

TITLE: Geodetic and Seismological Research Initiatives at the new Princess Elisabeth Station, Queen Maud Land, East Antarctica

AUTHORS: Denis Lombardi¹, Thierry Camelbeeck¹, Giovanni Rapagnani¹, Michel J. Van Camp¹, Nicolas Bergeot¹, Carine Bruyninx¹, Olivier Francis², Tonie M van Dam²

INSTITUTIONS:

1. Royal Observatory of Belgium, Brussels, Belgium.
2. Luxembourg University, Luxembourg, Luxembourg.

ABSTRACT: Belgium together with the International Polar Foundation inaugurated in early 2009 a new Antarctic base named Princess Elisabeth in honour of the granddaughter of King Albert II of Belgium. The base, located in the Queen Maud Land, East Antarctica (lat = 71°57'S, long = 23°20'E) was built to fully operate with renewable energies, conditions motivated by present climatic issues. Among the wide range of ambitious scientific projects already initiated, a solid earth GIANT-LISSA project will be conducted by the Royal Observatory of Belgium in collaboration with Luxembourg University to better understand the ongoing geodynamics affecting East Antarctica such as ice mass change and to shed light onto the past and present tectonics by investigating lithospheric structure and local and regional intra-plate seismicity. Here we present these scientific goals of the projects and focus particularly on the seismology experiment, describing the technical aspects of the two broadband seismometers to be shipped and installed during the coming BELARE 2009-2010 Antarctic expedition.