CURRICULUM VITAE

Name: **Edward Eric Schmidt, Ph.D.**

Position: **Professor, Microbiology & Immunology, Montana State University**

Appointment: Tenured position; 90% research, 10% teaching & service. This is a University Sponsored Research Appointment, supported 50% from University/Departmental sources, 11% from a Montana Agricultural Experiment Station appointment, and 39% from my research grants.

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Education:

01/86-08/90	Ph.D., Oregon State University, Department of Biochemistry and Biophysics.
09/81-06/85	B.S., B.A., University of Montana, with honors, Departments of Microbiology, Biology, and Zoology. Minor, Botany.

Professional experience:

10/15 - 9/20	Appointed, Fulbright Specialists Roster, Institute of International Education (IIE), Council for International Exchange of Scholars (CIES), US Department of State (5-year term)
8/15 - 7/16	Sabbatical Professor. Dept. of Medical Biochemistry & Biophysics, Division of Biochemistry, Karolinska Institutet, Stockholm, Sweden
7/14 - present	Professor. Department of Microbiology & Immunology (formerly "Immunology & Infectious Disease" or "Veterinary Molecular Biology"), Montana State University
10/05 – 6/14	Associate Professor. Department of Immunology & Infectious Disease
4/05 - 4/09	Affiliate Faculty. Biochemistry Department, University of Washington.
2/05 - present	Adjunct Faculty. Center for Reproductive Biology, Washington State University.
9/99-9/05	Assistant Professor. Veterinary Molecular Biology, Montana State University.
1/97-8/99	Postdoctoral Research Assistant/Research Assistant Professor. Department of Human Genetics, University of Utah. Advisor: Dr. Mario R. Capecchi
2/91-11/96	Postdoctoral Research Assistant. Department of Molecular Biology, University of Geneva, Switzerland. Advisor: Dr. Ueli Schibler.
1/86-1/91	Ph.D. Student. Department of Biochemistry & Biophysics, Oregon State University. Advisor: Dr. Gary F. Merrill.

Fellowships, awards, and honors:

2016	Invited Speaker, Gordon Conference on Thiol-based Redox Regulation and Signaling, Stowe, VT, August 2016
2015-2020	IIE/CIES (U.S. State Department), Appointed to Fulbright Specialists Roster
2015-2016	Wenner-Gren Foundation (Sweden), Visiting Scholars Award
2014	Invited Participant, Cold Spring Harbor Laboratories Banbury Workshop Series, "ROS Biology and Cancer"
2014	Nominated for MSU President's Excellence in Teaching Award
2011 & 2012	Nominated for MSU Cox Family Award for Creative Scholarship and Teaching
2005-2010	NSF CAREER Award
2003	Nominated for the Charles and Nora L. Wiley Faculty Award for Meritorious Research and Creativity, Montana State University
2001-2003	Basil O'Connor New Investigator Award, March of Dimes Foundation1997-2000
2001-2004	Howard Hughes Medical Institute Fellow of the Life Sciences Research Foundation
1997	Postdoctoral Fellow funded by the Mathers Charitable Foundation
1993-1996	Postdoctoral Fellow funded by the State of Geneva
1991-1993	NIH Fogarty/ Swiss National Science Foundation Post-doctoral Fellowship

Research overview

My primary research interests are to understand the intricate gene regulatory mechanisms that function in development and maintenance of complex organisms, like ourselves. Our work involves analyses of mouse lines we produce bearing targeted mutations (e.g., "knockouts"); however, our approaches to understanding the roles of the mutated genes are broad, including genetics, biochemistry, molecular biology, histology, genomics, and others. The biological processes we are studying include liver physiology and regeneration, aging, redox biology, cancer, embryonic development, and the maternal/fetal immune interaction.

Grants and awards funded as P.I. (>$6M total):

1990 – 1993: NIH Fogarty International/Swiss National Science Foundation Postdoctoral Fellowship, "Liver-specific expression of the D-site binding protein".

1997 – 1999: Howard Hughes Medical Institute Fellow of the Life Sciences Research Foundation, "Disruption of specific function of a fundamental gene".

1998 – 2000: NIH R03 HD35824 ($140,000), "Disruption of spermatid-specific TBP expression in mice".

1999: USDA Animal Health Formula Funds ($11,399), "Purification of homogeneous sub-populations of spermatids".

1999 – 2010: Montana Agricultural Experiment Station appointment (salary and technician support) "Homologous gene targeting in bovine cells"

2000 – 2003: NIH R03 HD39242 ($140,000), "Timing spermiogenic information retrieval".

2000: NSF-MONTS grant ($25,000), "Causes of midgestational lethality in a line of mutant mice".

2000: USDA Animal Health Formula Funds ($4,000), "Timing spermiogenic information retrieval".

2001 – 2003: March of Dimes Basil O'Connor New Investigator Award ($150,000), "Regulation of mid-embryogenesis".

2001 – 2005: NSF 0090884 ($400,000), "Vertebrate-specific transcriptional signaling".

2001 – 2004: USDA-NRI Seed Grant ($75,000), "Parameters affecting the efficiency of homologous gene targeting in bovine cells."

2001: USDA Animal Health Formula Funds ($4,000), "Parameters affecting the efficiency of homologous gene targeting in bovine cells."

2002: USDA Animal Health Formula Funds ($4,000), "Parameters affecting the efficiency of homologous gene targeting in bovine cells."

2003 – 2006: March of Dimes Research Grant ($270,771), "Regulation of the maternal/fetal immune interaction".

2003: NSF Seed Grant (BRIN program) ($25,000), "TR1/p53 interactions in a mammalian system".

2003: USDA Animal Health Formula Funds ($4,000), "Parameters affecting the efficiency of homologous gene targeting in bovine cells."

2003: BRIN travel award ($1,623), "Gene expression and signaling in the immune system".

2003: MSU Faculty development award ($3,700), "Reproductive immunology".

2005-2010, NIH/NIAID R01AI055739 ($1,741,361), "The maternal-fetal interaction."

2005 – 2010: NSF-CAREER Award ($692,115), "CAREER: Evolution of a vertebrate-specific plug-and-jack interaction".

2006: NSF-Research Experience for Undergraduates supplement ($6,000) "CAREER: Evolution of a vertebrate-specific plug-and-jack interaction".

2010 – 2015: Montana Agricultural Experiment Station appointment (salary and technician support) "Food quality and metabolic parameters influencing development and progression of fatty liver disease."

2010 – 2012, NIH/NCI R21CA152559 ($310,400). "Initiation, persistence, and progression of hepatocellular carcinoma".

2011 – 2016 NIH/NIA R01AG040020 ($1,603,125) "Impact of hepatocyte lineage life history dynamics on liver homeostasis in the aged".

2012 – 2014, CoA/MAES Bridge funding ($80,000). "Hepatocellular cancer in mice".

2012-2013, NIH-STTR R41HD075502 Phase-I grant (EE Schmidt, PI; GeneSearch Inc. cooperating small business entity)($106,925). "Biopsy and Freezing of Later-stage Mouse Blastocysts Using the Dracula Pipette".

2013, University of Nebraska-Lincoln CoBRE Exploratory Award, Co-Investigator (D. Becker, PI) ($10,000 for my portion). "Investigating the benefits of proline during hepatic stress in mice".

2015-2017, NIH-STTR R42OD018404, Fast-Track Award (Schmidt, PI, $782,638 total). "Mouse stem cell research using the Dracula pipette".

2016-2017, Swedish Wenner-Gren Foundation. (SEK 200,000) Stipend to pay family expenses for sabbatical to Stockholm.

2016-2019 R21AG055022 (pending). NIH (Schmidt PI, $382,000). “Redox regulation in the hepatostat”.

Collaborative grants and awards funded ($0.38M total)

1999: USDA Shared Equipment Grant ($25,000, D. Burgess, P.I.), Perkin Elmer Real-Time PCR system.
2000: USDA Shared Equipment Grant ($25,000, M. Hardy, P.I.), Beckman ultracentrifuge rotor set.
2001: USDA Shared Equipment Grant ($25,000, M. Quinn, P.I.), *In situ* PCR system.
2003 – 2006, USDA-NRI Grant, role, co-investigator, 5% effort. ($300,000, M. Jutila, P.I.), “Myeloid specific gene expression in gamma-delta T cells”.
2011 – 2012, NIH-SBIR (P.J. Taylor, PI; role, subcontractor; $7,500 for subcontract) “Development, Testing and Manufacture of a Novel Co-axial Microinjection System for Freezing and Biopsy of Human Hatched Blastocysts”.
2010 – 2011 NIH/NIAID (P.I. of subproject for $160,390; overall P.I. Allen Harmsen) “A nanoparticle-based immunoprophylactic strategy for pulmonary viruses”.
2016 – 2021, Swedish KA Wallengberg Foundation. Role: collaborator/consultant. (PI, ESJ Arnér). “Targeting redox pathways for improved cancer therapy”.

Peer reviewed publications

Chio IIC, Jafarnejad SM, Ponz-Sarvise M, Park Y, Rivera K, Palm W, Wilson J, Sangar V, Hao Y, Öhlund D, Sright K, Fillippi D, Lee EJ, DaSilva B, Schoepfer C, Wilkinson JE, Buscaglia J, DeNicola G, Tiriac H, Hammell M, Crawford H, **Schmidt EE,** Thompson C, Pappin DJ, Sonenberg N, Tuveson, DA. NRF2 directs redox-dependent mRNA translation in pancreatic cancer. 2016 ***Cell,*** in press.

Lan A, Li W, Liu Y, Xiong Z, Shang X, Shou S, Palko O, Chen H, Kapita M, Prigge J, **Schmidt EE,** Chen X, Sun Z, Chen X. Chemoprevention of oxidative stress-associated oral carcinogenesis by sulforaphane depends on NRF2 and the isothiocyanate moiety. 2016. In revision.

Sheparson K, Larson K, Morton RV, Prigge JR**, Schmidt EE**, Meissner N, Huber VC, Rynda-Apple A. Differential type I interferon signaling is a master regulator of susceptibility to post-influenza bacterial superinfection. ***MBio***. 7(3)e00506-16, May/June 2016.

Dóka É, Pader I, Bíró A, Johansson K, Cheng Q, Ballagó K, Prigge JR, Pastor-Flores D, Dick TP, **Schmidt EE,** Arnér ESJ, Nagy P. Novel persulfide detection method reveals protein persulfide and polysulfide reducing functions of thioredoxin- and glutathione-systems. 2016. ***Science Adv.*** 2: e1500968.

Prigge JR, Hoyt TR, Dobrinen E, Capecchi MR, **Schmidt EE,** and Meissner N. Type-I-IFNs act upon hematopoietic progenitors to protect and maintain hematopoiesis during *Pneumocystis* lung infection in mice. 2015. ***J. Immunol.*** 195:5347-57.

Schmidt EE. Interplay between the cytosolic disulfide reductase systems and the Nrf2/Keap1 pathway. 2015. ***Biochem Soc Trans*** 43:632-638.

Mailhiot SE, Zignego DL, Prigge JR, Wardwell ER, **Schmidt EE**, June RK. Non-Invasive Quantification of Cartilage Using a Novel In Vivo Bioluminescent Reporter Mouse. **PLoS One**. 2015 Jul 7;10(7):e0130564.

Cebula M, **Schmidt EE**, and Arnér, ESJ. TrxR1 as a Potent Regulator of the Nrf2-Keap1 Response System. 2015. ***Antiox. Redox Sig.*** June 24, ePub ahead of print.

Eriksson S, Prigge JP, Talago EA, Arnér ESJ, and **Schmidt EE.** Dietary methionine can fully support cytosolic redox homeostasis in liver. 2015. ***Nature Comm.*** 20:6479.

Chen H, Fu J, Chen H, Hu Y, Soroka DN, Prigge JR, **Schmidt EE**, Yan F, Major MB, Chen X, Sang S. Ginger compound [6]-shogaol and its cysteine-conjugated metabolite (m2) activate Nrf2 in colon epithelial cells in vitro and in vivo. 2014. ***Chem Res Toxicol*** 27;1575-85.

Sonsteng KM, Prigge JR, Talago EA, June RK, **Schmidt EE**. Hydrodynamic delivery of Cre protein to lineage-mark or time-stamp mouse hepatocytes in situ. ***PLoS One.*** 2014 Mar 13;9(3):e91219.

Gorrini C, Gang BP, Bassi C, Wakeham A, Baniasadi SP, Hao Z, Li WY, Cescon DW, Li YT, Molyneux S, Penrod N, Lupien M, **Schmidt EE**, Stambolic V, Gauthier ML, Mak TW. Estrogen controls the survival of BRCA1-deficient cells via a PI3K-NRF2-regulated pathway. ***Proc Natl Acad Sci U S A***. 2014 Mar 25;111(12):4472-7.

Prigge JR, Wiley JA, Talago EA, Young EM, Johns LL, Kundert JA, Sonsteng KM, Halford WP, Capecchi MR, and **Schmidt EE**: Nuclear double-fluorescent reporter for *in vivo* and *ex vivo* analyses of biological transitions in mouse nuclei. 2013, ***Mamm Genome,*** 24:389-99.

Iverson SV, Eriksson S, Xu J, Prigge JR, Talago EA, Meade TA, Meade ES, Capecchi, MR, Arnér, ESJ, and **Schmidt, EE**: A *Txnrd1*-dependent metabolic switch alters hepatic lipogenesis, glycogen storage, and acetaminophen susceptibility. 2013, ***Free Rad. Biol.*** 63:369-80.

Huebner AJ, Dai D, Morasso M, **Schmidt EE**, Schäfer M, Werner S, Roop DR. Amniotic fluid activates the Nrf2/Keap1 pathway to repair an epidermal barrier defect *in utero*. 2012. ***Dev Cell*** 23:1238-46.

Locy ML, Rogers LK, Prigge JR, **Schmidt EE**, Arnér E, Tipple TE. Thioredoxin reductase inhibition elicits Nrf2-mediated responses in clara cells: implications for oxidant-induced lung injury. ***Antioxid Redox Signal.*** 2012. 17(10) 1407-16.

Prigge JR, Eriksson S, Iverson, SV, Meade, T, Capecchi, MR, Arnér, ESJ, and **Schmidt, EE**: Hepatocyte replication in growing liver requires either glutathione or a single allele of *txnrd1.* ***Free Rad. Biol. Med.,*** 2012, 52:803-812.

Iverson SV, Comstock CM, Kundert JA, and **Schmidt EE**: Contributions of new hepatocyte lineages to liver growth, maintenance, and regeneration in mice. ***Hepatology*** 2011, 64(2)655-663.

Liu M, Rakowski B, Gershburg E, Weisend CM, Lucas O, **Schmidt EE**, Halford WP: ICP0 antagonizes ICP4-dependent silencing of the herpes simplex virus ICP0 gene. ***PLoS One***, 2010, 5(1):e8837.

Liu M, **Schmidt EE**, Halford WP: ICP0 dismantles microtubule networks in herpes simplex virus-infected cells. ***PLoS One*** 2010, 5(6):e10975.

Rollins MF, van der Heide DM, Weisend CM, Kundert JA, Comstock KM, Suvorova ES, Capecchi MR, Merrill GF, **Schmidt EE**: Hepatocytes lacking thioredoxin reductase 1 have normal replicative potential during development and regeneration. ***J Cell Sci*** 2010, 123:2402-2412.

Weisend CM, Kundert JA, Suvorova ES, Prigge JR, **Schmidt EE**: Cre activity in fetal albCre mouse hepatocytes: Utility for developmental studies. ***Genesis*** 2009, 47(12):789-792.

Suvorova, E.S., O. Lucas, G.F. Merrill, M.R. Capecchi, and **E.E. Schmidt** Cytoprotective NRF2 pathway is induced in chronically Txnrd1-deficient hepatocytes. ***PLoS ONE,*** 2009, **4**(7)**:**e6158.

Prigge, J.R., S.V. Iverson, A.M. Siders, and **E.E. Schmidt**: Expanded interactome for auxiliary splicing factor U2AF2 suggests role as information hub. ***Biochim Biophys Acta***. 2009, 1789(6-8):487-92.

Kundert, J.A., A.L. Sealey, Y. Li, M.R. Capecchi, and **E.E. Schmidt**: Syngeneic immune-dependent miscarriage in mice suggest paternal alloantigen-independent mechanisms. ***Am. J. Reprod. Immunol*** 2008, **60:** 290-297.

Prigge J.R., O. Lucas, and **E.E. Schmidt**: HAP1 can sequester a subset of TBP in cytoplasmic inclusions via specific interaction with the conserved TBP_{CORE}. ***BMC Molec. Biol,*** 2007, **8:** 76.

Schmidt, E.E. and C.J. Davies: The origins of polypeptide domains. ***BioEssays,*** 2007, **29**: 262-270.

Sansinena, M.J., S.A. Taylor, P.J. Taylor, **E.E. Schmidt**, R.S. Denniston, and R.A. Godke: In vitro production of llama (Lama glama) embryos by intracytoplasmic sperm injection: Effect of chemical activation treatments and culture conditions. ***An. Reprod. Sci***, 2007, **99:** 342-353.

Bondareva, A.A., M.R. Capecchi, S.V. Iverson, Y. Li, N.I. Lopez, O. Lucas, G.F. Merrill, J.R. Prigge, A.M. Siders, M. Wakamiya, S.L. Wallin, and **E.E. Schmidt**: Thioredoxin reductase-dependence of patterning during mammalian embryogenesis. ***Free Rad. Biol. Med.,*** 2007, **43:** 911-923.

Prigge, J.R., and **E.E. Schmidt**: Interaction of protein inhibitor of activated STAT (PIAS) proteins with the TATA-binding protein, TBP. ***J. Biol. Chem.,*** 2006, **281**; 12260-69.

Tucker, T.A., J. Kundert, A.A. Bondareva, and **E.E. Schmidt**: Reproductive and neurological quakingviable (Qkv) phenotypes in a severe combined immune deficient (SCID) background. ***Immunogenetics,*** 2005, **57**; 226-231.

Bondareva, A.A. and **E.E. Schmidt**: Early vertebrate evolution of the TATA-binding protein, TBP. ***Mol. Biol. Evol***, 2003, **20**; 1932-1969.

Schmidt, E.E., A.A. Bondareva, J.R. Radke, and M.R. Capecchi: Fundamental cellular processes do not require vertebrate-specific sequences within the TATA-binding protein. ***J. Biol. Chem***, 2003, **278**; 6168 -6174.

Hobbs, N.K., A.A. Bondareva, S. Barnett, M.R. Capecchi, and **E.E. Schmidt**: Removing the TBP N terminus disrupts placental beta-2-microglobulin-dependent interactions with the maternal immune system. ***Cell*** 2002, **110**; 43-54.

Sealey, A.L., N.K. Hobbs, and **E.E. Schmidt**: Molecular genotyping of the mouse *scid* allele. ***J. Imm. Meth,*** 2001, **260**; 303-304.

Schmidt, E.E., D.S. Taylor, J.R. Prigge, S. Barnett, and M.R. Capecchi. Illegitimate Cre-dependent chromosome rearrangements in transgenic mouse spermatids. ***Proc. Natl. Acad. Sci. U S A***, 2000, **97**;13702-13707.

Schmidt, E.E., E.S. Hanson, and M.R. Capecchi: Sequence-independent assembly of spermatid mRNAs into mRNP particles. ***Mol. Cell. Biol,*** 1999, **19**; 3904-3915.

Schmidt, E.E., and U. Schibler: Developmental testis-specific regulation of mRNA levels and mRNA translational efficiencies for TATA-binding protein mRNA isoforms. ***Dev Biol,*** 1997, **184**;138-149.

Schmidt, E.E., Ohbayashi, T., Makino, Y., Tamura, T.-a., and U. Schibler: Spermatid-specific overexpression of the TATA-binding protein gene involves recruitment of two potent testis specific promoters. ***J. Biol. Chem****,* 1997, **272**;5326-5334.

Schmidt, E.E.: Transcriptional promiscuity in testis. *Curr. Biol.,* 1996, **6**;768-769.

Ohbayashi, T., **Schmidt, E.E.**, Makino, Y., Kishimoto, T., Nabeshima, Y.-i., Muramatsu, M., and Tamura, T.-a.; Promoter structure of the mouse TATA-binding protein (TBP) gene. ***Biochem Biophys Res Comm,*** 1996, **225**;275-280.

Schmidt, E.E., and U. Schibler: High accumulation of components of the RNA polymerase II machinery in rodent spermatids. ***Development*** 1995, **121**;2373-2383 .

Schmidt, E.E., and U. Schibler: Cell size regulation, a mechanism that controls cellular RNA accumulation: Consequences on regulation of the ubiquitous transcription factors Oct1 and NF-Y, and the liver-enriched transcription factor DBP. ***J. Cell Biol****.*, 1995, **128**;467-483.

Schmidt, E.E., and G.F. Merrill: Changes in dihydrofolate reductase (DHFR) mRNA levels can account fully for changes in DHFR synthesis rates during terminal differentiation in a highly amplified myogenic cell line. ***Mol. Cell. Biol****.* 1991, **11**;3726-3734.

Rawson, C.L., D. T. Loo, J.R. Duimstra, O.R. Hedstrom, **E.E. Schmidt**, and D.W. Barnes: Death of serum-free mouse embryo (SFME) cells caused by epidermal growth factor deprivation. ***J. Cell Biol****.*, 1991, **113**;671-680.

Schmidt, E.E., R.A. Owen, and G.F. Merrill: An intragenic region downstream from the dihydrofolate reductase promoter is required for replication-dependent expression**. *J. Biol. Chem****.,*** 1990, **265**;17397-17400.

Schmidt, E.E., and G.F. Merrill: Transcriptional repression of the mouse dihydrofolate reductase gene during muscle cell commitment. ***J. Biol. Chem****.*, 1989, **264**;21247-21256.

Schmidt, E.E., and G.F. Merrill: Maintenance of dihydrofolate reductase enzyme after disappearance of DHFR mRNA during muscle cell differentiation. ***In Vitro Cell Dev Biol,*** 1989, **25**;697-704.

Other publications

Schmidt, E.E., and Arnér, ESJ. "Chapter 16: Thioredoxin reductase as an anti-cancer drug target" In, Selenium - its molecular biology and role in human health. 4th edition. Editors, Hatfield DL, Schweitzer U, Tsuji P, & Gladyshev V. Springer. In press.

Eriksson, S, and **Schmidt, E.E.** "Thioredoxin reductase: A coordinator of metabolic activities". In "Selenium, its molecular biology and role in human health". Edited by Brigelieus-Flohe, R. Within series entitled: "Oxidative stress in health and disease". CRC Press, 2015.

Schmidt, E.E.: "DNA replication in animal systems lacking thioredoxin reductase I" (book chapter), in "DNA Replication: Current Advances", 2011, In-Tech pub., ISBN 978-953-307-593-8, pp 565-84.

Lavery, D.J., **E.E. Schmidt**, and U. Schibler: "The PAR transcription factor family and circadian gene expression" (book chapter). In, *Vistas on Biorhythmicity:* H. Greppin, R. Degli Agosti, and M. Bonzon, eds. University of Geneva Press., 1996, pp. 135-145.

Wuarin, J., E. Falvey, D. Lavery, D. Talbot, **E. Schmidt**, V. Ossipow, P. Fonjallaz, and U. Schibler. The role of the transcriptional activator protein DBP in circadian liver gene expression. *J. Cell Sci.,* 1992, supplement **16**;123-127.

Merrill, G.F., M.K. Gross, **E.E. Schmidt**, T. Jacobsen, and C.O. Scarlet: "Identification of a translational mechanism that regulates levels of an enzyme involved in DNA precursor synthesis." In *Molecular Biology of Aging: UCLA Symposia on Molecular and Cellular Biology,* 1989, Vol 123, Wiley-Liss, New York. pp.217-230.

Professional society memberships

American Society of Reproductive Immunology
American Association for the Advancement of Science
Society for Free Radical Biology and Medicine
Biochemical Society
International Embryo Transfer Society

Journal and grant review service

i. Academic Editor, *PLoS ONE*, 2011 - present.
Editorial Board, Am. J. Reprod. Immunol. 2006 - present

ii. NIH/NCI NCI-I Panel, Grant Review Panel Member, November 2011
Reviewer, Kansas University School of Medicine, COBRE Pilot Grant program, January 2012
NIH/NCI NCI-I Panel, Grant Review Panel Member, December 2013

Reviewer, Kansas University School of Medicine, COBRE Pilot Grant program, January 2014
NIH/NIDDK DKUS Panel, Grant Review Panel Member, February 2014
NIH/NCI NCI-I Panel, Grant Review Panel Member, June 2014
Reviewer, Kansas University School of Medicine, COBRE Pilot Grant program, May 2015
NIH/NCI NCI-I Panel, Grant Review Panel Member, June 2015
NIH/NIDDK HBPP Panel, Grant Review Panel Member, June 2015
NIH/NIDDK HBPP Panel, Grant Review Panel Member, February 2016

iii. *ad hoc* reviewer (past 10 years) for: *Proc. Natl. Acad. Sci. USA, Biotechnol. Prog., Bioesays, J. Cell Sci., J. Biol. Chem., Biochem. Biophys. Res. Comm., Mol. Cell. Biol., J. Immunol., Free Rad. Biol. Med. J., Genomics, BMC Genomics, BMC Microbiol., Mammalian Genome, Acta Sinca Zool., J. Biol., J. Pharmacol.. Toxicol., Antiox. Redox. Sig., Biochime, Exp. Cell Res., J. Gastroent. Hepatol., Anatomia Histolog., J. Vis. Exp., Open Immunol., PLoS ONE, Biochem. Biophys. Acta Gen., Toxins*

iv. *ad hoc* reviewer (past 10 years) for the following granting agencies:
- Department of Veteran's Affairs
- USDA
- Institute of Translational Health Sciences
- Montana INBRE program

Recent and Upcoming Presentations

Invited Speaker, University of Washington, Seattle WA. Department of Environmental Health Sciences, April 17, 2014. "An electron hunt: uncovering an obscure source of reducing power in mouse liver".

Invited Speaker, Washington State University, Pullman, WA. Center for Reproductive Biology. "Can dietary antioxidants alone support redox homeostasis? Unveiling an unexpected source of reducing potential" September 17, 2014

Invited Participant/Speaker, Cold Spring Harbor Laboratories Banbury Workshop Series, entitled "ROS Biology and Cancer". Lecture title: "Functional antagonism of Nrf2 activity by the disulfide reductase systems" October 26-29, 2014.

Invited Speaker, Biochemical Society Meeting, "The Keap1/Nfr2 System in Health and Disease", Cambridge, England. "Cytosolic reductase systems and regulation of the Keap1/Nrf2 pathway" January 6-8, 2015.

Invited Speaker, Karolinska Institutet Cancer Retreat, Djurönäset, Sweden. "Thioredoxin reductase-1 plays contrasting roles in the initiation and progression of hepatocellular carcinoma" September 28-29, 2015.

Invited Keynote Speaker, 31st Hungarian Oncology Society Conference, Budapest, Hungary. "Disulfide reductase systems and liver cancer" 19-21 November, 2015.

Invited Speaker, German Institute of Human Nutrition, Postdam, Germany. "Cytosolic disulfide reductase systems, their cryptic reinforcements, and redox homeostasis". Geneva, Switzerland, 6 April 2016.

Invited Speaker, University of Geneva Department of Genetics & Evolution, 6 June 2016. "Oxidative Stress and Mammalian Redox System Robustness: Metabolic Assistance for an Ancient Challenge"

Invited Speaker, Gordon Conference, "Thiol-based Redox Regulation and Signaling". "Cytosolic NADPH-dependent Disulfide Reductases Systems and Redox Homeostasis." Stowe, VT, 7-12 August 2016

Other contributions to science

We currently have five of our original targeted mouse alleles being distributed by Jackson Laboratories. These are Stock Numbers: 023035, 023537, 028256, 028283, 028288

Recent press releases and news items (2015-16 only)

http://www.montana.edu/news/15439/msu-team-publishes-findings-about-backup-system-that-helps-sustain-liver-during-crisis.

http://www.knowledgetranslationmedia.com/wp-content/uploads/2015/10/ktm-mag-october-low-res.pdf.

http://ki.se/en/news/new-role-for-methionine-in-protecting-cells-from-oxidative-stress.