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## IFOP participates in Harmful Algae International Conference (ICHA)

# WORLDWIDE IT IS THE MOST IMPORTANT ON THIS SUBJECT

Between October 11th and 15th, 2021, the Nineteenth International Harmful Algae Conference (ICHA) will be telematically held. This event will bring together hundreds of researchers from different countries. On this occasion, the organization has corresponded to Mexico, and it will be carried out from La Paz. At this Conference, 10 researchers from Harmful Algae Research Center (CREAN) from Fisheries Development Institute (IFOP), will present 7 oral presentations and 3 posters, on various topics of Harmful Algae Blooms (FAN), covering various topics on:

- Algal Bloom Biology (HA Biology).
- Algal Bloom Ecology (HA Ecology).
- Harmful Algal Blooms Prediction (HAB Prediction).
- Harmful Algal Blooms in a Changing World (HABs in a changing world).

#### Editorial committee Luis Parot D. / Executive Director Gabriela Gutiérrez V. / Journalist







#### Chairs: HA Biology

"Physiological, genetic and toxicological variabilities in *Alexandrium catenella* strains from southern Chile (41°-55°S)"



"PST events and density of Alexandrium catenell at the Beagle Channel (55°S), a singular ecosystem".



na Flores Leñero Ivestigadora CREAN, Puerto Montt

"Phylogeny, lipid composition, pigment signature, ichthyotoxicity and growth of the fish-killer *Heterosigma akashiwo* from chilear Patagonia"

- Harmful Ichthyotoxic Algal Blooms (Ichthyotoxic HABs).
- Management and Management (Surveillance and Management).

### PRESENTATIONS

The round of presentations in which CREAN IFOP researchers will participate will begin on Monday, October 11th, in the session on "Harmful Algae Ecology", where researcher, Javier Paredes M., will present on "First *Dinophysis acuminata* culture

from southern Chile: ecophysiology, toxin production and phylogeny ".





On Tuesday, October 12th, researcher Marco Pinto T. will continue, discussing "Extraordinary *Heterosigma akashiwo* flowering 2021 in Chile: large-scale farmed salmon mortality associated with unusual environmental conditions."

On Wednesday, October 13th, Gemita Pizarro N. will present with "Events of Paralyzing Toxins of Seafood and *Alexandrium catenella* density in Beagle Channel (55 ° S), a unique ecosystem", and later, researcher, Ana Flores L., will deal with "Phylogeny, lipid composition, pigments, ichth-yotoxicity and growth of *Heterosigma akashiwo* from Patagonian Chile".

On Thursday October 14th, Leonardo Guzmán M., will present "Alexandrium catenella and Paralyzing Toxins of Seafood in the last 50 years in Chile", who will also participate as Table Chairman in one of the plenary talks of this meeting.

Finally, on Friday, October 15th, researcher Pamela Carbonell A., will present on "Physiology, genetics and toxicological variability in strains of *Alexandrium catenella* from southern Chile (41 ° -55 ° S)", who will also be President of the session Biology of Algae Blooms, and will participate as Mauren Kellers Awardsjury.

It is also important to highlight that Jorge Mardones S., will present a plenary talk on "Chile: causes, impacts and management of" hot spot "for Harmful Algae Blooms", who has been invited by the organizing committee of this event.

Regarding the contributions in poster format, researchers Gonzalo Fuenzalida D., Oscar Espinoza G. and Pablo Salgado G., will present works related to "Spatial distribution of harmful species along the Chilean coast using metabarcoding", "Historical flowering of Pseudo-nitzschia and outbreaks of domoic acid, in the inland sea of the island of Chiloé, southern Chile, 2020-2021 "and" Assemblages of dinoflagellate cysts from the south central coast of Chile (~36 ° -43 ° S )", respectively.

# Ifopino

## In Ancud, IFOP participated in the "Cleaning of the seabed and beaches in the area"activity

In Ancud city, Sunday October 17th, the second "Cleaning of the coastal edge of the Bay of Ancud" activity was held, it was organized by "Ceja Negra" environmental group and had several institutions support including Fishing Promotion Instituter.

The Institute is part of the collaborators group that voluntarily supports this environmental initiative, on this occasion technical divers from Ancud Headquarters, Alex González and Arturo Lebtún participated, who carried out seabed cleaning in company and supervision of the Chilean Navy and other diving companies that together made up 25 divers.



The activity was successful, extracting around 1 truckload of seabed and nearby beaches garbage near Ancud city.

It is the intention that this activity last and becomes permanent in Ancud city.

Vivian Pezo IFOP Ancud headquarters head explained "It is very relevant and gratifying to participate in all the activities carried



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out in the town of Ancud, and in our commune, for IFOP collaborating with beaches and seabedcleaning is part of Our commitment to marine environment and the ecosystem, in addition to bringing us closer and integrating the community, it allows us to disseminate informatio about our marine environment care and we can thus contribute to having an ocean free of garbage, we deeply thank all IFOP workers who participated"

## Paint and enjoy a virtual ocean: Free activity brings sea, art and artificial intelligence in this Science Festival

CAN YOU IMAGINE COLORING A FISH AND THEN SEEING IT COME TO LIFE WITH OTHERS? THANKS TO SCIENCE, YOU WILL BE ABLE TO CARRY OUT THIS INTERESTING FREE ACTIVI-TY NEXT FRIDAY, OCTOBER 22ND, AS PART OF OUR SCIENCE FESTIVAL – FECI 2021 OFFERED PROGRAM SCHEDULE.

Through an aquatic habitat simulation, boys and girls, and people of all ages, will be able to paint fish and watch them swim in 3D using different devices in real time, with the Paint your fish activity, framed in the FECI 2021 festivities This innovative platform has been designed by Fishing Promotion Institute (IFOP), ElectrovejaLab and Explora Valparaíso, with the support of the Advanced Center for Electrical Engineering (AC3E) of Uiversidad Técnica Federico Santa María.

To participate, you must enter www.pintapeces.cl on Friday, October 22nd, in two blocks. One in the morning from 10:00 am to 12:00 pm, while in the



afternoon the block begins at 3:00 pm and ends at 5:00 pm. Choose your schedule and design your own fish in 3D!

Visitors will be able to download a fish template from the site, paint it and then upload an image of said drawing to be part of this virtual reality under the sea. The species that can be colored are five that are present in the Valparaíso Region: Common Hake, Dogfish, Horse Mackerel, Pippin and Swordfish. In addition, each of these templates have brief descriptions of their characteristics, location and state of conservation with the intention that children can recognize these outstanding local species.



Now you know it! Write down date and time on your calendar and don't miss out on this entertaining virtual reality and artificial intelligence experience.

It should be noted that this activity is part of a grid of a series of virtual activities that will be held in the Valparaíso Region as part of the Science Festival, a national celebration promoted by the Science and Society Division of the Ministry of Science, Technology, Knowledge and Innovation.

To find out about all the activities that will be part of the Science Festival in the Valparaíso Re-

gion, you can visit www.festivaldelaciencia.cl and follow @exploravalpo on Facebook, twitter and Instagram.



# Ifopino

## Lessons learned and public policies for adaptation to climate change in artisanal fishing

This document is part of the project "Strengthening the adaptive capacity to climate change in the fisheries and aquaculture sector of Chile", executed by the Undersecretariat of Fisheries and Aquaculture and the Ministry of the Environment, and implemented by the Food and Agriculture Organization of the United Nations, with funding from the Global Environment Facility. The work was implemented in four pilot coves: Caleta Riquelme (Tarapacá); Caleta Tongoy (Coquimbo); Caleta Coliumo (Biobío); and Caleta El Manzano-Hualaihué (Los Lagos).

This document presents the primary results and innovative aspects of the project, in keeping with its three main components: strengthening of public and private institutional capacities; improvement of the adaptive capacity of artisanal fisheries and smallscale aquaculture; and strengthening knowledge and awareness about climate change in fishing and aquaculture communities.

It also details the lessons learned during the project, with the goal of providing the authorities and communities involved in the fisheries and aquaculture sector with the capacity and tools required to adapt to future climate scenarios. Recommendations are made for scaling-up adaptation actions in the pilot coves and making this initiative sustainable beyond the end of the project. Finally, public policy recommendations are presented according to five main subjects: plans and programmes in artisanal fishing and small-scale aquaculture; training at the national and local level; climatic and oceanographic information; productive diversification; and gender mainstreaming. This document is aimed at the beneficiary partners and the sectoral institutions and its objective is to serve as a guide and/or model for other coastal communities in Chile.

## http://www.fao.org/documents/card/es/c/cb6536es



## Invasive Species of Aquatic Systems 1st Ibero-American Workshop on Exotic Open Call

South Subantarctic Consortium Ci2030 Science for Innovation Project invites the Invasive Exotic Species of Aquatic Systems 1st Ibero-American Workshop, which will be held in three sessions that will be held on October 5th, 6th and 13th.

The Workshop's main objective is to generate a common space for information and experiences exchange between public services and universities in Chile and Argentina. The areas of environmental policy and scientific research applied to invasive alien species management in South America hydrographic basins of freshwater ecoregions which will be transversally addressed, incorporating a biosafety framework and the importance of environmental risk scenarios. derived from climatic change and human action.

Researchers and professionals from government organizations with aquatic ecosystems management skills, water resources and management oriented towards hydrobiological pests control and biodiversity protection. Chile, Argentina and Spain will participate in this activity.

## Workshop objectives

To know main invasive aquatic species in Chile and Argentina invasion processes, and environmental management strategies applied in the countries represented for the containment and / or eradication of hydrobiological invasive species.

To identify priority conservation areas in rivers, lakes and wetlands, currently free of exotic species, and / or areas that due to their characteristics may be susceptible to the arrival and establishment of emerging aquatic invasive species (golden mussel, Chinese clam, mud snail, jellyfish of fresh water, Rhizoclonium, among several others) that would potentially be present in neighboring countries with Chile.

To transfer knowledge and promote harmonized protocols for monitoring and management of aquatic pests, use with particular emphasis on trans-Andean basins integrated management.

VOLVE



Iberoamericano de Especies Exóticas Invasoras de sistemas acuáticos,

Gestión y Gobernanza ambiental comparada 2021" (Chile-Argentina-España)

**5**, **6** y **13** de octubre

Inscripción: https://cutt.ly/oETVXRZ



To establish guidelines and strategies to develop a first pilot program for standardized monitoring of aquatic systems, in transboundary basins of south central Chile and Argentina.

### The Workshop is Divided into 5 Modules:

- I Governance and environmental policy.
- II Sectorial environmental policy, management, monitoring and inspection of hydrobiological invasive alien species.
- III Management strategies for containment, management and biomonitoring of the invasive alga Didymo in rivers and lakes of Chile and Argentina.
- IV Distribution and ecology of emerging invasive species (Corbicula, Physa, Craspedacusta, Limnoperna, Potamopyrgus and Rhizoclonium) present in aquatic systems of the southern hemisphere.
- V Adaptive management and environmental biomonitoring of water bodies, under risk scenarios (changes in land use and climate change)

The activity will be attended by specialists from Universities of Chile, Argentina and Spain.

Registration, program and more information: http://ciencia2030.cl/inhibe/

Contact: proyectoinhibe2021@gmail.com

# **Ifopino** Scientific vessel Abate Molina joined volunteer meteorological observers network

Scientific vessel "Abate Molina" dependent on Fisheries Development Institute (IFOP) will join VOS (Voluntary Observing Ship) ships program network which is promoted by World Meteorological Organization and JCOMM (Joint Commission for Oceanography and Marine Meteorology), through which it joins navigators to collaborate in voluntary observation and thus increase meteorological observations information.



In order to materialize this initiative, Maritime Government of Valparaíso, Meteorological Center personnel held meetings with Abate Molina's Captain and deck officers during which, together with publicizing VOS scope program and promoting the use of forecasts and graphic material prepared by Navy Meteorological Service, a review and calibration of the ship's meteorological instruments was carried out. During these meetings, parties were also able to share and exchange experiences, establishing contact and cooperation ties.

In 1991 the ship was donated by the Japanese Government to Chile and since then it has provided services to the IFOP. It is named after Jesuit Juan Ignacio Molina y González, considered the first Chilean Scientist. This ship carries out, annually, investigation commissions in national waters and its base of operation is Valparaíso's port. The meteorological observations data reported from this ship will be very useful for forecasts preparation, and to have Valparaíso's bay shipping routes weather conditions more detailed knowledge , which will benefit all users. maritime that ply national waters.

### Source: Directemar

https://www.directemar.cl/directemar/noticias-y-comunicaciones/noticias/2021/ buque-cientifico-abate-molina-seunio-a-la-red-de-observadores

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