

AMANDA M. ADAMS

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EDUCATION

Doctor of Philosophy in Biology **1 Nov. 2013**
University of Western Ontario, London, ON (UWO)

Doctoral Dissertation:

- Assessing and analyzing bat activity with acoustic monitoring: challenges and interpretations
Environmental and Sustainability Collaborative, Centre for Environment and Sustainability (CES)

Master of Science in Biology **9 Sept. 2006**
University of California, San Diego, La Jolla, CA (UCSD)

Master's Thesis:

- The effects of toxins on growth, survivorship, and behavior of pipefish (*Syngnathus californiensis*)

Bachelor of Science in Biology (Ecology, Behavior, Evolution) **19 Mar. 2005**
University of California, San Diego, La Jolla, CA

RESEARCH EXPERIENCE

Post-doctoral Research **1 Aug. 2015 – present**
Dr. Michael Smotherman, Department of Biology, Texas A&M University (TAMU), College Station, TX, USA

- Investigating mutual interference of groups of echolocating bats
- Analyze acoustic data and create 3D flight paths with acoustic and stereo-video recordings
- Coordinate a team of undergraduates for collecting and analyzing data
- Care for captive colony of bats, *Tadarida brasiliensis*
- Mentoring a diverse team of undergraduates

Post-doctoral Research **15 Sept. 2013 – 20 July 2015**
Dr. Berry Pinshow, Mitrani Department of Desert Research, Ben-Gurion University of the Negev (BGU), Midreshet Ben-Gurion, Israel

- Researching burrow environments and their inhabitants, particularly scorpion burrows
- Studying burrow structure and how it functions as an extended organ of physiology for the inhabitant
- Casting burrows with molten aluminum, 3D scanning of casts
- Micrometeorology, soil properties, air flow

Doctoral Research **1 Sept. 2007 – 25 June 2013**
Dr. M. Brock Fenton, UWO

- Studied bat activity levels and how they differ with time, space, and sampling method

- Sampled bat communities in different situations and habitats in Belize, California, Costa Rica, Cuba, Jamaica, Ontario, and Saskatchewan through the use of mist nets, harp traps, and acoustical monitoring
- Banded bats in Ontario and Costa Rica
- Managed and analyzed large amounts of bat acoustic data
- Developed automated bat call identification process for Ontario bat species
- Created reference call library for bat species in Costa Rica

Research Assistant

June – Aug. 2007

Dr. Kim Williams-Guillén, University of Michigan

- Sampled bat communities in different management systems by mist netting (ground and triple-high nets), harp traps, acoustical monitoring, roost surveys, and insect sampling
- Processed and handled large quantities of bats each night; including aging, reproductive status, and banding

Master's Research

June 2004 – June 2006

Dr. Karen Marchetti, UCSD and Chris Stransky, Nautilus Environmental

- Studied the effects of toxins on the growth, survivorship and behavior of pipefish (*Syngnathidae*)
- Analyzed how populations reflect environmental toxin levels; possible use of *Syngnathus californiensis* and *S. leptorhynchus* as biological indicators

PUBLICATIONS

Adams, A.M., M.B. Fenton. 2017. Identifying peaks in bat activity: a new application of SaTScan's space-time scan statistic. *Wildlife Research*: doi:10.1071/WR16194

Adams, A.M., K. Davis, M. Smotherman. 2017. Suppression of pulse emission rates improve sonar performance by flying bats. *Scientific Reports*, 7: 41641, doi:10.1038/srep41641

Adams, A.M., E. Marais, J.S. Turner, L. Prendini, B. Pinshow. 2016. Similar burrow architecture of three arid-zone scorpion species implies similar ecological function. *The Science of Nature (Naturwissenschaften)*: doi:10.1007/s00114-016-1374-z

Korine, C., **A.M. Adams,** U. Shamir, A. Gross. 2015. Effect of water quality on species richness and activity of desert-dwelling bats. *Mammalian Biology*, 80(3): 185-190, doi:10.1016/j.mambio.2015.03.009

Adams, A.M., L.P. McGuire, L.A. Hooton, and M.B. Fenton. How high is high? Using percentile thresholds to identify peak bat activity. *Canadian Journal of Zoology*, 93(4): 307-313, doi:10.1139/cjz-2014-0230.

Clare, E.L., H.R. Goerlitz, V.A. Drapeau, M.W. Holderied, **A.M. Adams,** J. Nagel, E.R. Dumont, P.D.N. Hebert, M.B. Fenton. 2013. Trophic niche flexibility in *Glossophaga soricina*: how a nectar seeker sneaks an insect snack. *Functional Ecology*, 28: 632-641.

Mills, S.C., **A.M. Adams**, R.D. Phoenix. 2013. Bat Species Diversity in the Boreal Forest of Northeastern Ontario, Canada. *Northeastern Naturalist*, 20(2): 309–324.

Clare, E.L., **A.M. Adams***, A. Maya-Simoes, J. Eger, P.D.N. Hebert, and M.B. Fenton. 2013. Diversification and reproductive isolation: cryptic species in the only New World high-duty cycle bat, *Pteronotus parnellii*. *BMC Evolutionary Biology*, 13:26: doi:10.1186/1471-2148-13-26.**

Adams, A.M., M.K. Jantzen, R.M. Hamilton, and M.B. Fenton. 2012. A comparison of bat detectors: performance with synthetic playback and free-flying bats. *Methods in Ecology and Evolution*, 3(6): 992–998.

* Co-first author

** rated as highly accessed by Bio-Medical-Central

PRESENTATIONS

Adams, A.M., J. Pocock, and M. Smotherman. 2017. Modelling mutual suppression of sonar in group of bats. Society for Integrative and Comparative Biology (SICB), New Orleans, LA.

Adams, A.M. and B. Pinshow. 2017. Scorpions modify their behavior and burrow structure in response to the physical environment. SICB, New Orleans, LA. (poster)

Adams, A.M., K. Davis, M. Smotherman. 2016. Mutual suppression of pulse emission rates improves sonar performance by flying bats. Student/Postdoc Research Conference, Texas A&M University, College Station, TX. (Data Blitz talk, poster)

Pinshow, B., **A.M. Adams**, and J.S. Turner. 2016. Similar burrow architecture in three scorpion species implies similar ecological function. Society of Experimental Biology, Brighton, UK.

Pinshow, B., **A.M. Adams**, and J.S. Turner. 2016. Scorpion burrow morphology attenuates ventilation by trapping eddies. Society for Integrative and Comparative Biology, Portland, OR.

Adams, A.M., K. Davis, and M. Smotherman. 2015. Communication networks in groups of echolocation bats. 41st Annual North American Symposium on Bat Research, Monterey, CA.

Adams, A.M., J.S. Turner, P. Berliner, and B. Pinshow. 2015. Burrows of scorpions from different continents are very similar in architecture. Society for Integrative and Comparative Biology, West Palm Beach, FL. (poster)

Adams, A.M., J.S. Turner, P. Berliner, and B. Pinshow. 2014. Scorpion burrow structure and ventilation. American Physiological Society Comparative Approaches to Grand Challenges in Physiology, San Diego, CA. (poster)

Adams, A.M., J.S. Turner, P. Berliner, and B. Pinshow. 2014. Scorpion burrow structure and ventilation. Society of Experimental Biology, Manchester, UK.

- Adams, A.M.** 2013. Value in Variation? Stationary Acoustic Transects to Account for Spatial Variation in Bat Activity. 16th Annual International Symposium on Bat Research, San Jose, Costa Rica.
- Adams, A.M.** and M.B. Fenton. 2012. Value in variation? Spatio-temporal variation in bat activity. 42nd Annual North American Symposium on Bat Research, San Juan, Puerto Rico.
- Adams, A.M.** 2012 Value in variation? Spatio-temporal variation in bat activity. Biology Graduate Research Forum, London, Ontario. Student long presentation award honorable mention.
- Adams, A.M.**, M.K. Jantzen, R.M. Hamilton, and M.B. Fenton. 2012. A comparison of bat detectors: performance with synthetic playback and free-flying bats. Bat Research Meeting Cuba-Canada, Havana, Cuba. (presented in Spanish)
- Adams, A.M.**, M.K. Jantzen, R.M. Hamilton, and M.B. Fenton. 2011. A comparison of bat detectors: performance with synthetic playback and free-flying bats. 41st Annual North American Symposium on Bat Research, Toronto, Ontario. (poster)
- Adams, A.M.** 2010. Hide and Seek: 'Special' Site Detectability. 40th Annual North American Symposium on Bat Research, Denver, Colorado.
- Clare, E., B. Barber, B. Sweeney, E. Fraser, **A.M. Adams**, P.D.N. Hebert, and M.B. Fenton. 2010 Molecular dietary analysis of *Myotis lucifugus*, in Southwestern Ontario: spatial and temporal heterogeneity in dietary preferences indicate habitat type and quality. 40th Annual North American Symposium on Bat Research, Denver, Colorado.
- Clare, E.L., B. Barber, E. Fraser, **A.M. Adams**, M.B. Fenton, P.D.N. Hebert. 2009. Unraveling the food web of an insectivores bat community. 39th Annual North American Symposium on Bat Research, Portland, Oregon.
- Adams, A.M.** and L.P. McGuire. 2008. What is a busy night? 38th Annual North American Symposium on Bat Research, Scranton, Pennsylvania.
- Adams, A.M.** 2008. Bat Activity Levels: How they differ in time, space, and sampling. Ontario Ecology and Ethology Conference, Guelph, Ontario. (poster)
- Adams, A.M.** 2008. Bat Activity Levels: How they differ in time, space, and sampling. Earth Day Colloquium, London, Ontario.

INVITED TALKS

- Adams, A.M.** 2014. Assessing and analyzing bat activity with acoustic monitoring: challenges and interpretations. Department of Zoology Seminar, Tel Aviv University, Israel.
- Adams, A.M.** 2014. Assessing and analyzing bat activity with acoustic monitoring: challenges and interpretations. Mitrani Department of Desert Ecology Seminar. BGU, Israel.

Adams, A.M. 2014. Assessing and analyzing bat activity with acoustic monitoring: challenges and interpretations. Biology of Desert Dwelling Bats International Workshop. BGU, Israel.

Adams, A.M. 2012. Studying Bats. Bats and Abandoned Mines Workshop. Sudbury, Ontario.

POPULAR MEDIA

TV segments: Discovery Channel (Daily Planet, Canada, 2015)

Research featured in Discover Magazine (2015)

WORK EXPERIENCE

Independent Bat Acoustics Consultant **2011 – present**

- Analyzed bat acoustic data for the Ontario Ministry of Resources (OMNR), Parks Canada, Normandeau Associates, Inc., and Credit Valley Conservation Authority (CVCA)
- Prepared quotes and invoices
- Communicated results and findings in final reports

Bat Acoustic Techniques Workshop **June 2012**

Developed for the CVCA

- Developed and taught a workshop with one other graduate student on acoustic techniques
- Tailored curriculum to the organization's specific needs
- Liaised with organization managers

Bat Acoustic Techniques Course **May 2012**

Department of Continuing Studies, UWO

- Taught advanced acoustics analysis techniques to OMNR staff
- Developed advanced and beginner curriculum and presentations including material on acoustic survey design, North American bat ecology, and species-specific call identification
- Developing and managing a budget, liaising with OMNR managers, and project management

Management Operations and Marketing Exam Marker **2010 – 2013**

Department of Management and Organizational Studies, UWO

- Marked and provided feedback on exams

Bat Biology Course Development **2010**

Department of Biology, UWO

- Developed course material for a university-level online course through distance studies at UWO instructed by Dr. M. Brock Fenton
- Outlined lecture curriculum
- Developed all lab section curriculum, including practica presentations, assignments and case studies

- Established teaching assistant resources

Bat Monitoring Techniques Course

2008 – 2009

Department of Continuing Studies, UWO, in collaboration with the OMNR

- Trained OMNR staff and environmental consultants on bat capture, identification, handling, and echolocation call analysis

Nautilus Environmental, LLC

2004 – 2006

- Contributed to research at a private environmental toxicology company as an intern/laboratory technician
- Analyzed water and sediment quality through bioassays
- Assisted with experimental set up, animal care, and collecting data

PROFESSIONAL SERVICE

Peer Reviewing

2012 – present

- Methods in Ecology and Evolution
- Journal of Ethology
- PLoS One
- Mammal Research (formally Acta Theriologica)
- Journal of Applied Ecology
- Journal of Arachnology
- Journal of Wildlife Management
- Northeastern Naturalist
- Acta Chiropterologica

Funding/Scholarship Reviewing

- Bat Conservation International - Small Grants for Global Bat Conservation Priorities
- Science Ambassador Scholarship
- Texas Junior Academy of Science

Bats and Abandoned Mines Workshop

Aug. 2012

- Presented to mining industry, environmental consultants, and government officials on capture and acoustic techniques for studying bats in Sudbury, ON at Science North

Windsor Cave Bat Workshop

July 2010

- Instructed professionals and government officials in Jamaica on bat capture, handling, and acoustic monitoring techniques

MEMBERSHIPS

- Society of Experimental Biology (24 Mar. 2014 – present)
- Society for Comparative and Integrative Biology (Sept. 2014 – present)
- North American Society for Bat Research (Oct. 2008 – present)

CERTIFICATES

Center for Integration of Research, Teaching, and Learning (CIRTL) Associate

Evidence-Based Undergraduate STEM Teaching	Nov. 2015
Postdoctoral Workshop Series	May 2016
Advanced Learning Through Evidence-based STEM Teaching	July 2016

TEACHING EXPERIENCE

Assistant Professor

Aug. – Sept. 2013

University of Western Ontario, London, ON, Canada

- Ontario Universities' Program in Field Biology Experimental Studies in Marine Biology
- Field course at Huntsman Marine Sciences Centre in St. Andrews, New Brunswick

Teaching Assistantships

University of Western Ontario:

- MOS 1021: *Introduction to Management and Organizational Studies* (Consumer Behavior and Human Resources), Prof. Kevin Thompson **Sept. 2012 – Apr. 2013**
- Biology 2290: *Biological Methods Laboratory*, Prof. Irene Krajnyk **2007 – 2012**
- Biology 3224: *Bat Biology*, Distance Studies (online), Dr. Brock Fenton **2010, 2011**

University of California, San Diego:

- BIEB 164: *Behavioral Ecology*, Dr. Karen Marchetti **Jan. – Mar. 2006**
- BIEB 128: *Insect Ecology*, Dr. David Holway **Mar. - June 2005**

Co-Instructor

June 2005

UCSD Extension, La Jolla, CA

- Taught Extreme Ichthyology to high school students with one other instructor
 - Developed course curriculum, including exams, hands-on activities, and field trips
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COMMUNITY SERVICE

TAMU Postdoctoral Association

2016 – present

- President and founding member
- Created bylaws and coordinated formation of the association

Society of Graduate Students (SOGS) Sustainability Committee

2010 – 2012

- Founding member and former chair for the graduate committee at UWO
- Spearheaded initiatives including composting in the Grad Club and graduate student areas, a sustainability assessment, waste education activities, and sustainability training development
- Scheduled and ran meetings

- Communicated extensively with Facilities Management and other groups to coordinate activities

Earth Day Colloquium Planning Committee **2009 – 2012**

- Chair of the committee for two years coordinating this annual interdisciplinary conference for the Centre for Environment and Sustainability
- Coordinated all aspects of the event, including people and oversaw all tasks
- Delegated responsibility
- Obtained funding for the event and developed budgets
- Chaired meetings
- Scheduled presentations and communicated with invited speakers

Student Sustainability Collaborative **2011 – 2012**

- Founding member of the collaborative group intended to bring together all of the student groups working on sustainability initiatives at UWO
- Scheduled and chaired meetings
- Managed contact database

SCHOLARSHIPS AND ACADEMIC HONORS

Kreitman Foundation Post-doctoral Fellowship	Mar. 2014 – Feb. 2015
Blaustein Center for Scientific Cooperation (BCSC) Post-doctoral Fellowship	Sept. 2013 – Sept. 2015
American Physiological Society Travel Award	Sept. 2014
Society of Experimental Biology Travel Grant	July 2014
BCSC Post-doctoral Travel Grant	July 2014
SOGS Travel Award	Jan. 2013
Centre for Environment and Sustainability (CES) Travel Award	2009, 2012
Bat Conservation International Student Scholarship	Mar. 2010
Western Graduate Research Scholarship	2007 – 2011
Biology Department Travel Award	Apr. 2010
Graduate Teaching Associate Michelle Sweeney Scholarship	Mar. 2008
Masonic Foundation Educational Scholarship	2001 – 2005
Awards	
CES Excellence Award	2011, 2012
SOGS Sustainability Committee Honorarium	Apr. 2012
CES Best Presentation Award	Apr. 2011
Provost's Honors	2002 – 2004

TECHNICAL SKILLS

- Capture, handling, and processing of bats in the field with ground level and triple-high mist nets and harp traps. Experience in both temperate and tropical regions.
- Acoustic monitoring, echolocation species identification
- Statistical analysis and data management with R, SAS, and SPSS

Amanda Adams
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- MATLAB, LabVIEW
- Conversational Spanish

REFERENCES

Available upon request