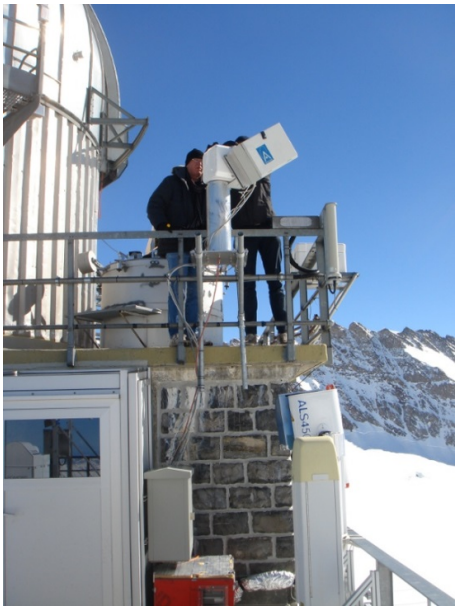
Picture Gallery 2014 from http://www.hfsjg.ch

January: The Foundation HFSJG is contemplating about temporarily extending its existing facilities at Jungfraujoch within the present Swisscom station in the Jungfrau east ridge. For 2014, first installations and tests regarding the suitability of the east ridge site for atmospheric measurements are planned.

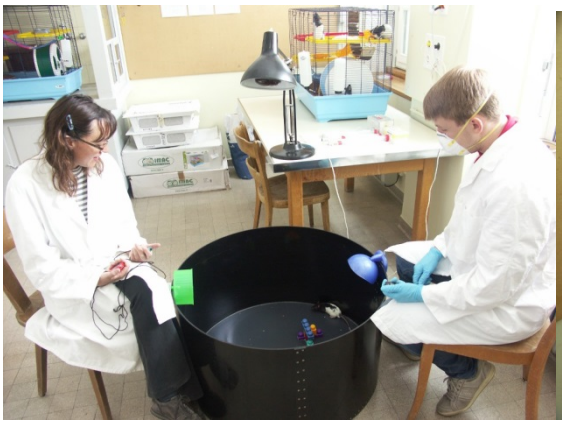
February: Visit of the High Alpine Research Station at Jungfraujoch in the course of the workshop 'Spawning the Atmosphere Measurements of Jungfraujoch, Schneefernerhaus and Sonnblick', from January 22-23, 2014 in Bern. The participants braved the bad weather and even took a picture on the Sphinx meteo terrace.

March: CLACE (Cloud and Aerosol Characterisation Experiment) 2014 campaign at Jungfraujoch: The picture shows the University of Manchester platform, mast and instrumented 'wing' which is able to rotate and tilt instruments fitted to it directly into the wind. A suite of cloud microphysical instruments are deployed to measure the number, size distribution, phase and shape of the particles in the clouds. The ETH Zürich HOLIMO holographic spectrometer (uses digital holography to in situ image cloud particles) is also deployed on the wing (centre top) as is the SID (small ice detector to detect small ice particles in clouds) of the Karlsruhe Institute of Technology (nearside).



April: Since 2010, the Belgian Institute for Space Aeronomy (BIRA-IASB) is operating a MAX-DOAS (Differential Optical Absorption Spectroscopy) instrument at Jungfraujoch, which is able to measure aerosols and tropospheric trace gases (mainly nitrogen dioxide and formaldehyde) by using scattered sunlight from multiple viewing angles towards the horizon and the valley. These stratospheric and tropospheric observations are key data sets for the validation of satellite instruments and 3D chemical transport models.
The picture shows the researchers Christian Hermans and Frederik Tack on the Sphinx terrace, while replacing some fundamental parts of their instrument.

May: GROMOS-C, the new GRound based Ozone MOnitoring System for Campaigns, on its way back to the University of Bern. GROMOS-C has been developed at the Institute of Applied Physics of the University of Bern, in the frame of the PhD thesis of Susana Fernandez Vidal. GROMOS-C measures the microwave emission of the atmosphere in the frequency range from 109 - 115 GHz what allows to retrieve the altitude distribution of ozone from approx. 25 - 70 km altitude and also from CO. GROMOS-C has undergone a detailed test campaign on Jungfraujoch before it goes to a new campaign on La Réunion island.

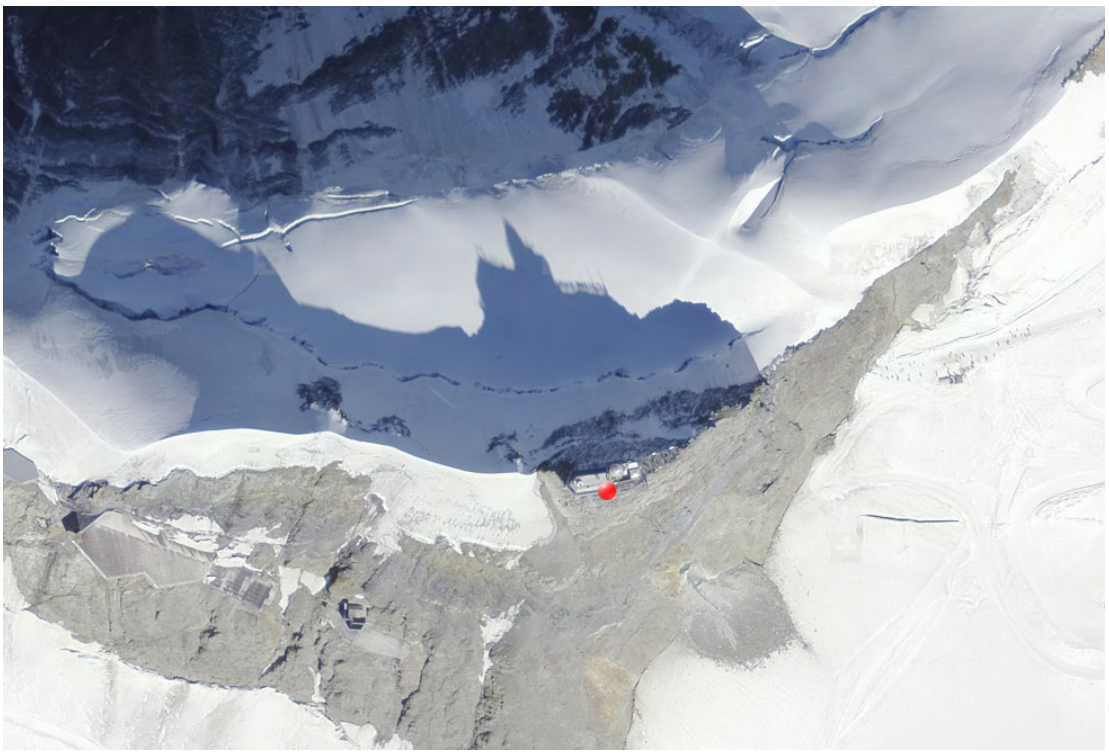


June: At the research station at Jungfraujoch the Institute of Veterinary Physiology of the University of Zürich (Dr. Edith Schneider Gasser and Dmitry Kosenkov) was testing in Long Evan rats how to revert the memory deficiency caused by high altitude. The animals housed either in standard laboratory conditions or in an enriched environment giving the possibility to explore and exercise. Memory was tested in a black arena where animals were familiarized with three objects. Afterwards, one of the objects was changed either to another location (spacial change) or by another object (visual change). If the animals could remember, they recognized the change and explored the displaced or exchanged object. With these behavioral tests the research group can assess the importance of exercise and enrichment in the adaptation to altitude.

July: The photovoltaic plant (1,13 kWp) of the Photovoltaic Laboratory of the Institute for Energy and Mobility Research at the Bern University of Applied Sciences, which was installed on the front of the research station at Jungfraujoch in 1993, has been operated for more than 20 years without any interruption and with an availability of the energy production and the measurement data of >99,9%. The plant has virtually not shown any degradation yet, despite the extreme climatic conditions at this height (3454m). This summer, a second plant with the latest technology will be installed close to this plant, in order to demonstrate the technical improvements achieved in the meantime in a field test on a high alpine plant and to compare its production with that of the old plant. Picture © Photovoltaic Laboratory

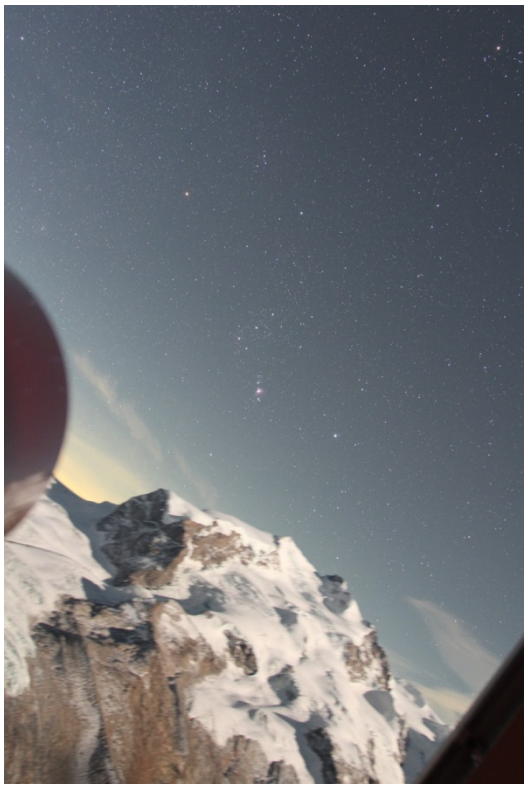
August: Another picture made within the Stellarium Gornergrat project. It shows the North America Nebula (NGC 7000). The remarkable shape of the nebula resembles that of the continent of North America, complete with a prominent Gulf of Mexiko.

September: At the moment, there is construction work going on at Jungfraujoch, as the research station is getting a new protective roof. In the future, the new, steeper roof should prevent the accumulation of too much snow. Due to the bad weather this summer (lots of snowfall), work at this height is even more difficult and rather slowly progressing.



October: A remarkable picture showing the Sphinx observatory at Jungfraujoch and its shadow. The picture was discovered by Dr. Elmar Brockmann, swisstopo, viewing the data on map.geo.admin.ch.

November: Researchers from the Paul Scherrer Institute installed an aethalometer and a condensation particle counter at the Jungfrau East Ridge station (3705 m asl, former Swisscom station), to measure aerosol microphysical properties. Similar observations have been carried out at the Jungfraujoch's Sphinx Laboratory since the 1990s. While the East Ridge site is quite close to the Sphinx, it is virtually free from local emissions.



December: A picture taken by the telescope at Gornergrat, showing the view towards the East over the Monte Rosa massif. One can clearly see Orion with its belt and sword and the famous Orion Nebula in the sword (Messier 42). Because of the moonlight, the sky is brightened and blue as during daytime.