

Innovation for the Global Arctic

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The Arctic is undergoing a plethora of extraordinary changes. Over the past 30 years, the Arctic has warmed at roughly twice the rate as the entire globe, a phenomenon known as Arctic amplification (Serreze & Barry, 2011; Dai et al 2019). August mean sea surface temperatures in 2019 were 1-7°C warmer than the 1982-2010 August mean over wide areas of the Arctic (Richter-Menge et al, 2019). In the first six months of 2020, Siberia experienced a period of unusually high temperatures, including a record-breaking 38°C (WWA, 2020). Changes to the Arctic region have much wider repercussions. The warming temperatures are driving changes in the Arctic environment that affect ecosystems and communities on both regional and global scales. From an economic perspective, nonlinear transitions in Arctic systems impact on the global climate and economy, with an estimated mean discounted economic effect of \$33.8 trillion under the 2°C Paris Agreement scenario (Yumashev et al 2019). Hence, we can view the Arctic as part of a Global System which urgently needs our attention in order to address these disruptive or potentially catastrophic changes.

Trinity College Dublin Centre for the Environment has partnered with the University of the Arctic (UArctic), and the Arctic University of Norway (University of Tromsø; UiT) to create a new innovation-education initiative. The first part of the new programme will be an Arctic Innovation postgraduate student summer school with hubs in Dublin, Tromsø and potentially Lausanne. The summer school aims to enhance Arctic resilience by developing a widespread community of ‘changemakers’ who can disentangle Arctic challenges and enable short- and long-term change. A systems innovation approach for challenge-based learning will form the core of the summer school’s pedagogy. Systems thinking involves an ability to recognize, understand, and synthesize interactions and interdependencies in a set of components. Such an approach helps to build an understanding of how actions and components can reinforce or counteract each other. Students will work with local “problem-owners” to co-create innovative projects through cross-community collaboration. The summer school will complement UiT’s new Arctic Resilience programme, which benefits from a recent partnership with the Arctic Initiative of the Harvard Kennedy School and EPFL (Lausanne, Switzerland). Involvement of NARI researchers and affiliated students is welcome and will help to further strengthen links between Ireland and the global Arctic community.

References:

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WWA, 2020. <https://www.worldweatherattribution.org/siberian-heatwave-of-2020-almost-impossible-without-climate-change/> (website accessed 26/10/2020).