

[STATEMENT]

## FUTURE NORTH: SVALBARD

The dual forces of climate change and globalization are combining to rapidly transform the Arctic. With increasing temperature, retreating sea ice, the opening up of new shipping routes, and demand for natural resources, the arctic is poised to become a network of development; fragile natural ecosystems, centuries of indigenous culture, and towns and cities that have existed at the outer edges of viability will be challenged to adapt. As part of the Arctic Design Group – a collective focused on engaging architecture and design with the forces that are reshaping the arctic region – FUTURE NORTH SVALBARD is a design studio that will visit the Norwegian Arctic Islands of Svalbard (lat. 74-81deg N) during the Fall of 2015. Three broad research questions will guide the design investigations: 1) How are Svalbard and the Scandinavian arctic affected by the dual forces of urbanization and climate change? What range of responses have they identified and/or implemented for managing these challenges? 2) What forms of urbanization have Svalbard and Scandinavian arctic undertaken? What forces have contributed to their urban fluctuations, and how are they similar and/or different from the urbanization models in other arctic countries? 3) How might design interventions in both urban and architectural scales be utilized to build economically, culturally and environmentally more resilient Svalbard?



Arctic town typologies: (from left) Longyearbyen (administrative center), Ny-Alesund (company/research town), Pyramiden (former mine ghost town)

[RELEVANCE TO DISCOURSE, PEDAGOGICAL GOALS, METHODS AND OUTCOMES]

This Rotch Travelling Studio Grant application requests an award amount of \$20,000 to fund an architecture design studio in the Fall of 2015 titled: FUTURE NORTH: SVALBARD” from Aug. 22-Dec.10, 2015, that will visit the Norwegian Arctic Islands of Svalbard.

The Arctic extends over an area of 5.5 million square miles and includes 7 nations. For centuries it has been understood as vast, and almost mythical frozen realm. But increasingly, the dual forces of climate change and globalization are combining to rapidly transform the region. The arctic is poised to become a network of development. Its fragile natural ecosystems, centuries of indigenous culture, and towns and cities that have existed at the outer edges of viability will be challenged to adapt.

The studio will investigate potential urban and architectural models in extreme environment. Three broad research questions will guide the design investigations: 1) How are Svalbard and the Scandinavian arctic affected by the dual forces of urbanization and climate change? What range of responses have they identified and/or implemented for managing these challenges? 2) What forms of urbanization have Svalbard and Scandinavian arctic have undertaken? What forces have contributed to their urban fluctuations, and how are they similar and/or different from the urbanization models in other arctic countries? 3) How might design interventions in both urban and architectural scales be utilized to build economically, culturally and environmentally more resilient Svalbard?

Through this lens, the goal of the studio trip is to 1) visit research institutions and companies in Longyearbyen, and meet with experts studying/working in the Arctic region, 2) visit and document several new architecture design projects in Svalbard and contextualize them within various urban models of the arctic, and 3) explore the qualities and characteristics of life in an arctic environment and its materiality, especially in late fall / early winter season. The studio’s design research is intended to be catalytic and problem solving via close collaboration with natural and social scientists and local residents, as well as via rigorous observational analysis from fieldwork in Svalbard.

The studio is part of a larger initiative at the University by the Arctic Design Group based at the School of Architecture, and involving collaborations among architects, urban designers, and landscape architects, as well as in public policy, environmental science, geography and anthropology. Previous design research studios offered by Arctic Design Group (ADG) took place in Russia and North America. “Future North: Svalbard” is a third one in the studio sequence that builds up and expands on the comparative model of arctic design research. Direct outcomes of the studio will entail 1) exhibition in spring 2016 at the Architecture School and at the University-wide public forum, and 2) publication and distribution of design research. PI has already acquired \$2,500 exhibition fund from the School’s Exhibition Committee.

[BUDGET]

**Int'l Flight:** Oct 28 – Nov 4; Depart (IAD – Copenhagen – Oslo – Longyearbyen); Return: (Longyearbyen –Oslo – Copenhagen – IAD)  
 - \$1,350/person; 12 people total; \$1,350 \* 12 = \$16,200

**Accommodation:** Oct 29 – Nov 4; Mary-Ann’s Polarrigg Hotel, Longyearbyen (most budget option)  
 - 3 Family rooms (4 ppl per room) = \$2,498 for 6 nights = \$416/night = \$104/night/person  
 - \$2,498 \* 3 = \$7,494

**Other Transportation:** Within Longyearbyen, and to/from Ny-Alesund and Pyramiden  
 - Bus. Longyearbyen airport to/from city = \$10/person, one way = \$10 \* 12 \* 2 = \$240  
 - Boat. Longyearbyen – Pyramiden = \$250/person, one way = \$250 \* 12 \* 2 = \$6,000  
 - Airline. Longyearbyen - Ny-Alesund = \$447/person, roundtrip = \$447 \* 12 = \$5,361

**Exhibition & Production:** To be held in spring 2016 both at the Architecture School & University-wide forum ‘Open Ground’, \$2,500

**TOTAL: \$37,295; REQUESTED AMOUNT FROM ROTCH TRAVELLING STUDIO: \$20,000**

\*ARCTIC DESIGN GROUP will apply for additional grants for matching fund in Spring 2015 via University’s International Program grants; Full funding of \$20,000 from Rotch Travelling Studio will guarantee studio trip and planned itinerary to and within Longyearbyen, NO – a major component of the studio brief. Additional matching fund via other sources will accommodate trips to Ny-Alesund and Pyramiden. The Exhibition Committee at the Architecture School has agreed to fund \$2,500 for the post-studio exhibition.

[ITINERARY]

Day 1: Depart Charlottesville, VA to IAD Washington DC, en route to Longyearbyen, Svalbard, Norway

Day 2: Arrive in Longyearbyen; Arctic town typology I; Visit arctic architecture projects

- a) Longyearbyen (administrative center, largest settlement in Svalbard)
- b) Global Seed Vault tour (Barlindhaug Consult AS; Contact: Ola Westengen, NordGen)
- c) Svalbard Science Center & Administration Building for the Governor of Svalbard tour (Jarmund/Vigsnæs Architects; Contact: Jan Otto Larsen, UNIS)

Day 3: The University Centre in Svalbard: Lectures and meetings with UNIS faculty

- a) “Arctic hydrology and climate change”, “Arctic environmental pollution” (Contact: Nils Roar Saelthun & Mark Hermanson)
- b) “Frozen ground engineering for arctic infrastructures”, “Arctic offshore engineering” (Contact: Anatoly Sinitsyn, Jan Otto Larsen & Sveinung Loset)
- c) Svalbard Science Forum (Contact: Halvard Ranestad Pedersen & Karoline Baelum)

Day 4: Trip to Arctic town typology II: Lectures and meetings with research scientists and company representatives

- a) Ny-Alesund (company town, permanent research institutes from 10 countries)
- b) Lectures and meetings with research station scientists, Kings Bay Marine Laboratory (Contact: Sebastien Barrault)
- c) Lecture and meeting with Kings Bay company representative (Contact: Unni M. Steinsmo)

Day 5: Trip to Arctic town typology III

- a) Pyramiden (former Soviet coal mine settlement, ghost town)
- b) Half-day excursion: geology, ice fjords, Nordenskiöld glacier, tundra vegetation, hiking to Pyramid Mt. (Contact: Hein Bjerck)
- c) Abandoned town and mine excursion (Contact: Hein Bjerck)

Day 6: Return to Longyearbyen; Visit to coal mine; Meetings with town administrators and community members

- a) Gruve 7 Mine, Breinosa Mt., Adventdalen; Svalbard Museum (mining and cultural history)
- b) Office of Governor of Svalbard; meeting with Governor Odd Olsen Ingero
- c) Longyearbyen Community Council (Contact: Christin Kristoffersen, Head of Local Council)

Day 7: Depart Longyearbyen

### [APPLICANT BACKGROUND AND ASPIRATIONS FOR THE STUDIO]

The PI is an Assistant Professor of Architecture, whose work investigates the intersection of a wide range of interrelated forces – ranging from scientific, ecological, economic, environmental, political, cultural, and technological – on influencing the design of buildings and cities in extreme climates. The PI has a dual background in architecture (M.Arch. Harvard GSD) and geophysics (Ph.D. Cambridge University), and was an architect and project leader at OMA/Rem Koolhaas from 2008-2012. As co-founder of the Arctic Design Group – a cross-disciplinary collective focused on intensive design research experimentation of new architectural and urban typologies for the arctic region – the PI has published widely and has written numerous successful grants (e.g. Graham Foundation, Center for Global Inquiry and innovation) to fund design research, exhibitions and invited lectures focused on the work of the Arctic Design Group. In particular, the PI is organizing an upcoming (Spring 2015) international design symposium – ARCTIC STATES - that will bring together leading designers focused on the future development of the arctic region. The PI is also a core member of a National Science Foundation funded Arctic Urban Sustainability Network based out of Washington DC that includes scientists, policy experts, economists, geographers, political scientists, and social scientists.

In addition to design studio teaching and research, the PI is principal of a design practice that has won numerous awards for its innovative design and conceptual proposals, including Helsinki Link (Honorable Mention: top 7 of 550 entries, Helsinki Central Library International Competition, 2013), My Hair is at MoMA PS1 (finalist as TempAgency, MoMA/PS1 YAP 2013), Greenland Mothercloud (Danish Pavilion, Venice Biennale, 2012), Light Core (Second Prize, Central Glass Int'l Competition, Japan, 2011) and has been in published Shinkenchiku, Conditions, and Mark magazine.

### [STUDIO GOALS]

The PI has carried out research on architecture and urbanization in the Arctic regions of U.S., Canada, and Russia as well as leading design studios that have explored new architectural and urban scale design potentials for regions undergoing transformation in the arctic due to environmental transformation and economic development. A key pedagogical feature of these studios is intensive research and design iterations. In FUTURE NORTH: SVALBARD, the studio will give students an opportunity experience and document site-specific conditions and architectural/urban design approaches in the extreme arctic climate of Svalbard. As well, they will have an opportunity to meet with a wide range of experts on the arctic region, as well as residents who understand first-hand the challenges of living and working in the arctic. This site visit will provide a framework for students to develop a deeper understanding of the forces at work in the Arctic and to apply this knowledge to developing architectural and urban scale proposals that can be applied in regions that are either currently transforming, or are expected to be the sites of future development.



Longyearbyen, 1935