Grace Smith-Vidaurre

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Appointments and Education

2021 - 24 NSF Postdoc Research Fellow

The Rockefeller University, University of Cincinnati

Postdoc co-mentors: Dr. Erich Jarvis, Dr. Elizabeth Hobson

2013 - 20 **PhD in Biology**

New Mexico State University

PhD mentor: Dr. Timothy Wright

2007 - 11 **BS in Biology and Spanish**

Haverford College

Senior thesis mentors: Dr. Robert Fairman, Dr. Roberto Castillo-Sandoval

Peer-reviewed Publications and Accepted Manuscripts

*former undergraduate mentee

- **8)** Estien, C.O., O'Connell, C.L., Francis, X., **Smith-Vidaurre, G.**, Kluever, B.M., Hobson, E.A., and A. van der Marel. (2022). Temporary behavioral responses to playbacks by a pest parrot and implications for management. Animal Behavior and Cognition, 9(4), 363-384. DOI.
- **7) Smith-Vidaurre, G.**, Pérez-Marrufo, V.*, and T.F. Wright. (2021). Individual vocal signatures show reduced complexity following invasion. Animal Behavior, 179: 15 39. DOI.
- **6) Smith-Vidaurre, G.**, Araya-Salas, M., and T.F. Wright. (2020). Individual signatures outweigh social group membership in contact calls of a communally nesting parrot. Behavioral Ecology, 31: 448-458. DOI.
- **5)** Araya-Salas, M., **Smith-Vidaurre, G.**, González-Gómez, P., Mennill, D., and T.F. Wright. (2019). Social group signatures in hummingbird displays provide evidence of co-occurrence of vocal and visual learning. Proceedings of the Royal Society B, 286: 20190666. DOI.
- **4)** Wright, T. F., Lewis, T. C., Lezama-López, M., **Smith-Vidaurre, G.**, and Dahlin, C. R. (2018). Yellownaped Amazon (*Amazona auropalliata*) populations are markedly low and rapidly declining in Costa Rica and Nicaragua. Bird Conservation International, 29(2): 291-307. DOI.
- **3)** Araya-Salas, M., **Smith-Vidaurre, G.**, and M. Webster. (2017). Assessing the effect of sound file compression and background noise on measures of acoustic signal structure. Bioacoustics 28: 57-73. DOI.
- **2)** Hobson, E.A., **Smith-Vidaurre, G.**, and A. Salinas-Melgoza. (2017). History of nonnative Monk Parakeets in Mexico. PLOS ONE 12(9): e0184771. DOI.
- 1) Araya-Salas, M. and **Smith-Vidaurre, G.**. (2016). warbleR: an R package to streamline analysis of animal acoustic signals. Methods in Ecology and Evolution 8: 184-191. DOI.

Selected Manuscripts in Review or in Preparation

*former undergraduate mentee

- **3) Smith-Vidaurre, G.**, Pérez-Marrufo, V.*, Hobson, E.A., Salinas-Melgoza, A., and T.F. Wright. Individual identity information persists in learned parrot calls after invasion. *In review*. EcoEvoRxiv preprint DOI: 10.32942/osf.io/n79kc.
- **2) Smith-Vidaurre, G.**, Molina-Medrano, T., Jarvis, E.D., and E.A. Hobson. Automated tracking of avian parental care behavior. *In prep.* MS available upon request.
- 1) Smith-Vidaurre, G., and E.A. Hobson and E.D. Jarvis. An integrated perspective on learned vocal identity signaling. *In prep.* MS proposal available upon request.

Fellowships, Grants, and Research Funding (\$252,000 total)

NSF Broadening Participation Postdoctoral Research Fellowship (\$207,000) NMSU Whaley Fieldwork Award, Biology Department (\$2,000)

2021 - 24

Fulbright Study/Research Grant in Uruguay (\$14,000)	2016
Experiment.com crowdfunding with Dr. Kevin Burgio (\$4,000)	2016
American Ornithologists' Union Carnes Award (\$3,000)	2016
Private donation from Michael and Susan Achey (\$7,000)	2014
NMSU College of Arts and Sciences Graduate Tuition Fellowship ($\$15,000$)	2013 – 17

Honors and Awards

NMSU Outstanding Graduate Award, College of Arts and Sciences	2020
NMSU Biology Department Graduate Award for Excellence in Research	2019
NMSU Graduate School Merit-Based Enhancement Award	2016, 2019
NMSU Biology Department Graduate Award for Excellence in Teaching	2016
NMSU Biology Department Star, College of Arts and Sciences Award	2016
Nominee for Thomas J. Watson Fellowship, Haverford College	2011
Manuel J. and Elisa P. Asensio Prize for best senior thesis in Spanish	2011

Presentation Awards: NMSU Biosymposium Best Graduate Talk (2020), NMSU Biosymposium Best Graduate Poster (2015, 2018), NMSU Graduate Research and Arts Symposium (GRAS) Honorable Poster Mention (2015). Travel and Diversity Awards: Society for Integrative and Comparative Biology (SICB: 2016, 2019), Animal Behavior Society (2015, 2019), NMSU College of Arts and Sciences (2015, 2019), American Ornithologist's Society (AOS: 2018, 2020)

Book Chapters

1. Russello, M.R., **Smith-Vidaurre, G.**, and T.F. Wright. Genetics of invasive parrot populations. *Naturalized parrots of the world: Distribution, ecology, and impacts of the world's most colorful colonizers*. Stephen Pruett-Jones (Ed). Princeton University Press, 2021.

Software

- 3. **Smith-Vidaurre**, **G.** Mosey: (Mo)vement (se)nsor utilit(y) functions for data processing and integration. Will be made available on GitHub: gsvidaurre/mosey. Functions available upon request.
- 2. Molina-Medrano, T., and **Smith-Vidaurre, G.**. ParentalCareTracking: An automated system developed to track avian parental care behavior. Will be made available on GitHub: lastralab/ParentalCareTracking. Repository access available upon request.
- 1. Araya-Salas, M., **Smith-Vidaurre, G.**, and H. Zhong. 2015. warbleR: an R package to streamline bioacoustic analysis. URL: http://cran.r-project.org/package=warbleR.

Invited talks

Bridging Brains and Bioacoustics virtual seminar series	Nov 2022
An integrated perspective on learned vocal identity signaling	
Social Competency symposium, 59th Animal Behavior Society meeting	Jul 2022
Social systems, cognition, and identity signaling can provide new insights into vocal communication	i
Allee Competition symposium, 58th Animal Behavior Society meeting	Aug 2021
Resilience and sensitivity of learned vocalizations to the social environment	
Integrated Behavioral Research Group seminar, EEB Department, Princeton University	Mar 2021
Monk parakeet calls exhibit resilience and sensitivity to invasion	
Coffee with Scientists talk	Nov 2020
Deprtment of History and Philosophy of Science, University of Cambridge	
Understanding urban history from an ecological perspective, with Fedorova, N. and Logan, C.J.	
Departmental seminar, Department of Biological Sciences, University of Cincinnati	Oct 2020

Learned calls of monk parakeets exhibit sensitivity and resilience to invasion

Naturalized parrots symposium at the North American Ornithological Conference

Aug 2020

Symposium title: The global rise of naturalized parrots: status, lessons learned, and emerging issues

Symposium talk: Genetics of invasive parrots: insights into origins, invasion patterns and adaptation with Russello, M.A. and Wright, T.F.

Workshops and Working Groups

Attended Joint lab retreat to discuss collaborative projects on animal social behavior

Aug 2021

Organized by Dr. Elizabeth Hobson (University of Cincinnati) and Dr. Gerald Carter (the Ohio State University)

Attended NextProf Science, University of Michigan

May 2020, 21

Attended Complex Networks Winter Workshop

Jan 2021

 $\textbf{Co-delivered workshop} \ \text{on bioacoustics in} \ R$

10 Apr 2018

Packages for streamlined bioacoustics analyses in R

AOS annual meeting, Tucson, AZ with Dr. Marcelo Araya-Salas **Delivered** workshop on bioacoustics in R

7 Aug 2017

warbleR: a package for streamlined bioacoustic analyses in R, 1st Ornithological Congress of the Americas, Puerto Iguazú, Argentina

Co-delivered workshop on bioacoustics in R

13-17 Jul 2017

Taller de bioacústica: análisis de sonidos animales en R

Universidad Centroamericana, Managua, Nicaragua with Dr. Marcelo Araya-Salas

Attended La Kretz Conservation Genomics Workshop, UCLA

20-24 Mar 2016

Organized and delivered workshop session on R coding

08-09 Nov 2015

Biology Graduate Student Organization R workshop, NMSU Biology Department

Co-delivered workshop on bioacoustics in R

14-19 Jul 2015

Taller de bioacústica: análisis de sonidos animales en R y la aplicación en la biología de la conservación, Organization for Tropical Studies Palo Verde Research Station, Costa Rica with Dr. Marcelo Araya-Salas

Attended NIMBioS Graduate Workshop on Current Issues in Statistical Ecology

15-17 Apr 2015

National Institute for Mathematical and Biological Synthesis (NIMBioS), Knoxville

Selected Presentations

Smith-Vidaurre, G., Hobson, E.A., and E.D. Jarvis. Poster.

Aug 2022

An integrated social and neural framework for the maintenance and evolution of socially learned identity signaling Gordon Research Conference: Neural Mechanisms of Acoustic Communication

Smith-Vidaurre, G., Pérez-Marrufo, V., and T.F. Wright. Talk.

Jul 2020

Invasion influences the complexity of individual signatures in learned contact calls of a parrot

Animal Behavior Society

Smith-Vidaurre, G., Araya-Salas, M., and T.F. Wright. Talk.

Jul 2019

Social information differs among contact calls of three vocal learning species

Animal Behavior Society

Smith-Vidaurre, G., Araya-Salas, M., and T.F. Wright. Poster.

Jul 2019

Distinct social information in contact calls of three vocal learning species

Songbird and Animal Communication regional Conference

Smith-Vidaurre, G., Araya-Salas, M., and T.F. Wright. Talk.

Jan 2019

Monk parakeets exhibit low acoustic convergence across social scales in their native range

Society for Integrative and Comparative Biology

Smith-Vidaurre, G., and T.F. Wright. Poster.

Feb 2018

Mapping patterns of vocal variation in the native range of an invasive parrot

New Mexico State University Biosymposium, Department of Biology

Smith-Vidaurre, G., and T.F. Wright. Poster.

Apr 2018

Mapping patterns of vocal variation in the native range of an invasive parrot

American Ornithologists' Society

Hobson, E.A, **Smith-Vidaurre, G.**, and A. Salinas-Melgoza. Talk.

Aug 2017

History of nonnative Monk Parakeets in Mexico

Ornithological Congress of the Americas

Research Experience

Graduate research assistant, The Ohio State University

Jan - Aug 2020

Assessing vocal variation over social scales and evidence of vocal learning in vampire bats with Dr. Gerry Carter

Graduate research assistant, Jornada Basin LTER

Jun 2018 - Dec 2019

Big Data approaches to assessing cyclical spatiotemporal disease occurrence with Dr. Heather Savoy and Dr. Debra Peters

Visiting researcher, Santa Fe Institute

01 - 07 Nov 2016

Monk parakeet research collaborative visit, with Drs. Elizabeth Hobson and Alejandro Salinas-Melgoza

Graduate research assistant, NMSU

21 May – Oct 2016

Evaluating quasispecies diversity in dengue virus strains with Dr. Kathryn Hanley

Field research technician, Pacific coast of Nicaragua

22 Jun - 12 Jul 2016

Assessing spatiotemporal variability in parrot vocal dialects with Drs. Tim Wright, Christine Dahlin

Sanger Sequencing Graduate Assistant, NMSU Molecular Biology Sequencing facility

Spring 2016

Sequenced samples for researchers across different NMSU departments (Dr. C. Brad Shuster)

Intern, National Center for Genome Resources, Santa Fe, NM.

16 Jun - 10 Jul 2015

Research internship in cutting-edge genomics and bioinformatics

Visiting researcher, University of British Columbia-Okanagan, Canada

15 Jan - 26 Jan 2015

Restriction enzyme associated DNA sequencing (RAD-seq) library prep with Drs. Andrew Veale, Michael Russello

Visiting researcher, University of British Columbia-Okanagan, Canada

7 Jul – 5 Aug 2014

RAD-seq bioinformatics with Drs. Andrew Veale, Michael Russello

Avian field research technician, La Selva Biological Station, Sarapiquí, Costa Rica

Jan - Apr 2013

Social learning of hummingbird visual displays with Drs. Marcelo Araya-Salas and Tim Wright

Avian field research technician, RI Dept of Environmental Management, Kingston, RI Nov 2011 – Mar 2012 Management research with 3 native duck species

Undergraduate thesis, Haverford College Biology Department

Sep 2010 - Apr 2011

Using acrylodan to probe oligomeric structures formed by the huntingtin N-terminus during aggregation with Dr. Robert Fairman

Undergraduate thesis, Haverford College Spanish Department

Sep 2010 – Apr 2011

Esta criatura no es de aquí: constelaciones de transformaciones y la invasión de la barbarie en 2666 with Dr. Roberto Castillo-Sandoval

Mentoring Activities

Graduate students:

César Estien: Bioacoustics analysis in R with parrot vocalizations

2021

Cesar was a post-bacc researcher with Dr. Elizabeth Hobson (University of Cincinnati), and is a PhD student with Dr. Christopher Schell (University of California, Berkeley)

Julia Vrtilek: Bioacoustics analysis in R with bat vocalizations

2021 - 2022

Julia is a PhD student with Dr. Gerald Carter (the Ohio State University)

Undergraduate students:

Jasmine Brace: Data collection and analysis, scientific writing and presentations

2021

Jasmine was a NSF REU and Dutchess Community College student, and is an undergraduate student at Hawai'i Pacific University

Valeria Pérez-Marrufo: Data collection and analysis, scientific writing and presentations 2019 - 21 Valeria was an NMSU Maximizing Access to Research (MARC) student, and is a PhD student with Dr. Susan Parks (Syracuse University)

High school students:

Jumpstart Advocate for a high school student doing spring and summer research *RockEDU Science Outreach, Rockefeller University*

Mar - Aug 2022

Peer mentoring:

Weaving the Future of Animal Behavior: Power of Peer mentoring, undergraduates
Jul 2022 - present Postdoc co-mentor for a peer mentoring circle with undergraduate students in the Animal Behavior Society (ABS) Turner program

Weaving the Future of Animal Behavior: Power of Peer mentoring, ECRs

2021 - present

Biweekly peer mentoring circle with 8 peers who are postdocs or early-career faculty, organized by ABS and funded by the NSF

Women of Color in Ecology and Evolutionary Biology: Monthly 1:1 mentoring program 2021 - present *Participating as a mentee and mentor (2 mentees since 2021)*

Women of Color in Ecology and Evolutionary Biology: Monthly peer mentoring

2022 - present

Monthly peer mentoring with 4 peers at similar career stages (members of WOCinEEB)

ABS conference mentor

03 - 06 Aug 2021

Mentoring sessions with students during 58th ABS annual meeting

Teaching Experience

Guest lecture for genetics course with Dr. Sara Lipshutz

04 Mar 2022

Epigenetic regulation of a specialized form of social learning, Department of Biology, Loyola University Chicago

Guest lecture for physiology course with Dr. Teri Orr

29 Sep 2021

Social functions and epigenetic regulation of a specialized form of social learning, Department of Biology, NMSU

Guest lecture for R course with Dr. Scott Ferrenberg

03 Apr 2019

PCA and Mantel tests, Department of Biology, NMSU

Guest seminar for ethology class with Dr. Bettina Tassino

20 Jun 2017

Más allá de los genes: La evolución y los cambios ambientales producidos por hombre, Facultad de Ciencias, la Universidad de la República, Uruguay

Teaching Assistant, NMSU Biology Department:

BIOL 211: Cellular and Organismal Biology Lecture

Spring 2018

■ BIOL 309 and 350 (HHMI): Guided Biological Research

Fall 2016, Spring and Fall 2015

■ BIOL 211: Cellular and Organismal Biology Lab

Fall 2013, Spring 2014

HHMI Graduate Assistant

Fall 2015, Spring 2017

Designed active learning exercises on protein folding and hypothesis-testing, NMSU Biology Department

Substitute Teacher

Fall 2012

Substitute teacher for middle and high school Spanish classes, Moses Brown School, Providence, RI

Teaching Assistant Fall 2010

TA for for introductory Spanish class, Haverford College, Spanish Department

Professional Development

Pedagogical training

18 Jan - 03 Feb 2022

Launching Undergraduate Science Teaching Careers, virtual course

6 session course on undergraduate teaching and mentoring (Memorial Sloan Kettering Cancer Center, The Rockefeller University, Weill Cornell Medicine)

Technical host 03 - 06 Aug 2021

Technical host for Zoom meetings for workshops, plenaries, and conference sessions for the virtual Animal Behavior Society conference (58th annual meeting)

Peer mentoring training

02 Aug 2021

Weaving the Future of Animal Behavior workshop for peer mentoring training at the 58th annual meeting of Animal Behavior Society

Instructor training Jun 2021

Learned best practices for teaching coding in an inclusive way for groups of students with different levels of coding experience, The Carpentries

Mentor training May 2021

Received weekly mentorship training as an NSF REU mentor through the Wisconsin Institute for Science Education and Community Engagement

Service

Active bystander training and conference duties

20 - 23 Jul 2022

Animal Behavior Society Allies program

Book chapter reviewer

2022

Princeton University Press

Grant reviewer 2021

Army Research Office (Biomathematics program) and Animal Behavior Society Student Research Grants

Journal reviewer 2019 - present

Ecology and Evolution, Animal Behavior, Methods in Ecology and Evolution, Ecology, Bioacoustics, Ornithology, Journal of Animal Ecology, Journal of Field Ornithology (Editorial Assistance Program)

Graduate Student Organization Officer, NMSU Biology Department

2014 - 2016

Outreach

Audio documentary interview on how the public can help shape neuroscience research

07 Dec 2022

iDeas Lab. Berman Institute of Bioethics

Co-educator for TED-Ed lesson

published Jun 2022

Why can parrots talk and additional learning materials for students of different ages

Discussion panelist:

Fulbright Uruguay Orientation

Jul 2021

Fulbright Workshops with NMSU Honors College

Feb. Nov 2018

Research Panel for New Mexico Alliance for Minority Participation

Oct 2018

Twitter Takeover of Animal Behavior Society account

Nov 2020

Disseminated animal communication research findings, learning how to code, upcoming postdoc research

Podcast interview Nov 2020

Discussion about monk parakeet ecology, Annenberg Media, University of Southern California Nov 2020

RLadies co-organizer

Fall 2020

Monthly virtual meetings about R coding from September to December 2020, El Paso chapter and Las Cruces community

Skype a Scientist:

Discussion with elementary school class
 Feb 2020

■ LGBTIA+ LIVE Q and A session Jun 2020

Science outreach volunteer

Jan 2018, Mar 2019

Making DNA bracelets to link structure and function, Vista Middle School and Hillrise Elementary, Las Cruces, NM with Dr. Michèle Shuster

Science outreach volunteer

Jan 2014, 2015, 2016

Evolution and bioacoustics hands-on exercise with Sierra Middle School students, organized by Dr. Tim Wright, NMSU Biology Department

Science fair judge:

Desert Hills Elementary, Las Cruces, NM
 Nov 2015

Asombro Institute for Science Education, Las Cruces, NM
 Apr 2015

Society Memberships

Animal Behavior Society	2015, 2019 - 21
American Ornithologists' Union	2014, 2018, 2020
Society for the Study of Evolution	2018
American Genetic Association	2016, 2018 - 19
Society for Integrative and Comparative Biology (SICB)	2016, 2018 - 19
Graduate Women in Science	2018
Sigma Xi	2016
RLadies	2019 - 20
GeoLatinas	2020 - 22