Gill MS. N-acylethanolamine signalling mediates the effect of diet on lifespan in *Caenorhabditis elegans*. **Nature**. 2011;473(7346):226-9. Epub 2011/05/13. doi: 10.1038/nature10007. PubMed PMID: 21562563; PMCID: 3093655.
57. Rogers AN, Chen D, McColl G, Czerwieniec G, Felkey K, Gibson BW, Hubbard A, Melov S, Lithgow GJ, Kapahi P. Life span extension via eIF4G inhibition is mediated by posttranscriptional remodeling of stress response gene expression in *C. elegans*. **Cell Metab**. 2011;14(1):55-66. doi: 10.1016/j.cmet.2011.05.010. PubMed PMID: 21723504; PMCID: PMC3220185.
58. Alavez S, Lithgow GJ. Pharmacological maintenance of protein homeostasis could postpone age-related disease. **Aging Cell**. 2012;11(2):187-91. doi: 10.1111/j.1474-9726.2012.00789.x. PubMed PMID: 22226190; PMCID: PMC3306462.
59. Lithgow GJ, Lord JM, Kirkland JL. Translating longevity research into healthspan. **Longev Healthspan**. 2012;1:1. doi: 10.1186/2046-2395-1-1. PubMed PMID: 24764507; PMCID: PMC3886258.
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62. Reis-Rodrigues P, Czerwieniec G, Peters TW, Evani US, Alavez S, Gaman EA, Vantipalli M, Mooney SD, Gibson BW, Lithgow GJ, Hughes RE. Proteomic analysis of age-dependent changes in protein solubility identifies genes that modulate lifespan. **Aging Cell**. 2012;11(1):120-7. doi: 10.1111/j.1474-9726.2011.00765.x. PubMed PMID: 22103665; PMCID: PMC3437485.
63. Angeli S, Klang I, Sivapatham R, Mark K, Zucker D, Bhaumik D, Lithgow GJ, Andersen JK. A DNA synthesis inhibitor is protective against proteotoxic stressors via modulation of fertility pathways in *Caenorhabditis elegans*. **Aging (Albany NY)**. 2013;5(10):759-69. doi: 10.18632/aging.100605. PubMed PMID: 24123581; PMCID: PMC3838778.
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Edited Books

- “Molecular and Cellular Gerontology” **The Annals of the New York Academy of Science**, Vol 908. Ed. O. Toussaint, H. Osiewacz, G.J. Lithgow and C. Brack. June, 2000.

Contributions to Peer-reviewed Edited Works

1. Johnson, T.E., Lithgow, G.J., Murakami, S., Duhon, S.A., and Shook, D. R. Genetics of Aging and Longevity in Lower Organisms (1996). **Cellular Aging and Cell Death**. Ed. Holbrook, N. & Martin, G. W. Series on Modern Cell Biology. John Wiley and Sons, NY. 1-17.
2. Lithgow, G.J. Molecular genetics of *C. elegans* aging. **Handbook of the Biology of Aging**. (1996) Fourth Edition. Ed. Schneider, E. L. and Rowe, J. W. Academic Press Inc. San Diego. 4:55-73.
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- and longevity. **Molecular Gerontology Research Status and Strategies**. Ed. Rattan, S.I.S. and Toussaint, O. Plenum Press, New York. P193-200.
5. Horan, M.A., Barton, R.N. and Lithgow, G.J. (2000) Stress and Ageing. **Encyclopedia of Stress**. Ed. G. Fink. Academic Press.
 6. "Stress response and aging in *Caenorhabditis elegans*." (2000) In "The Molecular Genetics of Aging" Ed S. Hekimi. Results Probl Cell Differ; 29:131-48 .
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 8. Jenkins, N., McColl, G., and Lithgow, G. J. (2003). Genetic mechanisms of aging. In **Brocklehurst's Textbook of Geriatric Medicine and Gerontology**. Tallis, R. C. and Fillit, H. M., eds. Churchill Livingstone, an imprint of Elsevier Science Limited, London, 59–66.
 9. Olsen, A., Sampayo, J. N. and Lithgow, G. J. (2003). Aging in *C. elegans*. In **Aging of Organisms**. Osiewacz, H. D., ed. Kluwer Academic Publishers, Great Britain, 163–199.
 10. Alavez, S., Lithgow, G.J., Muranjan, M. (2007). Slowing of Aging. **Encyclopedia of Gerontology**, Birren, J. E. ed., Elsevier Publishers, 508-515.
 11. Lithgow GJ and Miller RA (2008). "Determination of Aging Rate by Coordinated Resistance to Multiple Forms of Stress" in *Molecular Biology of Aging*, Guarante LP, Partridge L and Wallace DC, eds., Cold Springs Harbor Laboratory Press, Cold Spring Harbor, New York, 427-481.

Official Published Reports

- Focus on the Future Issues in Biotechnology. European Federation of Biotechnology Task Group on Public Perceptions of Biotechnology and the European Molecular Biology Organisation. ISBN 90-76110-08-5.

Professional advisory and consultancy work (USA)

- NIA B Special studies Panel, Biological Aging Review committee, permanent member 2002.
- NIA B Special studies Panel, Ad hoc member 2002-2006.
- Longevity Consortium, UCSF, Grant reviewer, 2002.
- NIA Aging Interventional Testing Program, Chair of Advisory Committee. 2002-2006
- Longevity Consortium Steering Committee, California Pacific Medical Center, 2005-
- NIA Minority Research in the Basic Biology of Aging, 2006
- Biological Sciences Section Program Committee, The Gerontological Society of American, 2006-2007
- NIA Board of Scientific Counselors, 2006-2011
- The Gerontological Society of America, Biological Sciences Section, Chair, 2010
- Alliance for Aging Research, consultant, 2010.
- National Institute on Aging, Working Group Meeting (review of the intramural program), 2012.
- Department of Biochemistry, National University of Singapore Scientific Advisory Board, Scientific Review Committee, 2013.

Professional advisory and consultancy work (United Kingdom)

- Expert advisor to the BBSRC Senescence and Ageing Initiative Steering Group, 1996.

- BBSRC Steering Committee for the Science of Ageing Workshop, 1997.
- Member of the BBSRC Network Group for the Genes and Development Committee, 1997-
- BBSRC SAGE initiative Panel. 1998. Activities include grant triage, introducing and scoring proposals.
- Co-coordinator of the BBSRC Network on SAGE – To oversee the progress and the initiative and to ensure continued progress in funded laboratories. 3 year appointment beginning Oct, 1998.
- Appointed to BBSRC “Genomes in animal function (GAIN)” panel, 1999.
- Appointed to Cambridge University Government Policy Programme, 2000.
- Review Panel, Biotechnology and Biological Sciences Research Council on SAGE and ERA initiatives, London, England, 2007.

Membership, Professional Societies

- Genetics Society
- Gerontological Society of America
- Cell Stress Society International
- American Aging Association
- American Association for the Advancement of Science
- British Society for Research on Aging

Journal Editorial Responsibilities

- Founding Editor – *Longevity and Healthspan*
- Editorial Board – *Gerontology*, to January, 2013
- Previously served on the boards of *Neurobiology of Aging*, *Aging Cell* and *Biogerontology*.

Organization and Promotion of Research

- Research Council activities as outlined in advisory and consultancy section
- Organizer of "Genetics of Ageing." 1st British Congress of Gerontology, Manchester, July, 1996.
- Organizer of "Joint Centre on Ageing Presentations." University of Manchester, 15th April, 1997.
- Organizer of "BBSRC Workshop on the Science of Ageing", Warwick, 25-26 June, 1997.
- Organizer of “BBSRC SAGE Grant Holders Meeting,” Manchester, 13-18 December, 1998.
- Organizer of “First EMBO Workshop on Cellular and Molecular Ageing” Switzerland, 1999.
- Organizer of “BBSRC SAGE Grant Holders Meeting,” Manchester, January, 2000.
- Organizer of the Buck Symposium, September, 2001.
- Organizer, Summer Course on Experimental Aging Research, Buck Institute, 2003.
- Over 100 Newspaper, Television and Internet interviews on aging, the role of science and the future of genetics including documentaries for BBC2 and Channel 5 (UK).

- Over 30 Newspaper, television, internet and radio interviews and panels on aging, the role of science and genetics, including most recently CBS Sunday-morning, Science News, ABC News.
- Chair, “Gordon Research conference on the Biology of Aging”, September, 2004
- Organizer, Buck Institute Symposia on Aging: Pharmacology of Lifespan Extension, 2005.
- Co-Organizer, Buck Institute Symposia on Aging: Nutrient Signaling and Aging, 2007
- Chair and Organizer of Biological Sciences Section meeting, Gerontological Society of America, 2010.

Grants and Competitive Awards (USA)

- AG SS 0993-02, Principal Investigator. “The Rapid Identification of Hormones and Pharmacological Compounds that Slow Aging in *C. elegans*.” The Ellison Medical Foundation \$147,194 per annum (direct costs) 2002-2006.
- N/A Paul Glen Foundation and Herb Simon, \$180,000 for the procurement of COPAS BIOSORT technology and the development of high throughput drug screens. 2003.
- AG-SS-0993, Principal Investigator. “The Rapid Identification of Hormones and Pharmacological Compounds that Slow Aging in *C. elegans*.” The Ellison Medical Foundation \$147,194 (direct costs) 2002-2006.
- R01 AG21069, Principal Investigator. “Lifespan determination and stress response in *C. elegans*.” NIH \$250,000 per annum (direct costs), 2002-2007.
- N/A (Feder). “Planning: Proteomic Analysis of Critical Targets of Environmental Stress.” NSF \$39,579 (direct costs) 2003-2004.
- R01 AG022868, Principal Investigator. “Comparative Biology of p53, Checkpoint and Longevity.” NIH \$200,000 per annum (direct costs) 2003-2008.
- R13 AG025375, Conference Coordinator, Gordon Research Conference, 2005: Proteomic analysis of DAF-12 in *C. elegans* lifespan.” NIH \$56,933 (direct costs). 2004-2005
- R03 NS050789, Principal Investigator. “*C. elegans*, Aging and High Throughput Screening.” NIH \$50,000 (direct costs), 2004-2005.
- DE AC03 76SF00098, Principal Investigator, Sub Contract. “Cellular and molecular studies of radio-adaptive response.” DOE \$43,066 per annum (direct costs) 2004-2006.
- Principal Investigator. “Chemical screen for lifespan extension through altered checkpoint function.” Glenn/AFAR \$115,740 (direct costs) 2006-2007.
- Principal Investigator. “Chemical Biology of Aging.” Larry L. Hillblom Foundation \$492,691 per annum (direct costs; Network Grant, 4 additional co-Principal Investigators) 2007-2010.
- Principal Investigator. “Chemical Biology of Aging.” Larry L. Hillblom Foundation: Network Grant \$385,704 per annum (direct costs), 2007-2011.
- U54 RR024917, Principal Investigator, Interdisciplinary Research Consortium, NIH, NCRR \$312,000 per annum (direct costs), 2007-2012
- U54 RL1 ES016655, 3 of 11, “Checkpoint Functions, lifespan determination and neurodegeneration.” NIH \$200,000 per annum (direct costs), 2007-2012.
- R01 AG029631-01A1, Principal Investigator, NIH/NIA Revised, “Pharmacology of Lifespan Extension,” \$238,295 per annum (direct costs) 2008-2013.
- Competitive Revision Supplement (ARRA),” \$255,000 per annum (direct costs), 2009-2011.
- Supplement Award, \$29,815 per annum (direct costs), 2009-2011.

- P30 AG036467 NIH/NIA Core Center (ARRA), \$234,000 per annum (direct costs). "Enhancing Interdisciplinary Research in Aging and Age-Related Disease." 09/30/2009-09/29/2011.
- R21 AG042053-01 NIH/NIA, \$150,000 per annum (direct costs), "Metal Homeostasis and Aging." 04/01/2012-03/31/2014.
- Principal Investigator. Glenn Award \$60,000. The Glenn Foundation for Medical Research. 2013.
- The Weldon Foundation \$40,000 (direct). 2014.

Grants and Competitive Awards (UK and Europe)

- MRC small project grant, 1 year, £34,189. Ref. G.9537338PB "Genetics of stress response and aging in *Caenorhabditis elegans*. 1996.
- Research into Ageing project grant, 1 year £28,131. Ref: 173. "Mortality rates and physiology of the oldest old". 1997.
- BBSRC Project Grant, 3 years, £161,776 Ref.34/G09710, "Novel ageing genes in *Caenorhabditis elegans*", 1998.
- Royal Society Research Grant, 1 year, £9800, Ref. RSRG19551, "Promoters for ageing studies", 1998.
- University Support Fund, "Investigation of neuronal injury of aged animals", £5000, 1998.
- BBSRC Project Grant, 3 years, £171,106. "The mechanism of lifespan extension in the Age mutants of *C. elegans*."
- MRC Training Fellowship, £71,500. "Genetic influences on the growth of *Caenorhabditis elegans*: A template to define novel growth genes in humans." 1998. Awarded to Dr. Matt Gill in the Lithgow laboratory.
- Joint Research Equipment Initiative. 2-photon confocal microscope purchase. £20,000. 1998. Awarded to consortium of six collaborators at Manchester.
- BBSRC Project Grant, 3 years, "The ECM of *C. elegans*." ~ £150,000 (Co-applicant with Danny Tuckwell, Manchester)
- European Framework Programme V. Genetics of ageing in *C. elegans*. £120,000.
- Two MRC Ph.D. quota studentships, 1996 and 1997.
- BBSRC Special Studentship, "Novel ageing genes in *C. elegans*."
- Nuffield Summer Student Bursery, "Oxidative stress in *C. elegans* ageing" £4000.
- Danish Research Academy, PhD Scholarship 1999 –2002. DKK437,220
- The Royal Society Conference Grant Award, July, 1997.

Invited Presentations

- Behavioral Genetics Association, Boulder, CO, USA. July 3rd, 1992. "Genetic approaches to the dissection of aging processes of *Caenorhabditis elegans*."
- Symposium on Genetic and Environmental Influences on Aging in Man and Laboratory Animals. Catania, Italy. September 29th, 1992. "Identifying life-limiting genes."
- Eleanor Roosevelt Institute, Denver, CO, USA. 27th Jan. 1993, "Genetic determination of life span in *Caenorhabditis elegans*."

- Keystone Symposia on the Molecular Biology of Aging, Lake Tahoe, CA, USA, March 24th, 1993. "Genetic approaches to the dissection of aging processes of *Caenorhabditis elegans*."
- Health Sciences Center, Denver, CO, USA. April, 1993. "Genetics of *Caenorhabditis elegans* aging."
- The Beckman Lectures; Symposium on the Cellular and Molecular Aspects of Aging, Beckman Research Institute of the City of Hope, Los Angeles, CA, USA. October 22nd, 1993. "Molecular Genetics of Aging in *C. elegans*."
- Colorado Gerontological Society, Denver, CO, USA. September 22nd, 1994. "Molecular Genetics of Aging"
- Institute of Cell, Animal and Population Biology, University of Edinburgh, Scotland. October 7th, 1994. "Molecular Genetics of *C. elegans* Ageing."
- Institute of Genetics, University of Glasgow, Scotland. October 10th, 1994. "Molecular Genetics of *C. elegans* Ageing."
- Biological Sciences Research and Graduate School, University of Manchester, England. October 14th, 1994. "Stress response of Long-Lived Mutants of *C. elegans*."
- Gerontological Society of America, Atlanta, USA. November 21th, 1994. "Stress response determines life span in *C. elegans*."
- Keystone Symposia on Heat Shock (Stress) Proteins in Biology and Medicine, Santa Fe, New Mexico, USA, March 4th, 1995. "Single gene mutations confer thermotolerance in *Caenorhabditis elegans*."
- Department of Biochemistry, University of Dundee, Scotland. April 3rd, 1995. "Molecular Genetics of Ageing."
- American Geriatrics Society/American Federation for Aging Research Meeting, Washington D.C. USA, May 30th, 1995. "Genes that prolong life-span."
- III European Congress of Gerontology, Amsterdam, The Netherlands, August, 31st, 1995. "The genetics of longevity and the Stress Response in *Caenorhabditis elegans*."
- British Association for the Advancement of Science, Visions for the Future Briefing Day, The Old Age Boom. Lister Postgraduate Institute, Edinburgh. 30th March, 1996.
- 5th International congress of systematic and evolutionary biology. Budapest, Hungary. 17th August, 1996. "Mechanisms and evolution of aging in *Caenorhabditis elegans*."
- St. James's Hospital Training Day, Leeds, England. 25th September 1996. "Model systems for studying ageing"
- Grasmere Continuing Education Meeting - Current Topics in Clinical Chemistry. Grasmere. 27th October, 1996. "The genetics of ageing"
- Gordon Research Conference on Aging, Ventura CA, USA. 5th-10th January 1997. "Genetics of stress response and ageing in *C. elegans*"
- University of Leeds, Dept. of Biology. 14th February, 1997. "Genetics of Ageing"
- 3rd BioMed Conference on Molecular Gerontology. 20th April, 1997. "Novel Longevity Mutations in *Caenorhabditis elegans*."
- BBSRC Workshop on the Biology of Ageing. Warwick, England. 25th June, 1997. "Mechanisms of ageing in invertebrates."
- Stress of Life: Stress and Adaption from Molecules to Man. Budapest, Hungary. 1-5th July, 1997. "Novel mutations which confer stress resistance and longevity in *Caenorhabditis elegans*." Hans Selye Award granted for presentation.
- 46th Annual Symposium on the Aging of the Skin: Basic Mechanisms and Approaches to Prevention and Reversal. Snowmass, Colorado, USA. 19-23rd July, 1997.

- University of Cardiff, School of Molecular and Medical Biosciences. Ageing and Stress Response in *C. elegans*. 18th November, 1997.
- University of Dundee, Department of Medicine at Ninewells Hospitals. "Nematode ageing and stress response." 2nd December, 1997.
- University of California at Los Angeles, The Molecular Biology Institute, USA, 23rd of December, 1997.
- International Transplantation Symposium on Senescence and Kidney Transplantation, Zuers, Austria, 9-11th January, 1998.
- University of Liverpool, 23rd January, 1998.
- St. Mary's Hospital, Department of Medical Genetics, 3rd February, 1998.
- The MRC Laboratory of Molecular Biology, Cambridge, Worm Group. 20th March, 1998.
- The Gordon Conference on the Biology of Ageing, 5th-10th May, Tuscany, Italy, 1998. "Stress response and aging in *C. elegans*."
- The Christie Cancer Hospital, Manchester, England, July, 1998
- FEBS 25th Silver Jubilee Meeting, Copenhagen, 5-10th July, 1998.
- Salford Royal Hospital NHS Trust, Manchester, England, 21st July, 1998. "Mechanisms of ageing."
- Research into Ageing Briefing Lunch, Royal Society of Medicine, London, England. 7th December, 1998.
- British Pharmacological Society Meeting, Brighton, England. 7th January, 1999.
- European Academy for Medicine of Ageing, Third Advanced Postgraduate Course, Institut Universitaire Kurt Bosch, "Evolution and mechanisms of ageing," 26th January, 1999.
- University of Basel, Biozentrum, 29th January, 1999.
- University of Nottingham, Department of Clinical Genetics, 4th March, 1999.
- Society for Experimental Biology, Edinburgh, 22nd March, 1999.
- Woods Hole Summer Training Course on the Biology of Aging, 17th August, 1999.
- Brown University, Department of Zoology, Departmental Seminar, USA. 19th October, 1999.
- EMBO Workshop on Molecular and Cellular Ageing. Olivone, Switzerland, 20th September, 1999.
- Cambridge University, Department of Genetics, Departmental Seminar, 4th November, 1999.
- Gerontological Society of America, San Francisco, USA, 23rd November, 1999.
- Buck Center for Ageing Research, Marin County CA, USA, 24th November, 1999.
- Gordon Research Conference on the Biology of Aging, Ventura, CA, USA, 1st Feb. 2000.
- King's College London. Institute of Psychiatry, 4th April, 2000.
- Hopitaux Universitaires de Geneve, Switzerland, 17th May, 2000.
- Kantonsspital, Basel, Switzerland, 18th May, 2000.
- European Worm Meeting, Belgium. (Presentation by Nicole Jenkins from my laboratory), 23rd, May, 2000.
- Experimental Summer Course on the Biology of Aging, University of California, Berkeley. 13th June, 2000.
- Genetics of Ageing III, Bar Harbor, MN, USA, 5th August, 2000.
- Woods Hole Course on the Biology of Aging, 8th August, 2000.

- First International Workshop on “Phagocytes, inflammation and aging” 2nd September, 2000.
- 1st UK *C. elegans* meeting, Oxford University, 21st September, 2000.
- Cambridge University Government Policy Programme, Workshop on Ageing, 6th October, 2000.
- Silwood Park, University of London, 17th Nov. 2000.
- Babraham Institute, 20th Nov, 2001.
- University of Liverpool, Physiological Soc. Sponsored seminar in the Physiology Department. 12th December, 2000.
- University of Nottingham, School of Life and Environmental Sciences, 31st January, 2001.
- The University of Dundee, Biomedical Research Centre, Ninewells Hospital & Medical School, 20th February, 2001
- University of Birmingham, School of Biosciences, 26th February, 2001
- The Sanger Center, 9th March, 2001.
- Gordon Research Conference on “Oxidative Stress and Disease,” Ventura, California. 19th March, 2001.
- Society for Experimental Biology Congress, University of Essex, 5th April, 2001.
- University of Newcastle, Forum on Ageing, 23rd April, 2001.
- The Open University, Milton Keynes, 21st May, 2001.
- Department of Gerontology, Wolfson Research Centre, Institute for the Health of the Elderly, Newcastle General Hospital. 24th May, 2001.
- The Paterson Institute for Cancer Research, Manchester, UK. 31st May, 2001.
- Busse Award Lecture. Vancouver, Canada. 6th July, 2001.
- Gordon Research Conference "Stress-Inducible Gene Expression," Connecticut College, MA, USA. 8th July, 2001.
- Gordon Research Conference on the “Biology of Aging,” University of Oxford, England. 24th July, 2001.
- University of Kentucky, 6th Annual Symposium on the Biology of Aging. Lexington, 4th October, 2001.
- Ben Cohen Lecture, University of Michigan, Ann Arbor. 18th of October, 2001.
- The Royal Society Meeting on Aging, 35th March, 2002.
- Nathan Shock Award Lecture, NIA, Baltimore, 12th September, 2002.
- Lecture, Department of Molecular and Human Genetics, Baylor University, Baylor College of Medicine, Houston Texas 2002.
- Lecture, Department of Cellular and Structural Biology, The University of Texas Health Care Center, 2002.
- University of Davis Center for Healthy Aging, 4th February, 2003.
- Longevity Consortium Symposium “High throughput screening of *C. elegans* for compounds that extend longevity; effect of lithium.” San Diego, California, 28th through 30th November, 2005
- Speaker, Joint British Toxicology Society/United Kingdom Environmental Mutagen Society Annual Congress, The University of Warwick, England, 19th through 22nd March, 2006.
- NIA Summer Training Course in Experimental Aging Research, June 2006.
- Speaker, The Wenner-Gren Foundations and The Royal Swedish Academy of Sciences, 3rd Kristineberg Symposium, 14th through 17th June, 2006.

- Department of Geriatric Medicine, University of Oklahoma, 28th-29th, June 2006.
- Marine Biological Laboratories Colloquium on the Biology of Aging, Woods Hole MA, 17th through 19th August, 2006.
- Longevity Consortium Symposium, Napa, California, 26th – 27th October, 2006.
- Molecular Biology of Aging, Marine Biological Laboratories, Woods Hole, MA, 9th-10th August, 2007.
- World Conference of Stress, Budapest, Hungary. “Stress response mimetics extend the lifespan of simple animals.” 23rd-26th August, 2007.
- Gordon Research Conferences, Les Diablerets, Switzerland. Discussion Leader, “The Role of Nuclear Receptors in Aging.” 17th-22nd September, 2007.
- The Gerontological Society of America, 60th Annual Scientific Symposium, Screening for Aging Interventions: “Do the Determinants of Age Changes Differ from those that Determine Longevity?” 16th-20th November, 2007.
- LINK-AGE Meeting and IBMC Symposium, “The free radical theory of ageing – 50 years and beyond,” Porto, Portugal. Plenary lecture: “Are free radicals the whole story? The case for multi resistance in lifespan extension.” Discussion Panel: “The variability of ageing patterns.” 28th November-1 December, 2007.
- Hillblom Foundation Annual Meeting, Stanford University, Palo Alto, California, “Chemical Biology of Aging.” 13th November, 2007.
- American Aging Association 37th Annual meeting, “Aging Non-human Primates: Models, Progress & Future Directions,” Boulder, Colorado. Chair: Session XIII-Physiological Hormesis and Life Extension; Presentation: “Hormesis and Aging in *C. elegans*.” 31st May-2nd June, 2008.
- American Aging Association 38th Annual Meeting, “Integrative Biology: Hormones, Signaling and Aging” Scottsdale, AZ. Pre-Meeting, “Protein Quality and Aging,” Summary Discussant; Presentation: “Cell Cycle Checkpoint Proteins and Longevity.” 29th May-1st June, 2009.
- 21st IUBMB & 12th FAOBMB International Congress of Biochemistry and Molecular Biology, Shanghai, China. Presentation: “Stress Responses and Aging.” 2nd -7th August, 2009.
- Research Into Ageing Grant holder’s Annual Conference, Birmingham, England. Presentation: “Biology and the Future of Biomedicine.” 2nd—3rd September, 2009.
- The Gerontological Society of America, 62nd Annual Scientific Meeting, Atlanta, Georgia. 18th November-22 November, 2009
- The Longevity Consortium Symposium, La Jolla, California. “Molecular Chaperones as Determinants of Human Longevity: HSP function in *C. elegans*.” 2nd December-4 December, 2009.
- The Longevity Consortium Symposium, Washington DC. “Proteostasis and Aging.” 26-28th May, 2010.
- The Glenn Foundation, Santa Barbara, CA. “Proteostasis and aging.” 9th June, 2010.
- Center for Aging, Tulane University, Speakers Series New Orleans, LA. “Stress, aging and longevity.” 17th June, 2010.
- International Symposium on Neurobiology and Neuroendocrinology of Aging. Bregenz, Vrarlberg, Austria. “Common mechanisms of neurodegeneration and aging suggested by genes and chemical manipulation of lifespan.” 26th -28th July, 2010.
- Neurodegeneration Group, The University of Melbourne, Melbourne, Australia. “Pharmacological approaches to improving protein homeostasis in aging.” 5th November, 2010.

- The University of Texas Health Science Center at San Antonio, San Antonio, Texas. Barshop Seminar Series. “Small molecule modulation of protein homeostasis and lifespan.” 11th May, 2011.
- Linus Pauling Institute, Oregon State University, Corvallis, Oregon. Diet and Optimum Health Conference. “Protein and metabolic homeostasis in aging and longevity.” 13th-16th September, 2011.
- University of North Dakota, Department of Pharmacology, Physiology and Therapeutics School of Medicine & Health Sciences, Seminar Series, Grand Forks, North Dakota. “Small molecules that slow aging.” 13th October, 2011.
- Biology of Aging, Gordon Research Conference: The Genetic, Epigenetic, Inflammatory, and Metabolic Origins of Aging, Ventura CA. “Small Molecule modulation of aging and age-related pathology.” 12th-17th February, 2012.
- Davis School of Gerontology, University of Southern California, Los Angeles, CA. “Pharmacological approaches to the maintenance of homeostasis during aging.” 14th March, 2012.
- Merck Sharp & Dohme Corporation, Guest Lecture Series, West Point, Pennsylvania. “Promoting Protein Homeostasis; a Therapeutic Opportunity to Slow Neurodegenerative Disease and Aging.” 15th May, 2012.
- 41st Annual Meeting of the American Aging Association, Fort Worth, Texas. “Natural Products that Suppress Protein Aggregation and Slow Aging.” 2nd June, 2012.
- The 33rd Naito Conference: Oxygen Biology: Hypoxia, Oxidative Stress and Diseases, Sapporo, Japan. “Small Molecules and Natural Products that Suppress Protein Aggregation and Slow Aging.” 26th-29th, June 2012.
- British Society for Research on Ageing 2012 Annual Scientific Meeting, Aston University, Birmingham, England. Pathways, molecules and interventions Session, Plenary Speaker: “Uncovering genes and small molecules that prolong lifespan through enhanced molecular stability.” 3rd-4th July 2012.
- C. elegans Aging Meeting: Aging, Metabolism, Stress, Pathogenesis, and Small RNAs in *C. elegans*, University of Wisconsin, Madison, Wisconsin. “Natural Products that Suppress Protein Aggregation and Slow Aging.” 12th-14th July, 2012.
- Robert and Arlene Kogod Center on Aging, Monthly Seminars, Mayo Clinic, Rochester, Minnesota. “Small Molecules that promote homeostasis in simple organisms: A model for the discovery of new drugs?” 8th October, 2012.
- Commonwealth Club of San Francisco, San Francisco, CA. “Can We Prevent Chronic Disease by Slowing Aging?” 18th March, 2013.
- Buck/USC Symposium on Aging, USC campus, Los Angeles 25th April, 2013. “Small molecules that extend lifespan and postpone age-related disease.”
- Health Extension Salon #7, Mountain View, CA. “Aging as the Root Cause of Major Diseases,” 28th March, 2013
- Tenovus Medal Lecture, University of Glasgow, Scotland. “Targeting ageing to prevent chronic disease; lessons from the worm” 14th June, 2013.
- University of Minnesota, 2014
- Scripps Florida, 2014
- Brown University, 2014
- UC Irvine Department of Developmental and Cell Biology, “Pharmacological Promotion of Protein Homeostasis and Longevity,” Jan. 15, 2015
- Karolinska Institutet, Stockholm, Sweden, “Pharmacological modulation of lifespan in *C. elegans* – what it teaches us about aging” 16 th March, 2015.

- Aarhus Universitet, Denmark, “Pharmacological modulation of lifespan in *C. elegans* – what it teaches us about aging” 19 th March, 2015.
- American Aging Association, Aging and Geroscience: New Approaches to Old Problems, Marina Del Rey, CA, “The Caenorhabditis Intervention Testing Program and other Invertebrate Screening Approaches” 1st June, 2015.
- University of Virginia, Charlottesville, VA, “Maintaining Protein Homeostasis for Increase Healthspan and Longevity,” September 11, 2015.
- University of Southern California Colloquium Series, “Pharmacological Promotion of Protein Homeostasis and Longevity,” September 17, 2015
- On Lok Sustainable Long-Term Care Conference, UCSF Mission Bay Conference Center, SF, “Aging as Target in the Prevention of Chronic Disease,” Oct. 8, 2015
- National Geographic Breakthrough, Soho Hotel, London, UK, “The Age of Aging,” Oct 22, 2015
- The Larry L. Hillblom Foundation 14th Annual Scientific Meeting, Monterey, CA, “Buck Institute Center Grant,” Oct. 26-27, 2015
- Barshop Inst. University of Texas, Interventions in Aging; Challenges and Opportunities, Jan. 20, 2016
- 2016 British Society for Matrix Biology Meeting, University of Chester, UK, Lifespan Extension by Promotion of Protein Homeostasis,” April 4-5, 2016
- Geroscience Video Conference Seminar, National Univ. of Mexico, Mexico City, “Interventions in Aging and the Caenorhabditis Intervention Aging Program,” June 30, 2016
- Physiology of Aging Meeting, Univ. of Boulder, CO (remote seminar), “*C. elegans* as a model to study mechanisms of aging and efficacy of interventions,” Sept. 13, 2016
- Stanford University Frontiers in Aging Seminar Series, CA, “Robust and Reproducible Interventions in Aging,” December 12, 2016
- University of Alabama at Birmingham Seminar Series, “Robust and Reproducible Interventions in Aging,” February 6-7, 2017
- Arizona State University Workshop on Healthspan Extension Policy, “Robust and Reproducible Interventions in Aging,” May 4-5, 2017
- NIA/RAND Summer Institute’s Mini-Medical School for Social Scientists, “Targeting Aging to Prevent Disease,” July 10-11, 2017
- Hillblom Aging Symposium, Keynote Speaker, “Genes, Small Molecules, and Longevity,” UCSF Medical Center, September 26, 2017
- NIH Geroscience Workshop, “Considerations for Interventions in Aging,” Rockville, MD May 14, 2018