



SCAR Sub-Group AntArchitecture

SG

PS/GS

Person Responsible: Robert Bingham

SCAR Executive Committee Meeting 2019

Plovdiv, Bulgaria, 29-31 July 2019

AntArchitecture Action Group **2018-19 Report**

Overview

AntArchitecture aims to develop a continent-wide age-depth model of Antarctica's ice using the internal layers and surfaces imaged by radar-sounding. The product will underpin the wider goal to determine the stability of the Antarctic Ice Sheets over past glacial cycles, and feeds into additional SCAR Groups such as PAIS, IPICS, and AntClim21.

AntArchitecture was approved as a SCAR Action Group at the June 2018 SCAR Delegates Meeting in Davos. As an Action Group, *AntArchitecture* has two 2-year milestones; the first being production of a white paper for 2020, outlining the need for an Antarctic radar-layers database, the potential applications, and methods for achieving it; the second being the aspiration to publish, in 2022, an online dataset and paper reporting the 3D internal architecture of the Antarctic Ice Sheet.

Outreach, communication and capacity-building activities

- Website launched March 2019
<https://www.scar.org/science/antarchitecture/home/>
- Mailing list generated March 2019
- *AntArchitecture* Workshop at *International Glaciological Society* Symposium "Fifty Years of Radioglaciology" at Stanford University, 8 July 2019. This will form the main assembly point in 2019 for the international *AntArchitecture* community to discuss progress and plan delivery over the forthcoming year in advance of the SCAR Delegates Meeting in Hobart.

Updates for your group's SCAR web page

I update this myself.

Notable Papers

(Three most notable papers, if applicable – see the example below, which includes a brief statement (shaded) indicating the link to the group.)

1. Ashmore, D.W., Bingham, R.G., Ross, N., Siegert, M.J., Jordan, T.A., Mair, D.W.F. 2019. Englacial architecture and extrapolated age-depth constraints across the West Antarctic Ice Sheet. Submitted to *Geophysical Research Letters*, June 2019

In this paper we have traced radar layers across ~25% (by area) of the West Antarctic Ice Sheet and placed broad age constraints on the layering. It acts as a proof of concept for the wider *AntArchitecture* project.

Other information for publicity purposes

Too early in the project for this.

Any other information or issues you would like to raise

None.