

PSI Colloquium

Friday, November 10, 2017, 11:00 h, WHGA/001

Dr. Julia Schmale

Paul Scherrer Institut

The Antarctic Circumnavigation Expedition – Studying the Southern Ocean and Antarctica

Under the lead of the Swiss Polar Institute the Russian icebreaker Akademik Troyshnikov set sail in Cape Town on 20 December 2016 to circumnavigate Antarctica in 90 days. The expedition was not only the first to circumnavigate Antarctica while visiting the surrounding islands; it was also the first truly international effort. Hosting 22 different projects that covered disciplines such as marine biology, physical oceanography, terrestrial ecology or atmospheric science, the expedition had two overarching objectives: measuring baselines in different environmental compartments to enable the determination of future change, and generating new process understanding across disciplines.

The Laboratory of Atmospheric Chemistry at the Paul Scherrer Institute participated with the project “Study of Preindustrial-like Aerosols and their Climate Effects” (ACE-SPACE) to investigate the interactions between aerosols and clouds. Aerosol-cloud interactions contribute the single largest uncertainty to anthropogenic climate forcing, and constraining the uncertainty requires measurements in pristine regions. The team conducted continuous and real-time measurements throughout 106 days around Antarctica and across the equator during the return voyage, thereby covering many regions until then unexplored in terms of aerosol characteristics.

In this presentation Julia Schmale will give an overview of the expedition and show preliminary results of the aerosol study.

The presenter: Julia Schmale is a member of the PSI Laboratory of Atmospheric Chemistry and principle investigator of ACE-SPACE. She spent 90 days onboard the icebreaking surrounding Antarctica.



Akademik Tryoshnikov “anchored“ at the Mertz Glacier, East Antarctica (Photo credit: F. Bernard)

*Coffee
before the
colloquium*