

# Ashley R. Reynolds

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## ACADEMIC POSITIONS

### POSTDOCTORAL FELLOW

Apr 2023 — Apr 2025

#### MITACS Accelerate

Canadian Museum of Nature & University of Ottawa

- Project: Growth differences in wolf (*Canis lupus*) populations from five ecozones in Canada
- Advisors: Dr. Danielle Fraser, Dr. Jeremy Kerr

## EDUCATION

### DOCTOR OF PHILOSOPHY

Sep 2015 — Apr 2023

#### Ecology and Evolutionary Biology

University of Toronto

- Title: Life History and Osteohistology in Feliformia (Mammalia: Carnivora), with Case Studies in *Panthera* and *Smilodon*
- Advisor: Dr. David C. Evans
- Supervisory Committee: Dr. Deborah McLennan, Dr. Mary T. Silcox

### BACHELOR OF SCIENCE (HONOURS)

Sep 2010 — Jun 2015

#### Biodiversity and Conservation Biology (Major)

#### Biological Anthropology (Major)

#### Geoscience (Minor)

University of Toronto

- Graduated with High Distinction

## OTHER WORK EXPERIENCE

#### Daily Planet Intern

Jan — Apr 2015

Discovery Channel Canada

Researched possible news stories, wrote short segments (including “Discoveries,” “Weird Planet,” and “Ziyoulogy”), contacted news sources to obtain materials releases, ensured all written work and tasks were completed in a timely manner, collaborated with producers, hosts, and other interns to produce content.

## PEER-REVIEWED PUBLICATIONS

1. Reynolds, A.R., Lowi-Merri, T., Seymour, K.L., Brannick, A.L., and Evans, D.C. 2023. Dire wolf (*Canis dirus*) from the late Pleistocene of southern Canada. *Journal of Quaternary Science*, 38(6), 938–946. doi: 10.1002/jqs.3516.
2. Reynolds, A.R., Seymour, K.L., and Evans, D.C. 2021. *Smilodon fatalis* siblings reveal life history in a sabre-toothed cat. *iScience* 24(1): 101916. doi: 10.1016/j.isci.2020.101916.
3. Whitney, M.R., LeBlanc, A.R.H., Reynolds, A.R., and Brink, K.S. 2020. Convergent dental adaptations in the serrations of hypercarnivorous synapsids and dinosaurs. *Biology Letters* 16(12): 20200750. doi: 10.1098/rsbl.2020.0750.
4. Reynolds, A.R., Seymour, K.L., and Evans, D.C. 2019. Late Pleistocene records of felids from Medicine Hat, Alberta, including the first Canadian record of the sabre-toothed cat *Smilodon fatalis*. *Canadian Journal of Earth Sciences* 56: 1052–1060. doi: 10.1139/cjes-2018-0272.
5. Seymour, K.L., Reynolds, A.R., and Churcher, C.S. 2018. *Smilodon fatalis* from Talara, Peru: Sex, Age, Mass, and Histology. Book chapter in McDonald, H.G., C. Shaw, and L. Werdelin (eds.) *Smilodon: The Iconic Sabertooth*. Johns Hopkins University Press: Baltimore, MD.

## CONFERENCE PRESENTATIONS

1. Reynolds, A. R. and Fraser, D. 2024. Body mass growth differences in Arctic and sub-Arctic wolves (*Canis lupus*). ArcticNet's Arctic Change 2024.
2. Reynolds, A.R. and Evans, D.C. 2024. Investigating the evolution of growth in Felidae using osteohistology. 3rd Joint Congress on Evolutionary Biology.
3. Reynolds, A.R. and Evans, D.C. 2024. Osteohistology accurately estimates growth in the lion (*Panthera leo*). Canadian Society of Zoologists 63rd Annual Meeting.
4. Reynolds, A.R. 2022. Osteohistology suggests *Smilodon fatalis* was sexually dimorphic and social. Society of Vertebrate Paleontology 82nd Annual Meeting. November 2-5, Toronto, ON, Canada. This oral presentation was selected to be part of the Romer Prize session, a competitive session in which participants are selected based on the scientific value and quality of a submitted abstract summarizing an original research project.
5. Reynolds, A.R. and Evans, D.C. 2022. Testing the use of bone histology for reconstructing growth in *Panthera leo*. 2022 Ecological Society of America & Canadian Society for Ecology and Evolution Joint Meeting. August 14-19, Montreal, QC, Canada. [accepted but I was unable to present due to contracting COVID-19]
6. Reynolds, A.R., Lowi-Merri, T.M., Brannick, A.L., and Evans, D.C. 2020. Dire wolf identified from the late Pleistocene of Alberta using geometric morphometrics. Society of Vertebrate Paleontology 80th Annual Meeting. October 12-16, virtual.
7. Reynolds, A.R., Lowi-Merri, T.M., Brannick, A.L., and Evans, D.C. 2020. Confirmation of dire wolf from Medicine Hat, Alberta using geometric morphometrics. Canadian Society of Vertebrate Palaeontology 8th Annual Conference. June 6-8, Victoria, BC, Canada.
8. Reynolds, A.R. and Evans, D.C. 2019. Osteohistological growth curve reconstruction in *Smilodon fatalis*. 11th North American Paleontological Convention. June 23-27, Riverside, CA, USA.

9. Reynolds, A.R. and Seymour, K.L. 2019. Faunal composition and turnover during the Late Pleistocene of Medicine Hat, Alberta. Canadian Society of Vertebrate Palaeontology 7th Annual Conference. May 10-13, Grande Prairie, AB, Canada.
10. Reynolds, A.R. 2019. Reconstructing life history in extinct mammals using osteohistology. 14th Annual Atwood Colloquium. April 12-13, Toronto, ON, Canada.
11. Reynolds, A.R., Seymour, K.L., and Evans, D.C. 2018. Expanding the northern range of *Smilodon fatalis* (Carnivora, Felidae): description of the first specimen from Canada (Late Pleistocene; Medicine Hat, Alberta). Society of Vertebrate Paleontology 78th Annual Meeting. October 17-20, Albuquerque, NM, USA.
12. Lowi-Merri, T.M., Simon, D.J., Reynolds, A.R., Seymour, K.L., and Evans, D.C. 2018. Taphonomic Analysis of Avifaunal Remains from the Pleistocene Tar Pits of Talara, Peru. Society of Vertebrate Paleontology 78th Annual Meeting. October 17-20, Albuquerque, NM, USA.
13. Reynolds, A.R., Seymour, K.L., and Evans, D.C. 2018. Revisiting *Smilodon* (Carnivora, Felidae) material from Medicine Hat, Alberta. Canadian Society of Vertebrate Palaeontology 6th Annual Meeting. May 14-16, Ottawa, ON, Canada.
14. Reynolds, A.R. and Seymour, K.L. 2017. Sabre-toothed cat (*Smilodon fatalis*) subadults from Coralito, Ecuador interpreted as members of the same age cohort. Society of Vertebrate Paleontology 77th Annual Meeting. August 23-26, Calgary, AB, Canada.
15. Seymour, K.L., Reynolds, A.R., and Churcher, C.S. 2017. The sabre cat *Smilodon fatalis* from Talara Peru: age, sex, mass and sociality. Society of Vertebrate Paleontology 77th Annual Meeting. August 23-26, Calgary, AB, Canada.
16. Reynolds, A.R. and Evans, D.C. 2016. A multi-element histological analysis of the sabre-toothed cat *Smilodon fatalis* (Carnivora: Felidae). Society of Vertebrate Paleontology 76th Annual Meeting. October 26-29, Salt Lake City, UT, USA.
17. Reynolds, A.R. and Evans, D.C. 2016. Long bone histology of *Smilodon fatalis* (Carnivora: Felidae) from Talara, Peru. Canadian Society of Vertebrate Palaeontology 4th Annual Meeting. May 18-21, University of Toronto Mississauga, Mississauga, ON, Canada.
18. Reynolds, A.R. 2016. Growth patterns of wild and captive lions (*Panthera leo*) and tigers (*Panthera tigris altaica*). Canadian Society of Zoologists 55th Annual Meeting. May 9-13, Western University, London, ON, Canada.

## STUDENT SUPERVISION

**Co-supervisor, Undergraduate Research Project**  
Department of Earth Sciences, Carleton University

Sep 2023 — Apr 2024

- Co-supervisor: Dr. Danielle Fraser
- Students: Mark Dolan (Fall 2023), Derek Wilson (Winter 2024, now an MSc student)

## TEACHING EXPERIENCE

### TEACHING ASSISTANT

Sep 2015 — Dec 2022

**Department of Ecology and Evolutionary Biology, University of Toronto**

- EEB263, Comparative Vertebrate Anatomy (Fall 2022)

- EEB322, Behavioural Ecology (Fall 2022)
- EEB390, Vertebrate Palaeontology (Winter 2018, 2019, 2020, 2021)
- BIO120, Adaptations and Biodiversity (Fall 2020)
- EEB388, Diversity of Mammals (Fall 2015, 2016, 2017, 2018)
- BIO220, From Genomes to Ecosystems (Winter 2016, 2017)

## **COURSE INSTRUCTOR**

Fall 2020 & 2021

### **EEB388: Diversity of Mammals**

**Department of Ecology and Evolutionary Biology, University of Toronto**

- Developed lecture and lab content and assessments; delivered hybrid lectures (in-classroom and via Zoom); supervised two course Teaching Assistants; led students in specimen-based labs; managed course content via Canvas; managed student questions online via Discord and in-person; graded quizzes, tests, blog assignments, and exams.
- In students' course evaluations, this course scored at or above the departmental and divisional means in all metrics and was described by one student as "the best organized and conducted course [they had] ever taken at [the University of Toronto] – the best out of 43 classes across several departments."

## **COURSE DEVELOPMENT TEACHING ASSISTANT**

Summer 2018 & Winter 2021

**Department of Ecology and Evolutionary Biology, University of Toronto**

- EEB390, Vertebrate Palaeontology: composed course manual to integrate lecture and lab material; developed new course content with primers on bone biology, skeletal morphology, and tree thinking; to be distributed to students in future years.
- EEB388, Diversity of Mammals: managed and reorganized teaching collection with specific focus on systematic organization.

## **AWARDS AND GRANTS**

### **MITACS Accelerate Postdoctoral Fellowship**

2023 – 2025

Value: \$90,000 CAD

### **Ontario Graduate Scholarship**

2019 – 2020

Value: \$15,000 CAD

### **School of School of Graduate Studies Conference Grant, University of Toronto**

2019

Value: \$780 CAD

### **North American Paleontological Convention Student Travel Grant, The Paleontological Society**

2019

Value: \$350 USD

### **CSVP Student Travel Grant, Canadian Society of Vertebrate Palaeontology**

2019

Value: \$500 CAD

### **Cretin-Falls Travel Grant, Dinosaur Research Institute**

2018

Value: \$500 CAD

# PROFESSIONAL SERVICE AND DEVELOPMENT

<b>Member of the Commission on Education and Communication</b> International Union for the Conservation of Nature	2024 — Present
<b>Member of the Small Carnivore Specialists Group, Species Survival Commission</b> International Union for the Conservation of Nature	2022 – Present
<b>Peer Reviewer, Canadian Journal of Earth Sciences</b>	2024
<b>Peer Reviewer, Journal of Morphology</b>	2024
<b>Member of the Equity, Diversity, and Inclusion Committee</b> Canadian Society of Vertebrate Palaeontology	2020 — 2023
<b>Peer Reviewer, Proceedings of the Royal Society B: Biological Sciences</b>	2023
<b>Volunteer for the Local Organizing Committee</b> Society of Vertebrate Paleontology 82nd Annual Meeting, November 2-5, Toronto, ON, Canada	2022
<b>Abstract Reviewer</b> Canadian Society of Vertebrate Palaeontology	2019 — 2020
<b>Co-organizer</b> Palaeohistology Workshop, Royal Ontario Museum	2018 — 2019
<b>Campus Representative for the Royal Ontario Museum</b> Graduate Student Association, Department of Ecology and Evolutionary Biology, University of Toronto	2017 — 2019
<b>Organizing Committee</b> Palaeohistology Workshop, Royal Ontario Museum	2016 — 2017
<b>Selection Committee, Atwood Lecturer</b> 11th Annual Atwood Colloquium, Toronto, ON, Canada	2015 — 2016

# FIELD EXPERIENCE

Field expeditions as team lead are indicated with an asterisk (\*).

<b>* Survey of Pleistocene Faunas in Medicine Hat Area, Alberta</b> Leads: Ashley R. Reynolds, David C. Evans	Jul 2019
<ul style="list-style-type: none"> <li>• Survey of Pleistocene deposits in and near Medicine Hat, Alberta</li> <li>• Relocation of historic quarry sites</li> <li>• Prospecting for Pleistocene mammal sites</li> </ul>	
<b>Southern Alberta Dinosaur Project</b> Leads: David C. Evans, Michael J. Ryan	Summers 2015 — 2019
<b>Royal Ontario Museum Hell Creek Dinosaur Project</b> Lead: David C. Evans	Jul 2018
<b>Rudabánya Field School</b> Lead: David Begun	Jun — Jul 2012

## PUBLIC PRESENTATIONS

Dinosaurs and MOR, Museum of the Rockies	2025
Yukon Beringia Interpretive Centre	2021
Royal Tyrrell Museum	2021
Royal Ontario Museum	2019
Soapbox Science	2017
RockFest, Royal Ontario Museum	2017

## POPULAR MEDIA

### Opinion pieces

Why Toronto's cats belong safely indoors. Opinion, Toronto Star, July 18.	2022
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### Press coverage of my research

Reynolds et al. 2023 (dire wolf in AB): The Canadian Press, phys.org, blogTO	2023
Reynolds et al. 2021 (Smilodon siblings): CBC, CTV	2021
Reynolds et al. 2019 (Pleistocene cat fossils in AB): Global News, CBC, CTV, Canada's National Observer	2019

### Interviewed expert

"The Softer Side of Sabercats" by Riley Black, Smithsonian Magazine	2021
Scientific consultant for board game Fossilis.	2020
Featured palaeontologist, Season 2, Dino Trails	2019
"Hyenas once stalked the Arctic, fossils reveal" by John Pickrell, National Geographic.	2019
"The Baddest Cat of All" by John Pickrell, Science News Magazine (titled "Saber-toothed cats were fierce and family-oriented" in the online version)	2019
"Saber-Toothed Cats May Have Roared Like Lions" by John Pickrell, Scientific American	2018
"Prehistoric Cats ft. Ashley Reynolds," Curiosity in Focus, a podcast by Daniel Kwan.	2018

## SELECTED PUBLIC ENGAGEMENT

<b>Fossil Cats of Canada, Open House</b>	2024
Interactive table for the Canadian Museum of Nature's annual research and collections open house, October 5, Natural Heritage Campus, Canadian Museum of Nature, Gatineau, QC, Canada.	
<b>Purr-fect Predators: Lessons from the Feline Fossil Record</b>	2024
Workshop coinciding with the special exhibition, Wild Cats. June 22, September 21-22, Royal Ontario Museum, Toronto, ON, Canada.	
<b>ROMKids Virtual Family Workshops</b>	2021
Guest expert at "Frozen in Time" workshop on Ice Age science. August 16, virtual via Royal Ontario Museum.	
<b>Scientist Chat</b> Virtual outreach presentation and Q&A for Let's Talk Science. June 17, Zoom for Ryerson University's SciXchange.	2020

<b>ROM Experts present “Peep Show”</b>	2020
Interactive table on animal reproduction. ROM After Dark: Desire. February 14, Royal Ontario Museum, Toronto, ON, Canada.	
<b>Instructor. ROM U: Fossil Cat Workshop.</b>	2020
February 9, Royal Ontario Museum, Toronto, ON, Canada.	
<b>Workshop, Visions of Science Network for Learning</b>	2019
March 23, Royal Ontario Museum, Toronto, ON, Canada. Spoke with children and volunteers from low socioeconomic communities about palaeontology.	
<b>#HardFacts, interactive table on animal reproduction</b>	2019
Friday Night Live: Love. February 15, Royal Ontario Museum, Toronto, ON, Canada.	
<b>Invited scientist, Soapbox Science Toronto</b>	2017
May 13 & September 24, Toronto, ON, Canada.	

## AFFILIATIONS AND PROFESSIONAL SOCIETIES

Member, Association of Zoos and Aquariums	2024 — Present
Member, American Society of Naturalists	2023 — Present
Member, Canadian Society of Ecology and Evolution	2022 — Present
Supporting Member, International Association of Animal Behaviour Consultants	2022 — Present
Member, Society of Vertebrate Paleontology	2016 — Present
Member, Canadian Society of Vertebrate Palaeontology	2016 — Present
Member, Canadian Society of Zoologists	2016 — Present

## LABORATORY TECHNIQUES

Osteological and dental thin section protocols  
 Microfossil sorting and identification  
 Fossil moulding and casting  
 Vertebrate dissection and de-fleshing  
 Identification of anatomical features of vertebrates

## COMPUTATIONAL TECHNIQUES

Data analysis in R and bash  
 Microsoft Office Suite and Google Suite  
 Generation and management of large ecological datasets  
 Phylogenetic reconstruction using TNT, IQ-TREE, and MrBayes

## FIELD TECHNIQUES

Management of camp and crew  
 Excavation of material with various tools  
 Specimen protection via plaster jacketing  
 Mapping and cataloguing of recovered material  
 Removal of large plaster jackets  
 Overburden removal with pickaxes and shovels  
 Bulk sampling and screen-washing  
 Prospecting for new fossil materials

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# REFERENCES

## **Dr. Danielle Fraser**

**Postdoctoral Advisor**, 2023 — present

Head of Palaeobiology and Research Scientist, Canadian Museum of Nature  
Adjunct Research Professor, Department of Biology and Department of Earth Sciences,  
Carleton University  
Associate, Smithsonian National Museum of Natural History  
Email: dfraser@nature.ca

## **Dr. Jeremy T. Kerr**

**Postdoctoral Advisor**, 2023 — present

Professor, Department of Biology, University of Ottawa  
Email: jeremy.kerr@uottawa.ca

## **Dr. David C. Evans**

**Ph.D. Advisor**, 2015 — 2023

Co-Chief Curator and Temerty Chair of Vertebrate Palaeontology, Department of Natural  
History, Royal Ontario Museum  
Associate Professor, Department of Ecology and Evolutionary Biology, University of Toronto  
Email: d.evans@utoronto.ca