CURRICULUM VITAE

NAME: Shirley M. Caldwell Tilghman
PLACE OF BIRTH: Toronto, Canada

EDUCATION

B.Sc. (Honors) Chemistry-Biochemistry, Queen's University, Kingston, Canada	1968
Ph.D. in Biochemistry, Temple University, Philadelphia, Pennsylvania	1975

PROFESSIONAL POSITIONS

President, Princeton University	2001 - 2013
Professor of Molecular Biology and Public Affairs, Princeton University	1986 -
Director, Lewis-Sigler Institute for Integrative Genomics, Princeton University	1998 - 2003
Howard A. Prior Professor of the Life Sciences, Princeton University	1986 - 2001
Investigator of the Howard Hughes Medical Institute	1988 - 2001
Chair, The Council on Science and Technology, Princeton University	1993 - 2000
Adjunct Professor, Department of Biochemistry, UMDNJ - Robert Wood Johnson Medical School	1988 - 2001
Member, Institute for Cancer Research, Philadelphia, Pennsylvania	1979 - 1986
Adjunct Associate Professor of Human Genetics and Biochemistry and Biophysics, University of Pennsylvania	1980 - 1986
Assistant Professor, Fels Research Institute, Temple University School of Medicine	1978 - 1979
Fogarty International Fellow, National Institutes of Health, Bethesda, Maryland	1975 - 1977
Secondary School Teacher, Moyamba, Sierra Leone, West Africa	1968 - 1970

ORGANIZATIONS AND SOCIETIES

American Philosophical Society	2000
Foreign Associate, U.S. National Academy of Sciences	1996
Fellow, The Royal Society of London	1995
Institute of Medicine	1995
American Academy of Arts and Sciences	1990
Commission on Life Sciences, National Research Council	1993 - 2001
American Society for Biochemistry and Molecular Biology	
American Society for Cell Biology	
Society for Developmental Biology	

EDITORIAL BOARDS

Editorial Board, Genes and Development	1990 - 2001
Editor and Editorial Board Member, Molecular and Cellular Biology	1985 - 1994
Editorial Board, Journal of Cell Biology	1988 - 1991
Executive Editor and Board Member, Nucleic Acids Research	1983 - 1991

ADVISORY COMMITTEES

Fellow, Harvard Corporation	2016 -
Director, Alphabet, Inc.	2005 -
Trustee, The Broad Institute	2015 -
Trustee, Institute for Advanced Study	2015 -
Trustee, Amherst College	2013 -
Trustee, King Abdullah University of Science and Technology	2008 -
Steering Committee, Rescuing Biomedical Research	2016 -
Chair, Association of American Universities	2008 - 2009
Trustee, Carnegie Endowment for International Peace	2005 - 2016
Trustee, Leadership Enterprise for a Diverse America	2004 - 2016
Chair, National Academies' Committee on "Intellectual Property in Genomic and Protein Research and Innovation"	2004 - 2005
Board of Governing Trustees, The Jackson Laboratory	1994 - 2008

Trustee, Rockefeller University	1999 - 2001
Advisory Council to the Director, National Institutes of Health	1997 - 2001
Scientific Advisory Board, Whitehead Institute for Biomedical Sciences, Massachusetts Institute of Technology	1995 - 2001
Scientific Advisory Board, Center for Advanced Biotechnology and Medicine, Rutgers University	1993 - 2001
Pew Charitable Trust Scholars Program in the Biomedical Sciences Selection Committee	1994 - 2001
National Advisory Council, National Center for Human Genome Research	1991 - 1996
Board of Scientific Advisors, Roche Institute of Molecular Biology	1988 - 1994
Chairman, Board of Scientific Overseers, The Jackson Laboratory	1987 - 1994
Scientific Advisory Board, Oak Ridge National Laboratories	1987 - 1991
Chair and Member, Molecular Biology Study Section, National Institutes of Health	1983 - 1987
Chair and Member, Visiting Committee to Cell and Development Biology, Harvard College	1990 - 1995
Visiting Committee to Division of Medical Sciences, Harvard Medical School	1992 - 1995
University Council on the Biological Sciences, Yale College	1990 - 1996
Lucille P. Markey Charitable Trust Scholar Selection Committee	1987 - 1996

HONORARY DEGREES

University of Maryland, Baltimore County	2009
Amherst College	2008
Rensselaer Polytechnic Institute	2008
Ryerson University	2007
Memorial University of Newfoundland	2007
Mills College	2007
Washington University	2007
Rockefeller University	2006
Rutgers University	2006
Columbia University	2005
New York University	2005
University of Medicine and Dentistry of New Jersey	2005
Harvard University	2004
Drew University	2004
University of Toronto	2003
University of Western Ontario	2003
University of British Columbia	2002
Simon Fraser University	2002
Oxford University	2002
Queen's University	2002
Yale University	2002
Dickinson College	2002
Bard College	2002
Westminster Choir College of Rider University	2002
Mt. Sinai College of Medicine of the City College of New York	1994

HONORS

Officer of the Order of Canada	2015
Science Careers' Person of the Year	2014
Fulbright Canada Award for Outstanding Public Service	2014
Dart/NYU School of Medicine Biotechnology Achievement Award	2011
Henry G. Friesen International Prize in Health Research	2010
Barnard Medal of Distinction	2010
W.E.B. Du Bois Medal	2009
America's Best Leaders by U.S. News and World Report	2007
Glamour Women of the Year	2007
National Leadership Award, Merage Foundation for the American Dream	2007

Genetics Society of America Medal	2007
Presidential Medal of Honor, Dillard University	2006
Academy Fellow, New York Academy of Sciences	2005
Memorial Sloan-Kettering Medal for Outstanding Contributions to Biomedical Research	2005
Radcliffe Institute Medal	2004
Lifetime Achievement Award, Society for Developmental Biology	2003
Mary Elizabeth Garrett Lecturer, Johns Hopkins University School of Medicine	2003
L'Oreal –UNESCO Prize for Women in Science	2002
Honorary Studenborg Lecture, Weill Medical College of Cornell University	2001
Burroughs Wellcome Visiting Professor, University of California, San Francisco	2001
William McElroy Lecture, University of California San Diego	2000
George Boxer Memorial Lecture, Robert Wood Johnson Medical School	2000
Senior Woman in Cell Biology Award, American Society for Cell Biology	2000
Mellon Prize, University of Pittsburgh	2000
3M Distinguished Lecturer, University of Western Ontario	1999
Jeanette Oshman Efron Lecture, Baylor College of Medicine	1999
M.C. Chang Award, Worcester Foundation	1999
Robert E. Olson Lecture, St. Louis University	1998
Basic Science Award, The Society for the Advancement of Women's Health Research	1997
The Menashe Marcus Memorial Lecture, Hebrew University	1997
The Tetelman Fellow, Jonathan Edwards College, Yale University	1997
The Alicia Showalter Reynolds Memorial Lecture, Johns Hopkins School of Medicine	1997
The President's Award for Distinguished Teaching, Princeton University	1996
Jeanette Piperno Memorial Award, Temple University	1996
Edward Adelberg Lecture, Yale University	1996
Brown-Hazen Award, Wadsworth Center	1995
Lawrence W. Gelb Award, Pan-American Society for Pigment Cell Research	1995
Ida Beam Distinguished Professor, University of Iowa	1994
John Enders Lecture, Children's Hospital, Harvard Medical School	1994
Harvey Society Lecturer	1992
Katharine D. McCormick Distinguished Lecturer, Stanford University	1991
American Cancer Society Junior Faculty Award	1979 - 1981
Provincial Scholarship, Queen's University	1964 - 1967

PUBLICATIONS

1. Wolfe, S., Bassett, R.N., Caldwell, S.M. and Wasson, F.I. Reversal of the Anhydropenicillin Rearrangement. J. Am. Chem. Soc. 91, 7205 (l966).

2. Caldwell, S.M. and Norris, A.R. Reactions of Coordinated Ligands. The Reaction of Isothiocyanatopenta amine-cobalt (III) Ion with Hydrogen Peroxide in Acid Solution. Inorganic Chem. 7, l667 (l968).

3. Patel, M.S. and Tilghman, S.M. The Regulation of Pyruvate Metabolism via Pyruvate Carboxylase in Rat Brain Mitochondria. Biochem. J. 132, 185 (l973).

4. Tilghman, S.M., Hanson, R.W., Reshef, L., Hopgood, M.F. and Ballard, F.J. Rapid Loss of Translatable Messenger RNA of Phosphoenolpyruvate Carboxykinase during Glucose Repression in Liver. Proc. Natl. Acad. Sci. USA 71, 1304 (l974).

5. Ballard, F.J., Hopgood, M.R., Reshef, L., Tilghman, S.M. and Hanson, R.W. Synthesis of Phosphoenolypuruvate Carboxykinase (GTP) by Isolated Liver Polyribosomes. Biochem. J. 144, 199 (1974).

6. Tilghman, S.M., Gunn, J.M., Fisher, L., Hanson, R.W., Reshef, L. and Ballard, F.J. Deinduction of Phosphoenolpyruvate Carboxykinase (GTP) Synthesis in Reuber H35 Cells. J. Biol. Chem. 250, 3322 (1975).

7. Gunn, J.M., Tilghman, S.M., Hanson, R.W., Reshef, L. and Ballard, F.J. Effects of Cyclic AMP, Dexamethasone and Insulin on Phosphoenolpyruvate Carboxykinase (GTP) Synthesis in Reuber H35 Hepatoma Cells. Biochemistry 14, 2350 (1975).

8. Tilghman, S.M., Ballard, F.J. and Hanson, R.W. The Hormonal Regulation of Phosphoenolpyruvate Carboxykinase (GTP) in Mammalian Tissues. In: "Gluconeogenesis" (Mehlman, M.A. and Hanson, R.W., eds.), John Wiley (1976).

9. Tilghman, S.M., Fisher, L.M., Reshef, L., Ballard, F.M. and Hanson, R.W. Partial Isolation and Translation in vitro of Messenger Ribonucleic Acid for Phosphoenolpyruvate Carboxykinase (GTP). Biochem. J. 156, 619 (1976).

10. Leder, P., Tiemeier, D., Tilghman, S.M. and Enquist, L. Use of an EK-2 Vector for the Cloning of DNA from Higher Organisms. Miami Winter Symposia, Vol. 13, 205 (1977).

11. Tiemeier, D.C., Tilghman, S.M. and Leder, P. Purification and Cloning of a Mouse Ribosomal Gene Fragment in Phage λ. Gene 2, 173 (1977).

12. Tilghman, S.M., Tiemeier, D.C., Polsky, F.P., Edgell, M.H., Seidman, J.G., Leder, A., Enquist, L., Norman, B. and Leder, P. Cloning Specific Segments of the Mammalian Genome: Bacteriophage λ Containing Mouse Globin and Surrounding Gene Sequences. Proc. Natl. Acad. Sci. USA 74, 4406 (1977).

13. Leder, P., Tilghman, S.M., Tiemeier, D.C., Polsky, F.I., Seidman, J.G., Edgell, M.H., Enquist, L.W., Leder, A. and Norman, B. The Cloning of Mouse Globin and Surrounding Gene Sequences in Bacteriophage λ. Cold Spring Harbor Symp. Quant. Biol. 42, 915 (1977).

14. Tilghman, S.M., Tiemeier, D.C., Seidman, J.G., Peterlin, B.M.,Sullivan, M., Maizel, J.V. and Leder, P. An Intervening Sequence of DNA Identified in the Structural Portion of a Mouse β-Globin Gene. Proc. Natl. Acad. Sci., USA 75, 725 (1978).

15. Tilghman, S.M., Curtis, P.J., Tiemeier, D.C., Leder, P. and Weissman, C. The Intervening Sequence of a Mouse β-Globin Gene is Transcribed within the l5S β-Globin Precursor. Proc. Natl. Acad. Sci. USA 75, 1309 (1978).

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17. Kioussis, D., Reshef, L., Cohen, H., Tilghman, S.M., Iynedjiian, P.B., Ballard, F.J. and Hanson, R.W. Alterations in Translatable Messenger RNA Coding for Phosphoenolpyruvate Carboxykinase (GTP) in Rat Liver during Deinduction. J. Biol. Chem. 253, 4327 (1978).

18. Seidman, J.G., Leder, A., Edgell, M.H., Polsky, F., Tilghman, S.M., Tiemeier, D.C. and Leder, P. Multiple Related Immunoglobuilin Variable Region Genes Identified by Cloning and Sequence Analysis. Proc. Natl. Acad. Sci. USA 75, 388l (1978).

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20. Konkel, D.A., Tilghman, S.M. and Leder, P. The Sequence of the Chromosomal Mouse β-Globin Major Gene: Hemologies in Capping, Splicing and Poly A Sites. Cell 15, 1125 (1978).

21. McClements, W., Hanafusa, H., Tilghman, S.M. and Skalka, A. Structural Studies on Oncorna-virus-related Sequences in Chicken Genomic DNA. Two Step Analyses of EcoRl and Bg1 I Restriction Digests and Tentative Mapping of an Ubiquitous Endogenous Provirus. Proc. Natl. Acad. Sci. USA 76, 2165 (1979).

22. Tilghman, S.M., Kioussis, D., Gorin, M.B., Garcia Ruiz, J.P. and Ingram, R.S. The Presence of Intervening Sequences in the Alpha-Fetoprotein Gene of the Mouse. J. Biol. Chem. 254, 7393 (1979).

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24. Gorin, M.B. and Tilghman, S.M. The Structure of the Alpha-Fetoprotein Gene in the Mouse. Proc. Natl. Acad. Sci. USA 77, 1351 (1980).

25. Ordahl, C.P., Kioussis, D., Tilghman, S.M., Ovitt, C.E. and Fornwald, J. Molecular Cloning of Developmentally Regulated, Low-Abundance mRNA Sequences from Embryonic Muscle. Proc. Natl. Acad. Sci. 77, 4519 (1980).

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27. Gorin, M.B., Cooper, D.L., Eiferman, F., van de Rijn, P. and Tilghman, S.M. The Evolution of α-fetoprotein and Albumin I. A Comparison of the Primary Amino Acid Sequences of Mammalian α-fetoprotein and Albumin. J. Biol. Chem. 256, 1954 (198l).

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33. Young, P.R., Scott, R.W., Hamer, D.H. and Tilghman, S.M. Construction and expression in vivo of an internally deleted mouse α-fetoprotein gene: presence of a transcribed Alu-like repeat within the first intervening sequence. Nucleic Acids Research 10, 3099 (1982).

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37. Alexander, F., Young, P.R. and Tilghman, S.M. The Evolution of the Albumin: α-fetoprotein Ancestral Gene from the Amplification of a 27 Nucleotide Sequence. J. Mol. Biol. 173, 159-176 (1984).

38. Young, P.R. and Tilghman, S.M. The Induction of α-Fetoprotein in Differentiating F9 Teratocarcinoma Cells Is Accompanied by a Genome-Wide Loss of DNA Methylation. Mol. Cell Biol. 4, 898 (1984).

39. Scott, R.W., Vogt, T.F., Croke, M. and Tilghman, S.M. Tissue Specific Activation of a Transfected AFP Gene During F9 Cell Differentiation. Nature 310, 562 (1984).

40. Pachnis, V., Belayew, A. and Tilghman, S.M. A Locus Unlinked to α-Fetoprotein under the Control of the Murine raf and Rif Genes. Proc. Natl. Acad. Sci. USA 84, 5523 (1984).

41. Young, P.R. and Tilghman, S.M. The Evolution of the AFP and Albumin Genes. In: "Multi Domain Proteins: Structure and Function" (Hardie, D.G. and Coggins, J.R., eds.), Elsevier Science Publishers B.V. Pgs. 55-84 (l985).

42. Tilghman, S.M., Scott, R.W., Vogt, T.F., Krumlauf, R., Hammer, R.E. andBrinster, R. Tissue-Specific Expression of Cloned α-fetoprotein Genes in Teratocarcinoma Cells and Mice. In "Genetic Manipulation of the Mammalian Ovum and Early Embryo" Cold Spring Harbor Laboratory Press, pg. 2l (l985).

43. Tilghman, S.M. The Structure and Regulation of the α-fetoprotein and Albumin Genes. In: "Oxford Surveys in Eukaryotic Genes," Vol. 2, pp. l60-206 (l985).

44. Krumlauf, R., Hammer, R.E., Tilghman, S.M. and Brinster, R. Developmental Regulation of α-fetoprotein Genes in Transgenic Mice. Mol. Cell. Biol. 5, l639 (l985).

45. Tilghman, S.M., Belayew, A., Pachnis, V. and Krumlauf, R. Genetic Approaches to the Regulation of α-fetoprotein Synthesis. In: "Alpha-fetoprotein and Congenital Disorders." (Mizejewski, G.J. and Porter, I.H., eds.), Academic Press, Orlando, FL, pg. 35 (l985).

46. Krumlauf, R., Hammer, R.E., Brinster, R., Chapman, V.M. and Tilghman, S.M. Regulated Expression of α-fetoprotein Genes in Transgenic Mice. Cold Spring Harbor Symp. Quant. Biol., Vol. 50, 37l (l985).

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48. Godbout, R., Ingram, R. and Tilghman, S.M. Multiple Regulatory Elements in the Intergenic Region Between the α-fetoprotein and Albumin Genes. Mol. Cell. Biol. 6, 477 (l986).

49. Krumlauf, R., Chapman, V.M., Hammer, R.E., Brinster, R. and Tilghman, S.M. Differential Expression of AFP Genes on the Inactive X Chromosome in Extraembryonic and Somatic Tissues of a Transgenic Mouse Line. Nature 3l9, 224 (l986).

50. Camper, S.A., Krumlauf, R., Compton, R.S., Hammer, R.E., Brinster, R. and Tilghman, S.M. Expression of the α-fetoprotein Gene in Transgenic Mice. In Gene Transfer Vectors for Mammalian Cells, edited by J. Miller. Cold Spring Harbor Press, (l986).

51. Hammer, R.E. Krumlauf, R., Camper, S., Brinster, R.L. and Tilghman, S.M. The regulation of α-fetoprotein minigene expression in the germline of mice. J. Embryol. Exp. Morph. 97 Supplenment, 257-262 (l986).

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53. Hammer, R.E., Krumlauf, R., Camper, S.A., Brinster, R. and Tilghman, S.M. Diversity of α-fetoprotein Gene Expression in Mice is Generated by a Combination of Enhancer Elements. Science, 235, 53 (l987).

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55. Godbout, R., Ingram, R.S. and Tilghman, S.M. Fine structure mapping of the three mouse α-fetoprotein gene enhancers. Mol. Cell. Biol. 8, 1169-1178 (l988).

56. Pachnis, V., Brannan, C.I. and Tilghman, S.M. Structure and Expression of a Novel Gene Activated in Early Mouse Development. EMBO J. 7, 673-68l (l988).

57. Vogt, T.F., Compton, R.S., Scott, R.W. and Tilghman, S.M. Differential Requirements for Cellular Enhancers in Stem and Differentiated Cells. Nucleic Acids Research 16 487-500 (l988).

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60. Camper, S.A., Godbout, R. and Tilghman, S.M. The Developmental Regulation of Albumin and α-fetoprotein Gene Expression. In Prog. Nucleic Acid Res. and Molecular Biol. 36, 131-144 (l989).

61. Camper, S.A. and Tilghman, S.M. Postnatal Repression of the α-fetoprotein Gene is Enhancer Independent. Genes and Development 3, 537-546 (l989).

62. Feuerman, M., Godbout, R., Ingram, R.S. and Tilghman, S.M. Tissue Specific Transcription of the Mouse α-fetoprotein Gene Promoter is Dependent upon Hepatic Nuclear Factor l Mol. Cell. Biol. 9, 4204-4212 (l989).

63. Brannan, C.I., Dees, E.C., Ingram, R.S. and Tilghman, S.M. The Product of the Hl9 Gene May Function as an RNA. Mol. Cell. Biol. 10, 28-36 (l990).

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74. Davies, K.E. and Tilghman, S.M. eds. Genome Analysis. Volume IV. Strategies for Physical Mapping. Cold Spring Harbor Laboratory Press. Cold Spring Harbor, NY (1992).

75. Emerson, J.A., Vacher, J., Cirrillo, L., Tilghman, S.M. and Tyner, A.L. The Zonal Expression of α-Fetoprotein Transgenes in the Adult Liver of Mice. Developmental Dynamics. 195, 55-66 (1992).

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