

POLYTECHNIC OF TORINO  
FACULTY OF ARCHITECTURE 2  
Degree in Architecture  
**Honors theses**

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**The reutilization of the G. Gagliardone refuge in the high Varaita Valley**

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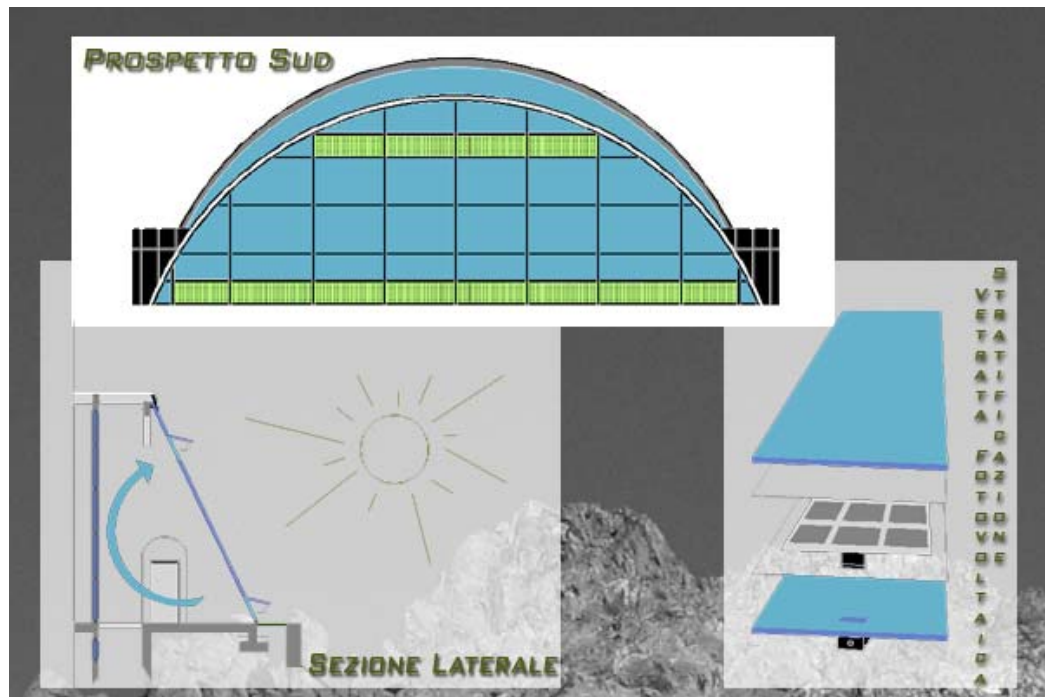
The thesis's subject concerns the reutilization of an old refuge of the Italian Alpine Club of Saluzzo, situated in the Pontechianale municipal district, in the high Varaita valley (in the Cuneo province), at 2450 m above sea level. This refuge, whose name is that of the famous alpinist of Saluzzo, called Giuseppe Gagliardone, had big importance till the end of eighties as the only point of support to ascend to the Monviso and to the other mountains of the west side of the so called "The rock king". Built at first in 1935 and called "Town of Saluzzo", was always conditioned by the presence of a snowy avalanche registered in the charts and in the land register of avalanches called "Avalanche of the Vallanta's pass". This snowslide destroyed the old refuge at the end of thirties and afterwards it damaged the structure of Gagliardone in different occasions. To provide to this problems and to be on time with the new hygienic and security norms, the Italian Alpine Club of Saluzzo in 1988 opened another structure down in the valley: the Vallanta refuge.

Nowadays, the refuge's structure, two levels high, built in local rock with a slight sheet roof, is neglected and with clear structural problems.

My intervention's goal is to recover this historic memory for the alpinism of Saluzzo, thanks to the edification of a new structure instead of the other old one, provided with modern technologies for constructions at an high altitude, with a low environmental impact and a low energetic consumption with the possibility of managing easily the refuge also during the winters. This winter function seems important also through the tourist point of view because the alpine refuges of the Cuneo province are not managed during the winter season thanks to the lack of suitable structures. Moreover the ski-mountaineering has seen more and more fans every year and "The Monviso tour", an historic competition of ski-mountaineering at the foot of the "Rock king", will be in 2006 an official competition for the World Championship.

The new "Giuseppe Gagliardone" refuge come true with an hypogeus structure, with a semicircular shape, with a large inclined structural window on the south side, completely provided with photovoltaic cells, useful to convert the sun irradiation in electrical energy.

This energy, stored through batteries, can satisfy completely the electrical load estimated for the refuge as fully verified.



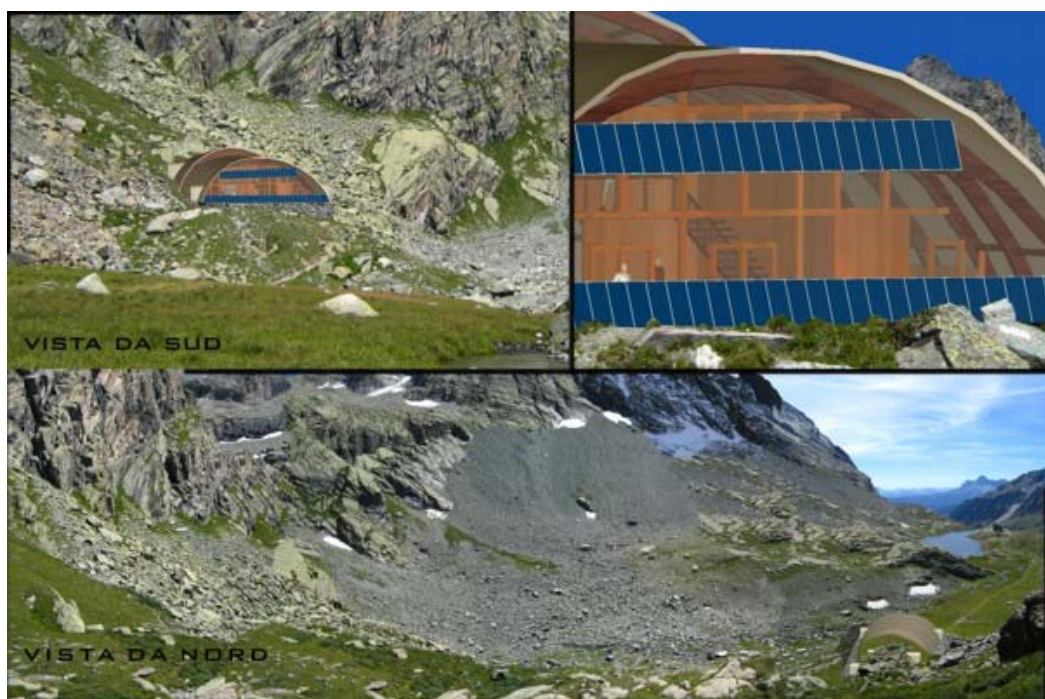
Photovoltaic facade

The structure consists of arches with three hinges made of lamellar wood covered by a galvanized sheet iron, that creates a first isolated place for the ski storage. The internal rooms are made out of an internal area of the refuge, separated by a wall made of wood and glass and organized in this way: at the basement level floor there are the climbing boot storage, the toilets, the gymnasium, the massage room and the sauna; at the ground level floor there are the dining room, a food warmer room, the guides and manager accommodation and the kitchen; at the first level floor, finally there are two rooms with four places and two dormitory with an intermediate floor in, with fifteen places. The storeroom and technical rooms are in the basement level floor on the north side separated by an emergency corridor for secondary exits.



Longitudinal section. Structure and Volumetric Solution

The compact shape, the choice of technologies and the use of modern materials are justified by the good insertion in the landscape and the little environmental impact that the new structure has.



Insertion in the landscape

Concerning the protection by the avalanche, described before, after the studies on different typologies of structures against the avalanches present on the market, have been used a series of active structures against the avalanches as a snow barrier (like wire netting, rack), in the zone of the avalanche detachment and successively has been built a work of deviation in local rock before a jump of rock up the refuge. For snow movements near the refuge has been chosen of using the type of active structure against the avalanches called snowgripper with a double mechanic and thermodynamic function and with a very low environmental impact.

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