

Juan Cruz Carbajal

- carbajaljuancruz@gmail.com •
- **Citizen.** Argentine (native), Italian •

EDUCATION

Academy. Faculty of Exact and Natural Sciences (FCEN), University of Buenos Aires (UBA), Buenos Aires, Argentine

- Doctor in the area of Atmospheric and Ocean Sciences Mar 2016 – May 2022

Academy. Faculty of Exact and Natural Sciences (FCEN), University of Buenos Aires (UBA), Buenos Aires, Argentine

- Degree in Physical Oceanography Aug 2007 – Mar 2016

Tertiary. Private Institute ‘Escuela Central de Especialidades Paramédicas de Cruz Roja Argentina’, Buenos Aires, Argentine

- Professional Lifeguard Mar 2005 – Apr 2006

High-school. Private Institute ‘Pio IX’, Buenos Aires, Argentine

- Electronics Technician Mar 1998 – Dec 2003

PROFESSIONAL AFFILIATIONS & ACTIVITIES

Centro Austral de Investigaciones Científicas (CADIC), Concejo Nacional de Investigaciones Científicas y Técnicas (CONICET).

Ushuaia, Tierra del Fuego, Argentine

- A Postdoctoral fellow from CONICET until July 2025. 2022 – Present
- Associate Professor in Physical Oceanography at the Universidad de la Patagonia San Juan Bosco. 2019 – 2021

RESEARCH INTEREST

I got a PhD in Physical Oceanography at the University of Buenos Aires (Argentina). The doctoral thesis dissertation was performed on May 3, 2022, and can be found here (Spanish language). The Thesis entitled *Meso and submesoscale processes that condition the dynamics of the water column and the supply of nutrients at the San Jorge Gulf mouth* focus on mesoscale/submesoscale processes that govern the water column characteristics in a tidal front located in the San Jorge Gulf, Patagonian Shelf. My main research interests are understanding the link between physical processes, ocean biogeochemistry, and plankton ecosystems both in the shelf-seas and the open ocean. I am a self-motivated and creative person whose professional focus is the ocean, an essential component of the climate system, with the capacity to learn new skills every day.

- **Keywords:** Data analysis, observational oceanography, Shelf-sea physics, physical-biological interaction.

PUBLICATIONS

JOURNALS

- [3] Juan Cruz Carbajal, Chavanne C., “The semidiurnal tide as a support mechanism for the subsurface chlorophyll maximum of the San Jorge Gulf (Patagonian Shelf).” *Continental Shelf Research*, under review. Oct 2022.
- [2] Abed El Rahman Hassoun, Rodrigo Hernández-Moresino, Elena S. Barbieri, Juan Cruz Carbajal, Augusto Crespi-Abril, Antonella De Cian, Lucía Epherra, Milad Fakhri, Abeer Ghanem, Houssein Jaber, Marie-Thérèse Kassab, Antonela Martelli, Anthony Ouba, Flavio Paparazzo, Juan Pablo Pisoni, Elie Tarek, Juan Gabriel Vázquez., “Coastal Monitoring in the Context of Climate Change: Time-Series Efforts in Lebanon and Argentina.” *Oceanography*, vol. 34, no. 4, pp. 12–13, Dec 2021.
- [1] Carbajal J.C., Rivas A.L., and Chavanne C., “High-frequency frontal displacements south of San Jorge Gulf during a tidal cycle near spring and neap phases. Biological implications between tidal states.” *Oceanography*, vol. 31, no. 4, pp. 60–69, Dec 2018.

RESEARCH COMMUNICATIONS

- [2] Juan Cruz Carbajal, “How the semidiurnal tidal cycle conditions the dynamics of the water column of the San Jorge Gulf, Patagonian Shelf.” *NF-POGO Alumni E-Newsletter*, vol. 22, pp. 12–13, Aug 2022.
- [1] Juan Gabriel Vázquez, Juan Cruz Carbajal and Juan Pablo Pisoni, “Building of low cost, homemade-drift buoys for COPADO experiment.” *NF-POGO Alumni E-Newsletter*, vol. 21, pp. 19–20, Nov 2021.

**CONGRESSES,
SEMINARS,
WORKSHOPS**

CONGRESS

- [3] Carbajal J.C., Rivas A.L., and Chavanne C., “High-frequency frontal displacements south of San Jorge Gulf during a tidal cycle near spring and neap phases. Biological implications between tidal states,” in *X Jornadas Nacionales de Ciencias del Mar*, Capital Federal, Buenos Aires, Argentine. Oral dissertation. Aug 2018.
- [2] Carbajal J.C., Rivas A.L., and Charo M., “Adquisición de datos hidrográficos mediante la plataforma Scanfish II en la campaña R/V *Coriolis II* en el Golfo San Jorge. Monitoreo del Frente de Marea,” in *IX Jornadas Nacionales de Ciencias del Mar*, Ushuaia, Tierra del Fuego, Argentine. Poster dissertation. Sep 2015.
- [1] Artana C., Carbajal J.C., de Azkue M.F., Giunta V., Lago L.S., Perez I., Risario D.B., Worner S., Simionato C., Saraceno M., Moreira D., and Tonti N. “Generation and visualization of internal waves with vertical propagation in the laboratory,” and “Techniques for visualization of density fields in fluids,” in *VIII Jornadas Nacionales de Ciencias del Mar*, Comodoro Rivadavia, Chubut, Argentine. Poster dissertation. Dec 2012.

WORKSHOP

- [1] Carbajal J.C., “High-frequency front displacements south of SJG during spring and a moderate tidal cycles”, in *Workshop on the PROMESse project: results and opportunities*, Rimouski, Quebec, Canada. Oral dissertation. Mar 2017.

SEMINAR

- [3] Carbajal J.C., Rivas A.L., and Cédric Chavanne. “The thickness of the low-salinity subsurface layer (< 33.16 psu), the stability of the water column and the internal mixing as key variables for nutrients supply towards the euphotic zone across the seasonal pycnocline”, in *San Jorge Gulf VI Seminar*, Puerto Madryn, Chubut, Argentine. Poster dissertation. Sep 2019.
- [2] Carbajal J.C., Rivas A.L., and Cédric Chavanne. “High-frequency frontal displacements south of San Jorge Gulf during a tidal cycle near spring and neap phases. Biological implications between tidal states”, in *San Jorge Gulf–Progress and Future Challenges V Seminar*. Puerto Madryn, Chubut, Argentine. Poster dissertation. Aug 2018.
- [1] Carbajal J.C., Rivas A.L. *San Jorge Gulf and Austral Sea IV Seminar*. Comodoro Rivadavia, Chubut, Argentine. Assistant. Sep 2017.

**AWARDS &
SCHOLARSHIPS**

- NF–POGO Visiting Fellowship for Shipboard Training on the M159 cruise aboard R/V METEOR, hosted by GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany. Oct 2019 – Nov 2019

COURSES

- Acquisition and Processing of Oceanographic data. Sep 2012
 - Place: Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP), Playa Grande, Mar del Plata.
 - Professor: Patricia Martos, Raul Guerrero, Raul Reta.
 - Calification: 7.
- Analysis of biogeochemical interactions in marine and continental environments with MOHID software. Jun 2016 – Jul 2016
 - Place: Departamento de Biología, Bioquímica y Farmacia, Universidad Nacional del Sur, Bahía Blanca.
 - Professor: Jorge Pierini, Patricia Cervellini.
 - Calification: 9.
- Ecology of marine fronts. Aug 2016
 - Place: Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP), Playa Grande, Mar del Plata.
 - Professor: Marcelo Acha.
 - Calification: 9.
- Remote sensing of marine, coastal and interior waters I. Jul 2017
 - Place: Comisión Nacional de Actividades Espaciales (CONAE), Capital Federal, Buenos Aires.
 - Professor: Ana Dogliotti, Silvia Romero, Mónica Rabolli, Sandra Torrusio, Carolina Tauro.
 - Calification: 9.
- Marine Optics and Remote Sensing. Jul 2017
 - Place: Departamento de Ciencias de la Atmósfera y los Océanos (DCAO) – Facultad de Ciencias Exactas y Naturales (FCEyN). Universidad de Buenos Aires (UBA).
 - Professor: Ana Dogliotti, Juan Ignacio Gossn.
 - Calification: approved.
- Oceanography Seminar. Mar 2018 – Jul 2018
 - Place: Departamento de Ciencias de la Atmósfera y los Océanos (DCAO) – Facultad de Ciencias Exactas y Naturales (FCEyN). Universidad de Buenos Aires (UBA).
 - Professor: Alberto Piola, Martín Saraceno.
 - Calification: approved.
- Geology and environmental ecology of coastal areas. Mar 2018 – Jul 2018

- Place: Departamento de Ciencias Geológicas, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires.
- Professor: Silvia Marcomini, Rubén Lopez.
- Calification: approved.

CAMPUS ACTIVITIES

Oceanographic Campaigns.

- Campaign aboard R/V Coriolis II. Feb 2014
 - International cooperation research program PROMESse (Multidisciplinary program for the study of the ecosystem and marine geology of San Jorge Gulf and the coast of the Province of Chubut).
 - MARES (Marine Ecosystem Health of the San Jorge Gulf: Present status and Resilience capacity) project.
 - Scientific chief: Gustavo A. Ferreyra (ISMER/UQAR), José Luis Estévez (CENPAT/CONICET).
- Campaign aboard R/V ARA Puerto Deseado. Nov 2016
 - PAMPA AZUL San Jorge Gulf.
 - PAMPA AZUL San Jorge Gulf, Campaign I.
 - Scientific chief: Gustavo Luis Álvarez Colombo (Hydro-acoustic Cabinet - INIDEP).
- Campaign aboard R/V ARA Puerto Deseado. Oct 2017 – Nov 2017
 - PAMPA AZUL San Jorge Gulf.
 - PAMPA AZUL San Jorge Gulf, Campaign II.
 - Scientific chief: Martín Varisco (CIT San Jorge Gulf - CONICET) and Andrés L. Rivas (CESIMAR - CONICET).
- Campaign aboard R/V METEOR. Oct 2019 – Nov 2019
 - The research program of cruise M159 was a combination of observations of the BMBF collaborative research project RACE – Nordatlantik Synthesis, the Programme-Oriented Funding (POF) of GEOMAR and observations for the BMBF joint project REEBUS.
 - M159.
 - Scientific chief: Prof. Dr. Martin Visbeck.
- Campaign aboard R/V ARA Austral. Nov 2022 – Nov 2019
 - The research objective of cruise AMPY-1-2022 was defined in the Yaganes new Marine Protected Area the ecosystems influenced by different environmental/oceanographic factors.
 - AMPY-1-2022.
 - Scientific chief: Dr. Mariano Diez.

Coastal Activities.

- At Luis Piedra Buena Pier. Mar 2016 – Dec 2021
 - A permanent thermistors mooring is located at the end of the pier in Puerto Madryn city. I was actively involved in the maintaining and improving the mooring that has continuous records of more than ten years. The mooring is made up of a rope, an anchor, a surface buoy and 5 thermistors separated every 3 m in the water column. More details here.
- Homemade-drift buoys' test. Oct 2021 – Nov 2021
 - Four drift buoys were released, recording their position every 5 minutes through the Spot Trace satellite trackers in order to study the winter dynamics on the western coast of the Nuevo Gulf. This was the first deployment/test of the homemade-drift buoys. More details here (p.19).

LANGUAGES

- Spanish: Native.
- English: Fluent (speaking, reading, writing).

SKILLS

L^AT_EX, MATLAB, Inkscape, Golden Software (Surfer, Grapher).

INTERESTS

Cook, Swim, lifting, cycling, walk.

COVID-19

Vaccinated with two doses of AstraZeneca and with Pfizer.

REFERENCES

- **Professor Andrés Luján Rivas**
Independent Research in Centro para el Estudio de Sistemas Marinos (CESIMAR, CCT–CONICET, CENPAT).
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- **Professor Dr. Cédric Chavanne**
PhD scientist in Institut des Sciences de la Mer de Rimouski, Université du Québec à Rimouski.
310 allée des Ursulines, Rimouski, Québec, Canada.
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▪ **Professor Dr. Juan Pablo Pisoni**

Adjunct Research in Centro para el Estudio de Sistemas Marinos (CESIMAR, CCT-CONICET, CENPAT).

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