

JUSTIN MERONDUN (né Johnson)

☎ +1-808-657-5520 | @ heritabilities@gmail.com | 🔗 Website GitHub 

🆔 0000-0001-5077-4096 Work Authorization: 🇨🇦 🇺🇸

Evolutionary biologist with **9+ years** of experience designing, executing, and publishing impactful science. Expertise spanning evolutionary biology, spatial ecology, and plant and animal genomics.

EDUCATION

2018 – 2024 | Ph.D. Biology. Ludwig Maximilian University of Munich. Germany *Summa Cum Laude*

2016 – 2018 | M.Sc. Environmental & Life Science. Trent University. Canada

2010 – 2014 | B.Sc. Environmental Science. University of Washington. USA

2010 – 2014 | B.A. Philosophy. University of Washington. USA

SKILLS

- **Publication Expertise:** First-author publications spanning evolutionary genomics, functional genomics, conservation biology, and spatial ecology.
- **Mentorship Experience:** Supervised and mentored undergraduate and MSc student research projects and adept at scientific communication to a range of audiences.
- **Collaborative Research:** Demonstrated success engaging with stakeholders to co-develop multiple simultaneous impactful global research projects.
- **Technical Skill:** Advanced bioinformatic skill in use and development of [bash](#), [R](#), and [python](#) workflows ranging from [genomics](#), [epigenetics](#), and [metagenomics](#) in HPC environments.

EXPERIENCE

11/2024 – Current. **Postdoctoral Scientist.** *U.S. Dept. Agriculture – Agricultural Research Service*

- Assembling pangenomes in tropical fruit using third-generation sequencing.
- Developing reproducible bioinformatic pipelines for genome assembly and programmatic phenotyping of fruits from images using deep learning.
- Collaborating with stakeholders to identify genes linked to agriculturally desirable traits.

12/2018 – 11/2024. **Doctoral Researcher & Postdoctoral Scientist.** *LMU Munich*

- Completed PhD research (12/2018 – 06/2024), preparing three first-author manuscripts in genomics utilizing whole genome sequencing and epigenomic datasets (RRBS, WGBS, RNA-seq, ATAC-seq). Provided expertise in epigenetic and spatial data analysis, contributing to four additional co-authored publications.

- Conceptualized, drafted, and secured competitive research funding to support a PhD student, including research and personnel costs.
- Continued as a postdoctoral scientist (06/2024 – 11/2024, hosted by Prof. Owens at the University of Victoria), designing high-throughput NGS genotyping probes for museomics and leading the preparation of an additional multidisciplinary evolutionary genomics and spatial ecology manuscript.
- Independently developed R and python packages for genomic analysis.

09/2016 – 09/2018. **Master's Researcher.** *Trent University*

- Authored two first author publications using epigenomic and spatial datasets, provided genetic and statistical analysis resulting in three coauthor publications.
- Mentored undergraduate students in next-generation sequencing library preparation and population genetic analyses.

09/2017 – 03/2018. **Wolf Conservation Intern.** *Ontario Ministry of Natural Resources*

- Generated a minimum-viable population report for Eastern wolves.

04/2017 – 08/2017. **High-throughput Research Technician.** *Trent University*

- Optimized library preparation and created ddRADseq and RRBS libraries.

05/2016 – 08/2016. **Bear Research Technician** (Seasonal). *Florida Fish & Wildlife Commission*

- Scouted, established, and maintained trapline for black bear live capture.

01/2016 – 04/2016. **Deer Capture Technician** (Seasonal). *Bald Head Island Conservancy*

- Free-darted white-tailed deer and assisted with live capture.

08/2015 – 07/2016. **GIS Analyst.** *Urban Caracal Project*

- Identified caracal activity hotspots with GIS and python contributing to publications.

03/2015 – 08/2015. **Field Technician** (Seasonal). *Urban Caracal Project*

- Set and monitored cage trapline for caracals and assisted with live captures.

03/2012 – 06/2012. **Biological Monitor Intern.** *Amazon Conservation Association*

- Monitored biodiversity with camera traps resulting in my BSc Capstone.

AWARDS & HONORS

2020	German Research Foundation (DFG) Project Grant [DFG-WO 1426/4-1] Co-applicant with J.B.W. Wolf	(360,500 EUR)
2018	ESRI Canada GIS Scholarship (Perpetual ArcGIS License)	(1,000 CAD)
2017	W. Garfield Weston Graduate Fellowship, WCS Canada	(5,513 CAD)

PRE-PRINTS & IN REVIEW

†Contributed equally

1. **Merondun J**, Wolf JBW. (*In Review, Molecular Ecology*) DNA methylation reflects *cis*-genetic differentiation across the European crow hybrid zone. [bioRxiv](#).
2. **Merondun J et al. [+20]** (*In Second Round Review, Science*) Genomic architecture of egg mimicry and its consequences for speciation in parasitic cuckoos.
3. **Merondun J[†]**, Pokrovsky I[†], et al. [+77] (*Submitted*) Rapid speciation along the world's longest landbird migration.

PUBLICATIONS

4. Mueller S, **Merondun J**, Lečić S, Wolf JBW. (2025) Epigenetic variation in light of population genetic practice. *Nature Communications*. [Link](#).
5. Serieys LEK, Leighton GRM, **Merondun J**, Bishop JM (2024) Denning and maternal behavior of caracals (*Caracal caracal*). *Mammalian Biology*. [Link](#).
6. **Merondun J[†]**, Marques C[†] et al. [+32] (2024) Evolution and genetic architecture of sex-limited polymorphism in cuckoos. *Science Advances*. [Link](#).
7. Catalán A, **Merondun J**, Knief U, Wolf JBW (2023) Chromatin accessibility, not 5mC methylation covaries with partial dosage compensation in crows. *PLoS Genet*. [Link](#).
8. Leighton GRM, Bishop JM, **Meröndun J**, Winterton DJ, O'Riain MJ, Serieys LEK (2022) Hiding in plain sight: risk mitigation by a cryptic carnivore foraging at the urban edge. *Animal Conservation*. [Link](#).
9. **Meröndun J**, Shafer ABA, Murray DL (2021) Spatial population genetics reveals competitive imbalances threatening local apex predator persistence. *Biological Conservation*. [Link](#).
10. White KS, Levi T, Breen J, Britt M, **Meröndun J**, Martchenko D, N. Shakeri Y, Porter B, Shafer ABA (2021) Integrating Genetic Data and Demographic Modeling to Facilitate Conservation of Small, Isolated Mountain Goat Populations. *Journal of Wildlife Management*. [Link](#).
11. Leighton GRM, Bishop JM, O'Riain MJ, Broadfield J, **Meröndun J**, Avery G, Avery DM, Serieys LEK (2020) An integrated dietary assessment increases feeding event detection in an urban carnivore. *Urban Ecosystems*. [Link](#).
12. **Meröndun J**, Murray DL, Shafer ABA (2019) Genome-scale sampling suggests cryptic epigenetic structuring and insular divergence in Canada lynx. *Molecular Ecology*. [Link](#).
13. Britt M, Haworth SE, **Johnson J**, Martchenko D, Shafer ABA (2018) The importance of non-academic coauthors in bridging the conservation genetics gap. *Biological Conservation*. [Link](#).

TEACHING & MENTORSHIP EXPERIENCE

MENTORSHIP

2016 – 2018. TRENT UNIVERSITY

Supported two honors bachelors' students in bioinformatics in the Shafer lab.

2017 Meghan Britt (resulting in White *et al.* 2021)

2017 Sarah Haworth

2019 – 2023. LMU MUNICH

Mentored three MSc students at LMU Munich (6 month/each).

2020 Blair Matarlo

2022 Jiaqi Yang

2023 Fleur Coppen

2023 – 2024. UNIVERSITY OF VICTORIA

Provided bioinformatic support to the Owen's lab, particularly two MSc students.

2024 Kaede Hirabayashi

2024 Nathan Sykes

TEACHING ASSISTANTSHIP COURSES

2016-2018. TRENT UNIVERSITY

Introduction to Genetics (Biology 2050)

Population Genetics (Biology 3620)

Epigenetics (Biology 4630)

INVITED GUEST LECTURES

TRENT UNIVERSITY. Epigenetics (Biology 4630). Instructor Dr. Kirk Hillsley

TRENT UNIVERSITY. Bioinformatics Biology 4800). Instructor Dr. Aaron Shafer

SCIENTIFIC COMMUNICATION

2025. USDA Research Seminar. Hilo, USA. *Invited Presentation*

2024. Biology Department Seminar. Victoria, Canada. *Invited Presentation*

2024. Joint Congress on Evolutionary Biology. Montreal, Canada. *Presentation*

2023. Evolutionary Genetics Munich. Munich, Germany. *Presentation*

2023. EVO-WIBO. Washington, USA. *Presentation*

2022. Seminar, Norwegian University of Life Sciences (Zoom). *Invited Presentation*

2018. Canadian Society for Ecology & Evolution. Ontario, Canada. *Presentation*

2018. Trent Northern Studies Colloquium. Ontario, Canada. *Presentation*

2018. Northumberland Land Trust. Ontario, Canada. *Public outreach presentation*

2016. Toronto Field Naturalists. Ontario, Canada. *Public outreach presentation*

2017. International Urban Wildlife Conference. San Diego, California. *Poster*
2014. Bachelor's Capstone Panel. Seattle, Washington. *Poster*

PEER REVIEWING

Peer-review contributions to:

2022 – 2025. *Molecular Ecology & Molecular Ecology Resources* (4)

2024. *Systematic Biology* (1)

2023. *Conservation Biology* (2)

2023 – 2025. *Proceeding of the Royal Society B: Biological Sciences* (2)