

AUGUST 2023

**CURRICULUM VITAE
MICHAEL K. SKINNER**

Personal Data:

Name: Michael Kirtland Skinner
Marital Status: Married, 2 Children
Place of Birth: Redmond, Oregon (www.skinnerfamilynw.org)
Citizenship: USA
Current Address: Center for Reproductive Biology
School of Biological Sciences
Washington State University
Pullman, WA 99164-4236
Telephone: (509) 335-1524
Email: skinner@wsu.edu
Laboratory Web Site: www.skinner.wsu.edu

Education:

Ph.D. in Biochemistry, 1982, Washington State University, Pullman, Washington
B.A. in Chemistry, 1979, Reed College, Portland, Oregon
A.S. in General Science, 1977, Warner Pacific College, Portland, Oregon

Research Interests:

Environmental Epigenetics and Systems Biology of Gonadal Development and Disease Etiology, and Molecular, Cellular and Physiological Approach to the Study of Reproductive Biology.

- 1) Environmentally induced epigenetic transgenerational inheritance of disease and phenotypic variation (evolution, disease etiology, and toxicology)
- 2) Reproductive toxicology of endocrine disruptors (i.e., transgenerational epigenetics)
- 3) Regulation of gonadal development and differentiation (e.g., epigenetic and transcriptional control)
- 4) Control of gametogenesis (i.e., epigenetics, somatic cell function and paracrine control)
- 5) Cell-cell interactions (e.g., mesenchymal-epithelial cell interactions)

Current Specific Research:

1) Role of environmentally induced epigenetic transgenerational inheritance in disease etiology and evolutionary biology.

- 2) Epigenetic Diagnostics for Preventative Medicine
- 3) Actions of endocrine disruptors and environmental toxicants on embryonic gonadal development that cause the epigenetic transgenerational inheritance of adult onset disease.
- 4) Influence of environmental epigenetics on testis development and Sertoli cell differentiation that promotes adult onset testis disease.
- 5) Influence of environmental epigenetics on ovarian primordial follicle assembly and development that promotes the transgenerational inheritance of ovarian disease.

Professional Experience:

2014-present Eastlick Distinguished Professor in Health Sciences

2010-present Professor, School of Biological Sciences, College of Arts and Sciences, Washington State University, Pullman, WA.

2009-present Visiting Professor, Département Sciences Fondamentales et Biomédicales, University of Paris Descartes, Paris France.

2008-2009 Sabbatical University Scientist, Rosetta Inpharmatics, subsidiary Merck Pharmaceuticals, Seattle, WA. (Area of Study Bioinformatics with Dr. Eric Schadt)

1999-2010 Professor, School of Molecular Biosciences, Washington State University, Pullman, WA.

2002-2008 Director and Founder, Center for Integrated Biotechnology, Washington State University, Pullman, WA.

Dr. Skinner was requested to establish, form and direct the Center in 2002. The WSU Center for Integrated Biotechnology (www.biotechnology.wsu.edu) had approximately 170 faculty and involved over 22 departments and 7 colleges. The Core laboratories and research program project areas provided an inter-disciplinary integration of research in the biotechnology area. The education programs and industry interaction activities were also components of the Center.

1996-2008 Director and Founder, Center for Reproductive Biology, joint Center with Washington State University, Pullman, WA and the University of Idaho, Moscow, ID.

Dr. Skinner was recruited to WSU in 1996 to establish, form and direct the Center. The WSU and UI Center for Reproductive Biology (www.reproduction.wsu.edu) grew to approximately 100 faculty from 18 different departments and seven different Colleges. The Center was and is the largest University based

Reproductive Biology Research Center in the world. It had program areas including Testis Biology, Fish Reproduction, Reproductive Toxicology, and Plant Reproduction. The Center also had 13 Core Laboratories that provide centralized services from a Genomics Core Lab to a Transgenic Core Lab. The Center had associated approximately 120 graduate students and 250 staff and fellows.

- 1996-1999 Professor, Department of Genetics and Cell Biology, Washington State University, Pullman, WA.
- 1991 – 1996 Member, Reproductive Endocrinology Center and the Developmental Biology Program in Biological Sciences, University of California, San Francisco, CA.
- 1991 – 1996 Associate Professor, Department of Physiology, University of California, San Francisco, CA.
- 1991 – 1996 Associate Professor, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, CA. Research was designed to investigate the mechanisms regulating cellular function, cell-cell interaction and cellular differentiation, with emphasis in the area of reproductive biology.
- 1984-1991 Assistant Professor, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, TN. Research dealt with an analysis of cellular functions and cell-cell interactions in the testis and ovary.
- 1982-1984 MRC Postdoctoral Fellow, C.H. Best Institute, University of Toronto, Toronto, Ontario, Canada, in the laboratory of Dr. Irving B. Fritz. Research dealt with cell-cell interactions in the testis via basement membrane matrix components and soluble peptides.
- 1979-1982 Research Assistant, Biochemistry/Biophysics Program, Washington State University, Pullman, WA, in the laboratory of Dr. Michael D. Griswold. My research dealt with an investigation of Sertoli cell functions through a study of secreted proteins.
- 1978-1979 General Chemistry Teaching Assistant and Research Assistant, Reed College, Portland, OR, in the laboratory of Dr. W. Block. Research dealt with an investigation of the enzyme kinetics of alcohol dehydrogenase as effected by irreversible inhibitors.
- 1977-1978 Medical Laboratory Technician, Western States College Clinical Laboratory, Portland, OR. I was the assistant to the director (W.C. Davis) in establishment of new assays and quality control.

Teaching Interests and Experience:

Areas which utilize a systems biology approach to study cell biology and physiology. Specific interests are reproduction, environmental epigenetics, cell-cell interactions, molecular and cellular endocrinology, developmental cytodifferentiation, and signal transduction.

2012-present (even years)	Systems Biology of Reproduction, Biol 475/575, Course Director, 36 1.5 hour lectures and discussion sessions, 25-50 students, Spring Semester, WSU, Pullman WA. Online version of the course developed as well.
2011-present (odd years)	Epigenetics and Systems Biology, Biol 476/576, Course Director, 36 1.5 hour lectures and discussion sessions, 25-50 students, Spring Semester, WSU, Pullman WA. Online version of the course developed as well.
2017-present	Lecturer, Stanford Continuing Studies Epigenetics course. Four to five 1-hour lectures and discussion sections per year, online course. Stanford University, Stanford, California.
2009-present	MBioS 446 – Epidemiology, 1.5 hour lecture, 40 students, WSU Pullman, WA.
2009-present	Visiting Professor, Master of Public Health courses “Critical Windows of Exposures and Vulnerability” and “Predictive Toxicology” 8 hours lectures per year “Environmental Epigenetics”, 10-30 students, University of Paris Descartes, Paris, France.
2009-2016	Biol 573 – Ancient DNA, 1.5 hour lecture, 10 students, WSU Pullman, WA.
2017	Biol 321 – Principles of Animal Development, 1-hour lecture, 40 students, WSU Pullman, WA.
2009-2015	Bioethics, Philosophy 530, Invited lectures, 3-5 2-hour discussion sessions, 30-40 students, Fall Semester, WSU Pullman, WA.
2000-2010 (even years)	Biochemical Signaling in Animals, Plants and Microorganisms, MBioS 561, Course Director, 13 2-hour lectures, 15-30 students, Spring Semester, WSU Pullman, WA.
1997-2010 (odd years)	Molecular and Cellular Reproduction, MBioS 528, AS 558, UI Biol 559 thirty-six 2-hour lectures and discussion sessions, 20-30 students, Spring Washington State University, Pullman, WA.
1998-2010	Protein Biotechnology, BC/BP 574, two 2-hour lectures, 20 students, Fall Semester, Washington State University, Pullman, WA.

- 2004- 2007 Bioethics, Philosophy 530, Co-course Director with Daniel Holbrook and Bryan Slinker, 13 2-hour discussion sessions, 30 students, Fall Semester, WSU, Pullman, WA.
- 2001- 2006 Advanced Cell Biology, MBioS 401/501, thirteen 1-hour lectures, 100 students, Spring Semester, Washington State University, Pullman, WA.
- 1999, 2000 Genetics and Cell Biology, Gen CB 550, Cell Biology, eight 1.5 hour lectures, 10 students, Fall Semester, Washington State University, Pullman, WA.
- 1999 Principles of Animal Development, Zool 320, two 1.5 hour lectures, 10 students, Fall Semester, Washington State University, Pullman, WA.
- 1998-2000 Advanced Reproduction, AS 550, four 2-hour lectures, 10 students, Spring Semester, Washington State University, Pullman, WA.
- 1998 Biochemical Signaling in Plants, Animals, and Microorganisms Biochem/Biophysics 561, two 2-hour lectures, 26 students, Spring Semester, Washington State University, Pullman, WA.
- 1997 GenCB 592, BC/BP 592, Zool 592, Advanced Topics in Cell Biology, "Reproductive Biology," course Director, twenty-six 2-hour sessions, 20 students, Spring Semester, Washington State University, Pullman, WA.
- 1993, 1995 Ob/Gyn & Reprod. Sci., 210, Molecular and Cellular Biology of Reproduction, Course Director, ten 2-hour lectures and ten 2-hour discussions, Winter Quarter, University of California, San Francisco, CA.
- 1994-1996 Biomedical Sciences BMS 225B, "Integrative Cellular and Molecular Biology of Human Organ Systems," selected lectures on gametogenesis and testis biology, Winter Quarter, University of California, San Francisco, CA.
- 1992-1996 Physiology 101, Endocrinology, Mini Course: Reproductive Endocrinology, six 2-hour lectures/discussions, Spring Quarter, University of California, San Francisco, CA.
- 1992-1996 Physiology 120, Mammalian Physiology, four selected 1-hour lectures on "Reproductive Endocrinology," Winter Quarter, University of California, San Francisco, CA.
- 1991 Chemistry 106, Undergraduate course on Advanced Topics in Chemistry, selected lecture on "Applications of Chemistry to Biological Systems: The concept of Pharmacology," Vanderbilt University, Nashville, TN.

- 1988, 1989 Pharmacology 328, Molecular and Cellular Pharmacology of Reproduction, Course Director, seven 2-hour lectures, Fall Semester, Vanderbilt University, Nashville, TN.
- 1987, 1989 Biochemistry/Cell Biology 341, Reproductive Biology, selected 2-hour lectures on "Cell-Cell Interactions in the Regulation of Gonad Function," Vanderbilt University, Nashville, TN.
- 1985-1990 Pharmacology 324-2, Pharmacological Techniques and Instrumentation, selected 2 hour lectures on "Cell Culture: Methods and Selected Applications" and "Radioisotope Techniques: Detection Methods" and "Protein Chromatography and Electrophoresis," Vanderbilt University, Nashville, TN.
- 1982 BC/BP 366, General Biochemistry Laboratory, Lecturer and Assistant in laboratory. Washington State University, Pullman, WA.
- 1978-1979 Chem. 106, General Chemistry, Teaching Assistant. Reed College, Portland, OR. Supervisor: Dr. W. Block.
- 1978-1979 Bio-Organic Chemistry, Course Director, Western States College, Portland, OR.

Awards and Recognition's:

- 2023-2025 Invited by Elsevier Press to develop and act as the Editor-in-Chief of the Encyclopedia of Reproduction, Third Edition, involving 6 volumes and over 600 chapters and 1000 authors, to be published in 2025.
- 2019 Elected to the Washington State Academy of Sciences (WSAS).
<http://www.washacad.org/>
- 2016-2018 Invited by Elsevier Press to develop and act as the Editor-in-Chief of the Encyclopedia of Reproduction, Second Edition, involving 6 volumes and over 600 chapters and 1000 authors, published in 2018. Online accessible:
<https://www.sciencedirect.com/referencework/9780128151457/encyclopedia-of-reproduction>
- 2016 Awarded Outstanding Career Achievement, College of Arts and Sciences, Washington State University
- 2016 Awarded Annual WSU Distinguished Faculty Address, Washington State University
- 2015-present Invited by Oxford University Press to establish the journal Environmental Epigenetics and act as the Founding Editor-in-Chief.
<https://academic.oup.com/eep>
- 2014 Invited and presented TEDxRainier Talk, Seattle, WA, (One of the largest worldwide) <http://www.tedxrainier.com/events/tedxrainier-2014/>
<https://www.youtube.com/watch?v=f1Pf5S8Nbfk>
- 2014-present Awarded Eastlick Distinguished Professorship, Washington State University
- 2014 Invited Feature Article in Scientific American, “A New Kind of Inheritance”,
<http://www.scientificamerican.com/article/the-case-for-inheritance-of-epigenetic-changes-in-chromosomes/>
- 2013 Awarded Smithsonian 2013 “American Ingenuity Award”, in the area of the Natural Sciences, Washington, D.C. With feature article in Smithsonian Magazine and documentary on the Smithsonian Channel.
- 2013 2013 Gregor Stoddard Visiting Professorship, Department of Neonatology, School of Medicine, University of Colorado, Aurora CO.
- 2013 Selected Top Ten Studies in Reproduction Medicine by Serono Symposia International Foundation (SSIF), Florence, Italy.
- 2012 Elected as Fellow of the American Association for the Advancement of Science (AAAS)

- 2012 Brasel Basic Science Lectureship, Los Angeles, Biomedical Research Institute at Harbor-UCLA, Los Angeles, CA.
- 2012 The DH Rittenberg Visiting Professorship in Endocrine Disruption and Child Health, Mt. Sinai School of Medicine. New York, NY.
- 2011 Otto J. and Opal I. Hill Lectureship at Penn State University, University Park, PA, April 2011.
- 2010 Newsweek Magazine, Science Feature, “Sins of the Grandfathers”, November 8, 2010.
- 2010-2011 Appointed Member, National Academy of Science (NAS), Vietnam Veterans and Agent Orange, Science Review Committee, Publication Generated “2010 Vietnam Veterans and Agent Orange” NAS Press.
- 2009 Elected, Chair, Gametogenesis and Embryogenesis Gordon Research Conference, Waterville Valley, New Hampshire, August 2009.
- 2008 Nature Medicine, Publication identified as the most highly cited paper in reproductive biology (2004-2008), and two other publications in the top 10 list 2007 and 2005. Nature Medicine 14:1180, 2008.
- 2008 Discover Magazine, Research selected as one of the top 100 discoveries of 2007, Discover, The Year in Science, January 2008, #22, page 40.
- 2007 PBS NOVA Science Documentary, Research Selected as Epigenetic Topic of Documentary, “Ghosts in Your Genes”, aired October 2007.
- 2006 Sahlin Faculty Excellence Award for Research, Scholarship and the Arts, Washington State University
- 2006 Discover Magazine, Research Selected as one of the top 100 discoveries of 2005, Discover, Year in Science, January 2006, Vol 27, page 49.
- 2005 Ralph Yount Research Excellence Award, School of Molecular Biosciences, Washington State University
- 2005 BBC Horizon Science Documentary, Research Selected as Epigenetic Topic of Documentary, “The Ghosts in Your Genes”, aired October 2005.
- 2003- 2006 Elected, Board of Directors, Centers and Parks representative, Biotechnology Industry Organization (BIO), (largest biotechnology industry organization in the world)

- 2004-2007 Elected by Society membership, Executive Council (i.e. Board), American Society of Andrology (ASA)
- 1986-1990 PEW Scholar Award, PEW Scholar Program in Biomedical Sciences, PEW Memorial Trust.
- 1986 Faculty Development Award in Pharmacology, Pharmaceutical Manufacturers Association.
- 1983-1984 Postdoctoral Fellowship Award, Medical Research Council (Canada).
- 1981-1982 Holland Graduate Fellowship Award, Washington State University, Pullman, WA.
- 1978-1979 Steinbeck Undergraduate Academic Scholarship Award, Steinbeck Trust, Reed College, Portland, OR.
- 1974 Four Year Full Athletic Wrestling Scholarship, Warner Pacific College, Portland Oregon.
- 1972 Eagle Scout, Boy Scouts of America.

Research Publicity and Press: (Selected Recent Examples)

- 2022 Research article: Epigenome-wide association study of physical activity and physiological parameters in discordant monozygotic twins received 4369 article downloads in 2022. Also had over 523 million public reaches.
<https://www.nature.com/articles/s41598-022-24642-3>
- 2022 Research article: Examination of generational impacts of adolescent chemotherapy: Ifosfamide and potential for epigenetic transgenerational inheritance had over 311 million public reaches.
[https://www.cell.com/iscience/fulltext/S2589-0042\(22\)01842-9?returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2589004222018429%3Fshowall%3Dtrue](https://www.cell.com/iscience/fulltext/S2589-0042(22)01842-9?returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2589004222018429%3Fshowall%3Dtrue)
- 2022 Inlander – June 2, 2022 – [“New research at WSU could help doctors stop patients' diseases before they start”](#)
- 2022 Science Daily – March 1, 2022 – [“New epigenetic biomarkers found that potentially predict preterm birth”](#)
- 2022 ScienMag – March 1, 2022 – [“New epigenetic biomarkers found that potentially predict preterm birth”](#)

- 2022 WSU Insider – March 1, 2022 – “[Epigenetic biomarkers found that potentially predict preterm birth](#)”
- 2021 WSU Insider – December 10, 2021 – “[New biomarkers could predict rheumatoid arthritis](#)”
- 2021 ScienMag – January 11, 2021 – “[Sperm samples may help predict autism risk in children](#)”
- 2021 Sciencenewsnet.in – January 12, 2021 – “[Biomarkers in fathers’ sperm linked to offspring autism](#)”
- 2021 ScienceDaily – January 11, 2021 – “[Biomarkers in fathers' sperm linked to offspring autism](#)”
- 2021 WSU Insider – January 11, 2021 – “[Biomarkers in fathers’ sperm linked to offspring autism](#)”
- 2020 The People vs Agent Orange UK Premiere Panel Discussion
<https://www.globalhealthfilm.org/resources/127-the-people-vs-agent-orange-2020>
- 2020 Research article: Assessment of Glyphosate Induced Epigenetic Transgenerational Inheritance of Pathologies and Sperm Epimutations: Generational Toxicology received 46,583 article downloads in 2019, placing it as one of the top 100 downloaded papers for Scientific Reports in 2019. Also had 120 million public reaches.
<https://www.nature.com/collections/ceabdbbhhe>
- 2019 Science Magazine – July 19, 2019 – “[A Painful Legacy](#)”
- 2019 KREM2 News – April 23, 2019 – “[WSU study finds Roundup increases chances of health issues in future generations](#)”
- 2019 WSU Insider – April 23, 2019 “[WSU researchers see health effects across generations from popular weed killer](#)”
- 2019 The Spokesman Review – April 26, 2019 “[WSU Study: Chemicals in common weed killer could affect your family tree](#)”
- 2019 [Wazzu Nation radio interview](#)
- 2018 Science of Early Childhood Development (SECD), SECD North American Edition, Brain Development module video interviews – October 2018
- [Moving beyond genetic determinism](#)
 - [DNA and epigenetics](#)

- [Epigenetics and twins](#)
 - [Epigenetic transgenerational inheritance](#)
- 2018 [WSU Insight “Encyclopedia of Reproduction” article – August 23, 2018](#)
- 2018 [Vox article “The 3 most promising new methods of male birth control, explained” April 4, 2018](#)
- 2018 “Top 100 in Ecology” The most highly accessed ecology articles in 2017. Scientific Reports (June 8, 2018)
<https://www.nature.com/collections/rpytmmpcnt/content/76-100>
- 2018 [KREM 2 News – February 2018](#)
- 2017 Undark Article “Uncertain Inheritance: Epigenetics and the Poisoning of Michigan” – December 2017
https://skinner.wsu.edu/documents/2017/12/2017_carnold_undark_article.pdf/
- 2017 Medscape Article – February 2017
<https://login.medscape.com/login/sso/getlogin?urlCache=aHR0cDovL3d3dy5tZWRzY2FwZS5jb20vdmll2FydGljbGUvODc1ODYy&ac=401>
- 2017 Dr. Anthony Jay Podcast – November 2017
<https://www.youtube.com/watch?v=0ulEVJFWxtA>
- 2017 Podcast CHTV – Episode 199 – Generational Toxicology and Revelation Health – December 2017
<https://www.youtube.com/watch?v=6L2wAhn548M&t=25s>
- 2017 TV Chosun Korea
<https://drive.google.com/file/d/0BwGHxNgjWH4DMWhkMXQ5WFdCYUU/view>
- 2017 Cellular Healing TV
podcast site: <http://podcast.drpompa.com/>
YouTube: <https://www.youtube.com/watch?v=6L2wAhn548M&t=25s>
- 2017 Italian Public Television “Ciao Maschio” (In Italian, MKS interview at 45 min)
<http://www.raiplay.it/video/2017/03/Presadiretta---Ciao-maschio-0efcec30-feed-4d72-9c08-16b9bbc9745b.html>
- 2017 EpigenomicsNet Interview: “Transgenerational inheritance of reproductive disease: an epigenomic discussion with Michael Skinner” – March 10, 2017
www.epigenomicsnet.com
- 2017 Journal of the American Medical Association (JAMA) Article – May 3, 2017

<http://jamanetwork.com/journals/jama/fullarticle/2625920>

- 2016 KREM 2 News, July 26, 2016
<http://www.krem.com/news/local/spokane-county/environmental-toxins-could-make-each-generation-sicker/185656601>
- 2016 Is Agent Orange Still Causing Birth Defects? Scientific American, March 16, 2016
<http://www.scientificamerican.com/article/is-agent-orange-still-causing-birth-defects/>
- 2015 ARTE TV France Scientificfilms Documentary – Our Genes Under Influence
<https://www.youtube.com/watch?v=M3BdkKsKqsA>
- 2015 The Scientist Magazine Article, Obesogens, November 1, 2015
<http://www.the-scientist.com/?articles.view/articleNo/44278/title/Obesogens/>
- 2015 Sirius Radio Interview, Science Radio with Dr. Atala, Sirius XM Insight channel 121.
- 2015 Genetic Engineering & Biotechnology News Story:
<http://www.genengnews.com/gen-news-highlights/environmental-epigenetic-evolutionary-chain-s-genetic-link/81251588/>
- 2014 Invited TEDxRainier Talk, Seattle, WA, (One of the largest worldwide):
<https://www.youtube.com/watch?v=f1Pf5S8Nbfk&index=11&list=PL9wE6J5iLNRPuHdzkmCpjG7uQVeGGx5zt>
- 2014 Science Magazine, Science News Feature Article, The Epigenetics Heretic, Science 2014 Vol. 343 no. 6169 pp. 361-363:
<http://www.sciencemag.org/content/343/6169/361.full?sid=ab644cc0-9323-4012-be14-c37c77d21635>
- 2013 Smithsonian Channel Documentary “Genius in America”:
<http://www.smithsonianchannel.com/sc/web/show/3395004/genius-in-america>
- 2013 Smithsonian Magazine Feature Article “The Toxins That Affected Your Great-Grandparents Could Be In Your Genes”:
<http://www.smithsonianmag.com/ideas-innovations/The-Toxins-That-Affected-Your-Great-Grandparents-Could-Be-In-Your-Genes-231152741.html#Skinner-ingenuity-birds-main-473.jpg>
- 2013 Schmidt CW. (2013) “Uncertain inheritance transgenerational effects of environmental exposures” Environ Health Perspect. 121(10):A298-303.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3801462/>

- 2013 Wisconsin Public Radio: Central Time “Your Great-Grandparent’s Toxins Could Be in Your Genes”: <http://www.wpr.org/shows/retaining-talent-uw-system-americas-pest-problem-inherited-toxins>
- 2013 Oregon Public Broadcasting Think Out Loud Radio Newscast “DDT Study Underscores Emerging Science of Epigenetics”: <http://www.opb.org/radio/programs/thinkoutloud/segment/ddt-study-underscores-emerging-science-of-epigenetics/>
- 2013 The Collaboration on Health and the Environment: Audio Interview – “Transgenerational Effects of Prenatal Exposure to Environmental Obesogens in Rodents”: http://www.healthandenvironment.org/wg_calls/11891
- 2013 Science News Feature “From Great Grandma to You”: <https://www.sciencenews.org/article/great-grandma-you>
- 2012 Environmental Health Perspectives Review “More Chemicals Show Epigenetic Effects across Generations”: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385447/>
- 2012 Science News Article ‘Pollutants long gone, but disease carries on’ Janet Raloff: <https://www.sciencenews.org/article/pollutants-long-gone-disease-carries>
- 2010 BBC Radio 4 Programmes – Frontiers, “Epigenetics”: <http://www.bbc.co.uk/programmes/b00wdjgl#synopsis>
- 2009 Science Watch - Thompson Reuters “Epigenetics”: <http://archive.sciencewatch.com/ana/st/epigen/09marEpiSkin/>
- 2007 NOVA Documentary “The Ghosts in your Genes”: http://www.pbs.org/wgbh/nova/transcripts/3413_genes.html
- 2006 BBC Horizon Documentary “The Ghosts in your Genes”: <http://www.bbc.co.uk/sn/tvradio/programmes/horizon/ghostgenes.shtml>

Grants and Fellowships: Total Peer Reviewed Funding Secured from 1985 (\$37,596,690).

Current:

- 2018–2023 NIH 5R01CA175216-03 Proposal “Testicular effects of modern chemotherapy regimens in osteosarcoma survivors” Co-Principal Investigator: Michael K Skinner, WSU and Margaret Shnorhavorian, Seattle Children’s, \$821,171
- 2022-2023 John Templeton Foundation Grant #61174 Supplement, Principal Investigator: Michael K. Skinner, \$200,000
- 2023-2026 St. Francis Hospital, Indianapolis, Indiana, Autism Gift Fund, Principal Investigator: Michael K. Skinner, \$300,000
- 2023-2025 Libra Social Foundation, New York NY “Gift Fund” Principal Investigator: Michael K. Skinner, \$50,000 / yr.

Pending:

- 2024-2027 John Templeton Foundation “Epigenetic Biomarkers and Preventative Medicine” Principal Investigator: Michael K. Skinner, \$2,000,000

Past:

- 2018-2023 John Templeton Foundation (61174) “Epigenetic Diagnostics for Preventative Medicine” Principal Investigator: Michael K. Skinner, \$2,936,242
- 2018-2022 NIH R01 “TWINStudy of Environment, Lifestyle Behaviors, and Health” Principal Investigator: Glenn Duncan with Co-Investigator Michael K. Skinner, \$3,267,706
- 2014–2021 NIH R01 ES012974-014 “Epigenetic Transgenerational Endocrine Disruptor Actions” Principal Investigator: Michael K. Skinner, \$1,887,500
- 2019, 2021, 2023 John Templeton Foundation (61503) Donations - Funding for: Symposium “Epigenetic Inheritance: Impact for Biology and Society” August 2019, 2021, 2023, ETH Zurich, Switzerland
- 2017-2018 NIH R01 2R56AG042176-06 Pilot first year: “TWINStudy of Environment, Lifestyle Behaviors, and Health” Principal Investigator: Glenn Duncan with Michael K. Skinner, \$689,664
- 2015–2017 Gerber Foundation Subcontract (# 3631). “Does Pesticide Exposure in Pregnancy Cause Fetal DNA Imprinting?” Co-Principal Investigator: Michael K. Skinner with Paul Winchester (Indiana), St Francis Hospital, \$291,640.
- 2014– 2017 Templeton Foundation (50183): “Molecular Etiology of Epigenetic Transgenerational Inheritance of Disease” Principal Investigator: Michael K. Skinner, \$2,587,500.
- 2015-2016 NOAA “Steelhead Hatchery Project” Co-Principal Investigator: Michael K. Skinner, NOAA, \$75,000
- 2014–2016 Templeton Foundation: Pilot (54281): “Role of Epigenetics in Evolutionary Biology: Darwin's Finch Speciation Model” Principal Investigator: Michael K. Skinner, \$215,000.
- 2009-2014 NIH R01 ES012974-09 “Epigenetic Transgenerational Endocrine Disruptor Actions.” Principal Investigator: Michael K. Skinner, \$2,359,141.

- 2013–2014 NIEHS NIH R01 ES 012974-09 Supplemental Application “Epigenetic Transgenerational Endocrine Disruptor Actions” Principal Investigator: Michael K. Skinner, \$90,000.
- 2008-2012 DOD W81XWH-08-2-0164 “Epigenetic Origins of Disease from Environmental Factors in the Iraq Theater of Operations” Principal Investigator: Michael K. Skinner, \$3,600,000.
- 2006-2012 NIH R01 HD043093-01” Ovarian Primordial Follicle Development.” Principal Investigator: Michael K. Skinner, \$1,450,000.
- 2009-2011 1R21 ES017538-01A2 “Interaction of Epigenetic and Stress Effects on Brain and Behavior.” Principal Investigator: David C Crews, UT Austin, Co-PI: Michael K. Skinner \$80,000 for WSU.
- 2010-2011 Gates Foundation Grand Challenge Exploration Grant, “Long Lasting Male Contraceptive”, \$100,000.
- 2009-2010 1R13 HD061110-01 “2009 Mammalian Gametogenesis.” Principal Investigator: Michael K. Skinner, \$18,000.
- 2004-2009 NIH R01 ES012974-01 “Epigenetic Transgenerational Endocrine Disruptor Actions.” Principal Investigator: Michael K. Skinner, \$1,284,500.
- 2003-2008 NIH R01 HD 043841-01, “Cell-Cell Interactions in Testis Development”, Principal Investigator: Michael Skinner, \$ 1,321,200.
- 1999-2003 EPA STAR R827405-01, "Endocrine Disruptors and Testis Development." Principal Investigator: Michael Skinner, \$534,583.
- 1998-2002 NIH R01 HD34707-05, "Sertoli Cell Differentiation and Testis Development." Principal Investigator: Michael K. Skinner, \$965,000.
- 1996-2000 NIH R01 HD33372-01, "Mesenchymal-Epithelial Cell Interactions in the Ovary." Principal Investigator: Michael K. Skinner, \$1,154,638.
- 1997-2001 NIH P01 CA 64602-01, "Biology of Ovarian Cancer Program Project." Principal Investigator: Michael Skinner, \$5,493,825; Project #1 \$1,099,642.
- 1993-1997 NIH DK 45889-01, "Cell-Cell Interactions in the Prostate." Principal Investigator: Michael K. Skinner, \$1,026,938.
- 1993-1997 NIH R01 CA 59831-02, "Growth Factors in Prostatic Carcinogenesis." Co-Principal Investigator: Michael Skinner with Gerald Cunha, \$1,250,566.
- 1994-1996 USDA, "Mesenchymal Growth Factors in the Bovine Ovary." Principal Investigator: Michael K. Skinner, \$187,000.
- 1989-1995 NIH 2 R01 HD20583-09, "Cellular Functions and Interactions in the Testis." Principal Investigator: Michael K. Skinner, \$1,667,247.
- 1992-1994 USDA, "Transforming Growth Factor- β Gene Expression and Action in the Bovine Ovary." Principal Investigator: Michael Skinner, \$240,000.
- 1992 Academic Senate Grant, University of California, San Francisco, Institutional Grant, \$12,412.
- 1992 REAC-Clough Fund Grant, University of California, San Francisco, Institutional Grant, \$13,600.
- 1987-1991 NIH 1 R01 HD20922-01-03, "Cellular Functions and Interactions in the Ovary." Principal Investigator: Michael K. Skinner, \$419,847.
- 1986-1991 PEW Scholar Award Program, \$200,000.
- 1988-1990 USDA, 8701258, "Transforming Growth Factor- β Gene Expression and Action in the Bovine Ovary." Principal Investigator: Michael K. Skinner, \$200,000.

- 1986-1989 NIH R01 HD20583-03, "Cellular Functions and Interactions in the Testes." Principal Investigator: Michael K. Skinner, \$492,770.
- 1986-1988 Pharmaceutical Manufacturers Association, 1986 Faculty Development Award in Pharmacology, \$50,000. (Not able to accept due to acceptance of PEW Scholar Award).
- 1984-1987 Mellon Foundation Grant, Vanderbilt University Reproductive Biology Research Center Institutional Grant, \$249,000.
- 1986-1987 American Cancer Society, Vanderbilt Institutional Research Grant IN-25Y, \$7,000.
- 1985-1986 Biomedical Research Support Grant, Vanderbilt University Institutional PHS Grant RR-05424, \$8,000.

Patents:

- 2023 Application entitled "DNA METHYLATION BIOMARKERS FOR PRETERM BIRTH". Filed January 10, 2023. Patent Cooperation Treaty (PCT), United States of America
- 2020 Application entitled "DISEASE SPERM DIFFERENTIAL HISTONE RETENTION BIOMARKERS/DIAGNOSTICS" Filed 12/2020 WSU.
- 2020 Application entitled "SPERM DNA METHYLATION EPIMUTATION BIOMARKERS FOR PATERNAL OFFSPRING AUTISM SUSCEPTIBILITY" U.S. Serial No. (pending). Application: Filed July 22, 2020; WSU. Licensed Inherent Biosciences 2020.
- 2019 Application entitled "MOLECULAR BIOMARKER AND DIAGNOSTIC TEST FOR INFERTILITY AND USES THEREOF" U.S. Serial No. 62/887,000. Application: Filed August 15, 2019; WSU. Licensed Inherent Biosciences 2020.
- 2017 Application entitled "GENOMIC FEATURES ASSOCIATED WITH EPIGENETIC CONTROL REGIONS AND TRANSGENERATIONAL INHERITANCE OF EPIMUTATIONS" Application No.: 13/729,175, US Patent No. 9,734,283, issued on August 15, 2017. Application: Filed 12/28/2012; WSU. Licensed Inherent Biosciences 2020.
- 2016 Application entitled "INHERITABLE EPIGENETIC MODIFICATIONS AS MARKERS OF CHEMOTHERAPY EXPOSURE" U.S. Serial No. 62/301,651, Application: Filed 3/16. Inherent Biosciences licensed.
- 2015 Application entitled "A NOVEL MACHINE LEARNING APPROACH FOR THE IDENTIFICATION OF GENOMIC FEATURES ASSOCIATED WITH EPIGENETIC CONTROL REGIONS AND TRANSGENERATIONAL INHERITANCE OF EPIMUTATIONS." U.S. Serial No. 62/252,600, Application: Filed 11/15; WSU; WSURF. Licensed Inherent Biosciences 2020.
- 2012 Application entitled "MODIFIED CELLS EXPRESSING A PROTEIN THAT MODULATES ACTIVITY OF BHLH PROTEINS, AND USES THEREOF." U.S. Serial No. 11/587,888, Application: Filed 9/12; WSU; WSURF.
- 2005 Michael K. Skinner et al. entitled "CANCER CHEMOTHERAPY COMPOSITIONS COMPRISING PI3K PATHWAY MODULATORS AND TRIPTOLIDE." U.S. Serial No. 12/661,654, filed 3/10, which is a continuation of U.S. Serial No. 11/545,909, filed on 10/06; which claims the priority of U.S. Serial No. 60/726,969, filed 10/05, A&A Ref. 30847.1USC1, WSURF Ref 610
- 2005 Application entitled "MODIFIED CELLS EXPRESSING A PROTEIN THAT MODULATES ACTIVITY OF BHLH PROTEINS, AND USES THEREOF." U.S. Serial No. 60/566,685: Filed 4/05; Allowed 9/12; WSU.
- 2005 Application entitled "METHODS FOR DIAGNOSING EPIGENETIC, TRANSGENERATIONAL EFFECTS OF ENVIRONMENTAL TOXINS ON MAMMALIAN GERM-LINES AND TREATING ASSOCIATED DISEASES." U.S. Serial No. 60/683,134, filed May 20, 2005, Allowed 10/13. Inherent Biosciences licensed.
- 2004 Application et al. entitled "FSH REGULATED GENES AND ENTITLED "A METHOD OF DIAGNOSIS". U.S. Serial No. 60/604,971; Filed 8/04; Monash University, Australia & WSU.

- 2003 Application entitled "A METHOD OF DETERMINING TUMOR CHARACTERISTICS BY DETERMINING ABNORMAL COPY NUMBER OF LIPID-ASSOCIATED GENES." U.S. Serial No. 10/647,426; Filed 8/03.
- 2000 Application entitled "ENZYME METHOD FOR DETECTING SPHINGINE-1-PHOSPHATE (SIP) AND USE AS MARKER IN DISEASE." U.S. Serial No. 09/661,998; Filed 10/00. Allowed 06/28/2005.
- 1997 Application entitled "cDNA COLLECTIONS ENCODING PROTEINS REGULATED." Field of Invention: Prostate cDNA library and identification of genes associated with apoptosis for diagnostic disease (i.e., cancer and benign prostatic hyperplasia). U.S. Serial No. 08/751,782, Filed 11/18/96.
- 1988 Application entitled "TESTES FUNCTION ENHANCING PROTEINS." Field of Invention: Testicular paracrine factors which are involved in male fertility and male contraception. U.S. Serial No. 291,682, VU 8873 filed 12/27/88.

Industrial and Academic Interactions:

2016-2019 Mawdsley Lake Fishing Lodge Inc. Saskatchewan, Canada. Partner with three others in ownership and operations lodge. (Sold 2019) (www.mawdsleylakefishinglodge.com)



2011-2020 Epigenesys Inc., Founder and Chief Scientific Officer, Pullman, WA.



Epigenesys develops epigenetic diagnostics for disease to use as biomarkers of disease susceptibility prior to disease development. The epigenetic diagnostics will facilitate preventative medicine. (Ceased laboratory operations 10/2018) (Acquired 2020 by Inherent Biosciences, Salt Lake City, Utah)

2009-2014 Scientific Consultant, Pacific Biosciences, Menlo Park, CA.

2009-2010 Scientific Consultant, University Funds, Venture Capital Firm, Seattle, WA.

2007-2009 Scientific Consultant, Rosetta Inpharmatics/Merck Pharmaceutical, Seattle, WA.

2007-2008 Scientific Consultant, PregLem Biotechnologies, Geneva Switzerland

2006-2007 Scientific Consultant, Institute for Systems Medicine, Spokane, WA.

2003-2006 Board of Directors, Biotechnology Industry Organization (BIO), Centers and Parks representative.

BIO is the world’s largest industry organization representing over 1,000 companies and institutions.

1999-2003 Director, Founder and Chief Scientific Officer, Atairgin Technologies, Irvine CA.



Atairgin Technologies Inc. was a biotechnology company focused on early diagnostics and therapeutics. Early stage ovarian cancer and breast cancer blood tests are lead products. The company had approximately 50 employees and was located in Irvine, California. The company was originally established and operated for two years out of the WSU Research and Technology Park. (The company was majority shareholder acquired by two venture groups and moved to Cleveland, Ohio and renamed LPL Technologies, Inc. in 2003).

1996-1999 President, Director, and Founder, Atairgin Technologies Inc., Pullman, WA;
Lead Products in Reproductive Cancer Diagnostics and Therapeutics.
Company initially established in the WSU Technology Park.

2002-2003 Chairman, Board of Directors, Bio~Origyn, Spokane, WA



Bio~Origyn had a base technology in bioactive carbohydrates with lead products in fertility treatments and blood processing. The company was a start-up biotechnology company that spun out of WSU.

2001- 2003 Member, Scientific Advisory Board, Bio~Origyn Biotechnologies, Spokane, WA.

1996-2000 Scientific Consultant, BioMarin, Navato, CA.

1995-1997 Scientific Consultant, Amgen, Thousand Oaks, CA.

1995-1997 Scientific Consultant, Pharmagenesis, Palo Alto, CA.

1994 Scientific Consultant, Millineum Pharmaceuticals, Boston, MA.

1993 Scientific Consultant, Genentech, South San Francisco, CA.

1988-1991 Scientific Advisory Board and Consultant, East Acres Biologicals, Inc., Southbridge, MA.

1988-1992 Chairman, Board of Directors and Chief Scientific Advisor, Founder, Research Supply, Inc., Nashville, TN.



Research Supply Inc, was a research supply company that provided domestic animal tissue and biological fluids to research laboratory companies around the country.

1989 Scientific Consultant, Innogenetics, Ghent, Belgium.

Invited Symposia and Plenary Lectures: (196 Presentations)

- 2023 (August) Epigenetic Inheritance Symposium, Zürich, Switzerland
- 2023 (August) Centers for Reproductive Biology (CRU) Annual Meeting, Uppsala, Sweden
- 2022 (October) The 10th Annual Thought Leaders Consortium: The Intersection of the Intestinal Microbiome with Clinical Epigenomics – Keynote, Seattle, WA
- 2022 (August) Burroughs Wellcome Fund (BWF) and the John Templeton Foundation (JTF), planning meeting on “Exploring the Role of Epigenetic Inheritance in Disease Diagnostics and Susceptibility” BWF Headquarters, Durham, NC, USA
- 2022 (August) African Conference “Epigenetics / Reproduction / Environment”, Kenya Africa. (organizer)
- 2022 (June) International Urology Congress, IUC 2022 (online webinar).
- 2022 (June) JSEDR (Japan Society of Endocrine Disrupters Research) 2022 Annual Meeting (virtual)
- 2022 (May) Virtual workshop on pesticides exposures – PEDIAC consortium on the Causes and origins of childhood cancers, Paris, France
- 2022 (May) Keynote presentation for Webinar on pesticides: exposures, metabolism and toxicology in the context of pediatric cancers
- 2022 (April) Animal Science-2022, Tokyo.
- 2022 (March) Keystone Symposia Innate Immune Memory: From Evolutionary Roots to Human Disease, Fairmont Banff Springs, Banff, AB, Canada.
- 2022 (March) International Meet on Animal Science and Veterinary Medicine (ASVMMEET2022), Invited Plenary Speaker, Dubai.
- 2021 (November) XV Meeting (online) of the Brazilian Society of Mutagenesis and Environmental Genomics (MutaGen-Brasil).
- 2021 (November) Oxford Journals Month – Event Series invited webinar speaker.
- 2021 (October) International Meet on Toxicology (TOXICOLOGYMEET2021), Valencia, Spain.

2021 (August)	Epigenetic Inheritance Symposium (virtual), Zürich, Switzerland
2021 (July)	Steelhead hatchery impacts on epigenetics for BC Wildlife Federation – Webinar
2021 (May)	International Congress on Midwifery and Maternal Health, Windsor, Berkshire
2021 (Apr-May)	Pediatric Academic Societies (PAS) 2021 Virtual Meeting Scholarly Session.
2021 (April)	Seattle Children's, division of pediatric urologists clinical meeting “Chemotherapy Induced Epigenetic Transgenerational Inheritance of Disease to Subsequent Generations”, Seattle, WA
2021 (February)	UK Committee on Mutagenicity of Chemicals in Food, Consumer Products and the Environment. United Kingdom. February 11, 2021
2021 (January)	International Embryo Technology Society (IETS) Virtual Online Meeting, Keynote Presentation, Champaign, IL. https://www.iets.org/Meetings/2021-IETS-Annual-Meeting
2020 (December)	The People vs Agent Orange UK Premiere. Panel Participant. December 2, 2020. https://www.globalhealthfilm.org/resources/127-the-people-vs-agent-orange-2020
2020 (December)	Beyond Genes: The Online Conference on Non-genetic Inheritance in Human Disease, Plenary Address, Toxicology, San Jose, CA.
2020 (October)	Beyond Genes: The Online Conference on Non-genetic Inheritance in Human Disease, Plenary Address Mechanisms, San Jose, CA.
2020 (October)	Virtual Congress of Pesticides: “National Congress of Pesticides: Environment and Health”, Keynote Address, Mexico. October 13, 2020. Host: Dr. Aurora Elizabeth Rojas. https://www.redtoxicologiadeplaguicidas.org/
2020 (September)	Örebro University in Sweden, Man-Technology-Environment Research Centre, School of Science and Technology, PhD Disputation Melanie Blanc, Seminar and Defense. Virtual Meeting. September 14, 2020.
2020 (September)	Mountain West Regional Chapter of the Society of Toxicology (MWSOT) Zoom Presentation, Keynote Address, Logan, UT. https://www.toxicology.org/groups/rc/mtwsot/meetinginfo.asp

- 2020 (September) Annual Meeting of the British Toxicology Society (BTS), Keynote Address, Cardiff, UK. Virtual Meeting. September 18, 2020. <https://www.thebts.org/>
- 2020 (August) Humanists of Greater Portland, Zoom Public Presentation, Portland OR.
- 2020 (August) PFAS Committee Meeting, Washington Academy of Science. August 25, 2020. <https://www.washacadsci.org/>
- 2020 (August) Columbia Grange Weed Association, Zoom Public Presentation, Portland OR. August 26, 2020. <https://columbiagorgecwma.org/>
- 2020 (July) Stevenson Grange #121, Stevenson WA, Glyphosate Zoom Public Presentation / Discussion. July 15, 2020. <http://www.grange.org/stevensonwa121/>
- 2020 (March) Invited Speaker, Epigenetics & Toxicology meeting, Rennes France. March 5, 2020. <https://stcm-france.fr/>
- 2019 (November) Keynote presentation, Innate Immune Memory 2019 Conference, Keynote, Nijmegen, the Netherlands. November 1, 2019.
- 2019 (August) Epigenetic Inheritance 2nd Symposium: Impact for Biology and Society, Zurich, Switzerland. Plenary Talk. August 26, 2019.
- 2019 (May) Gordon Research Conference – Germinal Stem Cell Biology, Hong Kong. Plenary Talk. May 22, 2019.
- 2019 (May) John Templeton Foundation 2018-2019 Speaker Series, West Conshohocken, PA.
- 2018 (November) 7th International Symposium on Animal Functional Genomics (ISAFG). Keynote address, University of Adelaide, Roseworthy, Australia.
- 2018 (October) Children's Hospital Research Institute of Manitoba (CHRIM) Child Health Research Days annual conference - “Protecting the Future: How the Environment Impacts Child Health”, Keynote addresses, Public & Research, Winnipeg, Canada.
- 2018 (August) Rotary Club of Pullman, Pullman, WA.
- 2018 (August) African Conference “Epigenetics / Reproduction / Environment”, Kenya Africa.
- 2018 (July) Male Infertility Expert’s Meeting, Ferring Pharmaceutical, Parsippany, NJ

- 2018 (March) Epigenetic Meeting, Ferring Pharmaceutical, Parsippany, NJ.
- 2018 (January) American Society for Parenteral & Enteral Nutrition (ASPEN) Nutrition Science & Practice Conference, Las Vegas, NV.
- 2017 (October) Epigenetics Public Talk, The Pleiades Group, 1912 Center, Moscow, ID.
- 2017 (October) Leibniz Institute for Zoo and Wildlife Research (IZW), 11th International Conference on Behavior, Physiology and Genetics of Wildlife, Berlin, Germany.
- 2017 (August) Latsis Symposium “Transgenerational Epigenetic Inheritance: Impact for biology and society”, University of Zurich, Zurich, Switzerland.
- 2017 (July) 50th Annual Meeting of the Society for the Study of Reproduction (SSR), “50 Years of Research: Looking Back and Moving Forward,” Washington DC.
- 2017 (March) Preimplantation Genetics (PGDIS) International Conference, Valencia, Spain.
- 2016 (October) African Conference “Epigenetics / Reproduction / Environment”, Kenya, Africa.
- 2016 (September) EU COST Action Meeting “EpiConcept: Epigenetics & Periconception Environment” Giardini Naxos, Sicily, Italy.
- 2016 (August) StartART Congress, Keynote Address, Las Vegas, NV.
- 2016 (July) Plenary Speaker at the International Society for Animal Genetics (ISAG) Conference, Salt Lake City, UT.
- 2016 (April) Trans-NIH Conference on Transgenerational Inheritance, Bethesda MD.
- 2016 (March) EHS Grand Rounds Seminar, Johns Hopkins School of Public Health, Baltimore, MD.
- 2016 (February) Canadian National Perinatal Research Meeting (CNPRM), Plenary Speaker, Banff National Park, Banff, Alberta, Canada.
- 2015 (September) Ferring Pharmaceutical Seminar, Copenhagen, Denmark.
- 2015 (July) American Society of Animal Science (ASAS-ADSA Joint Annual Meeting), Triennial Reproduction Symposium (TRS), Developmental Programming of Fertility, Orlando, FL.

- 2015 (June) Richard Rockefeller Memorial Conference, Soul Wounds: Trauma and Healing across Generations, Keynote, Stanford University, Stanford CA.
- 2015 (April) de Snoo – van’t Hoogerhuijs Foundation Bi-Annual Symposium Utrecht, The Netherlands.
- 2015 (February) Ferring Pharmaceutical Seminar, Keynote Address, Copenhagen, Denmark.
- 2014 (November) TedxRainier, McCaw Hall, Seattle Center, Seattle WA
- 2014 (November) Evolutionary Biology Colloquium, University of Wisconsin, Madison. Madison, WI.
- 2014 (November) Metabolism, Environmental Exposures, Cardiometabolic Diseases and Hormone Management. Miami, FL.
- 2014 (October) Keynote Address, German Association for Gene Diagnostics. Potsdam, Germany.
- 2014 (June) Joint meeting of the Teratology Society and the Neurobehavioral Teratology Society, University of Washington, Bellevue, WA.
- 2014 (June) University of Washington, Developmental Plasticity & Evolution, NOAA Symposium, Seattle, WA.
- 2014 (January) Mini-Colloque on Epigenetics & Evolution, University Paris Descartes, Paris, France.
- 2013 (September) Top Ten Project in Reproductive Medicine: Debating Break-through Basic and Clinical Papers with their Authors. Host: Serono Symposia International Foundation (SSIF), Florence, Italy.
- 2013 (August) African Conference “Epigenetics / Reproduction / Environment”, Kenya, Africa.
- 2013 (July) Keynote Address, Marine Biomedicine and Environmental Science, Graduate Student Annual Meeting, The Medical University of South Carolina, Charleston, SC.
- 2013 (May) Gregor Stoddard Visiting Professorship and Lecturer University of Colorado Department of Pediatrics Section of Neonatology, University of Colorado, School of Medicine, Aurora, CO.

- 2013 (May) Keynote Address, College of Reproductive Biologists Symposium at the American Association of Bioanalysts Annual Conference. Las Vegas, Nevada.
- 2013 (April) 10 Years SGA Treatment Experience: Insights & Future Perspectives, Host: Pfizer, Madrid, Spain.
- 2013 (March) Environmental Epigenetics: New Frontiers for Autism Research, Autism Speaks, Sacramento, CA.
- 2012 (December) Sustainable Path Foundation Epigenetics Seminar, Seattle WA.
- 2012 (November) Keynote Speaker, University of Florida, Genetics Institute (UGFI) Annual Genetics Symposium, Gainesville, FL.
- 2012 (August) Conference of European Comparative Endocrinologists - Symposium on "Endocrine Disruptors and Epigenetics" Zurich, Switzerland.
- 2012 (May) Research Plan on Fragile X Syndrome and Associated Disorders FX-P01 NIH. Bethesda, MD.
- 2012 (May) Keynote Address, Michigan Alliance for Reproductive Technologies and Science (MARTS), Meeting, Wayne State University, Detroit MI.
- 2012 (May) Autism Society WA, St Luke's Rehabilitation Center, Spokane WA.
- 2012 (May) Keynote address, 7th Annual Women's Health Research Day, "Does Mom Matter? Mechanisms of Maternal Contributions to Offspring Health". Wake Forest Epigenetics Conference, Wake Forest University, Winston-Salem NC.
- 2012 (March) Keynote Address, Environmental Health Program, Oslo, Norway.
- 2012 (March) Canadian Society of Biochemistry, Molecular and Cellular Biology (CSBMCB) 55th Annual Meeting/Conference, Whistler, British Columbia
- 2011 (December) Epigenetics Autism Meeting, Autism Speaks, Washington DC.
- 2011 (October) Nature Medicine Reproductive Biology Project, Munich, Germany.
- 2011 (September) World Congress on Developmental Origins of Health and Disease, Portland, OR.
- 2011 (August) Gordon Research Conference, Hormone Action in Development and Cancer, Bryant University, Rhode Island.

- 2011 (April) American Pediatric Society, APS/ASPR Meeting, Denver, CO.
- 2011 (March) North American Testis Workshop, Montreal, Canada.
- 2011 (March) Keystone Symposium – Environmental Epigenomics and Disease Susceptibility, Asheville, NC.
- 2011 (March) African Conference “Reproduction and the Environment”, Kenya, Africa.
- 2010 (September) ESPE (European Society for Paediatric Endocrinology) 2010, Prague, Czech Republic.
- 2010 (September) Institute of Medicine, Veterans and Agent Orange Meeting, Washington DC.
- 2010 (July) Society for Behavior and Neuroendocrinology (SBN), Annual Meeting, Toronto Ontario, Canada.
- 2010 (July) Perinatal Programming of Offspring Quality – Symposium for ASAS, American Society Animal Science, Denver, CO.
- 2011 (June) Keynote Address, The Canadian Student Health Research Forum (CSHRF) Symposia on “Epigenetics” and “Neuroscience and Mental Health” University of Manitoba, Winnipeg, Canada.
- 2010 (May) 30th Annual ASRI, American Society Reproductive Immunology Meeting, Farmington, PA.
- 2010 (May) Epigenetics Symposium, sponsored by the Nobel Institute for Chemistry the Royal Swedish Academy of Sciences, Institute for Advanced Studies, Lund University, Lund, Sweden.
- 2010 (April) Keystone Symposia on Developmental Origins and Epigenesis in Human Health and Disease, Singapore.
- 2010 (April) International Symposium on Reproductive Hazards in the Workplace Environment, RHICOH, Taipei Taiwan.
- 2010 (February) Straub Environmental Lecture Series, Featured Speaker, Salem. Oregon.
- 2009 (December) International Congress, Prenatal Programming and Toxicology, PPTOXII, Miami Florida.
- 2009 (October) 21st Century Advances in the Molecular Toxicology of Environmental Chemicals and the Pathogenesis of Disease, Symposium, Keynote Address, University of Tokyo, Tokyo, Japan.

- 2009 (October) e.hormone Meeting, New Orleans, LA.
- 2009 (October) Children's Environmental Health Forum (CHE-WA) Keynote Speaker, Seattle, WA.
- 2009 (August) USACHPPM- DOD The Force Health Protection Conference, Albuquerque, New Mexico.
- 2009 (June) FASDSG (Fetal Alcohol Spectrum Disorder Study Group) Convention, San Diego, California.
- 2009 (May) "Epigenetics and Child Health" conference, Keynote speaker, Marstrand, Sweden.
- 2009 (March) NIH NIAD Meeting "Emerging Evidence for the role of Epigenetics in Adult Onset Disease", Bethesda, MD.
- 2009 (February) Keystone Symposia, Frontiers in Reproductive Biology and Regulation of Fertility, Santa Fe, New Mexico.
- 2008 (November) NIH NIDDK Meeting, "Dynamic Epigenome and Homeostatic Regulations", Washington DC.
- 2008 (October) US Environmental Protection Agency, EPA Science Advisory Board Meeting, Keynote Lecture, Washington DC.
- 2008 (October) Germ Cell-Soma Interactions in Gonadal Development, and Germ Cell Tumors Workshop, Baeza/Jaen Spain.
- 2008 (July) 24th Annual Meeting of ESHRE, Paternal Inheritance-Sperm and Epigenetics, Keynote Lecture, Barcelona, Spain.
- 2008 (July) Bregenz European Graduate Summer School, Keynote Lecture, Bregenz, Austria.
- 2008 (June) FASEB Summer Conference, Biological Methylation, Carefree, Arizona.
- 2008 (April) Spokane Rotary Club Meeting, Keynote speaker, "Human Epigenome", Spokane, WA.
- 2008 (April) American Society of Andrology (ASA) Annual Meeting, Albuquerque, NM.
- 2008 (February) Serono Symposia, "Gene, Environment, Lifestyle Interaction and Human Reproduction". Malmo, Sweden.

- 2007 (December) 41st Annual Gene Family and Isozyme Conference, Tamarindo, Costa Rica.
- 2007 (October) 48th Annual Meeting of the European Society for Pediatric Research, Keynote Lecture, Prague, Czech Republic.
- 2007 (September) Genetics and Male Infertility Congress, Keynote Lecture, Florence, Italy.
- 2007 (July) Society for the Study of Reproduction 40th Annual Meeting, San Antonio, TX.
- 2007 (June) Epigenetics: Mechanism to Medicine International Workshop, Dublin, Ireland.
- 2007 (June) 4th Conference on Female Reproduction, Keynote Lecture, Munich, Germany.
- 2007 (April) Gamma Sigma Delta Meeting, Texas A&M University, College Station Texas.
- 2007 (January) PEW Scholar Alumni Meeting, Cancun, Mexico.
- 2006 (December) 40th Annual Gene Family and Isozyme Conference, Belize.
- 2006 (November) Annual Meeting of the Australian Health & Medical Research Congress, Melbourne Australia.
- 2006 (October) 6th Copenhagen Workshop on Carcinoma in Situ Testis and Germ Cell Cancer, Keynote lecture, Copenhagen, Denmark.
- 2006 (September) 12th International Congress on Hormonal Steroids and Hormones & Cancer, Keynote Lecture, Athens, Greece.
- 2006 (September) 2nd International Conference Molecular Research in Environmental Medicine, Keynote Lecture, Paris, France.
- 2006 (June) Gordon Research Conference, Endocrine Disruptors, Lucci, Italy.
- 2006 (June) Gordon Research Conference, Mammalian Gametogenesis and Embryogenesis, New London, Connecticut (Vice Chairman).
- 2006 (April) Pediatric Academic Societies (PAS) Annual Meeting, San Francisco, CA.
- 2006 (April) Texas A&M annual meeting, Reproductive Biology Center, Keynote Lecture, Houston, Texas.
- 2006 (March) 45th Annual Meeting, Society of Toxicology, San Diego, CA.

- 2006 (February) Workshop on Early Life Exposures and Adult Diseases, National Academy of Sciences Committee on Emerging Issues and Data on Environmental Contaminants (Toxicogenomics), Washington D.C.
- 2005 (December) 39th Annual Conference on Gene Families and Isozymes, Vieques, San Juan.
- 2005 (November) 3rd International Congress on the Developmental Origins of Health and Disease, International Society for Developmental Origins of Health and Disease, Toronto, Canada.
- 2005 (November) Annual Meeting, Japan Society of Reproductive Endocrinology, Keynote Lecture, Tokyo, Japan.
- 2005 (October) American Society Reproductive Medicine (ASRM)/CFAS Conjoint Annual Meeting, Montreal Canada.
- 2005 (October) Endocrine Disruptors Symposia, Nationale Forschungs Programme (NFP), Keynote lecture, Lugano, Switzerland.
- 2005 (September) Environmental Mutagen Society, 9th ICEM, Global Issues in Genetic Toxicology and Environmental Mutagenesis, San Francisco, CA.
- 2005 (July) 3rd International Congress on Male-Mediated Developmental Toxicity, Keynote Lecture, University of Bradford, United Kingdom.
- 2005 (July) Hormone Action Gordon Research Conference, Mount Holyoke College, South Hadley, MA.
- 2005 (June) Endocrine Society Annual Meeting Satellite Symposia “Endocrine Disruptors”, San Diego CA.
- 2005 (April) Testis Workshop, Seattle, WA.
- 2004 (September) Mutagenesis Conference, Assessing Human Germ Cell Mutagenesis in the Post-Genome Era: A Celebration of the Legacy of William Lawson (Bill) Russell, Jackson Laboratories, Bar Harbor, Maine.
- 2004 (June) Gordon Research Conference, Endocrine Disruptors, Keynote Address, New London, New Hampshire.
- 2004 (June) Gordon Research Conference, Mammalian Gametogenesis and Embryogenesis, New London, Connecticut.

- 2004 (March) Society for Women’s Health Research (SAGE), 5th Annual Conference on Sex and Gene Expression, “Endocrine and Paracrine Control of Ovarian Primordial Follicle Assembly & Development: Establishing Female Reproductive Potential” Winston- Salem, NC.
- 2003 (December) International Symposium on Environmental Endocrine Disruptors, 2003: “Epigenetic Transgenerational Endocrine Disruptor Effects on Male Fertility”. Sendai, Japan.
- 2003 (December) 35th Isozyme and Gene Family Conference, Presentation: “Role of the basic-helix-loop-helix transcription factor gene family in the regulation for Sertoli cell differentiation and testis development” Ambergris Caye, Belize.
- 2003 (July) Society for the Study of Reproduction 36th Annual Meeting, Session Chair “Gene Regulation”, Cincinnati Ohio.
- 2002 (November) Inland Northwest Cancer Conference, Spokane, WA.
- 2002 (October) Environmental Protection Agency (EPA) Conference, “Endocrine Disruptors”, Research Triangle Park, North Carolina.
- 2002 (July) Gordon Research Conference, “Gametogenesis and Embryogenesis”, Chair Patricia Hunt, Connecticut College, New London, CT.
- 2001 (July) Society for the Study of Reproduction, 34th Annual Meeting, Session Chair, “Gonadal Cell Fate and Survival” Ottawa, Ontario, Canada.
- 2000 (November) Symposia National Institutes of Environmental Health Sciences (NIEHS), “Gender Differences in Reproductive Biology and Toxicology,” Tucson, AZ.
- 2000 (July) Serono Symposia USA, XIII Ovarian Workshop: Molecular and Cellular Basis Paracrine, Autocrine and Juxtacrine Communication in the Ovary. Madison, WI.
- 2000 (March) National Institutes of Health Conference, NICHD “The Ovary: Genesis, function, and failure,” Bethesda, MD.
- 2000 (January) PEW Scholar Alumni Meeting, Puerto Vallarta, Mexico.
- 1999 (April) XV Testis Workshop, Louisville, Kentucky.
- 1998 (August) Gordon Research Conference, “Reproductive Tract,” Chair: Ken Korach, Colby-Sawer College, New London, New Hampshire.

- 1997 (June) Endocrine Society Annual Meeting, "Cell-Cell Interactions in the Testis," Symposia, Minneapolis, MN.
- 1996 (August) Gordon Research Conference, "Mammalian Gametogenesis and Embryogenesis," Chair: Susan Heyner, Colby-Sawyer College, New London, New Hampshire.
- 1996 (July) Society for Study of Reproduction, 29th Annual Meeting, "Paracrine Mediators in the Reproductive System," Symposia, University Western Ontario, London, Ontario, Canada.
- 1996 (March) 1996 International Symposia on Biology of Prostate Growth, Chair "Morphogens and Stromal-Epithelial Cell Interactions," Session, Washington, D.C.
- 1995 (July) NICHD Center Directors Meeting, "Reproductive Developmental Biology," UCSF, San Francisco, CA.
- 1995 (March) International Symposia on "Sexual Differentiation and Maturation," Ares Serono Symposia, held in Tokyo, Japan.
- 1995 (March) PEW Scholar Alumni Meeting, Puerto Rico.
- 1994 (October) Society Basic Urologic Research Fall Symposium, Stanford University, Stanford, CA.
- 1994 (July) Gordon Research Conference; Reproductive Tract Biology; Chairman Dr. George Stancel, Plymouth State University, New Hampshire.
- 1994 (April) FASEB Meeting, Federation American Societies for Experimental Biology, Mesenchymal-Epithelial Interactions Symposium, Los Angeles, CA.
- 1993 (May) American Association for Cancer Research 84th Meeting, "Mesenchymal-Epithelial Interactions with Normal and Neoplastic Epithelial Cells symposia," Orlando, FL.
- 1993 (February) National Institute for Basic Biology Conference, "Vertebrate Germline: Its Development and Maturation," Okazaki, Japan.
- 1992 (July) Gordon Research Conference; Mammalian Gametogenesis and Embryogenesis; Chairman, Dr. Richard Schultz, Colby-Sawyer College, New Hampshire.
- 1992 (May) IX International Workshop, "Development and Function of the Reproductive Organs," Peebles, Scotland.

- 1991 (August) American Society of Animal Science Meeting, Reproductive Symposium, Laramie, WY.
- 1991 (April) The 11th Testis Workshop on, "Endocrine Regulation of Testis Function," McGill University, Montreal, Quebec, Canada.
- 1991 (April) PEW Scholar Alumni Meeting, Grand Cayman Islands, BWI.
- 1990 (October) Serono Symposium on, "Regulation and Actions of Follicle Stimulating Hormone," held at Northwestern University, Evanston, IL.
- 1990 (April) International ARES-Serono Symposium on, "Hormonal Communicating Events in the Testes," held in Rome, Italy.
- 1990 (April) Serono Symposia on, "Growth Factors in Reproduction," Savannah, GA.
- 1990 (March) The Annual PEW Scholar Meeting; Coral Gables, FL.
- 1989 (November) Serono Symposium on, "Advances in Neuroendocrine Regulation of Reproduction: Basic and Clinical Aspects," held in Napa Valley, California.
- 1989 (September) Australian Society for Reproductive Biology Symposia on, "Local Regulation in the Gonad," held in Melbourne, Australia.
- 1989 (May) The 4th International Congress of Andrology; held in Florence, Italy.
- 1988 (August) The 8th Ovarian Workshop, "Paracrine Communication in the Ovary; Oncogenesis and Growth Factors," co-sponsored by Serono Symposia and NIH, held at the University of Puget Sound, Tacoma, Washington.
- 1988 (July) The 8th International Congress of Endocrinology, held in Kyoto, Japan.
- 1988 (July) The Mammalian Gametogenesis and Embryogenesis Gordon Conference; Chairman, Dr. Norman Hecht, Colby-Sawyer College, New Hampshire. (unable to accept)
- 1988 (April) The NIH NICHD Contraceptive Development Branch, "Workshop on LHRH Analogs and Reproductive Polypeptides," held at NIH, Washington, DC.
- 1988 (March) The 35th Annual Society for Gynecologic Investigation Scientific Meeting, held in Baltimore, MD.
- 1987 (September) The "Second Symposium on Regulatory Actions of Growth Factors in Reproduction and Early Development," sponsored by: Reproductive

Sciences Branch of NICHD, held at the Marine Biology Laboratories, Woods Hole, MA.

- 1987 (March) The Annual PEW Scholar Meeting, Tarpon Springs, FL.
- 1986 (October) The 9th Testis Workshop on, "The Cell Biology of the Testis and Epididymis," Vanderbilt University, Nashville, TN.
- 1984 (July) The 7th International Congress of Endocrinology, Quebec City, Quebec, Canada.

Invited University & Government Seminars: (151 Presentations)

2023 (November) (Scheduled)	ISERM Grant Review, Paris, France
2023 (June)	UW Interdisciplinary Center on Exposures, Diseases, Genomics and the Environment (EDGE) Symposia, University of Washington, Seattle, WA (virtual)
2023 (March)	Developmental & Regenerative Sciences seminar series, University of Texas at San Antonio, San Antonio Texas
2023 (February)	University of Paris Descarte, Invited Visiting Professor, Paris France
2022 (June/July)	Meet the Professor Seminar, University of Aveiro, Portugal (Virtual)
2022 (February)	University of Paris Descarte, Seminar / Webinar 3S/BFA (Environmental Toxicant Induced Epigenetic Transgenerational Inheritance of Disease: Generational Toxicology), Paris, France
2022 (February)	University of Paris Descarte, European Magister in Genetics (MEG) Webinar, Paris, France
2022 (February)	University of Paris Descarte, Invited Visiting Professor, Paris France
2021 (October)	Grand Rounds lecture series, Stony Brook University Medical Center Stony Brook, NY
2021 (July)	Webinar on Agriculture, Food & Aqua Organized by Coalesce Research Group, Greenville, SC
2021 (May)	Stanford Continuing Studies course BIO 03 W: Diet and Gene Expression: You Are What You Eat, Stanford, California
2021 (March)	University of Paris Descarte, Invited Visiting Professor, Paris France
2021 (January)	UCR Environmental Toxicology Graduate Program (ETOX) seminar. Division of Biomedical Sciences, School of Medicine, University of California, Riverside, CA.
2020 (November)	Uppsala University, Sweden, Department of Biology Seminar.
2020 (October)	Seminar series for the MCB graduate students, Arizona State University
2020 (March)	University of Paris, Invited Visiting Professor, Epigenetics & Toxicology symposia, Paris France

2019 (October)	Genetic and Environmental Toxicant Association (GETA) of Northern California Fall Symposium, EPA California, Oakland, CA
2019 (April)	Research Seminar, Department of Neuroscience, University of Lethbridge, Alberta, Canada
2019 (April)	Epigenetics Presentation “At the Intersection: Science and Spirituality” Congregation Neveh Shalom, Portland OR
2019 (March)	University of Tennessee Health Science Center, Department of Genetics, Genomics and Informatics Seminar, Memphis, TN
2019 (February)	Department of Veterinary Microbiology and Pathology Seminar, Washington State University, Pullman WA
2018 (October)	Initiative for Research and Education to Advance Community Health (IREACH), Washington State University, Seattle, WA
2018 (October)	EDGE Superfund Program, EAB Meeting and Annual Retreat, University of Washington, Seattle, WA
2018 (January)	MPH Course, University of Paris, Paris France
2017 (December)	Superfund Retreat, University of Milwaukee, Wisconsin
2017 (November)	Biology Department, Gonzaga University, Seminar
2017 (November)	Depts. of Developmental and Cell Biology and Pharmaceutical Sciences Seminar Speaker, UC Irvine, Irvine CA
2017 (November)	Mayo Graduate School Seminar, Mayo Clinic, Department of Biochemistry and Molecular Biology, Rochester, MN
2017 (September)	Duke University, Program in Ecology, Invited Speaker, Durham, NC
2017 (April)	WSU Smerdon /Reeves Chromatin-DNA Repair Symposia, Washington State University, Pullman WA
2017 (February)	Darwin Day Speaker, Department of Biology, Eastern Washington University
2016 (November)	Environmental Health Sciences Center 2nd Annual Retreat, Keynote Speaker, UC Davis, Davis, CA
2016 (November)	University of Zurich, Life Science Seminar Series (LSSS), Zurich,

Switzerland

- 2016 (April) Trans-NIH Conference on Transgenerational Inheritance, NIH Main Campus, Bethesda, MD
- 2016 (April) Public health symposium, “How Technology is Improving Public Health” Purdue main campus, Stewart Conference Center, West Lafayette, Indiana
- 2016 (April) School of Health Sciences Seminar, Purdue main campus, School of Health Sciences, West Lafayette, Indiana
- 2015 (December) Seminar Speaker Toxicologie Pharmacologie et Signalisation Cellulaire, Inserm-Université Paris Descartes, Paris France.
- 2015 (October) Biology Graduate Student Association Distinguished Lecturer, Department of Biology, East Carolina University, Greenville, NC.
- 2015 (October) Toxicology Program Lecturer, Department of Biological Sciences, North Carolina State University, Raleigh, NC.
- 2015 (September) Department of Urology, University of Chicago, Departmental Grand Rounds Seminar, Chicago, IL.
- 2015 (September) University of Texas Medical Branch, Biological Chemistry Student Organization and Dept. of Biochemistry and Molecular Biology, Pioneering Biological Discovery Seminar speaker and the inaugural speaker of the Basic Sciences Distinguished Seminar Series, Galveston, TX
- 2015 (August) Keynote Lecture, Washington State University, Center for Reproductive Biology Retreat, Pullman, WA.
- 2015 (April) Clark Atlanta University, Department of Biological Sciences Seminar, Atlanta, GA.
- 2015 (April) Emory University, Department of Biology Seminar and LucchesiFest Symposium, Atlanta, GA.
- 2014 (December) Center for Ecogenetics and Environmental Health (CEEH) Annual Retreat Invited Speaker, Keynote Seminar, University of Washington, Seattle WA
- 2014 (October) Environmental Protection Agency (EPA) Region 10 Meeting, Seattle WA.
- 2014 (October) Washington Department of Health, Tumwater WA.

- 2014 (October) University of California at Davis, Seminar, NIEHS Training Program in Environmental Health Sciences, Davis, CA.
- 2014 (April) Environmental and Molecular Toxicology Seminar, Oregon State University, Corvallis, OR.
- 2012 (November) Biomedical Sciences Seminar Program, University California San Francisco, San Francisco, CA.
- 2012 (October) University of California, Irvine, Department of Developmental and Biology Seminar, Irvine, CA.
- 2012 (October) University of Wisconsin at Milwaukee, Department of Biological Sciences, Seminar, Milwaukee, WI.
- 2012 (May) Brasel Basic Science Lectureship at Harbor-UCLA Seminar Los Angeles Biomedical Research Institute at Harbor-UCLA, Los Angeles, CA.
- 2012 (April) Departments of Physiology and Pharmacology & Toxicology, East Carolina University, Greenville, NC.
- 2012 (April) Ruttenberg Visiting Professorship, Mt. Sinai School of Medicine, New York, NY.
- 2012 (February) Section of Integrative Biology, School of Biological Sciences, University Texas Austin, Austin TX.
- 2012 (February) UW Center for Ecogenetics & Environmental Health, University Washington, Seattle WA.
- 2011(November) NIH Division of Nutrition and Research, Nutrition Meeting, NIH, Bethesda, MD.
- 2011(November) Mt. Sinai Genetics and Genomics Seminar, Mt. Sinai School of Medicine, New York, NY
- 2011(November) Department of Biochemistry, College of Medicine, Albert Einstein University, Bronx, NY.
- 2011(September) Department of Biology, University of Utah, Salt Lake City, UT.
- 2011 (May) Section of Neonatal-Perinatal Medicine, Indiana University School of Medicine, Indianapolis, IN.
- 2011 (May) Invited Lecture, National Institute of Environmental Health Sciences, NIEHS NIH, Research Triangle Park, NC.

2011(April) Otto J. and Opal I. Hill Lectureship, Department of Animal Science, Penn State University. University Park, PA.

2011 (April) Department of Biochemistry and Molecular Biology, University New Mexico, Albuquerque, NM.

2011 (April) Department of Biological Sciences, North Arizona University, Flagstaff, AZ.

2011 (February) Center for Integrated BioSystems, Utah State University, Logan, UT.

2011 (January) MPH Course, University of Paris, Paris France.

2011 (January) Grand Rounds and Center for Reproductive Sciences, University of Michigan, Ann Arbor, MI.

2010 (December) NOAA/NMFS, National Marine Fisheries, Seattle, WA.

2010 (December) Department of Environmental Toxicology, U Cincinnati, Cincinnati, OH.

2010 (November) Center for Epigenetics, University Florida Seminar, Gainesville, FL.

2010 (May) Faculty of Veterinary Medicine (UCVM), University of Calgary, Calgary, Canada.

2010 (May) Toxicology Graduate Program at University of Connecticut, Storrs, CT.

2010 (March) Dept of Biochemistry and Microbiology, University of Victoria, Victoria, BC.

2010 (March) Complex Disease Colloquium, University of Arizona, Tucson, AZ.

2010 (January) Center for Epigenetics, University of Paris, Paris France.

2010 (May) Institute for Advanced Studies, Lund University, Lund, Sweden.

2009 (May) Division of Endocrinology, University of Gottingen, Gottingen Germany.

2009 (April) Department of Animal Science, University of Nebraska - Lincoln, Lincoln, Nebraska.

2009 (April) Department of Microbiology and Environmental Toxicology, University of California, Santa Cruz.

2009 (January) Program in Reproduction, University of Rennes, Rennes, France.

- 2009 (January) Department of Molecular Biology, University of Paris, Paris, France.
- 2008 (November) Emory University, Biology and Biomedical Science Program Seminar Series, Atlanta Georgia.
- 2008 (November) Case Western Reserve University, Dept. Genetics, Cleveland, Ohio.
- 2008 (November) Michigan State University, Dept. Animal Science, Lansing, Michigan.
- 2008 (October) Mayo Clinic, Molecular Science Seminar Series, Rochester, Minnesota.
- 2008 (October) Mass. General Hospital, Harvard University, Cancer Center, Boston, Massachusetts.
- 2008 (October) Montana State University, Department of Molecular Biosciences, Bozeman, Montana.
- 2008 (August) Department of Defense, PLR Genomics and Proteomics Program, Fredrick MD.
- 2008 (April) Reproductive Biology Seminar Series, University of Texas Southwestern, Dallas, Texas.
- 2008 (March) University of Arizona, Colloquium on Complex Human Disease, Tucson, AZ.
- 2008 (March) Indiana University Purdue University (IUPUI), Indianapolis, Indiana.
- 2008 (March) Indiana University, Bloomington, IN.
- 2008 (February) Stanford University, Hopkins Marine Laboratory, Monterey, CA.
- 2007 (November) NICHD Seminar, Reproductive Sciences Branch, Bethesda, MD.
- 2007 (November) Department of Molecular Pharmacology and Physiology, University of Nevada, Reno, NV.
- 2007 (November) Cell Biology Seminar Series, Harvard University, Cambridge, MA.
- 2007 (October) Department of Cell and Developmental Biology, Erasmus University, Rotterdam Netherlands.
- 2007 (March) Department of Medicine and Pharmacology and Toxicology, Norris Cotter Cancer Center, Dartmouth University, Lebanon, New Hampshire.

2007 (March) MD Anderson Cancer Center, University of Texas, Houston, TX.

2007 (February) Department of Biology, University of Texas – San Antonio, San Antonio, TX.

2007 (February) Department of Chemistry, Gonzaga University, Spokane, WA.

2007 (February) Department of Microbiology, Molecular Biology and Biochemistry, University of Idaho, Moscow, ID.

2006 (November) Center for Excellence Biotechnology and Development, Newcastle University, New Castle, Australia.

2006 (November) Brisbane University, Brisbane, Queensland, Australia.

2006 (November) Monash Medical Institute, Monash University, Melbourne, Australia.

2006 (November) Prince Henry’s Institute, Monash University, Victoria, Australia.

2006 (November) Murdoch Biomedical Institute, Melbourne University, Melbourne, Victoria, Australia.

2006 (October) Environmental and Occupational Toxicology Division, Health Canada, Ottawa, Ontario, Canada.

2005 (November) Department of Urology, University of Sapporo Medical School, Sapporo Japan.

2005 (October) Centre de recherché en reproduction animale, Université de Montréal, Canada.

2005 (October) Molecular and Environmental Toxicology Center, University of Wisconsin-Madison, Madison, WI.

2005 (October) National Institutes of Environmental Health Sciences, NIEHS, NIH, Triangle Park, NC.

2005 (October) Arizona State University, School of Life Sciences, Tempe, AZ.

2004 (November) Rutgers University, Department of Animal Science, New Brunswick, New Jersey.

2003 (November) University of Missouri, Department of Biochemistry, Columbia, MO.

2002 (February) University of Texas, San Antonio, Department of Cellular and Structural Biology, San Antonio, Texas.

- 2001 (December) Huntsman Cancer Center, University of Utah, Salt Lake City, Utah.
- 1998 (October) University of Idaho, Department of Biological Sciences, Moscow, ID.
- 1996 (March) Washington State University, Department Genetics and Cell Biology, Pullman, WA.
- 1995 (March) National Institute for Basic Biology, Okazaki, Japan.
- 1993 (October) Washington State University, Department of Biochemistry, Pullman, WA.
- 1993 (October) University of Kansas, School of Medicine, Women's Research Institute, Wichita, KS.
- 1993 (October) University of Kansas, Department of Physiology, Kansas City, KS.
- 1993 (October) USDA Meat Animal Research Center, Clay Center, NE.
- 1993 (May) Genentech, Department of Protein Engineering, South San Francisco, CA.
- 1992 (December) Rockefeller University, Graduate Student Seminar Series, New York, NY.
- 1992 (December) Northwestern University, Center for Reproductive Science, Chicago, IL.
- 1992 (November) Syntex Inc., Institute of Bio-Organic Chemistry, Palo Alto, CA.
- 1991 (November) University of Illinois at Chicago, Department of Physiology, Chicago, IL.
- 1991 (May) Whitehead Institute, Massachusetts Institute of Technology (MIT), Cell and Development Seminar Series, Boston, MA.
- 1991 (May) Michigan State University, Department of Physiology, Lansing, MI.
- 1991 (May) University of Pennsylvania, Department of Obstetrics and Gynecology, Philadelphia, PA.
- 1991 (January) Stanford University, Department of Gynecology and Obstetrics, Stanford, CA.
- 1990 (December) The University of California, San Francisco, Department of Obstetrics, Gynecology and Reproductive Sciences, San Francisco, CA.
- 1990 (August) The Oregon Regional Primate Center, Beaverton, OR.

- 1990 (May) The University of Texas, Southwestern Medical Center, Green Reproductive Biology Center, Dallas, TX.
- 1990 (April) The Rockefeller University Population Council, New York, NY.
- 1990 (March) Johns Hopkins University, Baltimore, MD.
- 1990 (March) The University of California, San Francisco, San Francisco, CA.
- 1989 (March) The University of Pittsburgh, Department of Physiology, Pittsburgh, PA.
- 1989 (February) Columbia University, Institute for Reproductive Sciences, New York, NY.
- 1989 (February) Harvard Medical School, Massachusetts General Hospital, Boston, MA.
- 1988 (January) The Rockefeller University, Population Council, New York, NY.
- 1987 (May) Reed College, Chemistry Department, Portland, OR.
- 1987 (April) The University of Southern California, Livingston Reproductive Laboratory, Los Angeles, CA.
- 1984 (November) The C.H. Best Institute, University of Toronto, Toronto, Ontario, Canada.
- 1984 (May) Vanderbilt University, Reproductive Biology Research Center, Nashville, TN.
- 1984 (April) Oregon Regional Primate Center, Portland, OR.
- 1984 (March) Georgetown University, Washington, DC.
- 1982 (April) Reed College, Biology Department, Portland, OR.

Societies:

1983-present	Member, Society for the Study of Reproduction
1985-2012	Member, The American Society of Cell Biology
1985-2013	Member, The Endocrine Society
1985-present	Member, The American Association for the Advancement of Science
1997-present	Member, American Society of Andrology
2007-present	Member, Epigenetics Society
2016-present	Member, USA DOHAD (Developmental Origins of Health and Disease)

Editorial Boards:

2019-present	Nature Scientific Reports
2015-present	Founding Editor-in-Chief, Environmental Epigenetics, Oxford University Press. Launched June 2015 and first issue December 2015.
2006-present	Epigenetics
2012-2017	Molecular and Cellular Endocrinology
2012-2015	Non-Genetic Inheritance
2009-2014	Reproductive Toxicology
2000-2010	Journal of Andrology
1996-2000	Endocrinology
1999-2003	Biology of Reproduction

Professional Committees and Activities:

Advisory Panels and Committees (Total 26):

Inserm-Université Paris Descartes, Paris France, INSERM Committee, 2023 – present.

Interdisciplinary Center for Exposures, Diseases, Genomics, and Environment (EDGE), External Advisory Board, 2018 – present.

Washington State Academy of Sciences (WSAS) PFAS Food Container Contaminants Study Committee, 2019 – 2020.

National Academy of Science, Institute of Medicine (IOM), Veterans and Agent Orange Advisory Committee, September 2010 – January 2011.

Reviewer: (Approximately 4-8 manuscripts per month)

Endocrinology; Biology of Reproduction; Journal of Andrology; Journal of Cell Biology; Journal of Clinical Nutrition; Journal of Fertility and Sterility; Molecular Endocrinology; Journal of Biological Chemistry; Cancer Research; Molecular and Cellular Endocrinology; Epigenetics; Reproduction; Molecular Reproduction and Development; Science; Nature.

Ad Hoc Grant Reviewer: (Approximately 5 grants per year)

National Science Foundation; U.S. Department of Agriculture; U.S. Department of Veterans Affairs; National Institutes of Health; Swiss National Foundation; Australian National Health and

Medical Research Council; University Grants Committee, Research Grants Council, Hong Kong, China.

Grant Review Panel/Study Section:

U.S. Department of Agriculture, Animal Science Program Review Panel, June 1991.
National Institute of Health, NCI, Ovary Cancer Biology Advisory Panel, December 1991.
National Institute of Health, NICHD, Population Research Committee, June 1992.
National Institute of Health, NIDDK, Prostate Disease Review Committee, June 1993.
National Institute of Health, NCI, Breast and Prostate Cancer Review Committee, March 1994.
National Institute of Health, NIDDK, Prostate Disease Advisory Committee, March 1995.
National Institute of Health, NICHD, Reproductive Biology Study Section, October 1997.
National Institute of Health, NICHD, Male Contraceptive Review Committee, August 2000.
National Institute of Health, NICHD, U54 Centers Review Committee, November 2002.
National Institute of Health, NRC, SBIR Grant Review Committee, October 2003.
National Institute of Health, NICHD, Male Contraceptive Review Committee, January 2005.
National Institute of Health, NIEHS, Epigenetics & Environment Review Committee, Feb. 2006.
National Institute of Health, NIEHS, Environ Child Health Center Review Committee, Jan. 2007
National Institute of Health, CSR, Challenge Grant Review Committee, June 2009.
National Institute of Health, NICHD, Special Review Committee, Female Fertility and Chemotherapy, March 2010.
National Institute of Health, NICHD, CMIR Study Section, February 2011.
National Institute of Health, NIMH, Special Review, Epigenomics Modifications in Neurodevelopment, March 2011.
National Institute of Environmental Health Sciences, NIEHS, Special Review Group, BPA Program, Durham, North Carolina, May 2011.
National Institute of Health, Research Plan on Fragile X Syndrome and Associated Disorders FX-P01 NIH. Bethesda, MD, May 2012.
Canadian Institutes of Health Research (CIHR), Team Grant: Boy's and Men's Health, Review Committee, August 2014.
Trans-NIH Conference on Transgenerational Inheritance, NIH Main Campus, Bethesda, MD, April 2016.

Site Visit Team Grant Review:

Animal Resources Program, NIH, Site; Oregon Regional Primate Center Grant, Beaverton, OR, October 1988.

Scientific Meeting Session Chairman:

Society Study Reproduction Meeting: August 1988, Seattle, Washington, Molecular/Cellular Session; July, 1990, Knoxville, TN, Gonadal Peptide Session; August 1993, Ft. Collins, CO, Gonadal Function Session; 1996 International Symposium on Prostate Growth, NIH, Boston, MA: Stromal-Epithelial Interaction Symposia, March 1996; SSR, July 2001, Ottawa, Ontario, Canada, Gonadal Cell Fate and Survival Session; SSR 2003, Gene Regulation Session, Cincinnati, Ohio.

Scientific Meeting Organization:

1991 PEW Alumni Meeting, Grand Caymen Islands, 23 Speakers, Chair Organizing Committee.
1995 Organizing Committee, NIDDK 1996 International Symposium of Prostate Growth,

- Bethesda, MD, 250 attendees.
- 1995 Organizing Committee, 1996 Gordon Research Conference, "Gametogenesis and Embryogenesis," New Hampshire, 100 attendees.
- 1999 Chair, Local Arrangements Committee, 1999 Society for the Study of Reproduction Annual Meeting, Washington State University, Pullman, WA, 1500 attendees.
- 2000 Chair, Local Arrangements Committee, 2nd Annual Northwest Reproductive Sciences Symposia, Moscow ID, 200 attendees.
- 2002 Host, Northwest Salmon Recovery Biology Symposia, Moscow, Id. 150 attendees.
- 2003 Chair, Local Arrangements Committee, 5th Annual Northwest Reproductive Sciences Symposia, Moscow, ID 200 attendees.
- 2005 Chair, Local Arrangements Committee, 7th Annual Northwest Reproductive Sciences Symposia, Seattle, WA 200 attendees.
- 2006 Vice-Chair, Gametogenesis and Embryogenesis, Gordon Research Conference, New London, Connecticut, 150 attendees.
- 2009 Chair, Gametogenesis and Embryogenesis, Gordon Research Conference, Waterville Valley, New Hampshire.
- 2011 Organizer and Chair, African Conference on Reproduction and the Environment, Kenya, Africa, March 2011.
- 2013 Organizer and Chair, African Conference Epigenetics / Reproduction / Environment, Kenya, Africa, August 2013.
- 2016 Organizer and Chair, African Conference Epigenetics / Reproduction / Environment, Kenya, Africa, August 2016.
- 2018 Organizer and Chair, African Conference Epigenetics / Reproduction / Environment, Kenya, Africa, August 2018.
- 2019 Co-Organizer with Dr. Isabelle Mansuy, Transgenerational Inheritance Meeting, Zurich Switzerland.
- 2020 Organizer and Chair, African Conference Epigenetics / Reproduction / Environment, Kenya, Africa, August 2020. Postponed to 2021.

Society Study Reproduction:

- 1990, 1991, 1992 Awards Committee.
- 1992, 1993, 2004, 2005, 2006 Annual Meeting Program Committee.
- 1999 Chair, Local Organizing Committee, 1999 SSR Annual Meeting.
- 2000, 2001, 2002 Future Meeting Site Committee.
- 2003, Strategic Planning Committee.
- 2005, 2006, 2007 Chair, Public Affairs Committee.
- 2006, 2007 Industrial Liaison Committee.
- 2008-2009 FASEB Board Representative
- American Society of Andrology:
- 2003, Strategic Planning Foundation Committee
- 2004-2007, Executive Council

Washington State University, Pullman, Washington, Committees and Activities:

WSU Committee Membership/Participation:

- 2022-present Member, School of Biological Sciences, Associate Professor Mentoring Committee.

1996-2008 Director, Center for Reproductive Biology.
 1996-1999 Member, College of Sciences, Dean's Life Sciences Study Committee.
 1997-2001 Member, College of Sciences, Tenure and Promotion Committee.
 1997-1999 Member, Department Genetics and Cell Biology, Community Committee.
 1997-1999 Member, College of Sciences, Biological Sciences Reorganization Committee.
 1996 Member, College of Veterinary Medicine, Alcohol & Drug Abuse Program, Grant Review Team.
 1999-2006 Chair, WSU Salmon Restoration Committee.
 1999-2002 Member, School of Molecular Biosciences, Graduate Studies Committee.
 1999-2002 Member, College of Sciences, Life Science Building Committee
 2000 Chair Search Committee, School of Molecular Biosciences, Genomics of Reproduction, Faculty (Hired – Chengtao Her).
 2000 Search Committee Member, Department of Animal Sciences at the University of Idaho, Reproductive Physiologist Faculty Search Committee (Hired – Greg Johnson).
 2000 Member, Vice President of Foundation Search Committee.
 2000-2002 Member, Presidents, Marketing and Communication Leadership Council.
 2000- 2004 Member, School of Molecular Biosciences, Steering Committee
 2001-2002 Member, Search Committee, Department of Biological Sciences, University of Idaho (Hired – Graham Young and Barry Robison).
 2001-2002 Member, Search Committee, Department of Animal Science, Washington State University (Hired Derek McLean and Zihua Jiang)
 2001-2002 Member, Search Committee, School of Molecular Biosciences, Washington State University. (Hired John Wyrick)
 2001 Member, College of Sciences, Strategic Plan Facilities Committee
 2002-2008 Director, Center for Integrated Biotechnology
 2002-2003 Member, Search Committee, School of Molecular Biosciences, WSU (Hired John Nilson)
 2002-2008 Co-Chair, Master Planning Committee, Research & Education Building Complex
 2002-2008 Co-Chair, Biotechnology Building Committee, WSU
 2002-2007 Member, Intellectual Property Committee, Vice Provost for Research Office
 2002- 2007 Member, School of Molecular Biosciences, Tenure & Promotion Committee
 2007- 2008 Member, WSU Undergraduate Research Advisory Committee
 2012-2017 Member, Mentor Committee, Dr. Erica Crespi, School of Biological Sciences
 2012-2018 Member, Mentor Committee, Dr. Joanna Kelly, School of Biological Sciences
 2018-present Member, Mentor Committee, Dr. Omar Cornejo, School of Biological Sciences
 2018-present Member, OCV, Office Campus Lab Animal Vivarium User Committee
 2020 Member, School of Biological Sciences, Financial Director, Search Committee

WSU Research Seminars:

1989 Department of Genetics and Cell Biology; Department of Zoology
 1990 Center for Reproductive Biology Workshop
 2000 Department of Genetics and Cell Biology
 2001 Center for Reproductive Biology Workshop
 2005 Center for Reproductive Biology Workshop

- 2013 Palouse Ecology, Evolution and Systematics (PEES)
- 2014 Honors College Distinguished Lecture, Honors College
- 2014 The Thomas S. Foley Institute for Public Policy & Public Service. Science, Ethics & Public Policy Symposium
- 2016 Distinguished Faculty Address, Washington State University

University Presentations

- Washington Technology Alliance (WTA) September 14, 1999
- Friends of the Forest, Salmon Lobby Meeting, November 2, 1999, Olympia WA
- Spokane Chamber of Commerce Research Forum Meeting, 9/1999, Spokane, Washington
- ATI Progress Report, September 2000, Pullman, Washington
- Bioengineering Department, October 8, 2002, WSU-Pullman, Pullman, Washington
- Quarterly Regional Breakfast Group, October 8, 2002, WSU-Pullman, Pullman, Washington
- WSU Faculty Senate, November 7, 2002, WSU-Pullman, Pullman, Washington
- WSU-West & Center for Sustainable Agriculture, November 12, 2002, WSU-West, Seattle, Washington
- WSU Regents, November 23, 2002, Pullman, Washington
- President's Cabinet, August 19, 2003, WSU-Pullman, Pullman, Washington
- Tri-Cities President's Association, February 11, 2004, Richland, Washington
- WSU Regents, March 11, 2004, Spokane, Washington
- WSU Innovators Program, Biotechnology, November 14, 2005, Seattle, Washington
- WSU Biotechnology Luncheon, September 14, 2005, Seattle, Washington
- WSU, Innovator's Seminar Series, March 2006, Seattle, WA
- WSU, Innovator's Seminar Series, December 7, 2006, Spokane, WA
- WSU, Honors College Distinguished Lecture, February 10, 2014, Pullman, WA
- WSU, Honors College Presentation, August 19, 2015, Pullman, WA

Government Presentations:

- State of Washington Legislature, Senate Agriculture Hearing, January 24, 2000, Olympia, Washington

USA Congressional Hearing, Salmon Restoration, September 2001, Tri-Cities, Washington

National Marine Fisheries Services, November 13, 2001, Spokane, Washington

State of Washington Legislature, Senate Higher Education Committee, April 3, 2003, Olympia, Washington

State of Washington Legislature, House Economic Development Committee Hearing, February 28, 2003, Olympia, Washington

State of Washington Legislature, Senate Economic Development Committee Hearing, January 22, 2004, Olympia, Washington

State of Washington Legislature, Joint Meeting with Higher Education and Technology, Energy & Communications Committees, March 25, 2005

Institute of Medicine (IOM), National Academy of Science, Veterans and Agent Orange Committee, April 2008

WSU Graduate Advisory Committees:

School of Biological Sciences Program: Kyle Taylor (2014), Mark Smithson (2014), Joseph Cauceglia (2015), Stephanie King (2016)

Biochemistry & Biophysics Program: Matthew Anway (1997), Elizabeth Wolkenhauer (1997), Patricia Sadate (1999), Tera Muir (2000), Christa Fuhrman (2000), Ted Chauvin (2000), Joshua Tompkins (2005), Jason Hogenbaum (2005)

Genetics and Cell Biology Program: Kirt Braun (1997), Cara Plata (1998), Leigh Gaptor (2001), Anthony Vo (2002), Asa Oudes (2002), Suzanne Westfall (2004), Phillip Kezele (2003) Ananthi Asiratham (2004), Tracy Clement (2004), Li Zhu (2006), Jennifer Bowman (2007), Kris Christensen (2009)

Animal Science Department: Jianbo Hu (1997), Jon Oatley (2001), Abdullah Assiri (2002)

Pharmaceutical Sciences: Ashley Jones (2003)

Horticulture Department: Sathya Narayanan (1997)

Biological Science (UI): Fred Tilton (2000)

Animal Science (UI): Stacy Sinor (2001)

Electrical Engineering and Computer Science: Md Haque (2014)

University of California, San Francisco Committees and Activities:

1991-1996 Director, Analytical Separations Core Laboratory, UCSF, Reproductive Endocrinology Center.

1992-1996 Member, Reproductive Endocrinology Center Steering Committee.

UCSF Seminars:

1996 PIBS Developmental Biology Retreat; BMS Graduate Program.

1994 PIBS Developmental Biology Retreat; PIBS Graduate Program.

1993 PIBS Developmental Biology Retreat; Department of Physiology.

1992 Oral Biology, Growth Factor Seminar Series; PIBS Developmental Biology Retreat; PIBS Asilomar retreat; OBGYN & Reproductive Sciences; Dept. Physiology; Dept. Microbiology & Immunology.

UCSF Graduate Advisory Committees:

Anatomy Department: Fred Elfman (1992), Iris Roth (1993), Penny Drake (1996)

Physiology Department: Jolanta Bogucka (1992), Edward Simon Hanson (1993),
Richard Bruehl (1995)

UCSF Student Rotations and Summer Fellowships:

Rotations: TJ Yim, PIBS 1992; Jay Brenman, BMS 1993; Penny Drake, PIBS 1994;
Shari Langdon, BMS (1995)

Summer Undergraduate Fellowship Program: Darren Cousin, Tulane University, 1994

UCSF Graduate Program and Training Grant Membership:

- 1991-1996 Program in Biological Sciences (PIBS) Graduate Program, Ph.D.
- 1992-1996 Biomedical Sciences Graduate Program, Ph.D.
- 1991/1992 Endocrine Graduate Program, Ph.D.
- 1993-1996 Aging Training Grant, Postdoctoral.
- 1993-1996 Endocrine Training Grant, Postdoctoral.

UCSF Committee Membership/Participation:

- 1996 Member, Bench Research Committee, Department OB/GYN
- 1994 Chair, Promotion Committee, Department OB/GYN
- 1994 Member, Graduate Research Day Abstract Review Committee
- 1993/1994 Faculty Search Committee, Kerner Professorship, Department OB/GYN
- 1993 Membership Review Committee, Reproductive Endocrinology Center
- 1993 Faculty Promotion Committee, Department of OB/GYN
- 1993 Academic Review Committee, Department OB/GYN
- 1993 Faculty Promotion Committee, Hormone Research Institute
- 1993 Faculty Promotion Committee, Department of Medicine
- 1993 Ob/Gyn Department Contraceptive Task Force Committee
- 1992-1994 "Seminars in Biology" Series, Faculty Planning Committee
- 1992 Ob/Gyn Departmental Budget Review Committee

UCSF Activities:

- 1995 Faculty Organizer, Developmental Biology Program Winter Retreat
- 1994-1996 Faculty Organizer, Reproductive Endocrinology Center Retreat
- 1994 Faculty Organizer, Developmental Biology Program Spring Retreat
- 1993-1996 Organizer, Reproductive Endocrinology Center Weekly Research Workshops
- 1992, 1994 Chair, Reproductive Endocrinology Center Spring Seminar Series

Vanderbilt University Committees and Activities:

- 1989-1991 Founded and organized the Vanderbilt University Science Education Partnership Program with the Nashville Public Schools, Vanderbilt faculty volunteers present health science enrichment programs to the study body and science classes.
- 1990-1991 Director, Cyclic Nucleotide Core Laboratory, Vanderbilt University Reproductive Biology Research Center.
- 1989-1990 Member, Pharmacology Department Graduate Education Committee.
- 1986-1988 Member, Advisory Board for the Vanderbilt University Biomedical Research Support Grant (BRSG).
- 1985-1988 Member, Advisory Board for the Vanderbilt University Reproductive Biology Center.
- 1985-1986 Chairman, Reproductive Biology Research Center Seminar Series.
- 1986 Member, Reproductive Biology Research Center Local Organizing Committee for the 9th Testis Workshop held at Vanderbilt University.

Vanderbilt University Seminars:

- 1991 (January) Endocrine Division, Endocrine Grand Rounds

1989 (March)	Reproductive Biology Research Center
1988 (December)	Pharmacology Department
1987 (October)	Pharmacology Department
1986 (February)	Pharmacology Department
1985 (February)	Pharmacology Department

Vanderbilt University Graduate Advisory Committees:

Steve Domino, Manami Tsutsumi, Deborah Burks, Brian Mullaney, John Norton.

Vanderbilt University Training Grant Participation:

Pharmacology Department Training Grant, Ph.D.
Medical Scientist Training Grant, M.D./Ph.D.
NCI Training Grant (Gene-Regulation and Growth Factors), Ph.D.
Reproductive Biology Research Training Grant, Ph.D. and Postdoctoral.
Diabetes Research and Training Grant, Postdoctoral.

Community Service:

1997-2000	Official and Head Timer, Pullman High School, Woman's Swim Team, Pullman, WA.
1993-1995	Official and Head Timer, Marinwood Community Swim Team, San Rafael, CA, youth swim team for approximately 150 age 5-18 boys and girls per year.
1990-1991	Founded and organized the Science Education Program between Vanderbilt University and the Nashville Public School system.
1987-1989	President, Rolling River Homeowners Association, Nashville, TN with 330 homes and 1,500 residents. Managed \$100,000 yearly budget, organized \$250,000 support for community pool and coordinated general operations of association.
1987-1989	Member, Nashville Neighborhood Alliance Association, Bellevue Representative.
1985-1991	Organized and was Commissioner and Head Referee, The Rolling River Soccer Association, Nashville, TN, youth soccer league for approximately 200 age 5-15 boys and girls per year.
1983-1984	President, Parent Teachers Association, Dovercourt Public School, Toronto, Ontario, Canada.

Postdoctoral and Graduate Trainees and Senior Fellows: (41 Total)

2015-present	Daniel Beck, Ph.D., Postdoctoral Fellow and now Research Associate, Washington State University.
1999-present	Eric Nilsson, Ph.D., D.V.M., Postdoctoral Fellow and now Research Assistant Professor, Washington State University.
2021-present	Alexandra Korolenko (Sasha), Graduate Student, School of Biological Sciences, Washington State University.
2022-2023	Rasmi Joshi, Ph.D., Postdoctoral Fellow and now Research Associate and Laboratory Manager, Washington State University. Obtained position at Children's Hospital, University of Southern California, Los Angeles CA
2016-2022	Millissia Ben Maamar, Ph.D., Postdoctoral Fellow and then Research Associate and Laboratory Manager, Washington State University. Obtained position at TekTeam, Palo Alto, CA.
2019-2021	Ryan Thompson, MS Graduate Student, Washington State University. Currently a BVetMed Graduate Accelerated Student at Royal Veterinary College.
2017-2021	Jennifer L.M. Thorson, Ph.D., Postdoctoral Fellow, Washington State University. Obtained position as a Research Scientist at IEH Laboratories & Consulting Group, Lake Forest Park, WA.
2016-2019	Stephanie E. King, Graduate Student, School of Biological Sciences, Washington State University. Obtained Ph.D. Degree. Currently at St Matthews Cayman Islands.
2015	Joseph Cauceglia, Graduate Student, School of Biological Sciences, Washington State University, and now Graduate Student at the University of Utah.
2012-2015	Md. Muksitul Haque, Obtained Ph.D. Degree, Graduate Student, and then Postdoctoral Fellow. Co-Advisor with Dr. Larry Holder, Department of Electrical Engineering and Computer Science, Washington State University. Obtained position at Stryker, Florida.
2007-2013	Carlos Guerrero-Bosagna, Ph.D. Postdoctoral Fellow, Washington State University. Obtained junior faculty position at the University of Linkoping, Linkoping Sweden.

- 2008-2012 Mohan Manikkam, Research Assistant Professor, Washington State University. Obtained position at MD Cancer Institute, Houston, TX.
- 2006-2011 Ramji Bhandari, Ph.D., Postdoctoral Fellow, Washington State University. Currently Assistant Professor, Department of Biology at University of Carolina at Greensboro.
- 2007-2009 Matt Settles, Ph.D., Postdoctoral Fellow, Washington State University, Obtained position as Director Genomics Resources Core, IBEST, at University of Idaho, Moscow Idaho. Currently Director Genomics Core at University of California at Davis.
- 2003-2009 Tracy Clement, Graduate Student, Washington State University. Currently Assistant Professor, Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX.
- 2006-2008 Ben Lucker, Ph.D., Postdoctoral Fellow, Washington State University. Obtained position at Energy Laboratory at WSU.
- 2003-2007 Matt Anway, Ph.D., Research Assistant Professor, Washington State University. Obtained position on faculty at University of Idaho, Moscow, ID. (Deceased)
- 2003-2007 Mushtaq Memon, Ph.D., D.V.M., Visiting Scientist, Washington State University. Professor, Department Clinical Sciences, WSU. (Retired)
- 2004-2006 Jeff Stevens, Ph.D., Postdoctoral Fellow, Washington State University. Currently, LC/MS/MS Laboratory Manager Sterling, Reference Laboratory, Seattle, WA.
- 2005-2006 Hung-Shu Chang, PhD, Postdoctoral Fellow/Visiting Scientist, Washington State University, returned to National Health Research Institutes, Taiwan.
- 2001-2004 Tera Muir, Graduate Student, Washington State University. Obtained Ph.D. degree. Currently: Obtained position at Miltenyi Biotec Inc. in Auburn, California.
- 2000-2004 Suzanne Westfall, M.S. Graduate Student, Washington State University. Obtained Ph.D. degree. Obtained position as Postdoctoral Fellow at the University of Missouri, Columbia, MO, Dr. Michael Roberts. Currently pharmaceutical company sales.
- 2001- 2003 Phillip Kezele, Graduate Student, Washington State University. Obtained Ph.D. degree; Obtained position as a Postdoctoral Fellow, Fred Hutchinson Cancer Research Center, Seattle, Washington. Currently: Research Scientist I, Rosetta Inpharmatics, Merck Inc., Seattle, Washington.

- 2000-2003 Mehmet Uzumcu, Ph.D., D.V.M., Postdoctoral Fellow, Washington State University. Currently: Assistant Professor, Department of Animal Sciences, Rutgers University, New Brunswick, New Jersey.
- 2000-2002 Melissa Saxlund, Graduate Student, Washington State University. Obtained MS degree. Currently: Research Technician at the Nebraska Medical Center, Omaha, Nebraska.
- 2001-2002 Hiroetsu Suzuki, Ph.D., Visiting Scientist and Postdoctoral Fellow, Washington State University. Currently: Assistant Professor, Nippon Veterinary & Animal Science University, Tokyo, Japan.
- 1992-2004 Jaideep Chaudhary, Ph.D. Postdoctoral Fellow, Support: Rockefeller Foundation, University of California, San Francisco; Postdoctoral Fellow and Research Assistant Professor, Washington State University. Obtained position as Senior Scientist, Atairgin Technologies Inc., Irvine CA. Obtained Position: Research Associate Professor and Assistant Director, Center for Reproductive Biology, Washington State University. Currently: Associate Professor, Department of Biological Sciences, Clark University, Atlanta, Georgia.
- 1996- 2000 Andrea Cupp, Ph.D., Postdoctoral Fellow Support: USDA Fellowship, University of California San Francisco. Research Assistant Professor, Washington State University. Currently: Associate Professor, Department of Animal Science, University of Nebraska, Lincoln Nebraska.
- 1987- 1999 Jeffrey A. Parrott, Undergraduate Research Assistant, Biomedical Engineering Major, 1987-1990; Graduate Student, Support: Endocrine Graduate Training Program, University of California at San Francisco; Postdoctoral Fellow, Washington State University; Senior Scientist, Atairgin Technologies Inc., Irvine CA. Currently: VP Business Development, Kadmus Pharmaceuticals, Irvine, CA.
- 1998-1999 Vinayak Doraiswamy, Ph.D., Postdoctoral Fellow, Washington State University. Obtained position at the Business School, University of Wisconsin, Madison. Scientist, Guidant Corporation, St. Paul Minnesota; and Currently, Product Manager, Promega Corporation.
- 1995-1997 Naoki Itoh, MD, Ph.D., Visiting Scientist/Fellow, Support: University of Sapporo Japan, Japan Ministry of Science. Currently, Associate Professor, Department of Urology, University of Sapporo.
- 1993-1996 Elena Levine, Graduate Student, Support: PIBS, Graduate Training Program, University of California, San Francisco. Obtained position on the

Faculty of the Biological Sciences Department, Calpoly, California State University, San Louis Obispo, CA.

- 1992-1995 Jane Wiesen, Ph.D., Postdoctoral Fellow, Support: Reproductive Endocrinology Center and American Cancer Society Fellowships, University of California, San Francisco. Obtained fellowship at UCSF.
- 1993-1994 Michael T. Moser, Ph.D., Postdoctoral Fellow, Support: USDA Fellowship, University of California, San Francisco. Obtained position at the University of Alabama, Birmingham.
- 1990-1994 Patricia D. Whaley, Ph.D., Postdoctoral Fellow, Support: Vanderbilt University, Reproductive Biology Research Center Training Grant, and University of California, San Francisco, Reproductive Endocrinology Center Training Grant. Obtained position at Clonetech Laboratories Inc., Palo Alto, CA.
- 1988-1991 Brian Mullaney, Graduate/Medical Student, Support: Vanderbilt University M.D./Ph.D. Medical Student Training Grant. Obtained Ph.D. became a resident in the Department of Pathology, University of California, San Francisco. Currently: Scientist and resident Pathologist, Myriad Genetics, Inc., Salt Lake City, Utah.
- 1988-1991 John N. Norton, D.V.M., Postdoctoral Fellow/Graduate Student, Support: Pharmacology Department Training Grant, Reproductive Biology Research Center Training Grant and NIH Physician Scientist Award. Obtained Ph.D. and a Faculty Staff Scientist position at Procter and Gamble Co. in Cincinnati, OH, as a Reproductive Toxicologist. He then became the Director of Toxicology at Alcon Laboratories, Ft. Worth, Texas. Currently: University Veterinarian at Duke University Pathology Department.
- 1988-1990 Andrew Roberts, Ph.D., Postdoctoral Fellow, Support: Vanderbilt University Reproductive Biology Center Training Grant. Obtained position as an Assistant Scientist, i.e., Assistant Professor, at the United States Department of Agriculture (USDA), Meat Animal Research Center, Clay Center, NB.
- 1988-1990 Marinella Rosselli, Ph.D., Postdoctoral Fellow, Support: Swiss National Foundation. Obtained a position as a Research Fellow at the Swiss Institute of Allergic Research, SIAF, University of Zurich, Davos, Switzerland. Currently on faculty of the Department of Obstetrics and Gynecology, University Hospital, University of Zurich, Zurich, Switzerland.
- 1986-1990 Catherine T. Anthony, Ph.D., Postdoctoral Fellow, Support: Mellon Foundation Grant. Obtained a position as a Research Instructor in the Department of Pharmacology at Vanderbilt University. Currently is on the

faculty in the Department of Urology at Vanderbilt University, Nashville, TN.

1985-1987 Peter M. Fetterolf, Ph.D., Postdoctoral Fellow, Support: Vanderbilt University Reproductive Biology Research Center Training Grant Fellowship. Obtained a position as a Fellow in the Department of Obstetrics and Gynecology, Vanderbilt University, School of Medicine, Nashville, TN. Currently on the faculty of the Department of OB/GYN, Toronto General Hospital, University of Toronto, Toronto, Ontario, Canada.

Research Associates: (25 Total)

2022-present Rasmi Joshi, Ph.D., Postdoctoral Fellow and now Research Associate and Laboratory Manager, Washington State University.

2015-present Daniel Beck, Ph.D., Postdoctoral Fellow and now Research Associate, Washington State University.

2019-2022 Millissia Ben Maamar, Ph.D., Senior Research Associate and Lab Manager, Washington State University.

1999-2019 Ingrid Sadler-Riggelman, Ph.D., Senior Research Associate and Lab Manager. Retired after 20 years of service to the laboratory.

2015-2016 Maggie Unkefer, MS, Research Technician, Washington State University, Pullman, WA. Obtained position Leappoint, Operations Lead, Washington DC.

2015 Elizabeth Houser, Research Technician, Washington State University, Pullman, WA.

2010-2012 Md. Muksitul Haque, Ph.D., Research Associate/ Computer Analyst. Obtained position at Stryker, Florida

2010-2012 Rebecca Tracey, Research Technician. Accepted into WSU Veterinary School, Pullman, WA.

2005- 2012 Marina Savenkova, Ph.D., Research Associate. Obtained position at WSU as Research Associate.

2010-2011 Renee Espinosa Najera, Research Technician. Obtained position at OHSU, Portland, Oregon.

2008-2010 Trevor Covert, BS, Research Technician. Obtained position WSU Spokane. Currently Co-Founder, Director, Covert & Covert, Spokane, WA

- 2006- 2008 Kathy Dorgan, BS, Research Technician. Obtained position WSU.
- 2005-2006 Nicole Mills BS, Research Technician. Obtained position Melbourne, Australia.
- 2005- 2006 Michelle Schmidt, M.A., Research Associate, Moved to Philadelphia.
- 2001-2002 Edith Orozco, BS, Research Associate, obtained position WSU/USDA.
- 1999-2001 Kristin Dirks, B.S. Lab Assistant, Technician and Graduate Student, Washington State University. Obtained position as Research Associate, Oregon Health Sciences University, Portland, Oregon. Currently: Research Associate, WSU-Spokane, Spokane, Washington.
- 1997-2001 Grace Kim, M.S. Senior Research Associate, Center for Reproductive Biology, School of Molecular Bioscience, Washington State University, Pullman, WA. Currently: Research Associate, Wyeth Pharmaceuticals, Marietta, PA.
- 1998-2000 Rachel Mosher, B.S., Research Associate, Center for Reproductive Biology, School of Molecular Biosciences, Washington State University, Pullman, WA. Currently: Student at Lewis and Clark State College, Lewiston, ID.
- 1999-2000 Jodi Patton, B.S. Research Associate, Center for Reproductive Biology, School of Molecular Bioscience, Washington State University, Pullman, WA. Currently: Graduate Student at the Oregon Health Sciences University, Portland, OR.
- 1997-1998 Gene Herrington, MS, Senior Research Associate, obtained position with the Department of Zoology, Washington State University, Pullman, WA.
- 1995-1997 Linda Miyashiro, Staff Research Associate, obtained position at the University of California, Irvine CA.
- 1994-1997 Urvashi Patel, Senior Research Associate, obtained position at Genetech, South San Francisco, CA, and entered Graduate School at Stanford.
- 1992-1995 Betty Chu, Senior Research Associate, entered Medical School at Temple University, Philadelphia, PA.
- 1987-1994 Lisa Halburnt, Senior Research Associate, obtained position as Research Associate in the Vanderbilt University Cancer Center, Nashville, TN.

- 1985-1991 Byron Glen, Senior Research Associate, obtained position as Research Associate in the Biochemistry Department at Vanderbilt University and a faculty position at Tennessee State University, Nashville, TN.
- 1987-1991 Susan Schlitz, Senior Research Associate, obtained position at Vanderbilt University, TN.

Undergraduate University Trainees: (63 Total)

2021-present	Sarah De Santos, Washington State University, Pullman, WA
2021-present	Grant Rickard, Washington State University, Pullman, WA
2021-2022	Madelyn Rode, Washington State University, Pullman, WA
2021-2022	Emma Impala, Washington State University, Pullman, WA
2020-2021	Rachel LaRosa, Washington State University, Pullman, WA
2019-2021	Skylar Shea Davidson, Washington State University, Pullman, WA
2018-2021	Makena Horne, Washington State University, Pullman, WA
2018-2020	Jessica Orr, Washington State University, Pullman, WA
2015-2020	Michelle Pappalardo, Washington State University, Pullman, WA McBirney M, King SE, Pappalardo M, Houser E, Unkefer M, Nilsson E, Sadler-Riggelman I, Beck D, Winchester P, Skinner MK (2017) Atrazine Induced Epigenetic Transgenerational Inheritance of Disease, Lean Phenotype and Sperm Epimutation Pathology Biomarkers. Plos One 12(9):1-37, e0184306.
2015-2019	Ryan Thompson, Washington State University, Pullman, WA Skinner MK, Thompson R, Nilsson EE (2018) Testis Cell Biology: Peritubular Cell in: Encyclopedia of Reproduction. 2nd. Edition, Ed: MK Skinner. Elsevier. Vol 1, Ch 9 (ePub). https://doi.org/10.1016/B978-0-12-801238-3.64361-1
2015-2019	Hannah Kimbel, Washington State University, Pullman, WA Skinner MK, Nilsson EE, Kimbel H (2018) Environmental Impact on Ovarian Development and Function in: The Ovary, 3rd Edition, Eds: Leung & Adashi. Elsevier (in press)
2015-2018	Deepika Kubsad, Washington State University, Pullman, WA Skinner MK, Kubsad D, Ben Maamar M (2018) Genetics & Epigenetics: Epigenetics Analysis of Sperm in: Encyclopedia of Reproduction. 2nd. Edition, Ed: MK Skinner. Elsevier. Vol 5, Ch 46 (ePub). https://doi.org/10.1016/B978-0-12-801238-3.64864-X
2014-2017	Margaux McBirney, Washington State University, Pullman, WA, Currently Research Technician at Fred Hutchinson Cancer Institute, Seattle, WA.

Ben Maamar M, Sadler-Riggelman I, Beck D, McBirney M, Nilsson E, Klukovich R, Xie Y, Tang C, Yan W, Skinner MK (2018) Alterations in sperm DNA Methylation, Non-Coding RNA expression, and histone retention mediate Vinclozolin induced epigenetic transgenerational inheritance of disease. *Environmental Epigenetics* 4(2):1-19, dvy101

Skinner MK, Ben Maamar M, Sadler-Riggelman I, Beck D, Nilsson E, McBirney M, Klukovich R, Xie Y, Tang C, Wei Yan (2018) Alterations in sperm DNA methylation, non-coding RNA and histone retention associate with DDT-induced epigenetic transgenerational inheritance of disease. *BMC Epigenetics and Chromatin* (2018) 11:8

McBirney M, King SE, Pappalardo M, Houser E, Unkefer M, Nilsson E, Sadler-Riggelman I, Beck D, Winchester P, Skinner MK (2017) Atrazine Induced Epigenetic Transgenerational Inheritance of Disease, Lean Phenotype and Sperm Epimutation Pathology Biomarkers. *Plos One* 12(9):1-37, e0184306.

- 2016-2017 Heidi Skinner, Washington State University, Pullman, WA, Entered WSU Nursing College
- 2014-2017 Marlee Lawley, Washington State University, Pullman, WA
- 2012-2016 Jayleana Barton, Washington State University, Pullman, WA, Currently Freelance Illustrator, Artist, Graphic & Web Design, Spokane, WA
- 2016 Ryan Feser, Washington State University, Pullman, WA
- 2015 Taylor Morton, Washington State University, Pullman, WA
- 2014-2015 Mackenzie Hastings, Washington State University, Pullman, WA
- 2014-2015 Max Ayala, Washington State University, Pullman, WA
- 2010-2014 Elizabeth Houser, Washington State University, Pullman, WA. Became a laboratory technician at WSU and now with Novo Nordisk, Seattle, WA.
McBirney M, King SE, Pappalardo M, Houser E, Unkefer M, Nilsson E, Sadler-Riggelman I, Beck D, Winchester P, Skinner MK (2017) Atrazine Induced Epigenetic Transgenerational Inheritance of Disease, Lean Phenotype and Sperm Epimutation Pathology Biomarkers. *Plos One* 12(9):1-37, e0184306.
- 2010-2013 Amanda Feeney, Washington State University, Pullman, WA. Currently in Medical School.
Feeney A, Nilsson E, and Skinner MK (2014) Epigenetics and Transgenerational Inheritance in Domesticated Farm Animals. *Journal of Animal Science and Biotechnology (JASB)* 5:48.

- Feeney A, Nilsson E, and Skinner MK (2014) Cytokine (IL16) and Tyrphostin Actions on Ovarian Primordial Follicle Development. *Reproduction*. 148(3):321-331.
- 2010-2013 Tiffany Hylkema, Washington State University, Pullman, WA. Currently a technician
- 2010-2013 Shelby Weeks, Washington State University, Pullman, WA. Currently a technician at the Fred Hutch Inst., Seattle, WA.
Guerrero-Bosagna C, Weeks S, and Skinner MK (2014) Identification of Genomic Features in Environmentally Induced Epigenetic Transgenerational Inherited Sperm Epimutations. *Plos One* 17;9(6):1-14, e100194.
- 2010-2012 Alison Durand, Washington State University, Pullman, WA. Currently in Veterinary School at WSU.
- 2009-2012 Chrystal Bailey, Washington State University, Pullman, WA. Currently in Graduate School at WSU.
- 2009-2012 Colleen Johns, Washington State University, Pullman, WA
- 2009-2011 Jessica Shiflett, Washington State University, Pullman, WA. Currently a technician at WSU, Pullman WA.
- 2010-2011 Fiorella Grandi, Washington State University, Pullman, WA.
- 2010-2011 Erin Fosler, Washington State University, Pullman, WA.
- 2008-2011 Sean Leonard, Washington State University, Pullman, WA. Currently a student in Pharmacy Program at WSU, Pullman, WA.
- 2007-2011 Anthony Williams, Washington State University, Pullman, WA.
- 2007-2011 Ellyn Schinke, Washington State University, Pullman, WA. Currently a technician at WSU, Pullman WA.
Bhandari R, Schinke E, Haque Md, Skinner MK (2012) SRY Induced TCF21 Genome-wide Targets and Cascade of bHLH Factors During Sertoli Cell Differentiation and Male Sex Determination. *Biology of Reproduction* 6;87(6):131.
- 2010-2011 Brad Kohlrus, Washington State University, Pullman, WA.
- 2010 John Doherty, Washington State University, Pullman, WA.
- 2006-2011 Ginger Larsen, Washington State University, Pullman, WA.

Nilsson E, Larsen G, and Skinner MK (2014) Roles of Gremlin1 and Gremlin2 in Regulating Ovarian Primordial to Primary Follicle Transition. *Reproduction*. 147(6):865-74.

Nilsson E, Larsen G, Manikkam M, Guerrero-Bosagna C, Savenkova M and Skinner MK (2012) Environmentally induced epigenetic transgenerational inheritance of ovarian disease. *Plos One*. 7(5): e36129.

2008-2010

Ryan Schindler, Washington State University, Pullman, WA. Obtained graduate position at California State University, San Jose, CA.

Nilsson EE, Schindler R, Savenkova MI and Skinner MK (2011) Inhibitory Actions of Anti-Müllerian Hormone (AMH) on Ovarian Primordial Follicle Assembly. *PLoS One* 6(5): e20087.

Schindler R, Nilsson EE and Skinner MK (2010) Induction of ovarian primordial follicle assembly by connective tissue growth factor CTGF. *Plos One* 24;5(9): e12979.

Nilsson EE, Savenkova MI, Schindler R, Zhang B, Schadt EE and Skinner MK (2010) Gene bionetwork analysis of ovarian primordial follicle development. *Plos One* 16;5(7): e11637.

2009-2010

Rebecca Tracey, Washington State University, Pullman, WA. Currently a technician at Washington State University Pullman, WA.

Skinner MK, Manikkam M, Tracey R, Nilsson E, Haque Md. M, and Guerrero-Bosagna C (2013) Ancestral DDT Exposure Promotes Epigenetic Transgenerational Inheritance of Obesity. *BMC Medicine* 11:228.

Tracey R, Manikkam M, Guerrero-Bosagna C, and Skinner MK (2013) Hydrocarbon (Jet Fuel JP-8) Induces Epigenetic Transgenerational Inheritance of Adult-Onset Disease and Sperm Epimutations. *Reproductive Toxicology*. 36:104-116.

Manikkam M, Tracey R, Guerrero-Bosagna C, and Skinner MK (2013) Plastics Derived Endocrine Disruptors (BPA, DEHP and DBP) Induce Epigenetic Transgenerational Inheritance of Adult-Onset Disease and Sperm Epimutations. *Plos One* 8(1):1-18, e55387.

Manikkam M, Tracey R, Guerrero-Bosagna C, and Skinner MK (2012) Pesticide and Insect Repellent Mixture (Permethrin and DEET) Induces Epigenetic Transgenerational Inheritance of Disease and Sperm Epimutations. *Reproductive Toxicology* 34(4):708-19.

Manikkam M, Tracey R, Guerrero-Bosagna C, and Skinner MK (2012) Dioxin (TCDD) Induces Epigenetic Transgenerational Inheritance of Adult Onset Disease and Sperm Epimutations. *PLoS ONE* 7(9): e46249.

Manikkam M, Guerrero-Bosagna C, Tracey R, Haque M, and Skinner MK (2012) Transgenerational Actions of Environmental Compounds on Reproductive Disease and Identification of Epigenetic Biomarkers of Ancestral Exposures. *Plos One* 7(2): e31901.

2006-2009

Keena Mullen, Washington State University, Pullman, WA. Currently a graduate student at UNC, NC.

- 2008 Megan Tribley, Washington State University, Pullman, WA.
- 2005-2008 Gretchen Dole, Washington State University, Pullman, WA. Currently a medical student at University of Washington, Seattle WA.
Nilsson EE, Dole G and Skinner MK (2009) Neurotrophin NT-3 promotes ovarian primordial to primary follicle transition. *Reproduction* 138(4):697-707.
- 2004-2008 Trevor Covert, Washington State University, Pullman, WA. Currently a technician at Washington State University Pullman, WA.
Guerrero-Bosagna C, Covert TR, Settles M, Anway MD, and Skinner MK. (2012) Epigenetic Transgenerational Inheritance of Vinclozolin Induced Mouse Adult Onset Disease and Associated Sperm Epigenome Biomarkers. *Reproductive Toxicology* 34(4):694-707.
Memon MA, Anway MD, Covert TR, Uzumcu M, and Skinner MK (2008) Transforming growth factor beta (TGFbeta1, TGFbeta2 and TGFbeta3) null-mutant phenotypes in embryonic gonadal development. *Molecular and Cellular Endocrinology* 6;294(1-2):70-80.
- 2003-2008 Stephen Rekow, Washington State University, Pullman, WA. Currently a graduate student at University of Idaho, Moscow, ID.
Anway MD, Rekow SS, Skinner MK (2008) Comparative anti-androgenic actions of vinclozolin and flutamide on transgenerational adult onset disease and spermatogenesis. *Reproductive Toxicology* 26(2):100-6.
Anway MD, Rekow SS, and Skinner MK (2008) Transgenerational epigenetic programming of the testis transcriptome. *Genomics* 91:30-40.
- 2004-2008 Kalie Dove-McGuire, Washington State University, Pullman, WA. Currently a medical student at the University of Washington, Seattle, WA.
- 2005-2007 Aria Vaishnavi, Washington State University, Pullman, WA. Currently a technician at the University of Washington, Seattle, WA.
- 2003- 2006 Jacob Stanfield, Washington State University, Pullman, WA, entered the WAMI Program, Medical School, University of Washington, Seattle, WA.
- 2003-2005 Bethani Johnson, Washington State University, Pullman, WA, currently a graduate student at Oregon Health Sciences University, Portland, OR.
- 2005-2006 Chris Dowdy, Washington State University, Pullman, WA, currently at Rosetta Informatics, Seattle, WA.
- 2005-2005 Natalie Rogers, Washington State University, Pullman, WA.

- 2002- 2005 Nathan Meyer, Washington State University, Pullman, WA, entered Pharmacy School at Washington State University.
- 2001- 2004 Jacqueline Ague, Washington State University, Pullman, WA, entered Graduate School at Case Western Reserve.
- 2000-2003 Melinda Murphy, Washington State University, Pullman WA, currently technician at Oregon Health Science University.
- 1999-2002 Rosa Crumpton, Washington State University, Pullman WA.
- 1999-2002 Claudia McDonald, Washington State University, Pullman WA, current technician at University of Nebraska, Omaha.
- 1999-2002 Tiffany Larsen (Ligon), Washington State University, Pullman WA, currently a Nurse in Bellingham, WA.
- 1999-2000 Dana Watson, Washington State University, Pullman WA.
- 1998-2000 Kristen Dirks (Logon), Washington State University, Pullman WA, currently a technical assistant in the lab of Dr. Lisa Shaffer Washington State University, Spokane, WA.
- 1998-2000 Bridgette Phillips, Washington State University, Pullman WA.
- 1997-1999 Richard Cooper, Washington State University, Pullman WA.
- 1996-1998 Patrick Sawitski, Washington State University, Pullman WA.
- 1989 Jane Parks, Vanderbilt University, Nashville, TN, entered medical school at Boston University.
- 1989 Jason Edwards, Vanderbilt University, Nashville, TN.
- 1987 Karen Takacs, Vanderbilt University, Nashville, TN, entered Vanderbilt for graduate school.
- 1986-1990 Patricia E. Krabbendam, Undergraduate Research Assistant, Biology Major, Vanderbilt, entered Medical School at Vanderbilt University.

Undergrad Honors Thesis Students

- 2022-present Sarah De Santos “*To be announced*”

- 2018-2021 Makena Horne “*Improvement of Histopathological Analysis in Epigenetics and Transgenerational Inheritance of Disease Studies with Computational Deep Learning Prediction*”
- 2015-2020 Michelle Pappalardo “*Methodological Comparison between Traditional and Digital Histopathology*”
- 2015-2019 Hannah Kimbel “*Infant Brain Asymmetry and Parent-Child Interactions: Understanding How Maternal Sensitivity and Responsiveness Contribute to Asymmetrical Frontal Lobe Activation in Infants*”
- 2015-2017 Deepika Kubsad “*Herbicide Induction of Epigenetic Transgenerational Inheritance of Disease*”
- 2014-2017 Margaux McBirney “*Atrazine induced epigenetic transgenerational inheritance of disease, lean phenotype and sperm epimutation pathology biomarkers*”
- 2014-2015 Mackenzie Hastings “*Atrazine Induction of Epigenetic Transgenerational Inheritance of Disease*”
- 2010-2013 Amanda Feeney “*Use of Cytokines and Inhibitors to Validate Gene Network Regulation of Ovarian Follicle Assembly and Transition*”
- 2010-2013 Tiffany Hylkema “*Epigenetic Transgenerational Inheritance of DNA Methylation Changes in Sperm of Individual Rats with Ancestral Vinclozolin Exposure*”
- 2010-2012 Alison Durand “*The role of ovarian regulatory factors (Gremlin2, Wnt2b, Dll4) in primordial to primary follicle transition*”
- 2009-2012 Rebecca Tracey “*Endocrine Disruptors May Alter Onset of Puberty Transgenerationally*”
- 2009-2012 Colleen Johns “*Epigenetic Transgenerational Inheritance of Ovarian Disease Promoted by the Pesticides Methoxychlor and DDT*”
- 2008-2011 Sean Leonard “*Analysis of Transgenerational DNA Methylation Changes in Sperm*”
- 2008-2010 Ryan Schindler “*Effects of CTGF, TGF β 1 & AMH on Follicle Assembly*”
- 2007-2011 Ellyn Schinke “*The Role of a Cascade of Basic Helix-Loop-Helix Transcription Factors in Mammalian Sex Determination*”

2005-2008 Gretchen Dole “*Glial Derived Neurotrophic Factor Promotes Ovarian Primordial Follicle Development and Cell-Cell Interactions During Folliculogenesis*”

2004-2008 Kalie Dove-McGuire “*An Investigation of Androgen Responsive Genes Expressed by Mammalian Testicular Peritubular Cells*”

PUBLICATIONS (362 Total)

362. Nilsson E, McBirney M, De Santos S, King SE, Beck D, Greeley C, Holder LB, Skinner MK (2023) Multiple Generation Distinct Toxicant Exposures Induce Epigenetic-Transgenerational-Inheritance of Enhanced Pathology and Obesity. *Environmental Epigenetics* (submitted)
361. Wild MA, Taylor KR, Nilsson EE, Beck D, Skinner MK (2023) Systemic Epigenome-Wide Association Study of Elk Treponeme- Associated Hoof Disease. *Scientific Reports* (submitted)
360. Mavaie P, Holder L, Skinner MK (2023) Hybrid Deep Learning Approach to Improve Classification of Low-Volume High-Dimensional Data. *BMC Bioinformatics* (Submitted)
359. Mavaie P, Holder L, Skinner MK (2023) Identifying Unique Exposure-Specific Transgenerational Differentially DNA Methylated Region Epimutations in the Genome using Hybrid Deep Learning Prediction Models. *Environmental Epigenetics* (submitted)
358. Greeley C, Holder LB, Nilsson EE, Skinner MK (2023) Histopathology Slide Classification with Deep Learning (submitted)
357. Skinner MK (2023) Epigenetic Biomarkers for Disease Susceptibility and Preventative Medicine. *Cell Metabolism* (submitted)
356. Caroppo E, Skinner MK (2023) Could the sperm epigenome become a diagnostic tool for evaluation of the infertile man? *Human Reproduction Developments in Reproductive Biology and Medicine*. Minireview (submitted)
355. Duncan GE, Avery A, Ben Maamar M, Nilsson EE, Beck D, Skinner MK. (2023) Epigenome-wide Association Study of Systemic Effects of Obesity Susceptibility in Human Twins. *Epigenetics* (in review)
354. Korolenko A, Noll SE, Skinner MK (2023) “Environmental Justice and Epigenetic Transgenerational Inheritance”. *Yale J Biol Med*. 2023 Jun; 96(2): 241–250.
353. Ben Maamar M, Skinner MK (2023) *Genomics, epigenetics and male reproduction in: Infertility in the Male*, 5th Edition. Editors: L. Lipshultz, S. Howards, C. Niederberger D. Lamb. Publisher: Cambridge. (In Press. Expected publication date: March 2023) Online ISBN: 9781108937054
352. Thorson JLM, Ben Maamar M, Skinner MK (2023) Endocrine Disrupting Chemicals Induce the Epigenetic Transgenerational Inheritance of Disease. In: *Environmental Contaminants and Endocrine Health*. Chapter 4. (In Press. Expected publication date: May 2023)

351. Kaefer M, Rink R, Misseri R, Winchester P, Proctor C, Ben Maamar M, Beck D, Nilsson E, Skinner MK (2023) Role of Epigenetics in the Etiology of Hypospadias through Penile DNA Methylation Alterations. *Scientific Reports* 13(1):555. PMID: 36631595; PMCID: PMC9834259
350. Thompson R, Beck D, Nilsson EE, Ben Maamar M, Shnorhavorian M, Skinner MK (2022) Examination of Generational Impacts of Adolescent Chemotherapy: Ifosfamide and Potential for Epigenetic Inheritance. *iScience* 25(12):105570. PMID: 36465105

Commentary:

311.56M potential reach
93 outlets (mostly print and online, mostly abroad)
74 print/online outlets including:

U.S. (25) Examples:

SciTech Daily: [A Toxic Inheritance: Chemotherapy Could Increase Disease Susceptibility in Future Generations](#)

Headtopics (US) [A Toxic Inheritance: Chemotherapy Could Increase Disease Susceptibility in Future Generations](#)

NewsBreezer: [Preclinical study suggests that chemotherapy could affect the health of later generations](#)

Medical Daily: [Common Chemotherapy Drug Can Pass On Its Toxic Effects To Offspring: Study](#)

The Limited Times: [Study: A common chemo drug has toxic effects on later generations of cancer survivors](#)

Inside Precision Medicine: [Preclinical Study Suggests Some Chemotherapy Could Impact Later Generations' Health](#)

Abroad (49)

Daily Mail: (UK) [Common chemotherapy drug may RAISE the risk of cancer in children and grandchildren of survivors, study suggests](#)

Daily Hunt: (IN) [Study suggests chemotherapy could increase disease susceptibility in future generations](#)

RadioZT (PL) [Skutki uboczne chemioterapii wpływają na zdrowie kilku pokoleń. W jaki sposób?](#)

The Print (IN) [Study suggests chemotherapy could increase disease susceptibility in future generations](#)

Paperblog.fr (fr) [CHIMIOTHÉRAPIE : Un facteur de vulnérabilité des générations futures ?](#)

Lega Nerd (IT) [La chemioterapia potrebbe aumentare le malattie nelle generazioni future](#)

Spokane Public Radio, By Steve Jackson, Published December 7, 2022

<https://www.spokanepublicradio.org/regional-news/2022-12-07/ws-u-study-hints-at-possible-long-term-ripples-from-common-chemotherapy-drug>

WSU CAS in the Media, December 2, 2022

<https://cas.wsu.edu/news/2022/12/02/chemotherapy-could-increase-disease-susceptibility-in-future-generations/>

MedicalXpress, November 28, 2022

<https://medicalxpress.com/news/2022-11-chemotherapy-disease-susceptibility-future-generations.html>

WSU Insider, November 28, 2022

<https://news.wsu.edu/press-release/2022/11/28/chemotherapy-could-increase-disease-susceptibility-in-future-generations/>

International Business Times, November 28, 2022

https://www.ibtimes.co.in/chemotherapy-may-lead-inheritance-disease-risk-children-grandchildren-childhood-cancer-854517?utm_term=Autofeed&utm_medium=Social&utm_source=Twitter#EchoBox=1669659277

ZEE5, November 28, 2022

<https://www.zee5.com/articles/study-suggests-chemotherapy-could-increase-disease-susceptibility-in-future-generations>

Healthing, November 28, 2022

<https://www.healthing.ca/diseases-and-conditions/cancer/kids-of-people-who-have-had-chemo-may-be-more-at-risk-for-disease>

KNWN/Northwest Newsradio, (KOMO Seattle) by Ryan Harris
(KOMO-AM, KCBS-AM, KTAR 92.3) Nov 28, 2022

<https://nwnewsradio.com/northwest-news/chemotherapy-might-put-your-future-generations-at-higher-disease-risk-wsu-study-says/>

349. Duncan GE, Avery A, Ben Maamar M, Nilsson EE, Beck D, Skinner MK. (2022) Epigenome-wide Association Study for Physical Activity and Physiological Parameters in Discordant Monozygotic Twins. *Scientific Reports* 12(1):20166. PMID: 36424439; PMCID: PMC9691628

Commentary:

523.81 million potential reach
236 print and online outlets

U.S. (193) examples:

MSN.com: [Exercise Prompts Changes Down to Your DNA, Study Suggests](#)

WebMD: [Twins Study Shows Exercise Altering How Genes Behave](#)

Scribd: [Twins study links exercise to lower metabolic disease risk](#)

YahooNews: [Regular exercise 'changes your genes', study finds](#)

RunnersWorld: [Exercise Prompts Changes Down to Your DNA](#)

LabRoots: [The Health Benefits of Exercise May Come From Epigenetic Changes](#)

Abroad: (43)

ZEE5 (IN): [Exercise linked to beneficial epigenetic changes in new twin study](#)

NewAtlas (AU) [Identical twin study sheds light on how exercise tunes our genes](#)

The World Economic Forum (CH) [Study shows how exercise may change more than just your waistline](#)

The Guardian (NG) [Short bursts of vigorous activity can cut risk of early death](#)

AOL.UK: [Regular exercise 'changes your genes', study finds](#)

Overclockers (RU) ["Ученые: Физическая активность способна изменить генетику человека"](#),

Digital Journal (CA) [Twin study connects exercise to health-related epigenetic changes](#)

348. Thorson JLM, Skinner MK (2022) Role of Environmentally Induced Epigenetic Transgenerational Inheritance in Evolutionary Biology in: L.M. Vaschetto (ed.), Epigenetics, Development, Ecology and Evolution. Ch 4, pp 109-122.
347. Beck D, Ben Maamar M, Skinner MK (2022) Genome-wide CpG Density and DNA Methylation Analysis Methods (MeDIP, RRBS, and GWBS) Comparisons. Epigenetics. 2022 May 17(5):518-530. doi: 10.1080/15592294.2021.1924970. PMID: 33975521; PMCID: PMC9067529
346. Ben Maamar M, Beck D, Nilsson E, McCarrey JR, Skinner MK (2022) Developmental Alterations in DNA Methylation During Gametogenesis from Primordial Germ Cells to Sperm. iScience 25(2):103786. PMID: 35146397; PMCID: PMC8819394
345. Nilsson E, Ben Maamar M, Skinner MK. (2022) Role of Epigenetic Transgenerational Inheritance in Generational Toxicology. Environmental Epigenetics 2022 Feb 16;8(1):dvac001. PMID: 35186326; PMCID: PMC8848501
344. Winchester P, Nilsson E, Beck D, Skinner MK. (2022) Preterm birth buccal cell epigenetic biomarkers to facilitate preventative medicine. Scientific Reports 12, 3361. PMID: 35232984, PMCID: PMC8888575

Commentary:

Approximately 350 million reaches

[WSU Insider – March 1, 2022](#)

[ScienceDaily – March 1, 2022](#)

[Nutraingredients-usa.com article - March 2022](#)

[Genomeweb – March 7, 2022](#)

[Daily Mail \(UK\) - March 2022](#)

[Daily Hunt \(India\) - March 2022](#)

[News 18 \(India\) - March 2022](#)

[SciTech Daily - March 2022](#)

[Mirage News - March 2022](#)

[MedicalXpress - March 2022](#)

[Today UK News - March 2022](#)

[SciMag - March 2022](#)

[ANI News - March 2022](#)

[Devdiscourse - March 2022](#)

[WSU College of Arts & Sciences Story Hub – March 3, 2022](#)

343. Beck D, Nilsson E, Ben Maamar M, Skinner MK. (2022) Environmental Induced Transgenerational Inheritance Impacts Systems Epigenetics in Disease Etiology Scientific Reports 12:5452. PMID: 35440735; PMCID: PMC9018793
342. Thorson JLM, Ben Maamar M, Skinner MK (2022) Epigenetics in Sperm, Epigenetic Diagnostics, and Transgenerational Inheritance. In: New Genetic Diagnostic Technologies in 342. Reproductive Medicine, 2nd Edition. Editors: Simon and Rubio. Chapter 7, pp. 61-71. DOI: 10.1201/9781003024941-7
341. Skinner MK. (2022) Environmental Epigenetics 2022 update. Environ Epigenet. 8(1):dvac008. PMID: 35592831; PMCID: PMC9113187
340. Garrido N, Cruz F, Rivera Egea R, Simon C, Sadler-Riggelman I, Beck D, Nilsson E, Skinner MK (2021) Sperm DNA Methylation Epimutation Biomarker for Paternal Offspring Autism Susceptibility. Clinical Epigenetics 13(1):6. PMID: 33413568, PMCID: PMC7789568

Commentary:

[US News & World Report – January 14, 2021](#)

[Drugs.com – January 14, 2021](#)

[HealthDay Consumer – January 14, 2021](#)

[MedicineNet – January 13, 2021](#)

[Clinical Lab Manager – January 13, 2021](#)

[IFL Science – January 13, 2021](#)

[Technology Networks – January 12, 2021](#)

[ReachMD – January 11, 2021](#)

[Labroots – January 19, 2021](#)

[Paperblog.fr – January 16, 2021 \(French\)](#)

[MSN – Australia – January 15, 2021](#)

[Bio Space – January 15, 2021](#)

[Medical Dialogues – January 15, 2021](#)

[ScienceAlert – January 15, 2021](#)

[Brigham and Women’s Hospital – Health Library – January 14, 2021](#)

[UC San Diego Health Living – January 14, 2021](#)

[Real Health – January 14, 2021](#)

[Doctors Lounge – January 14, 2021](#)

[The WellnessHub Thompson Health – January 14, 2021](#)

[UPI.com – January 14, 2021](#)

[MedicalResearch.com Interview – January 12, 2021](#)

[Mirage News – January 12, 2021](#)

[EurekAlert! – January 11, 2021](#)

[ScienMag – January 11, 2021](#)

[The Medical News – January 11, 2021](#)

[Newswise – January 11, 2021](#)
[Sciencenewsnet.in – January 12, 2021](#)
[MedicalXpress – January 11, 2021](#)
[TekCrispy – January 11, 2021 \(Spanish\)](#)
[WSU Insider – January 11, 2021](#)
[Creapharma par Pharmapro – January 13, 2021 \(French\)](#)
[ScienceDaily – January 11, 2021](#)
[Sound Health and Lasting Wealth – January 11, 2021](#)
[News Atlas – January 14, 2021](#)

339. Ben Maamar M, Sadler-Riggleman I, Beck D, Skinner MK (2021) *Genome-wide mapping of DNA methylation 5mC by Methylated DNA immunoprecipitation (MeDIP) –sequencing* in: DNA Modifications: Methods and Protocols' in Methods in Molecular Biology series. Ed: A. Ruzov. Publisher: Springer. Chapter 23, 2198:301-310. PMID: 32822040, PMCID: PMC8285090
338. Ben Maamar M, Nilsson E, Thorson JLM, Beck D, Skinner MK (2021) Transgenerational Disease Specific Epigenetic Sperm Biomarkers after Ancestral Exposure to Dioxin. *Environmental Research* 192:110279. PMID: 33039529 PMCID: PMC8130889
337. Beck D, Ben Maamar M, Skinner MK (2021) Integration of Sperm ncRNA Directed DNA Methylation and DNA Methylation Directed Histone Retention in Epigenetic Transgenerational Inheritance. *Epigenetics & Chromatin* 14(1):6. PMID: 33436057, PMCID: PMC7802319.
Commentary:
[Epigenie - January 2021](#)
336. Thorson JLM, Beck D, Ben Maamar M, Nilsson E, Skinner MK (2021) Ancestral Plastics Exposure Induces Transgenerational Disease Specific Sperm Epigenome-Wide Association Biomarkers. *Environmental Epigenetics* 7(1):dvaa023. PMID: 33841921 PMCID: PMC8022921
335. Kelley JL, Tobler M, Beck D, Barts N, Sadler-Riggleman I, Quackenbush CR, Rodriguez LA, Skinner MK (2021) Epigenetic Inheritance of DNA Methylation Changes in Fish Living in Hydrogen Sulfide-rich Springs. *PNAS* 118(26): e2014929118. PMID: 34185679, PMCID: PMC8255783
Commentary:
[WSU Insider – June 14, 2021](#)
334. Ben Maamar M, Nilsson EE, Skinner MK. Epigenetic transgenerational inheritance, Gametogenesis and Germline Development. *Biol Reprod.* 2021 105(3):570-592. PMID: 33929020; PMCID: PMC8444706
333. Skinner MK. Environmental Epigenetics update. *Environ Epigenet.* 2021 Apr 8;7(1):dvab001. PMID: 33859828; PMCID: PMC8032962

332. Nilsson E, Sadler-Riggleman I, Beck D, Skinner MK (2021) Differential DNA Methylation in Somatic and Sperm cells of Hatchery versus Wild (Natural-Origin) Steelhead Trout Population. *Environmental Epigenetics*. 7(1):1-17, dvab002. PMID: 34040807; PMCID: PMC8132314
- Commentary:
[Phys.org – May 2021](#)
[EurekAlert! – May 2021](#)
[Jioforme – May 2021](#)
[Gamers Grade – May 2021](#)
[Sciencemag Science Magazine – May 2021](#)
[Science Codex – May 2021](#)
[Bioengineer.org – May 2021](#)
 Targeted News Service – May 2021 (Print Edition)
[Columbia News Bulletin – May 2021](#)
[7thSpace – May 2021](#)
331. Ben Maamar M, Beck D, Sadler-Riggleman I, Nilsson E, McCarrey JR, Skinner MK (2021) Developmental Alterations in DNA Methylation During Gametogenesis from Primordial Germ Cells to Sperm. *iScience*. 2022 Jan 19;25(2):103786. PMID: 35146397
330. Craig G, Kenny H, Nilsson E, Sadler-Riggleman I, Beck D, Skinner MK (2021) Epigenome-wide association study for DNA methylation epimutations / biomarkers in buccal and monocyte cells for female rheumatoid arthritis. *Scientific Reports* 11:23789. PMID: 34893669 PMCID: PMC8664902
329. Mavaia P, Holder L, Beck D, Skinner MK. (2021) Predicting environmentally responsive transgenerational differential DNA methylated regions (epimutations) in the genome using a hybrid deep-machine learning approach. *BMC Bioinformatics*. 2021 Nov 30;22(1):575. PMID: 34847877, PMCID: PMC8630850.
328. Skinner MK, Nilsson EE. (2021) Role of environmentally induced epigenetic transgenerational inheritance in evolutionary biology: Unified Evolution Theory. *Environ Epigenet*. 2021 Oct 30;7(1):dvab012. PMID: 34729214, PMCID: PMC8557805
327. Ben Maamar M, King S, Nilsson E, Sadler-Riggleman I, Beck D, Skinner MK (2020) Epigenetic Transgenerational Inheritance of Parent-of-Origin Allelic Transmission of Outcross Pathology and Sperm Epimutations. *Developmental Biology* 458(1):106-119.
326. King SE, Skinner MK (2020) Epigenetic Transgenerational Inheritance of Obesity. *Trends in Endocrinology & Metabolism* Vol. 31, No. 7 pp 478-49. PMID: 32521235; PMCID: PMC8260009
325. Ben Maamar M, Beck D, Nilsson E, McCarrey JR, Skinner MK (2020) Developmental Origins of Transgenerational Sperm Histone Retention Following Ancestral Exposures. *Developmental Biology* 465(1), 31-45.

324. Smithson M, Thorson JLM, Sadler-Riggleman I, Beck D, Dybdahl M, Skinner MK (2020) Between-generation phenotypic and epigenetic stability in a clonal snail suggests transgenerational plasticity. *Genome Biology & Evolution* *Genome Biol Evol* 1;12(9):1604-1615.
323. Ben Maamar M, Beck D, Thorson JLM, Nilsson E, Kubsad D, Skinner MK (2020) Glyphosate Induced Transgenerational DNA Methylation and Histone Retention Sperm Epigenetic Biomarkers for Disease. *Epigenetics*. 16(10):1150-1167. PMID: 33296237, PMCID: PMC8510602

Commentary:

[Before it's News article – September 2, 2021](#)

[Counter Punch article – August 31, 2021](#)

[Super Human Radio Interview – Blueprint Power Hour – December 15, 2020](#)

[GEN News – December 11, 2020](#)

322. Thompson R, Nilsson E, Skinner MK (2020) Environmental Epigenetics and Epigenetic Inheritance in Domestic Farm Animals. *Applied Animal Reproduction Science Special Issue: SI:2020 AAAA Applied Animal Reproduction Science* 18;106316.
321. Ben Maamar M, Nilsson E, Thorson JLM, Beck D, Skinner MK (2020) Epigenome-Wide Association Study for Transgenerational Disease Sperm Epimutation Biomarkers following Ancestral Exposure to Jet Fuel Hydrocarbons. *Reprod Toxicol* Dec;98:61-74.
320. Nilsson E, Ben Maamar M, Skinner MK (2020) Environmental impacts on sperm and oocyte epigenetics affect embryo cell epigenetics and transcription to promote the epigenetic inheritance of pathology and phenotypic variation. *Reproduction, Fertility & Development* 33:102-107.
319. Nilsson E, Thorson JLM, Ben Maamar M, Beck D, Skinner MK (2020) Epigenome-Wide Association Study (EWAS) for Potential Transgenerational Disease Epigenetic Biomarkers in Sperm Following Ancestral Exposure to the Pesticide Methoxychlor. *Environmental Epigenetics* 6(1):dvaa020.
318. Thorson JLM, Beck D, Ben Maamar M, Nilsson E, McBirney M, Skinner MK (2020) Epigenome-Wide Association Study for Pesticide (Permethrin and DEET) Induced DNA Methylation Epimutation Biomarkers for Specific Transgenerational Disease. *Environmental Health*. 19(1):109.
317. Nilsson E, Ben Maamar M, Skinner MK (2020) Environmentally Induced Epigenetic Transgenerational Inheritance and the Weismann Barrier: Dawn of Neo-Lamarckian Theory. *Journal Developmental Biology, Special Issue on Weismann Barrier 2020*, 8, 28; doi:10.3390/jdb8040028.
316. Thorson JLM, Beck D, Ben Maamar M, Nilsson E, McBirney M, Skinner MK (2020) Epigenome-Wide Association Study for Atrazine Induced Transgenerational DNA

Methylation and Histone Retention Sperm Epigenetic Biomarkers for Disease. Plos One 16;15(12):e0239380.

315. Ben Maamar M, Nilsson E, Sadler-Riggelman I, Beck D, McCarrey J, Skinner MK (2019) Developmental Origins of Transgenerational Sperm DNA Methylation Epimutations Following Ancestral DDT Exposure. Developmental Biology 445:280-293.

Commentary:

[Quirks & Quacks radio interview – June 18, 2021](#)

314. Kubsad D, Nilsson EE, King SE, Sadler-Riggelman I, Beck D, Skinner MK (2019) Assessment of Glyphosate Induced Epigenetic Transgenerational Inheritance of Pathologies and Sperm Epimutations: Generational Toxicology. Scientific Reports 9(1):6372.

Commentary:

One of the top 100 downloaded papers for Scientific Reports in 2019.

<https://www.nature.com/collections/ceabdbbhe>

[KREM2 News, April 23, 2019](#)

[The Spokesman Review, April 26, 2019](#)

[WSU Insider, April 23, 2019](#)

[Wazzu Nation Interview, June 2019](#)

[Science Daily, April 23, 2019](#)

[Eureka Alert! AAAS, April 23, 2019](#)

[Medical Express, April 23, 2019](#)

[Consumer Affairs, April 24, 2019](#)

[GM Watch, April 24, 2019](#)

[Sustainable Pulse, April 24, 2019](#)

[Archworld, April 23, 2019](#)

[Upmitter, April 24, 2019](#)

[DREAMPLANSHINE, April 23, 2019](#)

[iFiber Columbia Basin, April 23, 2019](#)

[Il Messagero \(Italy\), April 24, 2019](#)

[ANSA \(Italy\), April 24, 2019](#)

[Der Tagesspiegel \(Germany\), April 24, 2019](#)

[Googleness \(UK\), April 23, 2019](#)

[Newsarchyuk \(UK\), April 23, 2019](#)

[Shilfa \(UK\), April 23, 2019](#)

[Newsbeezer \(UK\), April 23, 2019](#)

[Vaaju \(UK\), April 23, 2019](#)

[Ecologist, April 24, 2019](#)

[Moscow-Pullman Daily News, April 25, 2019](#)

[Innovation Toronto, April 25, 2019](#)

[Organic Consumers Association, April 24, 2019](#)

[Tech Times, April 25, 2019](#)

[Daddyhood, April 26, 2019](#)
[YubaNet, April 23, 2019](#)
[KING5 TV – Online News, April 23, 2019](#)
[Post Register, April 26, 2019](#)
[Coeur d’Alene/Post Falls Press, April 25, 2019](#)
[NewsCaf, April 23, 2019](#)
[Times of News, April 23, 2019](#)
[Fruit Growers News, April 23, 2019](#)
[Vegetable Growers News, April 23, 2019](#)
[Nexus News Feed, April 23, 2019](#)
[Yakima Herald, April 26, 2019](#)
[The Wenatchee World, April 29, 2019](#)
[The Olympian, April 27, 2019](#)
[ScienceMag, April 23, 2019](#)
[BrightSurf.com, April 23, 2019](#)
[Bioengineer.org, April 23, 2019](#)
[HEAL Health and Environment Alliance, April 23, 2019](#)
[la Repubblica \(Italy\), April 24, 2019](#)
[SOTT \(Sign Of The Times\), April 23, 2019](#)
[LEGGO, April 25, 2019](#)
[La Vie agricole \(Canada\), April 25, 2019](#)
[AboutLawsuits.com, April 25, 2019](#)
[Washington Ag Network Podcast, May 2, 2019](#)

313. King SE, McBirney M, Beck D, Sadler-Riggelman I, Nilsson E, Skinner MK (2019) Sperm Epimutation Biomarkers of Obesity and Pathologies following DDT Induced Epigenetic Transgenerational Inheritance of Disease. *Environmental Epigenetics*. 5(2):1-15, dvz008. PMID: 31186947; PMCID: PMC6536675
312. Klukovich R, Nilsson E, Sadler-Riggelman I, Beck D, Yan W, Skinner MK (2019) Environmental Toxicant Induced Epigenetic Transgenerational Inheritance of Prostate Pathology and Stromal-Epithelial Cell Epigenome and Transcriptome Alterations: Ancestral Origins of Prostate Disease. *Scientific Reports*. 18;9(1):2209.
311. Skinner MK (2019) Editorial: Environmental Epigenetics Update and Boards. *Environmental Epigenetics*. 14;5(1):1-6, dvz006.
310. Sadler-Riggelman I, Klukovich R, Nilsson E, Beck D, Yan W, Skinner MK (2019) Epigenetic Transgenerational Inheritance of Testis Pathology and Sertoli Cell Epimutations: Generational Origins of Male Infertility. *Environmental Epigenetics Volume 5(3):1-18, dvz013*. PMID: 31528361; PMCID: PMC6736068
309. Skinner MK, Nilsson E, Sadler-Riggelman I, Beck D, Ben Maamar M, McCarrey JR (2019) Transgenerational Sperm DNA Methylation Epimutation Developmental Origins Following Ancestral Vinclozolin Exposure. *Epigenetics* 14:7,721-739.

308. Nilsson E, Ben Maamar M, Skinner MK (2019) *Definition of Epigenetic Transgenerational Inheritance and Biological Impacts*. Transgenerational Epigenetics 2nd Ed. Editor: Trygve Tollefsbol. Publisher: Elsevier. Vol. 13, pp. 13-24.
307. Skinner MK, Nilsson EE, Kimbel H (2019) *Environmental Impact on Ovarian Development and Function* in: The Ovary, 3rd Edition, Eds: Leung & Adashi. Elsevier (Publish date: October 11, 2018) ISBN: 9780128132098
306. Skinner MK, Lumey LH, Fleming TP, Jirtle RL, Sapienza C, Hoyo C, Aronica L, Thompson JE, Nichol PF (2019) RW-2018 - Research Workshop: The Effect of Nutrition on Epigenetic Status, Growth, and Health. Journal of Parenteral and Enteral Nutrition (JPEN) 43(5):627-637.
305. King SE, Nilsson E, Beck D, Skinner MK (2019) Adipocyte Epigenetic Alterations and Potential Therapeutic Targets in Transgenerationally Inherited Lean and Obese Phenotypes Following Ancestral Exposure to Environmental Toxicants. Adipocyte 8(1):362-378.
304. Luján S, Caroppo E, Niederberger C, Arce JC, Sadler-Riggelman I, Beck D, Nilsson E, Skinner MK (2019) Sperm DNA Methylation Epimutation Biomarkers for Male Infertility and FSH Therapeutic Responsiveness. Scientific Reports (2019) 9:16786. PMID: 31727924; PMCID: PMC6856367
- Commentary:
[Vox – November 27, 2019](#)
[The London Economic – November 14, 2019](#)
[The Telegraph – November 14, 2019](#)
[WSU News – November 14, 2019](#)
303. Thorson JLM, Smithson M, Sadler-Riggelman I, Beck D, Dybdahl M, Skinner MK (2019) Regional Epigenetic Variation in Asexual Snail Populations among Urban and Rural Lakes. Environmental Epigenetics 5(4):1-12, dvz020.
302. Gartstein, M., & Skinner, M. (2018). Prenatal influences on temperament development: The role of environmental epigenetics. Development and Psychopathology, 30(4):1269-1303.
301. Skinner, MK, Nilsson, EE. (2018) *Epigenetic Transgenerational Toxicology*. In: McQueen, C. A., Comprehensive Toxicology, Third Edition. Vol. 5, pp. 137–142. Oxford: Elsevier Ltd.
300. Skinner MK, Jegou B (2018) *Content & Volume Overview* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 1: 1-2. <https://doi.org/10.1016/B978-0-12-801238-3.64553-1>
299. Skinner MK, Jegou B (2018) *Historic Considerations in Male Reproduction* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 1: 3-9. <https://doi.org/10.1016/B978-0-12-801238-3.64554-3>

298. Thompson R, Nilsson EE, Skinner MK (2018) *Peritubular Myoid Cells in Testis* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 1: 42-46. <https://doi.org/10.1016/B978-0-12-801238-3.64361-1>
297. Sadler-Riggelman I, Skinner MK (2018) *Testis Cell and Organ Culture* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 1: 161-164. <https://doi.org/10.1016/B978-0-12-801238-3.64573-7>
296. Nilsson EE, Skinner MK (2018) *Environmentally Induced Epigenetic Transgenerational Inheritance of Female Reproductive Pathology* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 2:767-770. <https://doi.org/10.1016/B978-0-12-801238-3.64418-5>
295. Skinner MK, Nilsson EE (2018) *Epigenetic Transgenerational Inheritance* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 3:436-438. <https://doi.org/10.1016/B978-0-12-801238-3.64510-5>
294. Skinner MK, Nilsson EE (2018) *Mechanisms of Epigenetic Transgenerational Inheritance* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 3:439-441. <https://doi.org/10.1016/B978-0-12-801238-3.64511-7>
293. Skinner MK, Nilsson EE (2018) *Epigenetic Transgenerational Inheritance Across Species* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 3:442-445. <https://doi.org/10.1016/B978-0-12-801238-3.64512-9>
292. Ben Maamar M, Sadler-Riggelman I, Skinner MK (2018) *Semen analysis: Assaying Sperm Epigenetics* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 5:117-123. <https://doi.org/10.1016/B978-0-12-801238-3.64846-8>
291. Kubsad D, Ben Maamar M, Skinner MK (2018) *Developmental Epigenetic Analysis of Sperm* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 5:239-244. <https://doi.org/10.1016/B978-0-12-801238-3.64864-X>
290. Swanson P, Skinner MK (2018) *Introduction: Overview; History* in: Encyclopedia of Reproduction 2nd Edition, Ed: MK Skinner. Elsevier. Vol 6:1-2. <https://doi.org/10.1016/B978-0-12-811899-3.20528-4>
289. Ben Maamar M, Sadler-Riggelman I, Beck D, Skinner MK (2018) Epigenetic Transgenerational Inheritance of Altered Sperm Histone Retention Sites. *Scientific Reports* 28;8(1):5308.
288. Skinner MK, Ben Maamar M, Sadler-Riggelman I, Beck D, Nilsson E, McBirney M, Klukovich R, Xie Y, Tang C, Wei Yan (2018) Alterations in sperm DNA methylation, non-coding RNA and histone retention associate with DDT-induced epigenetic transgenerational inheritance of disease. *BMC Epigenetics and Chromatin* 11:8

287. Ben Maamar M, Sadler-Riggelman I, Beck D, McBirney M, Nilsson E, Klukovich R, Xie Y, Tang C, Yan W, Skinner MK (2018) Alterations in sperm DNA Methylation, Non-Coding RNA expression, and histone retention mediate Vinclozolin induced epigenetic transgenerational inheritance of disease. *Environmental Epigenetics* 4(2):1-19, dvy010
286. Nilsson E, King SE, McBirney M, Kubsad D, Pappalardo M, Beck D, (2018) Vinclozolin induced epigenetic transgenerational inheritance of pathologies and sperm epimutation biomarkers for specific diseases. *Plos One* 13(8):1-29, e0202662.
285. Skinner MK (2018) Editorial: Environmental Epigenetics Update. *Environmental Epigenetics*. 19;4(1):1-2, dvy009.
284. Skinner MK (2018) Preconception Cold-Induced Epigenetic Inheritance. *Nature Medicine* 24:1308–1309.
283. Nilsson E, Sadler-Riggelman I, Skinner MK (2018) Environmentally Induced Epigenetic Transgenerational Inheritance of Disease. *Environmental Epigenetics*. 4(2):1-13, dvy016.
282. Nilsson E, Klukovich R, Sadler-Riggelman I, Beck D, Xie Y, Yan W, Skinner MK (2018) Environmental Toxicant Induced Epigenetic Transgenerational Inheritance of Ovarian Pathology and Granulosa Cell Epigenome and Transcriptome Alterations: Ancestral Origins of Polycystic Ovarian Syndrome and Primary Ovarian Insufficiency. *Epigenetics* 13:8, 875-895.
281. Shnorhavorian M, Schwartz S, Sadler-Riggelman I, Beck D, Skinner MK (2017) Differential DNA Methylation Regions in Adult Human Sperm Following Adolescent Chemotherapy: Potential Epigenetic Inheritance from Chemotherapy. *Plos One* 12(2):1-18, e0170085.
- Commentary:
[ScienceMag Article – February 2017](#)
[eMedicineHealth Article – February 2017](#)
[Medscape Article – February 2017](#)
[Medicalxpress Article – February 2017](#)
[Genetic Literacy Project – February 2017](#)
[Epigenetics Literacy Project – February 2017](#)
[Cancer and Important Medical News Article – February 2017](#)
[Guernsey Press Article – February 2017](#)
[Medical Daily – February 2017](#)
280. Carvan MJ, Kalluvila TA, Klingler RH, Larson JK, Pickens M, Mora-Zamorano FX, Connaughton VP, Sadler-Riggelman I, Beck D, Skinner MK (2017) Mercury Induced Epigenetic Transgenerational Inheritance of Abnormal Phenotypes and Sperm Epimutations in Zebra Fish. *Plos One* 12(5):1-26, e0176155.
279. McNew S, Beck D, Sadler-Riggelman I, Knutie SA, Koop JAH, Clayton DH, Skinner MK (2017) Epigenetic variation between urban and rural populations of Darwin’s finches. *BMC Evolutionary Biology* 17:183.

Commentary:

[BMC Evolutionary Biology – Highlights of 2017 – Feb 1, 2018](#)

[Forbes Grrlscientist – Sept 6, 2017](#)

[Uncommon Descent – August 28, 2017](#)

[PhysOrg – August 24, 2017](#)

[EurekAlert! – August 23, 2017](#)

[GenomeWeb – August 2017](#)

[ScienceDaily – August 24, 2017](#)

[IFL Science! – August 2017](#)

[The Archaeology News Network – August 29, 2017](#)

[World News, Thailand – August 24, 2017](#)

[Anygator – August 24, 2017](#)

[Gears of Biz – August 27, 2017](#)

[Newswise – August 21, 2017](#)

[Research & Development – August 25, 2017](#)

[Targeted News Service – August 25, 2017](#)

[Utah Business – August 28, 2017](#)

[ECOticias.com – September 4, 2017](#)

[La Razon Digital – September 4, 2017](#)

[Servicio de Información y Noticias Científicas – September 3, 2017](#)

[TECNOXPLORA – September 3, 2017](#)

278. Thorson JLM, Smithson M, Beck D, Sadler-Riggelman I, Nilsson E, Dybdahl M, Skinner MK (2017) Epigenetics and adaptive phenotypic variation between habitats in an asexual snail. *Scientific Reports*. 7(1):14139.

Commentary:

[One of the top 100 read ecology papers for Scientific Reports in 2017](#)

277. Holder LB, Haque MM, Skinner MK (2017) Machine Learning for Epigenetics and Future Medical Applications. *Epigenetics* 12(7):505-514.

276. Beck D, Sadler-Riggelman I, Skinner MK (2017) Generational Comparisons (F1 versus F3) of Vinclozolin Induced Epigenetic Transgenerational Inheritance of Sperm Differential DNA Methylation Regions (Epimutations) Using MeDIP-Seq. *Environmental Epigenetics* 3(3):1-12, dx016.

275. Skinner MK (2017) Research Highlight: Environment. *Epigenetics and Reproduction*. *Environmental Epigenetics* 3(3)1-2. Dvx018.

274. McBirney M, King SE, Pappalardo M, Houser E, Unkefer M, Nilsson E, Sadler-Riggelman I, Beck D, Winchester P, Skinner MK (2017) Atrazine Induced Epigenetic Transgenerational Inheritance of Disease, Lean Phenotype and Sperm Epimutation Pathology Biomarkers. *Plos One* 12(9):1-37, e0184306.

Commentary:

[WSU News – September 20, 2017](#) (one of the Top 10 WSU News stories in 2017)

[Revelation Health Podcast, CHTV, Episode 199 – Is Generational Toxicity Real?](#)
[Medical Xpress, September 20, 2017](#)
[Rodales Organic Life, October 11, 2017](#)

273. Skinner MK (2016) Endocrine disruptors in 2015: Epigenetic transgenerational inheritance. *Nature Review Endocrinology* 12(2):68-70.
272. Haque MM, Nilsson EE, Holder LB, Skinner MK (2016) Genomic Clustering of differential DNA methylated regions (epimutations) associated with the epigenetic transgenerational inheritance of disease and phenotypic variation. *BMC Genomics* 17:418.
271. Hanson MA, Skinner MK (2016) Developmental Origins of Epigenetic Transgenerational Inheritance. *Environmental Epigenetics* 2(1):1-9, dvw002.
270. Schuster A, Skinner MK, Yan W (2016) Ancestral vinclozolin exposure alters the epigenetic transgenerational inheritance of sperm small noncoding RNA. *Environmental Epigenetics* 2(1):1-10, dvw001.
269. Guillette L, Parrott B Nilsson EE, Haque MM, Skinner MK (2016) Epigenetic Programming Alterations in Alligators from Environmentally Contaminated Lakes. *General and Comparative Endocrinology*. 1;238:4-12.
- Commentary:
[Italian Public Television “Ciao Maschio” \(In Italian, MKS interview at 45 min\)](#)
268. Skinner MK (2016) Differential DNA Methylation Analysis Optimally Requires Purified Cell Populations. *Fertility and Sterility* 1;106(3):551.
267. McCarrey JR, Lehle JD, Raju SS, Wang Y, Nilsson EE, Skinner MK (2016) Tertiary Epimutations - A Novel Aspect of Epigenetic Transgenerational Inheritance Promoting Genome Instability. *PLoS One*. 19;11(12):1-15, e0168038.
266. Skinner MK (2016) Unified theory of evolution: Environmental Epigenetics Allows a Lamarckian Concept to Facilitate Darwinian Evolution. *Aeon, Online Magazine*, November 9
<https://aeon.co/essays/on-epigenetics-we-need-both-darwin-s-and-lamarck-s-theories>
265. Nilsson E and Skinner MK (2015) Environmentally Induced Epigenetic Transgenerational Inheritance of Disease Susceptibility. *Translational Research* 165, pp. 12-17.
264. Sadler-Riggelman I and Skinner MK (2015) Environment and the Epigenetic Transgenerational Inheritance of Disease. In: “Epigenetics: Current Research and Emerging Trends. Editor: Brian Chadwick, Caister Academic Press. Chapter 15, pp. 297-305.
263. Skinner MK, Guerrero-Bosagna C, Haque M. (2015) Environmentally Induced Epigenetic Transgenerational Inheritance of Sperm Epimutations Promote Genetic Mutations. *Epigenetics* 10:8, 762-771.

Commentary:

Cover art selected and used as Journal Cover.

[EpiGenie Article – August 2015](#)

[Genetic Engineering & Biotechnology News - August 2015](#)

[Medical News Today - August 2015](#)

262. Skinner MK (2015) Environmental Epigenetics and a Unified Theory of the Molecular Aspects of Evolution: A Neo-Lamarckian Concept that Facilitates Neo-Darwinian Evolution. *Genome Biol Evol* 7(5): 1296-1302.

Commentary:

Cover art selected and used as Journal Cover.

261. Gillette R, Miller-Crews I, Nilsson E, Skinner MK, Crews D. (2015) Distinct actions of ancestral vinclozolin and juvenile stress on neural gene expression in the male rat. *Frontiers in Genetics* 2;6:56.

260. Skinner MK. (2015) Environmental Epigenetics. *Environmental Epigenetics* 1(1):1-3.

259. Haque M, Holder, LB, Skinner MK (2015) Genome-Wide Locations of Potential Epimutations Associated with Environmentally Induced Epigenetic Transgenerational Inheritance of Disease Using a Novel Machine Learning Prediction Approach. *Plos One* 10(11):1-25, e0142274.

258. Skinner MK, Bhandari R, Haque MM, Nilsson EE (2015) Environmentally Induced Epigenetic Transgenerational Inheritance of Altered SRY Genomic Binding During Gonadal Sex Determination. *Environmental Epigenetics* 1(1):1-10.

257. Nilsson EE and Skinner MK (2015) Environmentally Induced Epigenetic Transgenerational Inheritance of Reproductive Disease. *Biology of Reproduction* 93(6):145, 1-8.

Commentary:

Cover art selected and used as Journal Cover.

256. Guerrero-Bosagna C and Skinner MK (2014) Environmental Epigenetics and Effects on Male Fertility. In: *Damage in the Genetic Material of Human Spermatozoa: Relation to Fertility*. Springer. *Adv Exp Med Biol*. 791:67-81.

255. Guerrero-Bosagna C, and Skinner MK (2014) Environmental Epigenetics and Phytoestrogen/Phytochemical Exposures. *Journal of Steroid Biochemistry & Molecular Biology* 139:270–276.

254. Nilsson E and Skinner MK (2014) Definition of Epigenetic Transgenerational Inheritance and Biological Impacts. In: *Transgenerational Epigenetics: Evidence and Debate*. Editor: Trygve Tollefsbol. Elsevier Publisher, pp. 11-16.

253. Bao J, Zhang Y, Schuster AS, Ortogero N, Nilsson EE, Skinner MK and Yan W (2014) Conditional inactivation of Miwi2 reveals that MIWI2 is only essential for prospermatogonial development in mice. *Cell Death and Differentiation* 21(5):783-796.
252. Feeney A, Nilsson E, and Skinner MK (2014) Cytokine (IL16) and Tyrphostin Actions on Ovarian Primordial Follicle Development. *Reproduction*. 148(3):321-331.
251. Skinner MK and Guerrero-Bosagna C (2014) Role of CpG Deserts in the Epigenetic Transgenerational Inheritance of Differential DNA Methylation Regions. *BMC Genomics* 15:692.
250. Guerrero-Bosagna C, Weeks S, and Skinner MK (2014) Identification of Genomic Features in Environmentally Induced Epigenetic Transgenerational Inherited Sperm Epimutations. *Plos One* 17;9(6):1-14, e100194.
249. Gillette R, Miller-Crews I, Nilsson EE, Skinner MK, Gore AC, and Crews D (2014) Sexually dimorphic effects of ancestral exposure to vinclozolin on stress reactivity in rats. *Endocrinology* 155(10):3853-66.
248. Skinner MK, Guerrero-Bosagna C, Haque M, Knutie S, Koop J, and Clayton D (2014) Epigenetics and the Evolution of Darwin's Finches. *Genome Biology & Evolution* 24;6(8):1972-89.
247. Haque M, Skinner MK and Holder LB (2014) Imbalanced Class Learning in Epigenetics. *J Comput Biol*. 21(7):492-507.
246. Skinner MK (2014) A New Kind of Inheritance. *Scientific American* 311(2)44-51.
Commentary:
[The Scientist Article - August 2014](#)
[BYU Radio Interview - August 2014 \(interview begins at 78:40\)](#)
[Scientific American Article - July 2014](#)
245. Nilsson E, Larsen G, and Skinner MK (2014) Roles of Gremlin1 and Gremlin2 in Regulating Ovarian Primordial to Primary Follicle Transition. *Reproduction*. 147(6):865-74.
244. Skinner MK, Savenkova M, Zhang B, and Crews D (2014) Gene Bionetworks Involved in Epigenetic Transgenerational Inheritance of Altered Mate Preference: Environmental Epigenetics and Evolutionary Biology. *BMC Genomics* 16;15(1):337.
243. Kabasenche WP, and Skinner MK (2014) DDT, Epigenetic Harm, and Transgenerational Environmental Justice. *Environmental Health* 13:62.
Commentary:
[Planet in Peril Article - October 2014](#)

242. Feeney A, Nilsson E, and Skinner MK (2014) Epigenetics and Transgenerational Inheritance in Domesticated Farm Animals. *Journal of Animal Science and Biotechnology (JASB)* 5:48.
241. Skinner, MK (2014) Environmental Stress and Epigenetic Transgenerational Inheritance. *BMC Medicine* 12:153.
240. Czaja W, Miller KY, Miller BL, and Skinner MK (2014) Structural and functional conservation of fungal MatA and human SRY sex determining proteins. *Nature Communications* 17;5:5434.
239. Manikkam M, Haque M, Guerrero-Bosagna C, Nilsson EE, Skinner MK (2014) Pesticide methoxychlor promotes the epigenetic transgenerational inheritance of adult onset disease and sperm epimutations through the female germline. *PLoS ONE* 9(7):1-19, e102091.

Commentary:

[Newsweek Article - July 2014](#)

[Science Daily Article - July 2014](#)

[Medical Daily Article - July 2014](#)

[TIME Magazine Article - July 2014](#)

[Motherboard Article - July 2014](#)

[The Verge Article - July 2014](#)

[Nature World News Article - July 2014](#)

[International Business Times Article - July 2014](#)

[Indo Asian News Service \(IANS\) Article - July 2014](#)

[Science Codex Article - July 2014](#)

[Headlines & Global News - July 2014](#)

[Knoxville Times - July 2014](#)

[Science World Report Article - July 2014](#)

[Sify News Article - July 2014](#)

[Yahoo! News India - July 25, 2014](#)

[Science Newslines Article - July 2014](#)

[Health Canal - July 2014](#)

[Medical News Today Article - July 2014](#)

238. Crews D, Gillette R, Miller-Crews I, Gore AC, Skinner MK. (2014) Nature, nurture and epigenetics. *Mol Cell Endocrinol.* 398(1-2):42-52 Review.
237. Skinner MK (2014) Endocrine disruptor induction of epigenetic transgenerational inheritance of disease. *Molecular and Cellular Endocrinology.* Vol. 398, Pages 4-12.
236. Skinner MK (2014) Environment, Epigenetics and Reproduction Introduction. *Molecular and Cellular Endocrinology.* Vol. 398, Pages 1-3.
235. Guerrero-Bosagna C, Skinner MK, (2014) Environmentally Induced Epigenetic Transgenerational Inheritance of Male Infertility. *Curr Opin Genet Dev.* 4;26C:79-88. PMID: 25104619; PMCID: PMC4252707

Commentary:

[URO Today – February 2015](#)

234. Manikkam M, Tracey R, Guerrero-Bosagna C, and Skinner MK (2013) Plastics Derived Endocrine Disruptors (BPA, DEHP and DBP) Induce Epigenetic Transgenerational Inheritance of Adult-Onset Disease and Sperm Epimutations. Plos One 8(1):1-18, e55387.

Commentary:

Selected by Faculty of 1000 for F1000 Prime for special significance

[BBC Article - January 2013](#)

[BBC Mundo Article - January 2013](#)

[Genome Web Article - January 2013](#)

[E & E News Article - January 2013](#)

233. Tracey R, Manikkam M, Guerrero-Bosagna C, and Skinner MK (2013) Hydrocarbons (jet fuel JP-8) induce epigenetic transgenerational inheritance of obesity, reproductive disease and sperm epimutations. Reproductive Toxicology. 36:104-116.

Commentary:

[BBC Article - January 2013](#)

[BBC Mundo Article - January 2013](#)

[E & E News Article - January 2013](#)

232. Hope BT, Skinner MK, Kenny PJ, Akbarian S. (2013) Exploring the epigenetics of cocaine resistance. Nat Med. 19(2):136-7.

231. Skinner MK, Manikkam M, Tracey R, Nilsson E, Haque Md. M, and Guerrero-Bosagna C (2013) Ancestral DDT Exposure Promotes Epigenetic Transgenerational Inheritance of Obesity. BMC Medicine 11:228.

Commentary Articles:

[Los Angeles Times Article - October 2013](#)

[Yahoo! Health Article - October 2013](#)

[The Seattle Times Article - October 2013](#)

[Oregon Public Broadcasting Think Out Loud Radio Newscast - October 2013](#)

[The Spokesman-Review Article - October 2013](#)

[Science Daily Article - October 2013](#)

[Health, Medical, and Science Updates Article - October 2013](#)

[SF Gate Article - October 2013](#)

[Healthline News Article - October 2013](#)

[The Weather Channel Article - October 2013](#)

[Biome Article - October 2013](#)

[NWPR EarthFix Article - October 2013](#)

[Examiner Article - October 2013](#)

[Fox News Article - October 2013](#)

[Top News Article - October 2013](#)

[Nature World News Article - October 2013](#)

[Science Newsline Medicine Article - October 2013](#)

[OPB - Northwest Public Radio - October 2013](#)

230. Guerrero-Bosagna C, Savenkova M, Haque Md. M, and Skinner MK (2013) Environmentally Induced Epigenetic Transgenerational Inheritance of Altered Sertoli Cell Transcriptome and Epigenome: Molecular Etiology of Male Infertility. *Plos One* 8(3):1-12, e59922. PMID: 23555832; PMCID: PMC3610698
229. Skinner MK, Guerrero-Bosagna C, Haque Md, Nilsson E, Bhandari R, and McCarrey J (2013) Environmentally Induced Transgenerational Epigenetic Reprogramming of Primordial Germ Cells and Subsequent Germline. *Plos One* 15;8(7):1-15, e66318.
228. Haque Md, Holder LB, Skinner MK, Cook DJ (2013) Generalized Query Based Active Learning to Identify Differentially Methylated Regions in DNA. *IEEE/ACM Trans Comput Biol Bioinform* 10(3):632-44.
227. Nilsson E, Zhang B, and Skinner MK (2013) Gene Bionetworks that Regulate Ovarian Primordial Follicle Assembly. *BMC Genomics* 14:496.
226. Skinner MK (2013) Environmental Epigenetics and Epigenetic Transgenerational Inheritance. In: *Epigenetics and Human Health*. Editors: Randy L Jirtle, Frederick L. Tyson. Springer, pp. 245-256.
225. Skinner MK (2013) Environmentally Induced Epigenetic Transgenerational Inheritance of Disease. In *Ten Critical Topics in Reproductive Medicine*, S. Sanders, Ed. (Science/AAAS, Washington, DC), pp. 18-20.
224. Guerrero-Bosagna C and Skinner MK (2012) Environmentally Induced Epigenetic Transgenerational Inheritance of Phenotype and Disease. *Molecular and Cellular Endocrinology* 6;354(1-2):3-8.
223. Crews D, Gillette R, Manikkam M, Savenkova M and Skinner MK (2012) Epigenetic transgenerational inheritance of altered stress responses. *PNAS* 5;109(23):9143-8.

Commentary: (Selected from over 30)

[Bloomberg Business Week Article - May 2012](#)

[Channel News Asia Article - May 2012](#)

[Science Daily Article - May 2012](#)

[Yahoo! News Article - May 2012](#)

[Arabs Today Article - May 2012](#)

[Der Standard Article - May 2012](#)

[France 24 Article - May 2012](#)

[French Tribune Article - May 2012](#)

[Google Article - May 2012](#)

[HH&S Today's Article - May 2012](#)

[The Inquisitor Article - May 2012](#)

[Nano Patents and Innovations Article - May 2012](#)

[Newser Article - May 2012](#)

[NEWSMAX Article - May 2012](#)

[Newsvine Article - May 2012](#)
[The Nutshell Article - The Scientist - May 2012](#)
[Planet Save Article - May 2012](#)
[Psych Central Article - May 2012](#)
[Occupy Corporatism Article - May 2012](#)
[SHM News Article - May 2012](#)
[Sify News Article - May 2012](#)
[St George West Article - May 2012](#)
[Terra Daily Article - May 2012](#)
[World Science Article - May 2012](#)
[San Francisco Chronicle SF Gate Article - May 2012](#)

222. Guerrero-Bosagna C, Covert TR, Settles M, Anway MD, and Skinner MK. (2012) Epigenetic Transgenerational Inheritance of Vinclozolin Induced Mouse Adult Onset Disease and Associated Sperm Epigenome Biomarkers. *Reproductive Toxicology* 34(4):694-707.
221. Nilsson E, Larsen G, Manikkam M, Guerrero-Bosagna C, Savenkova M and Skinner MK (2012) Environmentally induced epigenetic transgenerational inheritance of ovarian disease. *Plos One*. 7(5): e36129.

Commentary:

[Huffington Post Green News Article - May 2012](#)
[NW News Network Article - May 2012](#)
[Mother Jones Article – June 2012](#)

220. Manikkam M, Guerrero-Bosagna C, Tracey R, Haque M, and Skinner MK (2012) Transgenerational Actions of Environmental Compounds on Reproductive Disease and Identification of Epigenetic Biomarkers of Ancestral Exposures. *Plos One* 7(2): e31901.

Commentary:

[Science News Article - February 2012](#)
[Gizmodo News Article - February 2012](#)
[C&EN News Article - March 2012](#)
[Nationen News Article \(Norway\) - April 2012](#)

Selected Faculty 1000 as top 2% Biology and Medicine Publications.

219. Bhandari R, Haque Md, Skinner MK (2012) Global Genome Analysis of the Downstream Binding Targets of Testis Determining Factor SRY AND SOX9. *Plos One* 7(9): e43380.
218. Bhandari R, Schinke E, Haque Md, Sadler-Riggelman, Skinner MK (2012) SRY Induced TCF21 Genome-wide Targets and Cascade of bHLH Factors During Sertoli Cell Differentiation and Male Sex Determination. *Biology of Reproduction* 6;87(6):131.
217. Skinner MK, Manikkam M, Haque Md., Zhang B, Savenkova M (2012) Epigenetic Transgenerational Inheritance of Somatic Transcriptomes and Epigenetic Control Region. *Genome Biology* 3;13(10):R91.

The Comparative Toxicogenomics Database – Curated Publication:

<http://ctdbase.org/detail.go?type=reference&acc=23034163&qid=2937009>

216. Manikkam M, Tracey R, Guerrero-Bosagna C, and Skinner MK (2012) Dioxin (TCDD) Induces Epigenetic Transgenerational Inheritance of Adult Onset Disease and Sperm Epimutations. PLoS ONE 7(9): e46249.
- Commentary:
[Seattle Times Article - October 2012](#)
[Before it's News Article - October 2012](#)
[Fangaroo Article - October 2012](#)
[Medical Express Article - September 2012](#)
[Iconcast News Article - September 2012](#)
215. Manikkam M, Tracey R, Guerrero-Bosagna C, and Skinner MK (2012) Pesticide and Insect Repellent Mixture (Permethrin and DEET) Induces Epigenetic Transgenerational Inheritance of Disease and Sperm Epimutations. Reproductive Toxicology 34(4):708-19.
214. Skinner MK, Manikkam M, Guerrero-Bosagna C. (2011) Epigenetic transgenerational actions of endocrine disruptors. Reprod Toxicol. 31(3):337-43.
- Commentary:
 Identified as one of the most cited manuscript in Reproductive Toxicology.
213. Skinner MK (2011) Role of Epigenetics in Developmental Biology and Transgenerational Inheritance. Birth Defects. Res C, Embryo Today. 93(1):51-5.
212. Clement T, Bhandari R, Sadler-Riggleman I, Skinner MK (2011) Sry directly regulates the neurotrophin-3 promoter during male sex determination and testis development. Biology of Reproduction 85, 277–284.
211. Skinner MK (2011) Environmental Epigenomics and Disease Susceptibility. EMBO Rep. 1;12(7):620-2.
210. Skinner MK (2011) Environmental Epigenetic Transgenerational Inheritance and Somatic Epigenetic Mitotic Stability. Epigenetics 1;6(7):838-42.
209. Bhandari R, Sadler-Riggleman I, Clement T and Skinner MK (2011) Basic Helix-Loop-Helix Transcription Factor TCF21 is a Downstream Target of the Male Sex Determining Gene SRY. Plos One 6(5): e19935.
208. Nilsson EE, Schindler R, Savenkova MI and Skinner MK (2011) Inhibitory Actions of Anti-Müllerian Hormone (AMH) on Ovarian Primordial Follicle Assembly. PLoS One 6(5): e20087.

207. Z. Hochberg, C Junien, J-C Carel, P Boileau, C Deal, R Feil, M Fraga, M Constancia, Y Le Bouc, K Lillycrop, R Scharfmann, A Sheppard, MK Skinner, M Szyf, R Waterland, DJ Waxman, E Whitelaw, K Ong, K Albertsson-Wikland (2011) Child health, developmental plasticity, epigenetics and programming. *Endocrine Reviews* 32(2):159-224.
206. Skinner MK, Rawls A, Wilson-Rawls J, Roalson EH. Basic helix-loop-helix transcription factor gene family phylogenetics and nomenclature. *Differentiation*. 2010 Jul;80(1):1-8. PMID: 20219281; PMCID: PMC2894270
205. Skinner MK, Manikkam M, Guerrero-Bosagna C. (2010) Epigenetic transgenerational actions of environmental factors in disease etiology. *Trends Endocrinol Metab*. 21(4):214-22.
204. Clement T, Savenkova M, Settles M, Anway M and Skinner MK (2010) Alteration of the developing testis transcriptome following embryonic vinclozolin exposure. *Reprod Toxicol*. 30(3):353-64.

Commentary:

Cover art selected and used as Journal Cover.

203. Nilsson EE, Savenkova MI, Schindler R, Zhang B, Schadt EE and Skinner MK (2010) Gene bionetwork analysis of ovarian primordial follicle development. *Plos One* 16;5(7): e11637.
202. Guerrero-Bosagna C, Settles M, Lucker BJ and Skinner MK (2010) Epigenetic transgenerational actions of vinclozolin on promoter regions of the sperm epigenome. *Plos One* 30;5(9).

Commentary Articles:

BBC Radio 4 Programmes – Frontiers, Epigenetics. Broadcast December 8, 2010

<http://www.bbc.co.uk/programmes/b00wdjgl#synopsis>

[Newsweek Article - "Sins of the Grandfathers"](#)

[NPR "Living on Earth" Audio Interview](#)

Moscow Pullman Daily News Article

<http://www.dnews.com/story/local/58305/>

201. Schindler R, Nilsson EE and Skinner MK (2010) Induction of ovarian primordial follicle assembly by connective tissue growth factor CTGF. *Plos One* 24;5(9): e12979.
200. Guerrero-Bosagna C and Skinner MK (2010) Transgenerational epigenetic actions of environmental compounds. *Animal Reproduction*. 7(3): 165-167.
199. Skinner MK (2010) Metabolic Disorders: Fathers' nutritional legacy. *Nature* 21;467(7318):922-3.
198. Skinner MK (2010) Epigenetic Transgenerational Toxicology. In: *Comprehensive Toxicology*, Chapter 12.07. Editor Tom Knudson. Publisher Elsevier, pgs. 89-93.

197. Hahn KL, Beres BJ, Rowton MJ, Skinner MK, Chang Y, Rawls A, and J Wilson-Rawls (2009) A deficiency of lunatic fringe is associated with cystic dilation of the rete testis. *Reproduction*. 137(1):79-93.
196. Nilsson EE and Skinner MK (2009) Progesterone regulation of primordial follicle assembly in bovine fetal ovaries. *Molecular and Cellular Endocrinology*. 313(1-2) 9–16.
195. Nilsson EE, Dole G and Skinner MK (2009) Neurotrophin NT-3 promotes ovarian primordial to primary follicle transition. *Reproduction* 138(4):697-707.
194. Guerrero-Bosagna C, Skinner MK (2009) Epigenetic transgenerational effects of endocrine disruptors on male reproduction. *Seminars in Reproductive Medicine* 27(5):403-8.
193. Skinner MK, Guerrero-Bosagna C (2009) Environmental signals and transgenerational epigenetics. *Epigenomics* 1(1), 111–117.
192. Skinner MK, Nilsson EE, Bhandari RK. (2009) Cell-cell signaling in the testis and ovary. In Ralph A. Bradshaw and Edward A. Dennis, editors: *Handbook of Cell Signaling* 2nd edition, Oxford: Academic Press, pp. 2663-2678.
191. Westfall S, Nilsson EE and Skinner MK (2008) Role of triptolide as an adjunct chemotherapy for ovarian cancer. *Chemotherapy* 54:67-76.
190. Skinner MK (2008) What is an epigenetic transgenerational phenotype? F3 or F2. *Reproductive Toxicology*. 25:2-6.
- Commentary:
Cover Art selected as Journal Cover.
189. Anway MD, Rekow SS, and Skinner MK (2008) Transgenerational epigenetic programming of the testis transcriptome. *Genomics* 91:30-40.
188. Muir T, Wilson-Rawls J, Stevens JD, Rawls A, Schweitzer R, Kang C and MK Skinner (2008) Integration of CREB and bHLH transcriptional signaling pathways through direct heterodimerization of the proteins: Role in muscle and testis development. *Molecular Reproduction and Development*; 75(11):1637-52
187. Skinner MK, Schmidt M, Savenkova M, Sadler-Riggelman I, and EE Nilsson. (2008) Regulation of granulosa and theca cell transcriptomes during ovarian antral follicle development. *Molecular Reproduction and Development* 75(9):1457-72.
186. Anway MD and Skinner MK (2008) Transgenerational effects of the endocrine disruptor vinclozolin on the prostate transcriptome and adult onset disease. *Prostate*. 1;68(5):517-29.
185. Memon MA, Anway MD, Covert TR, Uzumcu M, and Skinner MK (2008) Transforming growth factor beta (TGFbeta1, TGFbeta2 and TGFbeta3) null-mutant phenotypes in embryonic gonadal development. *Molecular and Cellular Endocrinology* 6;294(1-2):70-80.

184. Ye X, Skinner MK, Kennedy G and J. Chun. (2008) Age-dependent loss of sperm production in mice via impaired lysophosphatidic acid signaling. *Biology of Reproduction* 79(2):328-36.
183. Dole G, Nilsson EE, and Skinner MK (2008) Glial-derived neurotrophic factor promotes ovarian primordial follicle development and cell-cell interactions during folliculogenesis. *Reproduction* 135(5):671-82.
182. Stevens JD, Roalson EH and Skinner MK (2008) Phylogenetic and expression analysis of the basic helix-loop-helix transcription factor gene family: Genomic approach to cellular differentiation. *Differentiation* 76(9):1006-22.
181. Nilsson EE, Anway MD, Stanfield J and Skinner MK (2008) Transgenerational epigenetic effects of the endocrine disruptor vinclozolin on pregnancies and female adult onset disease. *Reproduction* 135(5):713-21.
180. Anway MD, Rekow SS, Skinner MK (2008) Comparative anti-androgenic actions of vinclozolin and flutamide on transgenerational adult onset disease and spermatogenesis. *Reproductive Toxicology* 26(2):100-6.

Commentary:

Cover Art selected as Journal Cover.

179. Skinner MK, Anway MD, Savenkova M, Gore A, Crews D, (2008) Transgenerational epigenetic programming of the brain transcriptome and anxiety behavior: Environment-genome interactions. *PLoS ONE* 3(11): e3745.
178. Nilsson EE, Rogers N and Skinner MK (2007) Actions of the anti-Müllerian hormone on the ovarian transcriptome to inhibit primordial to primary follicle transition. *Reproduction* 134:209-221.
177. Jirtle RL and Skinner MK (2007) Environmental epigenomics and disease susceptibility. *Nature Genetics Rev.* 8:253-262.
176. Crews D, Gore AC, Hsu TS, Dangleben NL, Spinetta M, Schallert T, Anway MD and Skinner MK (2007) Transgenerational epigenetic imprints on mate preference. *Proc Natl Acad Sci* 104:5942-5946.

Commentary Article:

M. Balter (2007) A toxic hand-me-down. *Science NOW Daily News*. March 27th.

J. Raloff (2007) Pollution Fallout: Are unattractive males Great-grams fault? *Science News*. 171:198.

(2008) Highly Cited Papers on Reproductive Biology (2005-2007), Top 10 list 2007, *Nature Medicine* (2008) 14(11) pg 1180.

J. Glausinusz (2008) Pesticide effects on sex last generations in rats: The Year in Science, 100 Top Science Stories of 2007, Discover Magazine. January, #22, pg 40.

175. Clement TM, Anway MD, Uzumcu M and Skinner MK (2007) Regulation of the gonadal transcriptome during sex determination and testis morphogenesis: Comparative candidate genes. *Reproduction* 134:455-472.

174. Skinner MK (2007) Epigenetic transgenerational toxicology and germ cell disease. *International Journal of Andrology* 30:393-397.

Commentary:

Most highly downloaded manuscript of 2007 for the Journal.

173. Skinner MK (2007) Endocrine disruptors and epigenetic transgenerational disease etiology. *Pediatric Research* 61:48R-50R.

172. Anway MD and Skinner MK (2007) Epigenetic programming of the germ line: Effects of endocrine disruptors on the development of transgenerational disease. *Reproductive Biomedicine Online*. 16:23-25.

171. Skinner MK and MD Anway (2007) Epigenetic transgenerational actions of vinclozolin on the development of disease and cancer. *Critical Reviews in Oncogenesis* 13(1):75-82.

170. Anway MD, Memon M, Uzumcu M, and Skinner MK (2006) Transgenerational effect of the endocrine disruptor vinclozolin on male spermatogenesis. *Journal of Andrology* 27:868-879.

169. Anway MD, Leathers C and Skinner MK (2006) Endocrine disruptor vinclozolin induced epigenetic transgenerational adult onset disease. *Endocrinology* 147:5515-5523.

Commentary Article:

Ethan Watters (2006) DNA is not destiny. *Discover Magazine*, Nov. pg 33.

Jessica Ruvinsky (2006) How good genes go bad. *Discover Magazine*, Dec. pg 15.

168. Chang HS, Anway MD, Rekow SS, and Skinner MK (2006) Transgenerational epigenetic imprinting of the male germ-line by endocrine disruptor exposure during gonadal sex determination. *Endocrinology* 147:5524-5541

(ARTICLE RETRACTED JUNE 2009)

167. Nilsson EE, Stanfield J, and Skinner MK (2006) Interactions between progesterone and tumor necrosis factor-alpha in the regulation of primordial follicle assembly. *Reproduction* 132:877-886.

166. Nilsson EE, Detzel C, and Skinner MK (2006) Platelet-derived growth factor modulates the primordial to primary follicle transition. *Reproduction* 131:1007-1015.

165. Skinner MK (2006) Epigenetic transgenerational actions of endocrine disruptors through the male germ-line. In: *Male-Mediated Development Toxicology*. Ed. D. Anderson and MH Brinkworth, Royal Society of Chemistry, Cambridge, UK, CH001, pp. 1-4.
164. Anway, MD and Skinner MK (2006) Epigenetic transgenerational actions of endocrine disruptors. *Endocrinology* 147:S43-S49.
163. Chaudhary J, Sadler-Riggleman I, Ague JM, and Skinner MK (2005) The helix-loop-helix inhibitor of differentiation (Id) proteins induce post-mitotic terminally differentiated Sertoli cells to re-enter the cell cycle and proliferate. *Biology of Reproduction* 72:1205-1217.

Commentary:

Cover art selected and used as Journal Cover.

162. Kezele PR, Ague J, Nilsson EE and Skinner MK (2005) Alterations in the ovarian transcriptome during primordial follicle assembly and development. *Biology of Reproduction* 72:241-255.
161. Cupp A.S. and Skinner M.K. (2005) Embryonic Sertoli cell differentiation. In: *Sertoli Cell Biology* eds. M.D. Griswold and M.K. Skinner, Elsevier -Academic Press, San Diego, CA, pp. 43-70.
160. Skinner M.K. (2005) Sertoli cell secreted regulatory factors. in: *Sertoli Cell Biology* eds. M.D. Griswold and M.K. Skinner, Elsevier -Academic Press, San Diego, CA, pp. 107-120.
159. Chaudhary J. and Skinner, M.K. (2005) Transcription factors in Sertoli cells. In: *Sertoli Cell Biology* eds. M.D. Griswold and M.K. Skinner, Elsevier -Academic Press, San Diego, CA, pp. 251-280.
158. Skinner M.K. (2005) Sertoli cell - Somatic cell interactions. In: *Sertoli Cell Biology* eds. M.D. Griswold and M.K. Skinner, Elsevier -Academic Press, San Diego, CA, pp. 317-328.
157. Small CL, Shima JE, Uzumcu M, Skinner M.K. and MD Griswold (2005) Profiling gene expression during the differentiation and development of the murine embryonic gonad. *Biology of Reproduction* 72:492-501.
156. Ojeda S and Skinner M.K. (2005) Puberty in the rat. In *Encyclopedia of Reproduction*, eds. Knobil & Neil, Elsevier – Academic Press, San Diego, CA.
155. Ye X, Hama K, Contos J, Anliker B, Inoue A, Skinner M.K., Suzuki H Amano T, Kennedy G, Arai H, Aoki J and Chun J. (2005) LPA3-mediated lysophosphatidic acid signaling in embryo implantation and spacing. *Nature* 435:104-108.

Commentary Article:

S.K. Dey (2005) Fatty link to fertility. *Nature* 435:34.

(2008) Highly Cited Papers on Reproductive Biology (2005-2007), Top 10 list 2005, Nature Medicine (2008) 14(11) pg 1180.

154. Anway M, Cupp AS, Uzumcu M and Skinner MK (2005) Epigenetic transgenerational actions of endocrine disruptors and male fertility. Science 308:1466-1469.

Commentary Articles:

J. Kaiser (2005) Endocrine disruptors trigger fertility problems in multiple generations. Science 2005 Jun 3;308(5727):1391-1392,

R. Trudo (2005) Endocrine disrupting chemicals probed as potential pathways to illness. JAMA, 2005 July 20; 294(3): 292.

E. Hood (2005) Growth spurt for EDC recognition. Environmental Health Perspectives 113:A522-A524.

J. Ruvinsky (2006) Poisons permanently harm male offspring and later generations: 100 Top Science Stories of 2005. Discover Magazine 27:49.

Kristiansen C (2006) Damning future generations? Epigenetic transmission of disease. Endocrine News. January 2006: 12.

B. Weinhold (2006) Epigenetics: The science of change. Environmental Health Perspectives 114:A160-A167.

K.R. Chi (2007) Pass the disruption. The Scientist. 21:69.

(2008) Highly Cited Papers on Reproductive Biology (2005-2007) and The Top Papers on Reproduction Research (2004-2008), This manuscript most highly cited paper (2004- 2008) and highest impact, Nature Medicine (2008) 14(11) pg 1178-1181.

153. Meachem S.J., Ruwanpura S.M., Ziolkowski J, Ague J, Skinner M.K. and K.L. Loveland. (2005) Developmentally distinct *in vivo* effects of FSH on proliferation and apoptosis during testis maturation. Journal of Endocrinology 186:429-446.

152. Muir T, Sadler-Riggleman I, Stevens J.D., and Skinner MK (2005) Role of the basic helix-loop-helix protein ITF2 in the hormonal regulation of Sertoli Cell Differentiation. Molecular Reproduction and Development 73:491-500.

151. Muir T, Sadler-Riggleman I, and Skinner MK (2005) Role of the basic helix-loop-helix transcription factor, scleraxis, in the regulation of Sertoli cell function and differentiation. Molecular Endocrinology.19:2164-2174.

150. Westfall S, and Skinner MK (2005) Inhibition of phosphatidylinositol 3-kinase sensitizes ovarian cancer cells to carboplatin and allows adjunct chemotherapy treatment. *Molecular Cancer Therapeutics* 4:1764-1771.
149. Kezele P, Nilsson E.E. and Skinner MK (2005) Keratinocyte growth factor acts as a mesenchymal factor that promotes ovarian primordial to primary follicle transition. *Biology of Reproduction* 73:967-973.
148. Skinner M.K. (2005) Regulation of primordial follicle assembly and development. *Hum Reprod Update*. 11:461-71.
- Commentary:
Cover Art selected and used as Journal Cover.
- Foreign Translation Article:
Human Reproduction Update, Japanese Excerpted Edition, Vol. 1 Issue 5. (2006) pp 279-290.
147. Skinner MK and Anway MD (2005) Seminiferous cord formation and germ cell programming: Epigenetic transgenerational actions of endocrine disruptors. *Annals New York Academy of Science* 1061:18-32.
146. Chaudhary J., Sadler-Riggelman I and Skinner M.K. (2004) Identification of a novel Sertoli cell gene product SERT that influences follicle stimulating hormone actions. *Gene* 324:79-88.
145. Nilsson EE and Skinner MK (2004) Kit ligand and basic fibroblast growth factor interactions in the induction of ovarian primordial to primary follicle transition. *Molecular and Cellular Endocrinology* 214:19-25.
144. Saxlund MA, Sadler-Riggelman I, and Skinner MK (2004) Role of basic helix-loop-helix (bHLH) and CREB transcription factors in the regulation of Sertoli cell androgen-binding protein expression. *Molecular Reproduction and Development* 68:269-278.
143. Uzumcu M, Suzuki H, and Skinner MK (2004) Effect of the anti-androgenic endocrine disruptor vinclozolin on embryonic testis cord formation and postnatal testis development and function. *Reproductive Toxicology* 18:765-774.
142. Skinner M.K. (2003) Cell-cell signaling in the testis and ovary. In: *Handbook of Cell Signaling* (Ralph A Bradshaw and Edward Dennis, eds.) Academic Press/Elsevier Science Publishing. Vol 3, chapter 342, pp 531-534.
141. Nilsson EE, Doraiswamy V, and Skinner MK (2003) Transforming growth factor-beta isoform expression during bovine ovarian antral follicle development. *Molecular Reproduction and Development* 66:237-246.

140. Kezele P and Skinner MK (2003) Regulation of ovarian primordial follicle assembly and development by estrogen and progesterone: Endocrine model of follicle assembly. *Endocrinology* 144:3329-3337.
139. Cupp A.S., Uzumcu M, Suzuki H, Dirks K, Phillips B, and Skinner MK (2003) Effect of transient embryonic *in vivo* exposure to the endocrine disruptor methoxychlor on embryonic and postnatal testis development and function. *Journal of Andrology* 24(5): 736-745.
138. Cupp AS, Uzumcu, M, and Skinner MK (2003) Chemotactic role of neurotrophin 3 in the embryonic testis that facilitates male sex determination. *Biology of Reproduction* 68:2033-2037.
137. Nilsson EE and Skinner MK (2003) Bone morphogenetic protein -4 acts as an ovarian follicle survival factor and promote primordial follicle development. *Biology of Reproduction* 69:1265-1272.
136. Nilsson E, Westfall S., McDonald C, Lisen T, Sadler-Riggelman I, and Skinner MK (2002) An *in vivo* mouse reporter gene (human secreted alkaline phosphatase) model to monitor ovarian tumor growth and response to therapeutics. *Cancer Chemo & Pharmacology* 49:93-100.
135. Chaudhary J. and Skinner M.K. (2002) Identification of a novel gene product Sertoli cell gene with a zinc finger domain that is important for FSH activation of testicular Sertoli cells. *Endocrinology* 143:426-435.
134. Nilsson E., Kezele P. and Skinner M.K. (2002) Leukemia inhibitory factor (LIF) promotes the primordial to primary follicle transition in rat ovaries. *Molecular and Cellular Endocrinology* 188:65-73.
133. Uzumcu M, Dirks K. and Skinner, M.K. (2002) Inhibition of platelet-derived growth factor actions in the embryonic testis influences normal cord development and morphology. *Biology of Reproduction* 66:7445-753.
132. Cupp A, Tessarolo L. and Skinner, M.K. (2002) Testis development phenotypes in neurotrophin receptor *trkA* and *trkC* null mutations: Role in formation of seminiferous cords and germ cell survival. *Biology of Reproduction* 66:1838-1845.
131. Kezele P.R., Nilsson, E.E., and Skinner MK (2002) Insulin but not insulin-like growth factor - 1 promotes the primordial to primary follicle transition. *Molecular and Cellular Endocrinology* 192:37-43.
130. Nilsson E and Skinner MK (2002) Growth differentiation factor-9 Stimulates progression of primary but not primordial rat ovarian follicle development. *Biology of Reproduction* 67:1018-1024.

129. Uzumcu M, Westfall S, Dirks K and Skinner MK (2002) Embryonic testis cord formation and mesonephric cell migration requires the phosphatidylinositol 3-kinase signaling pathway. *Biology of Reproduction* 67:1927-1935.
128. Devine PJ, Sipes EG, Skinner MK and Hoyer P (2002) Characterization of a rat *in vitro* ovarian culture system to study the ovarian toxicant 4-vinylcyclohexene diepoxide. *Toxicology and Applied Pharmacology* 184:107-115.
127. Kezele P, Nilsson EE and M.K. Skinner (2002) Cell-cell interactions in primordial follicle assembly and development. *Frontiers in Bioscience* 7:1990-1996.
126. Nilsson EE and Skinner MK (2002) Role of transforming growth factor beta in ovarian surface epithelium biology and ovarian cancer. *Reproductive Bio-Medicine Online* 5(3):254-258.
125. Nilsson E., Parrott J. and Skinner M.K. (2001) Basic fibroblast growth factor induces primordial follicle development and initiates folliculogenesis. *Molec. & Cellular Endocrinology* 175:123-130.
124. Nilsson E. and Skinner MK (2001) Cellular interactions that control primordial follicle development and folliculogenesis. *Journal Society Gynecologic Investigation* 8 Supplemental: S17-S20.
123. Nilsson E., Doraiswamy V., Parrott J.A., and Skinner M.K. (2001) Expression and action of transforming growth factor beta (TGFb1, TGFb2, TGFb3) in normal ovarian surface epithelium and implications for human ovarian cancer. *Molecular and Cellular Endocrinology* 182:145-155.
122. Parrott JA, Nilsson, E. Mosher R., Magrane G., Albertson D., Pinkel D., Gray JW, and Skinner M.K. (2001) Stromal-epithelial interactions in the progression of ovarian cancer: Influence and source of tumor stromal cells. *Molecular and Cellular Endocrinology* 175:29-39.
121. Cupp A.S., and Skinner M.K. (2001) Actions of the endocrine disruptor methoxychlor and its estrogenic metabolite on *in vitro* embryonic rat seminiferous cord formation and perinatal testis growth. *Reproductive Toxicology* 15:317-326.
120. Cupp A.S. and Skinner M.K. (2001) Expression, action, and regulation of transforming growth factor alpha and epidermal growth factor receptor during embryonic and perinatal rat testis development. *Journal of Andrology* 22:1019-1029.
119. Chaudhary J., Johnson J., Kim G., and Skinner M.K. (2001) Hormonal regulation and differential actions of the helix-loop-helix transcriptional inhibitors of differentiation (Id1, Id2, Id3 and Id4) in Sertoli cells. *Endocrinology* 142:1727-1736.

118. Chaudhary J. and Skinner M.K. (2001) Role of transcriptional co-activator CBP/p300 in linking basic helix-loop-helix and CREB responses for follicle-stimulating hormone mediated activation of the transferrin promoter in Sertoli cells. *Biology of Reproduction* 65:568-574.
117. Parrott J.A., and Skinner M.K. (2000) Kit-ligand actions on ovarian stromal cells: Effects on theca cell recruitment and steroid production. *Molecular Reproduction and Development* 55:55-64.
116. Levine E., Cupp A.S., and Skinner M.K. (2000) Role of neurotrophins in rat embryonic testis morphogenesis (cord formation). *Biology of Reproduction* 62:132-142.
115. Chaudhary J., and Skinner M.K. (2000) Characterization of a novel transcript of 14-3-3 theta in Sertoli cells. *Journal of Andrology* 21:730-738.
114. Levine E., Cupp A.S., Miyashiro L., and Skinner M.K. (2000) Role of transforming growth factor-alpha and the epidermal growth factor receptor in embryonic rat testis development. *Biology of Reproduction*. *Biology of Reproduction* 62:477-490.
113. Parrott J.A., and Skinner M.K. (2000) Expression and action of hepatocyte growth factor in human and bovine normal ovarian surface epithelium and ovarian cancer. *Biology of Reproduction* 62:491-50.
112. Parrott J.A., Kim G., and Skinner M.K. (2000) Expression and action of kit ligand/stem cell factor in normal human and bovine ovarian surface epithelium and ovarian cancer. *Biology of Reproduction* 62:1600-1609.
111. Parrott J., Mosher R., Kim G., and Skinner M.K. (2000) Autocrine interactions of keratinocyte growth factor, hepatocyte growth factor, and kit-ligand in the regulation of normal ovarian surface epithelial cells. *Endocrinology* 141:2532-2539.
110. Doraiswamy V., Parrott J., and Skinner M.K. (2000) Expression and action of transforming growth factor alpha in normal ovarian surface epithelium and ovarian cancer. *Biology of Reproduction* 63:789-796.
109. Parrott JA, Kim G, Mosher R, and Skinner M.K. (2000) Expression and action of keratinocyte growth factor (KGF) in normal ovarian surface epithelium and ovarian cancer. *Molec & Cellular Endocrinology* 167:77-87.
108. Chaudhary J., Mosher R., Kim G., and Skinner M.K. (2000) Role of winged helix transcription factor (WIN) in the regulation of Sertoli cell differentiated functions: WIN acts as an early event gene for follicle-stimulating hormone. *Endocrinology* 141:2758-2766.
107. Parrott JA, Doraiswamy V., Kim G., Mosher R., and Skinner M.K. (2000) Expression and actions of both the follicle stimulating hormone receptor and the leutinizing hormone

- receptor in normal ovarian surface epithelium and ovarian cancer. *Molecular and Cellular Endocrinology* 172:213-22.
106. Cupp AS, Kim G, and Skinner M.K. (2000) Expression and action of neurotrophin-3 and nerve growth factor in embryonic and early postnatal testis development. *Biology of Reproduction* 63:1617-28.
 105. Dissen G.A., Parrott J., Skinner M.K., Hill, D.F., Costa, M.E., and Ojeda, S. (2000) Direct effects of nerve growth factor on theca cells from antral ovarian follicles. *Endocrinology* 141:4736-50.
 104. Chaudhary J. and Skinner M.K. (1999) The basic helix-loop-helix E2A gene product E47, but not E12, is present in differentiating Sertoli cells. *Molecular Reproduction and Development* 52:1-8.
 103. Chaudhary J., and Skinner M.K. (1999) Basic helix-loop-helix proteins can act at the E-box within the serum response element (SRE) of the c-fos promoter to directly influence promoter activation in Sertoli cells. *Molecular Endocrinology* 13:774-786.
 102. Parrott J. and Skinner M.K. (1999) Kit-ligand/stem cell factor induces primordial follicle development and initiates folliculogenesis. *Endocrinology* 140(9):4262-4271.
 101. Parrott J. and Skinner M.K. (1999) Gonadogenesis, female. In: *Encyclopedia of Reproduction*, eds Knobil, Academic Press NY. Vol 2: pp 61-69.
 100. Cupp A.S. Kim G., and Skinner M.K. (1999) Expression and action of transforming growth factor beta (TGFb1, TGFb2, and TGFb3) during embryonic rat testis development. *Biology of Reproduction* 60:1304-1313.
 99. Chaudhary J. and Skinner M.K. (1999) Expression of the basic helix-loop-helix protein REB-alpha in rat testicular Sertoli cells. *Biology of Reproduction* 60:1244-1250.
 98. Cupp A.S., Dufour J., Kim G., Kim K.H., and Skinner M.K. (1999) Action of retinoids on embryonic and early postnatal testis development. *Endocrinology* 140:2343-2352.
 97. McCarrey J.R., O'Brian D.A., and Skinner M.K. (1999) Construction and preliminary characterization of a series of mouse and rat testis cDNA libraries. *Journal of Andrology* 20:635-639.
 96. Lu Q, Gore M, Zhang Q, Camenisch T, Boast S, Casagrande F, Lai C, Skinner M.K., R Klein, Matsushima GK, Earp HS, Goff SP, Lemke G. (1999) Tyro-3 family receptors are essential regulators of mammalian spermatogenesis. *Nature* 398:723-8.
 95. Chaudhary J, and Skinner M.K. (1999) E-box and cyclic adenosine monophosphate response elements are both required for follicle-stimulating hormone-induced transferrin promoter activation in Sertoli cells. *Endocrinology* 140:1262-71.

94. Itoh N., Patel U., Cupp A.S., and Skinner M.K. (1998) Developmental and hormonal regulation of transforming growth factor beta (TGF- β 1, 2, and 3) gene expression in isolated prostatic epithelial and stromal cells. *Endocrinology* 139: 1378-1388.
93. Itoh N., and Skinner M.K. (1998) Developmental and hormonal regulation of transforming growth factor alpha (TGF- α) and epidermal growth factor receptor (EGFR) gene expression in isolated prostatic epithelial and stromal cells. *Endocrinology* 139:1369-1377.
92. Ross AJ, Waymire KG, Moss JE, Parlow AF, Skinner M.K., Russell LD, MacGregor GR. (1998) Testicular degeneration in Bcl-w deficient mice. *Nature Genetics* 18:251-256.
91. Parrott J.A., and Skinner M.K. (1998) Developmental and hormonal regulation of hepatocyte growth factor (HGF) expression and action in the ovarian follicle. *Biology of Reproduction*. 59:553-560.
90. Chaudhary J. and Skinner M.K. (1998) Comparative sequence analysis of the mouse and human transferrin promoters: hormonal regulation of the transferrin promoter in Sertoli cells. *Molecular Reproduction and Development* 50:273-283.
89. Gubbay J., Doyle J.P., Skinner M.K., and Heintz N. (1998) Changing patterns of gene expression identify multiple steps during regression of rat prostate in vivo. *Endocrinology* 139:2935-2943.
88. Parrott J. and Skinner M.K. (1998) Theca cell - granulosa cell interactions involve a positive feedback loop between keratinocyte growth factor, hepatocyte growth factor, and kit-ligand during ovarian follicular development. *Endocrinology* 139:2240-2245.
87. Parrott J.A., and Skinner M.K. (1998) Developmental and hormonal regulation of keratinocyte growth factor (KGF) expression and action the ovarian follicle. *Endocrinology* 139:228-235.
86. Chaudhary J., Cupp A. and Skinner M.K. (1997) Role of basic helix-loop-helix transcription factors in Sertoli cell differentiation: Identification of an E-box response element in the transferrin promoter. *Endocrinology* 138:667-675.
85. Parrott J.A., and Skinner M.K. (1997) Direct actions of kit-ligand on thecal cell growth and differentiation during follicle development. *Endocrinology* 138:3819-3827.
84. Skinner M.K. (1996) Cell-cell interactions that control spermatogenesis and oocyte maturation. In: *Sexual differentiation and maturation*, ed. Hibi I. and Tanaka T., Ares Serono 17:155-165.
83. Chaudhary, J., Whaley, Cupp, A., P. and Skinner, M.K. (1996) Transcriptional regulation of Sertoli cell differentiation by follicle stimulating hormone at the level of the cfos and transferrin promoters. *Biology of Reproduction* 54:692-699.

82. Ojeda S.R., Mayerhofer A., Dissen G.A., Hill D.F., Smith G.D., Wolf D.P., Dees W.L. and Skinner M.K. (1996) Ovarian development is influenced by a neuroendocrinotrophic regulatory complex. Elsevner Science, Excerpta Medica Congress Series 1106.
81. Mayerhofer A., Dissen G., Parrott J., Hill D., Mayerhofer D., Garfield R., Costa, M., Skinner M.K. and Ojeda S. (1996) Involvement of nerve growth factor in the ovulatory cascade: trk A receptor activation inhibits gap-junctional communication between theca cells. *Endocrinology* 137:5662-5670.
80. Chaudhary, J. and Skinner, M.K. (1995) Transcriptional regulation of Sertoli cell differentiation (transferin promoter activation) during testicular development. *Developmental Genetics* 16:114-118.
79. Whaley, P., Chaudhary, J. and Skinner M.K. (1995) Role of specific response elements of the fos promoter and involvement of intermediate transcriptional factor(s) in the induction of Sertoli cell differentiation (transferrin promoter activation) by the testicular paracrine factor PModS. *Endocrinology* 136:3046-3053.
78. Skinner, M.K. and Parrott J.P. (1994) Growth factor mediated cell-cell interactions in the ovary. In: *Cellular and Molecular Mechanisms in Female Reproduction*, ed. J.K. Findlay, Academic Press, pp. 67-81.
77. Norton, J.N., Vigne, J-L and Skinner, M.K. (1994) Regulation of Sertoli cell differentiation by the testicular paracrine factor PModS: Analysis of common signal transduction pathways. *Endocrinology* 134:149-157.
76. Mullaney, B.P., Rosselli, M. and Skinner, M.K. (1994) Developmental regulation of Sertoli cell lactate production by hormones and the testicular paracrine factor PModS. *Molecular and Cellular Endocrinology* 104:67-73.
75. Parrott, J., Vigne, J-L. and Skinner, M.K. (1994) Mesenchymal-epithelial cell interactions in the ovarian follicle involve keratinocyte and hepatocyte growth factor (KGF and HGF) production by theca cells and actions on granulosa cells. *Endocrinology* 135:569-575.
74. Vigne, J.L., Halburnt, L.L. and Skinner, M.K. (1994) Characterization of bovine ovarian surface epithelium (OSE) and stromal cells: identification of secreted proteins. *Biology of Reproduction* 51:1213-1221.
43. Skinner, M.K. (1993) Secretion of growth factors and other regulatory agents by Sertoli cells. In: *The Sertoli Cell*, eds. M.D. Griswold and L.D. Russell, Cache River Press, Clearwater, FL, pp. 237-248.
72. Skinner, M.K. (1993) Sertoli cell-peritubular myoid cell interactions. In: *The Sertoli Cell*, eds. M.D. Griswold and L.D. Russell, Cache River Press, Clearwater, FL, pp. 477-484.

71. Mullaney, B.P. and Skinner, M.K. (1993) Transforming growth factor-beta (TGF β 1, β 2 and β 3) gene expression and action during pubertal development of the seminiferous tubule: potential role in the induction of spermatogenesis. *Molecular Endocrinology* 7:67-76.
70. Parrott, J., Whaley, P and Skinner, M.K. (1993) Extra-Hepatic expression of fibrinogen by granulosa cells: Potential role in ovulation. *Endocrinology* 133:1645-1649.
69. Rosselli, M. and Skinner, M.K. (1992) Developmental regulation of Sertoli cell aromatase activity and plasminogen activator production by hormones and the testicular paracrine factor, P-Mod-S. *Biol. Reprod.* 46:586-594.
68. Risbridger, G.P. and Skinner, M.K. (1992) Evaluation of the effects of peritubular cell secretions and the testicular paracrine factor PModS on Leydig cell inhibin production and steroidogenesis. *Int. J. Andrology* 15:73-83.
67. Skinner, M.K. (1992) Growth factors in gonadal development. *J. Animal Science* 70: 30-41.
66. Norton, J.N. and Skinner, M.K. (1992) Regulation of Sertoli cell differentiation by the testicular paracrine factor PModS: potential role of immediate-early genes. *Molecular Endocrinology* 6: 2018-2026.
65. Mullaney, B.P. and Skinner, M.K. (1992) Transforming growth factor-alpha and epidermal growth factor receptor expression and action during pubertal development of the seminiferous tubule. *Molecular Endocrinology* 6: 2103-2113.
64. Mullaney, B.P. and Skinner, M.K. (1992) Basic fibroblast growth factor (bFGF) gene expression and protein production during pubertal development of the seminiferous tubule; Follicle stimulating hormone induced Sertoli cell bFGF expression. *Endocrinology* 131: 2928-2934.
63. Skinner, M.K. (1992) Nonsteroidal regulation of testicular function. In: *Development and Function of the Reproductive Organs*, ed. S. Hillier, Sero Symposia Series, 94: 139-144.
62. Skinner, M.K. (1991) Cell-cell interactions in the testis. *Endocrine Reviews* 12:45-77.
61. Mullaney, B.P. and Skinner, M.K. (1991) Growth factor regulation of testicular function. In: *Growth Factors in Reproduction*, ed. Schomberg, D., Sero Symposia Series, Springer-Verlag, NY, pp. 55-62.
60. Skinner, M.K., Norton, J.N., Mullaney, B.P., Rosselli, M., Whaley, P.A. and Anthony, C.T. (1991) Cell-cell interactions and the regulation of testis function. *Ann. N.Y. Acad. Sci.* 637:354-363.
59. Anthony, C.T., Rosselli, M. and Skinner, M.K. (1991) Actions of the testicular paracrine factor, P-Mod-S on Sertoli cell transferrin secretion during pubertal development. *Endocrinology* 129:353-360.

58. Danzo, B., Parrott, J. and Skinner, M.K. (1991) Analysis of the steroid binding domain of rat androgen binding protein. *Endocrinology* 129:690-696.
57. Roberts, A.J. and Skinner, M.K. (1991) Transforming growth factors alpha and beta differentially regulate cell growth and steroidogenesis of bovine thecal cells during antral follicle development. *Endocrinology* 129:2041-2048.
56. Mullaney, B.P. and Skinner, M.K. (1991) Growth factors as mediators of testicular cell-cell interactions. *Baillieres Clinical Endocrinology and Metabolism* 5(4):771-790.
55. Norton, J.N., Anthony, C.T. and Skinner, M.K. (1991) Cell-cell interactions that influence FSH regulation of testis function. In: *Follicle Stimulating Hormone*, eds. Hunzicker-Dunn, M. and Schwartz, N.B., Serono Symposia Series, Springer-Verlag, N.Y., pp. 231-236.
54. Skinner, M.K. (1990) Mesenchymal (stromal)-epithelial cell interactions in the testis and ovary which regulate gonadal function. *Reproduction, Fertility and Development* 2:237-243.
53. Skinner, M.K. (1990) Cell-cell interactions in the testis which regulate gonadal function. In: *Neuroendocrine Regulation of Reproduction*, eds. Yen, S. and Vale, W., Serono Symposia, Norwell, MA, pp. 175-178.
52. Roberts, A.J. and Skinner, M.K. (1990) Mesenchymal-epithelial interactions in the ovary: estrogen induced theca cell steroidogenesis. *Mol. Cell. Endocrinol.* 72:1-5.
51. Roberts, A.J. and Skinner, M.K. (1990) Hormonal regulation of theca cell function during antral follicle development in bovine ovaries. *Endocrinology* 127:2907-2917.
50. Roberts, A.J. and Skinner, M.K. (1990) Estrogen regulation of theca cell steroidogenesis and differentiation: theca cell-granulosa cell interactions. *Endocrinology* 127:2918-2922.
49. Skinner, M.K., Mullaney, B.P., Norton, J.N. and Anthony, C.T. (1990) Peritubular cell-Sertoli cell interactions: role of P-Mod-S and transforming growth factors. In: *Hormonal Communication Events in the Testis*, eds. Isidori, A., Fabbri, A., and Dufau, M., Serono Symposia, 70:165-169.
48. Skinner, M.K., Takacs, K. and Coffey, R.J. (1989) Transforming growth factor-alpha gene expression and action in the seminiferous tubule: peritubular cell-Sertoli cell interactions. *Endocrinology* 124:845-854.
47. Kovacs, W., Turney, M. and Skinner, M.K. (1989) Biochemical characterization of the protein affinity labeled by dihydroxytestosterone 17 β bromoacetate: comparison with the human androgen receptor. *Endocrinology* 124:1270-1277.

46. Skinner, M.K. and Moses, H.L. (1989) Transforming growth factor-beta gene expression and action in the seminiferous tubule: peritubular cell-Sertoli cell interactions. *Mol. Endocrinol.* 3:625-634.
45. Anthony, C.T. and Skinner, M.K. (1989) Actions of an extracellular matrix on Sertoli cell morphology and function. *Biol. Reprod.* 40:691-702.
44. Skinner, M.K. (1989) Peritubular myoid cell-Sertoli cell interactions which regulate testis function and growth. *Perspectives in Andrology* 53:175-182.
43. Skinner, M.K. (1989) Transforming growth factor production and action in the ovarian follicle: Theca cell-granulosa cell interactions. In: *Growth Factors and the Ovary*, ed. Hirshfeld, A., Serono Symposia, Plenum Press, pp. 141-150.
42. Skinner, M.K., Schlitz, S.M. and Anthony, C.T. (1989) Regulation of Sertoli cell differentiated function: testicular transferrin and androgen binding protein expression. *Endocrinology* 124:3015-3024.
41. Anthony, C.T. and Skinner, M.K. (1989) Cytochemical and biochemical characterization of testicular peritubular (Myoid) cells. *Biol. Reprod.* 40:811-823.
40. Tsutsumi, M., Skinner, M.K. and Sanders-Bush, E. (1989) Transferrin gene expression and synthesis by cultured choroid plexus epithelial cells: regulation by Serotonin and cyclic 3',5'-adenosine monophosphate. *J. Biol. Chem.* 264:9626-9631.
39. Norton, J. and Skinner, M.K. (1989) Regulation of Sertoli cell function and differentiation through the actions of a testicular paracrine factor, P-Mod-S. *Endocrinology* 124:2711-2719.
38. Skinner, M.K., Stallard, B., Anthony, C.T. and Griswold, M.D. (1989) Cellular localization of fibronectin gene expression in the seminiferous tubule. *Mol. Cell. Endocrinol.* 66:45-52.
37. Anthony, C.T., Kovacs, W.J. and Skinner, M.K. (1989) Analysis of the androgen receptor in isolated testicular cell types with a microassay that utilizes an affinity ligand. *Endocrinology* 125:2628-2635.
36. Skinner, M.K., McLachlan, R.I. and Bremner, W.J. (1989) Stimulation of Sertoli cell inhibin production by the testicular paracrine factor, PModS. *Mol. Cell. Endocrinol.* 66:239-249.
35. Shingleton, J.L., Skinner, M.K. and Ong, D.E. (1989) Characteristics of retinol accumulation from serum retinol-binding protein by cultured Sertoli cells. *Biochemistry* 28:9641-9647.
34. Shingleton, J.L., Skinner, M.K. and Ong, D.E. (1989) Retinol esterification in Sertoli cells by lecithin-retinol acyltransferase. *Biochemistry* 28:9647-9653.

33. Lobb, D., Skinner, M.K. and Dorrington, J.H. (1988) Rat theca/interstitial cell cultures produce a mitogenic activity that promotes the growth of granulosa cells. *Molec. Cell. Endocrinology* 55:209-217.
32. Skinner, M.K., Fetterolf, P.M. and Anthony, C.T. (1988) Purification of a paracrine factor, P-Mod-S, produced by testicular peritubular cells that modulates Sertoli cell function. *J. Biol. Chem.* 263:2884-2890.
31. Skinner, M.K. and Osteen, K.G. (1988) Developmental and hormonal regulation of bovine granulosa cell function in the preovulatory follicle. *Endocrinology* 123:1668-1676.
30. Skinner, M.K. and Coffey, R.J. (1988) Regulation of ovarian cell growth through the local production of transforming growth factor- α by theca cells. *Endocrinology* 123:2632-2638.
29. Skinner, M.K. (1988) Peritubular myoid cell-Sertoli cell interactions. *Excerpta Medica, International Congress Series* 799, Vol. 2, pp. 1145-1150.
28. Skinner, M.K., Keski-Oja, J., Osteen, K. and Moses, H.L. (1987) Ovarian theca cells produce transforming growth factor beta which can regulate granulosa cell growth and differentiation. *Endocrinology* 121:786-792.
27. Skinner, M.K., Dean, L., Karmally, K. and Fritz, I.B. (1987) Rete testis fluid (RTF) proteins; characterization of RTF albumin and serum albumin. *Biol. Reprod.* 37:135-146.
26. Skinner, M.K., Lobb, D. and Dorrington, J.H. (1987) Ovarian theca/interstitial cells produce an epidermal growth factor-like substance. *Endocrinology* 121:1892-1899.
25. Skinner, M.K. (1987) Cell-cell interactions in the testis. *Ann. N.Y. Acad. Sci.* 513:158-171.
24. Fetterolf, P.M. and Skinner, M.K. (1987) Sertoli cells produce vitamin binding proteins. *Ann. N.Y. Acad. Sci.* 513:480-481.
23. Anthony, C.T. and Skinner, M.K. (1987) Effect of extracellular matrix on the hormonal regulation of Sertoli cell function. *Ann. N.Y. Acad. Sci.* 513:413-414.
22. Fritz, I.B., Skinner, M.K. and Tung, P.S. (1986) The nature of somatic cell interactions in the seminiferous tubule. In: *Development and Function of the Reproductive Organs*, eds., Eshkol, A., Echtein, B., Dekel, N., Peters, H. and Tsafiriri, A., Christengraf, Rome Pub. ARES-SERONO, pp. 185-202.
21. Skinner, M.K. and Fritz, I.B. (1986) Identification of a non mitogenic paracrine factor involved in mesenchymal-epithelial cell interactions between testicular peritubular cells and Sertoli cells. *Molec. Cell. Endocrinol.* 44:85-97.
20. Delovitch, T.L., Phillips, M.L., Naquet, P., Yip, C.C., Lin, J. and Skinner, M.K. (1986) Studies on the mechanism of processing and presentation of insulin by antigen presenting

- cells. In: *Mediators of Immune Recognition and Immunotherapy*, eds. Singhal, K. and Delovitch, T., Elsevier Publ., pp. 15-30.
19. Dorrington, J.H. and Skinner, M.K. (1986) Cytodifferentiation of granulosa cells induced by gonadotropin releasing hormone (GnRH) promotes fibronectin secretion. *Endocrinology* 118:2065-2071.
 18. Skinner, M.K. and Fritz, I.B. (1985) Androgen stimulation of Sertoli cell function is enhanced by peritubular cells. *Molec. Cell. Endocrinol.* 40:115-122.
 17. Skinner, M.K., Tung, P.S. and Fritz, I.B. (1985) Cooperativity between Sertoli cells and testicular peritubular cells in the production and deposition of extracellular matrix components. *J. Cell Biol.* 100:1941-1947.
 16. Skinner, M.K. and Fritz, I.B. (1985) Testicular peritubular cells secrete a protein under androgen control that modulates Sertoli cell functions. *Proc. Natl. Acad. Sci. USA* 82:114-118.
 15. Skinner, M.K., McKeracher H.L. and Dorrington, J.H. (1985) Fibronectin as a marker of granulosa cell cytodifferentiation. *Endocrinology* 117:886-892.
 14. Skinner, M.K. and Fritz, I.B. (1985) Structural characterization of proteoglycans produced by testicular peritubular cells and Sertoli cells. *J. Biol. Chem.* 260:11874-11883.
 13. Skinner, M.K. and Griswold, M.D. (1984) Purification and characterization of testicular transferrin secreted by rat Sertoli cells. *Biochem. J.* 218:313-320.
 12. Sylvester, S., Skinner, M.K. and Griswold, M.D. (1984) A sulfated glycoprotein synthesized by Sertoli cells and epididymal cells is a component of the sperm membrane. *Biol. Reprod.* 31:1087-1101.
 11. Tung, P.S., Skinner, M.K. and Fritz, I.B. (1984) Fibronectin synthesis is a marker for peritubular cell contaminants in Sertoli cell-enriched cultures. *Biol. Reprod.* 30:199-211.
 10. Tung, P.S., Skinner, M.K. and Fritz, I.B. (1984) Cooperativity between Sertoli cells and peritubular myoid cells in the formation of basal lamina in the seminiferous tubule. *Ann. N.Y. Acad. Sci.* 438:435-446.
 9. Griswold, M.D., Huggenvik, J., Skinner, M.K. and Sylvester, S. (1984) The interaction of Sertoli cell glycoproteins with germinal cells in the testis. In: *Endocrinology*, eds. Labrie, F. and Proulx, L., Excerpta Medica N.Y., International Congress Series 655, pp. 619-622.
 8. Dorrington, J., McKeracher, H., Garzo, G. and Skinner, M.K. (1984) Granulosa cell-theca cell interactions during follicular development. In: *Endocrinology*, eds. Labrie, F. and Proulx, L., Excerpta Medica N.Y., International Congress Series 655, pp. 807-810.

7. Skinner, M.K. and Dorrington, J.H. (1984) Control of fibronectin synthesis by rat granulosa cells in culture. *Endocrinology* 115:2029-2031.
6. Skinner, M.K. and Griswold, M.D. (1983) Fluorographic detection of radioactivity in polyacrylamide gels with 2,5-diphenyloxazole in acetic acid and its comparison with existing procedure. *Biochem. J.* 209:281-284.
5. Skinner, M.K. and Griswold, M.D. (1983) Sertoli cells secrete a ceruloplasmin-like protein. *Biol. Reprod.* 28:1225-1229.
4. Skinner, M.K. and Griswold, M.D. (1983) Multiplication stimulating activity (MSA) can substitute for insulin to stimulate the secretion of testicular transferrin by cultured Sertoli cells. *Cell Biol. International Reports* 7(6):441-446.
3. Skinner, M.K. and Griswold, M.D. (1982) Secretion of testicular transferrin by cultured Sertoli cells is regulated by hormones and retinoids. *Biol. Reprod.* 27:211-221.
2. Kissinger, C., Skinner, M.D. and Griswold, M.D. (1982) Analysis of Sertoli cell-secreted proteins by two-dimensional gel electrophoresis. *Biol. Reprod.* 27:233-240.
1. Skinner, M.K. and Griswold, M.D. (1980) Sertoli cells synthesize and secrete transferrin-like protein. *J. Biol. Chem.* 255(20):9523-9525.

BOOKS

1. Skinner, M.K. and Griswold, M.D.: *Sertoli Cell Biology*. San Diego, CA: Elsevier-Academic Press, c2005
- 2-7. Editor in Chief, *Encyclopedia of Reproduction, Second Edition*, Elsevier Academic Press, 2018, 6 volume set on Male Reproduction, Female Reproduction, Gametogenesis and Development, Reproductive Medicine, Assisted Reproduction and Comparative Reproduction, with over 600 chapters, 3868 pages total. (Published August 2018). ISBN 978-0-12-815145-7. Online <https://www.elsevier.com/books/encyclopedia-of-reproduction/skinner/978-0-12-811899-3>

EDITORIAL ACTIVITY

- 2022-present Invited by Elsevier Press to develop and act as the Editor-in-Chief of the *Encyclopedia of Reproduction, Third Edition*, involving 6 volumes and over 600 chapters and 1000 authors, to be published in 2025.

- 2015-present Invited by Oxford University Press to establish the journal Environmental Epigenetics and act as the Founding Editor-in-Chief.
<https://academic.oup.com/eep>
- 2016-2018 Invited by Elsevier Press to develop and act as the Editor-in-Chief of the Encyclopedia of Reproduction, Second Edition, involving 6 volumes and over 600 chapters and 1000 authors, published in 2018. Online accessible:
<https://www.sciencedirect.com/referencework/9780128151457/encyclopedia-of-reproduction>

Editorial Boards:

- 2019-present Nature Scientific Reports
- 2015-present Founding Editor-in-Chief, Environmental Epigenetics, Oxford University Press. Launched June 2015 and first issue December 2015.
- 2006-present Epigenetics
- 2012-2017 Molecular and Cellular Endocrinology
- 2012-2015 Non-Genetic Inheritance
- 2009-2014 Reproductive Toxicology
- 2000-2010 Journal of Andrology
- 1996-2000 Endocrinology
- 1999-2003 Biology of Reproduction

SHORT PAPERS AND ABSTRACTS (88 Total)

1. Ben Maamar M, Sadler-Riggelman I, Beck D, Nilsson E, McBirney M, Klukovich R, Xie Y, Tang C, Yan W and Skinner MK (2018) Alterations in sperm DNA methylation, non-coding RNA and histone retention associate with DDT- and vinclozolin-induced epigenetic transgenerational inheritance of disease. Society for the Study of Reproduction (SSR) 51st Annual Meeting - New Orleans, LA, pp 400-401.
2. King SE, McBirney M, Beck D, Sadler-Riggelman I, Nilsson E and Skinner MK (2018) Sperm epimutation biomarkers of obesity and pathologies following DDT induced epigenetic transgenerational inheritance of disease. Society for the Study of Reproduction (SSR) 51st Annual Meeting - New Orleans, LA, pp 399-400.
3. Winchester P and Skinner MK (2018) Fetal Atrazine Induces "Heritable" Third Generation Disease and Epigenetic Changes in Animals. Are Humans Similarly Affected? Pediatric Academic Societies (PAS) 2018 Meeting, May 5-8, in Toronto, Canada.
4. Skinner MK, (2015) Environmentally induced epigenetic transgenerational inheritance of disease: Ancestral ghosts in your genome. JAM ADSA-ASAS, Triennial Reproduction Symposium, Developmental programming of fertility. J. Anim. Sci. Vol. 93, Suppl. s3/J. Dairy Sci. Vol. 98, Suppl. 2. pg 49.
5. Skinner MK (2014) Environmentally Induced Epigenetic Transgenerational Inheritance of Disease: Ancestral Ghosts in Your Genome. The Teratology Society 54th Annual Meeting. Birth Defects Research (Part A) 100(5): pg 372, #S16.
6. Skinner MK (2013) Review of: Epigenetics: A Reference Manual. Edited by Jeffrey M. Craig and Nicholas C. Wong. Norfolk (United Kingdom): Caister Academic Press. The Quarterly Review of Biology Vol. 88 pgs. 351-352.
7. Skinner MK (2013) Review of: Epigenetics: The Ultimate Mystery of Inheritance. By Richard C. Francis. New York: W. W. Norton & Company. The Quarterly Review of Biology Vol. 88 pg. 351.
8. X. Yang, L. Peterson, T. Fare, J. Zhu, R. Kleinhanz, C. Suver, A.M. Cumiskey, R.L Rosa, A. Vosatka, M. Skinner, E.E Schadt1, P.Y. Lum (2012) Large-scale Transcriptional and Epigenetic Changes Bridge Maternal Nutritional Imbalance and Metabolic Syndrome. ASHG
9. Guerrero-Bosagna CM, Covert T, Haque M, Leonard S, Nilsson EE and MK Skinner (2011) Epigenetic and Phenotypic Transgenerational Changes Induced by Vinclozolin in the Mouse Germ Line. Society for the Study of Reproduction 44th Annual Meeting, Special Issue, #119.
10. Manikkam M, Tracey R, Larsen-Biero G, Espinosa-Najera R and MK Skinner (2011) Epigenetic Transgenerational Actions of Various Environmental Compounds on Pubertal

Onset and Gonadal Function. Society for the Study of Reproduction 44th Annual Meeting, Special Issue, #278.

11. Nilsson EE, Schindler R, Savenkova M and MK Skinner (2011) Inhibitory Actions of Anti-Müllerian Hormone (AMH) on Ovarian Primordial Follicle Assembly. Society for the Study of Reproduction 44th Annual Meeting, Special Issue, #651.
12. Bhandari R, Clement TM, Sadler-Riggelman I and Michael K. Skinner (2011) Basic-Helix-Loop-Helix Transcription Factor Tcf21 is a Downstream Target of SRY. Society for the Study of Reproduction 44th Annual Meeting, Special Issue, #114.
13. Nilsson EE, Savenkova MI, Schindler R, Zhang B, Schadt EE and MK Skinner (2010) Gene bionetwork analysis of ovarian primordial follicle development. *Biology Reproduction* 83 (1 Supplement) 622.
14. MK Skinner (2010) Epigenetic transgenerational actions of environmental factors on reproduction and disease: The ghosts in your genome. Perinatal Programming of Offspring Quality – Symposium for ASAS, July 2010.
15. Nilsson EE, Savenkova MI, Schindler R, Zhang B, Schadt EE, and MK Skinner (2010) Gene Bionetwork Analysis of Ovarian Primordial Follicle Development. Society for the Study of Reproduction 43rd Annual Meeting, Special Issue #622, pg. 182.
16. Clement T, Savenkova MI, Settles M, Anway M, and Skinner MK (2009) Alteration of the developing testis transcriptome following embryonic vinclozolin exposure. *Biology of Reproduction* 42 Annual Meeting, June 15, 2009. Special Issue 81, #644, pg. 195.
17. Nilsson EE, Dole G, and Skinner MK (2009) Neurotrophin Nt3 promotes ovarian primordial to primary follicle transition. *Biology of Reproduction* 42 Annual Meeting, June 15, 2009, Special Issue 81, #199.
18. Clement T, Bhandari R and MK Skinner (2008) Regulation of neurotrophin 3 expression by SRY during male sex determination. Society for the Study of Reproduction 41st Annual Meeting, Special Issue, #576, pg. 189.
19. Bhandari R, Clement T, Sadler-Riggelman I and MK Skinner (2008) SRY regulation of Tcf21, a basic helix-loop-helix transcription factor, during male sex determination. Society for the Study of Reproduction 41st Annual Meeting, Special Issue, #550, pg. 184.
20. Skinner MK (2007) Epigenetic transgenerational toxicology. EPA, Risk Policy Report.
21. MK Skinner (2007) Epigenetic transgenerational actions of endocrine disruptors on reproduction and disease: The ghosts in your genes. *Biology of Reproduction* 40th Annual Meeting, Special Issue, #MS2, pg. 63.

22. Clement T, Anway MD and MK Skinner (2007) Regulation of *nt3* in the embryonic gonad at the time of testis differentiation and identification of new candidate genes. *Biology of Reproduction* 40th Annual Meeting, Special Issue, #235, pg. 133.
23. Dole G, Nilsson EE and MK Skinner (2007) Glial derived neurotrophic factor (GDNF) and neurotrophin-3 (NT3) promote early follicle development and NT3 is necessary for oocyte survival. *Biology of Reproduction* 40th Annual Meeting, Special Issue, #565, pg. 221.
24. Anway MD, Schmidt M and MK Skinner (2006) Transgenerational effect of transient embryonic exposure to vinclozolin on rat prostate morphology and transcriptome. *American Society of Andrology March/April 2006 Supplemental #9*, pg. 38.
25. Nilsson E, Stanfield J and MK Skinner (2006) Interactions between progesterone and tumor necrosis factor-alpha in the regulation of primordial follicle assembly. *Biology of Reproduction* 39th Annual Meeting, Special Issue, #108, pg. 95.
26. Clement TM, Anway MD, and MK Skinner (2006) Regulation of the gonadal transcriptome during rat sex determination and testis morphogenesis: candidate regulatory gene. *Biology of Reproduction* 39th Annual Meeting, Special Issue, #505, pg. 184.
27. Stevens JD, Roalson E and MK Skinner (2006) Phylogenetic analysis of the bHLH transcription factor family: a genomics approach to Sertoli cell differentiation. *Biology of Reproduction* 39th Annual Meeting, Special Issue, #367, pg. 153-154.
28. Memon M, Anway MD, Uzumcu M, Covert TR and MK Skinner (2006) Role of transforming growth factor betas (TGFBs) on mouse testes development. *American Society of Andrology March 2006 Supplemental*.
29. Nilsson E, Kezele P, Stanfield J and MK Skinner (2005) Tumor necrosis factor alpha, progesterone, and keratinocyte growth factor (kgf) act to regulate ovarian follicle assembly and primordial follicle transition. *Biology of Reproduction* 38th Annual Meeting, Special Issue, #W384.
30. Back TM and MK Skinner (2005) Molecular analysis of male sex determination: downstream SRY Gene Signaling. *J. Andrology Supplemental #66*, 157.
31. Anway MD, Cupp AS, Uzumuc M and MK Skinner (2004) Transgenerational effects from embryonic exposure to anti-androgen endocrine disruptor vinclozolin in adult male rats. *American Society of Andrology March/April 2004 Supplemental*: 40.
32. Nilsson E, Detzel, C and MK Skinner (2004) Platelet derived growth factor promotes the primordial to primary follicle transition in rat ovaries. *Biology of Reproduction* 37th Annual Meeting, Special Issue, No:479, pp 202.

33. Small CL, Shima JE, Uzumcu M, Skinner MK and Griswold MD (2004) Characterizing gene expression in the murine embryonic gonad. *Biology of Reproduction 37th Annual Meeting, Special Issue, No:387*, pp 181.
34. Skinner, MK (2004) Regulation of ovarian primordial follicle assembly and development: establishing female reproductive potential. *Biology of Reproduction 37th Annual Meeting, Special Issue, No:MS34*, pp 89.
35. Westfall SD, Sadler-Riggelman I, and MK Skinner (2004) Investigation of the ability of ovarian surface epithelial cells to spontaneously escape senescence in vitro. *Biology of Reproduction 37th Annual Meeting, Special Issue, No:212*, pp 141.
36. Griswold MD, Small C, Uzumcu M, Skinner MK and Shima JE (2004) Dissection of testis development and spermatogenesis using expression arrays. *Biology of Reproduction 37th Annual Meeting, Special Issue, No:MS2*, pp 82.
37. Chaudhary J, Westfall SD and MK Skinner (2003) SERT: A novel Sertoli cell gene product. *Biology of Reproduction Vol:68, Supplement 1 No:260*, pp 219.
38. Nilsson EE and MK Skinner (2003) The role of bone morphogenetic Protein-4 (BMP-4) in Early ovarian growth and follicular development. *Biology of Reproduction Vol:68, Supplement 1 No:506*, pp 320-321.
39. Uzumcu M, Ague JM and MK Skinner (2003) Effects of antiandrogen endocrine disruptor on embryonic testis cord formation and postnatal testis development and function in rats. *Biology of Reproduction Vol:68, Supplement 1 No:171*, pp 182.
40. Saxlund, MA, and MK Skinner (2002) Interactions between two transcription factor families, bHLH and CREB, in the regulation of Sertoli cell differentiation. *Biology of Reproduction Supp. 1, Vol 66*, pp109-110.
41. Nilsson, EE and MK Skinner (2002) GDF-9 stimulates progression of primary but not primordial ovarian follicle development in the rat. *Biology of Reproduction Supp. 1, Vol 66*, pp 130.
42. Kezele P and MK Skinner (2002) Effect of estrogen and progesterone on primordial follicle assembly and early primordial to primary follicle transition in the neonatal rat. *Biology of Reproduction Supp. 1, Vol 66*, pp 137.
43. Uzumcu M, Westfall SD, Kirks KA and MK Skinner (2002) Role of phosphatidylinositol 3-Kinase signalling pathway in cord formation and mesonephric cell migration in embryonic testis development. *Biology of Reproduction Supp.1, Vol 66*, pp 297.
44. Nilsson EE, Sadler-Riggelman I, Kezele P, and Skinner MK (2001) Role of leukemia inhibitory factor (LIF) in initiating primordial follicle development and folliculogenesis. *Biology of Reproduction Supp. 1, Vol 64*, pp. 153.

45. Uzumcu M, Dirks KA, and MK Skinner (2001) Inhibition of platelet-derived growth factor (PDGF) actions in the embryonic testis influences normal cord development and morphology. *Biology of Reproduction Supp. 1, Vol 64*, pp. 207-208.
46. Westfall SD, Nilsson EE, Sadler-Riggleman I, Larsen T, McDonald C, and MK Skinner (2001) An in vivo model system to monitor ovarian tumor growth in response to cisplatin and a PI3-kinase specific inhibitor. *Biology of Reproduction Supp. 1, Vol 64*, pp. 258.
47. Cupp AS and Skinner MK (2000) Effect of the endocrine disruptor methoxychlor and its metabolite HPTE on morphology and growth of the developing testis. *Biology of Reproduction Supp. 1, Vol. 62*, pp. 286.
48. Chaudhary J, and Skinner MK (2000) Role of winged helix transcription factor (WIN) in the regulation of Sertoli cell differentiated functions: WIN acts as an early event gene for follicle stimulating hormone. *Biology of Reproduction Supp. 1, Vol. 62*, pp. 275-276.
49. Cupp AS and Skinner MK (1999) Expression of neurotrophin ligands (brain-derived neurotrophic factor and neurotrophin 4/5) and receptor (trkB) during embryonic and postnatal rat testis development: potential for compensation between neurotrophin ligands and receptors. *Biology of Reproduction Supp.*, 61, pp 114.
50. Chaudhary J, Mosher R, and Skinner MK (1999) Sertoli cell differentiation requires bHLH and CREB transcription factors. *Biology of Reproduction Supp.*, 61, pp. 233.
51. Parrott J, Kim G, Doraiswamy V, Mosher R, Skinner MK. (1999) Gonadotropin regulation of normal ovarian surface epithelium and ovarian cancer cells: implications for ovarian cancer. *Biology of Reproduction Supp.*, 61, pp. 240.
52. Doraiswamy V, Parrott J, and Skinner MK (1999) Expression of transforming-growth factors (TGFs) by bovine stromal cells (SC) and normal and tumorigenic ovarian surface epithelial cells (OSE). *Biology of Reproduction Supp.* 61, pp. 480.
53. Cupp A, Kim G, and Skinner MK (1998) Expression of neurotrophins and transforming growth factors during embryonic testis development. *Biology of Reproduction. Supp.*, 58:106, pp 104.
54. Chaudhary J, and Skinner MK (1998) E-box and cAMP response elements are both required for FSH induced transferrin promoter activation in Sertoli cells. *Biology of Reproduction. Supp.*, 58:42, pp 84.
55. Parrott J, and Skinner MK (1998) Kit-ligand and basic fibroblast growth factor act as primordial follicle recruitment factors (PFRF π S). *Biology of Reproduction. Supp.* 58:264, pp 154.

56. Itoh N, Tsukamoto T, Cupp AS and Skinner MK (1998) Developmental and hormonal regulation of peptide growth factor gene expression in rat ventral prostate. National Institutes of Health, International Symposium on Biology of Prostate Growth, pp 118.
57. Chaudhary J, Patel U, and Skinner MK (1997) Basic helix loop helix (bHLH) proteins regulate cfos expression in differentiating Sertoli cells. *Biology of Reproduction*, 56:76a, pp 101.
58. Parrott J, and Skinner MK (1997) Theca cell-granulosa cell interaction that induce primordial follicle development and promote folliculogenesis. *Biology of Reproduction. Supp.*, 56:171a, pp 125.
59. Cupp A, Levine E, Patel U, and Skinner MK (1997) Identification of factors which influence morphological cord formation and growth in the embryonic rat testis. *Biology of Reproduction. Supp.*, 56:465a, pp 199.
60. Itoh N, Patel U, and Skinner MK (1997) Regulation of TGF- β s expression in prostatic epithelial and stromal cells by testosterone and growth factors. *Biology of Reproduction. Supp.*, 56:545a, pp 219.
61. Skinner MK (1997) Cell-cell interactions in the testis. *Endocrine Abst.* 542.1, pp 54.
62. Chaudhary J, Cupp A, Patel U, Skinner MK (1996) Role of basic-helix-loop-helix (bHLH) transcription factors in Sertoli cell differentiation. *Endocrine Abst.*
63. Chaudhary J, Cupp A, Patel U, Skinner MK (1996) Sertoli cell differentiation is influenced by basic helix-loop-helix transcription factors. *Biology of Reproduction. Suppl.*
64. Chaudhary J, Cupp A, and Skinner MK (1995) Transcriptional regulation of Sertoli cell differentiation by the testicular paracrine factor PModS. *Biology of Reproduction. Suppl.* 547a, pp.193.
65. Ojeda SR, Mayerhofer A, Dissen GA, Hill DF, Smith GD, Wolf DP, Dees WL, and Skinner MK (1995) Ovarian development is influenced by a neuroendocrinotrophic regulatory complex. *Endocrine Abst.*
66. Whaley PD, Chaudhary J and Skinner MK (1994) Role of the serum response element (SRE) of the cfos promoter in the induction of Sertoli cell differentiation by the testicular paracrine factor PModS. *Biology of Reproduction. Suppl.*, 415a, pp 158.
67. Parrott J, Vigne JL, Chu B, and Skinner MK (1994) Mesenchymal-epithelial interactions in the bovine ovarian follicle involve keratinocyte and hepatocyte growth factor (KGF and HGF) production by the ca cells and action on granulosa cells. *Biology of Reproduction. Suppl.*, 514a, pp 183.

68. Whaley PD, Chaudhary J, Vigne J, Halburnt L, Levine E and Skinner MK (1993) Molecular actions of the testicular paracrine factor, PModS, on Sertoli cell differentiation. *Biol. Reprod. Suppl.*:303a, pp. 134.
69. Skinner MK (1993) Mesenchymal-epithelial interactions that regulate gonadal function and growth. *Proceedings American Association Cancer Research* 34:587.
70. Mullaney BP, Glenn, B, and Skinner MK (1991) Cell-cell interactions in the testis: The role of transforming growth factors. *Biol. Reprod. Suppl.* 44:a520, pp. 182.
71. Norton JN, Glenn B and Skinner MK (1991) The role of the testicular paracrine factor, PModS, in the regulation of transferrin gene expression. *Biol. Reprod. Suppl.* 44:a298, pp. 127.
72. Mullaney BP, Glenn B and Skinner MK (1990) The developmental role of transforming growth factors in the testis. *Biol. Reprod. Suppl.* 42:a66, pp. 62.
73. Roberts AJ Schlitz SM and Skinner MK (1990) Regulation of bovine theca cell growth and differentiation by estradiol (E2) and transforming growth factors alpha (TGFa) and beta (TGFB). *Biol. Reprod. Suppl.* 42:a133, pp. 85.
74. Turney MK, Skinner MK and Kovacs WJ (1990) Studies on the intracellular localization of the protein covalently radiolabeled by [3H]-dihydrotestosterone bromoacetate. *Endocrine Abst.* A411, pp. 127.
75. Rosselli M, Halburnt L, Glenn B and Skinner MK (1989) Developmental regulation of aromatase activity in Sertoli cells by hormones and a testicular paracrine factor, PModS. *Endocri. Abst.* 1209:325.
76. Mullaney BP, Anthony CT, Schlitz S and Skinner MK (1989) Developmental studies of Sertoli cell-peritubular cell interactions mediated by transforming growth factor alpha (TGFa). *Biol. Reprod. Suppl.* (1) 40:a275, pp. 139.
77. Norton, J.N, Rosselli, M, Glenn, B, Halburnt L and Skinner MK (1989) Elucidation of the mechanism of action of the testicular paracrine factor, PModS. *Biol. Reprod. Suppl.* (1) 40:a279, pp. 140.
78. Norton JN, Glenn B, Halburnt L, Schlitz S, and Skinner MK (1989) Mechanism of action of a testis paracrine factor, PModS. *Endocri. Abst.* 1208:324.
79. Tsutsumi M, Skinner MK and Sanders-Bush, E (1988) Transferrin secretion by rat choroid plexus cell is modulated by serotonin and insulin. *FASEB* (2)A1404:6437.

80. Kovacs W.J, Turney MK and Skinner MK (1988) Physiochemical comparisons of an affinity labeled protein from human genital skin fibroblast cytosol with authentic non-covalently labeled androgen receptor complexes from the same cells. *Endocri. Abst.* 288:92.
81. Tsutsumi M, Skinner MK and Sanders-Bush E (1988) Opposite effects of serotonin (5HT) and cyclic adenosine 3',5'-monophosphate (cAMP) on transferrin secretion by enriched epithelial cells of rat choroid plexus in culture. *Neurosci. Abst.* 14(1):212.
82. Tsutsumi M, Skinner MK and Sanders-Bush E (1987) Synthesis and secretion of a transferrin-like protein by rat choroid plexus. *J. Neurosci.* 7:346 (94.16).
83. Anthony CT, Glenn B, Halburnt L, and Skinner, MK (1987) The effect of extracellular matrix hormones and culture conditions on Sertoli cell function. *J. Cell Biol.* 105:83a.
84. Anthony CT, Glenn B, Halburnt L and Skinner MK (1987) Histochemical characterization of testicular peritubular cells of the seminiferous tubule. *J. Cell Biol.* 105:83a.
85. Griswold MD, Huggenvik J, Sylvester S and Skinner, MK (1984) Structure, function and synthesis of glycoproteins secreted by Sertoli cells. *Excerpta Medica, International Congress Series 652*, pp. 136.
86. Dorrington J, McKeracher H, Garzo G. and Skinner MK (1984) Granulosa cell-theca cell interactions during follicular development. *Excerpta Medica, International Congress Series 652*, pp. 176.
87. Skinner MK and Griswold MD (1981) Hormonal regulation of transferrin synthesis in cultured Sertoli cells. *J. Cell Biol.* 91:191a.
88. Skinner MK and Griswold MD (1980) Sertoli cells synthesize and secrete transferrin. *J. Cell Biol.* 87:147a.

ENVIRONMENTALLY INDUCED EPIGENETIC TRANSGENERATIONAL INHERITANCE OF DISEASE AND EVOLUTION: ANCESTRAL GHOSTS IN THE GENOME

Michael K. Skinner, Ph.D.

General interest is in mammalian reproduction and environmental epigenetics on a systems biology level. The laboratory has had a long-standing research program to study gonadal development and function on a molecular, cellular and physiological level (systems biology). In 2000, we found the ability of environmental factors to act on gonadal development to promote the epigenetic transgenerational inheritance of disease and phenotypic variation which impacts areas of biology such as medicine or evolution. This has now become a predominant research program in the lab.

Basic reproductive biology research projects involve the investigation of how different cell types in a tissue interact and communicate to regulate cellular growth and differentiation, with emphasis in the area of reproductive biology. The cells of interest and specific interactions investigated have an integral role in controlling the development of the spermatozoa and oocyte. Our observations indicate that the mesenchymal cells of both the testis and ovary produce inducer substances that alter the differentiation and function of adjacent epithelial cells. The role that reproductive hormones (e.g. steroids) and growth factors (e.g. transforming growth factors, neurotrophins) have in regulating these mesenchymal-epithelial cell interactions is under investigation. How these factors promote the transcriptional regulation of cellular differentiation is being investigated through an analysis of the role of a unique class of transcription factors, basic-helix-loop-helix (bHLH) factors. Information obtained from these studies is necessary before novel therapeutic agents can be designed and targeted at reproductive cells for the prevention of infertility or to act as contraceptives. The research is designed to understand testis and ovary development and function on a systems biology level.

In our current research, we have found that environmental toxicants (e.g. endocrine disruptors) have the ability to modify local cell-cell interactions in the testis and ovary during fetal development that influences epigenetic programming of the germline. When gestating females are exposed to environmental toxicants at the time of fetal gonadal sex determination, a number of adult onset diseases develop. Interestingly this phenotype is transgenerational, such that what your pregnant great grandmother was exposed to may cause disease in you with no subsequent exposure. This has been termed epigenetic transgenerational inheritance. An epigenetic effect on the programming of the germline was observed and is the causal factor in this epigenetic transgenerational effect of environmental toxicants. In addition to effects on reproduction, numerous other adult onset disease states are observed including cancer, prostate disease, kidney disease, obesity, immune abnormalities and behavior effects. Further characterization of this phenomena and its impact on disease etiology and evolutionary biology is in progress. Recently we identified the ability to use epigenetic biomarkers for disease and exposure, and have identified in humans potential diagnostics for male infertility, paternal transmission of offspring autism susceptibility, or exposures such as chemotherapy. Early life epigenetic biomarkers for disease susceptibility will facilitate preventative medicine disease management.

Michael K. Skinner, Ph.D.
Eastlick Distinguished Professor
Center for Reproductive Biology
School of Biological Sciences
Washington State University, Pullman, Washington

Dr. Michael Skinner is a professor in the School of Biological Sciences at Washington State University. He did his B.S. in chemistry at Reed College in Portland Oregon, his Ph.D. in biochemistry / chemistry at Washington State University and his Postdoctoral Fellowship at the C.H. Best Institute at the University of Toronto. He has been on the faculty of Vanderbilt University and the University of California at San Francisco. He is the Founding Director of the Center for Reproductive Biology at WSU and UI. Dr. Skinner is an expert in testis and ovary biology and cell-cell interactions, and his current research has demonstrated the ability of environmental toxicants to promote the epigenetic transgenerational inheritance of disease phenotypes due to abnormal germ line epigenetic programming in gonadal development. This non-genetic form of inheritance is how the environment can impact biology, evolution and disease etiology. Dr. Skinner has over 360 peer reviewed publications and has given over 350 invited symposia, plenary lectures and university seminars. He has done Ted talks and had documentaries done on his research with BBC Horizon, PBS Nova, Smithsonian, and France ARTE. He has founded several biotechnology companies.