

Enrique Latorres next to the seismological station at Uruguay's Artigas Antarctic Base, 2025.

14 LIFE BELOW WATER

SUSTAINABLE DEVELOPMENT GOAL 14

Life Below Water

Uruguay's coast and its deep-sea frontier are a growing field for science and communication. ORT contributes through recognition of ocean exploration, technology for safety at sea and Antarctic research, and through actions that keep plastics and nutrients out of water bodies.

619 kg

of PET bottles recycled into food-grade resin in 2025

1

student-built system for sea search-and-rescue incidents

1

deep-sea science team recognized at ORT's 2025 Creativity and Innovation Awards

RESEARCH & INNOVATION

To Antarctica with sensors

Enrique Latorres, associate professor at the Faculty of Engineering, travelled with geologist Leda Sánchez to Uruguay's Artigas Antarctic Base to repair and upgrade the seismological station that is part of the national sensor network: they designed an insulated outdoor station for the sensor, installed temperature sensors at different depths and reinstalled the software of two Raspberry Pi-based sensors. fi.ort.edu.uy/novedades/a-la-antartida-con-sensores-una-mision-cien...

Search and rescue at sea

Engineering students developed SIGIBREM, an incident-management system for maritime search and rescue for the National Navy of Uruguay.

Keeping nutrients out of water

Algae-based treatment of industrial effluents (ANII María Viñas Fund) targets nitrogen and phosphorus, the main drivers of eutrophication in rivers and coastal waters.

CAMPUS OPERATIONS

Less plastic

619 kg of PET bottles were recycled through Taym and Ecopet, and the Tapitero collects plastic caps on campus. ort.edu.uy/novedades/tapitero-reciclaje-tapitas-ort

COMMUNITY & PARTNERSHIPS

Uruguay Sub 200

At the 2025 Creativity and Innovation Awards, the Schools of Communication and Design recognized the Uruguay Sub 200 team for advancing knowledge of Uruguay's deep sea.

Marine challenges in hackathons

The NASA Space Apps Challenge 2025, sponsored by ORT, included challenges on satellite imagery for marine conservation. ort.edu.uy/novedades/nasa-space-apps-challenge-uruguay-2025

> **Teaching**
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> No course in the 2025 curriculum mapping is primarily linked to SDG 14; related content appears in courses on water, effluents and environmental impact (see SDG 6 and SDG 12).

From the Artigas Antarctic Base to the Atlantic coast



Uruguay's Artigas Antarctic Base on King George Island, where ORT's Enrique Latorres serviced the national seismological station in 2025.

Enrique Latorres, associate professor in the Faculty of Engineering's Chair of Computer Architecture and Operating Systems, travelled with his wife, geologist Leda Sánchez, to Uruguay's Artigas Antarctic Base to repair and upgrade the seismological station that is part of the national network of more than twenty active stations. Over a week they designed an outdoor station with an insulated niche to protect and orient the sensor, installed temperature sensors at different depths and reinstalled the operating system and software of two Raspberry Pi-based sensors, with the support of the base staff.

The sensors were acquired by the researchers or partly funded by projects of the Sectoral Commission for Scientific Research of Universidad de la República and the Basic Sciences Development Programme (PEDECIBA), and the data contribute to the Geophysical Observatory of Uruguay.

ORT researchers also co-authored a study in Science of the Total Environment linking international market trends, agricultural intensification and extreme sedimentation rates in a transboundary South American coastal lagoon, evidence of how land use affects coastal ecosystems.

At the 2025 Creativity and Innovation Awards on 11 December, the Schools of Communication and Design recognized the Uruguay Sub 200 team for expanding knowledge of the deep Uruguayan sea.

SELECTED 2025 PUBLICATIONS AND PRESENTATIONS BY ORT FACULTY

1. Lima Ferreira, P., Etchevers, I., Cuña Rodriguez, C., Velázquez, P., González, L., Leão Fernandes, E. H., Lopes Leães Pinho, G., & García Rodríguez, F. (2025). Links between international market trends, agricultural intensification and extreme sedimentation rates in a transboundary South American coastal lagoon. Science of the Total Environment, 975, 11 p.

2. Umpiérrez Failache, M., Rahim, A. A., Betancor, L., & Ghoshal, S. (2025). Uptake and transformation of Arsenic by Acidomyces acidophilus isolated from acidic mine tailings and its toxigenic implications. Environmental Toxicology and Chemistry, 12 p.