The study of ecosystems comes with a paradox: the observer – who is also a living being – can modify the object of study by getting involved in it. In the case of a Research Station within an ecosystem, such paradox becomes the main problem to be addressed by the project: how to position architecture among an ecological environment that is not used to it.
The U.C. Patagonia Station for Interdisciplinary Research (Estación Patagonia) is an initiative undertaken by Pontificia Universidad Católica de Chile in 2009, as the recipient of a 5,079-hectare property concession in the Exploradores Valley, Aysén Region. The goal of the station is to bring disciplines together from both social and natural sciences to study the ecology of this remote area of our country so as to understand and plan the relationship between the territory and the development of human settlements.

The station is in an area disconnected from any central system of networks and services, 7 km from the Northern
Patagonian Ice Fields, in a valley of wetlands generated by swamps. From Coyhaique airport, you travel 220 km to Puerto Río Tranquilo, located on the edge of General Carrera Lake, to then take the route that goes into the Exploradores Valley for another 85 km. From there, the site is accessed by sailing in a small boat through the fjord, which can only be navigated at high tide. This remote landscape condition determines not only the ecology study of a place far from large human settlements but also the design and construction of the building.

We were commissioned to provide the minimum infrastructure to allow the work of researchers visiting the station from different parts of the world, who required electricity, drinking water, and sanitary services. In addition, due to the inclement weather, the need to take refuge from the natural context was considered an important part of the basic services for the program. Thus, the design is composed of elements that address this duality – interaction and refuge – enabling different degrees of relation to the object of study.

Therefore, the project contemplates, first of all, the construction of a wooden deck that forms an exposed...
habitable surface sheltered from soil moisture, connecting all the spaces in the complex. Secondly, assisted by students from the “Introduction to building” course, at UC School of Architecture, a large roof was designed to accommodate outdoor activities, allowing a direct relationship with the natural environment. Thirdly, a three-story service tower was incorporated to supply visitors with electric power through solar panels positioned on its deck, accumulation of drinking water in a tank on its upper floor and a bathroom in the lower one. The tower also provides intermediate spaces in the first two levels, which can be used by researchers to work and take shelter, allowing them to observe the exterior through a translucent membrane that covers and protects the structure laterally. Finally, the layout considers a space for two geodesic domes that are shielded from adverse weather conditions, taking distance from the surrounding nature.

Although this first infrastructural intervention in the Patagonia Station was aimed at delivering basic services for short-term scientific residencies, the proposal establishes different degrees of relationship
between the designed spaces and the natural context, adding a new variable to the original order. In other words, architecture not only allows the development of the field research program but also enriches the researcher’s relationship with their object of study: ecology. ARQ
A Despiece torre / Tower pieces
S. E. / N. S.

B Despiece cubierta / Roof pieces
S. E. / N. S.

Germán Guzmán Gundermann
<grguzman@uc.cl>
Architect and Master in Landscape Architecture, Pontificia Universidad Católica de Chile, 2018. He has participated as teaching assistant in the School of Architecture and currently works as a research assistant of the Fondecyt project: Desmontando el plano de Ernesto Ansart y el plan de transformación de Benjamín Vicuña Mackenna.

Felipe Elton Zañartu
Architect, Pontificia Universidad Católica de Chile, 2017. He was an assistant of the UC Master’s course "Técnicas de construcción en madera" in 2017. He is currently a contributor to the Patagonia UC Station and works as an architect at Consultora Austral (Puerto Montt).

Francisco Chateau Gannon
Architect and Master in Architecture, Pontificia Universidad Católica de Chile, 2002. Master in Architecture and Sustainability: Design Tools and Environmental Control Techniques, ETSArq, Universidad Politécnica de Cataluña, 2010. He is a PhD candidate at the Departamento de Proyectos Arquitectónicos of the same institution. He currently works on the PLUS-Chile project and is the director of the UC Biofabrication laboratory.
Cristián Schmitt Rivera
<cschmitt@uc.cl>

Architect, Pontificia Universidad Católica de Chile, 2003. Master in Architectural Sciences, Sidney University, Canada, 2013. His work has been published in national and international indexed journals. He is currently a professor at Universidad Católica de Chile and an associate at Lira Arquitectos Asociados.

Diego Arroyo Fernández