

Session 2	Listening in the real world: communication sounds
Time	14:30 – 15:00
Name	Lars Kindermann (Alfred Wegener Institute for Polar and Marine Research)
Title	Strange Sounds of the Southern Ocean
Authors	Lars Kindermann
Address	Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany
Email	lars.kindermann@awi.de
Abstract	<p>The waters around Antarctica host a unique and fantastic soundscape, dominated by ice and life. Large tabular icebergs are the largest moving objects on the planet, weighting up to 100 billion tons. Collisions with the shelf can release kinetic energy equalling that of a nuclear explosion and belong to the loudest events in the ocean. However, the chorus of the few remaining blue whales, the largest animal ever living on earth, is present every single minute of the year and cumulatively contributes the main component of the acoustic spectrum. Besides these two extremes, six years of continuous recordings from the ice borne Perennial Acoustic Observatory in the Antarctic Ocean (www.awi.de/PALAOA) yielded a wealth of different sounds, both of known and obscure origin. These passive acoustic recordings have already led to significant findings both in physics and biology and also about the impacts of human activities in this pristine area. However, making sense of unknown sounds is a big challenge. In fact, the most dominant sound of the Southern Ocean, present only during polar winter when observers are rare, is known for more than 40 years but remains a complete mystery yet. Can we solve that riddle just by listening indeed? A fundamental question pops up in this context: Is there a universal discrimination between signals of physical, biological and human origin?</p>