Curriculum Vitae

Name	Dr. Krista N Oswald
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Education

1999–2004 B.A. The University of Calgary, Department of History

2010-2014 H. B.Sc. Dalhousie University, Department of Biology
Advisor: Prof. Marty L Leonard
Thesis: Effects of ambient noise on parent-offspring communication in tree swallows *Tachycineta bicolor*.

2015–2017 M.Sc. Nelson Mandela University, Department of Zoology
Advisor: Dr. Ben Smit
Co-Advisor: Dr. Alan TK Lee
Thesis: Seasonal physiological responses in the Cape Rockjumper (*Chaetops frenatus*): a fynbos endemic bird shows limited capacity to deal with temperature extremes.

2017–2020 Ph.D. Rhodes University, Department of Zoology and Entomology,
Advisor: Assoc. Prof. Ben Smit
Co-Advisor: Dr. Alan TK Lee, Dr. Susan J Cunningham, Dr. Shelley A Edwards
Thesis: An integrative approach to understanding climate vulnerability in an alpine range-restricted bird to climate change.

Employment History

2022 Postdoctoral Researcher
Mitrani Department of Desert Ecology, Jacob Blaustein Institutes for Desert Research
Ben-Gurion University of the Negev, Israel

2021 Wildlife Biologist & Media Relations
NorthWinds Environmental Services, Thunder Bay, Canada

2014 12-week Internship
Smithsonian Migratory Bird Center, Washington, DC, USA

2013 Field Biologist
Dalhousie University, Canada

Professional Activities

Professional functions outside universities

2018-present	Manager of Online Media Hot Birds Research Project

Significant Professional Consulting

2021	Consultant: Living Sky Education District, Sask, Canada Environmental Science 20 and grade 7 Biology
2019–2020	Consultant: BirdLife South Africa Promotional materials for "Bird of the Year 2021"
2018	Advisor: Rooi Els Conservancy Risk assessment and mitigation materials

Editorial Work

2021-present	Associate Editor Ostrich: Journal of African Ornithology

Reviewer for journals

Journal of Comparative Physiology B; The Condor; Ibis; Ardea; Ecology and Evolution; Journal of Field Ornithology; Canadian Journal of Zoology; Frontiers in Ecology and Evolution: Ecophysiology

Professional Society Memberships

2020-present	Member, Association of Field Ornithologists
2016-present	Member, Animal Behavior Society
2015-present	Member, American Ornithological Society
2015-present	Member, British Ornithologists' Union
2019-2021	Member, Ecological Society of America (Canadian Chapter)

Educational Activities

Research students

2017–2018	Ad Hoc mentor and referee Cameryn Brock, Audrey Miller, Ceili Peng

Courses taught

2018-2019	Demonstrator (Laboratory Section) Course Name: TOO201 Principles in Ecology and Evolution Rhodes University

2016	Demonstrator (Laboratory Section) Course Name: ZOO221 Animal Physiology Rhodes University
2015	Demonstrator (Laboratory Section) Course Name: ZOO211 Comparative Vertebrate Anatomy Rhodes University
2013-2014	Teaching Aid (Laboratory Section) Course Name: BIOL 1010&1020 Dalhousie University

Grants, Awards, Scholarships

2022	Zuckerman STEM Leadership Program Postdoctoral Scholars Program - 52,000 USD
2022	Blaustein Center for Scientific Cooperation Postdoctoral Fellowship - 22,000 USD
2022	Israeli Academy of Science and Humanities - declined Postdoctoral Fellowship for Foreign Researchers in Israel - 160,000 NIS (~50,000 USD)
2019	Henderson Scholarship 4,000 ZAR (~3,000 USD) – academic scholarship
2019	Ecological Society of America, USA 1,000 USD – student travel award
2019	Rhodes University, SA 15,000 ZAR (~1,200 USD) – student travel award
2018	Henderson Scholarship 4,000 ZAR (~3,000 USD) – academic scholarship
2017	Henderson Scholarship 4,000 ZAR (~3,000 USD) – academic scholarship
2017	Rhodes University, SA 10,000 ZAR (~850 USD) – student travel award
2016	Free-Standing Scholarship – National Science Foundation, SA 60,000 ZAR (~4,500 USD) – academic scholarship
2016	Nelson Mandela University, SA 20,000 ZAR (~2,000 CAD) – student travel award
2016	Wilson Ornithological Society, USA 590 USD – student travel award
2016	Nelson Mandela University, SA 5,000 ZAR (~400 USD) – student travel award
2015	Free-Standing Scholarship – National Science Foundation, SA 60,000 ZAR (~4,500 USD) – academic scholarship

2015 Nelson Mandela University, SA
5,000 ZAR (~400 USD) – student travel award

Scientific Publications (as of 22 Dec 2021)

H-index - 7
Total number of citations of all articles - 101

Peer-reviewed journal articles

1. **Oswald, KN**[PI,S] and ATK Lee[PI] "Population Viability Analysis for a vulnerable ground-nesting species, the Cape Rockjumper *Chaetops frenatus*: population declines are explained by increases in juvenile mortality," 2021, *Ostrich*, 1-5:92, IF: 1.364; JCR: 13/28 (Q2). Link to article.

2. **Oswald, KN**[S], Smit, B[PI], Lee, ATK[C], Peng, CL[S], Brock, C[S], and SJ Cunningham[PI] "Higher temperatures are associated with reduced nestling body condition in a range-restricted mountain bird," 2021, *Journal of Avian Biology*, 10.1111/jav.02756, IF: 2.327; JCR: 2/28 (Q1). Link to article.

3. **Oswald, KN**[S], ATK Lee[C], B Smit[PI] "Seasonal metabolic adjustments in an avian evolutionary relict restricted to mountain habitat," 2021, *Journal of Thermal Biology*, 102815:95, IF: 2.902; JCR: 16/175 (Q1). Link to article.

4. **Oswald, KN**[S], EF Diener[T], JP Diener[T], SJ Cunningham[C], B Smit[PI], and ATK Lee[PI] "Increasing temperatures increase the risk of reproductive failure in an alpine ground-nesting bird, the Cape Rockjumper *Chaetops frenatus*," 2020, *Ibis*, 1363-1369:161, IF: 2.517; JCR 1/28 (Q1). Link to article.

5. **Oswald, KN**[S], B Smit[PI], ATK Lee[PI], and SJ Cunningham[PI] "Behaviour of an alpine-endemic bird is described mainly by interactions between microsite and air temperature," 2019, *Animal Behaviour*, 177-187:157, IF: 2.689; JCR: 11/169 (Q1). Link to article.

6. **Oswald, KN**[S], ATK Lee[C], and B Smit[PI] "Comparison of physiological responses to high temperatures in juvenile and adult Cape Rockjumpers (Chaetops frenatus)," 2018, *Ostrich* 377-382:89, IF:0.443; JCR: 24/28 (Q4). Link to article.

7. **Oswald, KN**[S], ATK Lee[C], and B Smit[PI] "Seasonal physiological responses to heat in an alpine range-restricted bird: the Cape Rockjumper (*Chaetops frenatus*)," 2018, *Journal of Ornithology* 1063-1072:159, IF: 1.472; JCR: 9/28 (Q2). Link to article.

8. **Oswald, KN**[S], AA Evlambiou[S], ÂM, Ribeiro[PD], and B Smit[PI] "Tag location and risk assessment for PIT-tagging passerines," 2017, *Ibis*, 453-457:160, IF: 2.234; JCR: 4/25 (Q1). Link to article.

9. **Oswald, KN**[S] "Observed instances of alarm calling in the Cape Rockjumper," 2016, *Ostrich,* 285-288:87, IF: 0.833; JCR: 15/24 (Q3). Link to article.

10. Leonard ML[PI], AG Horn[C], **KN Oswald**[S], E McIntyre[C], "Effect of ambient noise on parent-offspring interactions in tree swallows," 2015*, Animal Behaviour*, 1-7: 109, IF: 3.169; JCR: 8/161 (Q1). Link to article.

Unrefereed Professional Publications

1. **Oswald, KN** and ATK Lee "Rock kestrel attack on a Cape rockjumper caught in a spring trap". Afring News. Feb 2016.

2. **Oswald, KN** "PIT-tagging passerines – think twice prior to choosing the place". BOUblog. Mar 12, 2018. Link to article.

3. **Oswald, KN** and B Smit. "South Africa's Cape Rockjumper populations are falling and we're not sure why". The Conversation: Africa. May 31, 2018. Link to article.

4. **Oswald, KN** and B Smit "Rockjumpers and Climate Change in the Fynbos". African Conservation Telegraph 12. Link to article.

5. **Oswald, KN** "Fire and ice increase nest success". BOUblog, May 11, 2020. Link to article.

6. **Oswald, KN**, SE Edwards, ATK Lee, SJ Cunningham and B Smit "No evidence of genetic structure in a sky island endemic: implications for population persistence under a shrinking thermal niche." 2020, *Authorea Preprints*. Link to article.

7. **Oswald, KN** and Anonymous Authors. "Cape rockjumper" *and* "Rockjumper" articles on Wikipedia, edited 2020. Link and Link.

8. **Oswald, KN**. Cape Rockjumper (*Chaetops frenatus*), 2021, version 2.0. In "Birds of the World" (T.S. Schulenberg and B.K. Keeney, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. Link.

9. **Oswald, KN** "Rockjumpers can't escape their (taxonomic) roots". BOUblog. March 29, 2021. Link to article.

10. **Oswald, KN** "Hot weather leads to unwanted weight loss in young Cape Rockjumpers". Avian Biology blog. Sept 3. Link to article.

Popular Articles

1. **Oswald, KN** "Bird of the Year 2021: Cape Rockjumper – Where do Rockjumpers Fit In?". African BirdLife Nov/Dec 2021, pg. 71

2. Lee, ATK and **Oswald, KN** "Bird of the Year 2021 – Finding Cape Rockjumpers". African BirdLife. Sept/Oct 2021, pg. 73.

3. **Oswald, KN** and ATK Lee "Bird of the Year 2021: Cape Rockjumper – Raising Rockjumpers". African BirdLife. Jul/Aug 2021, Pg 73.

4. **Oswald, KN** and ATK Lee "Bird of the Year 2021: Cape Rockjumper – Fynbos and Friends". African BirdLife May/Jun 2021, pg. 68–69.

5. Lee, ATK and **Oswald, KN** "Bird of the Year 2021: Cape Rockjumper – Islands in the Sky". African BirdLife. Mar/Apr 2021, pg. 72.

6. **Oswald, KN** "Bird of the Year 2021: Cape Rockjumper". African BirdLife. Mar/Apr 2021, poster.

7. **Oswald, KN** and ATK Lee "Bird of the Year 2021: Cape Rockjumper – Fynbos Icon". African BirdLife. Jan/Feb 2021, pg. 66

8. **Oswald, KN** "BirdLife South Africa's Bird of the Year 2021: Cape Rockjumper" 2021. Institute of Natural Resources, Inc. Feb Newsletter.

9. **Oswald, KN** "Rocky Road". African BirdLife. Mar/Apr 2019, pg. 50-54

Lectures and Presentations at Meetings

Invited Presentations

1. 2017 "Adventures in Rockjumper Research: Life in the Sky Islands". FitzPatrick Institute of African Ornithology. Cape Town, South Africa.

2. 2017 "Adventures in Rockjumper Research: Life in the Sky Islands". Tygerberg Bird Club. Cape Town, South Africa.

3. 2018 "Adventures in Rockjumper Research: Life in the Sky Islands". BirdLife Overberg. Hermanus, South Africa.

4. 2019 "Adventures in Rockjumper Research: Life in the Sky Islands". Somerset West Bird Club. Somerset West, South Africa.

5. 2020 "Life in the sky islands: investigating climate sensitivity in a single mountain species revealed unexpected biological interactions". Stoddard Lab, Ecology and Evolutionary Biology. Princeton University. Online.

6. 2021 "Cape Rockjumper: Jumping into the Spotlight for 2021". BirdLife SA Conservation Conversations. Online.

7. 2022 "The Secret World of the Cape Rockjumper". Learn the Birds "learnthebirds.com". Online.

Presentations at Conferences

1. **Oswald, KN**, ML Leonard. 2014. Effects of increased noise on parent-offspring communication in tree swallows. Cameron Conference. Halifax, Canada.

2. **Oswald, KN**, ATK Lee, and B Smit. 2015. Between a rock and a hot place: behavioural responses to climate change in a Fynbos endemic. Combined Congress of the ESSA/ZSSA. Makhanda, South Africa.

3. **Oswald, KN**, ATK Lee, and B Smit. 2016. Threats of climate change to a Fynbos endemic: physiological responses show low heat tolerance thresholds irrespective of season in the Cape rockjumper (*Chaetops frenatus*). North American Ornithological Conference. Washington DC, United States.

4. **Oswald, KN**, ATK Lee, and B Smit. 2017. Threats of temperature in the Cape Rockjumper (Chaetops frenatus). FLOCK/LAB. Kruger National Park, South Africa.

5. **Oswald, KN**, ATK Lee, and B Smit. 2017. Do seasonal physiological responses to heat explain climate change vulnerability in a Fynbos endemic bird? Combined Congress of the ESSA/ZSSA. Pretoria, South Africa.

6. **Oswald, KN**, EF Diener, JP Diener, SJ Cunningham, B Smit, and ATK Lee. 2019. Multi-directional effects of warming temperatures on the reproductive success of a threatened alpine-endemic bird, and implications for conservation management. Ecological Society of America. Louisville KY, United States.

7. **Oswald, KN**, EF Diener, JP Diener, SJ Cunningham, B Smit, and ATK Lee. 2020. Increasing temperatures drive the risk of reproductive failure in a South African alpine ground- nesting bird, the Cape Rockjumper. North American Ornithological Conference. Online.

8. **Oswald, KN**, and Conradie, SR. 2020. Fine-scale ecological data can result in a more accurate understanding of species' vulnerability to increasing temperatures. FLOCK/LAB. Online.

9. **Oswald, KN**, B Smit, ATK Lee, CL Peng, C Brock, and SJ Cunningham. 2021. Higher temperatures are associated with reduced nestling body condition in a range-restricted mountain bird. Animal Behavior Society. Online. (Session Moderator.)

10. **Oswald, KN**, EF Diener, JP Diener, SJ Cunningham, B Smit, and ATK Lee. 2021. Fire and Ice increase nest success in a mountain endemic South African bird. American Ornithological Society & Society of Canadian Ornithologists. Online.

11. **Oswald, KN.** Increasing temperatures are driving population declines in a biodiversity hotspot indicator species, the Cape Rockjumpers (Chaetops frenatus). 2021. *In Symposium*: "The evolutionary ecology and conservation of mega-diverse tropical montane avifaunas" American Ornithological Society & Society of Canadian Ornithologists. Online.

12. **Oswald, KN**, B Smit, ATK Lee, CL Peng, C Brock, and SJ Cunningham. 2021. Higher temperatures are associated with reduced nestling body condition in a range-restricted mountain bird. British Ornithologists' Union. Online.

Seminar Presentations

1. **Oswald, KN**, SJ Cunningham, ATK Lee, and B Smit. 2017. An integrative approach to understanding vulnerability of an alpine range-restricted bird to climate warming. DZE Post-Graduate Symposium. Makhanda, South Africa.

2. **Oswald, KN**, SJ Cunningham, ATK Lee, and B Smit. 2019. An integrative approach to understanding vulnerability of an alpine range-restricted bird to climate warming. Hot Birds Research Project Workshop. Gobabeb, Namibia.

Research Grants

2016 **BirdLife South Africa: Small Research Grant (Oswald, KN^{S})**
Total Funding: 7,000 ZAR (~525 USD)

2017 **Tygerberg Bird Club: Student Research Grant (Oswald, KN^{S})**
Total Funding: 10,000 ZAR (~750 USD)

2017 **Animal Behavior Society: Student Research Grant (Oswald, KN^{S})**
Total Funding: 1,000 USD

2017 **BirdLife South Africa: Small Research Grant (Oswald, KN^{S})**
Total Funding: 6,000 ZAR (~450 USD)

2018 **Tygerberg Bird Club: Student Research Grant (Oswald, KN^{S})**
Total Funding: 10,000 ZAR (~750 USD)

Present Academic Activities

Projects

I am currently part of the team working on the newest addition of the Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland. This is an updated and peer-reviewed conservation status assessment of the 854 bird species occurring in South Africa, including the Prince Edward Islands, Lesotho and Swaziland, undertaken in collaboration between BirdLife South Africa, the Animal Demography Unit of the University of Cape Town, and the South African National Biodiversity Institute.

Articles in preparation

1. **Oswald, KN^{S}**, Edwards, SE^{PI}, Lee, ATK^{C}, Cunningham, SJ^{C}, Bowie, R^{C}, and B Smit^{PI}. Population genetics of a range-restricted mountain bird inhabiting South Africa's sky islands.

2. **Oswald, KN^{S}**, Freeman, MT^{S}, Lee, ATK^{C}, Cunningham, SJ^{C}, McKechnie, AE^{C}, and B Smit^{PI}. Investigating correlations between avian thermal physiology and the immediate environment.

3. **Oswald, KN^{PI,S}** and SR Conradie^{S}. Fine-scale multi-faceted data on a single species reveals climate sensitivity through unexpected biological interactions.

Additional Information

On-Screen Expert, "Terra X: Fascinating Earth"
To be filmed in 2022 in South Africa – *delayed due to COVID19*
Terra X: Fascinating Earth - ZDF German public broadcasting

On-Screen Wildlife Rehab Technician, "Hope for Wildlife" - Season 4
Filmed in 2013, Episodes 41–52
Hope for Wildlife - Arcadia Wild, Oasis HD, The Knowledge Network, and CottageLife

Radio Interview: Radio France International
https://www.rfi.fr/en/africa/20200526-wildfire-unlikely-friend-of-south-africas-threatened-cape-rock-jumper-bird-snakes-boomslang

Scientific YouTuber
Summary: Short educational videos and travel videos under my personal account with >75K views.

Research Synopsis

For how prevalent scientific research into the potential effects of climate change has been the last few decades, there are still many areas left to be uncovered. Specifically, there are many pervasive and insidious aspects of climate change left to be found, interpreted, and applied to conservation and policy. My interest in particular lies at the intersection of changes in basic ecology (e.g. behavior, reproductive success) as affected by unexpected changes to habitat (from both human-induced climate change and human-altered habitat) in birds with very specific habitat niches. For my previous research on Cape Rockjumpers, I examined how their population decreases may be affected by a combination of increasing temperature, increasing prevalence of wildfire, and decreasing habitat. This research, which was collected and analyzed over a 5-year period, resulted in a successful MSc and PhD, 8 peer-reviewed publications (with another 3 currently in production), accompanying blog articles, requests for interviews and online articles, magazine publications, encyclopedia entries, inclusion in a future episode of a popular German wildlife program ("Terra X: Fascinating Earth"), consulting for media materials and conservation assessments, and has directly led to the Cape Rockjumper being chosen as BirdLife South Africa's Bird of the Year 2021. My research has allowed me to not only develop a strong presence in the scientific community, but also develop the skills to communicate my findings to the non-scientific community as well. I am looking forward to beginning the next project, and eventually starting my own research lab to continue providing insight on how species with specific ecological niches will respond to human-caused alterations of their environment — all with the final goal of providing information that can be applied to active conservation measures and policy implementation.