

Joely G. DeSimone

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Education

- 2022 **Ph.D.** in Organismal Biology, Ecology, and Evolution, University of Montana, Missoula, MT
- 2015 **B.A.** in Biology, *magna cum laude*, Amherst College, Amherst, MA

Professional Positions

- 2022-present **Postdoctoral Researcher**, University of Maryland Center for Environmental Science, Appalachian Laboratory
- 2015-2017 **Lab and field technician**, UMass Amherst, Advisor: Dr. Alexander Gerson
- 2014-2016 **Research assistant**, Amherst College, Advisor: Dr. Ethan Clotfelter

Fellowships, Grants, and Awards

Fellowships

- 2023 **NSF Postdoctoral Research Fellowship in Biology** (\$240,000) “Migrant-Resident Community Dynamics During the Transition to Breeding in a Changing Climate”
- 2017 **NSF Graduate Research Fellowship** (\$138,000)
- 2016 **NSF Graduate Research Fellowship** (Honorable Mention)

Grants

- 2024 **American Ornithological Society Travel Award** (\$670)
- 2023 **American Ornithological Society Travel Award** (\$561)
- 2021 **Drollinger Dial Travel Award** (\$960)
- 2020 **MPG Ranch** (\$10,854)
- 2019 **MPG Ranch** (\$10,304)
- 2019 **Drollinger Dial Travel Award** (\$1,000)
- 2019 **American Ornithological Society Hesse Award** (\$1,939)
- 2018 **Wilson Ornithological Society Paul A. Stewart Grant** (\$1,000)

Awards

- 2021 **Frances F. Roberts Award** for best presentation on any topic in ornithology, given by the American Ornithological Society
- 2017 **Drollinger Dial Award**, given to outstanding applicants by the University of Montana’s Organismal Biology, Ecology, and Evolution graduate program
- 2015 **Oscar E. Schotte Award** for best independent work, given by the Amherst College Biology department
- 2015 **James R. Elster Award** to fund summer research, given by the Amherst College Biology department
- 2014 **Laura Ayres Snyder Prize** for select poems, given by the Amherst College English department

Publications

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* denotes student mentee

In Review

Van Doren, BM, **JG DeSimone**, JA Firth, F Hillemann, ZG Gayk, EB Cohen, A Farnsworth. Social associations across species during nocturnal bird migration.

Gutierrez Ramirez, M, MS Griego, **JG DeSimone**, CR Elowe, AR Gerson. Lean mass deposition occurs at a greater rate than fat deposition during spring stopover in highly depleted songbirds in the northern Gulf of Mexico.

Submitted

Breuner, CW, **JG DeSimone**, BS Domschot, TP Hahn. Maximum free glucocorticoids link natural behavior and stressors in a wild bird population.

- 2024** 12. **DeSimone, JG**, LW DeGroot, SA MacKenzie, JC Owen, AJ Patterson, EB Cohen. Persistent species relationships characterize migrating songbird communities across stopover sites and seasons. *Proceedings of the National Academy of Sciences* 124(34).
- 2023** 11. Groom, DEJ, B Black, J Deakin, **JG DeSimone**, MC Lauzau, B Pedro, C Straight, K Unger, M Miller, AR Gerson. 2023. Flight muscle size reductions and functional changes following long-distance flight under variable humidity conditions in a migratory warbler. *Physiological Reports* 11(20).
10. **DeSimone, JG**, EB Cohen. 2023. Social, not spatial, fidelity underlies between-year winter site fidelity in a migratory bird. *Proceedings of the National Academy of Sciences* 120(35) e2311577120 (Commentary).
9. Nemes, C, SA Cabrera-Cruz, M Anderson, L DeGroot, **JG DeSimone**, M Massa, EB Cohen. 2023. More than mortality: Nonlethal anthropogenic threats and their interactions en route impact bird migration success and fitness. *Ornithological Applications* 125(3).
8. **DeSimone, JG**, *BS Domschot, M Fylling, W Blake, CW Breuner. 2023. Body mass and triglycerides predict departure of free-living nomadic pine siskins. *Functional Ecology* 37(2): 372-382.
- 2022** 7. Gutierrez Ramirez, M, MS Griego, **JG DeSimone**, CR Elowe, AR Gerson.. 2022. Depleted lean body mass after crossing an ecological barrier differentially affects stopover duration and refueling rate among species of long-distance migratory birds. *Functional Ecology* 36(12): 2995-3006.
- 2021** 6. **DeSimone, JG**, B Tobalske, CW Breuner. 2021. Physiology and behavior under food limitation support escape, not preparative, response in the nomadic Pine Siskin (*Spinus pinus*). *Journal of Experimental Biology* 224(3).
5. Griego, MS, **JG DeSimone**, M Gutierrez Ramirez, AR Gerson. 2021. Aminopeptidase-N modulation assists lean mass anabolism during refueling in the White-throated sparrow. *Proceedings of the Royal Society B* 288(1943).

- 2020** 4. Gerson, AR, **JG DeSimone**, B Black, M Dick, DEJ Groom. 2020. Metabolic suppression after long duration flight is not related to fat-free mass loss or flight duration in a migratory passerine. *Journal of Experimental Biology* 223(19).
3. **DeSimone, JG**, M Gutierrez Ramirez, MS Griego, CR Elowe, CW Breuner, AR Gerson. 2020. Developing a Stopover-CORT hypothesis: corticosterone predicts body composition and refueling rate in Gray Catbirds during migratory stopover. *Hormones and Behavior* 124.
- 2019** 2. Cheng, T, AR Gerson, M Moore, J Reichard, **JG DeSimone**, C Willis, W Frick, AM Kilpatrick. 2019. Higher fat stores contribute to persistence of little brown bat populations with white-nose syndrome. *Journal of Animal Ecology* 88(4).
- 2018** 1. **DeSimone, JG**, E Clotfelter, B Black, S Knutie. 2018. Avoidance, tolerance, and resistance to ectoparasites in nestling and adult tree swallows. *Journal of Avian Biology* 49(2).

Scientific Presentations

Invited Seminars

- 2023 Smithsonian's National Zoo and Conservation Biology Institute, Migratory Bird Center and Center for Conservation Genomics, Washington, D.C.
- 2023 Colorado State University, Fish, Wildlife, and Conservation Biology, Fort Collins, CO (virtual)
- 2022 University of Maryland Center for Environmental Science, Appalachian Lab, Frostburg, MD
- 2022 University of Montana, Organismal Biology, Ecology & Evolution, Missoula, MT
- 2021 University of Montana, Organismal Biology, Ecology & Evolution, Missoula, MT
- 2019 University of Montana, Organismal Biology, Ecology & Evolution, Missoula, MT

Conference Presentations (Talks)

* denotes student mentee

- 2024 C Davis, EB Cohen, **JG DeSimone**. Integrating behavior changes theories into conservation education at science-research sites. North American Association for Environmental Education, Pittsburgh, PA.
- 2024 **JG DeSimone**, EN Dalton, LW DeGroot, M Furst, SR Morris, AJ Patterson, EB Cohen. Population declines and phenological shifts are changing migrating bird communities. American Ornithological Society, Estes Park, CO.
- 2024 C Davis, **JG DeSimone**, EB Cohen. Being more strategic in your public engagement efforts. American Ornithology Society, Estes Park, CO. *In Public Engagement symposium.*
- 2024 *Tsuru, BR, JJ Buler, **JG DeSimone**, CE Nemes, EB Cohen. Seeking scale-dependent drivers of species-specific filtering from passage in migratory birds. International Radar Aeroecology Conference, Newark, DE.
- 2023 **DeSimone, JG**, EB Cohen. Communities on the move: testing the strength and persistence of songbird species associations at stopover. American Ornithological Society, London, Ontario. *In Social Perspective on Migration symposium*
- 2023 *Griffis, E, **JG DeSimone**, J Owen. Effects of weather on arrival of migrating landbirds in fall at an inland stopover site in mid-Michigan, USA. American Ornithological Society, London, Ontario.
- 2022 **DeSimone, JG**. Migratory physiology of the nomadic Pine Siskin. University of Maryland Center for Environmental Science seminar series, Frostburg MD.

- 2022 Breuner, CW, **JG DeSimone**. Migratory physiology of the nomadic, irruptive Pine Siskin in captivity and the field. International Symposium for Avian Endocrinology, Edinburgh, Scotland.
- 2022 **DeSimone, JG**, B Tobalske, M Fylling, W Blake, CW Breuner. Migratory physiology of the nomadic, irruptive Pine Siskin in captivity and the field. Society for Integrative and Comparative Biology, virtual conference. *In session for DCE Best Student Presentation Award*
- 2021 **DeSimone, JG**, B Tobalske, M Fylling, W Blake, CW Breuner. Migratory physiology of the nomadic, irruptive Pine Siskin in captivity and the field. American Ornithological Society and Society of Canadian Ornithologists virtual conference. *Winner of best student presentation award*
- 2021 *Sriraman, S, **JG DeSimone**, *L Rolls, CW Breuner, E Greene. Understanding the social behavior and public information sharing of an irruptive migrant. University of Montana Conference on Undergraduate Research. Missoula, MT.
- 2020 Gutierrez, M, **JG DeSimone**, MS Griego, CR Elowe, AR Gerson. Linking movement ecology, body condition, and physiology to better understand stopover ecology along the Gulf Coast. North American Ornithological Society.
- 2020 Griego, MS, M Gutierrez, **JG DeSimone**, AR Gerson. Migratory distance impacts metabolic and refueling rates of neotropical migrants. North American Ornithological Society.
- 2020 **DeSimone, JG**, B Tobalske, CW Breuner. Prepare or escape? The behavioral, physiological, and hormonal responses of a facultative migrant to declining food availability. Society for Integrative and Comparative Biology, Austin, TX
- 2019 **DeSimone, JG**, B Tobalske, CW Breuner. Prepare or escape? The behavioral, physiological, and hormonal responses of a facultative migrant to declining food availability. Wilson Ornithological Society, Cape May, NJ.
- 2019 Groom, DEJ, B Black, J Deakin, **JG DeSimone**, MC Lauzau, B Pedro, C Straight, K Unger, M Miller, AR Gerson. The impact of lean mass loss during migratory flight on muscle energetic and contractile properties in the Yellow-Rumped Warbler (*Setophaga coronata*). Integrative Congress of Comparative Physiology and Biochemistry, Ottawa, Canada.
- 2019 Groom, DEJ, B Black, J Deakin, **JG DeSimone**, MC Lauzau., B Pedro., C Straight, K Unger, M Miller, AR Gerson. The impact of lean mass loss during migratory flight on muscle energetics and contractile properties in the Yellow-Rumped Warbler (*Setophaga coronata*). Canadian Society of Zoologists, Windsor, Canada.

Conference Presentations (Posters)

* denotes student mentee

- 2024 Tsuru, BR, JJ Buler, **JG DeSimone**, C Nemes, EB Cohen. Seeking scale-dependent drivers of species-specific filtering from passage in migratory birds. International Radar Aeroecology Conference, Newark, DE.
- 2023 *Donley, A, **JG DeSimone**. The effects flight call similarity and flight proximity have on stopover networking in Parulidae warblers during migration. Frostburg State University Biosymposium, Frostburg, MD.
- 2020 Glidden, C, J Deakin, **JG DeSimone**, CR Elowe, DEJ Groom, J Slezacek, AR Gerson. Assessment of novel biomarkers of kidney function and damage in migratory songbirds after long-duration flight. Society of Integrative and Comparative Biology, Austin, TX.

- 2019 **DeSimone, JG**, M Gutierrez Ramirez, CW Breuner, CR Elowe, MS Griego, AR Gerson. Baseline corticosterone and body composition of Gray Catbirds at stopover during spring migration. Society for Integrative and Comparative Biology, Tampa, FL.
- 2018 **DeSimone, JG**, M Gutierrez Ramirez, CW Breuner, CR Elowe, MS Griego, AR Gerson. Baseline corticosterone and body composition of Gray Catbirds at stopover during spring migration. International Ornithological Congress, Vancouver, BC.
- 2017 Griego, MS, **JG DeSimone**, M Gutierrez Ramirez, AR Gerson. Aminopeptidase-N modulation assists lean mass anabolism during refueling in the White-throated Sparrow (*Zonotrichia albicollis*). Society for Integrative and Comparative Biology, New Orleans, LA.
- 2016 **DeSimone, JG**, E Clotfelter, B Black, S Knutie. Do tree swallows buffer their offspring against ectoparasites? North American Ornithological Conference, Washington, D.C.
- 2016 Gutierrez Ramirez, M, **JG DeSimone**, MS Griego, AR Gerson, C Heckscher. Refueling performance of spring trans-Gulf migrants and the influence of lean body mass on stopover duration. North American Ornithological Conference, Washington, D.C.
- 2016 Griego, MS, M Gutierrez Ramirez, **JG DeSimone**, AR Gerson. Variation in body composition affects refueling performance and basal metabolic rate in Gray Catbirds (*Dumetella carolinensis*) during migratory stopover. North American Ornithological Conference, Washington, D.C.
- 2016 Clotfelter, E, **JG DeSimone**, B Black, J Runjaic, S Knutie. Parasite tolerance and resistance in nestling and adult tree swallows. International Society for Behavioral Ecology Conference, Exeter U.K.

Press from Research

- 2024 Smithsonian Magazine. “Birds Form Surprising Relationships With Other Avian Species During Migration, Study Suggests.” Alexa Robles-Gil.
<https://www.smithsonianmag.com/smart-news/birds-form-surprising-relationships-with-other-avian-species-during-migration-study-suggests-180985059/>
- 2024 Science Friday. “Different Bird Species May Team Up For Migration.”
<https://www.sciencefriday.com/segments/songbird-species-work-together-during-migration/>
- 2024 WYPR On the Record. “Social or solitary? The secret lives of migratory songbirds.”
<https://omny.fm/shows/on-the-record-1/social-or-solitary-the-secret-lives-of-migratory-s>
- 2024 National Geographic. “Do birds have migration buddies? A new study shows surprising connections between species.” Jason Bittel.
<https://www.nationalgeographic.com/animals/article/bird-migration-social-relationship>
- 2024 Santa Barbara Independent. “Birds of Two Feathers Flock Together.” Hugh Ranson.
<https://www.independent.com/2024/09/06/birds-of-two-feathers-flock-together/>
- 2024 Audubon. “A new study reveals migration isn’t a solo affair—it’s the social event of the season.” Benjamin Hack.
<https://www.audubon.org/magazine/new-study-reveals-migration-isnt-solo-affair-its-social-event-season>
- 2024 earth.com. “Bird migration is influenced by social relationships.” by Sanjana Gajbhiye.
<https://www.earth.com/news/bird-migration-is-influenced-by-social-relationships/>

- 2024 UMCES. “Migratory bird species found to be socially oriented.”
<https://www.umces.edu/news/migratory-bird-species-found-to-be-socially-oriented>
- 2024 National Science Foundation. “Studying the journey, not the destination, provides new insight into songbird migrations.” <https://new.nsf.gov/news/studying-journey-into-songbird-migrations>
- 2024 phys.org. “Studying the journey, not the destination, provides new insight into songbird migrations.”
https://phys.org/news/2024-08-journey-destination-insight-songbird-migrations.html#google_vignette
- 2024 earth.com. “Songbirds benefit from social networks during migration.” by Andrei Ionescu.
<https://www.earth.com/news/songbirds-benefit-from-social-networks-during-migration/>
- 2023 eBird Montana. “On the Move.” <https://ebird.org/mt/news/on-the-move>
- 2020 eBird Montana. “Light as a Feather: Tracking the Migratory Journeys of Individual Songbirds.”
<https://ebird.org/mt/news/light-as-a-feather-tracking-the-migratory-journeys-of-individual-songbirds>
- 2019 eBird Montana. “Chasing the Chunk: Tracking Fat Loads and Movement in Migratory Songbirds.”
<https://ebird.org/mt/news/chasing-the-chunk-umbel>

Teaching

University of Maryland Center for Environmental Science, Appalachian Lab

- Guest Lecture—Spatial Ecology graduate course—“Social Networks in Ecology” 2024
- Guest Lecture—Ecological Systems graduate course—“Critical Scientific Histories in Ecology” 2023, 2024
Teaching materials available at joelydesimone.weebly.com
- Guest Lecture—Spatial Ecology graduate course—“Aeroecology” 2022

University of Montana

- Guest Lecture—Comparative Animal Physiology BIOL435—“Stress physiology” 2021
- Guest Lecture—Ornithology BIOC490—“Hormonal control of migration” 2021
- Led first-year graduate student reading group BIOB594 Spring 2020, Spring 2021
- TA—Ornithology BIOC490 Spring 2018
- TA—Principles of Living Systems BIOB161 Fall 2017

Professional Development

- NSF PRFB Broadening Participation Workshop**, SACNAS NDiSTEM conference Oct 2024
Invited to participate in professional development and networking workshop for all NSF PRFB BP fellows at the 2024 National Diversity in STEM conference in Phoenix, AZ.
- Pronouns 101 Training**, University of Maryland Mar 2024
Participated in training on gender pronouns, facilitated by UMD’s LGBTQ+ Equity Center
- Mentoring Workshop**, University of Maryland (virtual) Oct-Nov 2023
Participated in four sessions on effective communication; aligning expectations and assessing understanding; addressing equity and inclusion; supporting independence and promoting professional development
- Best Practices in Inclusive Hiring Workshop**, University of Maryland Sep 2023
Participated in two-part workshop led by the Office of Diversity and Inclusion

Radar Aeroecology Workshop, Colorado State University, Fort Collins CO July 30 - Aug 5, 2022
Trained to use weather surveillance radar data for applications in aeroecology

Sense of Belonging in Field Courses: What, Why, When, and How? (virtual) Nov 2022
Attended virtual presentation and discussion led by Dr. Alexandra Race and the [Belonging in Field Education](#) team.

UM Allies Training 2021
Attended Allies training that promotes LGBTQ+ equality through education, support, and awareness

Professional Service

Peer Review

Reviewed manuscripts for Biology Letters (1), Conservation Physiology (1), Integrative and Comparative Biology (2), Journal of Field Ornithology (2), Nature Ecology & Evolution (2), Ornithology (1), and PNAS (2)

Scientific Program Committee 2023, 2024
Reviewed symposium proposals and presentation abstracts for the conference of the American Ornithological Society

Conference Symposia

- Co-organized symposium (“Strategic public engagement to support bird research and conservation goals”) for the 2024 conference of the American Ornithological Society 2024
- Organized symposium (“A social perspective on songbird migration”) for the 2023 joint conference of the American Ornithological Society and Society of Canadian Ornithologists 2023

Society Membership

American Ornithological Society, Society for Integrative and Comparative Biology

Institutional Service

UMCES Appalachian Lab Internship Program 2024
Initiated several additions to the undergraduate research internship program to improve the mentorship of both interns and their advisors, including: development and implementation of a rubric for intern interviews; development and implementation of a Mutual Expectations agreement between interns and advisors; initiation of a Summer Seminar Series for graduate students to practice science communication and for interns to learn about AL research; facilitation of two workshops with a panel of graduate students to broadly describe graduate school and more specifically reveal the “hidden curriculum” of applying to graduate school.

UMCES Appalachian Lab Faculty Search Committee 2023-2024
Appointed to serve on the hiring committee for three tenure-track positions

UMCES Appalachian Lab Diversity, Equity, and Inclusion Group 2022-present
Participate in monthly meetings to discuss and implement ways to improve DEI issues in the department. Led a group discussion of equity in graduate student admissions.

Graduate Governing Committee Co-President 2021-2022
Elected by peers to attend departmental faculty meetings and represent graduate student interests; organize student seminar series; lead bi-weekly GGC meetings; and facilitate graduate student community-building

Graduate Governing Committee

Spring 2021

Led first-year graduate student weekly reading group and attended bi-weekly GGC meetings

Outreach

NSF PRFB workshop	2024
Served on a panel of fellows at an NSF workshop at the SACNAS National Diversity in STEM conference in Phoenix, AZ, providing participants with guidance about applying for an NSF postdoc fellowship.	
Conversations with Scientists	2024
Served as a STEM mentor for undergraduate and graduate students for an informal conversation at the SACNAS National Diversity in STEM conference in Phoenix, AZ.	
Watershed Moments	2024
As part of a regular community outreach series, I co-presented a talk about our lab's research for a public audience at Garrett College to represent the Appalachian Lab and build local connections	
Letters to a Pre-Scientist	2018-20, 2023-present
Received annual trainings about barriers to participation in STEM and served as a scientist mentor and pen-pal to elementary and high school students from disadvantaged communities in the United States	
Brains and Brews	2024
As part of a seminar series hosted by a local taphouse, I co-presented a talk about migration and how our understanding of migration is limited by biases in who does science	
STEM Like a Girl	2024
Led children through hands-on activities related to bird research with other members of the Appalachian Lab at event hosted by Rocky Gap State Park at Allegany High School	
San Francisco State University class	2023
Invited to virtually meet with Master's students in Advances in Physiology and Behavioral Biology course to discuss my research and career path.	
FSU STEM Summit	2023
Invited to speak about my research and career path with twenty Appalachian regional high schoolers nominated by their teachers to attend this Frostburg State University program	
Kansas State University Ornithology class	2023
Invited to virtually meet with undergraduate class to discuss one of the papers from my dissertation	
Paideia High School STEMinar	2023
Gave an invited, virtual presentation about "The Wonders of Bird Migration" to high school students interested in science and STEM careers	
SACNAS	2021-2022
Student member of UM's chapter of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science	
Paideia Professional Immersions	2021, 2022
Spoke about research and academia with Paideia High School students interested in STEM careers	
Central Sierra Audubon	2021
Gave an invited presentation about bird migration to local chapter	

Girls n' Bugs Club

2018

Participated in after-school program at Missoula Insectarium as a visiting scientist to help K-5 girls conduct an insect experiment and to provide a model of a female scientist

Raptor View Research Institute

2018

Organized field trip to RVRI eagle banding site for 15 UM ornithology students to learn about eagle research and conservation

Mentored Students

University of Montana field and lab technicians

Carly Andlauer, Sunny Domschot, Stephanie Klein, Megan Robbins, Lesley Rolls, Josiah Simmons

Honors thesis student

Sarah Sriraman, University of Montana, 2021: "Understanding the benefits of sociality and social information in an irruptive migrant"

Appalachian Lab summer interns

Anna Cullen (2024), Alexander Donley (2023), A'laurenye' McBeth (2022), Atlee Wise (2022)

PhD committee

Brian Tsuru, University of Maryland Center for Environmental Science