

Nationality: French

Date of Birth: 17-07-1966

Email: epoulin@uchile.cl

Phone: (+56)965880037

ORCID 0000-0001-7736-0969

Elie POULIN

Molecular Ecologist



SUMMARY. After moving to Chile for a postdoctoral project, I had the opportunity to establish my own Laboratory in Molecular Ecology, an emergent discipline in Chile at that time. My research line covers the exciting fields of population genetics, ecology, and evolution, in order to assess the impact of past, present, and future environmental changes on biodiversity. I focus mainly on marine invertebrates and fishes, as well as marine birds and mammals, found in the southern part of South America as well as the Antarctic and Subantarctic regions. Currently, I am Full Professor and Director of the PhD program in Ecology and Evolutionary Biology in the Department of Ecological Sciences at Universidad de Chile. I am Director of the Millennium Institute of Biodiversity of Antarctic and Subantarctic Ecosystems (BASE), which is the highest level of scientific funding launched by the Chilean National Research Agency (ANID). Additionally, I am actively involved in science policy and conservation, as member of the Oceanographic National Committee, the Chilean Council of Antarctic Research, and as the national delegate for the International Science Committee on Antarctic Research (SCAR) Life Science group.

Scientific outcomes at a glance:



163 WoS
publications,
H-index 38



Main advisor of
22 PhD, 13 Master students,
and 9 postdoctoral fellows



Coordination and/or
participation to >20
funded projects



Undergrad and
postgraduate teaching
(130 h/yr, 8 courses)



>225 Presentations in
international conferences,
9 as key-note invited speaker



Director of Excellence
Research Center MI-BASE
(9,2 M€, 2021-2030)



>15 Scientific expeditions in
Antarctic/ Subantarctic
regions



International network of
collaboration (Chile, France, UK,
Belgium, New Zealand, Brasil)

Current Position

2017 – Present

Full professor. Director of the **Laboratory of Molecular Ecology**
Department of Ecological Sciences, Universidad de Chile, Santiago, Chile.

2021- Present

Director of the Millennium Institute of Biodiversity of Antarctic and Subantarctic Ecosystems (BASE), Santiago, Chile.

Past Positions

- 2009 – 2016** **Associate professor. Laboratory of Molecular Ecology (Poulin's Lab)**
Department of Ecological Sciences, Universidad de Chile, Santiago, Chile.
- 2003 – 2009** **Assistant professor. Laboratory of Molecular Ecology (Poulin's Lab)**
Department of Ecological Sciences, Universidad de Chile, Santiago, Chile.
- 1999 - 2003** **Associate researcher and Postdoctoral researcher.**
Department of Ecology, Pontificia Universidad Católica de Chile, Santiago, Chile.
"Larval transport and settlement of the mollusk *Concholepas concholepas*" and
"Chilean mackerel (*Trachurus murphyi*) stock identification in the South-East Pacific
using mtDNA sequences and microsatellites". Supervisors Drs. J.C. Castilla and
P.Ojeda.
- 1998 - 1999** **Leader of diving expedition in the subantarctic Kerguelen Island.**
French Polar Institute (IPEV).
- 1997 - 1998** **Postdoctoral researcher.**
Department of Molecular and Cell Biology, CSIC, Barcelona, Spain. "*Genetic structure
of the brooding ophiuroid *Amphipholis squamata**". Supervisor: Dr. L. Cornudella).

Education

- 1992 – 1996** **PhD in Ecology and Evolution.**
Université Montpellier II, France. "*Adaptative significance and evolutionary
consequences of brood-protection in the subantarctic marine benthic invertebrate
Abatus cordatus (Verrill, 1876) [Echinodermata: Spatangoida]*". Director: J.-P. Féral.
Oceanographic Observatory, Banyuls s/ Mer.
- 1990 – 1992** **National Service time** in the French Subantarctic Territory of Kerguelen Island.
Director: J.-P. Féral., Oceanographic Observatory, Banyuls s/ Mer.
- 1989 – 1990** **Diplôme d'Etudes Approfondies.**
Université Montpellier II, France. "*Stability and polymorphism of the amplified
esterase B gene in *Culex pipiens* mosquito*". Directors: Drs. Nicole Pasteur and Michel
Raymond.
- 1987 – 1989** **Pregraduate. Biology of organisms and populations**
Université Pierre et Marie Curie, Paris VI, France.

On-going research projects

- 2021 – 2031** **Excellence Center – ICN2021_002.** Instituto Milenio BASE: "Biodiversity of Antarctic
and Subantarctic Ecosystems" (**Director**). **Funded by:** "Programa Iniciativa Científica
Milenio", Chilean National Research Agency (ANID), 9,2 M€.
<https://www.institutobase.cl/en/>
- 2023 – 2026** **ECOS/ANID ECOS220008.** "Monitoring of subantarctic alien species in Antarctic
Peninsula: setting-up a network of nearshore observing systems in Patagonia,
Kerguelen and Antarctica" (**Principal Investigator PI**). Mobility program France/Chile.
- 2020 – 2024** **FONDECYT regular 1200928.** Genomic insights into interpopulation variation in
hoarding and cache recovery behaviour in *Octodon degus* from two contrasting

habitats (*Co-investigator*). Funded by: Chilean National Research Agency (ANID), 250 k€.

- 2021 – 2025** **FONDECYT regular 1211672.** Microbial biogeography in the Southern Ocean: from communities to oligotypes (*Co-investigator*). Funded by: Chilean National Research Agency (ANID). 250 k€.
- 2021 – 2025** **FONDECYT regular 1210568.** Genomic Adaptation to Polar environments: introgression, common ancestor adaptation or convergent evolution of Arctic and Antarctic seabirds? (*Co-investigator*). Funded by: Chilean National Research Agency (ANID). 250 k€.
- 2021 – 2025** **FONDECYT regular 1210787.** Does rafting allows connectivity across the Antarctic polar front? A case study of the direct developer periwinkle *Laevitorina caliginosa* GOULD 1849 (*Co-investigator*). Funded by: Chilean National Research Agency (ANID). 250 k€.

Selection of most relevant past research projects

- 2021 – 2022** **INACH RG_48_20.** Genomic Adaptation: convergent evolution between Arctic puffins and Antarctic penguins? (*Co-investigator*). Funded by: Chilean National Antarctic Institute (INACH).
- 2017 – 2022** **PIA CONICYT ACT172065.** GAB: “Genomics insight into the past and present of Antarctic Biodiversity: a tool to assess the fate of a unique ecosystem in a changing world” (*Director*). Funded by: “Anillos de Investigación en Ciencia Antártica”, Chilean National Research Agency (ANID), 490 k€.
- 2015-2018** **FONDECYT regular 1151336.** “Diversification of the spiny plunderfish Harpagifer in the Southern Ocean” (*Principal Investigator PI*). Funded by: Chilean National Research Agency (ANID). 250 k€.
- 2008 – 2018** **BASAL FINANCING PROGRAM for scientific and technological centers of excellence PFB-23.** “Institute of Ecology and Biodiversity”. Funded by: “Programa de Investigación Asociativa” (*PI and research line leader*), Chilean National Research Agency (ANID), 8,5 M€.
- 2007-2009** **ECOS CONICYT C06B02:** “Origen and evolution of the Antarctic benthic marine fauna: Genetic diversity and molecular divergence between congeneric species of echinoids from Antarctica and South America” (*Principal Investigator PI*). Mobility program France/Chile.
- 2006 – 2016** **Excellence Center – ICM P05-002.** Instituto Milenio IEB: “Instituto de Ecología y Biodiversidad” (*PI and working group leader*). Funded by: “Programa Iniciativa Científica Milenio”, Chilean National Research Agency (ANID), 8 M€. <https://ieb-chile.cl/en/>
- 2004-2008** **FONDECYT regular 1040785:** “Genetic inference about the demographic history of small pelagic fish in the Eastern Pacific during the Late Quaternary” (*Principal Investigator PI*).. Funded by: Chilean National Research Agency (ANID). 200 k€.

Implication in science policy, Conservation and scientific societies

2021– Present	Member of board of directors of “ Corporation Instituto de Ecología y Biodiversidad ”.
2020 – 2022	President of the Chilean Society of Evolution .
2019 – Present	Member of board of directors and treasurer of the Foundation “Centro Subantártico Cabo de Hornos” , Puerto Williams, Chile
2018 – Present	Member of board of directors of the Chilean Society of Evolution .
2016 – Present	Leader of the “Biodiversity workgroup” of the Chilean National Oceanographic Committee (CONA) .
2016 – Present	Member of board of directors of Omora Foundation (non-profit organization dedicated to the conservation and research of natural environments in Patagonia).
2008 – Present	Member of the Chilean National Council of Antarctic Research (CNIA) . Nominated by Chilean Ministry of Foreign Office.
2008 – 2013	Work Package Leader: Patterns of gene flow and consequences for population dynamics: Isolation as a driving force. SCAR Research Program “Evolution and Biodiversity in the Antarctic (EBA-SCAR) .
2006 – 2016	Member of board of directors and treasurer of “ Corporation Instituto de Ecología y Biodiversidad ” (scientific research corporation dedicated to the study of the ecology and biodiversity to contribute to the conservation and sustainable management of Chilean natural resources.)
2005 – Present	Member of the Scientific Committee of ReGeneC: “ Red de Genética para la Conservación en America Latina ”.

Collective responsibilities

2014 – Present	Director of the Academic Committee of the Doctorate in Ecology and Evolutionary Biology, Faculty of Sciences, University of Chile.
2004 – 2014	Member of the Academic Committee of the Doctorate in Ecology and Evolutionary Biology, Faculty of Sciences, University of Chile.
2018 – 2019	Member of the Qualification Committee, Faculty of Sciences, University of Chile
2012 v 2017	Member of Direction Council, Department of Ecological Sciences
2006 – 2007	Member of Direction Council, Department of Ecological Sciences

Teaching

The primary focus of my teaching is at the [University of Chile*](#); however, I have also made contributions to numerous courses across different universities in Chile such as P. Catholic university of Chile, Catholic University of Concepción, University of Concepción, University of Magallanes, University of Valparaiso.

Undergraduate courses:

- Conservation and Biodiversity*
- Evolution*
- Evolutionary Biology*
- Experimental Studies in Ecology
- Genetics*
- Genetics and Biological Evolution*
- Invertebrate Zoology*
- Population Genetics
- Scientific Diving
- Vertebrate Zoology*
- Zoology*

Postgraduate :

- Advanced Topics in Evolutionary Biology
- Antarctic Ecosystems*
- Biogeography: Diversity Space and Time*
- Conservation Genetics
- Frontiers in Ecology and Evolutionary Biology*
- Molecular Biology
- Molecular Ecology*

Postgraduate student supervision

PhD level

- | | |
|-----------------------|--|
| 2023 - Present | Melanie Delleuze, Spatiotemporal dynamics of the microbiota of <i>Abatus</i> (Echinodermata: Schizasteridae) from the Southern Ocean under a climate change scenario. Co-tutelle degrees: Doctorate in Sciences, mention Ecology and Evolutionary Biology, University of Chile / Doctorate in Sciences, mention Biodiversity, Ecology and Evolution, Université libre de Bruxelles, Belgium. Advisor . |
| 2022 – Present | Francisca Rodríguez, Diferenciación genética y adaptación local de <i>Cephalorhynchus commersonii</i> en América del Sur e Islas Kerguelen. Doctorate in Ecology and Evolutionary Biology, University of Chile. Advisor . |
| 2020 – Present | Amy Guest, Sub-tidal ecology of the Falkland Islands and a biogeographical comparison with the Straits of Magellan and the Beagle Channel. PhD in Marine Biology, University of Aberdeen, Scotland. Co-Advisor . |
| 2022 – 2024 | Erwan Courville, Integrative analysis of extant and fossil data, morphological and molecular, to study the ecological and biogeographical evolution of the genus |

Arbacia Gray, 1835 (Echinoidea) during the Cenozoic. Co-tutelle degrees: Doctorate in Ecology and Evolutionary Biology, University of Chile / Doctorate in Environment and Health, Université de Bourgogne, France. [Advisor](#).

- 2021 – 2024** Felipe Avello, Contribución relativa de la selección natural positiva y la deriva genética en las problemáticas sobre el rol creativo de la selección natural, el tamaño del efecto fenotípico de las mutaciones y la relación entre pleiotropía y tasa evolutiva molecular. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2020 – 2024** Sebastián Rosenfeld, Diferencias en el éxito evolutivo de tres géneros de Littorinidae Antárticos: una aproximación desde la Biogeografía histórica. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2019 – 2023** Valentina Bernal, Patrones de conectividad y selección en *Harpagifer antarcticus* a lo largo de Antártica Marítima. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2019 – 2023** Daly Noll, Divergencia ecológica y genómica de los linajes del pingüino papua (*Pygoscelis papua*) impulsada por su adaptación en ambientes contrastantes del Océano Austral. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2016 – 2022** Paola Poch, Determinando el Alto Valor Ecológico de las Formaciones Xerofíticas: Una mirada Científica desde la evolución al ecosistema. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Co-Advisor](#).
- 2016 – 2020** María-José Frugone, Filogeografía comparada de especies de pingüino del género *Eudyptes*: diversidad genómica y conductual en el Océano Austral. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2015 – 2022** Zambra López, Evaluación del potencial del cangrejo subantártico *Halicarcinus planatus* (Hymenosomatidae) para volverse el primer invasor marino en la Antártica: capacidad fisiológica y dispersiva. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2015 – 2020** Claudia Maturana, Biogeografía histórica del copépodo Antártico de agua dulce *Boeckella poppei* durante el Último Período Glacial: ¿Extinción masiva o Refugio In situ? Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2014 – 2019** Patricio Pezo, Estudio de Señales de Adaptación Biológica en Poblaciones Descendientes de grupos Cazadores Recolectores Marinos de la Patagonia. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Co-Advisor](#).
- 2014 – 2019** Franco Cianferoni, Efecto de procesos demográficos recientes en la diversidad genética de dos especies del Género *Bombus* (Hymenoptera: Apidae) en Chile. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2013 – 2019** Esteban Oda, Efecto de los cambios demográficos cíclicos sobre la diversidad genética de una población de *Octodon degus*. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2013 – 2018** Nicolas Segovia, Adaptación local y dinámicas espacio-temporales en el tunicado *Pyura chilensis* Molina 1782 (Urochordata: Ascidiacea) a lo largo del sistema de Corriente de Humboldt. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2013 – 2017** Esteban Botero, Patrones, estrategias y síndromes de dispersión en poblaciones del Rayadito *Aphrastura spinicauda* (Furnariidae) en dos ambientes contrastantes del

centro y sur de Chile. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Co-Advisor](#).

- 2008 – 2013** María José Pérez, Variación geográfica y determinantes de la distribución del delfín chileno, *Cephalorhynchus eutropia* (Gray 1846), a lo largo de la costa de Chile: Aproximación morfológica y molecular. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2008 – 2013** Claudia Guerrero, Diferenciación genética y ecológica en el complejo *agassizii* del género *Orestias* en las cuencas de la Puna del noreste de Chile. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2008 – 2012** Angie Díaz, Relaciones evolutivas y procesos de diversificación del género *Sterechinus* (Echinodermata: Echinoidea) en las zonas profundas y someras del Océano Austral. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2008 – 2012** Constanza Napolitano, Filogeografía, inferencia demográfica y genética de la conservación de la güiña (*Leopardus guigna*) en el sur de Sudamérica. Doctorate in Forestry, Agriculture, and Veterinary Sciences, University of Chile. [Advisor](#).
- 2007 – 2013** Rodrigo Moreno, Gradientes latitudinales y batimétricos de la riqueza de especies de poliquetos bentónicos a lo largo de la costa del Pacífico de Sudamérica. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2007 – 2013** Michelle de Saint Pierre, Relaciones filogeográficas entre poblaciones humanas de origen amerindio del sur de Chile. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Co-Advisor](#).
- 2006 – 2012** María-Cecilia Pardo, Aproximaciones filogeográficas para evaluar patrones de conectividad e historia demográfica en dos especies de pulpos, habitantes de distintas provincias biogeográficas de Sudamérica: Importancia de las glaciaciones y de las condiciones oceanográficas. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2006 – 2010** Christian Ibañez, Estructura poblacional y diversidad genética de calamares con historias de vida contrastantes en el sistema de corrientes de Humboldt. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2006 – 2010** Claudio González-Wevar, Biogeografía histórica y reciente en el género *Nacella* (Schumacher, 1817), a lo largo de su distribución en el Océano Austral. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Advisor](#).
- 2006 – 2009** Pablo Valladares, Variación geográfica de la conducta antidepredatoria del *Octodon degus* (Molina 1782) bajo un contexto filogeográfico. Doctorate in Biomedical Science, University of Chile. [Co-Advisor](#).
- 2004 – 2007** Marcela Vidal, Variación geográfica en *Liolaemus pictus* (Liolaeminae) del Archipiélago de Chiloé: el rol de las glaciaciones y la insularidad en la divergencia molecular, fisiológica y morfológica. Doctorate in Ecology and Evolutionary Biology, University of Chile. [Co-Advisor](#).

Master level

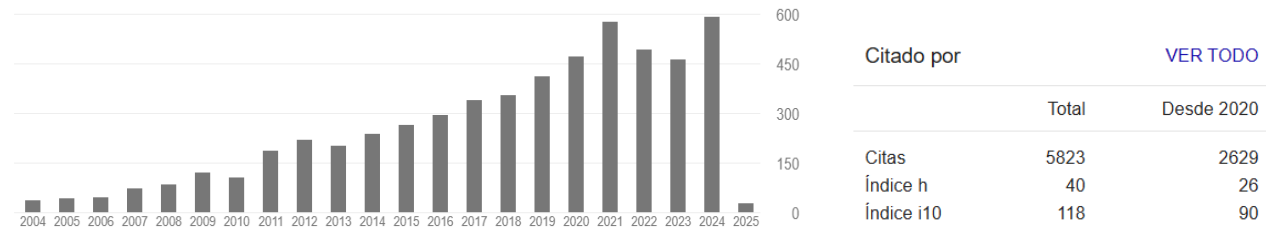
- 2024 – present** Fernando Moya, Análisis de forma y simetría bilateral en especies del género de erizos irregulares *Abatus*, y su efecto sobre la trayectoria de desplazamiento. Master in Biological Science, University of Chile. [Advisor](#).

- 2023 – present** Amanda Vásquez, Apolipoproteína E en Cetáceos: Explorando su Estructura y Función en el Contexto del Alzheimer. Master in Biological Science, University of Chile. [Advisor](#).
- 2019 – 2022** Constanza Millán, Diversidad genética y estructura poblacional de *Siphonaria lateralis* (Gould, 1846) en el Océano Austral. Master in Biological Science, University of Chile. [Advisor](#).
- 2018 – 2020** Simón Anguita, Patrones macro y microevolutivos en el complejo *Ectinogonia* (Coleoptera, Buprestidae) del desierto costero de Chile. Master in Biological Science, University of Chile. [Advisor](#).
- 2018 – 2019** Sebastián Kraft, Diversidad genética y grado de parentesco entre los individuos de *Globicephala melas* del varamiento ocurrido en Isla Clemente, Región de Aysén. Master in Biological Science, University of Chile. [Advisor](#).
- 2017 – 2020** Francisca Rodríguez, Mortalidad masiva en Chile y restos óseos: Estructura poblacional de *Balaenoptera borealis* revelado por análisis de ADN mitocondrial. Master in Biological Science, University of Chile. [Advisor](#).
- 2011 – 2015** Andrea Martínez, Filogeografía comparada en dos Echinoideos del Pacífico Sudeste: *Loxechinus albus* (Molina, 1782) y *Tetrapygyus niger* (Molina, 1782). Master in Biological Science, University of Chile. [Advisor](#).
- 2011 – 2013** Mathias Hüne, Filogeografía y divergencia molecular entre especies del género *Harpagifer* (Richardson, 1844) de Antártica y Patagonia. Master in Science, University of Magellan. [Co-Advisor](#).
- 2010 – 2013** Fabiola Peña, Efectos del Cambio Climático sobre el tamaño poblacional de poblaciones de pingüinos del género *Pygoscelis* (Orden: Sphenisciformes) en la Isla Rey Jorge, Islas Shetland Sur. Una aproximación molecular. Master in Biological Science, University of Chile. [Advisor](#).
- 2008 – 2011** Pilar Salinas, Diversidad genética de *Galaxias maculatus* en el río Pascua y la zona de los fiordos. Master in Biological Science, University of Chile. [Advisor](#).
- 2008 – 2011** Claudia Maturana, Ciclo reproductivo y patrón de apareamiento en el equinoide incubante antártico, *Abatus agassizii* (Mortensen, 1910). Master in Biological Science, University of Chile. [Advisor](#).
- 2006 – 2009** Pamela Morales, Diferenciación genética en *Orestias ascotanensis* (Teleostei: Cyprinodontidae), pez endémico del Salar de Ascotán, altiplano chileno. Master in Biological Science, University of Chile. [Advisor](#).
- 2005 – 2009** Gioconda Peralta, Patrones filogeográficos en el bivalvo *Mesodesma donacium* Lamarck (1818) macha en Chile. Master in Biological Science, University of Chile. [Advisor](#).
- 2005 – 2008** Angie Díaz, Origen y evolución de la fauna marina bentónica antártica: diversidad genética y divergencia molecular entre especies congénicas de Echinoidea de Antártica y Suramérica. Master in Biological Science, University of Chile. [Advisor](#).
- 2005 – 2008** Andrea Silva, Inferencia cronológica de la distribución antitropical en peces del Pacífico-Este mediante el uso de dos marcadores moleculares mitocondriales. Master in Biological Science, University of Chile. [Advisor](#).

Postdoctorate supervision

- 2024 – present** Dr. Camila Neder, “Species Distribution Models in Antarctic and Subantarctic areas”. Funded by: “Programa Iniciativa Científica Milenio”, Chilean National Research Agency (ANID).
- 2023 – 2024** Dr. Luis R. Pertierra, “Species Distribution Models in Antarctic and Subantarctic areas”. Funded by: “Programa Iniciativa Científica Milenio”, Chilean National Research Agency (ANID).
- 2022 – 2025** Dr. Guillaume Schwob, “Metagenomics for studies of the biodiversity of microbial and benthic, Antarctic and Subantarctic communities”. PIA CONICYT. Funded by: “Programa Iniciativa Científica Milenio”, Chilean National Research Agency (ANID).
- 2018 – 2020** Dr. Guillaume Schwob, “Biogeography of Antarctic and sub-Antarctic microbiota”. PIA CONICYT. Funded by: “Anillos de Investigación en Ciencia Antártica”, Chilean National Research Agency (ANID).
- 2018 – 2019** Dr. Nicolas Segovia, “Biogeography of marine fauna in the Southern Ocean”. PIA CONICYT. Funded by: “Anillos de Investigación en Ciencia Antártica”, Chilean National Research Agency (ANID).
- 2015 - 2017** Dra. Constanza Napolitano, “Emerging pathogens at the wildlife-domestic interface: FIV, FeLV and MHC selection in threatened guignas (*Leopardus guigna*) and sympatric domestic cats”. Funded by: Morris Animal Foundation, Fellowship Training Proposal.
- 2011 - 2014** Dr. Claudio González-Wevar, “Post-glacial recolonization patterns in resident and migratory populations of *Galaxias maculatus* along a latitudinal gradient”. Funded by: Chilean National Research Agency (ANID), FONDECYT Postdoctorado 3120075.
- 2010 – 2012** Dr. Christian Ibáñez, “Evolution of life history strategies of cephalopods”. Funded by: Chilean National Research Agency (ANID), FONDECYT Postdoctorado 3110152
- 2009 – 2011** Dr. Karin Gerard, “Genetic diversity and small scale population structure of *Abatus agassizii* (Mortensen, 1910), a brooding antarctic echinoid from Bahia Fildes, King Georges Island, South Shetland”. Funded by: Chilean National Research Agency (ANID), FONDECYT Postdoctorado 3100139.
- 2005 – 2007** Dr. Juan Carlos Marín, “Genetic diversity, population structure, and demographic history of *Lama guanicoe*: implications for its conservation and management”. Funded by: Chilean National Research Agency (ANID), FONDECYT Postdoctorado 3050046.

Scientific publications



Citado por

[VER TODO](#)

	Total	Desde 2020
Citas	5823	2629
Índice h	40	26
Índice i10	118	90

From 2020 to present

1. Spencer Hamish G., Ceridwen I. Fraser, Elie **Poulin**, Claudio A. González-Wevar. Towards a More Integrative Theory of Long-distance Rafting. *Global Ecology and Biogeography*, accepted.
2. Jorquera Josefina, Lucila Morales, Elize Y. X. Ng, Daly Noll, Luis R. Pertierra, Patricio Pliscoff, Ulises Balza, Thierry Boulonier, Amandine Gamble, Tatiana Kasinsky, Julie C. McInnes, Juan Carlos Marín, Silvia Olmastroni, Pierre Pistorius, Richard A. Phillips, Elie **Poulin**, Rauri C. K. Bowie, Christopher P. Burrige, Juliana A Vianna. 2025. Genomic introgression and adaptation of southern seabird species facilitate recent polar colonization. *Molecular Biology and Evolution*, accepted.
3. Courville, E., Mongiardino Koch, N, Jossart, Moreau, C., Mooi, R., Lessios, H.A., Diaz, A., Martinez Salinas, A., Saucède, T., **Poulin**, E. 2024. Phylogeny of *Arbacia* Gray, 1835 (Echinoidea) reveals diversification patterns in the Atlantic and Pacific Oceans. *Journal of Biogeography*, in press. <https://doi.org/10.1111/jbi.15070>.
4. Delleuze Mélanie, Schwob Guillaume, Orlando Julieta, Gerard Karin, Saucède Thomas, Brickle Paul, **Poulin** Elie, Cabrol Léa. 2024. Habitat specificity modulates the bacterial biogeographic patterns in the Southern Ocean. *FEMS Microbiology Ecology*, fiae134, DOI: 10.1093/femsec/fiae134.
5. Millán-Medina Constanza, Marcelo Lizama, Thomas Saucède, Elie **Poulin**, Nicolás Segovia and Claudio Alejandro González-Wevar. 2024. Does rafting promote contemporary gene flow? Global and regional patterns of population genetic diversity and structure on the false limpet *Siphonaria lateralis* in the Southern Ocean. *Frontiers in Ecology and Evolution*, 12:1441397. DOI: 10.3389/fevo.2024.1441397.
6. Poch Paola, Elie **Poulin**, Fernanda Pérez, Gioconda Paz Peralta and Luis Felipe Hinojosa. 2024. Spatial patterns of congruence or mismatch between taxonomic, functional, and phylogenetic diversity and endemism of perennial flora along the aridity gradient of Chile. *Frontiers in Plant Science*, 15:1418673. DOI: 10.3389/fpls.2024.1418673.
7. Moya Fernando, Jordan Hernández, Manuel Suazo, Thomas Saucède, Paul Brickle, Elie **Poulin** & Hugo Benítez. 2024. Deciphering the Hearts: Geometric Morphometrics Reveals Shape Variation in *Abatus* Sea Urchins Across Subantarctic and Antarctic Seas. *Animals*: 14(16):2376; DOI: 10.3390/ani14162376.
8. Maturana Claudia, Tamara Contador, Felipe L Simões, Moisés A. Valladares, Paula Vidal, Melisa Gañán, Claudio Alejandro González-Wevar, Elie **Poulin**, Chester John Sands, Edgar Clive Turner and Peter Convey. 2024. Ancient diversification in extreme environments: Exploring the historical

- biogeography of the Antarctic winged midge *Parochlus steinenii* (Diptera: Chironomidae). *Frontiers in Ecology and Evolution*, DOI: 10.3389/fevo.2024.1393376.
9. Moreno-Mendoza Rigoberto, Erwan Courville, Luis Enrique Ángeles-González, Julio Duarte, Marc Carulla, Daniel Malfanti-Bravo, Andrés Mena-Auladell, Thomas Saucède, Nuno Simões & Elie **Poulin**. 2024. A new morphotype description of *Arbacia spatuligera* Valenciennes, 1846 (Arbacioida, Echinoidea) and bathymetric range extension from mesophotic reefs of the central coast of Chile. *Journal of the Marine Biological Association of the United Kingdom*, 104, e48, 1–10. <https://doi.org/10.1017/S0025315424000389>.
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Selected Publications before 2020

- González-Wevar C., K. Gérard, S. Rosenfeld, T. Saucède, J. Naretto, A. Díaz, S. Morley. P. Brickle & E. **Poulin**. 2019. Cryptic speciation in Southern Ocean *Aequiyoldia eightsii* (Jay, 1839): Mio-Pliocene

trans-Drake separation and diversification. *Progress in Oceanography* 174: 44-54. DOI: 10.1016/j.pocean.2018.09.004.

- Frugone MJ, López ME, Cole TL, Lowther A, Pistorius P., Dantas G, Petry MV, Bonadonna F, Trathan PN, Polanowski A, Wienecke B, Segovia NI, Ke Bi, Wang-Claypool CY, Waters J, Bowie R, **Poulin** E & J. Vianna. 2019. More than the eye can see: genomics challenging our conception of biogeographical barriers and species classification in birds. *Molecular Phylogenetics and Evolution* 139:106563. DOI: 10.1016/j.ympev.2019.106563
- González-Wevar C.A., Hüne M., Segovia N.I., Nakano T., Spencer H., Chown S.L., Saucède T., Johnstone G., Mansilla A. & E. **Poulin**. 2017. Following the Antarctic Circumpolar Current: Patterns and processes in the biogeography of the limpet *Nacella* (Mollusca: Patellogastropoda) across the Southern Ocean. *Journal of Biogeography*, 44:861-874. DOI: 10.1111/jbi.12908
- Guerrero-Jiménez C.J., Peña F., Morales P., Méndez M.A., Sallaberry M., Vila I. & E. **Poulin**. 2017. Pattern of genetic differentiation of an incipient speciation process: the case of the high Andean killifish *Orestias*. *PLoS ONE* 12(2): e0170380. DOI: 10.1371/journal.pone.0170380.
- Vianna J., Noll D., Dantas G., Petry M.V., Barbosa A., González-Acuña D., Le Bohec C., Bonadonna F. & E. **Poulin**. 2017. Marked phylogeographic structure of Gentoo penguin reveals an ongoing diversification process along the Southern Ocean. *Molecular Phylogenetics and Evolution*, 107: 486-498. DOI: 10.1016/j.ympev.2016.12.003
- Napolitano C., Díaz D., Sanderson J., Johnson W.E., Ritland K., Ritland C.E. and E. **Poulin**. 2015. Reduced genetic diversity and increased dispersal in *Guigna* (*Leopardus guigna*) in Chilean fragmented landscapes. *Journal of Heredity* 106 (S1): 522-536. doi: 10.1093/jhered/esv025
- **Poulin**, E., González-Wevar, C., Díaz, A., Gérard, K. and Hüne, M. 2014. Divergence between Antarctic and South American marine invertebrates: what molecules tell us about the Scotia Arc geodynamics and the intensification of the Antarctic circumpolar current. *Global and Planetary Change* 123: 392-399. DOI: 10.1016/j.gloplacha.2014.07.017
- Napolitano C., Johnson W.E., Sanderson J., O'Brien S.J., Rus Hoelzel A., Freer R., Dunstone N., Ritland K., Ritland C.E. & **Poulin** E. 2014. Phylogeography and population history of *Leopardus guigna*, the smallest American felid. *Conservation Genetics* 15: 631–653. DOI 10.1007/s10592-014-0566-3.
- Gonzalez-Wevar C. A., Saucède T., Morley S.A., Chown S.L., **Poulin** E. 2013. Extinction and recolonization of maritime Antarctica in the limpet *Nacella concinna* (Strebel, 1908) during the last glacial cycle: toward a model of Quaternary biogeography in shallow Antarctic invertebrates. *Molecular Ecology* 22: 5221-5236, DOI: 10.1111/mec.12465.
- González-Wevar C.A., Hüne M., Cañete J.I., Mansilla A., Nakano T. & E. Poulin. 2012. Towards a model of postglacial biogeography in shallow marine species along the Patagonian Province: lessons from the limpet *Nacella magellanica* (Gmelin, 1791). *BMC Evolutionary Biology* 12:139. DOI: 10.1186/1471-2148-12-139
- Morales P., I. Vila & E. Poulin. 2011. Genetic structure in remnant populations of an endangered cyprinodontid fish, *Orestias ascotanensis*, endemic to the Ascotán salt pan of the Altiplano. *Conservation Genetics* 12:1639-1643. DOI 10.1007/s10592-011-0245-6
- Díaz, A., Féral, J.-P., David B., Saucède T & E. Poulin. 2011. Evolutionary pathways among shallow and deep sea echinoids of the genus *Sterechinus* in the Southern Ocean. *Deep Sea Research II*. 58: 205-211 Doi:10.1016/j.dsr2.2010.10.012.
- Haye P., P. Salinas, E. Acuña & E. Poulin. 2010. Heterochronic phenotypic plasticity with lack of genetic differentiation in the southeastern Pacific squat lobster *Pleuroncodes monodon*. *Evolution & Development* 12:6, 628–634. DOI: 10.1111/j.1525-142X.2010.00447.x
- Marin J.C., A.E. Spotorno, B.A. Gonzalez, C. Bonacic, J.C. Wheeler, C.S. Casey, M.W. Bruford, R.E. Palma & E. Poulin. 2008. Mitochondrial DNA variation and systematics of the guanaco (*Lama guanicoe*, ARTIODACTYLA: CAMELIDAE). *Journal of Mammalogy* 89: 269-281.

- Poulin E., A. T. Palma, G. Leiva, D. Narvaez, R. Pacheco, S. A. Navarrete & J. C. Castilla 2002. Avoiding offshore transport of competent larvae during upwelling events: the case of the gastropod *Concholepas concholepas* in Central Chile. *Limnology & Oceanography* 47: 1248-1255.
- Poulin E., A. T. Palma and J-P. Féral 2002. Evolutionary versus ecological success of developmental modes in coastal Antarctic benthic invertebrates. *Trends in Ecology and Evolution* 17: 218-222. DOI: 10.1016/S0169-5347(02)02493-X
- Poulin E. & J.-P. Féral 1996. Why are there so many species of brooding antarctic echinoids? *Evolution* 50:820-830.

International Conferences

keynote/invited speaker

Keynote Speaker "Diversification of marine benthic fauna in the Southern Ocean: A Phylogeographic and Phylogenetic Perspective". [XXXIV Open Science Conference of the Scientific Committee on Antarctic Research \(SCAR\)](#). 20-30 August 2016, Kuala Lumpur, Malasia.

Keynote Speaker "Diversificación de la fauna marina bentónica en el Océano Austral: una perspectiva filogeográfica y filogenética". [IX Jornadas Nacionales de Ciencias del Mar](#), 20-25 September 2015, Ushuaia, Argentina.

Invited Speaker: "Molecular insight into historical and recent biogeographical pattern and processes of marine benthic invertebrates in the Southern Ocean". [The legacy of EBA](#) Molecular and genetic advances to understanding evolution and biodiversity in the polar regions, 02-03 October 2014, Naples, Italia.

Keynote Speaker: "Population genetics, phylogeography and Phylogeny of Antarctic sea-urchins: lessons from 20 years of research in the Southern Ocean". Inaugural conference de [14th International Echinoderm Conference](#), 12-17 August 2012, Brussels, Bélgica.

Invited Speaker: "Diversification processes in the Southern Ocean. Symposium". 20 years GARS O'Higgins / Workshop [Chile-EU research opportunities under FP7](#), 12-15 Novembre 2011, Punta Arenas, Chile.

Invited Speaker: "Molecular insight into historical connectivity and demography of Antarctic marine fauna". International workshop: [Polar Marine and Lacustrine Organisms: Gene and Protein Evolution in a Changing Environment](#), 24-25 mayo 2010, Napoles, Italia.

Keynote Speaker: "Refuge into the depth? New insight from molecular data" VI Symposium in Ecology: Antarctic - South American Interactions (ASAI)", 5-6 november 2009, Universidade Federal do Rio de Janeiro, Brazil.

Keynote Speaker: "Genetic diversity of small pelagic fish in the upwelling systems of the Eastern Pacific". International Conference: [The Humboldt Current System](#), 27 November al 01 December 2006, Lima, Perú.

Invited Speaker: "Evolution of Brood [Protection](#) in Antarctica". *Reproduction, Ecology, and Evolution in Marine Systems: A Meeting in Honor of Prof. John S. Pearse*, University of California-Santa Cruz., 10-11 JUNE 2006, California-USA.

Selected international Presentations from 2020 to present:

González-Wevar Claudio, Julia Saravia, Valentina Bernal, Nicolás Segovia, Sebastián Rosenfeld, Claudia Maturana, Thomas Saucède, Paul Brickle, Hamish Spencer, Elie Poulin. Evidence of trans-APF long-distance dispersal in a nearshore marine invertebrate in the Southern Ocean. 11th SCAR Open Science Conference, 19-23 August 2024, Pucón, Chile.

Moya Fernando, Hugo Benítez, Elie Poulin. Unveiling the shape of Austral Ocean: Morphogeometric analysis of three sea urchin species of the *Abatus* genus. 11th SCAR Open Science Conference, 19-23 August 2024, Pucón, Chile.

- Gerard Karin, Cyril Gallut, Julieta Orlando, Guillaume Schwob, Lea Cabrol, Elie **Poulin**. OBS-Mar: Long-term monitoring of Antarctic and Subantarctic marine diversity evolution under human-induced climate change. 11th SCAR Open Science Conference, 19-23 August 2024, Pucón, Chile.
- Courville E., N. Mongiardino Koch, H. Lessios, A. Díaz, T. Saucède & E. Poulin. New molecular phylogeny sheds new light on the evolutionary history of the genus *Arbacia* Gray, 1835 (Arbacioida, Echinoidea). 11th European Conference on Echinoderms, 16-20 October 2023, Lyon, France.
- Gonzalez-Wevar Claudio, Mr Cristian Ríos, Mrs Yarleth Poveda, Julia Saravia, Mr Andreas Schmider, Nicolas Segovia, Sebastian Rosenfeld, Claudia Maturana, Thomas Saucède, Simon Morley, Paul Brickle, Nerida Wilson, Hamish Spencer, Elie **Poulin**. More than meet the eyes: the complex biogeographical history of the Southern Ocean littorinid genus *Laevilitorina*. [XIII SCAR Biology Symposium](#), 31 July - 4 August 2023, Christchurch, New Zealand.
- Maturana Claudia, Valentina Bernal, Melisa Gañan, Nicolás Segovia, Sebastián Rosenfeld, Peter Convey, Elie **Poulin**, Tamara Contador. Population connectivity at different spatial and temporal scales in the Antarctic fairy shrimp *Branchinecta gaini*. [XIII SCAR Biology Symposium](#), 31 July - 4 August 2023, Christchurch, New Zealand.
- González-Wevar Claudio, Vanessa Jeldres, Cristian Ríos, Yarleth Poveda, Nicolas Segovia, Sebastian Rosenfeld, Claudia Maturana, Simon Morley, Thomas Saucède, Nerida Wilson, Hamish Spencer, Elie **Poulin**. How many species were hidden within the broadly distributed periwinkle *Laevilitorina caliginosa*. [10th SCAR Open Science Conference](#), 1-10 august 2022, India.
- Melanie Delleuze, Guillaume Schwob, Julieta Orlando, Elie **Poulin**, Lea Cabrol. The level of habitat specificity modulates the microbial biogeographic patterns in the Southern Ocean: from community to intra-population scales. [10th SCAR Open Science Conference](#), 1-10 august 2022, India.
- Poulin** Elie, Nicolás Segovia, Claudio González-Wevar, Valentina Bernal, Paul Brickle, Javier Naretto, Thomas Saucède. Phylogeography, population genetics and adaptation in *Harpagifer* (nototheniidae) along the Southern Ocean. [14th International Congress on the Biology of Fish in Montpellier \(France\)](#) from June 28th to July 1st 2022.
- MJosé Pérez Alvarez, Sebastián Kraft, Carlos Olavarría, Francisca Rodríguez, Nicolás Segovia, Elie **Poulin**. Phylogeography and demographic inference of two whale species with new data from the Southern Pacific. [I Congreso Latinoamericano de Evolución](#), 30 noviembre-3 diciembre 2021. (poster).
- María José Pérez Alvarez, Sebastián Kraft, Carlos Olavarría, Francisca Rodríguez, CScott Baker; Elie **Poulin**. Applied conservation genetics as useful tool for cetacean populations in Chilean Waters. CLAGeneC - [II Congreso Latinoamericano de Genética para la Conservación](#). 13-16 september 2021, virtual, Brazil.
- Nigenda-Morales Sergio, Meixi Lin, Annabel Beichman, Jacqueline Robinson, Frederick Archer, Jorge Urbán, Lorena Vilorio-Gomóra, María José Pérez-Alvaréz, Elie **Poulin**, Kirk Lohmueller, Andrés Moreno-Estrada, Robert K. Wayne. The Fin Whale Population Genomics Project (FPGP). [XXXVII Reunión Internacional para el Estudio de los Mamíferos Marinos](#). 2-6 May 2021.
- Napolitano Constanza, Irene Sacristán, María José López-Jara, Elie **Poulin**. Human-dominated landscapes in southern Chile: A review of diverse impacts to animal populations. [LACA Conservation Latin America](#), 9-13 November 2020. Online.
- Schwob Guillaume, Nicolás I. Segovia, Claudio A. González-Wevar, Léa Cabrol, Julieta Orlando and Elie **Poulin**. Exploring the microdiversity within marine bacterial taxa: Towards an integrated biogeography in the Southern Ocean. [ISME Virtual Microbial Ecology Summit](#), 11-12 November 2020.
- Saucède Thomas, Elie **Poulin**, Jean-Pierre Féral. From a local observing system of climate change to wider sub-Antarctic challenges. [SCAR Open Science Conference](#), 1-7 august 2020. Online.

Gonzalez-Wevar Claudio, Sebastian Rosenfeld, Nicolas Segovia, Claudia Maturana, Daly Noll, Angie Diaz, Karin Gerard, Thomas Saucède, Nerida Wilson, Paul Brickle, Simon Morley, Hamish Spencer, Elie **Poulin**. Contrasting biogeographical patterns in the vetigastropod genus *Margarella* across the Antarctic Polar Front. [SCAR Open Science Conference](#), 1-7 august 2020. Online.