

Year 3 Progress Report – Interdisciplinary Understanding for a Changing Arctic (1 October 2020 – 30 September 2021)

During its third year, the Interdisciplinary Understanding for a Changing Arctic Doctoral Scholarship Programme brought in five new students in addition to continuing support for the ten students who were recruited during the programme's first two years.

Group Educational Activities during 2020/21

A key component of the doctoral training programme is a series of educational experiences and seminars that cut across enrolled students' disciplines. These are designed to foster a holistic understanding of Arctic issues as well as build a cross-disciplinary Arctic studies community. As happened in 2019/20, some of these activities (e.g. summer schools, field trips) were curtailed in 2020/21 due to the COVID-19 pandemic. The main co-curricular activity that was maintained throughout 2020/21 was the student-run seminar series. Over the course of the year, 11 seminars were held, which included featured presentations by several students funded by the Leverhulme scheme (Paul Burgum, Beth Gillie, David Jarrett, Danae Kontou, Ellie Ward) as well as external speakers from Canada (Martin Sharp, Alberta), Norway (Britt Kramvig, UiT), and the United Kingdom (Tim Ingold, Aberdeen; Isla Myers-Smith, Edinburgh). The series was coordinated by Leverhulme-funded student Eric Boyd.

Two other group events were held during 2020/21 (in addition to informal activities). In June 2021, DurhamARCTIC (the Centre for Doctoral Training hosting the Leverhulme-funded Interdisciplinary Understanding for a Changing Arctic training scheme) organised a panel session at the triennial International Congress of Arctic Social Sciences (ICASS) held online in Archangelsk, Russia. 10 of the 15 Leverhulme-funded students, as well as the director, attended this panel where the Durham students led a discussion of the challenges and rewards of interdisciplinary education in (and on) the Arctic. (Several DurhamARCTIC students presented papers on their own research at this conference as well; see below). Additionally, in September 2021, DurhamARCTIC joined with the Icelandic Embassy in London to co-sponsor an online symposium reflecting on the Arctic Council's 25th anniversary. The symposium featured presentations by Einar Gunnarsson (Icelandic Ministry for Foreign Affairs), Malgorzata Smieszek (UiT: The Arctic University of Norway), and Tom Barry (Conservation of Arctic Flora and Fauna Working Group of the Arctic Council), as well as an introduction by Sturla Sigurjónsson (Ambassador of Iceland to the United Kingdom), and was chaired by Leverhulme-funded student Romain Chuffart.

Leverhulme-Funded Students

The remainder of this report provides details on the Leverhulme-funded students enrolled in the programme and highlights some notable achievements during the 2020/21 academic year, focusing on external (non-Durham) presentations and accepted publications.

Cohort 1 (entering Autumn 2018)

Note: All four students in this cohort received COVID-19-related 3-month extensions, extending their target time for thesis submission (and termination of Leverhulme funding) from 30 September 2021 to 31 December 2021.

Giuseppe Amatulli

Thesis title: *'Cumulative effects, anthropogenic changes and modern life paths in Northeastern British Columbia: the case of the Doig and BlueBerry River First Nation'*

Primary supervisor: Professor Simone Abram (Anthropology)

Secondary supervisor: Dr Henry Jones (Law)

Since completing his placement with the Land Department of the Doig River First Nation (British Columbia, Canada), Giuseppe has been writing up his thesis, which he plans on submitting in February 2022. He has obtained a postdoctoral position at UiT: The Arctic University of Norway beginning in March 2022.

In addition to making presentations at the online Vienna Anthropology Day (October 2020) and International Congress of Arctic Social Sciences (June 2021) and working with the Japan-based New Leadership University to develop a micro-training based on his fieldwork experiences, Giuseppe has a forthcoming publication:

- Amatulli, G., Commentary on 'Decolonizing Production: Healing, Belonging, and Social Change in Sápmi', *Current Anthropology* 62(6), December 2021.

An additional publication is under review with *Mortality*.

Ilona Kater

Thesis title: *Reindeer ecology in a changing Arctic: Snow, vegetation, and traditional ecological knowledge*

Primary supervisor: Professor Robert Baxter (Biosciences)

Secondary supervisor: Professor Simone Abram (Anthropology)

Since completing her placement at Umeå University (Sweden), Ilona has submitted her thesis (November 2021) and is now awaiting her viva. She has also taken up a position as Teaching Associate in the Department of Geography at Cambridge University.

During the past year, Ilona has presented at the Arctic Science Summit Week (March 2021), chaired a session at the Polar Early Career Conference (May 2021), and served as a panel member at Scotland Interfaith's Beyond the Climate Crisis series (April 2021), and the 25th Annual Conference of the International Environment Forum (November 2021). Together with the members of the Herbivory Network, she published:

- Soinen et al. 2021. Location of studies and evidence of effects of herbivory on Arctic vegetation: a systematic map. *Environmental Evidence*, 10(25)

An additional publication is under review with *Ecology and Evolution*.

Jan Mikael Lundmark

Thesis title: *Access to land, access to justice - The divergence of legal protection: Cultural protection for Sami access to land and water under Swedish law in light of the European Convention on Human Rights and Fundamental Freedoms*

Primary supervisor: Professor Tom Allen (Law)

Secondary supervisors: Dr Benedict Douglas (Law); Dr Lauren Martin (Geography)

Mikael is currently undertaking his placement with Sámiid Riikkasearvi (the Swedish Sámi People's National Association) while finishing his thesis. The placement includes authorship of a report for a parliamentary committee responsible for reviewing the Swedish Reindeer Husbandry Act in light of rights granted to Sámi under the European Convention on Human Rights.

In May 2021, Mikael presented his research at a meeting organised by the International Indigenous Fund for Development and Solidarity Batani, the Society for Threatened Peoples (Switzerland), and First Peoples Worldwide (USA) dedicated to identifying international judicial mechanisms for protecting the rights of Indigenous peoples.

Mikael also has had a book chapter based on a section of his thesis accepted for publication in the *Routledge Handbook of Polar Law* (forthcoming).

Laura Seddon

Thesis title: *Measurement, knowledge, and representation: A sociological study of Arctic sea-ice science*

Primary supervisor: Professor Philip Steinberg (Geography)

Secondary supervisor: Professor Chris Stokes (Geography)

Since completing her placement at the Norwegian Meteorological Office (and having a second placement, planned for the US National Snow and Ice Data Center (NSIDC) cancelled due to the COVID-19 pandemic), Laura has been finishing her thesis, which she intends on submitting before the end of 2021. During 2020/21, she presented her research online to the NSIDC's Cryosphere seminar and to an online workshop organised by the Scott Polar Research Institute at Cambridge University.

Cohort 2 (entering Autumn 2019)

Eric Boyd

Provisional thesis title: *Deforming ontologies: The immanence of extractive resources during the relocation and redevelopment of Kiruna, Sweden*

Primary supervisor: Professor Simone Abram (Anthropology)

Secondary supervisor: Professor Gavin Bridge (Geography)

Since completing his placement at Gothenburg University (Sweden), Eric has been conducting fieldwork and writing in Kiruna, Sweden. He presented a paper based on his thesis research, "The Ethics of Derealisation of Kiruna's Former City Chambers,"

at the International Congress of Arctic Social Sciences (Archangelsk, Russia, June 2021) and was an invited participant at the Post-Carbon Futures Summer School at Martin-Luther-University (Halle, Germany, September 2021).

Romain Chuffart

Provisional thesis title: *Harmonizing impact assessments: Implementing Indigenous rights through environmental law processes and mechanisms in the Arctic*

Primary supervisor: Dr Anashri Pillay (Law)

Secondary supervisors: Dr Henry Jones (Law); Professor Philip Steinberg (Geography)

Romain is preparing to undertake his placement in 2022 at the Fridtjof Nansen Institute in Oslo, Norway. He remains active in The Arctic Institute, where he co-hosts the TAI Bookshelf podcast, and in 2021 Romain became Book Review Editor for *Nordicu Mediterraneum*.

2020/21 Publications:

- Chuffart, R., Book Review: *Research Handbook on Polar Law* (eds. Karen N. Scott and David L. VanderZwaag), *Polar Record* 57.
- Chuffart, R., Book Review: *The Arctic Council: Between Environmental Protection and Geopolitic* (Svein Vigeland Rottem) *Nordicum Mediterraneum* 16(1).
- Shibata, A. and Chuffart, R. Sustainability as an integrative principle: The role of international law in Arctic resource development, *Polar Record* 56.
- Chuffart, R., Raspotnik, A., and Stepien, A. Our common Arctic? A more sustainable EU-Arctic nexus in light of the European Green Deal, *The Polar Journal* (2021).
- Chuffart, R., Jabour, J. Environmental impact assessments in the Polar regions. *Routledge Handbook of Polar Law* (forthcoming).

Christian Drury

Provisional thesis title: *British narratives of Arctic travel and exploration, 1875-1940*

Primary supervisor: Dr Eleanor Barraclough (History)

Secondary supervisors: Dr Abbie Garrington (English); Dr James Koranyi (History)

Christian is preparing to undertake a placement at the Mountaineering and Polar collections at the National Library of Scotland during the summer of 2022. In addition to presenting from his research at the International Congress of Arctic Social Sciences (Archangelsk, Russia), Christian published:

- Drury, C., Book review: *Imagining the Arctic: Heroism, Spectacle and Polar Exploration* (Huw Lewis-Jones), *Nordicum Mediterraneum* (forthcoming).

Greta Ferloni

Provisional thesis title: *Moving matters: Understanding mobilities in, of, and around sea ice in the Bering Strait*

Primary supervisor: Professor Philip Steinberg (Geography)

Secondary supervisors: Dr Jeremy Schmidt (Geography); Professor Chris Stokes (Geography)

Greta is preparing to undertake a placement at the University of Alaska-Fairbanks during 2022, where she will also conduct field work for her thesis. During 2021/22, she presented a poster (“Mobile maritime materialities: Rethinking mobilities in Arctic sea ice”) at the Polar Network Early Career Conference (May 2021) and presented a paper (“Knowledge Co-Production through Storytelling”) at the International Congress of Arctic Social Sciences (June 2021). Greta also co-authored:

- Steinberg, P., Ferloni, G., Aporta, C., Bridge, G., Chircop, A., Coddington, K., Elden, S., Kane, S.C., Koivurova, T., Shadian, J. and Stammer-Gossmann, A. Navigating the structural coherence of sea ice. In: *Laws of the Sea* (I. Braverman, ed.), London: Routledge, forthcoming.

A second publication, in the edited volume, *Mediated Arctic Geographies*, is under review with Manchester University Press.

Katy Ivison

Provisional thesis title: *How climate change and biotic interactions affect invasive plant success in Norway*

Primary supervisor: Dr Wayne Dawson (Biosciences)

Secondary supervisors: Dr Lisa Baldini (Environmental Science, Teesside University); Dr James Speed (Natural History, NTNU (Norwegian University of Science and Technology))

Katy undertook fieldwork in Scotland during the summer of 2021 and has a paper under review with *Journal of Ecology*. She will be presenting at the annual British Ecological Society conference in December 2021.

David Jarrett

Provisional thesis title: *Monitoring breeding productivity of shorebirds using acoustic recorders, sound localisation and machine learning*

Primary supervisor: Professor Stephen Willis (Biosciences)

Secondary supervisors: Dr Sally Street (Anthropology); Dr Aleksi Lehikoinen (Ornithology, LUOMUS (Finnish Museum of Natural History))

Because COVID restrictions presented David from conducting field work in Norway in 2020 and 2021, he has redirected research to highland Scotland, where he is developing a novel methodology to monitor breeding productivity of shorebirds using acoustic recorders and machine learning classifiers. This method will then be applied to the Arctic in 2023, during a planned placement in Iceland.

David presented his research at the International Wader Study Group conference in September 2021, and is presenting at the European Ornithology Union Conference in Giessen, Germany in March 2022. He will also run a one-day workshop on acoustic monitoring of shorebirds at the September 2022 International Wader Study Group Conference. David published:

- David Jarrett, John Calladine, Anne Cotton, Mark William Wilson & Elizabeth Humphreys (2020) Behavioural responses of non-breeding waterbirds to drone approach are associated with flock size and habitat, *Bird Study*, 67:2, 190-196, DOI: [10.1080/00063657.2020.1808587](https://doi.org/10.1080/00063657.2020.1808587)

- John Calladine & David Jarrett (2021) Upward elevational shift by breeding Whinchat *Saxicola rubetra* in response to cessation of grazing in upland grassland, *Bird Study*, 68:1, 47-53, DOI: [10.1080/00063657.2021.1963210](https://doi.org/10.1080/00063657.2021.1963210)

Cohort 3 (entering Autumn 2020)

Paul Burgum

Provisional thesis title: *Investigating Resilience in Extreme Environments Using Broad Theories in Psychological Science*

Primary supervisor: Dr Thuy-vy Nguyen (Psychology)

Secondary supervisors: Dr Daniel Smith (Psychology); Dr Sally Street (Anthropology)

Paul presented on his research at the UK Polar Network Early Career Researcher conference (May 2021) and the International Congress of Arctic Social Sciences (June 2021).

Elizabeth Gillie

Provisional thesis title: *Biodiversity Colonisation of the Arctic under Climate Change: Impacts on Land, Sea and People*

Primary supervisor: Professor Stephen Willis (Biosciences)

Secondary supervisor: Dr Sally Street (Anthropology); Dr Aleksi Lehikoinen (Ornithology, LUOMUS (Finnish Museum of Natural History))

Sal Kellett

Provisional thesis title: *The Impact of Human Agriculture on Pristine Arctic Landscapes: A Multi-Isotope Investigation into the Environmental Impact of Norse Landnam in Iceland Using Archaeobotany and Zooarchaeology*

Primary supervisor: Professor Mike Church (Archaeology)

Secondary supervisor: Dr Darren Gröcke (Earth Sciences)

Sal is planning to travel to Iceland for fieldwork in Summer 2022. During 2020/21, in addition to performing laboratory analysis, she has worked on two manuscripts which she aims to submit for publication in early 2022.

Danae-Maria Kontou

Provisional thesis title: *Spatiotemporal analysis and mapping of environmental change in the Arctic*

Primary supervisor: Dr Monica Stephens (Geography)

Secondary supervisors: Professor Robert Baxter (Biosciences); Professor Chris Stokes (Geography); Professor Philip Steinberg (Geography)

Danae won 3rd place in the 2021 Arctic Hackathon with her project developing an oil spill classification algorithm. She also has participated in other mapping competitions including the #30daysMapChallenge. Additionally, she presented at the Geographic Conference of Greece.

Ellie Ward

Provisional thesis title: *Predicting risk against regional impacts from climate change on populations of Arctic charr (Salvelinus alpinus)*

Primary supervisor: Prof Rus Hoelzel (Biosciences)

Secondary supervisor: Dr Martyn Lucas (Biosciences); Prof Erin McClymont (Geography)

Ellie completed her placement at Akvaplan-NIVA, a marine and freshwater research and consultancy organisation in Tromsø, Norway. She presented her research to the UK charr and coregonid group in March 2021 and to the Freshwater Ecology group at UiT: The Arctic University of Norway.