

Jeffrey S. Thompson

Dean of the Faculty
Professor of Biology
Tight Family Chair in the Natural Sciences
Denison University
Granville, Ohio 43023
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EDUCATION:

The University of California, Los Angeles, California
Ph.D. in Molecular Biology, 1994

Kalamazoo College, Kalamazoo, Michigan
B.A. in Biology, *cum laude*, 1988

PROFESSIONAL POSITIONS:

Denison University, Granville, Ohio
Dean of the Faculty, 2022-present
Professor of Biology, 2020-present
Tight Family Chair in the Natural Sciences, 2019-2024
Chair of the Biology Department, 2013-2016
Associate Professor of Biology, 2009-2020
Assistant Professor of Biology, 2003-2009

Georgian Court College, Lakewood, New Jersey
Assistant Professor of Biology, 1998-2003

Anne Arundel Community College, Arnold, Maryland
Adjunct Biology Faculty, 1997-1998

Kaplan, Inc., Baltimore, Maryland
Instructor, 1996-1997

The Johns Hopkins University School of Medicine, Baltimore, Maryland
Post-Doctoral Research Fellow, 1994-1998

The University of California, Los Angeles, California
Graduate Student Researcher, 1991-1994
Staff Research Associate, 1989-1991

The University of Chicago, Chicago, Illinois
Graduate Student Researcher, 1988-1989

The Upjohn Company, Kalamazoo, Michigan
Laboratory Technician, 1988

National Institutes of Health, Bethesda, Maryland
Laboratory Technician, 1987

Kalamazoo College, Kalamazoo, Michigan
Teaching Assistant, 1987-1988

University of Michigan Children's Hospital, Ann Arbor, Michigan
Laboratory Assistant, 1986

TEACHING EXPERIENCE:

all courses are undergraduate, and lead instructor for all courses, unless otherwise specified

*includes laboratory section

Denison University (2003-present)

Introduction to the Science of Biology (BIOL150)*

Cell and Molecular Biology (BIOL201)*

Molecular Biology and Unicellular Life (BIOL210)*

Genetics (BIOL325)*

Genomics (BIOL350)*

Immunology (BIOL341)*

Computational Biology (BIOL309)*

First-Year Writing Seminar: Science Fiction Cinema and Society (W101)

Georgian Court College (1998-2003)

Introductory Biology*

Introduction to Genetics*

Immunology*

Molecular Genetics*

Advanced Immunology (Master's program)

Advanced Molecular Genetics (Master's program)*

Anne Arundel Community College (1997-1998)

Introductory Biology*

Kaplan, Inc. (1996-1997)

MCAT exam prep course

DAT exam prep course

PCAT exam prep course

Kalamazoo College (lab teaching assistant; 1987-1988)
Cell Biology
Zoology

PEDAGOGICAL PUBLICATIONS:

- Lopato D.,...**Thompson JS**,...and L Reed [98 total co-authors]. 2022. Student attitudes contribute to the effectiveness of a genomics CURE. *Journal of Microbiology & Biology Education*. <https://doi.org/10.1128/jmbe.00208-21>.
- Lopato D.,...**Thompson JS**,...and SCR Elgin [103 total co-authors]. 2020. Facilitating growth through frustration: using genomics research in a course-based undergraduate research experience. *Journal of Microbiology & Biology Education* 21:21.1.6. <https://doi.org/10.1128/jmbe.v21i1.2005>
- Elgin SCR,...**Thompson JS**,...and L Zhou [total 124 co-authors]. 2017. The GEP: Crowd-Sourcing Big Data Analysis with Undergraduates. *Trends in Genetics* 33:81-85. <https://doi.org/10.1016/j.tig.2016.11.004>
- Lopatto D,...**Thompson JS**,...and SCR Elgin [73 total co-authors]. 2014. A central support system can facilitate implementation and sustainability of a classroom-based undergraduate research experience (CURE) in genomics. *CBE-Life Sciences Education* 13:711-23. <https://doi.org/10.1187/cbe.13-10-0200>
- Shaffer CD,...**Thompson JS**,...and SCR Elgin [84 total co-authors]. 2014. A Course-Based Research Experience: How Benefits Change with Increased Investment in Instructional Time. *CBE-Life Sciences Education* 13:111-130. <https://doi.org/10.1187/cbe-13-08-0152>
- Shaffer CD,...**Thompson JS**,...and SCR Elgin [53 total co-authors]. 2010. The Genomics Education Partnership: Successful Integration of Research into Laboratory Classes at a Diverse Group of Undergraduate Institutions. *CBE-Life Sciences Education* 9:55-69. <https://doi.org/10.1187/09-11-0087>
- Lopatto D,...**Thompson JS**,...and SCR Elgin [38 total co-authors]. 2008. Genomics Education Partnership. *Science* 322:684-685. <https://doi.org/10.1126/science.1165351>

RESEARCH EXPERIENCE:

Denison University (2003-present)

Principal Investigator: Epigenetic dimensions of DNA damage response
in *Saccharomyces cerevisiae*

Funding:

Denison University Research Foundation Grant, 2020; \$6,347
Denison University Research Foundation Grant, 2017; \$9,362
National Institutes of Health R15 AREA Grant (1R15GM093849-01),
2010-2013; \$317,852
Denison University Research Foundation Grant, 2010; \$5,506
Denison University Research Foundation Grant, 2009; \$1,474
Denison University Research Foundation Grant, 2006; \$6,329

Co-Investigator: Genomic comparative analysis of *Drosophila* species (in
collaboration with the [Genomics Education Partnership](https://thegep.org/); <https://thegep.org/>)

Co-Investigator: Development of a genomic riboswitch detection
algorithm (in collaboration with Dr. Jessen Havill)

Funding: Great Lakes Colleges Association New Directions
Grant, 2010; \$3,765

Georgian Court College (1998-2003)

Principal Investigator: Characterization of heterochromatin-mediated
transcriptional silencing and genomic boundary elements

Funding: Faculty Summer Research Grant, 2001; \$5,000

The Johns Hopkins University School of Medicine (1994-1998)

Post-Doctoral Researcher: Regulation of genomic imprinting in humans
Advisor: Dr. Andrew Feinberg
Funding: NRSA Postdoctoral Fellowship (5T32CA009071-18), 1997-1998

The University of California, Los Angeles (1989-1994)

Doctoral Researcher: The role of the histones in heterochromatin-mediated
transcriptional silencing in *Saccharomyces cerevisiae*
Advisor: Dr. Michael Grunstein
Funding: NRSA Training Grant Award (5T32GM007185-20), 1992-1994

The University of Chicago (1988-1989)

Graduate Student rotation: Regulation of bacteriophage N4
Advisor: Dr. Lucia Rothman-Denes

Graduate Student rotation: PCR assay of immunoglobulin gene recombination
Advisor: Dr. Ursula Storb

The Upjohn Company (1988)

Lab Technician: Bovine somatotropin receptor binding *in vivo*
Advisor: Dr. Russ Lehrman

National Institutes of Health/Kalamazoo College (1987)

Senior Thesis: The DNA sequence of a novel β -galactosidase gene from
Lactobacillus casei ATCC 393
Advisor: Dr. Bruce Chassy and Dr. Charles Deutch

University of Michigan Children's Hospital (1986)

Undergraduate Researcher: Septic shock treatment in an animal model
Advisor: Robert Drongowski

RESEARCH PUBLICATIONS:

*undergraduate student co-author; †graduate student co-author; ‡equal contributing authors

Reardon RM*, Walsh AK*, Larsen CI*, Schmidberger LH*, Morrow LA*,
Thompson AE*, Wellik IM*, and **JS Thompson**. 2022. An epigenetically
inherited UV hyper-resistance phenotype in *Saccharomyces cerevisiae*.
Epigenetics & Chromatin 15:31. <https://doi.org/10.1186/s13072-022-00464-5>

Boudoures AL*, Pfeil JJ*, Steenkiste EM*, Hoffman RA*, Bailey EA*, Wilkes SE*,
Higdon SK*, and **JS Thompson**. 2017. A novel histone crosstalk pathway
important for regulation of UV-induced DNA damage repair in
Saccharomyces cerevisiae. Genetics 206:1389-1402.
<https://doi.org/10.1534/genetics.116.195735>

Leung, W,...**Thompson JS**, Banker R*, Bartling JR*, Bhatiya CI*, Boudoures AL*,
Christiansen L*, Fosselman DS*, French KM*, Gill IS*, Havill JT, Johnson
JL*, Keny LJ*, Kerber JM*, Klett BM*, Kufel CN*, May FJ*, Mecoli JP*,
Merry CR*, Meyer LR*, Miller EG*, Mullen GJ*, Palozola KC*, Pfeil JJ*,
Thomas JG*, Verbofsky EM*,...and SCR Elgin [940 student co-authors,
including 23 from Denison, and 74 faculty co-authors]. 2015. The
Drosophila Muller F elements maintain a distinct set of genomic properties

- over 40 million years of evolution. *G3: Genes, Genomes, Genetics* 5:719-740. <https://doi.org/10.1534/g3.114.015966>
- Havill JT, Bhatiya C*, Johnson SM*, Sheets JD*, and **JS Thompson**. 2014. A new web tool to detect riboswitches in DNA sequences. *Bioinformatics* 30:3012-3019. <https://doi.org/10.1093/bioinformatics/btu479>
- Rossodivita AA*, Boudoures AL*, Mecoli JP*, Steenkiste EM*, Karl AL*, Vines EM*, Cole AM*, Ansbro MR*, and **JS Thompson**. 2014. Histone H3 K79 Methylation States Play Distinct Roles in UV-Induced Sister Chromatid Exchange and Cell Cycle Checkpoint Arrest in *Saccharomyces cerevisiae*. *Nucleic Acids Research* 42:6286-6299. <https://doi.org/10.1093/nar/gku242>
- Fink M, **Thompson JS**, and F Thoma. 2011. Contributions of Histone H3 Nucleosome Core Surface Mutations to Chromatin Structures, Silencing and DNA Repair. *PLoS ONE* 6(10): e26210. <https://doi.org/10.1371/journal.pone.0026210>
- Evans ML*, Bostelman LJ*, Albrecht AM*, Keller AM*, Strande NT*, and **JS Thompson**. 2008. UV sensitive mutations in histone H3 in *Saccharomyces cerevisiae* that alter specific K79 methylation states genetically act through distinct DNA repair pathways. *Current Genetics* 53:259-274. <https://doi.org/10.1007/s00294-008-0182-1>
- Bostelman LJ*, Keller AM*, Albrecht AM*, Arat A*, and **JS Thompson**. 2007. Methylation of histone H3 lysine-79 by Dot1p plays multiple roles in the response to UV damage in *Saccharomyces cerevisiae*. *DNA Repair* 6:383-395. <https://doi.org/10.1016/j.dnarep.2006.12.010>
- Smith PH[†] and **JS Thompson**. 2003. Has polyploidy shaped the evolution of the eukaryotic genome? A re-examination of Ohno's genome duplication hypothesis. *Bios* 74:110-117. <https://www.jstor.org/stable/4608682>
- Thompson JS**, Snow ML[†], Giles S*, McPherson LE*, and M Grunstein. 2003. Identification of a functional domain within the essential core of histone H3 that is required for telomeric and *HM* silencing in *Saccharomyces cerevisiae*. *Genetics* 163:447-452. <https://doi.org/10.1093/genetics/163.1.447>
- Cost GJ, **Thompson JS**, Reichard B-A, Lee J-Y, and AP Feinberg. 1997. Lack of imprinting of three human cyclin-dependent kinase inhibitor genes. *Cancer Res.* 57:926-929. <https://aacrjournals.org/cancerres/article/57/5/926/503955/Lack-of-Imprinting-of-Three-Human-Cyclin-Dependent>

- Thompson JS**, Reese KJ, DeBaun MR, Perlman EJ, and AP Feinberg. 1996. Reduced expression of the cyclin-dependent kinase inhibitor gene p57^{KIP2} in Wilms Tumor. *Cancer Res.* 56:5723-5727. <https://aacrjournals.org/cancerres/article/56/24/5723/502851/Reduced-Expression-of-the-Cyclin-dependent-Kinase>
- Matsuoka S[‡], **Thompson JS**[‡], Edwards MC, Barletta JM, Grundy P, Kalikin LM, Harper JW, Elledge SJ, and AP Feinberg. 1996. Imprinting of the gene encoding a human cyclin-dependent kinase inhibitor, p57^{KIP2}, on chromosome 11p15. *Proc. Natl. Acad. Sci. USA* 93:3026-3030. <https://doi.org/10.1073/pnas.93.7.3026>
- Feinberg AP, Kalikin LM, Johnson LA, and **JS Thompson**. 1994. Loss of imprinting in human cancer. *Cold Spring Harbor Symp. Quant. Biol.* 59:357-364. <https://doi.org/10.1101/sqb.1994.059.01.040>
- Thompson JS**, Ling X, and M Grunstein. 1994. Histone H3 N terminus is required for telomeric and silent mating locus repression in yeast. *Nature* 369:245-247. <https://doi.org/10.1038/369245a0>
- Thompson JS**, Johnson LM, and M Grunstein. 1994. Specific repression of the yeast silent mating locus *HMR* by an adjacent telomere. *Mol. Cell. Biol.* 14:446-455. <https://doi.org/10.1128/mcb.14.1.446-455.1994>
- Thompson JS**, Hecht A, and M Grunstein. 1993. Histones and the regulation of heterochromatin in yeast. *Cold Spring Harbor Symp. Quant. Biol.* 58:247-256. <https://doi.org/10.1101/sqb.1993.058.01.029>

RESEARCH PRESENTATIONS:

[‡]presenting author; *undergraduate/H.S. student co-author; [†]graduate student co-author

- Reardon RM*, Schmidberger LH*, Walsh AK*, Larsen CI*, Thompson AE*, and **JS Thompson**[‡]. Epigenetic inheritance of a UV hyper-resistance phenotype in *Saccharomyces cerevisiae* (poster). Gordon Research Conference on Epigenetic Mechanisms Across Scales: From Molecules to Environment and Evolution, 2019.
- Reardon RM*, Schmidberger LH*, Walsh AK*, Thompson AE*, and **JS Thompson**[‡]. Epigenetic inheritance of a UV hyper-resistance phenotype in *Saccharomyces cerevisiae* (invited speaker). Midwest Chromatin and Epigenetics Meeting, Purdue University, 2018.

- Reardon RM^{*‡}, Walsh AK^{*‡}, and **JS Thompson**. Exploring the role of histone modifications in epigenetic UV hyper-resistance of *Saccharomyces cerevisiae* (poster). Midwest Chromatin and Epigenetics Meeting, Purdue University, 2018.
- Schmidberger LH^{*‡} and **JS Thompson**. Epigenetic inheritance of a protective mechanism prevents DNA damage from UV radiation in *Saccharomyces cerevisiae* (poster). Midwest Chromatin and Epigenetics Meeting, Purdue University, 2018.
- Higdon SK^{*‡} and **JS Thompson**. Investigation of the drop in dimethylated histone H3 proteins in *Saccharomyces cerevisiae* after UV exposure (poster). Undergraduate Research Conference, Butler University, 2016.
- Hoffman RA^{*‡} and **JS Thompson**. Investigating cross-talk and long-term changes involving H3K79 methylation following UV exposure in *Saccharomyces cerevisiae* (poster). Undergraduate Research Conference, Butler University, 2016.
- Thompson JS**[‡], Steenkiste EM*, Karl AL*, Bailey EA*, Wilkes SE*, Boudoures AL*, and JP Pfeil*. UV-induced decrease of histone H3K79 dimethylation is required for efficient DNA repair in *Saccharomyces cerevisiae* (poster). Institute for Molecular Biology Conference on DNA Repair and Genome Stability in a Chromatin Environment. Mainz, Germany, 2015.
- Bailey EA^{*‡}, Wilkes SE^{*‡}, and **JS Thompson**. H3K79 di-methylation involvement in UV-induced damage repair of *Saccharomyces cerevisiae* (poster). Undergraduate Research Conference, Butler University, 2015.
- Karl AL^{*‡} and **JS Thompson**. The role of histone H3K79 methylation and histone H4 acetylation in the *Saccharomyces cerevisiae* UV-induced DNA damage response (poster). Undergraduate Research Conference, Butler University, 2014.
- Steenkiste EM^{*‡} and **JS Thompson**. The role of histone H3K79 methylation patterns in UV-induced sister chromatid exchange and G1/S checkpoint response in *Saccharomyces cerevisiae* (platform presentation). Undergraduate Research Conference, Butler University, 2014.
- Thompson JS**[‡], Boudoures AL*, Pfeil JJ*, Cole AM*, and EM Vines*. Multiple histone post-translational modifications operate in concert in UV damage repair in *Saccharomyces cerevisiae* (poster). FASEB Summer Research Conference on Epigenetics, Chromatin, and Transcription, 2013.

Thompson JS[‡], Boudoures AL*, Pfeil JJ*, and AM Cole*. Crosstalk between multiple histone post-translational modifications is important in the response to UV damage in *Saccharomyces cerevisiae* (poster). FASEB Summer Research Conference on Yeast Chromosome Structure, Replication & Segregation, 2012.

Thompson JS[‡], Boudoures AL^{‡*}, Pfeil JJ*, and AM Cole*. Histone H3K79 methylation states play distinct but overlapping roles in UV damage response in yeast (poster). The 14th Annual Midwest DNA Repair Symposium, 2012.

Boudoures AL^{‡*}, Pfeil J^{‡*}, and **JS Thompson**. Crosstalk between histone H4 and H3K79 methylation in response to UV damage in *Saccharomyces cerevisiae* (poster). The 14th Annual Midwest DNA Repair Symposium, 2012.

Thompson JS[‡] and AL Boudoures^{‡*}. Genetic evidence of a trans-histone post-translational modification pathway involved in UV-mediated DNA damage response in *Saccharomyces cerevisiae* (poster). FASEB Summer Research Conference on Epigenetics, Chromatin, and Transcription, 2011.

Thompson JS[‡], Rossodivita AA*, and MR Ansbro*. Regulation of UV repair via sister chromatid exchange by distinct histone H3 K79 methylation states in *Saccharomyces cerevisiae* (poster). Yeast Genetics and Molecular Biology Meeting, 2010.

Chung H-M, Frohlich DR, **Thompson JS[‡]**, Shaw M, Leung W, Shaffer C, Lopatto D, and SCR Elgin. The Genomics Education Partnership: Bringing Genomics into the Undergraduate Curriculum in Diverse Settings (poster). 2nd RECOMB Satellite Conference on Bioinformatics Education, 2010.

Rossodivita AA^{‡*} and **JS Thompson**. Unlocking the roles of distinct histone H3 lysine-79 methylation states in recombination repair in *Saccharomyces cerevisiae* (poster). Ohio Academy of Science Meeting, 2010.

Ansbro MR*, Mecoli JP*, Rossodivita AA*, and **JS Thompson[‡]**. Histone H3 K79 methylation states play distinct roles in DNA damage checkpoint response and recombination repair in *Saccharomyces cerevisiae* (poster). FASEB Summer Research Conference on Epigenetics, Chromatin, and Transcription, 2009.

Bhatiya CIS^{‡*}, Havill JT, and **JS Thompson**. An Algorithm for Detecting TPP Riboswitches in Archaea (poster). Ohio Collaborative Conference on Bioinformatics, 2009.

- Strande NT*, Evans ML*, Lee AE*, Albrecht AM*, Keller AM*, and **JS Thompson**[‡]. Histone H3 K79 methylation states, regulated by histone H4 acetylation, play distinct roles in response to DNA damage caused by UV radiation in *Saccharomyces cerevisiae* (poster). FASEB Summer Research Conference on Yeast Chromosome Structure, Replication and Segregation, 2008.
- Evans ML*, Albrecht AM*, Bostelman LJ*, Keller AM*, and **JS Thompson**[‡]. Histone H3 K79 methylation and histone H4 acetylation play multiple overlapping roles in the response to UV damage in *Saccharomyces cerevisiae* (poster). FASEB Summer Research Conference on Chromatin & Transcription, 2007.
- Albrecht AM*, Evans ML*, Bostelman LJ*, Keller AM*, and **JS Thompson**[‡]. Histone H3 plays multiple methylation-dependent and independent roles in the response to UV damage in *Saccharomyces cerevisiae* (platform presentation). The 9th Annual Midwest DNA Repair Symposium, 2007.
- Evans ML^{‡*} and **JS Thompson**. Acetylation states of lysine residues in the histone H4 N-terminus have a combinatorial effect on UV-induced DNA damage repair in *Saccharomyces cerevisiae* (poster). The 9th Annual Midwest DNA Repair Symposium, 2007.
- Thompson JS**[‡], Bostelman LJ*, Keller AM*, and A Arat*. Histone H3 plays diverse roles in post-replication repair and nucleotide excision repair of UV-damaged DNA (poster). Yeast Genetics and Molecular Biology Meeting, 2006.
- Bostelman LJ* and **JS Thompson**[‡]. The histone H3 silencing domain participates in Rad6/Rad18-dependent post-replication repair of UV-induced DNA damage (platform presentation). The 7th Annual Midwest DNA Repair Symposium, 2005.
- Bostelman LJ^{‡*} and **JS Thompson**. A domain in histone H3 of *Saccharomyces cerevisiae* plays dual roles in gene silencing and repair of UV-damaged DNA via the Rad6-Rad18 repair pathway (poster). The 9th Annual Council on Undergraduate Research “Posters on the Hill” Event, 2005.
- Thompson JS**[‡]. Analysis of the role of glutamate-73 in histone H3 in the function of a nucleosomal surface silencing domain in yeast (poster). The 69th Cold Spring Harbor Symposium on Quantitative Biology: Epigenetics, 2004.
- Wood M^{‡†} and **JS Thompson**. Highly conserved histone H3 from *Schizosaccharomyces pombe* cannot functionally replace endogenous histone H3 in *Saccharomyces cerevisiae* (platform presentation). New Jersey Academy of Science Annual Meeting, 2003.

Thompson JS[‡], McGough A*, and M Grunstein. The role of histone H3 in heterochromatin-mediated transcriptional silencing in *Saccharomyces cerevisiae* (poster). Yeast Genetics and Molecular Biology Meeting, 2000.

Thompson JS[‡], McGough A*, and M Grunstein. Single amino acid substitutions in the core domain of histone H3 cause derepression of telomeric silencing in *Saccharomyces cerevisiae* (platform presentation). New Jersey Academy of Science Annual Meeting, 2000.

Smith A^{‡*} and **JS Thompson**. A method for the identification of eukaryotic genomic boundary elements in yeast (platform presentation). New Jersey Academy of Science Annual Meeting, 2000. *Awarded Best Undergraduate Presentation, New Jersey Academy of Science Annual Meeting, 2000.*

Palanker L^{‡†} and **JS Thompson**. Hormonal control of GCDFP expression in fibrocystic breast cells and implications for pathogenesis of mammary cancer (platform presentation). New Jersey Academy of Science Annual Meeting, 2000. *Awarded Best Graduate Presentation, New Jersey Academy of Science Annual Meeting, 2000.*

Thompson JS[‡] and AP Feinberg. A repeat element at the centromeric boundary of the human 11p15 imprinting domain possesses a telomere-like silencing function (platform presentation). New Jersey Academy of Science Annual Meeting, 1999.

Smith A^{‡*}, Alexander PJ*, and **JS Thompson**. Identification and characterization of genomic boundary elements utilizing a chromatin structure assay (platform presentation). New Jersey Academy of Science Annual Meeting, 1999.

Thompson JS[‡], Reese K, Matsuoka S, Elledge SJ, and AP Feinberg. Imprinting of human p57^{KIP2} on chromosome 11p15 and its role in Wilms' Tumor and Beckwith-Wiedemann Syndrome (poster). Keystone Symposia on Molecular and Cellular Biology: Transcriptional Mechanisms, 1996.

Thompson JS[‡] and M Grunstein. The involvement of histones in telomeric repression (platform presentation). FASEB Summer Research Conference on Chromatin and Transcription, 1993.

Thompson JS[‡] and M Grunstein. Regulation of yeast silent mating locus *HMR* by a proximal telomere (platform presentation). Arrowhead Genetics Conference, 1992.

Thompson JS[‡], Johnson L, and M Grunstein. Differences between yeast silent mating loci *HML* and *HMR* affect the extent of derepression in histone H4 mutant strains (poster). Yeast Genetics and Molecular Biology Meeting, 1991.

RESEARCH ADVISING:

Denison University:

*indicates senior research with departmental recognition/honors

Bhavana Huliya: Characterization of the role of yeast cell size in epigenetically inherited UV hyper-resistance. 2022.

Lillian Morrow: Characterization of the role of yeast cell size in epigenetically inherited UV hyper-resistance. 2021-2022*.

Isabel Wellik: Evolutionary analysis of insulin signaling pathway genes in the *Drosophila* genus. Summer 2020. Evaluating the influence of cell size in epigenetically inherited hyper-resistance to UV damage in yeast. 2020-2021*.

Claire Larsen: Evolutionary analysis of insulin signaling pathway genes in the *Drosophila* genus. Summer 2020. Investigating the role of epigenetically inheritable histone post-translational modifications in UV repair. 2018-2021*.

Rachel Reardon: Investigating the role of epigenetically inheritable histone post-translational modifications in UV repair. 2016-2019*.

Amanda Walsh: Investigating the role of epigenetically inheritable histone post-translational modifications in UV repair. 2016-2019*.

LauraAnn Schmidberger: Examination of DNA repair kinetics following multiple exposures to UV radiation in yeast. 2016-2017*.

Sarah Higdon: Measuring H3K79 methylation levels following UV exposure in the H3L70S mutant yeast strain. 2015-2016*.

Rachel Hoffman: Histone crosstalk between H4 acetylation and H3K79 methylation in the context of UV repair. 2015-2016*.

Elizabeth Bailey: Determining the effects of hypermethylation of histone H3K79 on UV-induced sister chromatid exchange and checkpoint activation. 2014-2015*.

Sara Wilkes: Determining the effects of hypermethylation of histone H3K79 on UV-induced sister chromatid exchange and checkpoint activation. 2014-2015*.

Andrea Karl: Assessing changes in histone H3K79 methylation during UV-induced checkpoint response. 2013-2014*.

Elizabeth Steenkiste: Evaluating UV-induced changes in histone H3K79 methylation during log phase growth. 2013- 2014*.

Marguerite Strong: Measuring changes in histone H3K79 methylation in response to double-stranded DNA breaks. 2013.

Jonathan Turchetta: Histone replacement as a potential mechanism for UV-induced reduction of H3K79 dimethylation in yeast. 2012-2013.

Dora Vines: Examining the role of histone H3K79 methylation and H4 acetylation in Rad5-mediated sister chromatid exchange in yeast. 2012-2013.

Arron Cole: Evaluating the role of histone H3 K79 methylation states and H4 acetylation in DNA damage checkpoints and double stranded break repair. 2010-2012.

Tom Snee: Examining the role of histone H3K79 methylation in Rad52-mediated sister chromatid exchange in yeast. 2012.

Anna Boudoures: Genetic evidence of a trans-histone post-translational modification pathway involved in UV-mediated DNA damage response in *Saccharomyces cerevisiae*. 2010-2012*.

Jacob Pfeil: Histone crosstalk between H4 acetylation and H3K79 methylation in response to UV damage in *Saccharomyces cerevisiae*. 2010-2012 (including senior research).

J.D. Sheets: Continued development of the TTP riboswitch search algorithm. 2011 (co-advised with Jessen Havill).

John Snee: Evaluating the role of histone H3 lysine-79 dimethylation in UV repair via a *swi4* knockout in *Saccharomyces cerevisiae*. 2010.

Alyssa Rossodivita: Evaluating the role of histone H3 lysine-79 methylation in recombination repair in *Saccharomyces cerevisiae*. 2008-2010*.

Megan Ansbro: Analysis of the structural significance of histone H3 glutamate-73 by X ray crystallography; evaluating the effects of histone H3 K79 methylation in sister chromatid recombination. 2008-2009*.

Chinmoy Bhatiya: Investigating TPP riboswitches in Archaea using computational algorithms. 2008-2009* (co-advised with Jessen Havill).

Jon Mecoli: X ray crystallographic analysis of the histone H3 E73D mutation; study of the role of histone H3 K79 methylation states in DNA damage checkpoint response in *Saccharomyces cerevisiae*. 2007-2009*.

Ariel Lee: Examination of the role of histone H3 lysine-79 methylation in nucleotide excision repair in *Saccharomyces cerevisiae*. 2007-2008*.

Natasha Strande: Evaluating the relationship between histone H4 N terminal acetylation and H3 lysine-79 methylation in response to UV damage in *Saccharomyces cerevisiae*. 2007-2008 (including senior research).

Ashley Albrecht: Epistasis analysis between UV sensitive histone H3 mutations and members of the post-replication repair pathway. 2006-2007*.

Margery Evans: Assessing the effect of the histone H3 E73D mutation on post-translational modifications in the histone H4 N terminus. 2006-2007*.

Andrew Keller: Examining the role of histone H3 in nucleotide excision repair and error-free versus error-prone repair of UV damaged DNA. 2005- 2006*.

Karen Siklosi: Point mutations in the human CFTR promoter reveal potential transcriptional regulatory elements that may contribute to clinical phenotypes observed in Cystic Fibrosis (done at Case Western Reserve University). 2005*.

Arzu Arat: Epistatic analysis of Rad52 and Rad6 DNA repair pathways and UV-sensitive histone H3 mutations in *Saccharomyces cerevisiae*. 2005.

Lindsey Bostelman: A structural domain in histone H3 of *Saccharomyces cerevisiae* plays dual roles in gene silencing and repair of UV-damaged DNA via the Rad18-dependent post-replication repair pathway. 2004-2005*.

Katherine McHugh: The Histone H3 Telomeric Silencing Domain Cooperatively Functions with Transcriptional Silencing Protein Sir3 to Play a Distinct Role in the Repair of DNA Damage Caused by Methyl Methane Sulfonate. 2004-2005*.

Leigh Stone: Post-Translational Modifications of Histones H3 and H4 are Important in UV-Mediated DNA Damage Repair in *Saccharomyces cerevisiae*. 2004-2005*.

Georgian Court College Undergraduate Students:

Marci Maloney: Histone H3 silencing mutations cause increased sensitivity to shortwave UV radiation. 2003.

Susan Karl: Restoration of yeast telomeric silencing in histone H3 mutant strains by *sir3* suppressor mutations. 2002-2003.

Leslie McPherson: Evaluation of the effects of mutations in histone H3 on temperature- and UV-sensitivity, and basal transcription in *Saccharomyces cerevisiae*. 2001-2002.

Elena Pappas: Analysis of the *Drosophila* scs boundary element as a heterochromatin barrier in *Saccharomyces cerevisiae*. 2001.

Summer Giles: Analysis of yeast histone H3 silencing mutations on basal transcription at the *GAL1* promoter. 2001.

Amy Smith: Development of a yeast system for the analysis of genomic boundary elements. 1999-2000.

Audrey McGough: Analysis of temperature-sensitive histone H3 mutations in yeast. 1999.

Pamela Alexander: Subcloning of the mouse H19 boundary element. 1999.

Georgian Court College Master's Thesis Projects:

Karen Snyder: The role of IBRE-1 from the human 11p15 imprinting locus as a genomic boundary element. 2001-2003.

Matthew Wood: Functional analysis of the evolutionary conservation of histone H3. 2001-2002.

Marilyn Snow: Histone H3 core protein and its involvement in silencing at the telomeres and silent mating loci in *Saccharomyces cerevisiae*. 2000-2002.

Maureen Burke: Analysis of the human IBRE-1 repeat sequence as a potential fragile site and transcriptional silencer on chromosome 11p15. 2000-2002.

Pamela Smith: Has whole genome duplication shaped the genome? (thesis review paper). 2001.

Laura Palanker: Hormonally regulated expression in fibrocystic breast cells: implications for cancer (research done at Unilever). 1999-2001.

Christine Burke: Analysis of immunosuppressive drugs in a murine model system (research done at Bristol-Myers Squibb). 1999-2000.

AWARDS AND ACHIEVEMENTS:

Denison University:

Denison University Research Foundation Grant, 2020; \$6,347
Tight Family Chair in the Natural Sciences (endowed/named chair); 2019-2024
Denison University Research Foundation Grant, 2017; \$9,362
R.C. Good Faculty Fellowship, 2016-2017
National Institutes of Health R15 Academic Research Enhancement
Award (1R15GM093849-01), 2010-2013; \$317,852
Great Lakes Colleges Association New Directions Grant, 2010 (co-
authored with Jessen Havill); \$3,765
Denison University Research Foundation Grant, 2010; \$5,506
Denison University Research Foundation Grant, 2009; \$1,474
Denison University Research Foundation Grant, 2006; \$6,329

Georgian Court College:

Faculty Award for Innovative Use of Technology in the Classroom, 2001
Faculty Summer Research Grant, 2001; \$5,000

The Johns Hopkins University:

NRSA Postdoctoral Fellowship (5T32CA009071-18), The Johns Hopkins
University School of Medicine Oncology Center, 1997-1998

The University of California, Los Angeles:

NRSA Cell and Molecular Biology Training Grant Award
(5T32GM007185-20), 1992-1994
UCLA Chancellor's Fellowship, 1991-1992

Kalamazoo College:

Elected to Phi Beta Kappa, 1988
Senior Biology Fellow, 1988
Diebold Biology Scholar, 1987
Heyl Science Scholarship, 1984-1988
Dean's List, 1984-1988
Academic High Honors, 1984-1985

SERVICE ACTIVITIES:

Denison University:

current:

Dean of the Faculty, since 2022
Faculty Leadership Group, since 2020
Phi Beta Kappa
chapter member since 2003
President: 2007-2013
Sigma Xi Chapter
chapter member since 2007
President, 2019-2022
Vice President 2012-2019

past:

Chair of the Faculty, 2021-2022
President's Medalist Selection Committee, 2020-2022
Denison University Biological Society faculty coordinator, 2019-2022
Vice Chair of the Faculty, 2020-2021
Senior Administrative Review Committee, chair, 2020-2021
COVID19 Response Team, 2020
General Education Competency Committee, 2017-2020
chair, 2018-2020
Biology Department Chair, 2013-2016
Campus Engagement Group 1 member, 2014
Finance Committee, 2012-2014
chair, 2013-2014
vice-chair, 2012-2013
University Council, 2012-2013 (Finance Committee rep.)
Faculty Development Committee, 2010-2013
chair: 2012-2013
Anderson Scholarship Selection Committee, 2007-2008, 2010, 2019
Board of Trustees Student Affairs Committee, 2008-2009
Denison Scientific Association co-organizer, 2008-2009
Board of Academic Integrity, 2007-2009
Campus Affairs Council, 2007-2009
Board of Trustees Enrollment Committee, 2005-2007

Georgian Court College:

Academic Excellence Night Organizer, 2003
Planning and Resource Allocation Council, 2002-2003
Research Standards Committee, 2002-2003

Faculty Development Collaborative in Technology, 2002-2003
Academic Excellence Night Co-Organizer, 2002
Academic Computing and Technology Committee, 2001-2003
Library Committee, 1999-2001
Biology Graduate Admissions Subcommittee, 1998-2003

Research-Related:

Faculty Tenure/Promotion reviewer
Ursinus College, 2022
Bowdoin College, 2020
College of Wooster, 2020
Grant reviewer
National Science Foundation, 2012, 2014, 2021
National Research Foundation (South Africa), 2008
Journal reviewer
F1000 Research, 2018
Environmental Pollution, 2018
Genetics, 2008, 2014, 2015
BMC Molecular Biology, 2009
Photochemistry and Photobiology, 2008
National Institutes of Health Study Section Member, 2013
Ohio State Science Fair Judge, 2004

Teaching-Related:

Career day speaker, The Ohio State University, 2019
Oral Communication workshop, Denison University, 2019
Career day panel discussion, The Ohio State University, 2015
Teaching career speaker, Nationwide Children's Hospital, 2014

PROFESSIONAL MEMBERSHIPS:

American Association for the Advancement of Science, since 2017
Sigma Xi, since 2007
Genomics Education Partnership, since 2007
Genetics Society of America, since 2000
Beta Beta Beta Biology Honor Society, since 1998
Phi Beta Kappa, since 1988