

*CURRICULUM VITAE*

- Name: **Michael R. Rose**
- Address: Department of Ecology and Evolutionary Biology  
School of Biological Sciences  
University of California,  
Irvine, California 92697-2525, U.S.A.
- Telecommunications: Ph: 949-824-8121; FAX: 949-824-2181; mrrose@uci.edu
- Citizenship: Canada; Resident alien in the U.S.A.
- Degrees: **Bachelor of Science** (Biology) First Class, 1975  
**Master of Science** (Biology), 1976  
Queen's University, Kingston, Ontario  
Advisor: Rudolf Harmsen  
**Doctor of Philosophy**, 1979  
University of Sussex, England  
Advisors: Brian Charlesworth &  
John Maynard Smith
- Postdoctoral Research: Laboratory of Genetics, University of  
Wisconsin, Madison, 1979-1981  
Advisor: James F. Crow
- Faculty Positions: *Dalhousie University:*  
**Assistant Professor** of Biology, 1981-1985;  
**Associate Professor** of Biology, 1985-1988
- University of California, Irvine:*  
**Associate Professor** of Biology, 1986-1990;  
**Professor** of Biology, 1990-
- University of California, Systemwide:*  
**Director**, Intercampus Research Program  
on Experimental Evolution, 2004-5  
**Director**, Network for Experimental  
Research on Evolution, 2006-
- Editorial Positions: *Journal of Theoretical Biology*, 1990-2000  
*Journal of Evolutionary Biology*, 1994-96  
*Journal of Anti-Aging Medicine*, 1997-2004  
*Experimental Gerontology*, 1998-  
*Aging Research Reviews*, 2000-  
*Rejuvenation Research*, 2004-  
*Gerontology*, 2008-  
*Geriatrics*, 2008-  
*Aging*, 2009-  
*Current Aging Science*, 2010-

- Scientific Advisory Boards: American Federation for Aging Research, 2002-  
TransVio Inc., 2002-  
Lifeboat Foundation, 2005-  
Caloric Restriction Society, 2006-  
Aging Research Network, 2009-  
LifeStar, 2009-
- Awards & Honors: Ontario Scholar, 1971  
Ontario Graduate Scholarship, 1975-1976  
British Commonwealth Scholar, 1976-1979  
NATO Science Fellow, 1979-1981  
NSERC of Canada University Research Fellow, 1981-1988  
President's Prize (with others) American Society of Naturalists, 1992  
Excellence in Teaching Award, UCI Biological Sciences, 1996  
Busse Research Prize, World Congress of Gerontology, 1997  
Fellow, American Association for the Advancement of  
Science (AAAS), 2009
- Doctoral Students: E.W. Hutchinson, Dalhousie University, 1983-1988  
M. Krieger, Dalhousie University, 1984-1989  
A.M. Leroi, University of California, Irvine, 1989-1993  
A.K. Chippindale, University of California, Irvine, 1989-1994  
D.J. Deckert-Cruz, University of California, Irvine, 1995-1998  
H. Teótonio, University of Lisbon, Portugal, 1995-2000  
H.B. Passananti, University of California, Irvine, 1995-2000  
C.L. Rauser, University of California, Irvine, 2000-2005  
M.K. Burke, University of California, Irvine, 2005-2010  
P. Shojaeian, University of California, Irvine, 2006-2011  
L.G. Cabral, University of California, Irvine, 2008-  
M. Santos, University of Lisbon, Portugal, 2009-
- Postdoctoral Fellows: P.M. Service, Dalhousie University, 1983-1985  
J.L. Graves, Jr., University of California, Irvine, 1988-1990  
T.J. Nusbaum, University of California, Irvine, 1991-1997  
A.K. Chippindale, University of California, Irvine, 1994-1995  
J.P. Phelan, University of California, Irvine, 1995-1996
- Visiting Faculty: M.E. Moody, Dalhousie University, 1983  
C.L. Moore, University of California, Irvine, 1994  
M. Matos, University of California, Irvine, 1998  
A.K. Chippindale, University of California, Irvine, 2007
- Consultant Employment: MRx Biosciences, 1995-1997  
Methuselah Flies, Inc., 2006-2009  
Genescent, Inc., 2009-2010

## MICHAEL R. ROSE

## CHRONOLOGICAL LIST OF ACADEMIC PUBLICATIONS (277)

*Abstracts and web site postings excluded*

January 25, 2012

1. R. Harmsen, M.R. Rose & B. Woodhouse. 1976. A general mathematical model for insect outbreak. *Proc. Ent. Soc. Ont.* 107: 11-18.
2. M.R. Rose. 1978. Cheating in evolutionary games. *J. Theor. Biol.* 75: 21-34.
3. M.R. Rose & R. Harmsen. 1978. Using sensitivity analysis to simplify ecosystem models. *Simulation* 31: 15-26.
4. M. Rose & B. Charlesworth. 1980. A test of evolutionary theories of senescence. *Nature* 287: 141-142.
5. M.R. Rose. 1980. The mental arms race amplifier. *Human Ecol.* 8: 285-293.
6. J. Haigh & M.R. Rose. 1980. Evolutionary game auctions. *J. Theor. Biol.* 85: 381-397.
7. M.R. Rose & J. Maynard Smith. 1980. Evolution and risk. Pages 41-77 in *Risk and World Pictures*. The Open University Press, Milton Keynes.
8. M.R. Rose & B. Charlesworth. 1981. Genetics of life-history in *Drosophila melanogaster*. II. Exploratory selection experiments. *Genetics* 97: 187-196.
9. M.R. Rose & B. Charlesworth. 1981. Genetics of life-history in *Drosophila melanogaster*. I. Sib analysis of adult females. *Genetics* 97: 173-185.
10. M.R. Rose & R. Harmsen. 1981. Ecological outbreak dynamics and the cusp catastrophe. *Acta Biotheoretica* 30: 239-263.
11. C. Sapienza, M.R. Rose, & W.F. Doolittle. 1982. High-frequency genomic rearrangements involving archaeobacterial repeat sequence elements. *Nature* 299: 182-185.
12. M.R. Rose. 1982. A physiological barrier for the maintenance of anisogamous sex. *J. Theor. Biol.* 94: 801-813
13. M.R. Rose. 1982. Antagonistic pleiotropy, dominance, and genetic variation. *Heredity* 48: 63-78.
14. M.R. Rose. 1983. Further models of selection with antagonistic pleiotropy. Pages 47-53 in *Population Biology*, ed. by H.I. Freedman and C. Strobeck, Springer-Verlag.
15. M.R. Rose & W.F. Doolittle. 1983. Molecular biological mechanisms of speciation. *Science* 220: 157-162.
16. M.R. Rose. 1983. The contagion mechanism for the origin of sex. *J. Theor. Biol.* 101: 137-146.
17. R. Harmsen & M.R. Rose. 1983. Habitat effects on larval mortality in the forest tent caterpillar, *Malacosoma disstria* (Lepidoptera: Lasiocampidae). *Proc. Ent. Soc. Ont.* 114: 87-89.
18. M.R. Rose. 1983. Theories of life-history evolution. *Am. Zool.* 23: 15-23.
19. M.R. Rose. 1983. Hominid evolution and social science. *J. Soc. Biol. Struct.* 6: 29-36.
20. M.R. Rose. 1983. Evolution of aging. *Rev. Biol. Res. Aging* 1: 19-24.
21. M. Rose & F. Doolittle. 1983. Parasitic DNA - the origin of species and sex. *New Scientist* 98: 787-789.
22. M.R. Rose. 1984. Review of *Evolution of Genes and Proteins*, ed. by M. Nei and R.K. Koehn. *Quart. Rev. Biol.* 59: 173.

23. M. Rose. 1984. The evolutionary route to Methuselah. *New Scientist* 103: 15-18.
24. M.R. Rose. 1984. Review of *The Theory of Sex-Allocation*, by E.L. Charnov. *Am. J. Phys. Anthropol.* 63: 437-438.
25. R.J. Wassersug & M.R. Rose. 1984. A reader's guide and retrospective to the 1982 Darwin centennial. *Q. Rev. Biol.* 59: 417-437.
26. M.R. Rose. 1984. Laboratory evolution of postponed senescence in *Drosophila melanogaster*. *Evolution* 38: 1004-1010.
27. M.R. Rose. 1984. The evolution of animal senescence. *Can. J. Zool.* 62: 1661-1667.
28. M.R. Rose, M.L. Dorey, A.M. Coyle & P.M. Service. 1984. The morphology of postponed senescence in *Drosophila melanogaster*. *Can. J. Zool.* 62: 1576-1580.
29. M.R. Rose. 1984. Artificial selection on a fitness-component in *Drosophila melanogaster*. *Evolution* 38: 516-526.
30. M.R. Rose. 1984. Genetic covariation in *Drosophila* life history: untangling the data. *Am. Nat.* 123: 565-569.
31. M.R. Rose. 1985. Dynamical "evolutionary" theories for political science. *Politics and the Life Sciences.* 3: 175-177.
32. M.R. Rose & P.M. Service. 1985. Evolution of aging. *Rev. Biol. Res. Aging* 2: 85-98.
33. M.R. Rose. 1985. The evolution of senescence. Pages 117-128 in *Evolution: Essays in honour of John Maynard Smith*, ed. by P.J. Greenwood, P.H. Harvey & M. Slatkin. Cambridge University Press.
34. C. Tremblay & M.R. Rose. 1985. Population dynamics of gene transfer. *Theor. Pop. Biol.* 28: 359-381.
35. M.R. Rose. 1985. Life-history evolution with antagonistic pleiotropy and overlapping generations. *Theor. Pop. Biol.* 28: 342-358.
36. P.M. Service, E.W. Hutchinson, M.D. MacKinley, & M.R. Rose. 1985. Resistance to environmental stress in *Drosophila melanogaster* selected for postponed senescence. *Physiol. Zool.* 58: 380-389.
37. P.M. Service & M.R. Rose. 1985. Genetic covariation among life history components: the effect of novel environments. *Evolution* 39: 943-945.
38. M. Krieber & M.R. Rose. 1986. Males, parthenogenesis, and the maintenance of anisogamous sex. *J. Theor. Biol.* 122: 421-440.
39. M. Krieber & M.R. Rose. 1986. Molecular aspects of the species barrier. *Ann. Rev. Ecol. Syst.* 17: 465-485.
40. M.R. Rose. 1986. Review of *Origins of Sex* by Lynn Margulis and Dorion Sagan. *New Scientist.* 112: 55.
41. M.R. Rose, P.M. Service, & E.W. Hutchinson. 1987. Three approaches to constraints in life-history evolution. Pages 91-105 in *Genetic Constraints on Adaptive Evolution* (V. Loeschke, Ed.), Springer-Verlag, Berlin.
42. M.R. Rose & E.W. Hutchinson. 1987. Evolution of aging. *Rev. Biol. Res. Aging* 3: 23-32.
43. E.W. Hutchinson & M.R. Rose. 1987. Genetics of aging in insects. *Rev. Biol. Res. Aging* 3:63-70.
44. M.R. Rose. 1987. *Quantitative Ecological Theory: An Introduction to Basic Models*. Croom Helm: Beckenham, Kent; Johns Hopkins Univ. Press.
45. P.M. Service, E.W. Hutchinson, & M.R. Rose. 1988. Multiple genetic mechanisms for the evolution of senescence in *Drosophila melanogaster*. *Evolution* 42: 708-716.
46. D.E. Edmonds & M.R. Rose. 1988. Reproductive wastage and the evolution of genetic

- systems. *J. Theor. Biol.* 132: 247-250.
47. D.A. Hickey & M.R. Rose. 1988. The role of gene transfer in the evolution of eukaryotic sex. Pages 161-175 in *The Evolution of Sex: An examination of Current Ideas* (B.R. Levin & R.E. Michod, Eds.), Sinauer Assoc., Sunderland, Mass.
  48. M.R. Rose. 1988. Response to "*Thoughts on the selection of longer-lived rodents*" - Rejoinders. *Growth, Devl. Aging* 52: 209-211.
  49. M.R. Rose. 1988. The ageing fly; Review of *Drosophila as a Model Organism for Ageing Studies*. *Trends in Genetics* 4: 352.
  50. M.R. Rose. 1988. Review of *Modern Biological Theories of Aging*. *Am. J. Hum. Genetics* 43: 220-221.
  51. M.R. Rose. 1988. Creativity as a vitiating problem for gene-culture theory. *J. Social Biol. Struct.* 11: 131-133.
  52. M.R. Rose. 1989. Letters to the editor. *Experimental Gerontology* 24: i.
  53. J.L. Graves & M.R. Rose. 1989. Population genetics of senescence in *Drosophila*. *Advances in Life Sciences. Fundamental Genetics.* 8: 45-55.
  54. M.R. Rose. 1989. Genetics of increased lifespan in *Drosophila*. *Bioessays* 11: 132-135.
  55. M.R. Rose & J.L. Graves. 1989. What evolutionary biology can do for gerontology. *J. Gerontology*: B27-B29.
  56. M.R. Rose, J.L. Graves, & E.W. Hutchinson. 1990. The use of selection to probe patterns of pleiotropy in fitness-components. Pages 33-46 in *Insect Life Cycles: Genetics, Evolution, and Coordination*, ed. by F. Gilbert, Springer-Verlag, Berlin.
  57. M.R. Rose. 1990. Evolutionary genetics of aging in *Drosophila*. Pages 43-58 in *Genetic Effects on Aging II* (D.E. Harrison, ed.), Telford Press, Caldwell, N.J.
  58. J.L. Graves & M.R. Rose. 1990. Flight duration in *Drosophila melanogaster* selected for postponed senescence. Pages 59-65 in *Genetic Effects on Aging II* (D.E. Harrison, ed.), Telford Press, Caldwell, N.J.
  59. E.W. Hutchinson & M.R. Rose. 1990. Quantitative genetic analysis of *Drosophila* stocks with postponed aging. Pages 66-87 in *Genetic Effects on Aging II* (D.E. Harrison, ed.), Telford Press, Caldwell, N.J.
  60. M.R. Rose. 1990. Should mice be selected for postponed aging? A workshop summary. *Growth, Development & Aging* 54: 7-17.
  61. M.R. Rose, E.W. Hutchinson & J.L. Graves. 1990. Genetics of longer-lived *Drosophila*. *UCLA Symposia on Molecular and Cellular Biology* 123: 19-30.
  62. M.R. Rose & J.L. Graves. 1990. Evolution of aging. *Rev. Biol. Res. Aging* 4: 1-12.
  63. M.R. Rose. 1990. Review of *Sex and Death in Protozoa: The History of an Obsession*. *Quarterly Review of Biology* 65: 358.
  64. M.R. Rose. 1991. *Evolutionary Biology of Aging*. Oxford University Press, New York.
  65. M.R. Rose. 1991. Evolution and Physiology. Review of *Evolutionary Genetics and Environmental Stress*. *Science* 254: 448-49.
  66. M.R. Rose. 1991. Aging and Evolution. *The Sciences* 31(4): 5.
  67. R.E. Lenski, M.R. Rose, S.E. Simpson, & S.C. Tadler. 1991. Long-term experimental evolution in *Escherichia coli*. I. Adaptation and divergence during 2000 generations. *Am. Nat.* 138: 1315-1341.
  68. T.B.L. Kirkwood & M.R. Rose. 1991. Evolution of senescence: late survival sacrificed for reproduction. *Phil. Trans. R. Soc. B* 332: 15-24.
  69. E.W. Hutchinson & M.R. Rose. 1991. Quantitative genetics of postponed aging in *Drosophila*

- melanogaster. I. Analysis of outbred populations. *Genetics* 127: 719-727.
70. E.W. Hutchinson, A.J. Shaw & M.R. Rose. 1991. Quantitative genetics of postponed aging in Drosophila melanogaster. II. Analysis of selected lines. *Genetics* 127: 729-737.
  71. M.R. Rose. 1992. Finding the fountain of youth. *Technology Review* 95(7):64-68.
  72. M.R. Rose. 1992. Review of *The Biology of Life Span*. *Annals of Human Biology* 19:320-321.
  73. M.R. Rose, T.J. Nusbaum, & James E. Fleming. 1992. Drosophila with postponed aging as a model for aging research. *Lab. Animal Sci.* 42:114-118.
  74. M.R. Rose, L.N. Vu, S.U. Park, & J.L. Graves. 1992. Selection for stress resistance increases longevity in Drosophila melanogaster. *Exp. Gerontol.* 27: 241-250.
  75. J.L. Graves, E.C. Toolson, C. Jeong, L.N. Vu, & M.R. Rose. 1992. Desiccation, flight, glycogen, and postponed senescence in Drosophila melanogaster. *Physiol. Zool.* 65:268-286.
  76. J.E. Fleming, G.S. Spicer, R.C. Garrison & M.R. Rose. 1993. Two dimensional protein electrophoretic analysis of postponed aging in Drosophila. *Genetica* 91: 183-198.
  77. R.H. Tyler, H. Brar, M. Singh, A. Latorre, J.L. Graves, L.D. Mueller, M.R. Rose & F.J. Ayala. 1993. The effect of superoxide dismutase alleles on aging in Drosophila. *Genetica* 91: 143-149.
  78. L.D. Mueller, J.L. Graves, & M.R. Rose. 1993. Interactions between density-dependent and age-specific selection in Drosophila melanogaster. *Functional Ecology* 7:469-479.
  79. G.V. Lauder, A.M. Leroi & M.R. Rose. 1993. Adaptations and history. *Trends in Ecology and Evolution* 8:294-297.
  80. A.K. Chippindale, A.M. Leroi, S.B. Kim, & M.R. Rose. 1993. Phenotypic plasticity and selection in Drosophila life-history evolution. I. Nutrition and the cost of reproduction. *J. Evol. Biology* 6:171-193.
  81. M.R. Rose & C.E. Finch. 1993. The Janiform genetics of aging. *Genetica* 91: 3-10.
  82. M.R. Rose & C. Moore. 1993. A Darwinian function for the orbital cortex. *J. Theor. Biology.* 161: 119-129.
  83. M.R. Rose. 1993. Evolutionary gerontology and critical gerontology. Pp. 64-75. In *Voices and Visions: Towards a Critical Gerontology*. Springer, New York.
  84. M.R. Rose & L.D. Mueller. 1993. Review of "The Evolution of Life Histories." *J. Evol. Biology* 6:304-306.
  85. T.J. Nusbaum, J.L. Graves, L.D. Mueller & M.R. Rose. 1993. Letter to the editor. *Science* 260:1567
  86. M. Rose & G. Benford. 1993. *Science, Culture, and the Modern World*. The Idea Channel.
  87. A.K. Chippindale, D.T. Hoang, P.M. Service & M.R. Rose. 1994. The evolution of development in Drosophila melanogaster selected for postponed senescence. *Evolution* 48: 1880-1899.
  88. A.M. Leroi, A.K. Chippindale & M.R. Rose. 1994. Long-term laboratory evolution of a genetic trade-off in Drosophila melanogaster. I. The role of genotype x environment interaction. *Evolution* 48: 1244-1257.
  89. A.M. Leroi, W.R. Chen & M.R. Rose. 1994. Long-term laboratory evolution of a genetic trade-off in Drosophila melanogaster. II. Stability of genetic correlations. *Evolution* 48: 1258-1268.
  90. A.M. Leroi, S.B. Kim & M.R. Rose. 1994. The evolution of phenotypic life-history trade-offs: an experimental study using Drosophila melanogaster. *American Naturalist* 144:661-

- 676.
91. M.R. Rose & T.J. Nusbaum. 1994. Prospects for postponing human aging. *FASEB Journal* 8: 925-928.
  92. T.J. Nusbaum & M.R. Rose. 1994. Aging in *Drosophila*. *Comparative Biochemistry and Physiology* 109A: 33-38.
  93. A.M. Leroi, M.R. Rose & G.V. Lauder. 1994. What does the comparative method reveal about adaptation? *American Naturalist* 143: 381-402.
  94. M.R. Rose. 1994. *Evolutionary Biology of Aging*, Revised Edition. Oxford University Press, New York.
  95. M.R. Rose. 1994. Review of *Human Longevity*. *Aging and Society* 14:641-42.
  96. M.R. Rose and C.E. Finch, Editors. 1994. *Genetics and Evolution of Aging*. Kluwer Academic Publishers, Dordrecht, the Netherlands.
  97. L.D. Mueller, T.J. Nusbaum & M.R. Rose. 1995. The Gompertz equation as a predictive tool in demography. *Experimental Gerontology* 30:553-569.
  98. C.E. Finch & M.R. Rose. 1995. Hormones and the physiological architecture of life-history evolution. *Quarterly Review of Biology* 70: 1-52.
  99. C. Moore & M.R. Rose. 1995. Adaptive and nonadaptive explanations of sociopathy. *Brain & Behavioral Sciences* 18:566-567.
  100. L.D. Mueller & M.R. Rose. 1996. Evolutionary theory predicts late-life mortality plateaus. *Proc. Natl. Acad. Sci. USA* 93: 15249-15253.
  101. M.R. Rose & M.A. Archer. 1996. Genetic analysis of mechanisms of aging. *Current Opinion in Genetics and Development* 6:366-70.
  102. J.E. Fleming & M.R. Rose. 1996. Genetics of aging in *Drosophila*. Pp. 74-93 in *Handbook of the Biology of Aging*. E.L. Schneider & J.W. Rowe, Eds. Academic Press, New York.
  103. M. Djawdan, T. Sugiyama, L. Schlaeger, T.J. Bradley, & M.R. Rose. 1996. Metabolic aspects of the trade-off between fecundity and longevity in *Drosophila melanogaster*. *Physiological Zoology* 69:1175-1195.
  104. M.R. Rose. 1996. Evolution and comparative biology. *Encyclopedia of Gerontology* 1:509-517.
  105. T.J. Nusbaum, L.D. Mueller, & M.R. Rose. 1996. Evolutionary patterns among measures of aging. *Experimental Gerontology* 31:507-516.
  106. A.K. Chippindale, T.J.F. Chu & M.R. Rose. 1996. Complex trade-offs and the evolution of starvation resistance in *Drosophila melanogaster*. *Evolution* 50:753-66.
  107. M. Rose. 1996. Nothing in biology makes sense without evolution. In *Biology; Science and Life*. M.R. Cummings, West Publishing, Minneapolis.
  108. M.R. Rose & G.V. Lauder. 1996. Post-spandrel adaptationism. In *Adaptation*. M.R. Rose & G.V. Lauder, Eds. Academic Press, New York.
  109. M.R. Rose, A.K. Chippindale & T.J. Nusbaum. 1996. Laboratory evolution: the experimental wonderland and the Cheshire Cat Syndrome. In *Adaptation*. M.R. Rose & G.V. Lauder, Eds. Academic Press, New York.
  110. M.R. Rose and G.V. Lauder, Editors. 1996. *Adaptation*. Academic Press, New York.
  111. A.K. Chippindale, J.A. Alipaz, H-W. Chen, and M.R. Rose. 1997. Experimental evolution of accelerated development in *Drosophila*. 1. Larval development speed and survival. *Evolution* 51: 1536-1551.
  112. A.K. Chippindale, A.M. Leroi, H. Saing, D.J. Borash & M.R. Rose. 1997. Phenotypic plasticity and selection in *Drosophila* life-history evolution. 2. Diet, mates and the cost of

- reproduction. *Journal of Evolutionary Biology* 10: 269-293.
113. D.J. Deckert-Cruz, R.H. Tyler, J.E. Landmesser & M.R. Rose. 1997. Allozymic differentiation in response to laboratory demographic selection of *Drosophila melanogaster*. *Evolution* 51: 865-872.
114. A.G. Gibbs, A.K. Chippindale & M.R. Rose. 1997. Physiological mechanisms of evolved desiccation resistance in *Drosophila melanogaster*. *Journal of Experimental Biology* 200: 1821-1832.
115. M. Djawdan, M.R. Rose & T.J. Bradley. 1997. Does selection for stress resistance lower metabolic rate? *Ecology* 78: 828-837.
116. M.R. Rose. 1997. Toward an evolutionary demography. Pp. 96-107 In *Between Zeus and the Salmon, the Biodemography of Longevity*, C.E. Finch and K.A. Wachter, Eds. National Research Council, Washington, D.C.
117. J.P. Phelan & M.R. Rose. 1997. Progress report: Research in the biology of ageing. *Ageing and Society* 17: 65-74.
118. A.E. Williams, M.R. Rose & T.J. Bradley. 1997. CO<sub>2</sub> release patterns in *Drosophila melanogaster*: The effect of selection for desiccation resistance. *Journal of Experimental Biology* 200 615-624.
119. J. Shiotsugu, A.M. Leroi, H. Yashiro, M.R. Rose & L.D. Mueller. 1997. The symmetry of correlated selection responses in adaptive evolution: An experimental study using *Drosophila*. *Evolution* 51: 163-172.
120. M.R. Rose. 1998. Ageing. pp. 13-15 in *Encyclopedia of Ecology and Environmental Management*. P. Calow, Ed. Blackwell Science, Oxford, U.K.
121. M.R. Rose. 1998. Antagonistic pleiotropy hypothesis. p. 44 in *Encyclopedia of Ecology and Environmental Management*. P. Calow, Ed. Blackwell Science, Oxford, U.K.
122. M.R. Rose. 1998. Mutation accumulation hypothesis. pp. 463-64 in *Encyclopedia of Ecology and Environmental Management*. P. Calow, Ed. Blackwell Science, Oxford, U.K.
123. M.R. Rose. 1998. Pleiotropy. pp. 565-66 in *Encyclopedia of Ecology and Environmental Management*. P. Calow, Ed. Blackwell Science, Oxford, U.K.
124. M.R. Rose. 1998. Senescence. p. 673 in *Encyclopedia of Ecology and Environmental Management*. P. Calow, Ed. Blackwell Science, Oxford, U.K.
125. M.R. Rose. 1998. *Darwin's Spectre, Evolutionary Biology in the Modern World*. Princeton University Press, Princeton, N.J.
126. K.A. Carlson, T.J. Nusbaum, M.R. Rose, & L.G. Harshman. 1998. Oocyte maturation and ovariole number in lines of *Drosophila melanogaster* selected for postponed senescence. *Functional Ecology* 12: 514-520.
127. M.R. Rose. 1998. Darwinian anti-aging medicine. *Journal of Anti-Aging Medicine* 1: 105-108.
128. A.E. Williams, M.R. Rose, & T.J. Bradley. 1998. Using laboratory selection for desiccation resistance to examine the relationship between respiratory pattern and water loss in insects. *Journal of Experimental Biology* 201: 2945-52.
129. M.R. Rose & T.J. Bradley. 1998. Evolutionary physiology of the cost of reproduction. *OIKOS* 83: 443-451.
130. A.K. Chippindale, A.G. Gibbs, M. Sheik, K.J. Yee, M. Djawdan, T.J. Bradley, & M.R. Rose. 1998. Resource acquisition and the evolution of stress resistance in *Drosophila melanogaster*. *Evolution* 52: 1342-52.
131. M.R. Rose & L.D. Mueller. 1998. Evolution of human lifespan: past, future, and present.



- American Journal of Human Biology 10: 409-420.
132. M. Djawdan, A.K. Chippindale, M.R. Rose & T.J. Bradley. 1998. Metabolic reserves and evolved stress resistance in *Drosophila melanogaster*. *Physiological Zoology* 71: 584-94.
  133. M.R. Rose. 1999. Genetics of aging in *Drosophila*. *Experimental Gerontology* 34: 577-85.
  134. T.J. Bradley, A.E. Williams, & M.R. Rose. 1999. Physiological responses to selection for desiccation resistance in *Drosophila melanogaster*. *American Zoologist* 39: 337-45.
  135. M. Rose. 1999. *O Espectro de Darwin, A teoria da evolucao e suas implicacoes no mundo moderno*. (V. Ribeiro, trans.) Jorge Zahar, Rio de Janeiro.
  136. T.J. Nusbaum & M.R. Rose. 1999. The effects of nutritional manipulation and laboratory selection on lifespan in *Drosophila melanogaster*. *Journal of Gerontology: Biological Sciences* 54A: B192-B198.
  137. M.R. Rose. 1999. Can human aging be postponed? *Scientific American* 281 (6): 106-111.
  138. M. Rose. 1999. The great mystery of aging. *Dragonfly* 4(1): 24-26.
  139. M.R. Rose & G. Benford. 2000. *The New Future*. The Idea Channel, McKean, Pennsylvania.
  140. L.D. Mueller, M.D. Drapeau, & M.R. Rose. 2000. Stress resistance, heterogeneity and mortality plateaus: response by the authors. *Experimental Gerontology* 35: 1089-91.
  141. M.R. Rose. 2000. *Metaphysics and the Origin of Species* (Book review). *ISIS* 91: 139-140.
  142. M. Matos, C. Rego, A. Levy, H. Teotonio, & M.R. Rose. 2000. An evolutionary no man's land. *Trends in Ecology and Evolution* 15: 206.
  143. M.R. Rose. 2000. Contributions to "The road ahead: A panel discussion", Pp. 73-95 in *Engineering the Human Germline*, G. Stock and J. Campbell, eds. Oxford University Press, New York.
  144. M.R. Rose. 2000. Contributions to the Appendix, Pp. 145-49 in *Engineering the Human Germline*, G. Stock and J. Campbell, eds. Oxford University Press, New York.
  145. M.R. Rose. 2000. Postponed aging in fruit flies. Pp. 167-175 in *The Science of Geriatrics*. J. Morley, H. J. Armbrecht, R.M. Coe, & B. Vellas, Eds. SERDI Publishers, Auzeville, France.
  146. M.R. Rose. 2000. Aging as a target for genetic engineering. Pp. 49-56 In *Engineering the Human Germline*, G. Stock and J. Campbell, eds. Oxford University Press, New York.
  147. H. Teotónio & M.R. Rose. 2000. Variation in the reversibility of evolution. *Nature* 408: 463-466.
  148. M.R. Rose. 2000. Adaptation. In *Encyclopedia of Biodiversity*. Ed. By S.A. Levin, Academic Press, San Diego.
  149. D.J. Borash, H. Teotonio, M.R. Rose, & L.D. Mueller. 2000. Density-dependent natural selection in *Drosophila*: Correlations between feeding rate, development time, and viability. *Journal of Evolutionary Biology* 13: 181-187.
  150. M.D. Drapeau, E.K. Gass, M.D. Simison, L.D. Mueller, & M.R. Rose. 2000. Testing the heterogeneity theory of late-life mortality plateaus by using cohorts of *Drosophila melanogaster*. *Experimental Gerontology* 35: 71-84.
  151. M. Matos, M.R. Rose, M.T. Rocha Pite, C. Rego, & T. Avelar. 2000. Adaptation to the laboratory environment in *Drosophila subobscura*. *Journal of Evolutionary Biology* 13: 9-19.
  152. R. Kurapati, H.K. Brar Passananti, M.R. Rose, & J. Tower. 2000. Increased *hsp22* RNA levels in *Drosophila* lines genetically selected for increased longevity. *J. of Gerontology: Biological Sciences* 55: B552-B559.
  153. D. Nghiem, A.G. Gibbs, M.R. Rose & T.J. Bradley. 2000. Postponed aging and desiccation

- resistance in *Drosophila melanogaster*. *Experimental Gerontology* 35: 957-969.
154. M.R. Rose & L.D. Mueller. 2000. Ageing and immortality. *Philosophical Transactions of the Royal Society, London* 355: 1657-1662.
155. M.R. Rose. 2000. *O Espectro de Darwin, Biologica Evolucionista no Mundo Moderno*. (I. Mafra, trans.) Dinalivro, Lisboa.
156. M.R. Rose. 2001. *Darwins Schatten, Von Forschern, Finken und dem Bild der Welt*. (R. Stach, trans.) Deutsche Verlags-Anstalt, Stuttgart.
157. M.R. Rose. 2001. Review of *The Molecular Genetics of Aging*. *Quarterly Review of Biology* 76: 496.
158. M.R. Rose with V. Glaser. 2001. Pieces of the Puzzle, An Interview with Michael R. Rose. *Journal of Anti-Aging Medicine* 4: 193-196.
159. H. Teotónio & M.R. Rose. 2001. Perspective: Reverse evolution. *Evolution* 55: 653-660.
160. M.R. Rose. 2001. Review of *A Means to an End: The Biological Basis of Aging and Death*. *Quarterly Review of Biology* 76: 342-343.
161. M.R. Rose. 2001. Once more with feeling: review of *Darwinism's Struggle for Survival: Heredity and the Hypothesis of Natural Selection*. *Journal of Evolutionary Biology* 14: 519.
162. M. R. Rose. 2002. Review of *The Dream of Eternal Life*. *Quarterly Review of Biology* 77: 483-484.
163. M.R. Rose & L.D. Mueller. 2002. Thoughts on aging. *Scientific American* 287(N4):14.
164. M.R. Rose & A.D. Long. 2002. Ageing: The many-headed monster. *Current Biology* 12: R311-12.
165. M.R. Rose, L.D. Mueller, & A.D. Long. 2002. Pharmacology, genomics, and the evolutionary biology of ageing. *Free Radical Research* 36: 1293-1297.
166. M.R. Rose, M.D. Drapeau, P.G. Yazdi, K.H. Shah, D.B. Moise, R.R. Thakar, C. L. Rauser, & L. D. Mueller. 2002. Evolution of late-life mortality in *Drosophila melanogaster*. *Evolution* 56: 1982-1991.
167. M.J. Allikian, D. Deckert-Cruz, M.R. Rose, G.N. Landis, & J. Tower. 2002. Doxycycline-induced expression of sense and inverted-repeat constructs modulates *phosphogluconate mutase (Pgm)* gene expression in adult *Drosophila melanogaster*. *Genome Biology* 3(5): 0021.1-0021.10.
168. H. Teotónio, M. Matos, & M.R. Rose. 2002. Reverse evolution of fitness in *Drosophila melanogaster*. *J. of Evolutionary Biology* 15: 608-617.
169. M. Matos, T. Avelar, & M.R. Rose. 2002. Variation in the rate of convergent evolution: adaptation to a laboratory environment in *Drosophila subobscura*. *J. of Evolutionary Biology* 15: 673-682.
170. M.R. Rose. 2002. Longevity: reproduction. Ekerdt, David J., Robert A. Applebaum, Karen C. Holden, Stephen G. Post, Kenneth Rockwood, Richard Schulz, Richard L. Sprott, and Peter Uhlenberg, (Eds.). *Encyclopedia of Aging*. New York: Macmillan Reference USA.
171. M.R. Rose. 2002. Longevity: selection. Ekerdt, David J., Robert A. Applebaum, Karen C. Holden, Stephen G. Post, Kenneth Rockwood, Richard Schulz, Richard L. Sprott, and Peter Uhlenberg, (Eds.). *Encyclopedia of Aging*. New York: Macmillan Reference USA.
172. M.R. Rose. 2003. *Darwins Welt, Von Forschern, Finken und der Evolution*. (R. Stach, trans.) Piper, München.
173. A.K. Chippindale, A.L. Ngo, & M.R. Rose. 2003. The devil in the details of life history evolution: Instability and reversal of genetic correlations during selection on *Drosophila* development. *Journal of Genetics* 82: 133-145.

174. M. R. Rose. 2003. Review of *Ageless Quest: One Scientist's Search for Genes that Prolong Youth*. Quarterly Review of Biology 78: 380-81.
175. J. P. Phelan, M.A. Archer, K.A. Beckman, A.K. Chippindale, T.J. Nusbaum, & M.R. Rose. 2003. Breakdown in Correlations During Laboratory Evolution. I. Comparative Analyses of *Drosophila* Populations. Evolution 57: 527-535.
176. M.A. Archer, J.P. Phelan, K.A. Beckman, & M.R. Rose. 2003. Breakdown in Correlations During Laboratory Evolution. II. Selection on Stress Resistance in *Drosophila* Populations. Evolution 57: 536-543.
177. L.D. Mueller, M.D. Drapeau, C.S. Adams, C.W. Hammerle, K.M. Doyal, A. J. Jazayeri, T. Ly, S.A. Beguwala, A.R. Mamidi, & M.R. Rose. 2003. Statistical tests of demographic heterogeneity theories. Experimental Gerontology 38: 373-386.
178. C.L. Rauser, L.D. Mueller, & M.R. Rose. 2003. Aging, fertility, and immortality. Exp. Geront. 38: 27-33.
179. M.R. Rose. 2003. *Can Human Aging Be Postponed?* E-Book, Scientific American.
180. T.J. Bradley & M.R. Rose. 2004. Increasing stress resistance often postpones aging. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 53-57, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
181. M.R. Rose & A.K. Chippindale. 2004. Reproduction, Nutrition, and Aging. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 117-121, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
182. H.B. Passananti & M.R. Rose. 2004. Genetics and molecular biology. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 193-197, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
183. M.R. Rose & H.B. Passananti. 2004. Reverse evolution of aging. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 251-254, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
184. L.D. Mueller & M.R. Rose. 2004. Aging, Development, and Crowding. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 355-358, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
185. M.R. Rose. 2004. Review of *Extinction; Evolution and the End of Man*. The Historian 66(3): 643-644.
186. M.R. Rose & J.P. Phelan. 2004. The man with courage. Experimental Gerontology 39: 931-933.
187. C.L. Rauser, L.D. Mueller, & M.R. Rose. 2004. Dietary restriction in *Drosophila* [Letter]. Science 303(5664):1610-1611.
- 188.** L.D. Mueller & M.R. Rose. 2004. Letter to the editor: 'Rules of evidence for models on trial'. Experimental Gerontology 39: 451-452.
189. M. R. Rose. 2004. A Pandora's Box for Longevity; Review of *Longevity: The Biology and Demography of Life Span*. Bioscience 54(1): 75-76.
190. M.R. Rose, H.B. Passananti, & M. Matos. 2004. Introduction: Why Methuselah Flies? In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. ix-xiv, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
191. M.R. Rose & M. Matos. 2004. The creation of Methuselah Flies by laboratory evolution. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 3-9, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
192. M.R. Rose. 2004. Will human aging be postponed? Scientific American, Special Issue, "The

- Science of Staying Young," pp. 24-29.
193. A.E. Williams, M.R. Rose, & T.J. Bradley. 2004. The respiratory pattern in *Drosophila melanogaster* selected for desiccation resistance is not associated with the observed evolution of decreased locomotor activity. *Physiological and Biochemical Zoology* 77: 10-17.
  194. A.K. Chippindale, J.A. Alipaz, and M.R. Rose. 2004. Experimental evolution of accelerated development in *Drosophila*. 2. Adult fitness and the fast development syndrome. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 413-435, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
  195. H. B. Passananti, D.J. Deckert-Cruz, A.K. Chippindale, B.H. Le, and M.R. Rose. 2004. Reverse evolution of aging in *Drosophila melanogaster*. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 296-322, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
  196. H.B. Passananti, K.A. Beckman, and M.R. Rose. 2004. Relaxed stress selection in *Drosophila melanogaster*. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 323-352, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
  197. D.J. Deckert-Cruz, L.M. Matzkin, J.L. Graves, & M.R. Rose. 2004. Electrophoretic analysis of Methuselah flies from multiple species. In *Methuselah Flies: A Case Study in the Evolution of Aging* (Pp. 237-248, M.R. Rose, H.B. Passananti, & M. Matos, Eds.), World Scientific Publishing, Singapore.
  198. M.R. Rose. 2004. The metabiology of life extension. Pp. 160-176 in *The Fountain of Youth; Cultural, Scientific, and Ethical Perspectives on a Biomedical Goal* (S.G. Post & R.H. Binstock, Eds.) Oxford University Press, New York.
  199. H. Teotónio, M. Matos, and M.R. Rose. 2004. Quantitative genetics of functional characters in *Drosophila melanogaster* populations subjected to laboratory selection. *J. Genet.* 83: 265-277.
  200. M.R. Rose. 2004. Biological immortality. Pp. 7-16 in *The Scientific Conquest of Death; Essays on Infinite Lifespans* (The Immortality Institute, Eds.) The Immortality Institute, Alabama.
  201. M. Matos, P. Simões, A. Duarte, C. Rego, T. Avelar, and M.R. Rose. 2004. Convergence to a novel environment - Comparative method versus experimental evolution. *Evolution* 58: 1503-1510.
  202. M.R. Rose, H.B. Passananti, and M. Matos, Editors. 2004. *Methuselah Flies: A Case Study in the Evolution of Aging*. World Scientific Publishing, Singapore.
  203. M.R. Rose, H.B. Passananti, A.K. Chippindale, J.P. Phelan, M. Matos, H. Teotónio, & L.D. Mueller. 2005. The effects of evolution are local: Evidence from experimental evolution in *Drosophila*. *Integrative and Comparative Biology* 45: 486-491.
  204. J.P. Phelan & M.R. Rose. 2005. Why dietary restriction substantially increases longevity in animal models but won't in humans. *Aging Research Reviews* 4: 339-350.
  205. L.D. Mueller, C.L. Rauser, and M.R. Rose. 2005. Population dynamics, life history and demography: lessons from *Drosophila*. *Advances in Ecological Research* 37: 77-99.
  206. C.L. Rauser, J.S. Hong, M.B. Cung, K.M. Pham, L.D. Mueller, and M.R. Rose. 2005. Testing whether male age or high nutrition causes the cessation of reproductive aging in female *Drosophila melanogaster* populations. *Rejuvenation Research* 8: 86-95
  207. G. Benford & M. Rose. 2005. New Methuselaha : Can We Cheat Death Long Enough to Live Forever? Amazon Short.

208. G. Benford & M. Rose. 2005. Gods and Science: Three Theologies for Modern Times. Amazon Short.
209. G. Benford & M. Rose. 2005. Motes in God's Eye: The Deformities of American Science. Amazon Short.
210. G. Benford & M. Rose. 2005. High Frontier : A Real Future for Space. Amazon Short.
211. G. Benford & M. Rose. 2005. We Can Build You: Transplantation, Stem Cells, and The Future of the Human Body. Amazon Short
212. M. R. Rose, C.L. Rauser & L.D. Mueller. 2005. Late life: A new frontier for physiology. *Physiological and Biochemical Zoology* 78(6):869-878.
213. C.L. Rauser, Y. Abdel-Aal, J.A. Shieh, C.W. Suen, L.D. Mueller & M.R. Rose. 2005. Lifelong heterogeneity in fecundity is insufficient to explain late-life fecundity plateaus in *Drosophila melanogaster*. *Experimental Gerontology* 40: 660-670.
214. L.D. Mueller, D.G. Folk, N. Nguyen, P. Nguyen, P. Lam, M.R. Rose, and T.J. Bradley. 2005. Evolution of larval foraging behaviour in *Drosophila* and its effects on growth and metabolic rate. *Physiological Entomology* 30: 262-269.
215. M.R. Rose. 2005. *The Long Tomorrow; How Advances in Evolutionary Biology Can Help Us Postpone Aging*. Oxford University Press, New York.
216. Bussel, I., N. Afsarpour, M. Jafari, and M.R. Rose. Incidence of ovarian abnormalities in *Drosophila melanogaster*. 2005. *Drosophila Information Service Journal*. 88:19-20.
217. M. Rose. 2005. The road to biological immortality: An informal essay. Pp. 167-171 in *Anti-Aging Therapeutics VII*, R. Klatz & R. Goldman, Eds. American Academy of Anti-Aging Medicine, Chicago.
218. G. Benford & M.R. Rose. 2005. Sex and the Internet: How Benford Corrupted the World Wide Web. Amazon Short.
219. G. Benford & M.R. Rose. 2005. NASA and the Decline of America. Are We Rome? Amazon Short.
220. G. Benford & M.R. Rose. 2005. Back From the Freezer? The Culture and Science of Cryonics. Amazon Short.
221. G. Benford & M.R. Rose. 2005. Real Cool World: New Ways to Stop Global Warming. Amazon Short.
222. G. Benford & M.R. Rose. 2005. Our Invisible Maker: Natural Selection vs. Intelligent Design. Amazon Short.
223. M. Jafari, A.D. Long, L.D. Mueller, & M.R. Rose. 2006. The pharmacology of ageing in *Drosophila*. *Current Drug Targets* 7: 1479-1483.
224. W. Van Voorhies, J.W. Curtsinger, & M.R. Rose. 2006. Do longevity mutants always show trade-offs? *Experimental Gerontology* 41: 1055-1058.
225. J.L. Graves & M.R. Rose. 2006. Against racial medicine. *Patterns of Prejudice* 40: 481-493.
226. M. R. Rose, C.L. Rauser, L.D. Mueller, & G. Benford. 2006. A revolution for aging research. *Biogerontology* 7: 269-277.
227. C.L. Rauser, L.D. Mueller, & M.R. Rose. 2006. The evolution of late life. *Aging Research Reviews* 5: 14-32.
228. M. Jafari & M.R. Rose. 2006. Rules for the use of model organisms in anti-aging pharmacology. *Aging Cell* 5: 17-22.
229. C.L. Rauser, J.J. Tierney, S. M. Gunion, G. M. Covarrubias, L. D. Mueller, and M. R. Rose. 2006. Evolution of late-life fecundity in *Drosophila melanogaster*. *Journal of Evolutionary Biology* 19: 289-301.

230. M.R. Rose and L.D. Mueller. 2006. *Evolution and Ecology of the Organism*. Prentice-Hall, Upper Saddle River, New Jersey.
231. J.P. Phelan & M.R. Rose. 2006. Caloric restriction increases longevity substantially only when the reaction norm is steep. *Biogerontology* 7: 161-164.
232. M.R. Rose. 2006. Review of *Before Darwin: Reconciling God & Nature*. *The Historian* 68: 900-901.
233. M. Rose (as host, interviewee, etc). 2007. *Longevity Revolution*. "The Nature of Things" television program, Canadian Broadcasting Corporation.
234. M.R. Rose. 2007. End of the line. *Quarterly Review of Biology* 82: 395-400.
235. M.R. Rose. 2007. Foreword to *Darwinian Detectives*, by Norman Johnson. Oxford University Press, New York.
236. M.R. Rose. 2007. Review of *The Evolution of Death*. *Evolution and Development* 9: 203-204.
237. M. Jafari, Khodayari, B., Felgner, J., Bussel, I.I., Rose, M.R., Vince-Cruz, D., Mueller, L.D. 2007. Pioglitazone: An Anti-Diabetic Compound with Anti-Aging Properties. *Biogerontology* 8: 639-51.
238. M. Jafari, Felgner, J., Bussel, I.I., Hutchili, A., Khodayari, B., Rose, M.R., & Mueller, L.D. 2007. *Rhodiola rosea*: A Promising Anti-Aging Chinese Herb. *Rejuvenation Research* 10: 587-602.
239. M.R. Rose and T.H. Oakley. 2007. The new biology: Beyond the Modern Synthesis. *Biology Direct* 2: epub, 30.
240. D.J. Borash, M.R. Rose, and L.D. Mueller. 2007. Mutation accumulation affects male virility in *Drosophila* selected for later reproduction. *Physiological and Biochemical Zoology* 80(5): 461-72.
241. B. Chen, J.-C. Walser, T.H. Rodgers, R.S. Sobota, M.K. Burke, M.R. Rose, & M.E. Feder. 2007. Abundant, diverse, and consequential P elements segregate in promoters of small heat-shock genes in *Drosophila* populations. *Journal of Evolutionary Biology* 20: 2056-2066.
242. M.R. Rose, C.L. Rauser, G. Benford, M. Matos, & L.D. Mueller. 2007. Hamilton's Forces of Natural Selection after forty years. *Evolution* 61: 1265-1276.
243. C. Rego, M.R. Rose, & M. Matos. 2007. Do species converge during adaptation? A case study in *Drosophila*. *Physiological & Biochemical Zoology* 80: 347-357.
244. M.A. Archer, T.J. Bradley, L.D. Mueller & M.R. Rose. 2007. Using experimental evolution to study the physiological mechanisms of desiccation resistance in *Drosophila melanogaster*. *Physiological and Biochemical Zoology* 80: 386-398.
245. L.D. Mueller, C.L. Rauser, & M.R. Rose. 2007. An evolutionary heterogeneity model of late-life fecundity in *Drosophila*. *Biogerontology* 8: 147-161.
246. P. Simões, M. R. Rose, A. Duarte, R. Gonçalves & M. Matos. 2007. Evolutionary domestication in *Drosophila subobscura*. *Journal of Evolutionary Biology* 20: 758-766.
247. M.R. Rose & C.L. Rauser. 2007. Evolution and comparative biology. Pp. 538-547 in *Encyclopedia of Gerontology*, 2<sup>nd</sup> Edition. Elsevier, Oxford.
248. M.R. Rose. 2008. New applications in aging research. *IDrugs* 11: 179-180.
249. M.R. Rose. 2008. Making SENSE: Strategies for Engineering Negligible Senescence Evolutionarily. *Rejuvenation Research* 11: 527-534.
250. P. Simões, J. Santos, I. Fragata, L. D. Mueller, M. R. Rose, & M. Matos. 2008. How repeatable is adaptive evolution? The role of geographical origin and founder effects in laboratory adaptation. *Evolution* 62: 1817-1829.

251. S. Sepulveda, P. Shojaeian, C. L. Rauser, M. Jafari, L. D. Mueller, & M. R. Rose. 2008. The Relationship between Injury, Stress, and Aging in *Drosophila melanogaster*. *Experimental Gerontology* 43: 136-145.
252. P. Simões, M. Pascual, J. Santos, M.R. Rose and M. Matos. 2008. Evolutionary dynamics of molecular markers during local adaptation: a case study in *Drosophila subobscura*. *BMC Evolutionary Biology* 8: epub 66.
253. M.R. Rose, M.K. Burke, P. Shahrestani, & L.D. Mueller. 2008. Evolution of ageing since Darwin. *Journal of Genetics* 87: 363-371.
254. H. Teotónio, I.M. Chelo, M. Bradić, M.R. Rose & A.D. Long. 2009. Experimental evolution reveals natural selection on standing genetic variation. *Nature Genetics* 41: 251-257. Covered in News and Views feature in same issue: Reverse evolution and evolutionary memory. M.M. Desai, *Nature Genetics* 41: 142-143.
255. M.R. Rose. 2009. Realismus in Sachen Anti-Aging. Pp. 46-62 in *Länger leben? Philosophische und biowissenschaftliche Perspektiven* (trans. M. Weber; S. Knell & M. Weber, Eds., Suhrkamp Taschenbuch Wissenschaft, Frankfurt).
256. P. Shahrestani, L.D. Mueller, & M.R. Rose. 2009. Does aging stop? *Current Aging Science* 2: 3-11.
257. P. Simões, M. Pascual, J. Santos, M.R. Rose, & M. Matos. 2009. Correction: Evolutionary dynamics of molecular markers during local adaptation: a case study in *Drosophila subobscura*. *BMC Evolutionary Biology* 9:133.
258. M.R. Rose & J.P. Phelan. 2009. Gods inside. In *Voices of Disbelief* (Ed. R. Blackford & U. Schuklenk, Wiley-Blackwell Press, New York).
259. M.R. Rose & T. Garland. 2009. Darwin's other mistake. In *Experimental Evolution* (Garland, T., and Rose, M.R., Eds., University of California Press).
260. C.L. Rauser, L.D. Mueller, M. Travisano, & M.R. Rose. 2009. Evolution of aging and late life. In *Experimental Evolution* (Garland, T., and Rose, M.R., Eds., University of California Press).
261. T. Garland & M.R. Rose, Eds. 2009. *Experimental Evolution*. University of California Press, Berkeley.
262. H. Teotónio, M.R. Rose, & S.R. Proulx. 2009. Phenotypic plasticity and evolvability: an empirical test with experimental evolution. In Whitman, D. W. and T. N. Ananthakrishnan (Eds.). *Phenotypic Plasticity in Insects: Mechanisms and Consequences*. Science Publishers, Inc. Plymouth, UK.
263. M.K. Burke & M.R. Rose. 2009. Experimental evolution with *Drosophila*. *American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology* 296: R1847-R1854.
264. M.R. Rose. 2009. Adaptation, Aging, and Genomic Information. *Aging* 1: 444-50.
265. K. Matsagas, D.B. Lim, M. Horwitz, C.L. Rizza, L.D. Mueller, B. Villeponteau, and M.R. Rose. 2009. Long-term functional side-effects of stimulants and sedatives in *Drosophila melanogaster*. *PLoS One* 4(8): e6578. doi:10.1371/journal.pone.0006578.
266. M.R. Rose, A.D. Long, L.D. Mueller, C.L. Rizza, K.C. Matsagas, L.F. Greer, and B. Villeponteau. 2010. Evolutionary nutrigenomics. Pp. 357-366 in *The Future of Aging* (G.M. Fahy, M.D. West, L.S. Coles, & S.B. Harris, Eds., Springer, Berlin).
267. M.R. Rose. 2010. Review of *On Deep History and the Brain*. *The Historian* 72: 500-501.
268. M.K. Burke, J.P. Dunham, P. Shahrestani, K.R. Thornton, M.R. Rose, and A.D. Long. 2010. Genome-wide analysis of a long-term evolution experiment with *Drosophila*. *Nature* 467: 587-590. Covered in NY Times article by Nicholas Wade, September 20, 2010: "Natural

- Selection Cuts Broad Swath Through Fruit Fly Genome.”
269. M.R. Rose and M.K. Burke. 2011. Genomic Croesus: Experimental evolutionary genetics of aging. *Experimental Gerontology* 46: 397-403.
270. L.D. Mueller, C.L. Rauser, and M.R. Rose. 2011. *Does Aging Stop?* Oxford University Press, New York.
271. M.R. Rose, L.D. Mueller, and M.K. Burke. 2011. New experiments for an undivided genetics. *Genetics* 188: 1-10.
272. M.R. Rose. 2011. The end of ageing: Life begins at 90. *New Scientist* (August 6<sup>th</sup> issue): 42-45.
273. M.R. Rose. 2011. Evolutionary theory: Aging can plateau, September 6, *Washington Post*.
274. M.R. Rose. 2011. A new choice for immortalists. *Cryonics* 32(3): 17-18.
275. M.R. Rose. 2011. Gods and Darwinists. *Quarterly Review of Biology* 84(4): 323-328.
276. P. Shahrestani, J. Quach, L.D. Mueller, M.R. Rose. 2012. Paradoxical physiological transitions from aging to late life in *Drosophila*, *Rejuv. Res.* In press.
277. M.R. Rose and M.K. Burke. In press. Adaptation. *Encyclopedia of Biodiversity, Second Edition.* (S.A. Levin, Ed.) Academic Press, New York.



## MICHAEL R. ROSE

## LIST OF EXTRAMURAL PRESENTATIONS

1. *"The application of dynamic modeling to the study of ecological genetics in insect populations, using Malacosoma disstria Hbn. as an example"*. Contributed talk, Annual Meeting of the Ontario Entomological Society, Guelph, Ontario, October, 1974.
2. *"A general mathematical model for insect outbreak"*, Contributed talk (with R. Harmsen), Annual conference of the Canadian Entomological Society, Toronto, Ontario, October, 1976.
3. *"The evolution of aging"*, Biology Department Seminar, Queen's University, Kingston, Ontario, September, 1979.
4. *"Quantitative genetics of life-history in Drosophila melanogaster"*, Contributed talk (with B. Charlesworth), Annual conference of European Population Geneticists, Brighton, England, December, 1979.
5. *"Genetics of life-history in Drosophila melanogaster"*, Department of Biological Sciences Seminar, Wayne State University, Detroit, Michigan, July, 1980.
6. *"The evolution of senescence"*, Department of Biology Seminar, University of California, Riverside, January, 1981.
7. *"Theories of hominid evolution"*, Department of Biology Seminar, University of California, Riverside, January, 1981.
8. *"The evolution of senescence"*, Department of Biology Seminar, University of Chicago, March, 1981.
9. *"Systems modeling: Questions of mathematics, science, and praxis"*, System and Decision Sciences Seminar, International Institute for Applied Systems Analysis, Laxenburg, Austria, August, 1981.
10. *"Two ways of finding a simple model for a complex system"*, System and Decision Sciences Seminar, International Institute for Applied Systems Analysis, Laxenburg, Austria, August, 1981.
11. *"Can systems analysis be useful in governmental policy decision?"*, System and Decision Sciences Seminar, International Institute for Applied Systems Analysis, Laxenburg, Austria, August, 1981.
12. *"Theories of life-history evolution"*, Invited symposium address, Annual Meeting of the American Society of Zoologists, Dallas, Texas, December, 1981.

13. *"Is heritable life-history variation neutral?"*, Contributed paper, Annual Meeting of the American Society of Zoologists, Dallas, Texas, December, 1981.
14. *"Evolutionary genetics of fitness and senescence in a melanogaster population"*, Invited Plenary Address, Annual Drosophila Meeting, Storrs, Connecticut, March, 1982.
15. *"Models of evolution with antagonistic pleiotropy"*, Contributed paper, International Conference on Population Biology, Edmonton, Alberta, June, 1982.
16. *"The evolution of senescence"*, Department of Genetics Seminar, University of California, Davis, February, 1983.
17. *"The evolution of senescence"*, Museum of Comparative Zoology Seminar, University of California, Berkeley, February, 1983.
18. *"The new evolutionary molecular biology"*, Department of Genetics Seminar, University of California, Davis, February, 1983.
19. *"The evolution of senescence"*, Population Biology Seminar, Stanford University, Stanford, California, February, 1983.
20. *"Nonfunctional genome evolution"*, Department of Genetics Seminar, University of Washington, Seattle, Washington, March, 1983.
21. *"The evolution of senescence"*, Department of Zoology Seminar, University of Washington, Seattle, Washington, March, 1983.
22. *"Molecular aspects of speciation"*, Population Biology Group Seminar, University of Sussex, Brighton, England, May, 1983.
23. *"The evolution of fitness - calculation in hominids"*, Invited Symposium Address, Evolution 83, St. Louis, Missouri, June, 1983.
24. *Genetics of life-history in Drosophila melanogaster"*, Genetics Program Seminar, Duke University, Durham, North Carolina, November, 1983.
25. *"Genetics of life-history in Drosophila melanogaster"* Department of Molecular and Population Genetics Seminar, University of Georgia, Athens, November, 1983.
26. *"The evolution of senescence"*, Nova Scotia Institute of Science Seminar, Halifax, Nova Scotia, February, 1984.
27. *"The evolution of sex"*, Special Joint Seminar, Carleton University and University of Ottawa, Ottawa, Ontario, March, 1984.
28. *"The evolution of sex"*, Department of Biology Seminar, Stanford University, Stanford,

- California, March, 1984.
29. *"Evolutionary aspects of transposable elements"*, Department of Genetics Seminar, Washington State University, Pullman, Washington, March, 1984.
  30. *"Genetics of life-history and the evolution of senescence"*, Population and Evolutionary Biology Seminar Series, Washington State University, Pullman, Washington, March, 1984.
  31. *"Is sex an adaptation?"*, Ecology Lunch, Simon Fraser University, Burnaby, British Columbia, April, 1984.
  32. *"The evolution of senescence"*, Department of Biological Sciences Seminar, Simon Fraser University, Burnaby, British Columbia, April, 1984.
  33. *"The evolution of senescence"*, Population Biology Seminar, Princeton University, Princeton, New Jersey, April, 1984.
  34. *"Parasitic DNA, the origin of species, and the evolution of sex"*, Invited Plenary Address, Population Biologists of New England Meeting, Amherst, Massachusetts, April, 1984.
  35. *"The evolution of senescence"*, Department of Zoology Seminar, University of Massachusetts, Amherst, May, 1984.
  36. *"Senescence and the cost of reproduction in theory and in Drosophila"*, Department of Ecology and Evolutionary Biology Seminar, University of California, Irvine, December, 1984.
  37. *"Is sex an adaptation?"*, Department of Ecology and Evolutionary Biology Seminar, University of California, Irvine, December, 1984.
  38. *"Population genetics of senescence"*, Department of Biological Sciences Seminar, University of California, Santa Barbara, March, 1985.
  39. *"Quantitative genetics of evolutionarily postponed senescence"*, Plenary Symposium Address, Joint Meeting of the American Society of Naturalists and the Society for the Study of Evolution, June, 1985.
  40. *"The cause of senescence in Drosophila"*, Symposium Address, First Canadian Congress of Biology, June, 1985.
  41. *"Genetics of life-history evolution"*, Invited Address, Meeting on Quantitative Genetics in Development and Evolution, Eugene, Oregon, December, 1985.
  42. *"The causes of senescence"*, Department of Biological Sciences Seminar, York University, Toronto, March, 1986.

43. *"The causes of senescence"*, Department of Zoology Seminar, University of Toronto, April, 1986.
44. *"Is sex an adaptation?"*, Ecology and Evolution Lunch Talk, Department of Biology, Queen's University, Kingston, Ontario, April, 1986.
45. *"The causes of senescence"*, Department of Biology Seminar, Queen's University, Kingston, Ontario, April, 1986.
46. *"Evolutionary genetics of senescence in Drosophila"*, Department of Genetics Seminar, University of Wisconsin, Madison, June, 1986.
47. *"Three approaches to constraints in evolutionary ecology"*, Invited Symposium Address, Fourth International Congress of Ecology, Syracuse, New York, August, 1986.
48. *"The causes of senescence"*, Invited Address, Biennial Meeting, Science Teachers of Ontario, Toronto, November, 1986.
49. *"The causes of senescence"*, Department of Biology, McGill University, Montreal, March, 1987.
50. *"The causes of senescence"*, Department of Biological Sciences Seminar, Wayne State University, Detroit, May, 1987.
51. *"How many loci affect senescence in Drosophila?"*, Invited talk in Drosophila Aging Workshop, 28th Annual Drosophila Conference, Chicago, May, 1987.
52. *"Multiple genetic mechanisms for the evolution of senescence in Drosophila melanogaster"*, Contributed talk (with P.M. Service and E.W. Hutchinson), Joint meeting of the Society for the Study of Evolution and the American Society of Naturalists, Bozeman, Montana, June, 1987.
53. *"The evolution of senescence"*, Department of Biology Seminar, University of California, San Diego, February, 1988.
54. *"Evolutionary biology of senescence"*, Department of Biology Seminar, San Diego State University, San Diego, February, 1988.
55. *"Common mechanisms of aging in diverse systems"*, Invited Roundtable presentation, "Biology of Aging" Gordon Conference, Ventura, California, February, 1988.
56. *"Evolutionary biology of senescence"*, Department of Biology Seminar, California State University, Northridge, February, 1988.
57. *"An evolutionary exploration of the outer limits of human life span"*, Invited presentation, Workshop on Estimating the Upper Limit to Human Life Expectancy, University of

- California, Berkeley, California, April, 1988.
58. *"Patterns of pleiotropy in insect life histories"*, Invited Symposium Address, XVIII International Congress of Entomology, Vancouver, British Columbia, July, 1988.
  59. *"The evolution of aging"*, Linus Pauling Institute Seminar, Palo Alto, California, July, 1988.
  60. *"Life-history evolution in Drosophila melanogaster"*, Section of Ecology and Systematics Seminar, Cornell University, Ithaca, New York, September, 1988.
  61. *"Evolutionary genetics of aging in Drosophila"*, Invited presentation, Genetic Effects on Aging Conference, Bar Harbor, Maine, September, 1988.
  62. *"Evolutionary biology of aging"*, Invited Symposium Address, Annual Scientific Meeting of the Gerontological Society of America, San Francisco, California, November, 1988.
  63. *"Genetics of lifespan in Drosophila melanogaster"*, Invited Symposium Address, UCLA Symposium on Molecular Biology of Aging, Santa Fe, New Mexico, March, 1989.
  64. *"The evolution of senescence"*, Department of Biology Seminar, University of New Mexico, Albuquerque, March, 1989.
  65. *"Pleiotropy in the genetics of aging in Drosophila"*, Institute of Gerontology Seminar, University of Michigan, Ann Arbor, April, 1989.
  66. *"The causes of aging"*, Institute of Gerontology Seminar, University of Michigan, Ann Arbor, April, 1989.
  67. *"Pattern of pleiotropy in fitness characters in Drosophila"*, Department of Botany and Plant Sciences, University of California, Riverside, May, 1989.
  68. *"Genetic correlates of increased longevity in Drosophila"*, Invited Symposium Address, Gordon Research Conference on The Biology of Aging, Plymouth, New Hampshire, July, 1989.
  69. *"Basic ideas in the evolutionary biology of aging"*, Invited Symposium Address, Annual Meeting of the Gerontological Society of America, Minneapolis, Minnesota, November, 1989.
  70. *"Genetics and physiology of postponed aging"*, Invited Talk, Southern California Drosophila Research Conference, Developmental Biology Center, University of California, Irvine, January, 1990.
  71. *"Evolutionary Genetics of Aging"*, Symposium, Chair and Organizer, Fourth International Congress of Systematic and Evolutionary Biology, College Park, Maryland, July, 1990.

72. *"Introduction to the evolution of aging - the theories and their tests"*, Symposium Address, Fourth International Congress of Systematic and Evolutionary Biology, College Park, Maryland, July, 1990.
73. *"Evolution of senescence: Late survival sacrificed for reproduction"* (with T.B.L. Kirkwood), Invited Plenary Address, Royal Society Meeting, London, October, 1990.
74. *"Life extension by selection and other means"*, Invited Address, CIBA Foundation Discussion Meeting, London, October, 1990.
75. *"Evolutionary biology of aging"*, Departmental Seminar, Zoological Institute, University of Basel, Switzerland, October, 1990.
76. *"Darwinism: A critical dialogue in biology"*, Inaugural Public Lecture of an Endowed Lecture Series, University of Frankfurt, Germany, October, 1990.
77. *"The evolution of aging and of sex"*, Departmental Seminar, Zoology, University of Frankfurt, Germany, October, 1990.
78. *"Molecular genetics of postponed aging in *Drosophila*"*, Invited Symposium Address, Annual Meeting of the Gerontological Society of America, Boston, November, 1990.
79. *"The cause of aging"*, Public Lecture, Sigma Xi Autonetics Club, Anaheim, California, November, 1990.
80. *"Loci associated with selectively postponed aging in *Drosophila*"*, Contributed talk, California Population and Evolutionary Genetics Group, Irvine, California, December 1990.
81. *"The new evolutionary gerontology"*, Invited paper for a Symposium on Critical Gerontology, Galveston, Texas, January, 1991.
82. *"Evolutionary biology of aging"*, Seminar, Department of Biological Sciences, University of Southern California, Los Angeles, January, 1991.
83. *"Evolutionary biology of aging"*, Seminar, Los Angeles Gerontology Research Group, Pacific Palisades, California, February, 1991.
84. *"Invertebrate models for identification of candidate longevity genes"*, Discussion leader, Longevity Gene Workshop, National Institute on Aging, Irvine, California, June, 1991.
85. *"Genetics of postponed aging in *Drosophila melanogaster*"*, (with F.J. Ayala, G.S. Spicer, R.H. Tyler, & J.E. Fleming), Invited Symposium Address, Annual Meeting of the American Aging Association, Denver, Colorado, October, 1991.
86. *"Evolutionary arguments for species and strain specificity in patterns of aging"*, Invited Symposium Address, Annual Meeting of the International Council for Laboratory Animal

- Science, Buffalo, New York, October, 1991.
87. "*Evolutionary biology of aging*", Seminar, Department of Biology, California State University, Los Angeles, October, 1991.
  88. "*Darwinism, reductionism, and humanism*", Invited Symposium Address, Annual Meeting of the Gerontological Society of America, San Francisco, November, 1991.
  89. "*Genetics and Evolution of Aging*", Symposium Organizer, 1992 AAAS Annual Meeting, Chicago, February, 1992.
  90. "*Evolutionary genetics of aging in Drosophila*", Invited Symposium Address, 1992 AAAS Annual Meeting, Chicago, February, 1992.
  91. "*Genetics of aging in Drosophila*", Seminar, Department of Physiology and Biophysics, College of Medicine, UCI, March, 1992.
  92. "*The evolution of aging*", Invited Address, Jacques Monod Conference on Evolutionary and Behavioral Ecology, Aussois, France, April, 1992.
  93. "*Genetics of postponed aging in Drosophila melanogaster*", (with F.J. Ayala, G.S. Spicer, R.M. Tyler, & J.E. Fleming), Invited Talk, "*Molecular Biology of Aging*", Cold Spring Harbor Laboratory, April, 1992.
  94. "*Superconscious fitness-calculation*", Seminar, Evolution and Human Behavior Program, University of Michigan, October, 1992.
  95. "*The creation of longer-lived Drosophila by selection*", Invited Symposium Address, Annual Meeting of the Gerontological Society of America, Washington, D.C., November, 1992.
  96. "*The causes of aging*", Seminar, Dept. of Biological Sciences, Southern Methodist University, Dallas, Texas, January, 1993.
  97. "*Genetic and physiological mechanisms of postponed aging in Drosophila*" (with R.H. Tyler, G.S. Spicer, F.J. Ayala, T.J. Nusbaum, L.D. Mueller, J.L. Graves, & J.E. Fleming), Invited talk, "Molecular biology of aging," Keystone Symposium, Lake Tahoe, California, March, 1993.
  98. "*Evolutionary biology of aging*," Seminar, Scripps Institute of Oceanography, San Diego, May, 1993.
  99. "*Using selection to study aging in Drosophila*", Seminar, Biological Sciences, University of Southern California, September, 1993.
  100. "*Postponing aging in Drosophila*", Invited Public Lecture, La Cité des Sciences, Paris, France, October, 1993.

101. "*Prospects for postponing human aging*", Invited Symposium Address, Miami Biotechnology Meeting, Ft. Lauderdale, Florida, February, 1994.
102. "*The causes of aging*", Seminar, Salk Institute of Biological Sciences, San Diego, California, March, 1994.
103. "*Postponed aging in fruit flies*", Invited Symposium Address, Meeting on "The Science of Geriatrics - A Molecular Viewpoint", St. Louis University, May, 1994.
104. "*Mechanisms of aging in Drosophila*", Invited Symposium Address, Scientific Education Partnership, "Molecular mechanisms of degenerative disease", Kansas City, Missouri, May, 1994.
105. "*The World, The Flesh, and the Devil - a discussion of the future of the body*", Panel Discussion, California Council on the Humanities, Scripps Research Institute, San Diego, November, 1994.
106. "*Genetics of aging in Drosophila*", Invited Symposium Address, Gerontological Society of America Annual Meeting, Atlanta, Georgia, November, 1994.
107. "*Evolutionary Biology and Human Aging*", Invited Symposium Address, Human Biology Council Annual Meeting, Oakland, California, March, 1995.
108. "*Evolutionary theory predicts late-life mortality plateaus*" (with L.D. Mueller), Contributed Paper, California Population and Evolutionary Geneticists Annual Meeting, Irvine, California, December, 1995.
109. "*Evolution of Aging*", Seminar, Biology and Medicine Program, University of Kentucky, Lexington, March, 1996.
110. "*Laboratory evolution of nutritional plasticity in Drosophila*", Contributed talk, Plasticity Workshop, University of Kentucky, Lexington, March, 1996.
111. "*Postponing Aging: Using Selection to Shape a Complex Pathology*", Invited Plenary Address, Fourth International Nature Genetics Conference, Vancouver, Canada, April, 1996.
112. "*Why Life Must End*", Capstone Address, West Coast Undergraduate Research Conference, San Diego, California, April, 1996.
113. "*Evolution of Aging*", Invited Plenary Address, Annual Drosophila Meeting,



San Diego, California, April, 1996.

114. "*Evolution of senescence: Change of early fecundity and starvation resistance as a population adapts to a novel environment*" (With M. Matos, M.T. Rocha Pite, & C. Rego), Contributed paper, Congreso Iberico de Entomologica, summer, 1996.
115. "*Evolution of senescence: Do genetic correlations change as a population adapts to a novel environment?*" (with M. Matos, M.T. Rocha Pite, & T. Avelar), Contributed paper, International Congress of Systematics and Evolutionary Biology V, Budapest, Hungary, August, 1996.
116. "*Aging and the single gene*", Invited plenary talk, Gordon Research Conference on the Biology of Aging, Ventura, California, January, 1997.
117. "*Evolution of ageing*", Seminar to Schools of Biology and Medicine, Leicester University, Leicester, England, April, 1997.
118. "*Postponed aging in model systems*", Invited talk, Age-Related Diseases Conference, Seattle, Washington State, July, 1997.
119. "*Evolution of ageing*", Busse Research Award Lecture, XVIth World Congress of Gerontology, Adelaide, Australia, August, 1997.
120. "*Testing general theories of senescence: evolution of G-matrices and mean values of life-history traits during the adaptation to a novel environment*", with M. Matos, M. T. Rocha Pit , C. Rego and T. Avelar. Contributed Talk, 6th Congress of the European Society for Evolutionary Biology, , Arnhem, Netherlands, August, 1997.
121. "*Evolution of aging*", Seminar, Dept. of Physics, Cal State Long Beach, November, 1997.
122. "*Model Systems with Selectively Postponed Aging*", Invited Address, Age-Related Diseases Conference, Las Vegas, Nevada, December, 1997.
123. "*Genetics and Model Systems of Aging*", Session Chair and Panel Discussion Moderator, Age-Related Diseases Conference, Las Vegas, Nevada, December, 1997.
124. "*Aging: A Target for Germline Engineering*", Invited Address, CSEOL-UCLA Germline Engineering Conference, Los Angeles, March, 1998.
125. "*Genomics*", Session Chair, "Genetics of Aging" Conference, Cold Spring Harbor Laboratory, Long Island, April, 1998.
126. "*Adaptation*", Wednesday Evening Evolution Group, UCLA, May, 1998.

127. *"Population models for the evolution of late-life mortality"*, Second Workshop on Organisms with Negligible Senescence. University of Southern California, Los Angeles, June, 1998.
128. *"Recent advances in experimental evolution"*, Chair and Co-organizer of Symposium, Society for the Study of Evolution, Vancouver, BC, June, 1998.
129. *"The experimental wonderland"*, Symposium Address, Society for the Study of Evolution, Annual Meeting, Vancouver, BC, June, 1998.
130. *"The evolution of senescence - theory and practice"*, Invited Address for "Evolution of Gene Action in aging and senescence", Ellison Medical Foundation Symposium on the Biology of Aging, UC-San Francisco, October, 1998.
131. *"Genetics of Aging in Drosophila"*, Biology Department Symposium, UCSD, November, 1998.
132. *"Postponing Human Senescence"*, Symposium Address, Stein Institute for Aging Research, La Jolla, California, November, 1998.
133. *"Late-life mortality"* (with L.D. Mueller and M.D. Drapeau), Symposium Address, AAAS Annual Meeting, Anaheim, California, January, 1999.
134. *"Aging and immortality"*, Gerontology Grand Rounds, Drew University of Medicine and Science, Los Angeles, April, 1999.
135. *"Postponing Human Aging"*, Popular Talk, Crescendo Chapter of the Guilds of the Performing Arts Center, Santa Ana, California, September, 1999.
136. *"Darwin's Spectre"*, Popular Talk, Sigma Xi Meeting, Anaheim, California, September, 1999.
137. *"Aging, Evolution, and Immortality"*, Vollum Institute Lecture on the Basic Science of Aging, Oregon Health Sciences University Center for Healthy Aging, October, 1999.
138. *"The Evolution of Immortality"*, Seminar, Department of Life Sciences, Arizona State University West, Phoenix, November, 1999.
139. *"Finding the Fountain of Youth"*, Public Lecture, Arizona State University West, Phoenix, November, 1999.
140. *"Aging, evolution, and immortality"*, Seminar, City of Hope Hospital, Duarte, California, February, 2000.

141. "*Extended Life, Eternal Life – Scientific Overview*", "Extended Life, Eternal Life" Conference, University of Pennsylvania, Philadelphia, March, 2000.
142. "*Darwin and Applied Biology, From Agriculture to Biotechnology*", Ceremonial Address, University of Naples, Italy, May, 2000.
143. "*Postponing Human Aging*", Popular address, Mensa Association of Orange County, Orange, California, September, 2000.
144. "*Late-life Mortality*", Seminar, Department of Biology, City College of New York, New York, October, 2000.
145. "*Late-life Mortality*", Seminar, Gulbenkian Institute, Lisbon, Portugal, October, 2000.
146. "*Aging, evolution, and immortality*", Seminar, Scripps Institute of Oceanography, San Diego, January, 2001.
147. "*Postponing Human Aging*", Inaugural Allergan Lecture, University of California, Irvine, March, 2001.
148. "*Evolutionary Physiology of Aging in Drosophila*", Symposium Address, American Physiological Society Annual Meeting, Orlando, Florida, April, 2001.
149. "*Postponing Human Aging*", Invited talk for the Chief Executive Roundtable, University of California – Irvine, Ojai, California, June, 2001.
150. "*The War between Christianity and Science*", Invited talk, Extro-5 Conference, San Jose, California, June, 2001.
151. "*Aging, Evolution, and Immortality*," Distinguished Speakers Seminar, Dept. of Biology, University of North Carolina, Charlotte, August, 2001.
152. "*Variation in tempo and mode of convergent evolution: adaptation to the lab in D. subobscura*," with M. Matos, T. Avelar, C. Rego, M. T. Rocha Pité. Contributed Poster, 8th Congress of the Evolutionary Society for Evolutionary Biology, Aarhus, Denmark, August, 2001.
153. "*The Science of Postponing Human Aging*," Opening Keynote Address, Okinawa International Conference on Longevity, Okinawa, Japan, November, 2001.
154. "*Immortality and Evolution*," Invited Seminar, Buck Center for Research on Aging, Novato, California, May, 2002.
155. "*Postponing Human Aging*," Invited Seminar, Institute for Continued Learning, University

- of California, San Diego, June, 2002.
156. *"Can Human Aging Be Postponed?"* Public Lecture, First Asian Pacific Anti-Aging Conference & Exhibition, Singapore, June, 2002.
  157. *"Aging, Fertility, and Immortality,"* with C.L. Rauser and L.D. Mueller. Invited Symposium paper. Neuroendocrinology & Reproduction Meeting, Bregenz, Austria, July, 2002.
  158. *"Convergent evolution during laboratory adaptation,"* with M. Matos, P. Simoes, A. Lleitao, T. Avelar, and C. Rego. Contributed paper, Sixth International Congress of Systematic and Evolutionary Biology, Patras, Greece, September, 2002.
  159. *"The Future of Aging,"* Popular talk, Odyssey of the Rational Mind Program, University of California, San Diego. October, 2002.
  160. *"Levels of Selection in Cancer Biology,"* Keynote Address, Satellite Symposium, European Society of Medical Oncology, Annual Meeting, Nice, France. October, 2002.
  161. *"Prospects for Biological Immortality,"* Plenary Address, Fifth Alcor Conference on Extreme Life Extension, Newport Beach, California. November, 2002.
  162. *"The Evolution of Immortality,"* Symposium Address, Annual Meeting of the Association for the Advancement of Anti-Aging Medicine, Las Vegas, Nevada. December, 2002.
  163. *"Evolution of Late Life,"* Symposium Address, Gordon Research Conference on Aging, Ventura, California. March, 2003.
  164. *"Biological Immortality,"* Seminar, Department of Biology, University of Western Ontario, Canada. March, 2003.
  165. *"Biological Immortality,"* Medical Grand Rounds Lecture, Geriatric Research Education & Clinical Center, Veterans Administration Hospital, Sepulveda, California. May, 2003.
  166. *"Late Life,"* Seminar, Department of Cell Biology, University of Texas, Dallas. May, 2003.
  167. *"How predictable is the rate of convergent evolution?"* with M. Matos, P. Simoes, A. Duarte, R. Goncalves, T. Avelar, and C. Rego, Contributed Presentation, IX Congress of the European Society for Evolutionary Biology, Leeds, United Kingdom. August, 2003.
  168. *"The Evolution of Free Will,"* Seminar for the Center for Behavior, Evolution, and Culture, UCLA, Los Angeles. November, 2003.
  169. *"The Evolution of Late Life: Implications from Mortality and Fecundity,"* with C.L. Rauser and L.D. Mueller, Contributed Poster, Annual Meeting of the Gerontological Society of America, San Diego. November, 2003. **Winner of the Sacher Prize.**

170. "*The Devil and the Evolutionary Physiology of Life-History in Drosophila*," Invited Symposium Address, with A.K. Chippindale, J.P. Phelan, M.A. Archer, and T.J. Bradley, Society for Integrative and Comparative Biology Annual Meeting, New Orleans. January, 2004.
171. "*The Road to Biological Immortality*," Invited Plenary Address, 12<sup>th</sup> Annual World Congress on Anti-aging Medicine 2004, Las Vegas, NV. December, 2004.
172. "*Aging and Immortality*," Seminar, University of Lisbon, Lisbon, Portugal. March, 2005.
173. "*Aging and Immortality*," Seminar, Gulbenkian Institute for Biological Research, Portugal. March, 2005.
174. "*Aging and Immortality*," Seminar, Dept. of Genetics and Microbiology, Autonomous University of Barcelona, Barcelona, Spain. March, 2005.
175. "*Aging and Immortality*," Seminar, Cavanilles Institute for Biodiversity and Evolutionary Biology, University of Valencia, Valencia, Spain. March, 2005.
176. "*Experimental Evolution of Late Life in Drosophila*," Invited Workshop Presentation, with C.L. Rauser, Biodemography Workshop, University of California, Berkeley. June, 2005.
177. "*Rescuing and Unifying Darwinian Biology*," Contributed Paper, Annual Meeting of the Society for the Study of Evolution, Evolution 2005, Fairbanks, Alaska. June, 2005.
178. "*Biological Immortality*," Plenary invited address, Immortality Institute Annual Meeting 2005, Atlanta, Georgia. November, 2005.
179. "*The Long Tomorrow*," University Studies Public Lecture, North Carolina Agricultural and Technical State University, Greensboro, North Carolina. November, 2005.
180. "*Variation in Disease Resistance*," Group Summary Presentation, Keck Futures Initiative Revolution in Genomics Meeting, National Academy of Sciences, Irvine, California. November, 2005.
181. "*Living through a Scientific Revolution – The Last Forty Years of Aging Research*," Invited presentation, Laguna Beach Philosophy of Science Meeting. February, 2006.
182. "*The Long Tomorrow – Will We Postpone Our Aging?*" Invited Plenary Address, 7<sup>th</sup> Applied Ethics Conference, Rutgers University, Newark, New Jersey. March, 2006.
183. "*How I Became a Scientist*," Popular talk for Career Day, McFadden Intermediate School, Santa Ana, California. April, 2006.
184. "*Introduction to Darwinian Biology*," Popular talk for the Ocher Lifelong Learning Institute, Newport Beach, California. April, 2006.
185. "*Developing Intelligent Design Theory*," Popular talk for the Ocher Lifelong Learning Institute, Newport Beach, California. April, 2006.
186. "*Scientific Scaffolding for the Anti-Aging Debate*," Invited talk, AAAS Internal Meeting, Washington, DC. June, 2006.

187. “*Experimental evolution of aging and late life in Drosophila*,” Basic Science Seminar, Harbor Medical Campus, UCLA, Los Angeles, February, 2007.
188. “*Experimental evolution as a tool of physiological analysis*,” Organized (with J. Hicks) and Chaired, Physiology InFocus Symposium of the American Physiological Society, Annual Meeting of the Societies for Experimental Biology, Washington, DC, April, 2007.
189. “*Experimental evolution of aging and its physiology in Drosophila*,” Invited Symposium Address, with T.J. Bradley, Annual Meeting of the Societies for Experimental Biology, Washington, DC, April, 2007.
190. “*Western Evolutionary Biology Meeting*,” Organized and Chaired, Irvine, California, May, 2007.
191. “*Pharmacological assays for screening anti-aging compounds*,” Contributed poster, with M. Jafari, B. Khodayari, and I.I. Bussel, American Aging Association Conference, San Antonio, Texas, June, 2007.
192. “*Realism about Anti-Aging*,” Invited public address. University of Basel public symposium, “Länger Leben?” Basel, Switzerland, June, 2007.
193. “*Slowing and then Stopping Aging*,” Address to the SENS 3 Meeting. Queens College, University of Cambridge, U.K, September, 2007.
194. “*The Evolution of Aging*,” Seminar, Department of Biology, LaSierra University, Riverside, California, November, 2007.
195. “*The Future of Human Healthspan: Demography, Evolution, Medicine, and Bioengineering*,” Proposed and served on organizing committee, National Academies Keck Futures Initiative. Irvine, California, November, 2007.
196. “*Reverse Engineering and Strategies for Engineering Negligible Senescence Evolutionarily*,” Invited talk, Los Angeles Life Extension Workshop. Los Angeles, California, November, 2007.
197. “*New Applications for Aging Research*,” Meeting Chair, GTCbio meeting. San Diego, California, January, 2008.
198. “*From Tiny Methuselahs to Healthy Patients*,” Opening address, GTCbio meeting on New Applications for Aging Research. San Diego, California, January, 2008.
199. “*Western Evolutionary Biology Meeting 2*,” Organized and Chaired, Irvine, California, May, 2008.
200. “*Selection for Health and Function in Drosophila*,” Seminar, Burnham Institute for Medical Research. San Diego, California, June, 2008.
201. “*Temporal genetic changes during laboratory evolution in Drosophila subobscura*,” (with P. Simões, M. Pascual, J. Santos, & M. Matos), Contributed Poster, Society for Molecular Biology and Evolution. Barcelona, Spain, June, 2008.
202. “*Genomic Revolution*,” Invited popular talk, ideaCity 08. Toronto, Canada, June 2008.

203. “*Evolutionary Biology of Aging*,” Pathology Grand Rounds, Harbor-UCLA Medical Center, Los Angeles, February, 2009.
204. “*Resistance to infection with experimental evolution of aging*,” (with M.K. Burke, A.K. Leport, C.M. Hardy, A.D. Long), Contributed poster, American Association for the Advancement of Science, Chicago, Illinois, February, 2009.
205. “*Aging Therapeutic Assays assisted by Drosophila Genomics*,” (with B.R. Villeponteau, K.C. Matsagas, A.D. Long, L.D. Mueller, M. Horwitz, C.L. Rizza), Contributed poster, AGE Meeting, Scottsdale, Arizona, June, 2009.
206. “*Adaptive Differentiation in Laboratory-Selected Populations of Drosophila melanogaster*,” (with M.K. Burke), Contributed Poster, Society for the Study of Evolution, Moscow, Idaho, June, 2009.
207. “*Systems Biological Experimental Evolutionary Genomics*,” Invited talk, Systems Biology of Aging Meeting, Santa Fe Institute & National Institute on Aging, Santa Fe, New Mexico, July, 2009.
208. “*Systems Biology and Genomics 2.0*,” Report-out of Break-out Group, Systems Biology of Aging Meeting, Santa Fe Institute & National Institute on Aging, Santa Fe, New Mexico, July, 2009.
209. “*Evolution of Aging and Biological Immortality*,” Seminar, Santa Fe Institute, Santa Fe, New Mexico, October, 2009.
210. “*Evolution of Aging and Biological Immortality*,” Seminar, Department of Biology, University of Pennsylvania, Philadelphia, October, 2009.
211. “*Evolutionary Genomics of Life Extension*,” Invited Presentation, Manhattan Beach Project Meeting, Manhattan Beach, California, November, 2009.
212. “*Genomic analysis of adaptive differentiation in laboratory-selected populations of Drosophila melanogaster*,” (with M.K. Burke and A.D. Long), Contributed poster, Annual Meeting, AAAS, San Diego, California, February, 2010. **Best Student AAAS Poster Winner.**
213. “*Genomics of Experimental Evolution*,” Seminar, Department of Ecology, Evolution, and Marine Biology, University of California, Santa Barbara, May, 2010.
214. “*Genomics of Experimental Evolution*,” Invited Presentation, Experimental Evolution Symposium, Department of Genome Sciences, University of Washington, Seattle, Washington, June, 2010.
215. “*Genome-wide Characterization of Drosophila melanogaster with accelerated development*,” (with M.K. Burke, J.P. Dunham, P. Shahrestani, K.R. Thornton, and A.D. Long), Contributed Talk, Annual Meeting of the Society for the Study of Evolution, Portland, Oregon, June, 2010.
216. “*The Evolution of Late-Life Physiology in Drosophila melanogaster*,” (with P. Shahrestani and L.D. Mueller), Contributed Talk, Annual Meeting of the Society for the Study of Evolution, Portland, Oregon, June, 2010.

217. "A *New Immortalist Strategy*," Invited Address, International Conference of the Immortalist Society, Brussels, Belgium, October, 2010.
218. "*Immediate Prospects for Indefinite Human Lifespans*," Invited Address, Personalized Life Extension Conference, San Francisco, California, October, 2010.
219. "*A Third Technology for Indefinite Human Healthspan*," Invited Address, Humanity Plus Conference, California Institute of Technology, Pasadena, California, December, 2010.
220. "*Western Evolutionary Biology Meeting 4*," Chaired and Co-Organized, University of California, Irvine, December, 2010.
221. "*The Mental Arms Race Amplifier and the Multicameral Mind*," Plenary Invited Symposium Address, EvoS Symposium Evolution of Free Will, Lisbon, Portugal, May 2011.
222. "*Genomics of Experimental Evolution and Beyond*," Seminar, Gulbenkian Institution, Portugal, May 2011.
223. "*How to Stop Aging*," (with L.D. Mueller), Seminar, Ecology Program, University of Lisbon, Lisbon, Portugal, May 2011.
224. "*From Dust to ...: The Radical New Science of Longevity*," (with L. Guarente, J. Campisi, and A. de Grey), Panel Symposium, World Science Festival, New York City, June 2011.
225. "*Aging and late life in urea-adapted populations of *Drosophila melanogaster**," (with M. Santos, D. Nguyen, and L.D. Mueller), Contributed Poster, Annual Meeting of the Society for the Study of Evolution, Norman, Oklahoma, June 2011.
226. "*Experimental Evolution Re-Sequencing (EERSeq) as a Functional Sequence Screen*," (with M.K. Burke, L.D. Mueller, & A.D. Long), Invited Talk, Southern California Drosophila Meeting, Irvine, California, September 2011.



