

The Arctic Station “Dirigibile Italia”



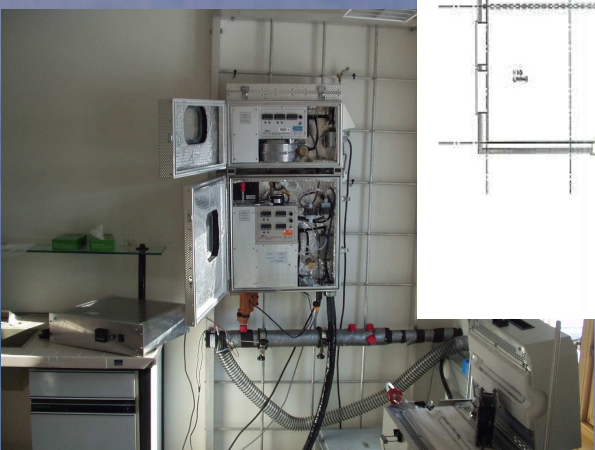
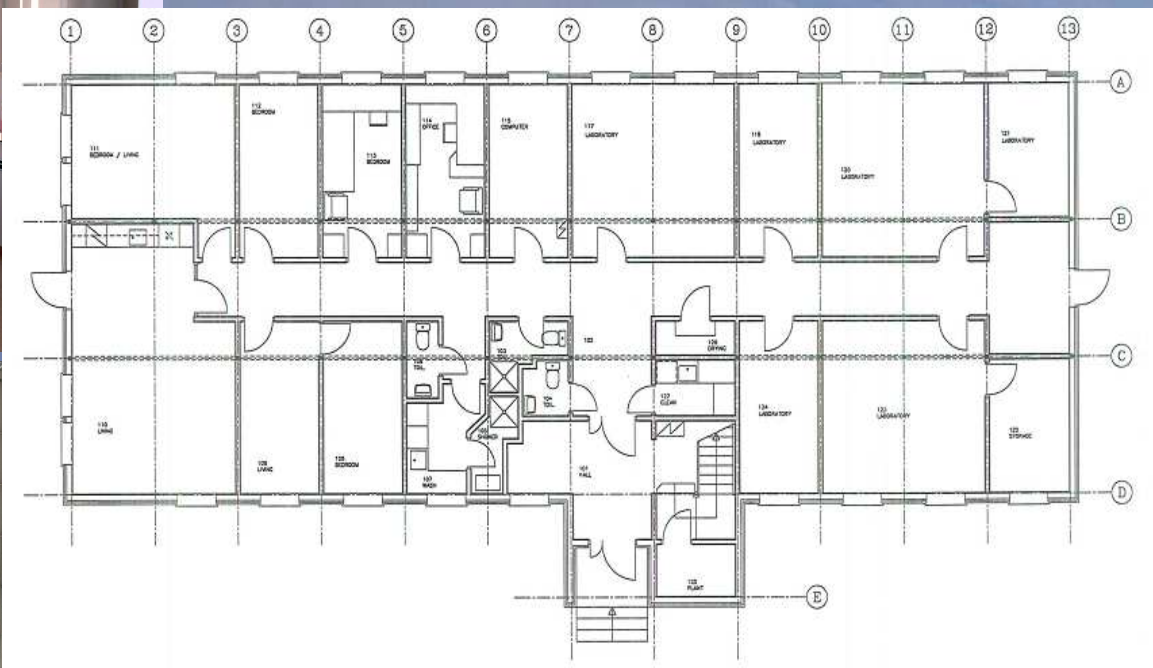
The Svalbard Archipelago is located only 1000 km away from the North Pole at an average latitude of 79°N. Its climate is strongly influenced by the Gulf Stream which touches its western coasts and mitigates the weather. This kind of climatic environment has allowed the presence of permanent human settlements. The Svalbard Islands are also easily accessible via regular weekly flights and by boat all through the year allowing the presence of scientific infrastructures working into several research fields. From the 60s the former mining village of Ny-Ålesund, located in the North of the Archipelago at nearly 80°N of latitude, has become an important research centre for the study of the Arctic environment and its components (atmosphere, hydrosphere, cryosphere, biosphere), where a large international cooperation enhances a more comprehensive study of the complex relations among physic, chemical and biological phenomena. At the moment 10 countries, including Italy, have research stations in Ny-Ålesund and carry out projects and continuous monitoring through measurements campaigns taking place from April to September. The scientific activity in Ny-Ålesund is coordinated by the NySMAC (Ny-Ålesund Science Manager Committee), a scientific and technical committee made up of the station managers of each country working in Ny-Ålesund Italy chaired the Committee for two mandates, from 2001 to 2005.



Photo by Franco Cofone



The Italian Station “Dirigibile Italia” is a multidisciplinary research facility opened in 1997, named after Umberto Nobile’s famous 1928 airship expedition. The station is managed by the National Research Council of Italy (CNR) and the activities are coordinated by the Polar Support Unit of the CNR Department of Earth and Environment: POLARNET. The station is a 330m² infrastructure of which 170m² are used as laboratories and offices and can accommodate up to 7 people. Past scientific activities were framed within the Arctic Strategic Projects of the CNR, which also include projects from other Italian research institution, as well as international and European projects. The Arctic Strategic Project 1997- 2003 and additional funds allocated in 2005 allowed to carry out significant research activity until 2005. From 2007 the Department of Earth and Environment of the CNR has actively committed itself to revive and consolidate the entire scientific activity, especially with actions to enhance continuous monitoring studies. Key elements of these actions are several pilot studies such as the Climate Change Tower Integrated Project (CCT-IP) and E-mooring: sensor network for polar oceanography. The efforts of DTA is to drive Italian researches and infrastructures in Svalbard inside SIOS (Svalbard Integrate Observing System).



The Italian research in Ny-Ålesund and in Svalbard, is focused on environmental studies with the aim of creating a complex model of the Earth System able to provide information on causes and consequences of climate change and global warming and to understand environmental processes. Topics include

- ATMOSPHERE AND CLIMATE CHANGES
- ROLE OF AEROSOLS, GASES, CLOUDS
- MICROBIAL ECOLOGY AND EVOLUTION
- BIOGEOCHEMISTRY AND ENERGY FLUXES
- OCEANOGRAPHY, MARINE BIOMARKERS
- BIODIVERSITY , ADAPTIVE STRATEGIES
- REMOTE SENSING FOR ENVIRONMENT
- SUN-EARTH RELATIONS AND SPACE WEATHER
- HUMAN SCIENCE

Thanks to the strong Italian scientific effort in Antarctica, Italian research in the Arctic benefit of the added value given by the possibility to investigate important phenomena with a bi-polar approach, comparing and integrating data collected in the two hemispheres.