

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-current 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 Internship (Full-time Contract)
Smithsonian Migratory Bird Center, Washington DC, USA
- 2013 Field Biologist (Full-time Contract)
Dalhousie University, Canada

Professional Activities

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; Ostrich: African Journal of Ornithology; Avian Conservation & Ecology

Professional Society Memberships

- 2022-present Member, International Society for Behavioral Ecologists
- 2022-present Member, International Ornithologists’ Union
- 2022-present Member, Society for Conservation Biology
- 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

2022-	Lecturer Course Name: Biology 136 Science Communication Ben-Gurion University of the Negev
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 - <i>declined</i> 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

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- 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 06 Sept 2022)

H-index - 7

Total number of citations of all articles - 117

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.](#)

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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.
8. 2022 "Using small footprints to answer big questions: what habitat specialist birds tell us about adjusting to a changing world" Zoology seminar, Tel Aviv University, Israel.

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.

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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. 2022. Higher temperatures are associated with reduced nestling body condition in a range-restricted mountain bird. British Ornithologists' Union. Online.
13. **Oswald, KN**, Smit, B, Lee, ATK, Peng, CL, Brock, C and Cunningham, SJ. 2022. Higher temperatures are associated with reduced nestling body condition in a range-restricted mountain bird. British Ornithologists' Union. Online.
14. **Oswald, KN**, Smit, B, Lee, ATK, Peng, CL, Brock, C and Cunningham, SJ. 2022. Higher temperatures are associated with reduced nestling body condition in a range-restricted mountain bird. Stockholm, Sweden.
15. **Oswald, KN**, Smit, B, Lee, ATK, Peng, CL, Brock, C and Cunningham, SJ. 2022. Higher temperatures are associated with reduced nestling body condition in a range-restricted mountain bird. International Ornithological Conference. Online.

16. **Oswald, KN** and Lee, ATK. Advancing African Ornithology. 2022. International Ornithological Conference. Roundtable Discussion co-host. Online.
17. **Oswald, KN**, Smit, B, Lee, ATK, and Cunningham, SJ. 2022. Behaviour of a mountain range-restricted species is described by interactions between microsite use and temperature. International Society for Behavioral Ecology Congress. Prague, Czechia.

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

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| 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

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.

4. **Oswald, KN^C**, U Roll^{PI}, and O Berger-Tal^{PI}. Do human-altered landscapes present an ecological trap for the desert-living Arabian babbler?

Additional Information

On-Screen Consultant, "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 anthropogenic change has been the last few decades, there are still many pervasive and insidious aspects of anthropogenic change left to be found, interpreted, and applied to conservation and policy. My interest lies at the intersection of changes in basic ecology (e.g. behavior, reproductive success) as affected by anthropogenic changes to habitat. I am currently researching movement ecology in the Israeli Negev tracking highly social Arabian babblers using a newly erected ATLAS network. My previous research was on Cape Rockjumpers, a South African endemic, where I examined how their population decreases may be affected by a combination of increasing temperature, increasing prevalence of wildfire, and decreasing habitat. This research 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, 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. In the future, I would like 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.