

CURRICULUM VITAE

Susan M. Abmayr

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Research Investigator
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ACADEMIC TRAINING

- 1987 Ph.D. Laboratory of Biochemistry and Molecular Biology (Dr. Robert G. Roeder)
Rockefeller University, New York, NY
- 1978 B.S. Biological Sciences/Economics
Carnegie-Mellon University, Pittsburgh, PA

PROFESSIONAL AND ACADEMIC APPOINTMENTS

- 2015- Research Investigator, Stowers Institute for Medical Research, Kansas City, MO
- 2003-2014 Associate Investigator, Stowers Institute for Medical Research, Kansas City, MO
- 2004-present Associate Professor, Dept of Anatomy and Cell Biology
University of Kansas School of Medicine, Kansas City, KS
- 1998-2003 Associate Professor, Dept. of Biochemistry and Molecular Biology
The Pennsylvania State University, State College, PA
- 1992-1998 Assistant Professor, Dept. of Biochemistry and Molecular Biology
The Pennsylvania State University, State College, PA
- 1987-1991 Post-Doctoral Fellow (Dr. Tom Maniatis), Dept. of Biochemistry and Molecular Biology
Harvard University, Cambridge, MA
- 1981-1983 Graduate Program in Molecular Biology (degree not completed; transferred)
Washington University, St. Louis, MO
- 1978-1981 Research Assistant, Dept. of Biochemistry and Molecular Biology
Harvard University, Cambridge, MA

RESEARCH SUPPORT

- 2012-present National Institutes of Health GM99945, "Analysis of metazoan SAGA complex function in gene expression", Co-Principal Investigator
- 1996-2014 National Institutes of Health RO1 AR44274, "Identification of Genes Associated with Myoblast Fusion", Principal Investigator
(Under current no-cost extension)
- 2009-2011 National Institutes of Health 3 R37 GM047867-18S1, "Mechanisms of Transcriptional Regulation in Chromatin", Co-Principal Investigator
- 1996-2001 National Science Foundation IBN-9513334, Molecular Analysis of a *Drosophila* homolog of MyoD", Principal Investigator
- 1994-1996 Muscular Dystrophy Association "Genetic Analysis and Molecular Cloning of *fud1*", Principal Investigator
- 1993-1995 March of Dimes Birth Defects Foundation (Basil O'Connor Starter Scholar Award) FY93-0862, "Genetic and Molecular Characterization of Muscle Formation", Principal Investigator

- 1993-1996 American Cancer Society Junior Faculty Research Award JFRA-462, "Genetic and Molecular Analysis of Muscle Development"
- 1992-1996 National Science Foundation REU Award, "Genetic and Molecular Analysis of a *Drosophila* homolog of MyoD", Principal Investigator
- 1992-1996 National Science Foundation IBN-9204891, "Genetic and Molecular Analysis of a *Drosophila* homolog of MyoD", Principal Investigator
- 1992-1993 The Pennsylvania State University, Research Initiation Grant

HONORS, AWARDS AND FELLOWSHIPS

- 2006-2009 Elected to National *Drosophila* Board (Representative from the Heartland)
- 2006 Co-Organizer, Frontiers in Myogenesis, Callaway Gardens, Georgia
- 1998 Session Chair, Myogenesis/Organogenesis, 38th Annual *Drosophila* Research Conference, Washington, D.C.
- 1995 Invited Plenary Session Speaker, 36th Annual *Drosophila* Research Conference, Atlanta GA
- 1993-1996 Junior Faculty Award, The American Cancer Society
- 1993-1995 Basil O'Connor Starter Scholar Award, March of Dimes Foundation
- 1991 The Medical Foundation/Charles A. King Trust Post-Doctoral Fellowship
- 1990-1991 National Institutes of Health Post-Doctoral Fellowship
- 1987-1990 Damon Runyon-Walter Winchell Cancer Research Fund Post-Doctoral fellowship
- 1974-1978 Gulentz Memorial Scholarship, Carnegie-Mellon University

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Society for Cell Biology
 Genetics Society of America
 Society for Developmental Biology

SELECT ADMINISTRATIVE RESPONSIBILITIES

- 2005-present Advisory Board, Interdisciplinary Graduate Program in the Biological Sciences, University of Kansas School of Medicine.
- 2005-present Admissions Committee, Interdisciplinary Graduate Program in the Biological Sciences, University of Kansas School of Medicine
- 2004-2006 Institutional Animal Care and Use Committee, Stowers Institute for Medical Research
- 2004, 2006 Sandler (Graduate Thesis) Award Selection Committee, National *Drosophila* Research Conference
- 2000-2003 Co-Director Graduate Program in Cell and Developmental Biology, The Pennsylvania State University
- 2002-2003 Chair, Faculty Search in Developmental Biology, The Pennsylvania State University
- 2000-2002 Faculty Search Committee Member, Department of Biochemistry and Molecular Biology, The Pennsylvania State University.
- 2000-2001 Faculty Senate, The Pennsylvania State University
- 1999-2002 Promotion and Tenure Committee, Department of Biochemistry and Molecular Biology, The Pennsylvania State University.
- 1998 External Department Member, Search Committee for Departmental Chair, Dept. of Biology, The Pennsylvania State University.

PARTICIPATION IN SCIENTIFIC REVIEW

- 2013-present National Institutes of Health, Ruth L. Kirschstein National Research Service Award Cell and Developmental Biology Panel Member
- 2009-2013 National Institutes of Health Skeletal Muscle Biology & Exercise Physiology Review Study Section Member

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| 2009 | National Institutes of Health Biology of Development and Aging Integrated Review Group |
| 2008 | National Institutes of Health Development II Study Section (Ad Hoc) |
| 2005-2008 | National Institutes of Health, Ruth L. Kirschstein National Research Service Award Cell and Developmental Biology Panel Member |
| 2001-2009 | National Science Foundation Developmental Biology |
| 1997-1998 | National Institutes of Health Biological Sciences II Study Section (Ad-Hoc) |

MANUSCRIPT REVIEWER

Cell (2006)
Cellular and Molecular Life Sciences (1998)
Cell Proliferation (1995)
Chromosoma (2009)
Current Biology (2009)
Cytoskeleton (2012)
Development (2004-2014)
Developmental Biology (1994-2014)
Developmental Dynamics (2008)
Differentiation (2002, 2006)
European Journal of Cell Biology (2011)
Exp. Cell Research (2012)
Fly (2010)
Gene (2003, 2007-2008)
Genes and Development (2001, 2003-2010)
Genesis (2012)
Genetics (2009)
Genomics (1992, 1993)
Journal of Cell Biology (1996-1997, 2002, 2004-2006, 2010, 2014)
Journal of Cell Science (2010)
Mechanisms of Development (2007-2008)
Molecular and Cell Biology (1993-1994, 1996, 1999, 2002, 2006-2008, 2010, 2013)
Muscle and Nerve (2013)
Nature Comm. (2012)
Nucleic Acids Research (1996-1997, 2012, 2013)
Open Biology (2013)
PLOS Genetics (2013, 2014)
PLOS One (2013)
Proc. Natl. Acad. Sci. (1995, 2013)

PUBLICATIONS

1. Elgin, S.C.R., **Abmayr, S.M.**, Cartwright, I.L., Howard, G.C., Keene, M.A., Lowenhaupt, K., Wong, Y-C., Wu, C. 1979. Chromatin structure and gene expression in *Drosophila*. **Gene Structure and Expression** (D.H. Dean, L.F. Johnson, P.C. Kimball, and P.S. Perlman, Eds.) Ohio State University Press, Columbus. p 305-332.
2. Howard, G.C., **Abmayr, S.M.**, Shinefeld, L.A., Sato, V.L., Elgin, S.C.R. 1981. Monoclonal antibodies against specific nonhistone chromosomal proteins of *Drosophila* correlated with gene activity. **J. Cell Biol.** 88, 219-227.
3. Cartwright, I.L., Keene, M.A., Howard, G.C., **Abmayr, S.M.**, Fleischmann, G., Lowenhaupt, K., Elgin, S.C.R. 1982. Chromatin structure and gene activity: The role of nonhistone chromosomal proteins. **Critical Reviews in Biochemistry**, CRC Press. 13, 1-26.

4. Hill, R.J., Mott, M.R., Burnett, E.J., **Abmayr, S.M.**, Lowenhaupt, K., Elgin, S.C.R. 1982. Nucleosome repeat structure is present in native salivary chromosomes of *Drosophila melanogaster*. **J. Cell Biol.** 95, 262-269.
5. **Abmayr, S.M.**, Feldman, L.D., Roeder, R.G. 1985. In vitro stimulation of specific RNA polymerase II-mediated transcription by the pseudorabies virus immediate early protein. **Cell.** 43, 821-829.
6. **Abmayr, S.M.**, Workman, J.L., Roeder, R.G. 1988. The pseudorabies immediate early protein stimulates in vitro transcription by facilitating TFIID:promoter interactions. **Genes Dev.** 2, 542-553.
7. Workman, J.L., **Abmayr, S.M.**, Cromlish, W.A., Roeder, R.G. 1988. Transcriptional regulation by the immediate early protein of pseudorabies virus during in vitro nucleosome assembly. **Cell.** 55, 211-219.
8. **Abmayr, S.M.**, Reed, R., Maniatis, T. 1988. Identification of a functional mammalian spliceosome containing unspliced pre-mRNA. **Proc. Natl. Acad. Sci.** 85, 7216-7220.
9. Cromlish, W.A., **Abmayr, S.M.**, Workman, J.L., Horikoshi, M., Roeder, R.G. 1989. Transcriptionally active immediate early protein of pseudorabies virus binds to specific sites on class II gene promoters. **J. Virol.** 63, 1869-1876
10. **Abmayr, S.M.**, Workman, J.L. 1990. Preparation of nuclear extracts from cultured cells. **Current Protocols in Molecular Biology.** (F.M. Ausubel, R. Brent, R.E. Kingston, D.D. Moore, J.G. Siedman, J.A. Smith, and K. Struhl, Eds.) Greene Publishing Associates/Wiley Interscience, New York. (Supplement 11).
11. Michelson, A.M.*, **Abmayr, S.M.***, Bate, C.M., Martinez Arias, A., Maniatis, T. 1990. Expression of a MyoD family member prefigures muscle pattern in *Drosophila* embryos. **Genes Dev.** 4, 2086-2097. *The first two authors contributed equally to this work.
12. Corbin, V., Michelson, A.M., **Abmayr, S.M.**, Neel, V., Alcamo, E., Maniatis, T., Young, M.W. 1991. A role for the *Drosophila* neurogenic genes in mesoderm differentiation. **Cell.** 67, 311-323.
13. **Abmayr, S.M.**, Michelson, A.M., Corbin, V., Young, M.W., Maniatis, T. 1992. *nautilus*, a *Drosophila* member of the myogenic regulatory gene family. **Gene Expression and Neuromuscular Development.** Keystone Symposium Proceedings Series. (H. Blau and A. Kelly, Eds.) Raven Press, New York. p 1-16.
14. **Abmayr, S.M.**, Workman, J.L. 1992. Preparation of nuclear extracts from cultured cells. **Short Protocols in Molecular Biology.** (F.M. Ausubel, R. Brent, R.E. Kingston, D.D. Moore, J.G. Siedman, J.A. Smith, and K. Struhl, Eds.) Greene Publishing Associates/Wiley Interscience, New York. p 12.3-12.5.
15. Nguyen, H.T., Bodmer, R., **Abmayr, S.M.**, McDermott, J.C., Spoerel, N.A. 1994. *D-mef2*: A *Drosophila* mesoderm-specific MADS box-containing gene with a biphasic expression profile during embryogenesis. **Proc. Natl. Acad. Sci. USA.** 91, 7520-7524.
16. **Abmayr, S.M.**, Erickson, M.S., Bour, B.A. 1995. Embryonic development of the larval body wall musculature of *Drosophila*. **Trends Genet.** 11, 153-159.
17. Bour, B.A., O'Brien, M.A., Lockwood, W.L., Goldstein, E.S., Bodmer, R., Taghert, P.H., **Abmayr, S.M.**, Nguyen, H. T. 1995. *Drosophila* MEF2, a transcription factor that is essential for myogenesis. **Genes Dev.** 9, 730-741.
18. Rushton, E., Drysdale, R., **Abmayr, S.M.**, Michelson, A.M., Bate, M. 1995. Mutations in a novel gene, *myoblast city*, provide evidence in support of the founder cell hypothesis for *Drosophila* muscle development. **Development.** 121, 1979-1988.
19. Keller, C.A., Erickson, M.S., **Abmayr, S.M.** 1997. Misexpression of *nautilus* induces myogenesis in cardioblasts and alters the pattern of somatic muscle fibers. **Dev. Biol.** 181, 197-212.
20. Lin, M-H., Bour, B.A., **Abmayr, S.M.**, Storti, R.V. 1997. Ectopic expression of MEF2 in the epidermis induces epidermal expression of muscle genes and abnormal muscle development in *Drosophila*. **Dev. Biol.** 182, 240-255.

21. Erickson, M.R.S., Galletta, B.J., **Abmayr, S.M.** 1997. *Drosophila mbc* encodes a conserved protein that is essential for myoblast fusion, dorsal closure and cytoskeletal organization. **J. Cell Biol.** 138, 589-603.
22. **Abmayr, S.M.**, Keller, C.A. 1998. *Drosophila* myogenesis, and insights into the role of *nautilus*. **Curr. Topics Dev. Biol.** 38, 35-80.
23. Keller, C.A., Grill, M.A., **Abmayr, S.M.** 1998. A role for *nautilus* in the differentiation of muscle precursors. **Dev. Biol.** 202, 157-171.
24. Galletta, B.J., Niu, X-P., Erickson, M.R.S., **S.M. Abmayr, S.M.** 1999. Identification of a *Drosophila* homologue to Crk by interaction with MBC. **Gene.** 228, 243-252.
25. Bour, B.A., Chakravarti, M., West, J., **Abmayr, S.M.** 2000. *Drosophila* SNS, a member of the immunoglobulin superfamily that is essential for myoblast fusion. **Genes Dev.** 14, 1498-1511.
26. Balagopalan, L., Keller, C.A., **Abmayr, S.M.** 2001. Loss-of-function mutations reveal that the *Drosophila nautilus* gene is not essential for embryonic myogenesis or viability. **Dev. Biol.** 231, 374-382.
27. **Abmayr, S.M.**, Corroza, M., Workman, J. L. 2001. Preparation of nuclear extracts from cultured cells. **Current Protocols in Pharmacology.** (S.J. Enna, M. Williams, J.W. Ferkany, T. Kenakin, P. Moser and B. Ruggeri, Eds.) John Wiley and Sons, Hoboken.
28. **Abmayr, S.M.**, Balagopalan, L., Galletta, B.J., Hong, S-J. 2003. Cell and Molecular Biology of Myoblast Fusion. **International Review Cytology.** 225, 33-89.
29. Kusch, T., Guelman, S., **Abmayr, S.M.**, Workman, J.L. 2003. Two *Drosophila* Ada2 homologues function in different multiprotein complexes. **Mol. Cell. Biol.** 23, 3305-3319.
30. Presgraves, D.C., Balagopalan, L., **Abmayr, S.M.**, Orr, H.A. 2003. Adaptive evolution drives divergence of a hybrid inviability gene in *Drosophila*. **Nature.** 423, 715-719.
31. **Abmayr, S.M.**, Workman, J.L. 2003. Transcription factors prominently in Lasker award to Roeder. **Cell.** 115, 1-4. (Essay).
32. Workman, J.L., **Abmayr, S.M.** 2004. Histone H3 variants and modifications on transcribed genes. **Proc. Natl. Acad. Sci. USA.** 101, 1429-1430. (Commentary).
33. Kusch, T., Florens, L., Macdonald, W.H., Swanson, S.K., Glaser, R.L., Yates, J.R., **Abmayr, S.M.**, Washburn, M.P., Workman, J.L. 2004. Acetylation by Tip60 is required for selective histone variant exchange at DNA lesions. **Science.** 306, 2084-2087.
34. Galletta, B.J., Banerje, R., Chakravarti, M., **Abmayr, S.M.** 2004. Functional analysis of the SNS protein in embryos and cultured cells reveals that the SNS cytodomain is expendable for cell adhesion but is essential for myoblast migration and fusion. **Mech. Dev.** 121, 1455-1468.
35. **Abmayr, S.M.**, Balagopalan, L., Galletta, B.J., Hong, S-J. 2005. Myogenesis and Muscle Development. **Comprehensive Molecular Insect Science.** (L. Gilbert, K. Iatrou and S. Gill, Eds.) Elsevier Ltd., Oxford. p 1-43.
36. **Abmayr, S.M.**, Kocherlakota, K.S. 2005. Muscle Morphogenesis: The process of embryonic myoblast fusion. **Muscle Development in Drosophila.** (H. Sink, Ed.) Landes Bioscience Publishing, New York. p 1-12.
37. Balagopalan, L., Chen, M.H., Geisbrecht, E.R., **Abmayr, S.M.** 2006. The CDM superfamily protein MBC directs myoblast fusion through a mechanism that requires phosphatidylinositol 3,4,5-triphosphate binding but is independent of direct interaction with DCrk. **Mol. Cell. Biol.** 26, 9442-9455.
38. Guelman, S., Suganuma, T., Florens, L., Weake, V.M., Swanson, S.K., Washburn, M.P., **Abmayr, S.M.**, Workman, J.L. 2006. The essential gene *wda* encodes a WD40 repeat subunit of *Drosophila* SAGA required for histone H3 acetylation. **Mol. Cell. Biol.** 26, 7178-7189.
39. Guelman, S., Suganuma, T., Florens, L., Swanson, S.K., Kiesecker, C.L., Kusch, T., Anderson, S., Yates, J.R., Washburn, M.P., **Abmayr, S.M.**, Workman, J.L. 2006. Host cell factor and an uncharacterized SANT domain protein are stable components of ATAC, a novel dAda2A/dGcn5-containing histone acetyltransferase complex in *Drosophila*. **Mol. Cell. Biol.** 26, 871-882.

40. Geisbrecht, E.R., Haralalka, S., Swanson, S.K., Florens, L., Washburn, M.P. **Abmayr, S.M.** 2008. *Drosophila* ELMO/CED-12 interacts with Myoblast city to direct myoblast fusion and ommatidial organization. **Dev. Biol.** 314, 137-149.
41. Weake, V.M., Lee, K.K., Guelman, S., Lin, C.H., Seidel, C., **Abmayr, S.M.**, Workman, J.L. 2008. SAGA-mediated H2B deubiquitination controls the development of neuronal connectivity in the *Drosophila* visual system. **EMBO J.** 27, 394-405.
42. Kocherlakota, K.S., Wu, J.M., McDermott, J., **Abmayr, S.M.** 2008. Analysis of the Cell Adhesion Molecular Sticks-and-Stones Reveals Multiple Redundant Functional Domains, Protein-Interaction Motifs and Phosphorylated Tyrosines that direct Myoblast Fusion in *Drosophila melanogaster*. **Genetics.** 178, 1371-83.
43. **Abmayr, S.M.**, Zhuang, S., Geisbrecht, E.R. 2008. Myoblast Fusion in *Drosophila*. **Cell Fusion, Overviews and Methods.** (E. Chen, Ed.) Humana Press.
44. Saganuma T., Gutierrez, J.L., Li, B., Florens, L., Swanson, S.K., Washburn, M. P., **Abmayr, S.M.**, Workman, J.L. 2008. ATAC is a double histone acetyltransferase complex that stimulates nucleosome sliding. **Nat Struct Mol Biol.** 15, 364-72.
45. Lin C.H., Li B., Swanson S.K., Zhang Y., Florens L., Washburn M.P., **Abmayr S.M.**, Workman J.L. 2008. Heterochromatin protein 1a stimulates histone H3 lysine 36 demethylation by the *Drosophila* KDM4A demethylase. **Mol. Cell.** 32:696-706.
46. Shelton C., Kocherlakota K.S., Zhuang S., **Abmayr S.M.** 2009. The immunoglobulin superfamily member Hbs functions redundantly with Sns in interactions between founder and fusion-competent myoblasts. **Development.** 136:1159-68.
47. Zhuang, S., Shao, H., Guo, F., Trimble, R., Pearce, E.K., **Abmayr, S.M.** 2009. SNS and Duf/Kirre, the *Drosophila* orthologs of Nephrin and Neph, direct adhesion, fusion and formation of a slit diaphragm-like structure in insect nephrocytes. **Development.** 136:2335-44.
48. Haralalka, S., **Abmayr, S.M.** 2010. Myoblast Fusion in *Drosophila*. **Exp. Cell Res.** 316:3007-13.
49. Weake, V. M. , Swanson, S.K., Mushegian, A., Florens, L., Washburn, M.P., **Abmayr, S.M.**, Workman, J.L. 2010. A novel histone fold domain-containing protein that replaces TAF6 in *Drosophila* SAGA is required for SAGA-dependent gene expression. **Genes Dev.** 23:2818-23.
50. Saganuma, T., Mushegian, A., Swanson, S.K., **Abmayr, S.M.**, Florens, L., Washburn, M.P., Workman, J.L. 2010. The ATAC acetyltransferase complex coordinates MAP kinases to regulate JNK target genes. **Cell.** 142:726-36.
51. Kwon, S.H., Florens, L., Swanson, S.K., Washburn, M.P., **Abmayr, S.M.**, Workman, J.L. 2010 Heterochromatin protein 1 (HP1) connects the FACT histone chaperone complex to the phosphorylated CTD of RNA polymerase II. **Genes Dev.** 24:2133-45.
52. Haralalka, S., Shelton, C., Janzen, E., Abmayr, S.M. 2011 Asymmetric Mbc, active Rac1, and F-actin foci in the fusion-competent myoblasts direct myoblast fusion in *Drosophila*. **Development.** 138, 1551-1562.
53. Weake, V. M., Dyer, J.O., Seidel, C., Box, A., Swanson, S. K., Peak, A., Florens, L., Washburn, M.P., Abmayr, S.M., Workman, J.L. Post-transcription initiation function of the ubiquitous SAGA complex in tissue-specific gene activation. 2011. **Genes Dev.** 25: 1499-1509.
53. Kaipa B. R., Shao, H., Schäfer, G., Trinkewitz, T., Groth, V., Liu, J., Beck, L., Bogdan, S., Abmayr S. M., Önel, S.F. 2013. Dock mediates Scar- and WASp-dependent actin polymerization through interaction with cell adhesion molecules in founder cells and fusion-competent myoblasts. **J. Cell Sci.** 126: 360-72.
54. Lin, C-H., Paulson, A., Abmayr, S. M., Workman, J.L. 2012. HP1a Targets the *Drosophila* KDM4A Demethylase to a Subset of Heterochromatic Genes to Regulate H3K36me3 Levels. **PLoS One** 7: e39758.
55. Haralalka, S., Cartwright, H. N., Abmayr, S.M. 2012. Recent advances in imaging embryonic myoblast fusion in *Drosophila*. **Methods** 56: 55-62.
56. Abmayr, S. M., Pavlath, G. S. 2012. Myoblast Fusion: Lessons from flies and mice. **Development** 139, 641-656.

57. Mohan, R. D., Dialynis, G., Weake, V. M., Liu, J., Martin-Brown, S., Florens, L., Washburn, M. P., Workman, J. L., Abmayr, S. M. Abmayr. 2014. Loss of *Drosophila* Ataxin-7, a SAGA subunit, reduces H2B ubiquitination and leads to neural and retinal degeneration **Genes Dev.** 28: 259-272.
58. Mohan, R. D., Abmayr, S. M., Workman, J.L. 2014. The expanding role for chromatin and transcription in polyglutamine disease. **Curr. Opin. Gene. Dev.** 26: 96–104.
59. Mohan, R. D., Abmayr, S. M., Workman, J. L. 2014. Pulling complexes out of complex diseases: Spinocerebellar Ataxia 7. **Rare Dis.** 2: e28859.
60. Haralalka, S., Shelton, C., Cartwright, H. N., Guo, F., Trimble, R., Kumar, R. P., Abmayr, S. M. 2014. Live imaging provides new insights on dynamic F-actin filopodia and differential endocytosis during myoblast fusion in *Drosophila*. **PLoS One** 9: e114126
61. Kumar, R. P., Dobi, K., Baylies, M. B., Abmayr, S.M. 2015. The *Drosophila* T-box transcription factor Midline determines specific muscle identities. **Genetics.** 3:777-91.

INVITED SEMINARS AND SPEAKING ENGAGEMENTS

- 1984 Cold Spring Harbor DNA Tumour Virus Meeting on "SV40, Polyoma and Adenovirus", Cold Spring Harbor Laboratory. "The Effect of Pseudorabies Virus Infection on in vitro Transcription".
- 1986 Department of Biochemistry and Biophysics, The University of California at San Francisco. "Transcriptional Stimulation by the Pseudorabies Virus Immediate Early Protein: An in vitro Study".
- 1987 Imperial Cancer Research Fund DNA Tumour Virus Meeting on "SV40, Polyoma and Adenovirus", Cambridge, England. "The PRV IE Protein Stimulates Transcription by Increasing the Efficiency of Formation of a Complex between the Promoter and Transcription Factor TFIID".
- 1990 30th Annual *Drosophila* Research Conference, Asilomar Conference Center, Pacific Grove, CA. "A *Drosophila* Homolog of the Vertebrate Myogenic Regulatory Gene Family".
- 1990 Center for Advanced Biotechnology and Medicine, Rutgers University. "Expression of the *Drosophila* Homolog of MyoD prefigures muscle formation during embryogenesis".
- 1990 Department of Biochemistry, St. Jude's Children's Research Hospital, Memphis. "A *Drosophila* MyoD family member is expressed in muscle-specific mesodermal precursor cells during embryogenesis".
- 1990 Department of Cell and Structural Biology, University of Illinois at Urbana-Champaign. "A *Drosophila* MyoD family member is expressed in muscle-specific mesodermal precursor cells during embryogenesis".
- 1990 Departments of Molecular Genetics and Developmental Biology and Cancer, Albert Einstein College of Medicine. "A *Drosophila* MyoD family member is expressed in muscle-specific mesodermal precursor cells during embryogenesis".
- 1990 Department of Biology, New York University. "A *Drosophila* MyoD family member is expressed in muscle-specific mesodermal precursor cells during embryogenesis".
- 1990 Department of Molecular Genetics, M.D. Anderson Cancer Center, The University of Texas. "Analysis of Embryonic Muscle Development in *Drosophila*: Expression of a MyoD homolog identifies muscle precursors".
- 1990 Department of Anatomy and The Muscle Institute, The University of Pennsylvania School of Medicine. "Analysis of Embryonic Muscle Development in *Drosophila*: Expression of a MyoD homolog identifies muscle precursors".
- 1991 Department of Molecular and Cell Biology, The Pennsylvania State University. "Analysis of Embryonic Muscle Development in *Drosophila*: Expression of a MyoD homolog identifies muscle precursors".
- 1991 Dept. of Zoology and Genetics, Iowa State University. "Analysis of Embryonic Muscle Development in *Drosophila*: Expression of a MyoD homolog identifies muscle precursors".
- 1991 Dept. of Molecular Genetics, Ohio State University. "Analysis of Embryonic Muscle Development in *Drosophila*: Expression of a MyoD homolog identifies muscle precursors".

- 1991 Wesleyan University, Department of Biology. "Molecular Analysis of Gene Expression and Muscle Development in *Drosophila*".
- 1991 American Society of Cell Biology Annual Meeting, Boston, MA. "Molecular Analysis of Gene Expression and Muscle Development in *Drosophila*".
- 1992 Genetics Symposium, The Pennsylvania State University, Hershey, PA. "A Genetic and Molecular Analysis of Muscle Development in *Drosophila*".
- 1992 Dept.of Biological Chemistry, The Pennsylvania State University, Hershey PA. "A Genetic and Molecular Analysis of Muscle Development in *Drosophila*".
- 1993 Summer Seminar Series, The Pennsylvania State University. University Park, PA. "Embryonic Muscle Development: Common Themes from Fruitflies to Humans".
- 1994 Department of Cellular and Molecular Physiology, The Pennsylvania State University. Hershey, PA. "Genetic and Molecular Analysis of Muscle Development in *Drosophila*".
- 1995 36th Annual *Drosophila* Research Conference, Atlanta GA. "Genes controlling embryonic development of the larval body wall muscles". (Plenary Session Speaker).
- 1995 Gordon Conference on Myogenesis, Tilton NH. "Genes controlling embryonic development of the larval body wall muscles".
- 1995 Carnegie Institute of Washington. Baltimore, MD. "Muscle development in *Drosophila*: Genes and genetics".
- 1995 Department of Biology, Lehigh University. Bethlehem, PA. "Muscle development in *Drosophila*: Genes and genetics".
- 1996 Department of Biology, The University of Virginia, Charlottesville, VA. "Genetic and molecular analysis of muscle development in *Drosophila*".
- 1997 Blaffer Seminar Series in Developmental Biology, The University of Texas M.D. Anderson Cancer Center, Houston, TX. "Genetic and molecular analysis of muscle development in *Drosophila*".
- 1998 Annual Meeting of the Society for Integrative and Comparative Biology, Boston, MA. "Muscle development and differentiation in the *Drosophila* embryo".
- 1998 Department of Biology, Wesleyan University, Middletown, CT. "Muscle development and differentiation in the *Drosophila* embryo".
- 1998 Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA. "Muscle development and differentiation in the *Drosophila* embryo".
- 1999 Department of Biological Sciences, Syracuse University, Syracuse, NY. "Myogenesis in *Drosophila* : The roles of the evolutionarily-conserved Nau and MBC proteins".
- 1999 Department of Medicine-Cardiology, Albert Einstein College of Medicine, New York, NY. "Muscle development and differentiation in the *Drosophila* embryo".
- 1999 Minisymposium on "Muscle Differentiation and Chromatin Transitions". Marburg, Germany.
- 2000 Mechanisms of Cell Death; Workshop on Phagocytosis. El Escorial Monastery, Spain
"Drosophila MBC reveals common pathways controlling myoblast fusion, phagocytosis and transformation.
- 2001 Molecular Neurobiology Seminar Series, Skirball Institute of Biomolecular Medicine, New York University School of Medicine, "Cell surface and intracellular events that mediate myoblast fusion in *Drosophila*".
- 2001 Gordon Research Conference on Cell Adhesion, Andover NH, "Cell surface and intracellular events that mediate myoblast fusion in *Drosophila*".
- 2001 FASEB Summer Conference on Muscle Satellite and Stem Cells. Tucson, Arizona. "Cell surface and intracellular events that mediate myoblast fusion in *Drosophila*".
- 2001 Cell and Developmental Biology Training Grant Speaker, University of Utah, "Cell surface and intracellular events that mediate myoblast fusion in *Drosophila*".
- 2002 Department of Molecular Genetics, M.D. Anderson Cancer Research Center. Houston, TX. "Cell surface and intracellular events that mediate myoblast fusion in *Drosophila*".
- 2002 Department of Molecular Genetics and Cell Biology, The University of Chicago, Chicago, IL. "Cell surface and intracellular events that mediate myoblast fusion in *Drosophila*".

- 2002 Stowers Institute for Medical Research, Kansas City, MO. "Cell surface and intracellular events that mediate myoblast fusion in *Drosophila*".
- 2003 Molecular Biology of Muscle Development and Regeneration, The Banff Centre, Alberta, Canada. "Myoblast Fusion: The role of SNS in myoblast migration, recognition and adhesion in the *Drosophila* embryo".
- 2004 Department of Molecular Biosciences, The University of Kansas, Lawrence, KS. "Cell surface proteins that control myoblast fusion in *Drosophila*".
- 2004 Department of Cell Biology and Biophysics, The University of Missouri at Kansas City, Kansas City, MO. "Mergers and Acquisitions: Proteins Associated with Myoblast Fusion in *Drosophila*".
- 2004 Department of Anatomy and Cell Biology, The University of Kansas Medical Center, Kansas City, KS. "Mergers and Acquisitions: Proteins Associated with Myoblast Fusion in *Drosophila*".
- 2004 44th Annual Midwest Regional Meeting of the Society for Developmental Biology, Kansas City, MO. "Cell surface and intracellular events that mediate myoblast fusion in *Drosophila*".
- 2004 International IRM Meeting, Freiburg, Germany. "Cell surface proteins that control myoblast fusion in *Drosophila*".
- 2005 Department of Biochemistry, Kansas State University, Manhattan, KS. "Cell surface proteins that control myoblast fusion in *Drosophila*".
- 2006 Frontiers in Myogenesis, Callaway Gardens, Georgia. Meeting Organizer
- 2007 Gordon Research Conference on Myogenesis, Il Ciocco, Italy. Discussion leader.
- 2007 Gordon Research Conference on Cell-Cell Fusion, Colby-Sawyer College, New London, New Hampshire. Discussion leader.
- 2008 IITC Symposium, Marburg University, Marburg, Germany. "Cell adhesion and signal transduction in Myoblast fusion".
- 2009 MYORES Congress, St. Julian's, Malta. "Myoblast fusion in the *Drosophila* embryo: Cell Surface Receptors and Cytoplasmic Signals".
- 2010 South African Society for Biochemistry and Molecular Biology, Bloemfontein, South Africa. "Membrane Receptors and Signal Transduction in *Drosophila* Myoblast Fusion".
- 2010 Interdisciplinary Graduate Program in the Biological Sciences (IGPBS) Faculty Research Series.
- 2011 Gordon Research Conference on Cell-Fusion. "Myoblast fusion in the *Drosophila* embryo". Colby-Sawyer College, New London, New Hampshire

PAST AND PRESENT LAB PERSONNEL

| | | |
|------------------------|----------------------|---------------|
| Post-Doctoral Fellows: | Xiping Niu | 12/96-4/97 |
| | MaryRuth S. Erickson | 9/97-4/98 |
| | Barbara A. Bour | 9/98-7/99 |
| | Rakhee Banerjee | 9/99-7/02 |
| | Abhik Datta | 9/02-12/03 |
| | Shruti Haralalka | 3/04-3/2015 |
| | Jian-min Wu | 8/1/04-8/1/05 |
| | Erika Geisbrecht | 10/04-12/07 |
| | Shufei Zhuang | 06/06-5/12 |
| | Huanjie Shao | 12/06-03/09 |
| | Tanmay Bhuiin | 08/09-09/10 |
| | Ram Kumar | 08/09-8/2014 |
| | Sanjay Nag | 11/11-10/13 |
| Graduate Students: | MaryRuth S. Erickson | 1/92-9/97 |
| | Barbara A. Bour | 1/93-9/98 |
| | Cheryl A. Keller | 1/95-10/99 |
| | Malabika Chakravarti | 1/97-deceased |
| | Lakshmi Balagopalan | 9/97-5/03 |
| | Brian J. Galletta | 1/98-10/04 |

| | |
|----------------------|--------------|
| Sue-Jean Hong | 1/00-5/03 |
| Jungwook Huang | 1/02-5/03 |
| Kiran Kocherlakota | 12/01-10/07 |
| Claude Shelton | 8/04-10/07 |
| Xuanying Liu | 8/12-present |
| Bhaswati Battacharya | 8/13-12/2014 |

| | | |
|----------------------|-------------------|---------------|
| Research Assistants: | Michelle Kulp | 9/92-7/93 |
| | Deidre Heyser | 10/93-1/97 |
| | Mischala Grill | 7/94-7/95 |
| | Brian J. Galletta | 6/96-8/98 |
| | Joshua West | 5/97-7/99 |
| | Missy Hazen | 7/99-6/00 |
| | Shelley Reynolds | 6/01-5/03 |
| | Claude Shelton | 7/02-8/04 |
| | Mei-Hui Chen | 7/03-06/06 |
| | Kelly Greene | 8/03-9/04 |
| | David Ash | 12/04 -05/06 |
| | Terry Wan | 7/05-3/06 |
| | Christy Pucci | 11/06-07/07 |
| | Elsbeth Pearce | 07/08-06/10 |
| | Erin Katzfey | 01/09-01/11 |
| | Jianqi Liu | 06/09-7/2014 |
| | Lauren Shelton | 08/09-10/13 |
| | Taryn Gort | 8/10-12/11 |
| | Pingping Fang | 11/11-8/13 |
| | Leanne Wells | 11/13-present |
| | Ceci Li | 1/14-present |

| | | |
|-------------|----------------|-------------|
| Lab Manager | Jeff McDermott | 8/05-07/06 |
| | Steven Gum | 9/06-09/07 |
| | Claude Shelton | 10/07-06/10 |
| | Ben Echaliier | 06/10-10/10 |

TEACHING RESPONSIBILITIES

TEACHING RESPOSIBILITIES

UNIVERSITY OF KANSAS SCHOOL OF MEDICINE
(Interdisciplinary Graduate Program in the Biomedical Sciences)

| | |
|-----------------|---|
| 2005, 2012-2014 | Select lectures. Anatomy 868 (Advanced Developmental Biology) |
| 2010-2014 | Lectures on Signal Transduction; Graduate Program Core Course |
| 2012 | Anatomy 868, Advanced Developmental Biology Course |
| 2010-2012 | IGPBS Core Course |
| 2005 | Anatomy 880 |

THE PENNSYLVANIA STATE UNIVERSITY

Course Descriptions:

Molecular and Cell Biology (51 students, 40 lectures)

Developmental Biology (34 students, 20 lectures)

Freshman Seminar (43 students, 13 lectures)

Signal Transduction and Cytoskeleton component of Graduate Core Course (10 lectures)

Molecular Biology of the Gene (147 students, 40 lectures/yr)

Classes organized by academic year:

1992-1993

Honors Subsection Molecular and Cell Biology (11 students; 13 lectures)

Molecular and Cell Biology (38 students, 40 lectures)

1993-1994

Honors Subsection Molecular and Cell Biology (18 students, 13 lectures)

Molecular and Cell Biology (51 students, 40 lectures)

Developmental Biology (34 students, 20 lectures)

1994-1995

Honors Subsection Molecular and Cell Biology (12 students, 13 lectures)

Molecular and Cell Biology (67 students, 40 lectures)

Developmental Biology (66 students, 20 lectures)

1995-1996

Honors Subsection Molecular and Cell Biology (17 students, 13 lectures)

Molecular and Cell Biology (94 students, 40 lectures)

1996-1997

Molecular and Cell Biology (150 students, 40 lectures)

1997-1998

Honors Subsection Molecular and Cell Biology (20 students, 13 lectures)

Molecular and Cell Biology (128 students, 40 lectures)

1998-1999

Freshman Seminar (43 students, 13 lectures)

Molecular and Cell Biology (108 students, 40 lectures)

1999-2000

Freshman Seminar (18 students, 13 lectures)

Molecular Biology of the Gene (147 students, 40 lectures/yr)

2000-2001*

Freshman Seminar (13 lectures)

Honors Molecular and Cell Biology (40 lectures)

Signal Transduction and Cytoskeleton component of Graduate Core Course (10 lectures)

2001-2002*

Freshman Seminar (13 lectures)

Honors Molecular and Cell Biology (40 lectures)
Signal Transduction and Cytoskeleton component of Graduate Core Course (10 lectures)

2002-2003*

Freshman Seminar (18 students, 13 lectures)
Honors Molecular and Cell Biology (40 lectures)
Signal Transduction and Cytoskeleton component of Graduate Core Course (10 lectures)

*Class sizes not all available for these years

ADVISING RESPONSIBILITIES

Undergraduate Advisees

1993-94 Academic Yr. 16
1994-95 Academic Yr. 22
1995-96 Academic Yr. 28
1996-97 Academic Yr. 20
1997-98 Academic Yr. 20
1998-99 Academic Yr. 6 Schreyer's Scholars; 9 non-scholars

Undergraduate Independent Study Students (*Indicates honors student)

| | |
|---|-----------------------|
| Shawn Fultz, 1992-1993 | Penn State University |
| Tamar Rosen (Hughes Program), 1992-1993 | Penn State University |
| Brian Galletta (Hughes Program), 1992-1996 | Penn State University |
| Raphael LaFrance, 1994 | Penn State University |
| Mischala Grill, 1994 | Penn State University |
| Keith Luhrs, 1994-1995 | Penn State University |
| *Amy Davis, 1995 | Penn State University |
| Cheri Milliron, 1996-1997 | Penn State University |
| Cynthia Atwell, 1996-1999 | Penn State University |
| Wendy Williams, 1996-1997 | Penn State University |
| *Venkat Ramachandran (Hughes Program), 1997 | Penn State University |
| *Brian Nelms, 1999 | Penn State University |
| *Kritina Ile, 1999-2000 | Penn State University |
| Dominic Zanaboni., 2010 | Rockhurst University |
| Evan Janzen, 2010 | Kansas University |
| Jing Yang, 2010 | Peking University |

Thesis Committees (incomplete; *service as Committee Chair)

| | | |
|-------------------|------------|---|
| Shihshieh Huang | Ph.D. 1995 | Molecular and Cell Biology, Penn State |
| *Mary R. Erickson | Ph.D. 1997 | Molecular and Cell Biology, Penn State |
| Jun Shi | M.S. 1997 | Plant Physiology, Penn State |
| *Barbara Bour | Ph.D. 1998 | Bioch., Micro. and Molec. Biology, Penn State |
| Amy Jackson | Ph.D. 1998 | Bioch., Micro. and Molec., Penn State |
| Laura Elnitski | Ph.D. 1998 | Bioch., Micro. and Molec. Biology, Penn State |
| Bhavana Joneja | Ph.D. 1998 | Bioch., Micro. and Molec. Biology, Penn State |
| Yu-Wei Leu | Ph.D. | Genetics, Penn State |
| *Cheryl Keller | Ph.D. 1999 | Bioch., Micro. and Molec. Biology, Penn State |
| Maria Steitz | Ph.D. | Bioch., Micro. and Molec. Biology, Penn State |
| Christie Blackman | Ph.D. | Bioch., Micro. and Molec. Biology, Penn State |
| Daniella Zarnescu | Ph.D. 1999 | Bioch., Micro. and Molec. Biology, Penn State |

| | | |
|-----------------------|-----------------|---|
| Joseph Stains | Ph.D | Bioch., Micro. and Molec. Biology, Penn State |
| Michael Fetchko | Ph.D | Bioch., Micro. and Molec. Biology, Penn State |
| *Malabika Chakravarti | Ph.D (deceased) | Bioch., Micro. and Molec. Biology, Penn State |
| Divvyaa Dhulkotia | M.S. 1999. | Bioch., Micro. and Molec. Biology, Penn State |
| * Lakshmi Balagopalan | Ph.D. 2003 | Genetics, Penn State |
| * Brian Galletta | Ph.D. 2005 | Bioch., Micro. and Molec. Biology, Penn State |
| Priya Nagarajan | M.S. 1999 | Bioch., Micro. and Molec. Biology, Penn State |
| Michelle Kulp | Ph.D 1998 | Biology, Lehigh University |
| Minako Pazdera | Ph.D. 1998 | Biological Sciences, Carnegie-Mellon University |
| Kiriaki Kanakousaki | Ph.D./2011 | Life and Biomolecular Sciences, Open University |
| Kai Chen | Ph.D. 2012 | Life and Biomolecular Sciences, Open University |
| Chia-Hui Lin | Ph.D, 2011 | Life and Biomolecular Sciences, Open University |
| Liang Liang | Ph.D, 2014 | Life and Biomolecular Sciences, Open University |