

Danielle Magann Grant

(she/her)

Canadian

danielle.m.grant@hotmail.com<https://orcid.org/0000-0003-4062-6481>www.linkedin.com/in/danielle-magann-grant**QUALIFICATIONS & SKILLS****2019- ongoing****PhD Education in Molecular Ecology and Paleogenomics**

Thesis Title: *Development of Sedimentary Ancient DNA for Arctic Paleoceanography*

NORCE and The Bjerknes Center for Climate Research
University of Bergen, Norway

PhD training in:

- DNA extraction from environmental (eDNA) and ancient DNA (aDNA) samples in sterile ancient DNA laboratory setting
- PCR methods including endpoint, qPCR, and ddPCR
- DNA library preparation of eDNA and sedaDNA for Illumina sequencing
- Bioinformatic analysis in R for paleoecology reconstructions from metabarcoding
- Field work onboard Norwegian ice breaker for sediment core collection and eDNA sampling
- Science communication skills through written, podcasts, and digital media
- Theoretical paleoclimatology and oceanography through course work and collaboration

2018**Master of Science (MSc)**

Thesis: *DNA Methylation Landscape of the Fibrinogen Gene Cluster in the Equine Embryo*

Faculty of Veterinary Medicine, University of Calgary, Canada

2016**Honours Bachelor of Science (HBSc)**

Thesis: *Molecular Ecology of Echinococcus multilocularis in Western Canada*
Biology Department, University of Calgary, Canada

HBSc 2016 & MSc 2018 training in:

- Theoretical and applied knowledge of cell culturing methods
- Bioinformatic analysis in R, Geneious (genome annotation), Unix, and IGV.
- Epigenetics techniques- Bisulphite sequencing.
- Microscopy—light microscopy methods & maintenance, included super-resolution.
- Experiment/ethics training for laboratory animal handling methods.

RELATED EXPERIENCE

- 2018-2019 Virology Research Laboratory Technician
Faculty of Veterinary Medicine, Department of Comparative Biology and
Experimental Medicine, University of Calgary, Canada
- 2019 Super-resolution and Confocal Microscopy Technician
Microscopy and Imaging Facility, University of Calgary, Canada
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RECENT PUBLICATIONS (see orcid for full overview)

D.M. Grant, et al. (2021) The Future of DNA Barcoding: Reflections from Early Career Researchers. *Diversity*, 13(7): 313. <https://doi.org/10.3390/d13070313>

D.M. Grant, A. Macedo, D. Toms, and C. Klein. (2020) Fibrinogen in equine pregnancy as a mediator of cell adhesion, an epigenetic and functional investigation. *Biology of Reproduction*, ioz157, <https://doi-org.ezproxy.lib.ucalgary.ca/10.1093/biolre/ioz157>.

A. Massolo, C. Klein, K. Kowalewska-Grochowska, S. Belga, C. MacDonald, S. Vaughan, S. Girgis, D. Giunchi, S.A. Bramer, S. Maria, **D.M. Grant**, K. Mori, P. Duignan, O. Slater, B. Gottstein, N. Müller, and S. Houston. (2019) European *Echinococcus multilocularis* Identified in Patients in Canada. *New England Journal of Medicine*, 381:384-385.

PRESENTATIONS (see orcid for full overview)

D.M. Grant, et al. (August 2022) *Sedimentary ancient DNA Reveals Biodiversity Shifts in the Last Interglacial Labrador Sea*. 14th International Conference on Paleoceanography, Bergen, Norway. [Poster]

D.M. Grant. (November 2021) *Filming in the Field: Minimal Effort with Maximum Impact*. Research in Svalbard: An APECS Workshop, Oslo, Norway. [Invited Talk]

D.M. Grant, et al. (October 2021) *sedaDNA Insights into Marine Biodiversity During the Transitions of the Last Interglacial*. Environmental and Agronomical Genomics Symposium, Tours, France. [Poster]

D.M. Grant, A. Macedo, D. Toms, and C. Klein. (July 2018). *Fibrinogen at the Embryo/Fetal-maternal Interface Mediates Integrin-dependent Cell Adhesion During Equine Pregnancy*, International Symposium on Equine Reproduction XII, Cambridge, UK [Poster]

SCIENTIFIC OUTREACH

Podcasts:

- The (Un)Scientific Method: Paleo-Oceanography, the Arctic, and Climate Change, Discussions with Danielle Grant, 20.09.2021, Podcast discussion of PhD work and field in general reaching an international/ Canadian audience.
<https://theunscientificmethod.ca/episode-1/>
- The Bjercknes Centre Climate Podcast: Hunting for Ancient DNA. Bjercknes Center for Climate Research podcast discussing the use of Ancient DNA in the context of Arctic paleoceanography. 27.01.2022. <https://bjercknessenteret.podbean.com/e/the-hunt-for-ancient-dna-under-the-sea-ice/>

Photography/ Videography:

- Contributor to the 28th edition of the UNEP's Foresight Brief (07.03.2022)
<https://www.unep.org/resources/emerging-issues/shrinking-arctic-sea-ice>
- Regular contributor to NORCE and The Bjercknes Center for Climate Research social media pages with videos produced during laboratory and field work. Some examples include: <https://vimeo.com/491158442> , <https://vimeo.com/490722470>

Popular Science Writing:

Series of popular science blog articles based on November 2020 Expedition (in Norwegian):

- <https://blogg.forskning.no/blogg-innefrosset-i-polhavet/feltarbeid-i-framstredet/1779811>
- <https://blogg.forskning.no/blogg-innefrosset-i-polhavet/polarnattens-variasjoner/1784556>
- <https://blogg.forskning.no/blogg-innefrosset-i-polhavet/a-samle-havbunn-i-et-ror/1786701>

Always be afraid of DNA contamination! .08.11.2019. <https://cage.uit.no/2019/11/08/always-be-afraid-of-dna-contamination/>

RESEARCH EXPEDITIONS

- R/V Kronprins Haakon 30-June to 11 July 2021, Longyearbyen- Longyearbyen. AGENSI: Actic Paleoceanography Cruise
- R/V Kronprins Haakon 16-November to 30 November 2020, Longyearbyen- Tromsø. Natural gas seepage and past sea ice variability on the NE Greenland margin.
<https://cage.uit.no/wp-content/uploads/2020/12/cage20-8-cruise-report-final.pdf>
- R/V Kronprins Haakon 19-October to 09 November 2019, Longyearbyen- Longyearbyen. Calypso giant piston coring in the Atlantic-Arctic gateway – Investigation of continental margin development and effect of tectonic stress on methane release.
https://cage.uit.no/wp-content/uploads/2019/10/cruise_report_version_final.pdf