

## **Modelling the PIG+Thwaites system**

*G. Hilmar Gudmundsson, Sebastian Rosier, Jan deRydt  
British Antarctic Survey, UK*

*Victor Tsai, Caltech*

We present some ongoing modeling work on PIG+Thwaites. Our primary objective is to assess if the flow regime of these two glaciers can be treated independently in forecast runs. We suggest that this may generally not be the case. Another question that we address is the sensitivity of the PIG+Thwaites system to applied ocean melting. We find that changing the applied melt rate by no more than factor of 2 to 4, can cause anything between total WAIS collapse within a few centuries or very little change at all. Given these findings we discuss the importance of ice+ocean coupled models and present some ongoing coupled ice+ocean modeling work currently done at BAS. We also present some recent in-situ measurements of ice flow in the vicinity of PIG grounding line. Finally we address the issue of basal control on fast flow ice streams and present some recent and ongoing modeling work done on tidally induced variations in ice-stream flow.

Marin ice sheet instability