

Marianne Dehasque, PhD

Human Evolution Program
Department of Organismal Biology
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CAREER SUMMARY:

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|-------------|---|
| 2023-2025 | Postdoctoral Researcher (Carl Tryggers Stipendium)
Title: From wild to tamed and back – the genomic history of feralization
Supervisor: Torsten Günther
Uppsala University, Sweden |
| 2022- 2023 | Lab manager
Centre for Palaeogenetics, Sweden |
| 2018 - 2023 | PhD in Systematic Zoology
Title: <i>Palaeogenomic reconstruction of woolly mammoth evolutionary history and extinction dynamics</i>
Supervisor: Love Dalén
Stockholm University, Sweden |
| 2017-2018 | Jr. Data Architect
Agilent technologies, Multiplicom branch, Belgium |

EDUCATION:

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|-------------|---|
| 2018 - 2023 | PhD in Systematic Zoology
Title: <i>Palaeogenomic reconstruction of woolly mammoth evolutionary history and extinction dynamics</i>
Stockholm University, Sweden |
| 2011-2016 | BSc & MSc in Biology
University of Antwerp, Belgium |

PEER-REVIEWED PUBLICATIONS (*indicates shared first authorship)

- **Dehasque, M.**, Morales, H.E., Díez-del-Molino, D., Pečnerová, P., Chacón-Duque, J.C., Kanellidou, F., Muller, H., Plotnikov, V., Protopopov, Tikhonov, A., A., Nikolskiy, P., Danilov, G.K., Gianni, M., van der Sluis, L., Higham, T., Heintzman, P.D., Oskolkov, N., Gilbert, M.T.P., Götherström, A., van der Valk, T., Vartanyan, S , Dalén, L., 2024. Temporal dynamics of woolly mammoth genome erosion prior to extinction. *Cell*, 187(14), 3531-3540.
- Sandoval-Velasco, M., Dudchenko, O., Rodríguez, J. A., Estrada, C. P., **Dehasque, M.**, Fontseré, C., ... & Aiden, E. L. (2024). Three-dimensional genome architecture persists in a 52,000-year-old woolly mammoth skin sample. *Cell*, 187(14), 3541-3562.
- Díez-del-Molino, D., **Dehasque, M.**, Chacón-Duque, J.C., Pečnerová, P., Tikhonov, A., Protopopov, A., Plotnikov, V., Kanellidou, F., Nikolskiy, P., Mortensen, P., Danilov, G.K., Vartanyan, S., Gilbert, M.T.P., Lister, A.M., Heintzman, P.D., van der Valk, T., Dalén, L.,

2023. Genomics of adaptive evolution in the woolly mammoth. *Current Biology*, 33(9), pp.1753-1764.

- Kutschera, V.E., Kierczak, M., van der Valk, T., von Seth, J., Dussex, N., Lord, E., **Dehasque, M.**, Stanton, D.W.G., Khoonsari, P.E., Nystedt, B., Dalén, L., Díez-del-Molino, D., 2022. GenErode: a bioinformatics pipeline to investigate genome erosion in endangered and extinct species. *BMC Bioinformatics* 23, 1–17.
- van der Valk, T.*, **Dehasque, M.***, Chacón-Duque, J.C., Oskolkov, N., Vartanyan, S., Heintzman, P.D., Pečnerová, P., Díez-Del-Molino, D., Dalén, L., 2022. Evolutionary consequences of genomic deletions and insertions in the woolly mammoth genome. *iScience* 25, 104826.
- **Dehasque, M.**, Pečnerová, P., Lagerholm, V.K., Ersmark, E., Danilov, G.K., Mortensen, P., Vartanyan, S., Dalén, L., 2022. Development and Optimization of a Silica Column-Based Extraction Protocol for Ancient DNA. *Genes*. 13(4), 687.
- Dussex, N., Bergfeldt, N., de Anca Prado, V., **Dehasque, M.**, Díez-Del-Molino, D., Ersmark, E., Kanellidou, F., Larsson, P., Lemež, Š., Lord, E., Mármol-Sánchez, E., Meleg, I.N., Måsviken, J., Naidoo, T., Studerus, J., Vicente, M., von Seth, J., Götherström, A., Dalén, L., Heintzman, P.D., 2021. Integrating multi-taxon palaeogenomes and sedimentary ancient DNA to study past ecosystem dynamics. *Proc. Biol. Sci.* 288, 20211252.
- Rosengren, E., Acatrinei, A., Cruceru, N., **Dehasque, M.**, Haliuc, A., Lord, E., Mircea, C.I., Rusu, I., Mármol-Sánchez, E., Kelemen, B.S., Meleg, I.N., 2021. Ancient Faunal History Revealed by Interdisciplinary Biomolecular Approaches. *Diversity*. 13(1), 1-17.
- Pečnerová, P., Díez-Del-Molino, D., van der Valk, T., **Dehasque, M.**, Götherström, A., Dalén, L., 2021. Mammuthus sp. (Early and Middle Pleistocene Mammoths). *Trends Genet.* 37, 682–683.
- **Dehasque, M.**, Pečnerová, P., Muller, H., Tikhonov, A., Nikolskiy, P., Tsigankova, V.I., Danilov, G.K., Díez-del-Molino, D., Vartanyan, S., Dalén, L., Lister, A.M., 2021. Combining Bayesian age models and genetics to investigate population dynamics and extinction of the last mammoths in northern Siberia. *Quaternary Science Reviews*. 259, 106913.
- van der Valk, T., Pečnerová, P., Díez-Del-Molino, D., Bergström, A., Oppenheimer, J., Hartmann, S., Xenikoudakis, G., Thomas, J.A., **Dehasque, M.**, Sağlıcan, E., Fidan, F.R., Barnes, I., Liu, S., Somel, M., Heintzman, P.D., Nikolskiy, P., Shapiro, B., Skoglund, P., Hofreiter, M., Lister, A.M., Götherström, A., Dalén, L., 2021. Million-year-old DNA sheds light on the genomic history of mammoths. *Nature* 591, 265–269.
- Feuerborn, T.R., Palkopoulou, E., van der Valk, T., von Seth, J., Munters, A.R., Pečnerová, P., **Dehasque, M.**, Ureña, I., Ersmark, E., Lagerholm, V.K., Krzewińska, M., Rodríguez-Varela, R., Götherström, A., Dalén, L., Díez-Del-Molino, D., 2020. Competitive mapping allows for the identification and exclusion of human DNA contamination in ancient faunal genomic datasets. *BMC Genomics* 21, 844.
- **Dehasque, M.**, Ávila-Arcos, M.C., Díez-Del-Molino, D., Fumagalli, M., Guschanski, K., Lorenzen, E.D., Malaspinas, A.-S., Marques-Bonet, T., Martin, M.D., Murray, G.G.R., Papadopoulos, A.S.T., Therkildsen, N.O., Wegmann, D., Dalén, L., Foote, A.D., 2020. Inference of natural selection from ancient DNA. *Evol Lett* 4, 94–108.

SCHOLARSHIPS AND AWARDS

2023

Lars Hiertas Minne

Research grant, 21,000 SEK

2023	Nilsson-Ehle stipendium <i>Research grant, 93,000 SEK</i>
2023	SMBE Graduate Student Excellence Award, SMBE23, Ferrara, Italy <i>The SMBE Graduate Student Excellence Award honors the best presentation at the Graduate Student Excellence symposium.</i>
2023	Liljevalchs resestipendier <i>Travel stipendium, 7,000 SEK</i>
2023	Albert & Maria Bergströms Stiftelse <i>Travel stipendium, 10,000 SEK</i>
2022	First prize for best student talk at ConsGen22, Scotland
2020	Appointed a personal advisor in the Bioinformatics Advisory Program, Sweden. This is a competitive call.
2020	Riksmusei Vänner Stipendium, Sweden <i>Travel stipendium, 10,000 SEK</i>
2019, 2020	Alice and Lars Silén Fond, Sweden <i>Travel stipendium, 5,500 and 8,000 SEK resp.</i>
2016	Finalist at KETS awards, 2016, Belgium <i>Scientific award for best Belgian thesis in zoology</i>

SELECTED PRESENTATIONS

2023	SMBE Satellite Meeting on Molecular Evolution in Small populations, Princeton University, USA Invited speaker: <i>Temporal dynamics of woolly mammoth genome erosion prior to extinction</i>
2023	PAG 30, San Diego, USA Oral presentation: <i>Temporal dynamics of woolly mammoth genome erosion prior to extinction</i>
2022	ConsGen22, Edinburgh, Scotland Oral presentation: <i>The extinction of the woolly mammoth. What can we learn?</i>
2021	ISBA 9, Virtual conference Oral presentation: <i>Studying selection in mammoths using genome-wide time series data.</i>
2021	Polar forum, Stockholm, Sweden Invited oral presentation: <i>Mammoth Models and How to Date them.</i>
2020	Inaugural symposium of the Centre for Palaeogenetics, Stockholm, Sweden Invited oral presentation: <i>Evolution and extinction of the woolly mammoth.</i>
2019	ESEB, Turku, Finland

Poster presentation: *Optimization of double-stranded library preparation methods for ancient and degraded DNA.*

TEACHING

- 2022 Methods in molecular life science, Stockholm University
Lecturer: *Permafrost Palaeogenomics*
- 2019-2021 Conservation Genomics, Stockholm University
Lecturer: *Genetics and extinction, Ancient DNA in conservation*
- 2018-2020 Palaeoecology, Genetics, and Human Prehistory, Stockholm University
Lecturer: *Using ancient DNA to study selection*
Assistant wet-lab part

SUPERVISION

- 2020-2021 Foteini Kanellidou
Master's thesis: *Tracking woolly mammoth evolution on Wrangel Island using non-autosomal markers*
- 2018 Héloïse Müller
Internship: *The woolly mammoth's genetic erosion*

PROFESSIONAL SERVICE AND OUTREACH

Journal refereeing: Molecular Ecology Resources, Current Biology, BMC Ecology and Evolution

- 2024 Wrote a popular science article for The Conversation
Did inbreeding cause the woolly mammoth's extinction? Our research suggests it was more sudden than that
- 2024 Organizer of symposium at SMBE24, Puerto Vallarta, Mexico
Decoding the past to safeguard the future
- 2022 Popular science lecture on mammoths for classroom of 16-year-olds.
- 2019 Participation in Discovery Channel documentary "Lost Beasts of the Ice Age". Aired 2019.
- 2019 Organized Gästabudet
Gästabudet is the annual symposium for PhD students from the Zoology department.
- 2018,2019 Organized two LET'S (Life Earth Time 'n Space) seminars.
LET's is a seminar series hosted by the Swedish Museum of Natural History to a broader audience interested in life sciences.
- Katerina Douka: *The daughter of a Neanderthal and a Denisovan*
 - Mark Thomas: *Genetic Astrology – debunking commercial genetic ancestry claims*