

# LOUISE C. ALLEN

## CURRICULUM VITAE

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### PROFESSIONAL APPOINTMENTS

**Special Assistant (Jan 2014 – present).** Office of Science Initiatives in the Office of the Provost, Winston-Salem State University, Winston-Salem, North Carolina, USA.

**Lecturer of Biology (Jan 2014 – present).** Department of Biological Sciences, Winston-Salem State University, Winston-Salem, North Carolina, USA. Research: *Heart-rate as a proxy for measuring stress and perception in wildlife.*

**Collaborating Researcher (2010-present).** The Center For Design Innovation, Winston-Salem, NC. Research: *Group flight behavior of bats; New STEM learning models.*

**Research Fellow (2011-present).** Department of Conservation and Research, NC Zoo, Asheboro, NC. Research: *Change in trail use by non-human animals, in response to human activity.*

**Adjunct Professor of Biology (2010- Dec 2013).** Department of Life Sciences, Winston-Salem State University, Winston Salem, NC.

**Adjunct Professor (2010-2012).** Department of Biology, Salem College, Winston-Salem, NC.

**Postdoctoral Research Associate (2009-2010).** Department of Biology, Wake Forest University, Winston-Salem, NC. Research: *Foraging Behavior and Reproductive Senescence in a long-lived Seabird.*

**Visiting Research Associate (2007-2009).** Department of Biology, Brown University, Providence, RI. Research: *Flight Behavior of Bats.*

### EDUCATION

**Boston University, Ph.D. in Biology (2003-2009).** Advisor: Professor Thomas Kunz. *Dissertation: Immunity, Reproductive Success and Stress in Cave- and Bridge-roosting Brazilian Free-tailed Bats: Implications for Conservation.*

**Boston University, M.A. in Biology (2003-2008).** Advisor: Professor Thomas Kunz. *Bat roost dynamics and Ecosystem Services Provided by Wildlife.*

**Michigan State University, BS in Zoology (1996-2000).** Advisor: Professor Richard Snider. *Concentrations: Zoo and Aquarium Science/Ecology, Evolution and Behavior.*

**REFEREED PUBLICATIONS**

Hristov, N.I., **L.C. Allen** and B.A. Chadwell (2013). New Advances in the Study of Group Behavior in Bats. In: *Bat Evolution, Ecology and Conservation* (R.A. Adams and S.C. Pedersen, eds.). Springer Science Press.

**Allen, L.C.**, E.P. Widmaier, A.S. Turmelle, N.I. Hristov, G.F. McCracken, and T.H. Kunz (2011). Bridge-Roosting Brazilian Free-tailed Bats Exhibit Resiliency to Anthropogenic Disturbance: Comparing Roost-type Variation in Health and Stress Levels. *Conservation Biology* 25:374-381.

**Allen, L.C.**, C.S. Richardson, G.F. McCracken and T.H. Kunz (2010). Birth size and postnatal growth in cave- and bridge- roosting Brazilian free-tailed bats. *Journal of Zoology (Lond)*.280: 6-18. \* Featured cover story.

Turmelle, A.S., **L.C. Allen**, B.A. French, F.R. Jackson, T.H. Kunz, G.F. McCracken, and C.E. Rupprecht (2010). Response to vaccination with a commercial inactivated rabies vaccine in a captive colony of Brazilian free-tailed bats (*Tadarida brasiliensis*). *Journal of Zoo and Wildlife Medicine* 41: 139-142.

Turmelle, A.S., **L.C. Allen**, F.R. Jackson, T.H. Kunz, C.E. Rupprecht, and G.F. McCracken (2010). Ecology of rabies virus exposure in colonies of Brazilian free-tailed bats (*Tadarida brasiliensis*) at natural and man-made roosts in Texas. *Vector-Borne and Zoonotic Diseases* 10: 165-175.

**Allen, L.C.**, A.S. Turmelle, M.T. Mendonca, K.J. Navara, T.H. Kunz, and G.F. McCracken (2009). Roosting ecology and variation in adaptive and innate immune system function in the Brazilian free-tailed bat (*Tadarida brasiliensis*). *Journal of Comparative Physiology B*. 179: 315-323.

Reichard, J.D., L. Gonzalez, C. Casey, **L.C. Allen**, N.I. Hristov, and T.H. Kunz. (2009). Evening emergence behavior and seasonal dynamics in large colonies of Brazilian free-tailed bats. *Journal of Mammalogy*. 90: 1478–148.

**MATERIAL CURRENTLY IN REVIEW**

**Allen L.C.**, M. Betke, D. Hirsh, T.H. Kunz and N.I. Hristov. Multi-year assessment of population dynamics in a colonial bat: Fluctuations and trends. *J. of Bio. Conserv.* In review.

Hristov, N.I., **L.C. Allen**, T.L. Hedrick, B. Chadwell, T.H. Kunz, S.M. Swartz. Flight and group behavior in the highly gregarious Brazilian free-tailed bat (*Tadarida brasiliensis*). *J. of Exper. Bio.* In review.

**SELECT PRESENTATIONS (10 of 25+)**

Hristov, N.I., **L.C. Allen**, J. Riley, T. Jones, and M. Merson (2015). iSWOOP: interpreters and Scientists Working On Our Parks. Society for Integrative and Comparative Biology (SICB), West Palm Beach, FL.

Rice, C.T., N. Hristov, and **L.C. Allen** (2013). Using heart rate telemetry to assess the fight-or-flight response in bats. Scholarship Day, Winston-Salem State University, Winston-Salem, NC.

Savage E., **L.C. Allen**, B. Chadwell, and N. Hristov (2011). No Energetic Benefit to Group Flight in *Tadarida brasiliensis*. 41<sup>st</sup> North American Symposium on Bat Research (NASBR), Toronto, ON.

**Allen, L.C.**, J. Grace, B. Chadwell, M. Wikelski and D. Anderson (2011). Poor foraging not breeding explains reproductive decline in a long-lived seabird. Society for Integrative and Comparative Biology (SICB), Salt Lake City, UT.

Hristov, N.I., T.L. Hedrick, **L.C. Allen**, B. Chadwell, T.H. Kunz, K.S., Breuer, S.M. Swartz (2011). Flight formation and group behavior in the highly gregarious Brazilian free-tailed bat *Tadarida brasiliensis*. Society for Integrative and Comparative Biology (SICB), Salt Lake City, UT.

**Allen, L.C.**, I.A. Bison, N.I. Hristov and T.H. Kunz (2009). Assessing the flight of fight response in bats using heart-rate telemetry. Society for Integrative and Comparative Biology (SICB), Boston, MA.

**Allen, L.C.**, E.P. Widmaier and T.H. Kunz (2008) Under the Bridge – Comparing Stress Levels and Health in Bridge- and Cave- roosting Brazilian Free-tailed Bats (*Tadarida brasiliensis*). 38<sup>th</sup> North American Symposium on Bat Research (NASBR), Scranton, PA.

**Allen L.C.**, T.H. Kunz, A.S. Turmelle, M.T. Mendonca, K. Navara and G.F. McCracken (2006) The Effects of Ecological and Energetic Trade-offs on Innate and Adaptive Immune System Function in The Brazilian Free-tailed Bat (*Tadarida brasiliensis*). 36<sup>th</sup> North American Symposium on Bat Research (NASBR), Wilmington, NC.

**Allen L.C.**, E.P. Widmaier and T.H. Kunz (2006) Variation in baseline and stress-induced cortisol levels in the Brazilian free-tailed bat (*Tadarida brasiliensis*). Ecology of Infectious Diseases NSF-NIH meeting, Atlanta, GA.

**Allen, L.C.**, E.P. Widmaier and T.H. Kunz (2005) A Comparison of Birth Size and Postnatal Growth Rates in Cave and Bridge Roosting Free-tailed Bats (*Tadarida brasiliensis*). 35<sup>th</sup> North American Symposium on Bat Research, Sacramento, CA

## FUNDING SOURCES

**National Science Foundation. PENDING.** “iSWOOP Innovations. Advancing Informal Science Learning – Innovation and Design Project (\$2.87M). Co-PI.

**National Science Foundation. PENDING.** “iSWOOP-US2” Advancing Informal Science Learning – Supplement (\$50,000). Co-PI.

**National Science Foundation. PENDING.** “Examining the Effects of Noise on Vertebrates Using Heart Rate Telemetry”. Coupled Natural and Human Systems – Research Opportunity Award Supplement (\$27,200). Visiting Researcher with PI Jesse Barber.

**National Science Foundation. November 2013 – May 2015.** “iSWOOP: Interpreters and Scientists Working On-site in Our Parks” Advancing Informal Science Learning – Pathways Project (\$249,800). Co-PI.

**British Broadcast Channel (BBC-Sky Labs). May 2015.** Funding provided for 2 Co-PIs and 2 students to travel to Texas for field research and filming (\$10,000).

**Bat Conservation International – December 2012.** “Bracken Bat Cave Laser Scanning Project”. Funding was provided for 2 Co-PIs and 2 students to travel to Texas for field research (\$5500).

**National Parks Service – December 2012.** “Carlsbad Caverns Laser Scanning Project”. Funding was provided for 2 Co-PIs and 2 students to travel to New Mexico for field research (\$4500).

**Smithsonian Institute – July 2012.** “Killer in the Caves” taglight media. Funding was provided for 2 Co-PIs and 4 students to travel to Texas/New Mexico for field research (\$8,000).

**Max Planck Institute – May 2012.** Funding was provided for 2 Co-PIs to travel to European field stations to conducted roost surveys, and sensory biology and behavioral research (\$15,000).

**National American Society of Mammalogists (Grant in Aid of Research) 2007.** “A Comparison of Stress Physiology in Bridge and Cave-roosting Brazilian Free-tailed Bats”. (\$4,000). PI.

**National Science Foundation. September 2004 –December 2007.** “Ecology of rabies in bats”. (\$1.5M) Co-PI: T.H. Kunz; L.C. Allen - Lead Graduate Student Researcher under direction of T.H. Kunz

## TEACHING EXPERIENCE

**Winston-Salem State University (2010-present),** Winston-Salem, NC: Introduction to Organismal Biology, Introductory Organismal Biology Lab, Environmental Biology, Life on Two Wheels: Exploring Human and Environmental Health through Cycling. Developed a freshman seminar course using the bicyling as a teaching tool to foster student engagement with course material. Also developed a Comparative Anatomy and Biology of Vertebrates course.

**Salem College (2010-2012)**, Winston-Salem, NC: Principles of Biology with Lab (Nominated to the Order of the Cork); Intro to Environmental Studies (Grassroots Biology); Cell and Molecular Biology Lab.

**Boston University (2003-2009)**, Boston, MA: Molecular Biology, Animal Behavior, Lab instructor; Ecology and Mammalogy, Lab instructor and occasional lecturer.

### RESEARCH ADVISEES

Jenniffer Riley, Carrie Shaw, Eve Savage, Brittany George, Curtis Rice, Phierica Gardin (Biology – WSSU); Tunde Adeyeme (Digital Animation – WSSU); Issac Banks, Eli Wallace-Johanson, Eduardo Urena, Ian McClerrin (Cinematography – UNCSA); Taylor Jones, Jessica Bullins, Logan Rost, Jennifer Johnson (Biology – Salem College); Joseph Cornelius (Documentary Film Studies – Wake Forest University); Stephen Parey (Computer Science – WFU); Maria Stager, Jordan Casey (Biology – WFU); Lauren Gonzalez, Caitlin Casey, Kaitlin Farrell, Laura Borelli, Alex Frank (Biology – Boston University) Diane Hirsh (Computer Science – Boston University).

### INVITED SEMINARS

N. Hristov, S. Betz, and **L. Allen** (2013). *In the Field—In the Studio*. UNC Coastal Studies Institute. Design Art Science Humanities Symposium: Responding to Place

Hristov, N.I., D. Riskin and **L. Allen** (2011). *2<sup>nd</sup> Annual Bat Film Festival and Workshop*. North American Symposium on Bat Research, Toronto, Canada.

**Allen, L.**, M. Gymer, N. Hristov and T. McGee (2011). *Community Health and Biking*. Store Front Lecture Series, Elsewhere Collaborative, Greensboro, NC.

Hristov, N.I., S. Betz, and **L. Allen** (2011). *Art/science collaborations and technologies for community development via biking*. Idea Exchange, Center For Design Innovation, Winston-Salem, NC.

Hristov, N.I. and **L. Allen** (2010). *1<sup>st</sup> Annual Bat Film Festival and Workshop*. North American Symposium on Bat Research, Denver, CO.

### SELECT NEWS AND MEDIA

**Smithsonian Channel – Killer in the Caves** – 2013. Filmed and appeared in a one-hour documentary about white nose syndrome and the researchers who study it or are concerned about its rapid spread. Nominated for Outstanding Cinematography by the National Academy of Television Arts and Science. [smithsonianchannel.com/shows/killer-in-the-caves/0/3374278](http://smithsonianchannel.com/shows/killer-in-the-caves/0/3374278). Also see <http://vimeo.com/59134588> (password: bats100) for a segment not in the final film.

**BBC London – BBC's Invisible Worlds.** Research videos featured as part of a three part series, originally aired in Spring 2010.

**BBC News – Bats set up home on the highway (October 5, 2009).**  
<http://news.bbc.co.uk/2/hi/science/nature/8291195.stm>

**Journal of Zoology Podcast – Bats and Bridges Podcast (Fall 2009).** Selected article for journal's new podcast format. [wiley.com/bw/podcast/jzo.asp](http://wiley.com/bw/podcast/jzo.asp)

**Houston Chronicle – Bats' Surprising Behavior (January 27, 2009).** Popular article written that explains findings of my dissertation work.  
<http://www.chron.com/disp/story.mpl/nb/heights/news/6231877.html>

**Discovery News – Top 5 Science Animal Videos (December 2008).** Featured research videos on Discovery Channel's News program.

#### PROFESSIONAL SOCIETY MEMBERSHIPS AND SERVICE

**North American Society for Bat Research** (2003-present). Served as student representative to the board of directors from 2007-2009. <http://www.nasbr.org>

**Society for Integrative and Comparative Biology** (2003-present). <http://www.sicb.org>

**American Society of Mammalogists** (2004-present). <http://www.mammalsociety.org>

**AWIS: Association for Women in Science** (2010-present). <http://www.awis.org>

Ad Hoc Reviewer – **J. of Zoology, J. of Comparative Physiology, J. of Experimental Zoology**

#### PROFESSIONAL REFERENCES

**Carol Strohecker** – Vice Provost of Academic Affairs, Rhode Island School of Design (RISD).  
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**Cheraton Love** – Freshman Dean, Winston-Salem State University.  
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**Jesse Barber** – Assistant Professor of Biology, Boise State University.  
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**Martha Merson** - Research Associate, TERC.  
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