

## The 8th International Ice Drill Symposium



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# Agile Sub-Ice Geological Drill Development

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The Agile Sub-Ice Geological (ASIG) Drill was developed by U.S. Ice Drilling Program (IDP) for the U.S. National Science Foundation. The design of the system leverages existing exploration drill equipment to create a drill capable of recovering ice core at any targeted depth up to 700m and 10m of rock core beneath up to 700m of ice and firn. The system was developed and tested in 2015 and 2016. Several new mechanical sub-systems were designed for the drill including a custom packer and casing system, a fluid filtration system to remove both ice and rock cuttings, and custom drill bits. This presentation describes the requirements for the drill and the design of the drill to meet those requirements.

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