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### ***Impact of increased levels of CO<sub>2</sub> on naturally matured Antarctic krill eggs***

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Marine ecosystems in the Southern Ocean are suggested to be particularly vulnerable to ocean acidification. Antarctic krill is the key pelagic species of the region and its largest fishery resource, so it is important to investigate the implication of ocean acidification to their life history. Previous studies on the effects of CO<sub>2</sub> on krill embryonic development indicated that hatch rates of the embryos rapidly decline at CO<sub>2</sub> levels beyond 1000  $\mu\text{atm}$ . These results were derived using eggs spawned from laboratory matured krill. The sensitivity of eggs that were spawned from krill that matured in their natural environment to increased levels of CO<sub>2</sub> has remained untested until now. We, for the first time, conducted extensive experiments on the CO<sub>2</sub> sensitivity of Antarctic krill eggs matured naturally. In this talk we will describe the experimental system and the results in comparison with what we already know from previous laboratory experiments. Our results suggest that eggs spawned from naturally matured krill are more resilient to increased levels of CO<sub>2</sub> compared to those from laboratory matured krill. We will discuss possible explanations for the difference in resilience and its implications in relation to the future environment in the Southern Ocean.