

ANNE M. BRONIKOWSKI

Professor, Department of Ecology, Evolution & Organismal Biology
Iowa State University
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<http://www.eeob.iastate.edu/faculty/BronikoA/homepage.html>

EDUCATION

- Ph.D. 1997 Committee on Evolutionary Biology, University of Chicago
Drs. Stevan J. Arnold & Brian Charlesworth, co-advisors
- M.S. 1994 Committee on Evolutionary Biology, University of Chicago
Dr. Jeanne Altmann, advisor
- B.S. 1987 Biochemistry and Mathematical Biology, Marquette University, Milwaukee, WI
(Graduated magna cum laude, Mathematics minor, and member of Phi Beta Kappa)
Drs. Walter Fredericks (Biochemistry) and Chris Braunschweiger (Mathematics),
advisors

EMPLOYMENT

- 7/16 – current Professor, Dept. of Ecology, Evolution and Organismal Biology, Iowa State
University, Ames IA
- 7/10 – 7/16 Associate Professor, Dept. of Ecology, Evolution and Organismal Biology, Iowa
State University, Ames IA
- 8/04 – 7/10 Assistant Professor, Dept. of Ecology, Evolution and Organismal Biology, Iowa State
University, Ames IA
- 6/02 – 8/04 Adjunct Assistant Professor, Dept. of Zoology and Genetics, Iowa State University,
Ames, IA
- 7/99 – 6/02 NIH NRSA Postdoctoral Fellow, Dept. of Zoology, University of Wisconsin,
Madison, WI
- 9/97 – 7/99 NSF DBI ‘Biosciences related to the environment’ Postdoctoral fellow, Dept. of
Ecology and Evolutionary Biology, University of California, Irvine
- 9/91 – 9/97 Graduate Student, Committee on Evolutionary Biology, U. Chicago, Chicago, IL.
5/91 - 9/91 Chicago Zoological Society Research Assistantship in Evolutionary Genetics, with
Dr. Carole Ober, Department of Human Genetics, University of Chicago
- 2/88-5/91 Actuarial Analyst, Towers Perrin, Chicago, IL,

AWARDS

- 8/15 – 5/16 Emerging Leader Academy, Office of the Provost, Iowa State University
- 8/1/2012 Mid-Career Research Achievement Award, College of Liberal Arts & Sciences, Iowa
State University

PEER-REVIEWED PUBLICATIONS

(*undergrad, grad, or post-doc in Bronikowski Lab)

65. *Gangloff EJ, KG *Holden, RS Telemeco, LH Baumgard & **AM Bronikowski**. 2016. Hormonal and metabolic responses to upper temperature extremes in divergent life-history ecotypes of a garter snake. *J Experimental Biology*. **219**: 2944-2954.
64. Kauffman K, AM Sparkman, **AM Bronikowski** & MG Palacios. 2016. Vertical transmission of *Hepatozoon* in the garter snake *Thamnophis elegans*. *J. Wildlife Diseases*. DOI: <http://dx.doi.org/10.7589/2016-03-056>
63. Marck A, G Berthelot, V Foulonneau, A Marc, J Antero-Jacquemin, P Noirez, **AM Bronikowski**, TJ Morgan, T Garland Jr, PA Carter, P Hersen, J Di Meglio & J-F Toussaint Age-related changes in locomotor performance reveal a similar pattern for five different species: *Caenorhabditis elegans*, *Mus domesticus*, *Canis familiaris*, *Equus caballus* and *Homo sapiens*. *J Gerontology A: Biological Sciences*. **In Press**.
62. Schwartz TS, **AM Bronikowski**. 2016. Evolution and function of the Insulin and Insulin-like signaling network in ectothermic reptiles: Some answers and more questions. *Integrative and Comparative Biology* **56(2)**: 171-184.
61. Reding* DM, EA Addis*, MG Palacios*, TS Schwartz* & **AM Bronikowski**. 2016. Insulin-like signaling (IIS) responses to temperature, genetic background, and growth variation in garter snakes with divergent life histories. *General and Comparative Endocrinology*. **233**: 88 – 99. doi:10.1016/j.ygcen.2016.05.018
60. Warner, DA, DAW Miller, **AM Bronikowski** & FJ Janzen. 2016. Decades of field data reveal that turtles senesce in the wild. *PNAS* 113(23): 6502-6507.
59. **Bronikowski**, AM, SC Alberts, J Altmann, DK Brockman, M Cords, LM Fedigan, AE Pusey, TS Stoinski, M Cords & WF Morris. 2016. Female and male life tables of seven wild primate species. *Nature Scientific Data* 3: 160006. doi: 10.1028/sdata.2016.6
58. Speakman JR, JD Blount, **AM Bronikowski**, R Buffenstein, C Isaksson, TBL Kirkwood, P Monaghan, SE Ozanne, M Beaulieu, M BrigA, S Carr, LL Christensen, HM Cochemé, DL Cram, B Dantzer, JM Harper, D Jurk, A King, JC Noguera, K Salin, E Sild, MJP Simons, S Smith S, A Stier, M Tobler, E Vitikainen, M Peaker & C Selman. 2015. Oxidative stress and life histories: unresolved issues and current needs. *Ecology and Evolution* 5(24) 5745-57.
57. Schwartz*, TS, ZW Arendsee*, **AM Bronikowski** 2015. Mitochondrial divergence between slow- and fast-aging garter snakes. Invited Contribution for special issue “Aging in the Wild: Insights from Free-Living and Non-Model Organisms” *Experimental Gerontology* 71: 135-146.
56. Alper, S, **AM Bronikowski** & JM Harper 2015. Comparative cellular biogerontology: where do we stand? Invited Contribution for special issue “Aging in the Wild: Insights from Free-Living and Non-Model Organisms” *Experimental Gerontology* 71: 109-117.

55. Gangloff*, EJ, D Vleck, **AM Bronikowski**. 2015. Developmental and immediate thermal environments shape energetic trade-offs, growth, and metabolic rate in divergent life-history ecotypes of the garter snake *Thamnophis elegans*. *Physiological and Biochemical Zoology*. 88: 550-563.
54. McGaugh*, SE, **AM Bronikowski**, C Kuo, L Flagel, E Addis*, D Reding*, F Janzen, T Schwartz*. 2015. Rapid molecular evolution of the IIS/TOR molecular network in amniotes. *PNAS*: 112(22): 7055-7060.
 Featured in the Ames Tribune (6/6/2015) (<http://amestrib.com/news/isu-researchers-find-variation-genetics-across-species-influence-aging>)
 Featured on Iowa Public Radio Talk of Iowa (6/15/2015) (<http://iowapublicradio.org/post/ever-expanding-field-genomic-research>)
 Covered by several online news services: Science Daily (May 27, 2015); Newswise (May 27, 2015); HealthCanal (May 27, 2015); Phys.org (May 28, 2015); Lab Manager (May 29, 2015)
53. Schwartz*, TS & **AM Bronikowski**. 2014. Gene expression of components of the insulin/insulin-like signaling pathway in response to heat stress in the garter snake *Thamnophis elegans*. *J. Iowa Academy of Sciences*. 121(1-4): 1-4
52. Refsnider, JM, MG Palacios*, DM Reding*, & **AM Bronikowski**. 2014. Effects of a novel climate on stress response and immune function in painted turtles (*Chrysemys picta*). *Journal of Experimental Zoology* 323(3): 160-168
51. (Book Chapter) Miller, DAW, FJ Janzen, G Fellers, P Kleeman, AM Bronikowski. 2014. Biodemography of ectothermic tetrapods provides insights into the evolution and plasticity of mortality trajectories. Pp 295-314 in (M Weinstein & MA Lane, Eds.) *Comparative Biodemography: Sociality, Hierarchy, Health*. The National Academies Press (Washington DC).
50. Sparkman, AM, **AM Bronikowski**, S Williams*, S Parsai*, W Manhart* & MG Palacios. 2014. Physiological indices of stress in wild and captive garter snakes: correlations, repeatability, and ecological variation. *Comparative Physiology and Biochemistry Part A* 174: 11-17.
49. The Python Genome Consortium. 2014. The Burmese python genome reveals the molecular basis for extreme adaptation in snakes. *PNAS* 110(51): 20645 – 20650.
48. Palacios*, MG, JE Cunnick & **AM Bronikowski**. 2013. Complex interplay of condition, life-history, and prevailing environment shape immune defenses of snakes in the wild. *Physiological & Biochemical Zoology*. 86: 547-558.
47. Alberts, SC, J Altmann, DK Brockman, M Cords, LM Fedigan, A Pusey, T Stoinski, KB Strier, WF Morris & **AM Bronikowski**. 2013. Reproductive cessation patterns in primates reveal that humans are distinct. *PNAS* 110: 13440-5.
 Featured on Science News (www.sciencenews.org), and Iowa Public Radio, Talk of Iowa [[link](#)]

Honorable Mention of the 2014 Ommen Prize - Wildlife, The Foundation for
Evolution, Medicine & Public health

46. The Painted Turtle Genome Consortium. **2013**. The painted turtle genome: The evolution of extreme physiological adaptations in a slowly evolving lineage. *Genome Biology* 2013 Mar 28;14(3):R28.
45. Burniston, JG, TH Meek, SN Pandey, G Broitman-Maduro, MF Maduro, **AM Bronikowski**, T Garland Jr. & Y-W Chen. **2013**. Gene expression profiling of gastrocnemius of “Mini-Muscle” mice. *Physiological Genomics* 45(6): 228 – 236.
44. Sparkman, AM, JG Billings, D von Borstel, **AM Bronikowski** & SJ Arnold. **2013**. Avian predation and the evolution of life histories in the garter snake *Thamnophis elegans*. *American Midland Naturalist* 170: 66-85.
43. Schwartz*, T & **AM Bronikowski**. **2013**. Dissecting molecular stress networks: identifying nodes of divergence between life-history phenotypes. *Molecular Ecology* 22:739-756.
42. Sparkman*, AM, T Schwartz*, J Madden*, S Boyken, N Ford, J Serb & **AM Bronikowski**. **2012**. Evolutionary rates vary in vertebrates for insulin-like growth factor-1 (IGF-1), a pleiotropic locus involved in life history traits. *General and Comparative Endocrinology* 178: 164 - 173
41. Reding*, DM, **AM Bronikowski**, WE Johnson & WR Clark. **2012**. Pleistocene and ecological effects on continental-scale genetic differentiation in the bobcat (*Lynx rufus*). *Molecular Ecology* 21: 3078-3093 (DOI: 10.1111/j.1365-294X.2012.05595.x)
Winner of The Wildlife Society “Outstanding Article of 2012” award
40. Palacios*, MG, AM Sparkman, & **AM Bronikowski**. **2012**. Corticosterone and pace of life in two life-history ecotypes of the garter snake *Thamnophis elegans*. *General and Comparative Endocrinology* 175: 443-448.
39. Palacios*, MG, AM Sparkman, & **AM Bronikowski** **2011**. Developmental plasticity of immune defence in two life-history ecotypes of the garter snake, *Thamnophis elegans* - a common-environment experiment. *Journal of Animal Ecology* 80: 431-437.
38. Castoe, TA, APJ de Koning, KT Hall, KD Yokoyama, W Gu, EN Smith, C Feschotte, P Uetz, DA Ray, J Dobry, R Bogden, SP Mackessy, **AM Bronikowski**, WC Warren, SM Secor & DD Pollock. **2011**. Sequencing the genome of the Burmese python (*Python molurus vivittatus*) as a model for studying extreme adaptations in snakes. *Genome Biology* 12: 406.
37. Castoe, TA, **AM Bronikowski**, ED Brodie III, SV Edwards, ME Pfrender, MD Shapiro, DD Pollock & WC Warren. **2011**. A proposal to sequence the genome of a garter snake (*Thamnophis sirtalis*). *Standards in Genomic Sciences* 4(2): DOI doi:10.4056/sigs.1664145

- 36. Bronikowski, AM**, J Altmann, DK Brockman, M Cords, LM Fedigan, AE Pusey, TS Stoinski, Morris WF, KB Strier & SC Alberts. **2011**. Aging in the natural world: Comparative data reveal similar mortality patterns across primates. *Science* 331: 1325 - 1328
Featured on NPR's Science Friday, MSNBC, Discovery's Science News
- 35.** Miller*, DA, WR Clark, SJ Arnold, **AM Bronikowski**. **2011**. Stochastic population dynamics and life-history evolution in the western terrestrial garter snake. *Ecology* 92: 1658 – 1671.
- 34. Bronikowski, AM & T Flatt**. **2011**. Aging and its measurement. *Nature Education Knowledge* 1(12): 3
- 33.** Schwanz*, L, DA Warner*, S McGaugh*, R di Terlizzi, & **AM Bronikowski**. **2011**. State-dependent physiological maintenance in a long-lived ectotherm, the painted turtle (*Chrysemys picta*). *J. Experimental Biology* 214: 88 - 97
Featured in "Painted turtles vary maintenance investment over time" JEB 214: i – ii.
- 32.** Schwartz*, TS, J-H Choi, H Tae, Y Yang, K Mockaitis, J Van Hemert*, SR Proulx & **AM Bronikowski**. **2011**. A garter snake transcriptome: pyrosequencing, *de novo* assembly, and sex-specific differences. *BMC Genomics* 11: 694 doi10.1186/1471-2164-11-694
- 31.** Morris, WF, J Altmann, DK Brockman, M Cords, LM Fedigan, AE Pusey, TS Stoinski, **AM Bronikowski**, SC Alberts, & KB Strier. **2011**. Low demographic variability in wild primate populations: fitness impacts of variation, covariation, and serial correlation in vital rates. *American Naturalist* 177: E14-E28.
- 30.** (Book Chapter) Schwartz* TS & **AM Bronikowski**. **2011**. Molecular stress pathways and the evolution of reproduction and aging in reptiles. Pp. 193 - 209 In (T. Flatt & A. Heyland, eds.) *Molecular Mechanisms of Life History Evolution*. Oxford Univ. Press, UK
- 29.** (Book Chapter) Sparkman* AM, NB Ford, **AM Bronikowski** **2011**. IGF1 and reproduction in snakes. Pp. 587-618 In (R.D. Aldridge & D. M. Sever, eds.) *Reproductive Biology and Phylogeny of Snakes*. Volume 9, Reproductive Biology and Phylogeny series, B. G. M. Jamieson (ed). CRC Press, Boca Raton, Florida
- 28.** Byars*, DJ, NB Ford, AM Sparkman* & **AM Bronikowski**. **2010**. Influences of diet and family on age of maturation in brown house snakes, *Lamprophis fuliginosus*. *Herpetologica* 66: 456 – 463
- 27. Bronikowski, AM & D Vleck**. **2010**. Metabolism, Body Size and Life Span: A Case Study in Evolutionarily Divergent Populations of the Garter Snake (*Thamnophis elegans*). *Integrative and Comparative Biology* 50: 880-887.
- 26.** Strier, K, J Altmann, D Brockman, **A Bronikowski**, M Cords, L Fedigan, H Lapp, X Liu, W Morris, A Pusey, T Stoinski, S Alberts. **2010**. The Primate Life History Database: A unique shared ecological data resource. *Methods in Ecology and Evolution* 1: 199-211.

25. Sparkman*, AM, D Byars*, NB Ford & **AM Bronikowski. 2010.** Insulin-like growth factor (IGF1) and life history traits in the brown house snake (*Lamprophis fuliginosis*). *General and Comparative Endocrinology* 168: 408 - 414.
24. Robert* K & **AM Bronikowski. 2010.** Evolution of senescence: Physiological evolution in natural populations of the garter snake with divergent life history ecotypes. *The American Naturalist* 175: 147-159.
Featured in Natural History Magazine, November 2010, *Samplings*. “Old cold-bloods”
Featured in Die Presse December 2009 *Wissenschaft* “Biologie: Der Norden macht groß”
23. Sparkman* AM, C Vleck, & **AM Bronikowski. 2009.** Evolutionary ecology of endocrine-mediated life history variation in the garter snake, *Thamnophis elegans*. *Ecology* 90: 720–728.
Featured in Faculty of 1000 Biology, 16 April 2009
<http://www.f1000biology.com/article/id/1158825>
22. Robert* K, Vleck C & **AM Bronikowski. 2009.** The effects of maternal corticosterone levels on offspring behavior in fast and slow growth garter snakes (*Thamnophis elegans*). *Hormones & Behavior*. 55: 24-32.
21. **Bronikowski AM. 2008.** The evolution of aging phenotypes in snakes: A review and synthesis with new data. *AGE Journal of the American Aging Association*. 30: 169-176.
20. Robert* K, AK Rossini & **AM Bronikowski. 2007.** Testing the free radical theory of aging hypothesis: Physiological differences in long-lived and short lived Colubrid snakes. *Aging Cell* 6: 395-404.
19. Sparkman* A, SJ Arnold & **AM Bronikowski. 2007.** An empirical test of evolutionary theories for reproductive senescence and reproductive effort in the garter snake *Thamnophis elegans*. *Proceedings of the Royal Society of London B* 274: 943 – 950.
18. **Bronikowski AM, TJ Morgan, T Garland Jr & PA Carter. 2006.** Evolution of aging and age related physical decline in mice selectively bred for high voluntary exercise. *Evolution* 60: 1494-1508.
17. (Book Chapter) Promislow DEL & **AM Bronikowski. 2006.** The Evolutionary Genetics of Senescence. Pp. 464 – 481 In *Evolutionary Genetics: Concepts and Case Studies* (Wolf J & Fox C eds). Oxford University Press, U.K.
16. Gammie SC, NS Hasen, TA Awad, AP Auger, HM Jessen, JB Panksepp & **AM Bronikowski. 2005.** Gene array profiling of large hypothalamic CNS regions in lactating and randomly cycling virgin mice. *Molecular Brain Research* 139: 201-211.
15. **Bronikowski AM & DEL Promislow. 2005.** Testing evolutionary theories of aging in the wild. *Trends in Ecology and Evolution* 20(6) 271-273.

14. **Bronikowski AM**, JS Rhodes, T Garland, Jr., TA Prolla, T Awad, SC Gammie. **2004**. The evolution of gene expression in mouse hippocampus in response to selective breeding for increased locomotor activity. *Evolution* 58: 2079 - 2086.
13. **Bronikowski AM**, PA Carter, TJ Morgan, T Garland Jr., N Ung*, TD Pugh, R Weindruch, & TA Prolla. **2003**. Lifelong voluntary exercise in the mouse prevents age-related alterations in gene expression in the heart. *Physiological Genomics* 12: 129 – 138.
Featured in the editorial focus “In for the long run” by S. Welle and S. B. Glueck, *Physiological Genomics* 12: 71 – 72, 2003.
12. LJ Martin, MC Mahaney, **AM Bronikowski**, KD Carey, B Dyke, AG Comuzzie. **2002**. Lifespan in captive baboons is heritable. *Mechanisms of Aging and Development* 123: 1461 - 1467.
11. **Bronikowski AM**, S. Alberts, J. Altmann, C Packer, KD Carey & M Tatar. **2002**. The aging baboon: Comparative demographic senescence in a model non-human primate. *PNAS* 99: 9591 - 9595. Featured in Reuters Health “Baboon study points to aging genes” by A. McCook, 26 June 2002 press releases.
10. **Bronikowski AM**, TJ Morgan, T Garland Jr., & PA Carter. **2002**. Anti-oxidant gene expression in active and sedentary house mice selected for high voluntary wheel-running behavior. *Genetics* 161: 1763 - 1769.
9. **Bronikowski AM**, ME Clark, H Rodd, & DN Reznick. **2002**. Population-dynamic consequences of predator-induced life-history variation in the guppy (*Poecilia reticulata*). *Ecology* 83: 2194 – 2204 (see also *Ecology* 83: 3532).
8. **Bronikowski AM**, PA Carter, JG Swallow, IA Girard, JS Rhodes, & T Garland Jr. **2001**. Open-field behavior of house mice selectively bred for high voluntary wheel running. *Behavior Genetics* 31(3): 309 – 316.
7. **Bronikowski AM** & SJ Arnold. **2001**. Cytochrome *b* phylogeny does not match subspecific classification in the western terrestrial garter snake. *Copeia* 2001(2): 507-512.
6. **Bronikowski AM**, AF Bennett & RE Lenski. **2001**. Evolutionary adaptation to temperature. VIII. Effects of temperature on growth rate in natural isolates of *Escherichia coli* and *Salmonella enterica* from different thermal environments. *Evolution* 55(1): 33-40.
5. **Bronikowski AM**. **2000**. Experimental evidence for the adaptive evolution of growth rate in the garter snake (*Thamnophis elegans*). *Evolution* 54(6): 1760-1767
4. **Bronikowski AM** & SJ Arnold. **1999**. The evolutionary ecology of life-history variation in the garter snake *Thamnophis elegans*. *Ecology* 80: 2314 - 2325
3. Paukstis, GL, JK Tucker, **AM Bronikowski** & FJ Janzen. **1999**. Survivorship of aerially exposed zebra mussels (*Dreissena polymorpha*) under laboratory conditions. *Journal of Freshwater Ecology* 14: 511-517

2. **Bronikowski AM & J Altmann. 1996.** Foraging in a variable environment: weather patterns and the behavioral ecology of baboons. *Behavioral Ecology and Sociobiology* 39(1): 11-25
1. **Bronikowski AM & C Webb. 1996.** A critical review of variability measures used in behavioral ecology studies. *Behavioral Ecology and Sociobiology* 39(1): 27-30 (reviewed independently of above paper).

GRANT SUPPORT

Current

2016-19 NSF IOS-1558071 “Integrated Physiological, Genetic and Demographic Responses to Long-Term Habitat Change”
(Bronikowski, PI)

2015-18 NIH 1R01AG049416 “Biodemography and senescence of painted turtles”
(Bronikowski, PI)

Previous Substantive:

2009-14 NSF IOS – 0922528 “The integration of cellular stress response, immune function and aging in long- and short-lived ecotypes of garter snake.”
(Bronikowski, PI)

2012-14 NSF IOS – 1253896 “IOS Mid-Career Award in Bioinformatics and Genomics”
(Bronikowski, PI)

2011-12 ISU: Comparative Integrated Animal Genomics. “Quantitative transcriptomics of stress and adaptation in reptiles”
(Bronikowski, PI)

2006-11 NIH NIA RO1 AG03032901 “Genetics of Reproductive Senescence”
Bronikowski = Co-Investigator (Marc Tatar, PI).

2009-10 NSF IOS - 0935941 “Symposium on metabolism, life history and aging for the SICB 2010 conference”
(Bronikowski, PI)

2004-8 NSF DEB-0323379 “Evolution and Ecology of Aging in Natural Populations of Long-Lived Vertebrates”
(Bronikowski, PI)

2008-9 ISU: Comparative Integrated Animal Genomics. “A Transcriptome Sequencing Test of the Evolution of Gene Regulatory Elements Involved in Metabolic Stress and Aging”
(Bronikowski, PI)

2006 ISU: Comparative Integrated Animal Genomics. “Comparative Genomics of DNA Repair and Aging.”
(Bronikowski, PI)

1999 NIH National Research Service Award Post-doctoral Fellowship, (with Dr. T. Garland, Jr. University of Wisconsin - Madison) (F32AG05784)

1997 NSF Post-doctoral Fellowship Biosciences Related to the Environment, (advisor: Dr. A. F. Bennett, University of California - Irvine) (DBI-9750218)

1995 NSF Dissertation Improvement Grant (DEB95-20694)

1992 Howard Hughes Medical Institute, 5-year Predoctoral Fellowship in Mathematical Biology

1991 The Baxter Foundation, 1-year Predoctoral "William B. Graham" Baxter Genetics Fellow

TEACHING & MENTORING

Classes Taught

Biology of Aging, 3 credit undergrad/graduate course for the Gerontology program, ISU, Fall, 2015

Surveys in Gerontology, 1 credit undergrad/graduate course for the Gerontology program, ISU. Spring, 2015.

Evolutionary Genetics, 3 credit upper division undergraduate Biology course, ISU, Spring semester every year: 2007 – 2013, Fall semester every year: 2013 - 2016

Foundations of Ecology and Evolution, co-teach a 4 credit required core course for the EEB graduate program, ISU. Fall semesters: 2009, 2010, 2011, 2013

Foundations of Genetics, 1 credit required core course for the Genetics graduate program, ISU. Fall semesters: 2010, 2011, 2012, 2013

Graduate seminar "Biology of Mitochondria", 1 credit, Fall 2011

Evolutionary Ecology, 3 credit graduate and upper division undergraduate course, ISU, Fall semester: 2005, 2007

Professional Skills for the Biological Sciences, 1 credit graduate course, ISU, Spring, 2007, Fall, 2012

Human Anatomy and Physiology, 3 credit undergraduate course, ISU, Spring Semester, 2006

Graduate Seminar in Life History Theory (Spring, 2005),

Vertebrate Biology, Laboratory Coordinator, Biology Program, Iowa State University, Fall Semester 2004

Co-organized "Biology of Aging" 1 credit seminar Genetics program, ISU, Spring Semester, 2000

Advisor to Graduate Students and Post-doctoral Fellows

Current:

Students

Eric Gangloff, Fall, 2011 – present, PhD graduate student in Ecology and Evolutionary Biology

Kaitlyn Pettingill, Fall, 2013 – present, PhD graduate student in Ecology and Evolutionary Biology

Previous:

Students

Amanda Sparkman, Fall, 2004 – Spring, 2009, PhD awarded in Ecology and Evolutionary Biology

Current position: Assistant Professor, Westmont College, Monterey, California

Megan Manes, Fall 2009 – Fall 2011, MS awarded in Ecology and Evolutionary Biology

Current position: Laboratory Technician, Dept. of Biology, Auburn University

Dawn Reding, Spring 2007 – Fall 2011 present, PhD awarded in Ecology and Evolutionary Biology (co-advised with William Clark, EEOB)

Current Position: Assistant Professor, Luther College, Dekora Iowa

Tonia Schwartz, Jan 2008 – Dec 2012, PhD awarded in Genetics

Current position: McDonnell Foundation Post-doctoral Fellow, University of Alabama

Shikha Parsai, Fall, 2011 – Fall, 2013, MS awarded in Genetics

Current position: Laboratory Technician, Medicine, Case Western

Post-doctoral

- Dr. Kylie Robert, Fall 2005 – Summer 2007, Post-doc, Ecology, Evolution & Organismal Biol.
Current Position: Lecturer Level B (equivalent to Asst. Prof.), Zoology, La Trobe University, Victoria, AU
- Dr. David Miller, Fall 2010, Post-doctoral Fellow, EEOB, ISU
Current Position: Assistant Professor, Dept. of Environmental Sciences, Penn State University
- Dr. M. Gabriela Palacios, Jan 2010 – Dec 2011, Post-doc, Ecology, Evolution & Organismal Biol.
Current Position: Investigador adjunto, Consejo Nacional de Investigaciones Cientificas y Tecnicas (CONICET), Argentina
- Dr. Elizabeth Addis, Jan 2011 – July, 2012 HHMI Post-doc, Genetics, Development & Cellular Biol.
Current Position: Assistant Professor, Gonzaga University
- Dr. Dawn Reding, Jan 2012 – December 2012, Post-doc, EEOB, ISU
Current Position: Visiting Assistant Professor, Luther College, Dekora Iowa
- Dr. Suzanne McGaugh, Jan 2014 – May, 2014, Ecology, Evolution & Organismal Biology

Mentor to Undergraduate & High School Research (*advisee)

Current:

- *Merritt Polomsky, Fall 2015 – present, Genetics, ISU
Elena Thornhill, Fall 2016 – present, Genetics, ISU
Max Moulden, Fall 2016 – present, Biology, ISU
Taylor Didesch, Fall 2016 – present, Animal Ecology, ISU

Previous:

- Elizabeth Heldt, Fall, 2014 – presents, Biology, ISU
Caitlyn Corwin, Fall 2013 – present, Biology, ISU
Rachel Clancy, Summer 2015, Animal Ecology, ISU
Tyler Knierim, Summer 2013 – 2014, Animal Ecology, ISU
Mitchell Barazowski, Fall 2012 – 2014, Animal Ecology, ISU URA program
Samantha Carter, Fall 2013 – 2014, Animal Science, ISU URA program
*Carolina Rodriguez, Spring 2013 – 2014, McNair Scholar Program, Genetics ISU
Madeline Topf, Summer 2013, Summer 2014 Young Engineers & Scientists Program, CBiRC
Alexander Wendt, Fall 2011 – Spring 2013, Genetics, ISU
Aubrey Brouillette, Summer 2012 – Fall, 2013, Biology, ISU
Rachel Potter, Fall 2011 – present, Biology, Undergraduate Research Assistantship, ISU
Shelby Williams, Fall 2010 – present, Anim Ecol, Undergraduate Research Assistantship, ISU
*Shikha Parsai, Fall, 2010 – present, Genetics, Iowa State University,
Whitney Manhart, Fall, 2010 – Summer, 2012, Ames High School Biology intern
Amanda Borchers, Summer 2011, High School Science Teacher, Perry HS, Iowa
Laura McGhee, Summer 2011 & 2012, High School Biology Teacher, Colfax-Mingo HS, Iowa
Cory Baughman, Summer 2011, Biology, St Olaf's College, NSF REU.
Jacob Ward, Fall, 2010 – 2011, Animal Ecology, Iowa State University
Tina Ward, Fall, 2010 – 2011, Animal Ecology, Iowa State University
Emily Larkins, Fall, 2010 – 2011, Biology, Iowa State University
Carolyn Carter, Summer 2010, High School Science Teacher, Clinton HS, Iowa
*Maggie Brandenburg, Fall, 2008 – Summer, 2010, Biology, Iowa State University
Jill Madden, Summer, 2009 – Summer, 2010, Genetics, Iowa State University
Rafael Alviero, Summer, 2009 – Spring, 2010, Biology, Iowa State University

Rachel Flynn, Fall, 2009 – Spring, 2010, Biology, Iowa State University
Xiaoxi Yang, Fall, 2009 – Spring, 2010, Ames High School biology intern
Courtney Hewitt, Summer 2008, 2009 High School Science Teacher, Newton HS, Iowa
Megan Manes, Summer 2008 – 2009, Biology, Iowa State University
Erick Hernandez, Fall, 2008 – 2009, Biology, Iowa State University
Matthew Morrill, Spring 2005 – 2009, Zoology, Iowa State University, supported on NSF REU supplement for Summer 2006.
*Jeremy Chamberlain, Fall 2005 – 2009, Biology, Iowa State University. Currently PhD student, U. Arkansas – Little Rock.
Hana Yoon, Spring 2008, Ames High School Biology intern
Nicole Rutscher, Spring 2007 - 2008, Biology major, Iowa State University.
Kristy Bellinger, Spring 2007 - 2009, Biology major, Iowa State University, PWISE and NSF REU awardee, Summer 2007, Currently PhD student, Washington State U.
*Abigail Lehman, Spring 2007 - 2008, Biology major, Iowa State University, Currently lab technician at U. Iowa Hospitals
Erica Helhmich, Summer 2006 – Spring 2007, Biology major, Iowa State University
Ann Cannon, Fall 2005 – Summer 2006, Animal Ecology major, Iowa State University, supported jointly with NSF REU & ISU PWiSE Internship Program, Summer 2006
Jasmine Chen, Spring 2006 Ames High School biology intern
Cristina Mendez, Spring 2005 – Summer 2006, Microbiology major, Iowa State University
Tempy Sims, Spring 2005 – Spring 2006, Animal Ecology major, supported on NSF REU Supplement for Summer 2005
Michael Herriges, Spring 2005, Ames High School biology intern
Christian Cox, Fall, 2003 – Summer 2005, NSF-UMEB Program, Iowa State University. Currently Assistant Professor, Georgia Southern U

ADDITIONAL PROFESSIONAL EXPERIENCE

NIH/NIA Invited participant “A Phylogenetic View of Interventions in Aging” Nov 2016
NIH/NIA Invited Temporary Study Section Member, CMAD study section, October 2016
NIH/NIA Invited participant “Autonomous and Non-autonomous Mechanisms of Aging” Aug 2016
President (2017) and President-elect (2016), the American Genetic Association
Associate Editor, Journal of Heredity, 1/2015 – present
Evolutionary Demography Society, Board 2013 - present
Participant in NIH-sponsored Canine Longevity Consortium, April, 2014 – November, 2015
Faculty for the Annual NIH-sponsored Experimental Aging Course (1-week summer course) 2013 – 2018
American Genetics Association, Council 2012 – 2014
American Society of Naturalists, Student Research Awards Committee, 2013 - 2014
Member of Genome Consortia for the python, the common garter snake, and the painted turtle. Sequencing undertaken at the WashU Genome Center. The Consortia goals are to increase molecular resources for studying sex determination, physiological adaptation, and phenotypic plasticity
Associate Editor, Aging Cell, 5/2006 – 8/2013
Associate Editor, Ecology and Ecological Monographs, 1/2005 – 12/2011
NIH/NIA, Special Review Panels for Comparative Biology of Aging, November, 2009, 2010; March 2013; July 2013; September 2015
NSF Panel “Evolutionary Genetics” 10/2010, Arlington Virginia
NESCent / NCEAS Working Group. “Evolutionary Ecology of Primate Life Histories” 1/07 – 5/15
NSF Panel “Evolutionary and Population Ecology” 10/2006, Arlington Virginia
Ellison Foundation & MBL joint sponsored course “Molecular Biology of Aging,” 7/30 – 8/20/06
Course Instructor for workshop “Demographic Analyses of Aging” Designed and taught this 1-week workshop as part of the MBL course.
BWF-HHMI Course in Scientific Leadership and Laboratory Management, Chevy Chase Maryland, June 2005
National Institute on Aging / University of Michigan: 10th Annual Summer Training Course in Experimental Aging Research, June 2002
Reviewer for over 30 journals, the NSF, and the NIH.

PROFESSIONAL SOCIETIES

American Genetic Association
Society for Integrative and Comparative Biology
Sigma Xi
Society for the Study of Evolution

INVITED MEETING/WORKSHOP PRESENTATIONS

- SICB (Society for Integrative and Comparative Biology), in symposium “Life-history approaches to whole-organism performance” January, 2017, New Orleans, LA (invitation accepted)
- Philosophical Transactions Workshop, “The interplay among ontogeny, adaptation, and chance in life history trajectories: do individual differences matter?” October, 2015, Tromso, Norway (sent lab member Eric Gangloff)
- APS (American Physiological Society) in symposium “Diverse Approaches in Evolutionary Physiology” October, 2014, San Diego, CA
- EvoDemo 2014 (Evolutionary Demography Society), November 2014, Stanford, CA
- The Rank Prize Funds, in Symposium “Oxidative Stress, Does it Play a Role in Life Histories and Ageing?” May, 2014, Grasmere UK.
- NRC/NAS (USA) Workshop on Comparative Biodemography, April, 2014, Washington DC
- Ecogen2013 (Ecological Genomics), November, 2013, Kansas City, MO
- ESA (Ecological Society of America) in symposium “Universal senescence? New theories and experimental approaches across the tree of life” August, 2012, Portland OR
- Snake Genomics Consortium, October 2011, Vail, CO
- AGA (American Genetics Association), in symposium “Genomics and Biodiversity” July, 2011, Guanajuato, Mexico
- APS (American Physiological Society), in symposium “The Life History Physiology Nexus,” August, 2010, Boulder, CO
- SICB (Society for Integrative and Comparative Biology), in symposium “Metabolism, Life History and Aging”, Jan, 2010, Seattle, WA
- GSA (Gerontological Society of America) in symposium “The Wilder Side of Aging”, November, 2009, Atlanta, GA
- SSAR (Society for the Study of Amphibians and Reptiles) in symposium “Reproduction in the Ophidia”, July, 2009, Portland OR
- ESEB (European Society for Evolutionary Biology) XI Congress, Uppsala Sweden, August, 2007 in symposium “Aging and senescence in wild animal populations”
- Max Planck Institute for Demographic Research: Evolutionary Demography, October 2006, Duke University, Raleigh, NC
- MBL Summer Course: Molecular Biology of Aging, August, 2006 Research Lecture “Physiological Evolution and Aging”
- American College of Sports Medicine, June, 2005, in Symposium “Making sense of microarray and RT-PCR Investigations in Exercise and Health,” Nashville, TN
- North American Snake Biology 2000 meeting, September 2000, University of Arkansas, In Workshop “Evolutionary Ecology and Physiology”
- ICSEB V (International Congress for Systematic and Evolutionary Biology), August, 1996, Budapest, Hungary. In Symposium "Phenotypic Plasticity in Evolution."

INSTITUTIONAL SERVICE

Current:

Summer 2013 – present, Member EEOB Facilities Committee

Fall 2016 – present, Chair, EEB Curriculum Committee & member of the EEB Supervisory Comm

Completed:

Fall, 2011 – 2016, Tenure Mentor for Dr. Amy Toth (EEOB, ISU)

Spring, 2012 – Spring, 2015, EEOB representative to College of Liberal Arts and Sciences
Dean's Representatives Assembly

Fall, 2012 – Spring, 2015, Member Gerontology Advisory Committee

Fall, 2013, Chair, EEOB Search Committee for Evolution of Microbiomes

Fall, 2012 – Spring 2013, Member EEOB Graduate Studies Committee

Fall, 2010 – Summer 2013, Member ISU Biotechnology Council

Fall, 2012, Member Search Committee for Systems Biologist, GDCB

Spring 2010 – 2012, EEB Curriculum Committee (Chair, 2010)

Spring, 2011 – 2012, Member Undergraduate Genetics Major Supervisory Committee

Summer, 2011, Search committee for Director of the Bioinformatics Core, Biotechnology, ISU

Fall 2004 – Fall 2010, Member EEOB graduate studies committee

Spring 2010 – Fall, 2010, Planning Committee "Preventive Sciences" section of University-wide
Health symposium September 15, 2010

Summer 2009, co-organize Workshop for NextGen sequencing, ISU (with Prof. Gwyn Beattie)

Spring 2008- Fall, 2009, Member ad-hoc committee for EEB core course development

Fall 2008, Search Committee for faculty position in Evolutionary Theory

Fall 2007, 2008, 2009 EEOB Graduate Student Research Awards Committee (07 Chair)

Fall 2004 – 2009, Chair, EEB graduate student admissions

Fall 2004 – 2009, Member EEB supervisory committee

Fall 2004, Search committee for faculty position in Evolutionary Theory

Spring 2004, Search committee for faculty positions in Molecular Phylogenetics / Evolutionary
Development