

March 20, 2023

Prof. Helen Phillips and Prof. Annie Foppert
Institute for Marine and Antarctic Studies
University of Tasmania
Hobart, Tasmania, AUS

Dear Helen and Annie,

This is a letter of collaboration and support for your efforts to establish a Current-and-Pressure recording Inverted Echo Sounder (CPIES) oceanographic facility in Australia. Moreover, I am especially keen to maintain our strong collaboration in studies of the dynamics of the Antarctic Circumpolar Current (ACC), including sharing of data.

Prof. Kathleen Donohue and I at the University of Rhode Island, together with South Korean colleagues Dr. Jisoo Park and Dr. Taewan Kim from the Korea Polar Research Institute (KOPRI), and Prof. Jae-Hun Park at Inha University, currently have an array of 16 CPIES and a tall mooring in the ACC at a location that is highly complementary to your proposed ACC deployment. Our array is in the Southern ACC Front adjacent to, and south of your location in the Polar Front, both in the standing meander and energetic eddies downstream of the Southeast Indian Ridge. The value of equipment moored in our array exceeds USD\$ 1.2 million, and a great deal of shiptime is involved in our operations. If you and we are able to extend our combined observations across both fronts simultaneously, this will substantially increase our dynamical understanding of the ACC and in particular how heat and other water mass properties flux across the ACC to enter the Southern Ocean.

I am also pleased to provide guidance and training in the processing and scientific analysis of CPIES data by hosting Prof. Annie Foppert at the University of Rhode Island for 1 month at a mutually agreeable time. As we have discussed, I will need to budget to receive from you USD\$5000 to help cover time for URI staff (e.g., Marine Research Specialist, Maureen Kennelly) to assist with this training. I will be more than pleased to share my time and advice, and to share code with Annie, so that she can develop the necessary new software that will be used with the Australian facility.

Best wishes for success with your proposal,



D. Randolph Watts
Professor of Oceanography