

## **Report on MOSAiC Science Plan Writing Workshop 29-30 May 2013 AWI Potsdam**

During the MOSAiC (Multidisciplinary drifting observatory for the study of Arctic climate) workshop in Potsdam, hosted by the Alfred Wegener Institute, M. Shupe gave an overview presentation of the MOSAiC project reviewing the science questions developed during the Boulder workshop in June 2012.

During the Potsdam workshop breakout groups for the subsystems atmosphere, ocean and sea ice were build to identify research topics with high priorities followed by plenary discussions. In the same way breakout groups for modeling and measurements had been build to identify top research topics followed by plenary discussions.

These discussions updated the science questions, as follows:

- What are the seasonally-varying energy sources, mixing processes, and interfacial fluxes that affect the surface heat budget of first-year sea ice?
- How does sea ice move and deform over its first year of existence?
- What processes contribute to the formation, properties, and maintenance of Arctic clouds and their interactions with boundary-layer structure?
- Will an ice-reduced Arctic become more biologically productive\_and what are the consequences of this to other components of the system?
- How do interfacial exchange rates, biology and chemistry couple to regulate the major elemental cycles in the high Arctic sea ice?
- How do ongoing changes in the Arctic ice-ocean-atmosphere system impact heat and mass transfers of importance to climate and ecosystems?

Now the science plan writing team with M. Shupe, K. Dethloff, O. Persson, M. Tjernström, S. Gerland, D. Barber, J. Inoue, C. Lee, B. Loose, A. Makshtas, W. Maslowski, W. Meier, M. Nicolaus, D. Notz, I. Peeken, D. Perovich, J. Schmale, T. Vihma and J. Zhao is working on the development of a science plan for MOSAiC to be finished as first draft until autumn 2013.