**M. Denise Dearing**

**Distinguished Professor**

**School of Biological Sciences, University of Utah**

**Website: Dearinglab.com**

**Twitter:@mddearing**

**EDUCATION and DEGREES**

2015 Executive Leadership in Academic Technology and Engineering, Drexel University

Mentor: Dr. Ruth Watkins, Vice President Academic Affairs, University of Utah

1996-1998 NSF Postdoctoral Fellow, University of Wisconsin, Madison, WI

Preceptor: Dr. William Karasov

1995 Fulbright Postdoctoral Fellow, CSIRO, Canberra, Australia

Preceptor: Dr. Steven Cork

1995 Ph.D.: University of Utah, Salt Lake City, UT

Advisor: Dr. Phyllis Coley

Ph.D. THESIS**:** Factors Governing Diet Selection in a Herbivorous Mammal, the North American Pika*, Ochotona princeps*

1990 Organization for Tropical Studies, Costa Rica

1988 M.S. :University of Vermont, Burlington, VT

Advisor: Dr. Joseph Schall

M.S. THESIS: Are Herbivorous Lizards Nutrient Mixers, Amount-Maximizers, or Toxin Avoiders?: A Test of Three Models on Diet Selection

1985 B.S.: Eastern Connecticut State University, Willimantic, CT

**EMPLOYMENT**

2022-Present Division Director, Integrative Organismal Systems, National Science Foundation

2015-Present Distinguished Professor, University of Utah

2018-2020 Inaugural Director, School of Biological Sciences

2014-2018 Chair, Department of Biology

2012-2014 Inaugural Associate Dean for Research, College of Science, University of Utah

2007-present Professor, University of Utah

2003-2007 Associate Professor, University of Utah

1998-2003 Assistant Professor, University of Utah

1989-1993 Graduate Teaching Assistant, University of Utah

1985-1988 Graduate Teaching Assistant, University of Vermont

**RESEARCH INTERESTS**

Ecology and evolution of dietary specialization; Nutritional ecology of herbivorous vertebrates; Mammalian and avian detoxification of plant secondary metabolites; Application of stable isotopes in ecology; Ecology of infectious disease

**HONORS and AWARDS**

2021 Fellow of the American Association for the Advancement of Science

2020 Research Award, Alexander von Humboldt Foundation

2018 Joseph Grinnell Award, American Society of Mammalogists

2015 Distinguished Professor, University of Utah

2014 C. Hart Merriam Award, American Society of Mammalogists

2014 Distinguished Scholarly and Creative Research Award, University of Utah

2009 Graduate Student and Postdoctoral Scholar Distinguished Mentor Award

2008 Distinguished University Teaching Award

2007 Accomplished Graduate Student Alumnus Award, University of Vermont

2004 Linda Amos Award, University of Utah

2003 NSF CAREER award

2001 Student’s Choice Award for Teaching Excellence, University of Utah

1995 Fulbright Postgraduate Fellow

1993 Association for Women in Science, Certificate of Merit

1993 American Association of University Women, American Fellow

1993 Buell Award, Ecological Society of America

**RESEARCH SUPPORT**

*Current*

*“Understanding Cardenolide Resistance in Rodents”*

Principal Investigator: Denise Dearing

Host*:* Dr. Jonathan Gershenzon, Director, Max Planck Institute for Chemical Ecology

Alexander von Humboldt Foundation

Total Costs: $60,000

Previous

*“The Physiological Genomics of Diet Switching in Mammalian Herbivores”*

Principal Investigator: Denise Dearing, Co-Principal Investigator: Michael Shapiro

National Science Foundation

Total Costs: $765,712 Start Date: 05/01/17 Duration 3-years

*“Determining the Extent of the SARS-CoV-2 Transmission from Mink Farms to Wildlife”*

Principal Investigator: Denise Dearing

University of Utah Seed Grant

Total Costs: $20,000

*“Rules of Resilience: Modeling impacts of host-microbe interactions during perturbations”*

Principal Investigator: Denise Dearing, Co-Principal Investigators: June Round, William Stephens, Hari Sundar, Aditya Bhaskara

University of Utah 1U4U Innovation Funding

Total Costs: $30,000

“*Dimensions: Biodiversity of the Gut Microbiome of Herbivorous Woodrats”*

Principal Investigator: Denise Dearing, Co-Principal Investigators: Colin Dale,

Robert Weiss

National Science Foundation

Total Costs: $1,700,000 Start Date: 11/01/13 Duration 5-years

*“Collaborative Research: A Comprehensive Study of the Structure, Function, and Diversity of Detoxification Enzymes (CYP2B) in Mammalian Herbivores (Neotoma)”*

Principal Investigator: Denise Dearing, Collaborator: Dr. James Halpert (UCSD)

National Science Foundation

Total Costs: $504,788 Start Date: 06/01/13 Duration 5-years; 2 no-cost extensions

*“Temperature-dependent Toxicity of Plant Secondary Compounds to Mammalian Herbivores”*

Principal Investigator: William Foley (ANU), Co-Principal Investigators: Denise Dearing, Ben Moore

Australian Research Council

Total Costs: $614,000 Start Date: 01/1/2014 Duration 2-Years

“*CSR: Large: Collaborative Research: Integrating Circuits, Sensing, and Software to Realize the Cubic-mm Computing Class”*

Principal Investigator: David Wentzloff PI, Co-Principal Investigators: David Blaauw, Prabal Dutta, Dennis Sylvester, Denise Dearing

National Science Foundation

Total Costs**:** $2,533,000. Start Date**:** 09/1/2011 Duration 5-years

“*Think Globally, Learn Locally (TGLL): Neighborhood Ecology in a Global Perspective, GK-12 Project”*

Principal Investigator: Donald Feener, Co-Principal Investigators: Denise Dearing, James Ehleringer, Eric Rickart, Jon Seger

National Science Foundation

Total Costs $2,959,517 Start Date: 08/01/2008 Duration 5-years plus extensions

*“Functional Genomics of a Dietary Shift in a Mammalian Herbivore”*

Principal Investigator: Denise Dearing, Co-Principal Investigators: Kirk Thomas

National Science Foundation

Total Costs: $364,575. Start Date: 9/1/2008 Duration 5-years

REU supplements (5) $ 30,000

*“Detoxification of Plant Toxins: The Role of Gut Microbes”*

Principal Investigator: Denise Dearing

University of Utah Seed Grant

Total Costs: $23,570 Start Date: 1/1/2011-12/31/2011

*“The Ecophysiological Response of Birds versus Mammals to Secondary Metabolites in Fruits”*

Principal Investigator: Ido Izhaki, Co-Principal Investigators: Denise Dearing,

William Karasov, Zeev Arad

Binational Science Foundation

Total Costs: $180,000 Start Date: 8/1/2007-7/31/2011

“The Effects of Anthropogenic Disturbance on the Dynamics of Sin Nombre Hantavirus”

Principal Investigator: Denise Dearing, Co-Investigators: Fred Adler, Thomas Cova, Stephen St. Jeor, Matthew Samore

National Science Foundation

Total Costs: $1,840,000 Start Date: 1/1/2004 -12/31/2011

SUPPLEMENTS: Research Experience for Undergraduates $49,000

SUPPLEMENT: Research Opportunity Award $30,000

*“****CAREER****: Mechanisms and Tradeoffs of Dietary Specialization in Mammalian Herbivores”*

Principal Investigator: Denise Dearing

National Science Foundation

Total Costs $510,655 Start Date: 3/1/2003- 2/28/2009

SUPPLEMENTS: Research Experience for Undergraduates $30,000

SUPPLEMENT: Research Opportunity Award $16,000

*“Graduate Student Training Grant:* ***“WEST”*** *(****W****ater, the* ***E****nvironment,* ***S****cience and* ***T****eaching) GK-12 Project”*

Principal Investigator: David Chapman, Co-Principal Investigators: Thure Cerling, Margaret Chan, Jaimie Creola, Denise Dearing, Eric Petersen, Scott Sampson, Kip Solomon, Edward Zipster.

National Science Foundation

Total Costs: $1,500,000 Start Date: 5/1/2004-4/31/2008

*“A Real-Time PCR Facility in the Biology Department”*

Principal Investigator: Denise Dearing, Co-Principal Investigators: Wayne Potts,

Gary Drews

University of Utah Research Instrumentation Fund

Total Costs: $27,127. Start Date: 7/1/2004 – 6/30/2005

*“The Effects of Habitat Disturbance on Prevalence of Hantavirus in Desert Rodents”*

Principal Investigator: Denise Dearing

University of Utah Seed Grant

Total Costs: $34,420 Start Date: 3/1/2003-2/28/2004

*"Dietary Specialization in Mammals: Constraints and Costs of Plant Secondary*

*Compounds”*

Principal Investigator: Denise Dearing

National Science Foundation

Total Costs: $160,000 Start Date: 5/18/2000-5/17/2003

SUPPLEMENTS: Research Experience for Undergraduates $16,000

*"Atmospheric CO2 Controls Over Animal Evolution and Extinction"*

Principal Investigators: Thure Cerling, Denise Dearing, James Ehleringer, John Harris

Packard Foundation

Total Costs: $1,000,000 Start Date: 8/1/99-2003

"*Proposal to Enhance Learning in Ecology Lab"*

Principal Investigator: Denise Dearing

University of Utah Teaching Grant

Total Costs: $2,409 Start Date: 2002

*"Proposal for Conference on the History of Atmospheric CO2 and its Effect on the Evolution of Plants, Animals and Ecosystems"*

Principal Investigators: Denise Dearing, Thure Cerling, James Ehleringer

National Science Foundation

Total Costs: $23,000. Start Date 10/6/2001-12/05/2001

"*Dietary Specialization in Mammals: Tests of Detoxification and Elimination Models*"

Principal Investigator: Denise Dearing

National Science Foundation

Total Costs: $35,000 Start Date: 7/15/1998-6/2000

*“Detoxification of Plant Toxins”*

Principal Investigator: Denise Dearing

University of Utah Seed Grant

Total Costs: $35,000 Start Date: 1/1999-12/1999

Postdoctoral Research Fellow in the Biosciences Related to the Environment

National Science Foundation

Total Costs: $80,000 Start Date: 2/1/1996-7/31/1998

Postgraduate Award

Fulbright Foundation

Total Costs $10,000 Start Date: 8/1/1995-1/30/1996

American Fellowship

American Association of University Women

Total Costs $20,000 Start Date: 4/1993-12/1994

Doctoral Dissertation Improvement Grant

National Science Foundation

Total Costs: $7,831 Start Date: 6/1992-5/1994

**PROFESSIONAL AFFILIATIONS**

American Association for the Advancement of Science, Society for Integrative and Comparative Biology, American Society of Mammalogists, American Association of University Women

**INVITED PRESENTATIONS**

(*note: it has been challenging to accept invitations for scientific seminars while working at the NSF due to time constraints*)

2023 Smithsonian National Zoo, Washington, DC

2022 International Rodent Conference, Arusha, Tanzania

National Science Foundation, Biology Directorate

School of Life Sciences, Arizona State University

Max Planck Institute Plant Breeding Research, Cologne, Germany

Max Planck Institute Chemical Ecology, Jena, Germany

Society for Integrative and Comparative Biology Symposium Speaker

The Wildlife Society, Webinar

University of California, San Diego

Comparative Nutrition Society Biennial Symposium, Plenary Speaker, Snowbird, UT

2021 University of California, Santa Cruz

Max Planck Institute Chemical Ecology, Germany

International Congress of Zoology, Capetown, South Africa

2020 RECOMB: Comparative Genomics, Singapore (postponed)

Keystone Symposium, Host-microbe Interactions, Singapore (canceled)

2019 University of Hawaii, Kewalo Marine Station

Sorbonne University, Paris

Utah Valley University, UT

Animal- Microbe Symbioses Gordon Conference Invited Discussion Leader

Ecological & Evolutionary Genomics Gordon Conference: Invited Speaker

American Society of Mammalogists, Plenary Speaker

The Wildlife Society: Symposium Speaker

2018 University of California, San Francisco

University of Nevada, Reno

Utah State University

Université Pierre et Marie Curie-CNRS, Observatoire Océanologique de Banyuls sur mer, France

Cal State University Northridge

2017 Society for Integrative and Comparative Biology Symposium Speaker

University of California, Irvine, Ecology and Evolution Department

University of Michigan

Southern California Microbiome Symposium, University of California, Irvine

Australian National University, Canberra Australia

University of Sydney, Sydney, Australia

2016 Brigham Young University, Provo, UT

University of California, Berkeley, Museum Vertebrate Zoology

Dimensions of Biodiversity, National Science Foundation

American Society for Microbiology, Plenary Talk

Université Pierre et Marie Curie-CNRS, Observatoire Océanologique de Banyuls sur mer, France

University of Wisconsin, Madison

Joint Meeting of the International Congress of Zoology and Zoological Society of Japan, Okinawa, Japan

2015 Texas Tech University, Department of Biology

California State Universtiy, Fullerton, Department of Biology

University of Nevada, School of Life Sciences

University of Utah, Microbial Pathogenesis Seminar Series

The Ohio State University, Department of Evolution, Ecology and Organismal Biology

Gordon Conference, Animal Microbe Symbiosis, Symposium Speaker

American Society of Mammalogists, Plenary Talk

2014 P20 Urology Centers Directors, NIDDK, Asilomar, CA, Keynote speaker

2013 University of Missouri, Columbia, MO, Life Science Week Speaker

Entrada Institute, Torrey, UT

University of Tennessee, Knoxville, TN

Gordon Conference Plant-herbivore Interactions, Discussant

2012 University of Arizona, Tucson, AZ

American Society of Mammalogists, Invited Symposium Speaker

2011 Boise State University, Boise, ID

Society for Integrative and Comparative Biology, Symposium Speaker

University of Wyoming, Laramie, WY

International Congress of Comparative Physiology and Biochemistry, Symposium Speaker

(Symposium withdrawn by organizers after Fukushima crisis)

2010 Gordon Conference Plant-herbivore Interactions, Symposium Speaker

Ben Gurion University, Sde Boqer, Israel

2009 Society for Integrative and Comparative Biology, Invited Symposium Speaker Utah State University, Logan, UT

2008 International Conference in Africa for Comparative Physiology and Biochemistry, Masai Mara National Reserve, Kenya; canceled due to civil unrest in Kenya

2007 University of Vermont, Burlington VT

2006 American Physiological Society: Comparative Physiology 2006: Integrating Diversity, Symposium Speaker; Virginia Beach, VA

2005 International Mammalogical Congress, Sapporo, Japan Invited Symposium Speaker (*Declined)*

2004 Department of Pharmacology and Toxicology, University of Utah, Salt Lake City, UT

Institute for Ecosystems Studies, Millbrook, NY

2002 Northern Arizona University, Flagstaff, AZ

Pathogenesis Seminar, University of Utah, Salt Lake City, UT

2001 Gordon Conference Speaker, Plant-Herbivore Interactions, Oxnard, CA

2000 Society for Integrative and Comparative Biology, Symposium Speaker

1999 Idaho State University, Pocatello, ID

1998 University of Wisconsin, Madison, WI

1997 University of Wisconsin, Madison, WI

University of Tasmania, Hobart, TAS, Australia

University of Nebraska, Lincoln, NE

University of Colorado, Boulder, CO

University of Nevada, Reno, NV

University of Utah, Salt Lake City, UT

1996 CSIRO Lyneham, ACT, Australia

1995 Utah State University, Logan, UT

James Cook University, Townsville, Queensland, Australia

1994 University of Wisconsin, Madison, WI

1992 Mountain Research Station, University of Colorado, Boulder, CO

1988 Eastern Connecticut State University, Willimantic, CT

1987 Curacao Marine Biological Institute, Curacao, Netherlands Antilles

Karpata Ecological Center, Bonaire, Netherlands Antilles

**PUBLICATIONS**

*Undergraduate authors are underlined*

**Journal Articles**

179. Doolin MD, **Dearing MD**. (2023) Differential effects of two common antiparasitics on microbiota resilience. The Journal of Infectious Diseases: jiad547. DOI: 10.1093/infdis/jiad547.

178. Klure DM, **Dearing MD**. (2023) Seasonal restructuring facilitates compositional convergence of gut microbiota in free-ranging rodents. FEMS Microbiology Ecology. 99(11). DOI: 10.1093/femsec/fiad127.

177. Klure DM, Cragun BJ, and Dearing MD. (2023) Sympatric rodents in a desert shrubland differ in arthropod consumption. Journal of Arid Environments. 214. 104999. DOI: 10.1016/j.jaridenv.2023.104999.

176. Klure DM, Greenhalgh R, Parchman TL, Matocq MD, Galland LM, Shapiro MD, and **Dearing MD**. (2023) Hybridization in the absence of an ecotone favors hybrid success in woodrats (*Neotoma*spp.). Evolution. 77(4). 959-970.. DOI: 10.1093/evolut/qpad012.

175. Varner J, Carnes-Douglas ZJ, Monk E, Benedict LM, Whipple A, **Dearing MD**, Bhattacharyya S, Griswold L, and Ray C. (2023) Sampling a pika’s pantry: Temporal shifts in nutritional quality and winter preservation of American pika food caches. Ecosphere. 14 (5). DOI: 10.1002/ecs2.4494.

174. Schramm K, Skopec M, **Dearing MD**. (2023) Metabolomic evidence of independent biotransformation pathways for terpenes in two specialist mammalian herbivores (genus *Neotoma*). Integrative Zoology 00, 1-13. DOI: 10.1111/1749-4877.12734.

173. **Dearing MD**, Kaltenpoth M, and Gershenzon J. (2022) Demonstrating the role of symbionts in mediating detoxification in herbivores. Symbiosis 87: 59-66. doi: 10.1007/s13199-022-00863-y.

172. Doolin ML, Weinstein SB, and **Dearing MD**. (2022) Pinworms are associated with taxonomic but not functional differences in the gut microbiome of white-throated woodrats (Neotoma albigula). Journal of Parasitology 108 (5): 407-418. doi: 10.1645/22-11.

171. Weinstein SB, Stephens WZ, Greenhalgh R, Round JL, and **Dearing MD**. (2022) Wild herbivorous mammals (genus Neotoma) host a diverse but transient assemblage of fungi. Symbiosis 87: 45-58.

doi: 10.1007/s13199-022-00853-0.

170. Skopec MM, Halpert JR, and **Dearing MD**. (2022) Mammalian cytochrome P450 biodiversity: Physiological importance, function, and protein and genomic structures of cytochromes P450B in multiple species of woodrats with different dietary preferences. Advances in Pharmacology.

doi: 10.1016/bs.apha.2022.05.002.

169. Beale PK, Connors PK, **Dearing MD**, Moore BD, Krockenberger AK, Foley WJ, and Marsh KJ. (2022) Warmer Ambient Temperatures Depress Detoxification and Food Intake by Marsupial Folivores. Frontiers in Ecology and Evolution. doi:10.3389/fevo.2022.888550

168. Klure DM, Greenhalgh R, and **Dearing MD** (2022). Addressing nontarget amplification in arthropod DNA metabarcoding studies of arthropod-feeding rodents. Mammal Research 67 (4): 499-509.

doi: 10.1007/s13364-022-00646-2.

167. **Dearing MD**, Orr TJ, Greenhalgh R, Klure DM, Weinstein SB, Stapleton, T, Yamada KYH, Nelson MD, Nielsen, DP, Matocq MD, and Shapiro, MD. (2022) Toxin tolerance across landscapes: Ecological exposure not a prerequisite. Functional Ecology 36:2119-2131. doi: 10.1111/1365-2435.14093

166. **Dearing MD** and Weinstein, SB (2022) Metabolic enabling and detoxification by mammalian gut microbes. Annual Review Microbiology 76:579-596. doi: 10.1146/annurev-micro-111121-085333

165. Stapleton, TE., Kohl, K., and **Dearing MD**. (2022) Plant secondary compound- and antibiotic-induced community disturbances improve the establishment of foreign gut microbiota. FEMS Microbiology Ecology 98: fiac005. doi: 10.1093/femsec/fiac005

164. Stapleton, TE., Weinstein, SB., Greenhalgh, R., and **Dearing MD**. (2022) Successes and limitations of

quantitative diet metabarcoding in a small, herbivorous mammal. Molecular Ecology Resources 22(7): 2573-2586. doi: 10.1111/1755-0998.13643

163. Greenhalgh R, Holding ML, Orr TJ, Henderson JB, Parchman TL, Matocq MD, Shapiro MD, **Dearing MD** (2021) Trio-binned genomes of the woodrats *Neotoma bryanti* and *Neotoma lepida* reveal novel gene islands and rapid copy number evolution of xenobiotic metabolizing genes. Molecular Ecology Resources 22 (7): 2713-2731. doi: 10.1111/1755-0998.13650

162. Weinstein SB, **Dearing MD** (2021) Harvest mice (*Reithrodontomys megalotis*) consume monarch butterflies (*Danaus plexippus*) Ecology 12:e3607.

161. Weinstein SB, Martinez-Mota R, Stapleton TS, Klure DM, Greenhalgh R, Orr TJ, Dale C, Kohl KD, **Dearing MD**. Microbiome stability and structure is governed by host phylogeny over diet and geography in woodrats (*Neotoma* spp.). (2021) Proceedings of the National Academy of Science, 118(47) [doi.org/10.1073/pnas.2108787118](https://doi.org/10.1073/pnas.2108787118)

160. MaurerM, Martínez KP, TrevellineBK, TripoliD, **DearingMD**, Derting T, Martinez MotaR, PaschB, KohlKD (2021) Diet alters rodent fecal pellet size: implications for paleoecological and demographic studies using fecal dimensions. Journal of Mammalogy, 102:1619-1626.

159. Weinstein SB, Malanga KN, Agwanda B, Maldonado JE, **Dearing MD** (2020) The secret social lives of African crested rats, *Lophiomys imhausi*. Journal of Mammalogy.6:1680-1691. doi.org/10.1093/jmmmal/gyaal27.

158. Orr TJ, Kitanovic S, Schramm KM, Skopec MM, Wilderman PR, Halpert JR, **Dearing MD** (2020) Strategies in herbivory by mammals revisited: The role of liver metabolism in a juniper specialist (*Neotoma stephensi*) and a generalist (*Neotoma albigula*). Molecular Ecology 29: 1674-1689. doi: 10.1111/mec.15431.

157. Martinez-Mota R, Kohl KD, Orr TJ, **Dearing MD** (2020) Natural diets promote retention of the native gut microbiota in captive rodents. The ISME Journal. 14(1):67-78. doi:10.1038/s41396-019-0497-6.

156. Stephens SR, Orr TJ, **Dearing MD** (2019) Chiseling away at the dogma of dietary specialization in *Dipodomys microps*. Diversity. 11: 92. doi:10.3390/d11060092.

155. Marón CF, Kohl KD, Chirife A, Martino MD, Fons MP, Navarro MA, Beingesser J, McAloose D, Uzal F, **Dearing MD**, Rowntree VJ, Uhart M. (2019) Symbiotic microbes and potential pathogens in the intestine of dead southern right whale (*Eubalaena australis*) calves. Anaerobe. 57:107-114.

154. Miller AW, Orr TJ, **Dearing MD**, Monga M. (2019) Loss of function dysbiosis associated with antibiotics and high fat, high sugar diet. ISME Journal. 13:1379-90.

153. Forbey JS, Liu R, Caughlin TT, Matocq MD, Vucetich JA, Kohl KD, **Dearing MD**, Felton AM. (2018) Review: Using physiologically based models to predict population responses to phytochemicals by wild vertebrate herbivores. Animal. 12:s383-398.

152. Miller AW, Orr TJ, **Dearing MD**, Monga M. (2018) PD03-05 Antibiotics and a high fat/high sugar diet reduce microbial oxalate metabolism in a mouse model. The Journal of Urology. 199:e72.

151. Kohl KD, Oakeson KF, Orr TJ, Miller AW, Forbey JS, Phillips CD, Dale C, Weiss RB, **Dearing MD**. (2018) Metagenomic sequencing provides insights into the location of microbial detoxification in the gut of a small mammalian herbivore. FEMS Microbiology Ecology. 94.

150. Kitanovic S, Orr TJ, Spalink D, Cocke GB, Schramm K, Wilderman PR, Halpert JR, **Dearing MD**. (2018) Role of cytochrome P450 2B sequence vatiation and gene copy number in facilitating dietary specialization in mammalian herbivores. Molecular Ecology. 27:723-736.

149. Kohl KD, **Dearing MD**, Bordenstein SR. (2018) Microbial communities exhibit host-species distinguishability and phylosymbiosis along the length of the gastrointestinal tract. Molecular Ecology. 27:1874-1883.

148. Kitanovic S, Marks-Fife CA, Parkes QA, Wilderman PR, Halpert JR, **Dearing MD**. (2018) Cytochrome P450 2B diversity in a dietary specialist—the Red Tree Vole (*Arborimus longicaudus*). Journal of Mammalogy. 99:578-585.

147. Kohl KD**,** Varner J, Wilkening JL, **Dearing MD**. (2018) Gut microbial communities of American pikas (*Ochotona princeps*): Evidence for phylosymbiosis and adaptations to novel diets. Journal of Animal Ecology*.* 87:323-330.doi: 10.1111/1365-2656.12692.

146. Kohl KD, Oakeson KF, Dunn D, Meyerholz DK, Dale C, Weiss RB, **Dearing MD**. (2017) Patterns of host gene expression associated with harboring a foregut microbial community. BMC Genomics. 18:697. doi: 10.1186/s12864-017-4101-z.

145. Ridenhour BJ, Brooker SL, Williams JE, Van Leuven JT, Miller AW, **Dearing MD**, Remien CH. (2017) Modeling time-series data from microbial communities. Journal of International Society for Microbial Ecology. 11:2526-2537. doi: 10.1101/071449.

144. Miller AW, Dale C, **Dearing MD**. (2017) The induction of oxalate metabolism in vivo is more effective with functional microbial communities than with functional microbial species.

mSystems. 2:e00088-17. doi: 10.1128/mSystems.00088-17.

143. Miller AW, Dale C, **Dearing MD**. (2017) Microbiota diversification and crash induced by dietary oxalate in the mammalian herbivore *Neotoma albigula*. mSphere. 2:e00428-17.

142. Huo L, Liu J, **Dearing MD**, Szklarz D, Halpert JR, Wilderman PR. (2017) Rational Re-Engineering of the O-Dealkylation of 7-Alkoxycoumarin Derivatives by Cytochromes P450 2B from the Desert Woodrat, *Neotoma lepida*. Biochemistry. 56:2238-2246.

141. Connors PK, Malenke JR, **Dearing MD**. (2017) Ambient temperature-mediated changes in hepatic gene expression of a mammalian herbivore (*Neotoma lepida*). Molecular Ecology. 26:4322-4338. doi: 10.1111/mec.14192.

140. Kohl KD, **Dearing MD**. (2017) With a little help from my friends: Microbial partners in integrative and comparative biology. Integrative and Comparative Biology*.* 57:669-673. doi: 10.1093/icb/icx103.

139. **Dearing MD**, Kohl KD. (2017) Beyond Fermentation: Other important services provided to endothermic herbivores by their gut microbiota. Integrative and Comparative Biology*.* 57:723-731. doi: 10.1093/icb/icx020.

138. Kohl KD, **Dearing MD**. (2017) Intestinal lymphatic transport: an overlooked pathway for

understanding absorption of plant secondary compounds in vertebrate herbivores. Journal of Chemical Ecology. 43:290-94. doi: 10.1007/s10886-017-0828-x.

137. Kohl KD, Connelly JW, **Dearing MD**, Forbey JS. (2016) Microbial detoxification in the gut of a specialist avian herbivore, the Greater Sage-Grouse. FEMS Microbiology Letters. 363:14.

136. Campbell M, [Oakeson KF](https://www.ncbi.nlm.nih.gov/pubmed/?term=Oakeson%20KF%5BAuthor%5D&cauthor=true&cauthor_uid=27408812), [Yandell M](https://www.ncbi.nlm.nih.gov/pubmed/?term=Yandell%20M%5BAuthor%5D&cauthor=true&cauthor_uid=27408812), [Halpert JR](https://www.ncbi.nlm.nih.gov/pubmed/?term=Halpert%20JR%5BAuthor%5D&cauthor=true&cauthor_uid=27408812), [**Dearing MD**](https://www.ncbi.nlm.nih.gov/pubmed/?term=Dearing%20D%5BAuthor%5D&cauthor=true&cauthor_uid=27408812). (2016) The draft genome sequence and annotation of the desert woodrat *Neotoma lepida*. [Genomics Data.](https://www.ncbi.nlm.nih.gov/pubmed/27408812) 9:58-9.

135. Oakeson KF, Miller A, Dale C, **Dearing** **MD**. (2016) Draft genome sequence of an oxalate- degrading strain of *Clostridium sporogenes* from the gastrointestinal tract of the white-throated woodrat (*Neotoma albigula*). Genome Announcements 4:e00392-16. doi: 10.1128/genomeA.00392-16.

134. Miller AW, Oakeson KF, Dale C, **Dearing MD**. (2016) Microbial community transplant results in increased and long-term oxalate degradation. Microbial Ecology. 72:470-478.

133.Kohl KD,Sadowska ET, Rudolf AM, **Dearing MD,** Koteja P. (2016) Experimental evolution on wild mammal species results in modification of gut microbial communities. Frontiers in Microbiology. 7:634.

132. Kohl KD, **Dearing MD**.(2016) The woodrat gut microbiota as an experimental system for understanding microbial metabolism of dietary toxins. Frontiers in Microbiology. 7:1165.

131.Varner J, Horns JJ, Lambert ML, Westberg E, Ruff JS, Wolfenberger K, Beever EA, **Dearing MD**. (2016) Plastic pikas: behavioral flexibility in low-elevation pikas (*Ochotona princeps*).Behavioural Processes. 125:63-71.

130. Miller AW, Oakeson KF, Dale C, **Dearing MD**. (2016) Effect of dietary oxalate on the gut microbiota of the mammalian herbivore *Neotoma albigula*. Applied and Environmental Microbiology. Applied and Environmental Microbiology. 82:2669-2675.

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**Book**

Ehleringer JR, Cerling T, **Dearing MD**, Eds. (2005) A History of Atmospheric CO2 and its Effect on Plants, Animals and Ecosystems. Ecological Studies, Vol. 177, Springer-Verlag, NY, 530 pgs.

**Book Chapters**

Lindroth RL, **Dearing MD**. (2005) Herbivory in an Elevated CO2 World. A History of Atmospheric CO2 and its Effect on Plants, Animals and Ecosystems. 468-486 Eds: Ehleringer JR, Cerling T, Dearing, MD. Springer-Verlag, NY.

**Dearing MD**. (2001) Plant-herbivore interactions. *In* Bowman W (ed) Structure and Function of an Alpine Ecosystem: Niwot Ridge Colorado. 266-284. Springer-Verlag, NY.

**Book Reviews**

**Dearing MD**. (2007) Review of Tasmanian Devil: A Unique and Threatened Animal (David Owen and David Pemberton) Ecohealth. doi: 10.1007/s10393-007-0116-2.

**Dearing MD**. (2000) Review of Marsupial Nutrition (Ian Hume). Quarterly Review of Biology. 75:196.

**RESEARCH GROUP**

## Postdoctoral Fellows

**Dylan Klure** Project: The physiological and ecological factors underlying toxin feeding in mammalian herbivores. 08/2023-present

**Margaret Doolin** Project: The impact of parasites on the function of the gut microbiome. 018/2024-present.

**Robert Greenhalgh** Project: Physiological genomics of toxin ingestion 11/2018-present.

**Sara Weinstein** Project: Testing for Phylosymbiosis, 9/2017-7/31/2022

Current position: Assistant Professor, Utah State University

**Rodolfo Moto** Project: Microbiome of *Neotoma albigula*,11/2016-10/2019.

Current position: Assistant Professor, Universidad Veracruz, MX.

**Patrice Kurnath** Project: Temperature Dependent Toxicity, 7/2016-7/17.

Current position: Assistant Professor, Mesa State University, CO.

**Teri Orr** Project: The structure and function of CYP2B, 11/2015-7/2017.

Current position: Assistant Professor, New Mexico State University, NM.

**Kika Kitanovic** Project: The structure and function of CYP2B in mammals, 11/2015-7/2017.

Current position:Caretaker of elderly parents in Croatia.

**Kelly Oakeson** Project: The gut microbiome of herbivores, 4/2014-9/2016.

Current position: Chief Scientist, Utah Department of Health, UT.

**Katharina Schramm** Project: The structure and function of CYP2B, 9/2013-11/2015.

Current position: Scientist, ARUP

**Aaron Miller** Project: The gut microbiome of herbivores, 9/2012-12/2015.

Current Position: Research Associate Professor, Cleveland Clinic, Ohio.

**Jael Malenke** Project: Mechanisms of creosote feeding in *Neotoma lepida*, 3/2008-4/2011.

Current position: CEO Wooly Pig Farm Brewery, OH.

**Kevin Kohl** Project: The gut microbiome of herbivores,1/2014-10/2014.

Current position: Assistant Professor, University of Pittsburgh, PA.

**Laurie Dizney** Project: Behaviors of deer mice infected with Sin Nombre virus, 6/2009-7/2012.

Current position: Associate Professor, University of Portland.

**Andrea Previtali** Project: Modeling the dynamics of Sin Nombre Hantavirus, 1/2007-4/2009. Current position: Research Professor, Universidad Nacional del Litoral,

Santa Fe, Argentina.

**Elodie Magnanou** Project: The evolution of creosote feeding in *Neotoma lepida*, 9/2006-4/2008. Current position: Associate Professor at Observatoire Océanologique de Banyuls sur mer, Université Pierre et Marie Curie-CNRS.

**Erin Lehmer** Project: The Effects of Anthropogenic Disturbance on the Dynamics of Sin Nombre Hantavirus, 5/2004–09/2006.

Current position: Chair & Professor, Fort Lewis College, Durango, CO.

**Michele Skopec** Project: Applying DNA microarrays to the evolution of dietary specialization, 9/2003-7/1/2006.

Current position: Professor, Weber State University, Ogden, UT.

**James McLister** Project: Metabolism and Detoxification in Specialist and Generalist Herbivores, 10/2000-7/2003.

Current position: Professor, University of Indiana, Southbend.

**Matt Sponheimer** Project: Atmospheric CO2 Controls Over Animal Evolution and Extinction, 9/2000-7/2003.

Current position: Professor, University of Colorado, Boulder.

**Rebecca Boyle** Project: Costs of Detoxification in Specialist and Generalist Herbivores,

1/2000-7/2000.

Current Position: Environmental Consultant.

## Graduate Students

**Jennifer Sorensen** Ph.D. September 2003. Project: Impact of Dietary Toxins on Activity in Specialist and Generalist Herbivores.

Current position: Professor, Boise State University.

**Shannon O’Grady** Ph.D. May 2006. Project: Digestive efficiencies of herbivorous lizards.

Current position: Research Scientist, Nutraceutical Corp.

**Shannon Haley** Ph.D. May 2007. Project: Detoxification mechanisms of woodrat herbivores. Current position: Postdoctoral fellow, Department of Pediatric Nutrition, University of Utah.

**Christine Clay (Turnbull)** Ph.D. May 2007. Project: The effect of species diversity on hantavirus prevalence in deer mice.

Current position: Chair & Professor, Westminster College.

**Britta Wood** M.S. December 2007. Project: The role of deer mice movement on hantavirus prevalence.

Current position: Ph.D. student, Colorado State University.

**Ann-Marie Torregrossa** Ph.D. January 2009. Project: The effect of plant toxins on the foraging

behavior of herbivores.

Current position: Assistant Professor SUNY, Buffalo.

**Patrick Ely** M.S. 2009. The role of behavior in transmission of Sin Nombre virus.

Current position: Enrolled in Physician’s Assistant School.

**George Collier**2009 Masters of Science Teaching Program.

Current Position: Science Teacher, Camas County High, Fairfield, ID.

**Kevin Kohl** Ph.D. 2014. Project: The role of gut microbes as detoxifiers of plant secondary compounds in the diets of herbivores. Awarded NSF Graduate Research Fellowship (2011-2013) and NSF Dissertation Improvement Grant (2012-2014).

Current position: Assistant Professor, University of Pittsburgh, PA.

**Craig Gritzen** M.S. 2012. Project: Investigations of endoparasite infections on priming of the innate immune system.

Current position: Water quality scientist.

**Johanna Varner** Ph.D. student, started in the lab 8/2010. Project: Too hot too trot: how climate change impacts thermal ecology of pikas. Awarded NSF Graduate Research Fellowship (2011-2013).

Current position: Assistant Professor, Mesa State University, CO.

**Patrice Kurnath** Ph.D. 2016. Project: The role of temperature-dependent toxicity in diet selection by herbivores.

Current position: Assistant Professor, Mesa State University, CO.

**Tess Stapleton** Ph.D. June 2022. Project: The role of the gut microbiome in enabling ingestion of dietary toxins.

Current position: Research Scientist, ARUP

**Dylan Klure** Ph.D. August 2023. Project: The physiological and ecological factors underlying toxin feeding in mammalian herbivores.

**Margaret Doolin** Ph.D. December 2023. Project: The impact of parasites on the function of the gut microbiome.

**Jack Jurmu** Ph.D. student, started in the lab 8/2023.

*Graduate Student Committees*

**Adam Kay, Paul Fine, Sharon Talley, Sara Bush, Lora Richards, Jennifer Arrayneo-Yowell,**

**Lina Cao, James Ruff, Elizabeth Jarrel, Lucianno Valenzuela, Michelle Lefueffe, Jason Kubineck,**

**Jessica Waite, Ryan Bixenmann, Jennifer Koop, Sean Laverty, Kari Smith, Cari Maron,**

**Maria Jose Endara, James Ruff, Shannon Gaukler, Georgia Sinimbu, Kendra Chritz, Sarah Knuttie, Christine Mancuso, Andrew Bartlow, Austin Green**

*Technicians*

**Ben Cragun** Post-bac and lab assistant 8/2021-4/2022

**Madison Nelson** Post-bac and lab assistant on woodrat genomics project 5/2019-7/2020

**Kaylene Yamada** Post-bac and lab assistant on woodrat genomics project 5/2017-8/2019

**Oleysa Trakhimets** Lab assistant on CYP2B and gut microbe project 10/2013-2/2014.

**Johanna Varner** Field and lab assistant on the Hantavirus project 4/2009-8/2010.

Current position: Assistant Professor, Mesa State University, CO.

**Jeremy Jones** Field and lab assistant on the Hantavirus project 11/2006-6/2009.

**Kim Nelson** Field and lab assistant on the Hantavirus project 7/3/2006-10/2006.

**Cheryl Votaw** Field and lab assistant on the Hantavirus project 5/2005-8/2006.

Current position: Veterinarian.

**Julie Allen** Field and lab assistant on the Hantavirus project 8/2003-7/2004. Previously an undergraduate assistant on the stable isotopes project.

Current position: Postdoctoral fellow: Assistant Professor, University of Nevada, Reno.

*Undergraduate Research Assistants*

**Noah Armstrong, Hannah Doherty, Cameron Kohlschein, Zhara Khan, Sydney Stephens, Quincy Parkes, Madelina James, Granger Cocke, Hayden Christensen, Kaylene Yamada, Lucero Lopez, Brianna Paige Stubbs, Jesse Nelson, Alyssa Estrich, Caleb Felicetti, Mandy Giles, Loren Griswold, Natalie Merz, Adam Schmidt, Mallory Lambert, Elizabeth Pitman, Ben Larson, Ashley Stengel, Aliya Khan, Ethan King, Chelsey Carling, Antonia Fitzgerald, Dylan Taylor, Eric Taylor, Carling Bateman, Ryan Bares, Michael Steiner, Adam Briles, Jeramy Wallace, Emily Smith, Hannah Shadis, Kelly O’Callahan, Kim Nelson, John Mathews, Melissa Yeoh, Logan Kelly, Alexis Harrison, Britta Wood, Jennifer Kendrick, Scott Appleby, Cheryl Votaw, Jennifer Billy, David Burrows, Katherine Young, Julie Allen, Allyson Bares, Delphine Ashley, Elizabeth Birdsel, Emily Heward, Manttee Wong, Erika McLachlan, Amber Marx, Ed Leite, Geremy Smith, Youseff Al-Sheikh, Luciana Santos, Alexander Baugh, Adam Walters, Amy Markeson, Ja Thammong, Jessica Morris, Janice Robinson, Christy Turnbull, Shannon Rodgers, Erica van Dijk, Stacie Niemer, Sara Larson, Rachel Mackelprang, Hilary Lindh, Aaron Knudson, Jeremy Cook, Joseph Grose, Karena Kelly, Holly Nelson, Ana Skorut, Adam Blundell**

### High School Students

**Quincy Parkes, Granger Cocke, Anderson Chang, Jordynn Hewitt, Dylon Jensen, Ethan King, Rindy Flores, Richard Geslison, Jacklyn Holden, Mary Lombardi, Tyler Lee**

*Undergraduate Students Presentations and Awards*

**Noah Armstrong** 2024 Society for Integrative and Comparative Biology, poster presentation, Seattle, WA

2024 Research at Capital Hill Day, Salt Lake City, UT

**Granger Cocke** 2020 Honors Thesis University of Utah

**Sydney Stephens** 2018 American Society of Mammalogists: Travel Award to present at National Meeting, Manhattan, KS.

**Sydney Stephens** 2017 American Society of Mammalogists poster presentation, Moscow, ID.

**Mandy Giles** 2017 Society for Integrative and Comparative Biology, poster presentation, New Orleans, LA.

**Kaylene Yamada** 2017 Honors Thesis University of Utah.

**Antonia Fitzgerald** 2011Honors Thesis University of Utah.

**Katherine Young** 2005 Travel Award, Society of Integrative and Comparative Biology to present at National Meeting, San Diego, CA.

**Emily Heward** 2003 Travel Award, American Society of Mammalogists to present at National Meeting Lubbock, TX.

**Luciana Santos** 2002 Travel Awards to present at the American Society Mammalogists National Meeting, New Orleans, LA & American Physiological Society Meeting, San Diego, CA.

**Christy Turnbull** 2003Grants in Aid of Research, American Society of Mammalogists.

2002 Travel Award to present at the American Society of Mammalogists National Meeting New Orleans, LA.

**PUBLISHED ABSTRACTS**

My research group has > 400 presentations at national meetings such as Society for Integrative and Comparative Biology, Ecological Society of America, American Society of Mammalogists, Experimental Biology. Details available upon request.

**COLLABORATIONS**

1. **Dr June Round, Dr. Zac Stephens,** University of Utah. We are investigating the role of diversity on the resilience of the gut microbiome
2. **Dr. James Halpert,** University of Arizona**.** We are investing the structure and function of detoxification enzymes.
3. **Dr. Michael Shapiro,** University of Utah. We are collaborating on a project to investigating the physiological genomics of herbivorous mammals after a recent dietary shift.
4. **Dr. Franzika Beran,** University of Jena, Germany, We are collaborating on a project to understand dietary specialization in flea beetles, a pest species on Brassicaceae.
5. **Dr. Jonathan Gershenzon**, Director, Max Planck Institute for Chemical Ecology, Jena, Germany. We are investigating cardenolide resistance in rodents.

**SERVICE**

*National*

2024 • Division Director, Integrative Organismal Systems, National Science Foundation

2023 • Division Director, Integrative Organismal Systems, National Science Foundation

2022 • Vision Committee Member, American Society of Mammalogists

• Chair, C. Hart Merriam Award Committee, American Society of Mammalogists

• Advisor, External Advisory Group, ESPCoR RII award to Boise State University and University of Nevada, Reno

2021• Led workshop at the AAAS Meeting: “Leveraging Our Privilege to Address Systemic Biases”

• NSF Panelist for Integrative Physiology Program

• Advisor, External Advisory Group, ESPCoR RII award to Boise State University and University of Nevada, Reno

• American Association of University Women, Panelist Research Publication Awards

• Symposium Organizer, International Congress of Zoology, Capetown, South Africa (November)

• Topic Editor for “Mammalian Responses to Climate Change” in Frontiers in Ecology and Evolution

2020• Promotion reviewer for cases at University of Michigan, Texas Tech University, University of Utah

• American Society of Mammalogists, Guy Cameron Award Committee

• Advisor, External Advisory Group, ESPCoR RII award to Boise State University and University of Nevada, Reno

2019 • Executive Leadership in Academic Technology, Engineering and Science: Institutional Action Project Consultant

• Advisor, External Advisory Group, ESPCoR RII award to Boise State University and University of Nevada, Reno

2017 • Symposium Organizer, Society for Integrative and Comparative Biology

• NSF IOS panelist, April

2016 • Managing editor, E-Systems

2015• NSF IOS panelist, October

• Managing editor, E-Systems

2014 • Ad hoc reviewer for NSF, numerous journals

2013 • Ad hoc reviewer for NSF, numerous journals

2012 • Subject Matter Editor, “Ecology”

• Evaluator for “Faculty of 1000”

2011 • Symposium Organizer, Society for Integrative and Comparative Biology

• Subject Matter Editor, “Ecology”

• Evaluator for “Faculty of 1000”

• Society for Integrative and Comparative Biology, Broadening Participation Committee

2010 • Subject Matter Editor, “Ecology”

• Evaluator for “Faculty of 1000”

• Society for Integrative and Comparative Biology, Broadening Participation Committee

2009 • Subject Matter Editor, “Ecology”

• Evaluator for “Faculty of 1000”

• Organizer for the Ecology and Evolution of Infectious Diseases Networking Meeting in Park City, UT

2008 • Subject Matter Editor, “Ecology”

• Evaluator for “Faculty of 1000”

2007 • Ecological Society of America, Selection Committee, International Eminent Ecologist

• Subject Matter Editor, “Ecology”

• NSF/NIH panelist for Ecology of Infectious Disease Competition, March 2007

• Evaluator for “Faculty of 1000”

2006 • Ecological Society of America, Selection Committee, International Eminent Ecologist

• Evaluator for “Faculty of 1000”

2005 • Evaluator for “Faculty of 1000”

• Graduate Women in Science, Selection Committee Member for Eloise Gerry Award

2004 • NSF/NIH panelist for Ecology of Infectious Disease Competition, Division of Molecular and Cellular Biosciences, May 2004

• Graduate Women in Science, Selection Committee Member for Eloise Gerry Award

• American Association of University Women, Salt Lake Branch, Presentation

2003 • National Conference for Undergraduate Research, Salt Lake City, UT, Abstract reviewer

2002 • Ecological Society of America, Selection Committee, International Eminent Ecologist

2001 • Organizer for “A History of Atmospheric CO2 and its Effect on Plants, Animals &

Ecosystems,” Snowbird, UT

• Ecological Society of America, Selection Committee Member, International Eminent Ecologist

2000 • Local Committee Member, Ecological Society of America Meetings, Snowbird, UT

• Ecological Society of America, Selection Committee Member, International Eminent Ecologist

1995 • Local Committee Member, Ecological Society of America Meetings, Snowbird, UT

1. • Local Committee Member, Mammalogy Society Meetings, Salt Lake City, UT

1988 • Appeared on the children's science program, "3-2-1 Contact”

Ad hoc Reviewer for: Science, Nature, PNAS, eLife, Molecular Ecology, Environmental Microbiology, Ecology, Behavioral Ecology, Oecologia, American Naturalist, Physiological and Biochemical Zoology, American Midland Naturalist, Journal of Agricultural Food Chemistry, Prairie Naturalist, Journal of Chemical Ecology, Journal of Comparative Physiology, Journal of Mammalogy, Australian Journal of Zoology, Journal of Arid Environments, Journal of Herpetology, Global Change Biology, National Science Foundation, Faculty 1000.

## University

2024 On leave to NSF

2023 On leave to NSF

2022 James McMinn Professorship Selection Committee, Department of Mathematics

2019 Co Chair, Search Committee for Chair of the Department of Physics and Astronomy

2019 Co Chair, Search Committee for College of Science Dean

2014-2015 Search Committee for University Veterinarian

2013-2014 Faculty Retention Committee

President’s Commission on the Status of Women

Associate Dean of Research, College of Science

2012-2013 President’s Commission on the Status of Women:

Subcommittee that hosted President Maria Klawe, Harvey Mudd College

Associate Dean of Research, College of Science

Search Committee for Library Dean

2011-2012 President’s Commission on the Status of Women

Internal Reviewer for Graduate Council Review of Pharmacology and Toxicology

2010-2011 President’s Task Force for Child Care Needs

Executive Committee, Global Change and Ecosystems

2009-2010 Entrada Ranch Oversight Committee

Seed Grant Committee

Center for Science and Math Education Steering Committee

President’s Task Force for Child Care Needs

2008-2009 Entrada Ranch Oversight Committee

Center for Science and Math Education Steering Committee

Seed Grant Committee

President’s Task Force for Child Care Needs

2007-2008 College of Science Day

Science Initiative Task Force

Seed Grant Committee

Insider Tour for Alumni

2006-2007 Search Committee for Dean of College of Science

WEST Participant and Steering Committee Member

2005-2006 Sabbatical

2003-2005 IACUC Committee Member

2004 Internal Reviewer for Graduate Council Review of Geology and Geophysics

1999-2011 Lecturer in Dr. Ron Ragsdale’s Summer Chemistry Course

2003 Access Program Intel Seminar Series Host

2002 Subcommittee for President’s Commission on Status of Women

2000 Search Committee Member for Vice President for Research

1998 College of Science Day

1998 Initiated and Developed “Biokids Childcare Center” University of Utah

*School of Biological Sciences*

2022 Search Committee Member for Plant Ecologist & Plant Physiologist

Safety Committee Member

Tenured Faculty Review Committee Advocate

2021 On sabbatical

2018-2020 Director, School of Biological Sciences

2020 Chair, Biokids Steering Committe

2014-2018 Chair, Department of Biology

2013-2014 Development Committee

Graduate Program Committee

Biokids Steering Committee

TGLL Advisory Committee

2012-2013 Development Committee

Graduate Program Committee

Biokids Steering Committee

TGLL Advisory Committee

2011-2012 Development Committee

Graduate Program Committee

Biokids Steering Committee

TGLL Advisory Committee

2010-2011 RPT Selection Committee

RPT Committee Chair for Dr. Nalini Nadkarni

Development Committee, Chair

Graduate Program Committee

Biokids Steering Committee

TGLL Advisory Committee

2009-2010 Development Committee, Chair

Graduate Program Committee

Biokids Steering Committee

TGLL Advisory Committee

2008-2009 Search Committee, Chair

Biokids Steering Committee, Chair

Development Committee, Chair

Graduate Program Committee

RPT Committee Member for Dr. Colleen Farmer

2006-2008 Biokids Steering Committee, Chair

Executive Committee

Communications Committee

2005-2006 Biokids Steering Committee, Chair

2004-2005 Executive Committee

Animal Care Committee

BioKids Steering Committee, Chair

Computer Advisory Committee

2004 Teaching Lab Committee

2003-2004 Biology Undergraduate Research Committee, Chair

Communications Committee Member

2002-2003 Biology Undergraduate Research Committee, Chair

2001-2002 Search Committee for Environmental Biologist

Animal Care Committee, Co-Chair

Computer Advisory Committee

2000-2001 Growth Plan Committee

Computer Advisory Committee

1999-2001 Laboratory Design Committee

1999-2000 Development Committee, Chair

Computer Advisory Committee

1999 Judge Bioscience Symposium for Undergraduate Researchers

1998-2001 Biokids Steering Committee, Chair

1998-1999 BioURP Steering Committee

Communications Committee

## Community Service

2010 & 2011 Special Award Judge Salt Lake Valley Science and Engineering Fair

2006 KCPW: Science and Society Public Dialogue 5/4/2006

Hosted Science Movie Night UMNH 9/5/2006

2003-2011 Science lectures at Hawthorne Elementary and mentor for Science Fair

1999 Seminar to AAUW Wasatch Branch

**TEACHING**

**2022-2024**

On leave to NSF

**2021-2022**

BIOL 5370 Mammalogy fall semester

BIOL 7964 Critical Analysis in Ecology and Evolution: 2 hrs

BIOL 7964 Bio-Boot Camp 2 hrs

BIOL 2870 Frontiers of Biology: 1 lecture

**2020-2021** Research Leave

**2019-2020**

BIOL 2870 Frontiers of Biology

BIOL 7964 Advanced Topics in Ecology and Evolution (2 cr) 1 lecture

**2018-2019**

BIOL 7406 Core Seminar “Symbiosis: Microbiome Science”

BIOL 7964 Advanced Topics in Ecology and Evolution (2 cr) 1 lecture

**2017-2018**

BIOL 5370 Mammalogy spring semester

BIOL 7964 Bio-Boot Camp: 2 lectures

**2016-2017**

BIOL 7964 Bio-Boot Camp: 2 lectures

**2015-2016**

BIOL 3960 Fresher Seminar: First half spring semester

BIOL 7964 Bio-Boot Camp (2 cr) 2 lectures

BIOL 7964 Advanced Topics in Ecology and Evolution (2 cr) 1 lecture

**2014-2015**

BIOL 7964 Bio-Boot Camp: 2 lectures

BIOL 5370 Mammalogy (3 cr) I mentored Ms. Johanna Varner, a graduate student, to serve as my replacement in Spring 2015. I have provided lecture materials (PowerPoint slides and notes) and exams and advised on student or teaching issues.

**2013-2014**

BIOL 5440 (MCMP 6610) Urban Ecology: 1 lecture and participation in student presentations on design concepts for the Crocker Science Center.

UGS 2240 Art and Science Block U: 1 lecture

BIOL 7964 Bio-Boot Camp: 2 lectures

DES 2615 Introduction to Design Thinking 1 lecture and participation in 4 hours of student presentations on design concepts for the Crocker Science Center.

BIOL 5370 Mammalogy (3 cr) I mentored Ms. Johanna Varner, a graduate student, who will serve as my replacement in Spring 2014. I have provided lecture materials (PowerPoint slides and notes) and exams and advised on student or teaching issues.

**2012-2013**

BIOL 7964 Bio-Boot Camp (2 cr) 2 lectures

BIOL 7964 Advanced Topics in Ecology and Evolution (2 cr) 1 lecture

Both of these courses are team taught by a number of faculty who deliver 1-2 lectures per course

BIOL 5370 Mammalogy (3 cr) Guest lecturer and mentor to Mr. Kevin Kohl, a graduate student, who served as my replacement. I provided lecture materials (PowerPoint slides and notes) and exams and advised on various issues.

**2011-2012**

BIOL 7964 Bio-Boot Camp (2 cr) 2 lectures

BIOL 7964 Advanced Topics in Ecology and Evolution (2 cr) 1 lecture

Both of these courses are team taught by a number of faculty who deliver 1-2 lectures per course

BIOL 5370 Mammalogy (3 cr) Mentor to the Mr. Kevin Kohl, a graduate student, who served as my replacement. I provided lecture materials (PowerPoint slides and notes) and exams and advised on various issues.

**2010-2011**

BIOL 5370 Mammalogy (3 cr)

Organizer & Lecturer

BIOL 7964 Bio-Boot Camp (2 cr)

Basic skills for new graduate students

Organizer & Lecturer

BIOL 7964 Advanced Topics in Ecology and Evolution (2 cr)

Lecturer

**2009-2010**

BIOL 5370 Mammalogy (3 cr)

BIOL 7964 Bio-Boot Camp (2 cr)

Organizer & Lecturer

BIOL 7964 Advanced Topics in Ecology and Evolution (2 cr)

Lecturer

**2008-2009**

BIOL 5415 Ecology Laboratory (3 cr)

Fall 2008

BIOL 7406 Core Seminar: Speakerfest (1 cr)

Spring 2009

**2007-2008**

BIOL 5370 Mammalogy (3 cr)

Fall 2007, Co-taught with Eric Rickart

BIOL 5955 Scientific Immersion (3 cr)

Fall 2007, Spring 2008, Graduate Student Instructor: Ann Marie Torregrossa

BIOL 7406 Core Seminar: Speakerfest (1 cr)

Fall 2007

**2006-2007**

BIOL 5415 Ecology Laboratory (3 cr)

Fall 2006

BIOL 5955 Scientific Immersion (3 cr)

Fall 2006, Spring 2007, Graduate Student Instructor: Ann Marie Torregrossa

BIOL 7406 Core Seminar: The Ecology of Zoonotic Diseases (1 cr)

**2005-2006**

Sabbatical

**2004-2005**

BIOL 3415 Ecology Laboratory (3 cr)

BIOL 5955 Scientific Immersion (3 cr)

Fall 2004, Spring 2005, Graduate Student Instructor: Shannon Haley

BIOL 7961 Advance Topics: Biochemistry/Molecular Biology (1-5 cr)

Fall 2004

BIOL 7964 Advance Topics: Ecology/Evolution (1-5 cr)

Fall 2004

**2003-2004**

BIOL 5373 Mammalogy (3 cr)

Fall 2003, Co-taught with Eric Rickart

BIOL 5955 Scientific Immersion (3 cr)

Fall 2003, Spring 2004, Graduate Student Instructor: Shannon Haley

**2002-2003**

BIOL 3415 Ecology Laboratory (3 cr)

Fall 2002

BIOL 5373 Mammalogy (3 cr)

Fall 2002, Co-taught with Eric Rickart

**2001-2002**

BIOL 3415 Ecology Laboratory (3 cr)

Ecology Laboratory is a mid-level laboratory course offered to 24 students.

Fall 2001

BIOL 5960 History of CO*2* and Biological Systems (2 cr)

Fall 2001, Co-taught with Thure Cerling and Jim Ehleringer

# BIOL 6921 ISOTOPICS Atmospheric CO2 and its effect on the evolution of plants, animals,

# and ecosystems (2 cr)

# Fall 2001, Co-taught with Thure Cerling and Jim Ehleringer

**2000-2001**

BIOL 3415 Ecology Laboratory (2 cr)

Fall 2000

BIOSAC Overall Instructor Rating: 4.81 out of 6

BIOL 5960 Grasslands, Evolution and Mammals (2 cr)

Spring 2001, Co-taught with Thure Cerling

BIOSAC Overall Instructor Rating: 5.89 out of 6

**1999-2000**

BIOL 2002 Diversity and Animal Form and Function (4 cr)

Fall 1999 - 9.5 weeks

BIOSAC Overall Instructor Rating: 3.86 out of 5

BIOL 5960 Grasslands, Evolution and Mammals (2 cr)

Spring 2000, Co-taught with Thure Cerling

BIOSAC Overall Instructor Rating: 4.96 out of 6

**1998-1999**

BIOL 2002 Diversity and Animal Form and Function (4 cr)

Fall 1998 - 5 weeks; Spring 1998 - 5 weeks

BIOSAC Fall 1998 Overall Instructor Rating: 4.05 out of 5