

## **Interdisciplinary Understanding for a Changing Arctic (DurhamARCTIC)**

### **Annual interim report for Leverhulme Doctoral Studentship programme DS-2017-070**

**Review period: 1 October 2021 – 31 September 2022**

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This period saw the first cohort of Leverhulme/DurhamARCTIC students reach key milestones. Three students who entered in October 2018 – Ilona Kater (Biosciences), Jan Mikael Lundmark (Law), and Laura Seddon (Geography) – had their PhDs conferred in July 2022 while the fourth student in this cohort – Giuseppe Amatulli (Anthropology) – successfully defended his thesis in June 2022 and will be awarded his PhD in December 2022. The other eleven students (the six who entered in October 2019 and the five who entered in October 2020) are continuing in good standing as they pursue their degrees.

As is detailed in their profiles below, of the students who have moved on from their PhDs, one (Kater) has a fixed-term academic position at Cambridge University, one (Amatulli) is a postdoctoral researcher at UiT: The Arctic University of Norway and is on track to begin a second postdoctoral position at Carleton University (Canada) in January 2023, one (Seddon) has an administrative position at Durham University, and one (Lundmark) has taken on a non-academic post in the legal profession in Sweden.

During the review period, the student-run DurhamARCTIC Seminar Series continued with a mix of presentations from DurhamARCTIC students as well as external speakers from universities in Germany, Sweden, and the UK.

In addition, DurhamARCTIC held a Spring School at Durham, in April 2022, as part of its training for Leverhulme/DurhamARCTIC students. For the Spring School, each of the 15 DurhamARCTIC students selected a work sample (depending on how far along they were, these were progression papers, sample chapters, or articles being prepared for publication) and sent it to one of four distinguished academics from the Nordic region (Bruce Forbes and Timo Koivurova from University of Lapland in Finland, Nina Wormbs from KTH in Sweden, or Ivar Bjorklund from UiT: The Arctic University of Norway). At the Spring School, the visiting academics gave feedback and engaged the students whose papers they were discussing (and the student community as a whole) in extended conversations about their research and how they could take it forward during and after their PhD studies.

Finally, this period saw a series of joint activities that built bridges between DurhamARCTIC and the Exploring Arctic Soundscapes project funded by Durham's Institute for Advanced Studies. Over the course of three months (January-March 2022), the four visiting fellows funded by the Exploring Arctic Soundscapes project gave over a dozen lectures and seminars, and most of the DurhamARCTIC students attended at least one of these. This expanded the perspectives of the Leverhulme students (since none is pursuing musical or sonic topics in their dissertations) while also giving them foundations and inspiration for further research beyond their specific areas of study.

## Leverhulme-Funded Students

The remainder of this report provides details on each of the Leverhulme-funded students enrolled in the programme and highlights some notable achievements during the review period.

### Cohort 1 (entering Autumn 2018)

#### **Giuseppe Amatulli (Thesis submitted April 2022, defended PhD June 2022)**

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)

Giuseppe is presently a postdoctoral researcher with the 'Arctic Silk Road' project at UiT: The Arctic University of Norway. During the review period, in addition to submitting and defending his thesis, he had the following publications:

- 'Cumulative effects of industrial development and Treaty 8 infringements in Northeastern British Columbia: the litigation *Yahey v. BC* (S151727) – Case comment', in *Arctic Review on Law and Politics*, Vol. 13, April 2022. DOI: <https://doi.org/10.23865/arctic.v13.3802>
- Commentary on 'Decolonizing Production: Healing, Belonging, and Social Change in Sápmi', early online in *Current Anthropology*, 2022. DOI: <https://doi.org/10.1086/720639>
- An additional publication is under review with *Mortality*
- "Green Transition and First Nations Rights in Light of the Drawbacks of Covid-19 Intertwined with the Russian Invasion of Ukraine," article published on the website of the Global Campus of Human Rights, <https://gchumanrights.org/preparedness/article-on/green-transition-and-first-nations-rights-in-light-of-the-drawbacks-of-covid-19-intertwined-with-the-russian-invasion-of-ukraine.html>

During the review period, Giuseppe also presented at conferences, workshops, and seminar series in Brazil, Norway, the UK, and Ireland, appeared as a guest on the 'Moment of Truth' podcast, and organised a panel session at the Conference on Hunting and Gathering Societies (Dublin, June 2022). Additionally, in January 2022 he was awarded the Royal Anthropological Institute's Firth Award for potentially outstanding research about to come to completion and in March he was awarded an ECR grant from the Conference on Hunting and Gathering Societies to support the panel that he was organising for its June conference.

In July 2022 Giuseppe performed post-doctoral fieldwork in Prince Rupert. In the context of his post-doc he is writing a book chapter on the hopes and dreams generated by the construction of big infrastructure, taking as a case study the expansion of the port in Prince Rupert. In August 2022, he was among the organizers of the first UArctic Academy for Sustainability, an itinerant summer school focused on Green transition and Indigenous rights

in Nordic countries (<https://uarcticacademy.wordpress.com/>). In September 2022, Giuseppe presented at an international workshop on Meaningful Stakeholder Engagement at the University of Ottawa, in the context of the Research Project 'Stakeholder Consultation Regimes in Comparative Perspective'. He is among the editors and author of a book chapter of a forthcoming volume on Meaningful Stakeholder Engagement (for the above-mentioned research project). Finally, in early October (5<sup>th</sup>-8<sup>th</sup>), Giuseppe will attend an international workshop on the Arctic Silk Road Research Project (UiT post-doc), held at the University of Maine.

**Ilona Kater (Thesis submitted October 2021, PhD conferred July 2022)**

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)

Ilona is presently a teaching associate at the Scott Polar Research Institute at the University of Cambridge, and a Bye-Fellow and Director of Studies at Queens' College, Cambridge. During the review period, in addition to submitting and defending her thesis, she published:

- **Kater, I.** (2022) Natural and Indigenous sciences: literatures and lessons for more effective collaborations. *Regional Environmental Change*, 22(4). <http://dx.doi.org/10.1007/s10113-022-01967-3>
- **Kater, I.** and Baxter, R. (2022) Abundance and accessibility of forage for reindeer in forests of Northern Sweden: Impacts of landscape and winter climate regime. *Ecology and Evolution*, 12(4): e8820 <https://doi.org/10.1002/ece3.8820>
- Parker, T., Chomel, M., Clemmensen, K., Friggens, N., Hartley, I., Johnson, D., **Kater, I.**, Krab, E., Lindahl, B., Street, L.E., Subke, J.-A. and Wookey, P. (2022) Resistance of subarctic soil fungal and invertebrate communities to disruption of belowground carbon flux. *Journal of Ecology*. <https://doi.org/10.1111/1365-2745.13994>

In addition to presenting at seminar series in Durham and Cambridge she presented at the 25th Annual Conference of the International Environment Forum held in Glasgow in coordination with COP26 (November 2021), and at the 'Indigenous Studies in the United Kingdom and Europe: Pasts, Presents and Futures' conference in Cambridge (September 2022).

**Jan Mikael Lundmark (Thesis submitted December 2021, PhD conferred July 2022)**

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 presently working as a law clerk in Sweden while preparing publications based on his thesis. During the review period, in addition to submitting and defending his thesis and completing his placement with Sámiid Riikkasearvi (the Swedish Sámi People's National Association), he submitted the following publications:

- J.M. Lundmark, 'Europakonventionens Rättsskydd i en Samisk Kontext', under review with *Svensk Juristtidning*
- J.M. Lundmark & T. Allen, 'Norwegian law and the Swedish Sami: Rights, paternalism and international law', under review with *Nordic Journal of International Law*

**Laura Seddon (Thesis submitted December 2021, PhD conferred July 2022)**

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)

Laura submitted and defended her thesis during the review period and has taken on a position as Learning and Teaching Administrator with the Department of Earth Sciences at Durham University, while preparing publications based on her thesis.

- Chuffart, R., Cooper, A.M., Wood-Donnelly, C., & Seddon, L. (2022). *Old Sea, New Ice: Sea ice geoengineering and Indigenous rights in Arctic Ocean governance*. Under review with *Ocean Development & International Law*.

Cohort 2 (entering Autumn 2019)

**Eric Boyd**

Provisional thesis title: *Ghosts in the Deformation Zone: Bureaucracies, Colonialism and the Denial of Mourning and Memorialisation in Kiruna, Sweden*

Primary supervisor: Professor Simone Abram (Anthropology)

Secondary supervisor: Professor Gavin Bridge (Geography)

Following up on his placement, Eric has been a visiting researcher at the School of Global Studies (SGS) at the University of Gothenburg, where he is a contributing member of their Environmental Social Sciences (ESS) research group. In addition to this, Eric has attended summer schools in Germany and workshops in Norway, Sweden and the UK as a participating researcher. He was also invited to present his research at the Swedish Association of Anthropologists (SANT) conference in April 2022. Eric also appeared as a guest on The Arctic Institute's podcast to discuss his research.

Eric has also published on conflict resolution among epistemological differences with colleagues at SGS:

- N. Acosta García, E. Boyd, M. Boyd Gillette, N. Rask, H. Saldert, & B.E. Singleton, 'Disagreeing well in an unparadigmatic field: A response to Bodin'. *Sustainability Science*, published online September 2022, <https://doi.org/10.1007/s11625-022-01228-6>.

He has also published blog posts for various research centres and institutions, including the Centre for Energy Ethics at St. Andrews, Scotland, Martin-Luther University at Halle, Germany, and SGS Gothenburg, Sweden.

### **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)

During the review period, while working on his thesis, Romain also served as a leading scholar at The Arctic Institute, where he co-hosted its podcast ('TAI Bookshelf') and authored an article on its website ('Is Belgium the Next Near-Arctic State?'). Additionally, he participated in numerous workshops, conferences, and seminars as presenter, moderator, discussant, and organiser, including the European Union's Arctic Forum and Indigenous People's Dialogue (Brussels, November 2021), the 14<sup>th</sup> Polar Law Symposium (Kobe University, Japan, November 2021), the Arctic Future Symposium (Brussels, November 2021), and the Arctic Institute's Polar (In)Securities Conference (online, February 2022).

He also submitted one article for publication:

- Chuffart, R., Cooper, A.M., Wood-Donnelly, C., & Seddon, L. (2022). *Old Sea, New Ice: Sea ice geoengineering and Indigenous rights in Arctic Ocean governance*. Under review with *Ocean Development & International Law*

During Spring 2022, Romain undertook his placement with the Fridtjof Nansen Institute in Oslo, Norway.

### **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)

In addition to presenting papers at a number of seminar series and workshops at Durham, Christian presented at the Centre for Nineteenth Century Studies Postgraduate Conference at Newcastle University and had articles published in *Symeon*, the alumni magazine of the Durham University History Department ('Guides and guiding in late-nineteenth century Arctic travel' – Summer 2022) and on the website of The Arctic Institute ('Supported by every traveller in Norway: Den Norske Turistforening, tourism infrastructure and transnational travel' – April 2022).

Christian also organised the Modern Travel, Modern Landscapes conference at Durham in July 2022, which featured two days of discussion of nineteenth-century travel writing with a range of international scholars. During Spring/Summer 2022, he undertook his placement at the Mountaineering and Polar collections at the National Library of Scotland.

### **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 spent much of the review period at the University of Alaska-Fairbanks, where she was conducting field work as well as undertaking her placement at UAF's International Arctic Research Center. Additionally, she had one book chapter accepted for publication during the review period and one previously accepted chapter published:

- 'Mediating Arctic soundscapes' (with P. Steinberg, C. Coutu, & J. Riquet), forthcoming in *Mediated Arctic Geographies* (J. Riquet, ed.), Manchester University Press
- 'Navigating the structural coherence of sea ice' (with P. Steinberg, C. Aporta... & A. Stammler-Gossmann) in *Laws of the Sea: Interdisciplinary Crosscurrents* (I. Braverman, ed.), London: Routledge, 2022, pp. 164-183

She also presented a paper ('Investigating increased vessel traffic in ringed seal habitat in the Bering Strait region') at the UK Arctic Science Conference (Durham, April 2022) and presented a poster ('Mediated Arctic soundscapes', with P. Steinberg, C. Coutu, & J. Riquet) at the Mediated Arctic Geographies workshop (Inari, Finland, June 2022).

### **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))

During the review period, Katy presented a paper at the annual British Ecological Society conference (December 2021) and also at the 51<sup>st</sup> International Arctic Workshop in Svalbard (June 2022), and also undertook her placement at the herbarium at NTNU (the Norwegian University of Science and Technology) in Trondheim.

She also had one paper accepted for publication:

- 'Testing enemy release of non-native plants across time and space using herbarium specimens in Norway', forthcoming in *Journal of Ecology*, <https://doi.org/10.1111/1365-2745.13998>

### **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))

David presented at the European Ornithology Union Conference in Giessen, Germany in March 2022 and at a symposium on bioacoustics at Manchester Metropolitan University in May 2022. During the review period he had one article published and submitted one that is presently under review:

- ‘Monitoring breeding shorebird productivity: A review of visit-based methods’, under review with *Ibis*
- Jarrett, D., Calladine, J., Cook, A.S.C.P., Upton, A., Williams, J., Williams, S., Wilson, J.M., Wilson, M.W., Woodward, I. & Humphreys, E.M. 2022. Behavioural responses of non-breeding waterbirds to marine traffic in the near-shore environment. *Bird Study*, <https://doi.org/10.1080/00063657.2022.2113855>

### 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)

In addition to gathering data from surveys and conducting field work in Norway, Paul presented his research at the Royal Geographical Society’s Explore Conference (London, November 2021) and has networked with University of the Arctic’s Thematic Network on Physical Activity and Wellbeing in preparation for a placement at the University of Lapland (Finland).

#### **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))

Beth presented a poster (‘Biodiversity colonisation of the Arctic under climate change scenarios: emerging winners and losers’) at the Durham Bioscience Research Away Day (January 2022) and at the UK Arctic Science Conference held (April 2022). She is presently preparing an article with the same title for submission to *Global Change Biology*.

#### **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)

In addition to analysing data samples for her research and producing graphics for a number of articles and monographs authored by her colleagues in Durham's Department of Archaeology, Sal presented a poster at the UK Arctic Science conference held in Durham in April 2022.

### **Danae-Maria Kontou**

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

Primary supervisor: Professor Philip Steinberg (Geography)

Secondary supervisors: Dr Paul Harrison (Geography), Dr Danny McNally (Geography, University of Teesside)

Danae presented papers and posters at a number of conferences including ArcticNet (Québec City, December 2021), the International Cartographic Conference (Florence, December 2021), the Association of American Geographers Annual Meeting (New York, February 2022), the UK Arctic Science Conference (Durham, April 2022), and the ECR research symposium on "It's Not Climate Change; It's Everything Change" (Newcastle University, April 2022). She also undertook a series of courses at the University Centre in Svalbard, Norway.

Danae had two publications during the review period:

- "Preliminary Findings in the Cartographic Uncertainty Depiction of the Arctic in European Renaissance Maps", *Abstr. International Cartographic Association*, 3, 156, <https://doi.org/10.5194/ica-abs-3-156-2021>, 2021
- "Developing Polar Data-Cylinders to map spatiotemporal changes of the sea-ice in the Arctic", *Regional Studies, Regional Science, Regional Graphics Special Issue "Innovative Graphics"* <https://doi.org/10.1080/21681376.2022.2074306>, 2022

### **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)

During the review period, Ellie gave presentations to research groups at Durham and also presented a poster at the UK Arctic Science Conference (Durham, April 2022). In addition, she published an article ('From the Cumbrian Lake District to Bear Island: Exploring the diversity and adaptability of Arctic charr') on the website of the Wild Trout Trust. She also undertook fieldwork in Finnmark, Northern Norway in further collaboration with colleagues at Akvaplan-NIVA, Tromsø where she undertook her placement in Summer 2021.