SARAH BENSON-AMRAM

ASSISTANT PROFESSOR
DEPARTMENT OF ZOOLOGY AND PHYSIOLOGY
PROGRAM IN ECOLOGY
UNIVERSITY OF WYOMING
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EDUCATION

Dual Ph.D. in Zoology and Ecology, Evolutionary Biology and Behavior, Michigan State University. 2011.

B.A. Cornell University, College of Arts and Sciences. Biology Major with a Neurobiology and Animal Behavior Concentration. 2001.

ACADEMIC POSITIONS

Assistant Professor, Zoology and Physiology, University of Wyoming. 2014 – present

Research Fellow, School of Biology, University of St. Andrews. 2012 - 2013

Postdoctoral Scientist, Department of Zoology, Michigan State University. 2012

PUBLICATIONS

1. Stanton, L., Davis, E., Johnson, S. Gilbert, A., and **S Benson-Amram**. *In press*. Adaptation of the Aesop's Fable paradigm for use with raccoons (*Procyon lotor*): considerations for future application in non-avian and non-primate species. ***Animal Cognition***.

2. **Benson-Amram S**, Gilfillan, G, and K McComb. *In press*. Numerical Assessment in the Wild: Insights from Social Carnivores and Other Mammals. ***Philosophical Transactions of the Royal Society B***.

3. Holekamp, KE and **S Benson-Amram.** 2017. The evolution of intelligence in mammalian carnivores. The Royal Society's ***Interface Focus***, 7(3): 20160108.

4. Templeton, CN, Philp, KR, Guillette, L, Laland, KN, and **S Benson-Amram**. 2017. Sex and pairing status impact how zebra finches use social information in foraging. ***Behavioural Processes***, 139: 38-42.

5. **Benson-Amram S**, Dantzer B, Stricker G, Swanson, EM and KE Holekamp. 2016. Brain size predicts problem-solving ability in mammalian carnivores. ***Proceedings of the National Academy of Sciences***, 113 (9), 2532-2537.

6. Holekamp KE, Dantzer B, Stricker GM, Shaw Yoshida KC and **S Benson-Amram**. 2015. Brains, brawn and sociality: a hyena's tale. ***Animal Behaviour***, 103, 237-248.

7. **Benson-Amram S**, Heinen VK, Gessner, A, Weldele ML and KE Holekamp. 2014. Limited social learning of a novel technical problem by spotted hyenas. ***Behavioural Processes***, 109, 111-120.

8. **Benson-Amram S**, Weldele ML and KE Holekamp. 2013. A comparison of problem-solving abilities between wild and captive spotted hyenas. ***Animal Behaviour***, 85, 349-356.

9. **Benson-Amram S** and KE Holekamp. 2012. Innovative problem solving by wild spotted hyenas. ***Proceedings of the Royal Society B***, 279, 4087-4095.

10. **Benson-Amram S**, Heinen VK, Dryer SL and KE Holekamp. 2011. Numerical assessment and individual call discrimination by wild spotted hyaenas (*Crocuta crocuta*). ***Animal Behaviour***, 82, 743-752.

11. Theis KR, Greene KM, **Benson-Amram SR** and KE Holekamp. 2007. Sources of variation in the long-distance vocalizations of spotted hyenas. ***Behaviour***, 144, 557-584.

12. Hoogland, J. L., Davis, S., **Benson-Amram, S**., Labruna, D., Goossens, B. & Hoogland, M. A. 2004. Pyraperm kills fleas and halts plague among Utah prairie dogs. ***Southwestern Naturalist***, 49, 376-383.

SELECTIVE PRESS COVERAGE

Selective Press Coverage Of Our *Proceedings of the National Academy of Sciences* paper (January 2016):

New York Times
http://www.nytimes.com/2016/01/26/science/some-carnivores-are-better-than-others-at-unlocking-dinner.html

New Scientist
https://www.newscientist.com/article/2075151-watch-brainy-zoo-animals-figure-out-a-box-puzzle-to-get-at-food/

Scientific American

http://blogs.scientificamerican.com/observations/animals-with-big-brains-are-better-at-problem-solving-video/

IFL Science
http://www.iflscience.com/plants-and-animals/animals-larger-relative-brain-sizes-are-better-problem

Wired
http://www.wired.co.uk/news/archive/2016-01/26/wired-awake-26-january

Fox News
http://www.fox47news.com/we-are-spartans/larger-relative-brains-higher-iq

Daily Mail
http://www.dailymail.co.uk/sciencetech/article-3415820/Animals-a.html

Wyoming National Public Radio, September 2016, A story on the University of Wyoming Raccoon Project

BBC, "Talking to the Animals" television program, July 2014 on BBC channel 1.
The BBC flew me out to Kenya to film a television program on animal communication. The program particularly emphasizes the scientific approach to studying how and what animals communicate to each other. I was interviewed extensively on camera about hyena behavior, communication and cognition. I set-up playback experiments to demonstrate how hyenas respond to varying numbers of simulated territorial intruders.

National Public Radio, Academic Minute, March 2013: "Measuring intelligence in wild animals"
I was a featured scientist on a radio programme that highlights interesting work being done by academics around the world. I wrote and then recorded a short piece describing my research on innovative problem solving in hyenas.
http://wamc.org/post/dr-sarah-benson-amram-university-st-andrews-measuring-intelligence-wild-animals

NBC News, January 2013: "Captive hyenas beat wild peers in puzzle solving"
An original piece describing our work demonstrating large differences in the problem solving abilities of wild and captive hyenas.
http://www.msnbc.msn.com/id/50389118/ns/technology_and_science-science/#.UPeZZaE3l4F

Popular Science, January 2013: "Captive hyena figures out a meat puzzle faster than its wild cousin"
An original piece describing our work demonstrating large differences in the problem solving abilities of wild and captive hyenas.
http://www.popsci.com/science/article/2013-01/watch-captive-hyena-eagerly-figure-

out-meat-puzzle-faster-its-wild-cousin

Nature, Research Highlights, Published online 15 August 2012: "Curious hyenas crack puzzles" *Nature*, 488, p. 256.
A summary of our research investigating innovative problem solving in spotted hyenas was featured in the online and print versions of *Nature*.
http://www.nature.com/nature/journal/v488/n7411/full/488256a.html

PBS Nature, August 2012: "Faced with a steel box, hyenas try to think outside it"
A summary of our research on innovative problem solving in wild spotted hyenas was included as one of 10 research articles highlighted on the PBS website Inside Nature: This Week In Nature.
http://www.pbs.org/wnet/nature/inside-nature/the-dirt-this-week-in-nature-august-4-august-10/7785/

BBC Radio Wales, Good Morning Wales, September 2012:
A live interview was broadcast as a segment on the morning news show for BBC Radio Wales.
http://www.bbc.co.uk/i/b01ml17s/

Sunday Telegraph, September 2012: "Hyenas are as bright as primates, research shows"
My research on innovative problem solving in wild hyenas was the featured in the Sunday Telegraph, one of the U.K's largest newspapers.
http://www.telegraph.co.uk/earth/wildlife/9530134/Hyenas-are-as-bright-as-primates-research-shows.html

Nature News, August 2011: "Hyenas can count like monkeys"
Interviewed by Jo Marchant. The article features our work investigating numerical cognition in wild spotted hyenas.
http://www.nature.com/news/2011/110817/full/news.2011.484.html

Scientific American, August 2011: "Hyenas can count like monkeys"
http://www.scientificamerican.com/article.cfm?id=hyenas-can-count-like-monkeys

Audubon Magazine, November 2011: "You lookin' at me?"
Interviewed by Daisy Yuhas for a piece in the print version of Audubon Magazine. The article discussed my research on numerical assessment in wild spotted hyenas.

Smithsonian Magazine, November 2011: "Wild Things: Feathered dinosaurs, king crabs and spotted hyenas"
My research on numerical assessment in hyenas was featured as a research highlight.
http://www.smithsonianmag.com/science-nature/Wild-Things-Feathered-dinosaurs-king-crabs-and-spotted-hyenas.html?c=y&page=5&navigation=thumb#I MAGES

National Public Radio, Morning Edition, February 2009: "Laughing Is No Joke

For Spotted Hyenas"
Interviewed by Chris Joyce for the Sounds Wild program. The program featured recordings I made of spotted hyena vocalizations and my descriptions of those recordings.
http://www.npr.org/templates/story/story.php?storyId=100628612

New York Times, March 2008: "Sociable, and Smart"
Carl Zimmer wrote an article on social intelligence in spotted hyenas and included a description of the puzzle box experiments I conducted for my dissertation.
http://www.nytimes.com/2008/03/04/science/04hyen.html?_r=2&scp=1&sq=holekamp&st=nyt&oref=slogin

Smithsonian Magazine, May 2008: "Who's Laughing Now?"
Interviewed by Steve Kemper. The article included a description of the puzzle box experiments I conducted for my dissertation research.
http://www.smithsonianmag.com/science-nature/hyena.html

GRANTS, FELLOWSHIPS, AND AWARDS

- 2016: NSF BIO IOS: How pair bonds increase problem-solving success (Preliminary proposal invited, Full proposal declined)
- 2015: UW Center for Global Studies Supplemental Research Grant: Personality and Problem-Solving in Asian elephants
- 2010: Ecology, Evolutionary Biology and Behavior Graduate Program Summer Fellowship, Michigan State University
- 2010: Council of Graduate Students Conference Grant, Michigan State University
- 2009: Dissertation Completion Fellowship, College of Natural Science, Michigan State University
- 2009: Summer Support Fellowship, The Graduate School, Michigan State University
- 2009: National Science Foundation, Travel Award to attend 46th Animal Behavior Meeting, Pirenopolis, Brazil
- 2006: Sigma Xi Grants-In-Aid of Research
- 2006: Student Research Award, Animal Behavior Society
- 2006: Dr. Marvin Hensley Endowed Fellowship in Science, College of Natural Science, Michigan State University
- 2006: Dr. Marvin Hensley Endowed Scholarship in Zoology, Department of Zoology, Michigan State University
- 2005, 2006: Research Grant, Department of Zoology, Michigan State University

GRANTS AND FELLOWSHIPS AWARDED TO STUDENTS

- 2017: Wyoming NASA Space Grant Undergraduate Research Fellowship (awarded to J. Sanchez)
- 2017: Wyoming NASA Space Grant Undergraduate Research Fellowship (awarded to C. Cooley)
- 2017: Wyoming NASA Space Grant Graduate Research Fellowship (awarded to L. Stanton)
- 2017: Haub School of Environment and Natural Resources Student Research and Creative Activities Grant (awarded to L. Stanton)
- 2017: Reed W. Fautin Memorial Scholarship, UW Dept. of Zoology & Physiology (awarded to L. Barrett)
- 2017: Graduate Student Travel Funding, UW College of Arts & Sciences (awarded to L. Barrett)
- 2017: Paul Stock Foundation Scholarship, UW College of Arts & Sciences (awarded to L. Barrett)
- 2016: WWiSE Travel Grant Award, EPSCoR Wyoming Women in Science and Engineering Program (awarded to L. Stanton)
- 2016: Laramie Audubon Society Small Grant Award (awarded to L. Stanton and R. Fanelli)
- 2016: Women in Conservation Biology Award, UW Dept. of Zoology & Physiology and Botany Dept. (awarded to L. Barrett)
- 2016: Walter Scott Memorial Travel Grant, UW Dept. of Zoology & Physiology (awarded to L. Barrett)
- 2016: Wyoming Women in Science and Engineering Travel Grant, UW NSF EPSCoR (awarded to L. Barrett)
- 2016: Dick Cheney Scholarship for International Study, UW Center for Global Studies (awarded to L. Barrett)
- 2016: Wyoming NASA Space Travel Grant (awarded to R. Fanelli)
- 2016: Wyoming EPSCoR Research Fellowship Grant (awarded to R. Fanelli)
- 2016: Wyoming EPSCoR Research Fellowship Grant (awarded to E. Davis)
- 2016: Wyoming EPSCoR Research Fellowship Grant (awarded to J. Marsh)
- 2016: Wyoming EPSCoR Research Fellowship Grant (awarded to H. Barton)
- 2016: Wyoming NASA Space Grant Undergraduate Research Fellowship (awarded to E. Davis)
- 2016: Wyoming NASA Space Grant Undergraduate Research Fellowship (awarded to A. Wimberley)
- 2016. NIH INBRE Transition Fellowship (awarded to J. Marsh)
- 2015: Reed E. Fautin Memorial Scholarship, Department of Zoology and Physiology, University of Wyoming (awarded to E. Davis)
- 2015: UW Biodiversity Institute Research Grant (awarded to L. Barrett)
- 2015: UW Center for Global Studies Research Excellence Award (awarded to L. Barrett)
- 2015: Wyoming EPSCoR Research Fellowship Grant (awarded to R. Fanelli)
- 2015: Wyoming EPSCoR Research Fellowship Grant (awarded to A.

Overstreet)
- 2014: L. Floyd Clarke Graduate Scholar Award, University of Wyoming (awarded to L. Stanton)
- 2014: Reed W. Fautin Memorial Scholarship, UW Dept. of Zoology & Physiology (awarded to L. Barrett)
- 2014: NSF Graduate Research Fellowship Program (awarded to L. Barrett)
- 2014: Wyoming EPSCoR Research Fellowship Grant (awarded to R. Fanelli)

INVITED PRESENTATIONS AT PROFESSIONAL MEETINGS

- 2017. The Animal Behavior Society. Toronto, CA. Cognitive Ecology 3 Symposium.
- 2017. The Royal Society, London U.K. Meeting on the Origin of Numerical Abilities

INVITED SEMINARS

- 2018: Utah State University, Department of Wildland Resources.
- 2015. University of Wyoming, AMK Ranch, Grand Teton National Park
- 2014. Colorado State University, Department of Fish, Wildlife, and Conservation Biology Seminar
- 2014. University of California at Berkeley, Psychology Department
- 2013. University of Cambridge, Behavioural Ecology and Large Animal Research Groups
- 2013. University of St. Andrews, Behavioural Discussion Group
- 2013. University of Vienna, Cognitive Biology Seminar
- 2012. University of St. Andrews, Behavioural Discussion Group
- 2012. University of Wyoming, Department of Zoology and Physiology
- 2011. University of California at Berkeley, Psychology Department
- 2011. University of Pennsylvania, Topics in Animal Behavior Graduate Seminar,
- 2010. Cornell University, Department of Neurobiology and Behavior, Research Design in the Study of Animal Social Behavior
- 2008. Michigan State University, Behavioral Biology Group

CONTRIBUTED PRESENTATIONS AT PROFESSIONAL MEETINGS

1. Stanton, L.** and **S Benson-Amram**. 2017. Testing the cognitive buffer hypothesis with raccoons (*Procyon lotor*) and skunks (*Mephitis mephitis*). Animal Behavior Society, Toronto, Canada
2. Stanton, L.** and **S Benson-Amram**. 2017. An investigation of learning, problem-solving, and behavioral flexibility in raccoons (*Procyon lotor*) and striped skunks (*Mephitis mephitis*). International Urban Wildlife Conference,

San Diego, California.

3. Barrett, L.P. & **Benson-Amram, S.** 2017. Personality and problem solving in captive Asian elephants. Animal Behavior Society Conference, Toronto, Canada.
4. Fanelli, R.E., Stanton, L.A., McDonald, D.B., and **Benson-Amram, S.** 2017. Raccoon social networks and information transmission. Animal Behavioral Society. Toronto, Canada. *Poster Presentation*.
5. Daniels, S.E., Fanelli, R., Gilbert, A., & Benson-Amram, S. 2016. Behavioral flexibility in *Procyon lotor*. Animal Behavior Society, Columbia, MO.
6. Stanton, L.**, Davis, E.*, Johnson, S. Gilbert, A., and **S Benson-Amram**. 2016. Investigation of causal understanding in raccoons using the Aesop's fable paradigm. Animal Behavior Society, Columbia, MO.
7. Barrett, L.P., Marsh, J., & **Benson-Amram, S.** 2016. Personality and problem solving in zebra finches. Animal Behavior Society Conference, Columbia,MO.
8. Fanelli, R.E. Stanton, L.A., and **Benson-Amram, S.** 2016. Community outreach with the University of Wyoming Raccoon Project. Laramie Audubon Society Conference. Laramie, WY.
9. Fanelli, R.E. and **Benson-Amram, S.** 2016. Learning about a local wildlife species with the University of Wyoming Raccoon Project. Wyoming Citizen Science Conference. Lander, WY. *Poster Presentation*.
10. Fanelli, R.E., Daniels, S.E., Gilbert, A. and **Benson-Amram, S.** 2016. Neophobic responses and problem-solving abilities of raccoons (*Procyon lotor*) in captivity. Animal Behavior Society, Genesis Poster Competition. Columbia, MO. *Poster Presentation*.
11. Davis, E.*, Wimberley, A.*, Stanton, L.**, and Benson-Amram, S. 2016. The effect of sex and seasonal variation on raccoon home ranges in Laramie, Wyoming. Animal Behavior Society, Columbia, MO.
12. Davis, E.*, Wimberley, A.*, Stanton, L.**, and Benson-Amram, S. 2016. The effect of sex and seasonal variation on raccoon home ranges in Laramie, Wyoming. The Wildlife Society, Raleigh, NC.
13. **Benson-Amram, S.**, Boogert, N., Morgan, T., Laland, K.N. 2015. The benefits of pair bonds extend to joint problem solving. Animal Behavior Society, Anchorage, Alaska.
14. Templeton, C.N., Philp, K., Guillette, L., Laland, K.N., **Benson-Amram, S.** 2015. Chivalrous birds? Male zebra finches avoid competing for their mate's food. Animal Behavior Society, Anchorage, Alaska.
15. **Benson-Amram, S.** Swanson, E.M., Stricker, G., Holekamp, K.E. 2013. The evolution of problem-solving abilities in carnivores. Animal Behavior Society, Boulder, Colorado.
16. **Benson-Amram, S**., Weldele, M., Holekamp, K.E. 2012. Innovative problem solving and social learning in spotted hyenas. Association for the Study of Animal Behaviour Winter Conference. Zoological Society of London, England.
17. **Benson-Amram, S**. 2011. Experimental studies of cognitive abilities in wild spotted hyaenas. **Finalist in the 2011 Warder Clyde Allee student competition** at the joint meeting of the Animal Behavior Society and the International Ethological Conference, Bloomington, Indiana.
18. **Benson-Amram, S**., Bond, A.B., Holekamp, K.E. 2011. Social effects on

neophobia and object exploration in captive and wild spotted hyenas confronted with a novel problem-solving task. Conference on Comparative Cognition, Melbourne, Florida.

19. **Benson-Amram, S**, Heinen, V.K., Dryer, S.L., Holekamp, K.E. 2010. Numerical assessment in wild spotted hyenas (*Crocuta crocuta)*. Animal Behavior Society, Williamsburg, Virginia.
20. **Benson-Amram, S.R**., Heinen, V.K., Holekamp, K.E. 2010. Wild spotted hyenas show spontaneous numerical assessment when played calls from unfamiliar conspecifics. Conference on Comparative Cognition, Melbourne, Florida.
21. **Benson-Amram, S.R**., Bond, A.B., Holekamp, K.E. 2009. Comparing problem solving between captive and wild spotted hyenas. Animal Behavior Society, Pirenopolis, Brazil.
22. **Benson-Amram, S.R**., Bond, A.B., Holekamp, K.E. 2009. Problem solving in captive and wild spotted hyenas. Conference on Comparative Cognition, Melbourne, Florida. *Poster Presentation*.
23. **Benson-Amram, S.R**., Bond, A.B., Holekamp, K.E. 2008. Innovation in free-ranging spotted hyenas measured by problem solving in a novel puzzle box task. International Behavioral Ecology Congress, Ithaca, New York.

TEACHING EXPERIENCE

Department of Zoology and Physiology, University of Wyoming

- **Principles of Animal Behavior** (ZOL 3600)

  This is an upper-level undergraduate course of approximately 45 students. We cover material on the genetic, hormonal, neurobiological, developmental and evolutionary bases of animal behavior. Students gain experience observing animals and using the scientific method to answer questions about the behaviors they observe. Students are encouraged to think critically about the scientific literature and will also learn to communicate scientific results both to their fellow animal behaviorists and to the general public.
- **Writing in the Biological Sciences** (ZOL 4100)

  This is an upper-level undergraduate course. I lead a section of 5 students. In this course, I guide students through the process of writing a term paper. This paper is geared toward a scientific audience and requires the students to carefully reference the scientific literature. Students learn to evaluate and critique studies in the field, while also honing their technical writing skills.

Department of Zoology, Michigan State University

- **Behavioral Ecology of African Mammals** (ZOL 490)

  Lead Instructor Summer 2009, Co-Instructor Summer 2007

  Responsible for 18 American and Kenyan undergraduate students on a study abroad course in Kenya. Compiled a budget, designed a syllabus, prepared and

graded assignments, and organized logistical aspects of the course. Gave lectures on a range of topics such as animal cognition, communication, the neural basis of animal behavior, ecology of the Masai Mara/Serengeti ecosystem, basic statistics, behavioral observation techniques, and scientific writing.

TEACHING ASSISTANTSHIPS

Department of Zoology, Michigan State University (2004 to 2009)

- **Animal Behavior (**ZOL 313**)**

  Sole teaching assistant for 180 undergraduates in a large lecture course. Wrote and gave lecture on Animal Communication. Graded all quizzes and exams. Individual consultation with students. Managed course web page.

- **Ecology (**ZOL 355**)**

  A large 240-student upper-level lecture course. Graded quizzes and exercises. Attended all lectures. Conducted review sessions prior to exams. Consulted individually with students.

- **Ecology Lab** (ZOL 355L)

  Laboratory Instructor for an upper-level undergraduate Ecology lab course. Weekly classroom instruction for 2 sections. Taught students to design, carry out and report on a scientific study. Instructed students on how to run statistical tests.

- **Introductory Organismal Biology for Science Majors** (BS 110)

  Weekly classroom instruction, preparation, administration, and grading of homework, quizzes, and exams. Individual consultation with students.

MENTORING

- **Current Students, University of Wyoming**
  - **Ph.D. Students (2):**
    - Lisa Barrett, B.S. University of Michigan, NSF GRFP Fellow
    - Lauren Stanton, B.S. University of Maryland, M.S. Manchester Metropolitan University
  - **Undergraduate Research Students (15):**
    - Tyler Berry, Rachel Ziejka, Rachel Graham, Stephanie Hart, Frederic Reuter, Haley Gordon, Leah Mucciarone, Kendall Burnside, Jennifer Hayward, Jackelynn Gutierrez, Kelsea Anthony, Jahsh Sanchez, Shannon Bowles, Carissa Cooley, Livia Marchese (high school student)
- **Previous Students**
  - **Master's Students (1):**
    - Sarah Daniels, M.S. in Zoology and Physiology 2016
  - **Undergraduate Students (20):**

- Ariel Vichi, Adam Overstreet, Cheyenne Ogden, Kody Knighten, Rachel Fanelli, Emily Davis, Holly Renee Fair, Jessica Marsh, Dianna Brutsman, Alix Wimberley, Hailey Barton, Harley Steege, Tyler Berry, Karen Hendrick, Kristina Bartz, Sara Griffith, Ben Tjepkes, Ivy Engle, Michele Kaufman, Brooke Byelich

- **Committees**
  - Grady Harris, M.S. in Zoology and Physiology 2017
- **Co-supervisor of two undergraduate honors research dissertations**, School of Biology, University of St. Andrews, United Kingdom

SERVICE

- Journal Reviewer:
  - *Animal Behaviour, Animal Cognition, Behavioral Ecology, Current Biology, Ethology, Frontiers in Psychology, International Journal of Comparative Psychology, Philosophical Transactions of the Royal Society: B, Proceedings of the Royal Society: B, Wildlife Biology*
- Grant Reviewer:
  - National Science Foundation
- Outreach Events by the University of Wyoming Raccoon Project:
  - 26 outreach events with over 830 attendees since June 2015, including events for teens and children at the Albany County Public Library, informational booths at the Laramie Farmer's Market, presentations at local elementary schools, programs for local girl scout troops, educational outreach events promoting STEM to high-school students in Wyoming and women in science, and presentations at the Wyoming Science Fair and for the Laramie Audubon Society.
- Presenter, Science Café, Albany County Public Library, June 2014
- Presenter, Skirts in Science, Denver Museum of Nature and Science, May 2014
- "Spotted Hyenas - Dispelling the myths" lecture given to various student groups and tourist groups in the Masai Mara Game Reserve, Kenya. May 2005-May 2008
- Presenter, Girls Math/Science Conference, Clinton County Regional Education Service Agency, 2005

PROFESSIONAL SOCIETY MEMBERSHIPS

Sigma Xi, American Women in Science, Animal Behavior Society, Comparative Cognition Society, International Society of Behavioral Ecology, Sigma Delta Epsilon/Graduate Women in Science, American Society of Mammalogists