

CURRICULUM VITAE

Name: Frank van Breukelen

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<http://sciences.unlv.edu/desertsurvivors>

Birth Date and Place:

September, 29, 1967; Hilversum, The Netherlands
Permanent Resident of the United States of America since 1967

Education:

Ph.D. 1999 Environmental, Population, and Organismic Biology; University of Colorado, Boulder.

Dissertation title: Synthesis and Degradation of Macromolecules during Quiescence in the Brine Shrimp, *Artemia franciscana*.

B.S. 1991 Animal Science; California State Polytechnic University, Pomona

Awards and Grants:

Ongoing or Completed:

2010 Nevada National Science Foundation Experimental Program to Stimulate Competitive Research Physiological stress as an indicator of climate change (\$25,000, co-PI w/ Stan Hillyard)

2009 Nevada Regents' Rising Researcher Award- Highest available award in Nevada for research faculty with fewer than 10 years of service.

2005-2010 National Science Foundation, DBI- 0448396 Career: Protein metabolism in hibernators. (\$745,000, PI; no cost extension through 2012)

2005-2007 National Institutes of Health IDeA: Networks of Biomedical Research Excellence, 2 P20 RR016464 Ischemia in hibernators (\$280,000 direct costs; one of six invited investigators from Nevada participating in the \$17,267,463 grant; PI: Lee Weber)

2004-2007 National Science Foundation, DBI-0421519 MRI: Acquisition of microarray instrumentation and a high throughput capillary sequencer for biological research (NSF funds: \$246,458; total project cost: \$353,336; PI)

2007 UNLV Merit Award, \$3,000

2006 American Physiological Society Comparative and Evolutionary Physiology Section New Investigator Award

- 2006** UNLV Merit Award, \$4,500
- 2005** UNLV Merit Award, \$3,000
- 2004** National Institutes of Health Nevada Biomedical Resources Infrastructure Network Core Incentive Grant (\$5,000)
- 2004** Life in the Cold NSF Travel Award
- 2004** UNLV Merit Award, \$2,500
- 2003** University of Nevada, Las Vegas New Investigator/SITE Award (\$10,000)
- 2003** National Institutes of Health Nevada Biomedical Resources Infrastructure Network Core Incentive Grant (\$5,000)
- 2002** American Physiological Society Travel Award
- 2000-2002** American Physiological Society Postdoctoral Fellow in Physiological Genomics (\$67,000)
- 1999** Department of Environmental, Population, and Organismic Biology Graduate Teaching Award
- 1999** Young Investigator Award, Hibernation and Adaptations to the Cold, U.S. Army Research Office
- 1997** Environmental, Population, and Organismic Biology Graduate Student Research Fellowship
- 1997** Graduate School Dean's Small Grant Award
- 1994** Graduate School Dean's Small Grant Award
- 1993** Environmental, Population, and Organismic Biology Graduate Student Research Grant

Professional Societies:

- American Society for the Advancement of Science (1990)
- Sigma Xi (1990)
- American Physiological Society (1995)
- Society for Integrative and Comparative Biology (1998)
- International Hibernation Society (2000)
- American Society Ichthyology and Herpetology (2007)

Professional Experience:

Research

2008-present Associate Professor of Biological Sciences. University of Nevada, Las Vegas.

2002-2008 Assistant Professor of Biological Sciences. University of Nevada, Las Vegas.

2004- present Adjunct Faculty; Touro University College of Osteopathic Medicine, Henderson, NV.

1999- 2002 Postdoctoral Fellow under the direction of Dr. Sandra L. Martin. University of Colorado Health Sciences Center, Denver. I examined the arrest of transcription and translation in hibernating ground squirrels.

1992- 1999 Graduate student under the direction of Dr. Steven C. Hand. University of Colorado, Boulder. I examined protein degradation and transcriptional control during quiescence in embryos of the brine shrimp, *Artemia franciscana*.

1989-1992 Student researcher under the direction of Dr. Steven J. Wickler. California State Polytechnic University, Pomona. Muscle disuse atrophy in hibernators was assessed.

1991 Participated in the Jackson Laboratory's Summer Student Training Program at Bar Harbor, Maine under the direction of Dr. Peter C. Hoppe. I investigated a transgenically-induced mutation which was responsible for an abnormal inheritance pattern.

1990 Participated in the Jackson Laboratory's Summer Student Training Program at Bar Harbor, Maine under the direction of Dr. John P. Sundberg. I studied a mouse mutation that may serve as a model for psoriasis.

Teaching

University of Nevada Las Vegas:

Mammalian Physiology
Cellular Physiology
Environmental Physiology
Biochemical Adaptations
Bioenergetics

Touro University College of Osteopathic Medicine:

Basic Science Foundations for Osteopathic Medicine
Pathophysiology

University of Colorado, Boulder:

Comparative Vertebrate Anatomy Laboratory
Human Anatomy Laboratory
Human Physiology Laboratory
Comparative Animal Physiology Laboratory

California State Polytechnic University, Pomona:

Anatomy and Physiology of Domestic Animals Laboratory/recitation

Guest lectures for Comparative Vertebrate Anatomy, Microbial Ecology (University of Colorado, Boulder); Anatomy and Physiology, Clinical Pathology and Pharmacology (Mt. San Antonio Community College); Cell Biology, General Genetics, Genomic, Proteomic, and Bioinformatic Approaches in Biological Sciences, Environmental Physiology (University of Nevada, Las Vegas)

Service

Associate Chair, Institutional Animal Care and Use Committee (member, 2004-present; Associate Chair, 2008-present)
Chair, College of Sciences Research Council (Member, 2003-2005; Chair, 2005-2008)
Member, Animal Users Group (2008-present)
Member, University Research Council (2005-2007)
Member, Radiation Safety Advisory Committee (2004-present)
Member, Arthur C. Clarke Imagination and Opportunity Center Planning Committee

van Breukelen

(2005-2006)

Member, Institutional Biosafety Committee (2005-present)
Member, University of Nevada Research Services Advisory Board (2003-2005)
Member, Office of Sponsored Programs job search committees (4 hires; 2005-2006)
Member, Office of Research job search committee (2009)
Member, Purchasing Advisory Committee (2004-2005)
Member, College of Sciences Special Merit Committee (2007-2008)
Member, School of Life Sciences Personnel Committee (2008-present)
Member, School of Life Sciences Space Committee (2005-present; Chair, 2006-2007, 2009-present)
Member, School of Life Sciences Scholarship Committee (2003-2007)
Member, School of Life Sciences Undergraduate Curriculum Committee (2009-2010)
Member, Department of Biological Sciences, School of Life Sciences job search committees (2002, 2003, 2005, 2 hires in 2008)
Member, Department of Biological Sciences Seminar Committee (2002-2003)
Member, Department of Biological Sciences Graduate Admissions Committee (2002-2003)
Nevada Science Bowl speaker (2003)
College of Sciences Outstanding Juniors Night speaker (2007)

Scientific Advisor Shark Reef Aquarium at Mandalay Bay, Las Vegas NV (2009-present)

Ad hoc reviewer for *American Journal of Physiology*, *Journal of Applied Physiology*, *Journal of Experimental Biology*, *Comparative Biochemistry and Physiology*, *Journal of Comparative Physiology*, *BMC: Neuroscience*, *Biochimica et Biophysica Acta*, *Journal of Neurochemistry*, *Journal of Thermal Biology*, *Open Zoology Journal*, *Journal of Leukocyte Biology*, *Stem Cell Research*, *Journal of Mammalogy*, National Science Foundation

Reviewed text book chapter for Hill, Wyse, and Andersen, *Animal Physiology 2nd ed.* Chapter 3: Genomics, Proteomics, and Related Approaches to Physiology.

National Science Foundation Panel member- IOB 2005, 2007

Editorial Board, *The Open Zoology Journal*, 2008-current

Frank van Breukelen and Sandra L. Martin, symposium co-chairs and organizers; Molecular Aspects of the Mechanisms of Hibernation. American Physiological Society Comparative Physiology Fall Meetings entitled “Integrating Diversity,” Virginia Beach, VA, Fall 2006 (500 participants).

Frank van Breukelen and Jason Podrabsky, symposium co-chairs and organizers; Mechanisms of Metabolic Depression. Federation of Allied Societies for Experimental Biology, Experimental Biology, San Diego, CA 2008 (13,000 participants).

Departmental Seminars

2010 Science and Engineering Building Interdisciplinary Seminar Series, University of Nevada Las Vegas

- 2004** Department of Biology, Portland State University, Portland, OR
2001 Department of Biological Sciences, University of Nevada, Las Vegas.
2001 Cellular and Structural Biology, University of Colorado Health Sciences Center, Denver, CO
1999 John and Mary Louise Riley Seminar Series, University of California Bodega Bay Marine Biological Station, Bodega Bay, CA.
1999 Environmental, Population, and Organismic Biology, University of Colorado, Boulder.

Meeting Presentations

- F. van Breukelen.** Mammalian hibernation: homeostasis on hold. Life In the Cold, Swakopmund, Namibia 2008.
- D. K. Thornton, J. C. Utz, P. Pan, D. Y. Yhezikov, and **F. van Breukelen.** Natural versus induced arousal from torpor: differences in fuel utilization and rewarming dynamics. Federation of Allied Societies for Experimental Biology, Experimental Biology, San Diego, CA 2008 Abstract: FASEB J. 22(6):LB, 2008.
- D. G. Cotter and **F. van Breukelen.** Dysregulation of SUMOylation during hibernation. Federation of Allied Societies for Experimental Biology, Experimental Biology, San Diego, CA 2008 Abstract: FASEB J. 22(5):757.31, 2008.
- P. Pan and **F. van Breukelen.** IRES mediated initiation during mammalian hibernation. Federation of Allied Societies for Experimental Biology, Experimental Biology, San Diego, CA 2008 Abstract: FASEB J. 22(5):757.30, 2008.
- J. Utz, S. Nelson, B. J. O'Toole, and **F. van Breukelen.** Bone strength is maintained after 8 months of inactivity in hibernating ground squirrels, *Spermophilus lateralis*. Federation of Allied Societies for Experimental Biology, Experimental Biology, San Diego, CA 2008 Abstract: FASEB J. 22(5):757.33, 2008.
- J. Utz and **F. van Breukelen.** Rates of rewarming are dependent on temperature and time in hibernators. American Physiological Society Comparative Physiology Fall Meetings entitled "Integrating Diversity," Virginia Beach, VA, Abstract: The Physiologist 49(6):27.3, 2006.
- A. J. Marlon and **F. van Breukelen.** Thermal mitigation of apoptosis in hibernators. American Physiological Society Comparative Physiology Fall Meetings entitled "Integrating Diversity," Virginia Beach, VA, Abstract: The Physiologist 49(6):27.5, 2006.
- F. van Breukelen.** Protein metabolism during mammalian hibernation. American Physiological Society Comparative Physiology Fall Meetings entitled "Integrating Diversity," Virginia Beach, VA, Abstract: The Physiologist 49(6):12.6, 2006.
- F. van Breukelen.** The ups and downs of protein metabolism during hibernation. First International Congress of Respiratory Biology. Bonn, Germany. 2006.
- F. van Breukelen** and V. Velickovska. Physiological mismatches in protein degradation and their implications for coordinated metabolic suppression during mammalian hibernation. Federation of Allied Societies for Experimental Biology; San Francisco, CA Abstract: The FASEB Journal, 20(4) Late Breaking Abstract Supplement:LB107. 2006.
- V. Velickovska, B. Lloyd, S. Qureshi, and **F. van Breukelen.** Proteolysis is depressed during torpor in hibernators at the level of the 26S proteasome. Federation of Allied Societies for Experimental Biology; San Diego, CA Abstract: The FASEB Journal, 19(4):A675. 2005.

- F. van Breukelen.** The flip side of protein metabolism: degrading proteins during metabolic depression. Physiological Ecology Meetings; Bishop, CA 2004.
- F. van Breukelen.** Protein degradation during hibernation. Life In the Cold, Somewhere between Vancouver, BC and Seward, AK (cruise ship) 2004.
- F. van Breukelen, S. Qureshi.** Depression of ubiquitin-dependent proteolysis during hibernation. Society for Integrative and Comparative Biology; New Orleans, LA Abstract: Integrative and Comparative Biology, 43(6):965. 2003.
- F. van Breukelen.** What about degradation? The flip side of protein metabolism during hibernation. Nevada Genomics and Integrative Approaches to Abiotic Stress Scientific Conference, Mt. Charleston, NV 2003
- F. van Breukelen.** Protein synthesis: arrest and resurrection during hibernation. Nevada Genomics and Integrative Approaches to Abiotic Stress Scientific Conference, Lake Tahoe, CA 2002
- F. van Breukelen** and S. L. Martin. Downregulated protein synthesis during mammalian hibernation: active and passive mechanisms. American Physiological Society; San Diego, CA Abstracts: The Physiologist, 45(4):293 and 45(4):304. 2002
- F. van Breukelen** and S. L. Martin. Downregulating transcription during hibernation. Life in the Cold; Jungholz, Austria 2000.
- Hand, S.C., B.D. Eads, and **F. van Breukelen** Abstract: Depression of transcription and mRNA turnover during anoxia-induced quiescence in *Artemia* embryos. Comparative Biochemistry and Physiology B 126:S1. 2000.
- Martin, S., E. Epperson, and **F. van Breukelen** Abstract: Differential gene expression in thermogenesis and torpor. Comparative Biochemistry and Physiology A 126:S102. 2000.
- F. van Breukelen, R. Maier, and S. C. Hand.** Transcriptional activity is reduced during anoxia-induced quiescence in the brine shrimp, *Artemia franciscana*. Hibernation and Adaptations to the Cold; Estes Park, CO 1999.
- F. van Breukelen, R. Maier, and S. C. Hand.** Transcriptional activity of nuclei isolated from anoxic embryos of brine shrimp is depressed compared to normoxia. Society for Integrative and Comparative Biology; Denver, CO Abstract: The American Zoologist, 38(5):122A. 1998.
- F. van Breukelen** and S. C. Hand. ATP-dependent proteolysis in embryos of the brine shrimp, *Artemia franciscana*. Physiological Ecology Meetings; Bishop, CA 1998.
- F. van Breukelen** and S. C. Hand. ATP-dependent protein degradation in embryos of the brine shrimp, *Artemia franciscana*. American Physiological Society; San Diego, CA Abstract: The Physiologist, 37(5):A-70. 1994.
- F. van Breukelen, C. N. Rice-Warner, D. F. Hoyt, and S. J. Wickler.** Skeletal muscle differences in feral and laboratory-reared golden-mantled ground squirrels (*Spermophilus lateralis*). Federation of Allied Societies for Experimental Biology; Anaheim, CA Abstract: The FASEB Journal, 6(4):A1541. 1992.
- F. van Breukelen.** The analysis of a transgenic insertion: Where's the homozygote? The Jackson Laboratory Summer Student Symposium, Bar Harbor, ME 1991.
- F. van Breukelen, S. J. Wickler, and D. F. Hoyt.** Disuse atrophy in a hibernator, the golden-mantled ground squirrel (*Spermophilus lateralis*). Physiological Ecology Meetings, White Mountain Research Station, CA 1990.
- F. van Breukelen.** Epidermal kinetics of a murine inherited papulosquamous skin disease resembling psoriasis. The Jackson Laboratory Summer Student Symposium, Bar Harbor, ME 1990.

F. van Breukelen and Steven J. Wickler. Muscle mass and oxidative capacity changes associated with disuse. California State University Research Competition, Sacramento, CA 1990.

F. van Breukelen, S. J. Wickler, and D. F. Hoyt. Disuse atrophy in a hibernator, the golden-mantled ground squirrel (*Spermophilus lateralis*). American Physiological Society; Orlando, FL Abstract: The Physiologist, 33(4):A121. 1990.

Television Programs

As part of an NSF funded project, we are producing 12 episodes of a television program entitled **Desert Survivors**. This program is designed to promote science literacy in local elementary school children. The project includes the visitation of schools to gather questions for use in producing the show, field and studio production of the television programs to air on cable access (UNLV-TV in the Las Vegas area and Desert West Media in the Barstow Region), distribution of the show to the local teachers, web-based curricular support designed to foster an integrated learning package, and assessment of efficacy.

J. Utz, C. Rausch, **F. van Breukelen** (2008) Desert Survivors: Bats. Special Guest: Brett Riddle.

J. Utz, C. Rausch, **F. van Breukelen** (2008) Desert Survivors: Big Mammals. Special Guest: Kathy Longshore.

C. Rausch, J. Utz, **F. van Breukelen** (2008) Desert Survivors: Humans. Special Guest: The Springs Preserve.

C. Rausch, J. Utz, **F. van Breukelen** (2008) Desert Survivors: Reptiles. Special Guests: Xavier Glaudas and Alex Heindl.

J. Utz, C. Rausch, **F. van Breukelen** (2006) Desert Survivors: Plants in the desert. Special Guest: Stan Smith.

J. Utz, C. Rausch, **F. van Breukelen** (2006) Desert Survivors: Owls. Special Guest: Markus Mika.

C. Rausch, J. Utz, **F. van Breukelen** (2006) Desert Survivors: Scorpions. Special Guest: John Lighton.

C. Rausch, J. Utz, **F. van Breukelen** (2006) Desert Survivors: Bees in the desert. Special Guests: Stephen Roberts and Michele Elekonich.

J. Utz, C. Rausch, **F. van Breukelen** (2005) Desert Survivors: Microbes in hot springs. Special Guest: Brian Hedlund

C. Rausch, J. Utz, **F. van Breukelen** (2005) Desert Survivors: The red spotted toad. Special Guest: **Frank van Breukelen**

C. Rausch, J. Utz, **F. van Breukelen** (2005) Desert Survivors: Rotifers and other zooplankton in ephemeral ponds. Special Guest: Peter Starkweather

J. Utz, C. Rausch, **F. van Breukelen** (2005) Desert Survivors: Desert pupfish. Special Guests: James Deacon and Nancy Hadlock

Publications

In press or submitted:

P. Pan and **F. van Breukelen**. Preference of IRES-mediated initiation of translation during hibernation in golden-mantled ground squirrels, *Spermophilus lateralis* American Journal of Physiology Regulatory, Comparative and Integrative Physiology, in revision.

J. Utz and **F. van Breukelen**. Artificial induction of arousal from hibernation causes dysregulation of rewarming dynamics. Journal of Thermal Biology, in revision.

Refereed:

F. van Breukelen, G. Krumschnabel, and J. E. Podrabsky. (2010) Vertebrate cell death in energy-limited conditions and how to avoid it: what we might learn from mammalian hibernators and other stress-tolerant vertebrates. Apoptosis, 15:386-399.

I. J. McGaw, D. L. Curtis, J. Ede, K. J. Ong, **F. van Breukelen**, and G. C. Goss. (2009) Physiological responses of postprandial red rock crabs, *Cancer productus*, during emersion. Canadian Journal of Zoology, 87:1158-1169.

J. C. Utz, S. Nelson, B. J. O'Toole, and **F. van Breukelen**. (2009) Bone strength is maintained after 8 months of inactivity in hibernating golden-mantled ground squirrels, *Spermophilus lateralis*. Journal of Experimental Biology, 212:2746-2752.

J. A. Baker and **F. van Breukelen**. (2009) Bile constituents in hibernating golden-mantled ground squirrels (*Spermophilus lateralis*). Comparative Hepatology, 8:2.

F. van Breukelen, P. Pan, C. M. Rausch, J. C. Utz, and V. Velickovska. (2008) Homeostasis on hold: implications of imprecise coordination of protein metabolism during mammalian hibernation. In: Hypometabolism in Animals: Hibernation, Torpor and Cryobiology. (B. Lovegrove and A. McKechnie, eds.) University of KwaZulu-Natal, Pietermaritzburg, South Africa. Pages 163-170. Invited Review

C. M. Rausch, P. L. Starkweather, and **F. van Breukelen**. (2008) One year in the life of *Bufo punctatus*: annual pattern of body temperature in a free-ranging desert anuran. Naturwissenschaften, 95(6):531-535.

V. Velickovska and **F. van Breukelen**. (2007) Ubiquitylation of proteins in livers of hibernating golden-mantled ground squirrels, *Spermophilus lateralis*, Cryobiology, 55:230-235.

- J. Utz, V. Velickovska, A. S. Shmereva, and **F. van Breukelen**. (2007) Temperature and temporal effects on the maximum rate of rewarming from hibernation. *Journal of Thermal Biology*, 32:276-281.
- J. Utz, C. M. Rausch, M. Thomas, L. Fruth, and **F. van Breukelen**. (2007) Desert Survivors: design and implementation of a television program to enhance local scientific literacy. *Advances in Physiological Education*, 31:1-4.
- V. Velickovska, B. Lloyd, S. Qureshi, and **F. van Breukelen**. (2005) Proteolysis is depressed during torpor in hibernators at the level of the 20S protease. *Journal of Comparative Physiology B*, 175:329-335.
- F. van Breukelen**, N. Sonenberg, and S. L. Martin. (2004) Seasonal and state dependent changes of eIF4E and 4E-BP1 during mammalian hibernation: implications for the control of translation during torpor, *American Journal of Physiology, Regulatory Integrative and Comparative Physiology*, 287:R349-R353.
- F. van Breukelen** (2004) Protein degradation during mammalian hibernation. Invited review for Barnes, B. M. and Carey H. V. (eds): *Life in the Cold: Evolution, Mechanisms, Adaptation, and Application*, Biological Papers of the University of Alaska 27: 461-465. (refereed).
- F. van Breukelen** and S. L. Martin. (2002) Reversible depression of transcription during hibernation. *Journal of Comparative Physiology B*, 172:355-361.
- F. van Breukelen** and S. L. Martin. (2002) Molecular biology of thermoregulation invited review: Molecular adaptations in mammalian hibernators: unique adaptations or generalized responses? *Journal of Applied Physiology* 92:2640-2647.
- F. van Breukelen** and H. V. Carey. (2002) Ubiquitin conjugate dynamics in the gut and liver of hibernating ground squirrels. *Journal of Comparative Physiology B*, 172:269-273.
- H. M. Smith, D. Chiszar, G.J. Watkins-Colwell, J. A. Lemos-Espinal, and **F. van Breukelen**. (2002) Concurrent existence of relictual and contemporary subspecific intergrade populations. *Bulletin of the Chicago Herpetological Society*, 37:139-140.
- F. van Breukelen** and S. L. Martin. (2001) Translational initiation is uncoupled from elongation at 18° C during mammalian hibernation. *American Journal of Physiology, Regulatory Integrative and Comparative Physiology*, 281:R1374-R1379.
- S. C. Hand, J. E. Podrabsky, B. D. Eads, and **F. van Breukelen**. (2001) Interrupted development in aquatic organisms: ecological context and physiological mechanisms. In D. Atkinson and M. Thorndyke (eds), *Animal Developmental Ecology: Genes, Life Histories and Plasticity*. BIOS Scientific Publishers Ltd, Oxford, pp.219-234. (refereed)

- H. M. Smith, D. Chiszar, K. Tepedelen, and **F. van Breukelen**. (2001) A revision of the bevelnosed boas (*Candoia carinata* complex) (Reptilia: Serpentes) Hamadryad, 26:283-315.
- S. L. Martin, L. E. Epperson, and **F. van Breukelen**. (2000) Quantitative and qualitative changes in gene expression during hibernation in golden-mantled ground squirrels. in G. Heldmaier and M. Klingenspor (eds), *Life in the Cold*. Springer-Verlag, Heidelberg, pp. 315-324 (refereed).
- F. van Breukelen** and S. C. Hand. (2000) Characterization of ATP-dependent proteolysis in embryos of the brine shrimp, *Artemia franciscana*. Journal of Comparative Physiology B, 170: 125-133.
- F. van Breukelen**, R. Maier and S. C. Hand (2000) Depression of nuclear transcription and extension of mRNA half-life under anoxia in *Artemia franciscana* embryos. Journal of Experimental Biology, 203: 1123-1130.
- H. M. Smith, K. Adler, D. Chiszar, and **F. van Breukelen**. (1999) *Phrynosoma hernandesi*: correct spelling. Herpetological Review, 30:74-76.
- P. Golay, D. Chiszar, H. M. Smith, and **F. van Breukelen**. (1999) The proper name for the Venezuelan red-tailed coral snake. Acta Biologica Venezuela, 19:73-75.
- H. M. Smith, D. Chiszar, and **F. van Breukelen**. (1999) The challenge of the plateau and prairie lizards (*Sceloporus undulatus*) of New Mexico. Bulletin of the Maryland Herpetological Society, 35:143-151.
- H. M. Smith, D. Chiszar, C. Henke, J. A. Lemos-Espinal, and **F. van Breukelen**. (1998) Field observations of Chihuahuan spotted whiptail lizards (*Cnemidophorus exsanguis*) Bulletin of the Maryland Herpetological Society, 34:34-37.
- H. M. Smith, D. Chiszar, J. T. Collins, and **F. van Breukelen**. (1998) The taxonomic status of the Wyoming toad *Bufo baxteri* Porter. Contemporary Herpetology, 1998(1): <http://alpha.selu.edu/ch/1998/1>
- H. M. Smith, D. Chiszar, C. Henke, **F. van Breukelen**, and J. A. Lemos-Espinal. (1998) Geographic Distribution: *Holbrookia maculata bunkerii*. Herpetological Review, 29:110.
- A. Ramirez-Bautista, M. Mancilla-Moreno, H. M. Smith, D. Chiszar, and **F. van Breukelen**. (1998) Morphological variation and relationship of *Rhadinea bogertorum* (Squamata, Colubridae), an endemic snake of the Sierra de Juarez, Oaxaca, Mexico. Bulletin of the Maryland Herpetological Society, 34:99-106.
- D. L. Auth, J. Mariaux, J. Clary, D. Chiszar, **F. van Breukelen**, and H. M. Smith. (1998) The report of the snake genus *Conopsis* in South America is erroneous. Bulletin of the Maryland Herpetological Society, 34:107-112.

- E. T. Larson, **F. van Breukelen**, J. A. Lemos-Espinal, R. E. Ballinger, H. M. Smith, and D. Chiszar. (1998) Natural History Note: *Sceloporus belli* (Bell's spiny lizard) Pattern. Herpetological Review, 29:42-43.
- W. Böhme, H. M. Smith, J. Rybak, **F. van Breukelen**, and D. Chiszar. (1998) The lectotype and type locality of *Candoia carinata* (Reptilia, Serpentes). Contemporary Herpetology, 1998(2):<http://alpha.selu.edu/ch/1998/2>
- H. M. Smith, Peter Robinson, D. Chiszar, and **F. van Breukelen**. (1998) North African amphibians and reptiles in the University of Colorado Museum. Bulletin of the Chicago Herpetological Society, 33:182-187.
- H. M. Smith, D. Chiszar, and **F. van Breukelen**. (1998) Resurrection of *Tantilla triseriata* (Reptilia: Serpentes) of Mexico. Southwestern Naturalist, 43:374-375.
- H. M. Smith, **F. van Breukelen**, D. L. Auth, and D. Chiszar. (1998) A subspecies of the Texas blind snake (*Leptotyphlops dulcis*) without supraoculars. Southwestern Naturalist, 43:437-440.
- D. L. Auth, D. Chiszar, H. M. Smith, and **F. van Breukelen**. (1997) Geographic Distribution: *Masticophis mentovarius mentovarius*. Herpetological Review, 29:54.
- D. L. Auth, H. M. Smith, D. Chiszar, and **F. van Breukelen**. (1997) Geographic Distribution: *Tantilla rubra*. Herpetological Review, 28:211.
- K.-D. Schulz, H. M. Smith, D. L. Auth, and D. Chiszar, and **F. van Breukelen**. (1997) A second specimen of *Elaphe flavirufa matudai* (Reptilia: Serpentes). Bulletin of the Chicago Herpetological Society, 32:225-226.
- S. Swanson, **F. van Breukelen**, B. Kreiser, D. Chiszar, and H. M. Smith. (1997) A double-bodied midland water snake and additions to the literature on ophidian axial bifurcation. Bulletin of the Chicago Herpetological Society, 32:80-83.
- D. Chiszar, **F. van Breukelen**, and H. M. Smith. (1997) Russian herpetological coins: a study in the meaning of dragons. Bulletin of the Chicago Herpetological Society, 32:147-150.
- H. M. Smith, D. Chiszar, and **F. van Breukelen**. (1997) Geographic Distribution: *Eumeces ochoterenae*. Herpetological Review, 28:157.
- F. van Breukelen**, J. Roth, D. Chiszar, and H. M. Smith. (1997) Geographic Distribution: *Sceloporus undulatus elongatus*. Herpetological Review, 28:158.
- H. M. Smith, H. L. Taylor, J. M. Walker, R. W. Axtell, S. J. Beuapre, D. Chiszar, J. E. Cordes, J. A. Lemos-Espinal, A. H. Price, **F. van Breukelen**, and R. G. Zweifel. (1997) *Cnemidophorus neomexicanus* Lowe and Wright, 1952 (Reptilia, Squamata): Proposed conservation of the specific name. Bulletin of Zoological Nomenclature, 54:167-171.

S. J. Wickler, D. F. Hoyt, **F. van Breukelen**, and C. N. Rice-Warner. (1993) Muscle function in hibernators. in C. Carey, G. L. Florant, B. A. Wunder, and B. Horwitz (eds), *Life in the Cold III: Ecological, Physiological, and Molecular Mechanisms*. Westview Press, Boulder, CO. pp. 389-399 (refereed).

S. J. Wickler, D. F. Hoyt, and **F. van Breukelen**. (1991) Disuse atrophy in the hibernating golden-mantled ground squirrel, *Spermophilus lateralis*. *American Journal of Physiology, Regulatory Integrative and Comparative Physiology*, 261:R1214-R1217.

Mentoring

Ph.D. students

PeiPei Pan 2005-current; Dissertation research: IRES-mediated Initiation in Hibernators

Eshani Lopez 2009-present; Dissertation research: Living in a Bad Neighborhood; the Critically Endangered Devils Hole Pupfish.

Merrill Landers 2009-present; Dissertation research: Effects of Exercise in an Animal Model of Parkinson's Disease.

Jenifer Utz Dissertation research: Natural vs induced arousal from hibernation. Recipient of National Science Foundation Predoctoral Fellowship (\$112,000); *Graduated 2010*

M.S. students

Michael Treat 2010-present; Thesis research: Mitigation of Apoptosis in Hibernation.

Candice Rausch; Thesis research: Thermal Ecology of the Red-spotted toad, *Bufo punctatus* ; Recipient of NSF EPSCoR Integrative Approaches to Abiotic Stress Summer Research Fellowship (\$5500 direct costs). *Graduated 2007*

Undergraduates:

Current students:

Michael Ulrich, 2009-present; Recipient of NSF EPSCoR Summer Fellowship (\$4500).

Mark Burger, 2009-present; Recipient of NSF EPSCoR Summer Fellowship (\$4500).

Alex Chang, 2010- current.

Shyenne Pougher, 2009-current.

Ana Gamez, 2010- current.

Kirtan Patel, 2009-current.

Josh Frye, 2009-current.

Former Students:

David Cotter, 2007-2009; MD/PHD program at Washington University. **Brianna**

Bugni, 2008-2009. **January Linn**, 2007; currently Clinical studies coordinator,

University of California, Irvine; **Liam Farino**, 2008; **John Ferrin**, 2007; currently in

dental school; **Doug Thornton**, 2007-2008 currently in medical school; **Ilonka Zlatar**,

2007-2008; **Karol Zamora**, 2007; **Dimitry Yezhikov**, 2007-2008; **Julie Baker**, 2005-2006; Pharmaceutical Sales Representative; **Anastacia Shmereva**, 2004-2006; physician; **Bryan Lloyd**, 2003-2005; Recipient of 2003-2004 NIH Biomedical Research Infrastructure Network Research Fellowship (\$12,000 direct costs); 2004 American Physiological Society Summer Research Fellowship (\$3300 direct costs; one of 12 nation-wide); 2004-2005 UNLV Undergraduate Research Award (\$3,500 direct costs); **Sarah Dannan**, 2004-2005; Recipient of 2004 NIH Biomedical Research Infrastructure Network Summer Research Fellowship (\$5,500 direct costs). M.S. Public Health at New York University; consultant for Price, Waterhouse, and Cooper. **Amy Tongsiri**, 2004; dentist. **Roselynn Gentles**, 2004; physician. **Monica Modi**, 2003; **Safdar Qureshi**, 2002-2003; Recipient of 2003 Sigma Xi Grant in Aid of Research (\$500); physician.

Blue denotes work has been published.

Dissertation and Thesis Committees:

Active:, Elana Paladino (Ph.D.), Margaret Shin (Ph.D.), Patricia Ringler (Ph.D.), Priyatham Gorjala (Ph.D., Chemistry), Priyanka Medida (M.S. Electrical Engineering),

Completed: Ben Costantino (Ph.D., 2010), Randy Boyles (Ph.D., 2010) Dan Curtis (Ph.D., 2009), Zhen Xie (Ph.D., 2006), Jie Huang (M.S., 2004), Karthik Kumaresen (M.S., 2009, Electrical Engineering), Pranjali Deshpande (M.S., 2009, Electrical Engineering), Sandeep Sangaraju (M.S. 2009, Electrical Engineering)