

CURRICULUM VITAE

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Academic information

- 2001** PhD Biological Sciences, Barcelona Autónoma University (UAB), Institute of Marine Sciences (CMIMA), CSIC, Barcelona, Spain.
2002-2005 Postdoctoral Swedish Research Council. Botany Department, Stockholm University, Sweden.
2006 (January-July) Postdoctoral National Institute of Agrarian Investigaçã o das Pescas (IPIMAR), Lisbon, Portugal.
2007 (8 months) Postdoctoral Trygger Foundation, Botany Department, Stockholm University, Sweden.
2008-2010 Postdoctoral Institute of Marine Sciences (CSIC CMIMA), Barcelona, Spain.

Professional information

- 2003-2005** Assistant Professor (Teacher). University of Alicante, Faculty of Biological Sciences. Department Physiology, Genetics and Microbiology, Alicante, Spain.
2006-2008 Assistant Professor. Department of Botany. Stockholm University. Stockholm, Sweden.
2010-2016 Assistant Professor (Teacher). P. Catholic University of Chile, School of Biological Sciences, Department of Molecular Genetics and Microbiology, Santiago, Chile.
2016- Associate Professor (Teacher). P. Catholic University of Chile, School of Biological Sciences, Department of Molecular Genetics and Microbiology, Santiago, Chile.

Research Projects (15 as IP and 20 as Co-IP and Sponsor)

(last 5 years)

- 2021-2025** Co-investigator Fondecyt n° 1210912, CONICYT. "Microbiomics in a Changing World: A focus on the Atacama Desert". IP Jean-Baptiste Ramond (PUC).
2021-2022 Co-investigator Center of Genome Regulation (CGR) ANID/FONDAP/15200002.
2021-2022 Investigador Alterno Proyecto Investigación sobre el Coronavirus (COVID-19) COVID0184. "Relationship between atmospheric conditions and presence of COV-SARS-2 in atmospheric aerosols from different cities in Chile and its incidence in infectivity and lethality of COVID-19 disease". IP Cristobal Galbán Malagón.
2021-2023 Sponsor INACH; DG 06 20. Caracterización de comunidades de virus gigantes y su asociación a fitoplancton en aguas marinas Antárticas y Subantárticas. IP Marianne Buscaglia.
2020-2023 Co-investigator CONICYT PIA- Antarctic Science Research Anillo (ACT192057). "Long-range transport of xenobiotics and microorganisms: Teleconnections and influence on terrestrial ecosystems".
2020-2023 Principal Investigator INACH; RT_04_19. "Identity and effect of RNA and DNA viruses on the dynamics of bacterio- and phytoplankton in Bahía Chile (Antarctica)".
2020-2022 Principal Investigator UC Interdisciplinary Research II190086. "Discovering the identity of the permafrost microbial and viral communities and their impact on water resources in the Aconcagua River basin."
2019-2023 Principal Investigator Fondecyt 1190998 CONICYT. "El Tatio geysers field as a model system to study virus-host interactions and local adaptations".
2019-2022 Co-investigator INACH (RT_05-18). "Temporal dynamics of nitrous oxide and methane in a coastal bay of the Western Antarctic Peninsula (PAO). IP Laura Farías (UdeC).

- 2019-2022** Sponsor FONDECYT Postdoctoral n° 3190749 CONICYT. “Identity and activity of microbes involved in CH₄ cycling in the seasonal upwelling system off the coast of Chile”. IP Christina Ridley (PUC).
- 2019-2022** Sponsor FONDECYT Postdoctoral n° 3190464 CONICYT. “Soil phage ecology in the Atacama desert: an unexplored phenomenon”. IP Karen Jordaan (PUC).
- 2019-2020** Principal Investigator CIMAR25-Fiordos (SHOA-CONA). Identidad y cambios en la estructura de la comunidad viral en respuesta a gradientes ambientales en el canal Trinidad y boca oriental del Estrecho de Magallanes.
- 2017-2020** Principal Investigator ECOS-CONICYT (ECOS160025). “The bacteriophages infecting thermophilic (cyano)bacterial living in the Porcelana hot spring (Northern Patagonia, Chile).
- 2018-2022** Co-investigator Fondecyt 1181656, CONICYT. “Metagenomic analysis of the wastewater virome; an approach to the detection of viral diversity and its impact on public health”. IP Aldo Gaggero (U de Chile).
- 2018-2022** Co-investigator Fondecyt 1181745, CONICYT. “The influence of penguin colonies on the development of tundra communities in the Antarctic Peninsula”. IP M. Angélica Casanova (U Católica de Temuco).
- 2018-2019** Co-investigator CIMAR24-Fiordos (SHOA-CONA). “Nitrification and recycling of nutrients and nitrous oxide in superficial marine waters”. IP Laura Farías (UdeC).
- 2018-2022** Research Associate FONDAF 15110009, CONICYT. "Center for Climate and Resilience Research (CR) 2". IP Maisa Rojas (U de Chile).
- 2017-2019** Co-investigator INACH (RT31-16). “Phylogenetic diversity of microorganisms involved in the iron cycle in Antarctic environments”. IP Gloria Levicán (USACH).
- 2017-2020** Sponsor INACH (RG_09-17). “The rare biosphere’s ecosystem services in the ever-changing Antarctic environments”. IP Sebastián Fuentes (PUC).
- 2017-2020** Co-investigator INACH (RT34-17). “Dynamics of sponge-associated microbial photosynthetic eukaryotes during seasonal transitions in Antarctica”. IP Nicole Trefault (UMayor).
- 2017-2018** Principal Investigator CIMAR23-Fiordos (SHOA-CONA). “Changes in the marine microbial community structure in response to deglaciation in Campo de Hielo Sur, Chile”.
- 2016-2020** Co-investigator FONDECYT 1161232. "Cell growth strategy in filamentous cyanobacteria, *Anabaena* sp. PCC7120 as a model ". IP Mónica Vásquez (PUC).
- 2015-2019** Principal Investigator FONDECYT 1150171. "Metaspring: Genomics, Metagenomics and metaviromics of hot spring microorganisms".
- 2015-2018** Sponsor Postdoctoral FONDECYT 3160424. "Anthropogenic pressure over the Antarctic microbial world: Stability of soil disturbance Communities facing hydrocarbon pollution." IP Sebastián Fuentes (PUC).
- 2015-2018** Principal Investigator CONICYT-NSF International Cooperation Programme DPI20140044. "Shifts in Antarctic marine microbial community in response to deglaciation and ice melting."
- 2016** Co-investigator CIMAR22-Islas Oceánicas (SHOA-CONA). “Biogeochemical implications of the biological fixation of N and C as molecular nitrogen, nitrous oxide and methane at the eastern edge of the subtropical Pacific Ocean”. IP Laura Farías (UdeC).
- 2016** Co-investigator CIMAR22-Islas Oceánicas (SHOA-CONA).”Diversity and distribution of the phytoplanktonic and microbial community with diazotrophic potential in subtropical waters of the South Pacific”. IP I. Masotti (UV).
- 2013-2015** Sponsor Postdoctoral FONDECYT 3140422. The metagenomes and metatranscriptomes of microbial communities at the Arctic and Antarctic Ocean surfaces. IP Beatriz Fernández (PUC).
- 2013-2016** Co-IP FONDECYT 1131037. Cell division and cellular communication in multicellular cyanobacterium, *Anabaena* sp. PCC7120. IP Mónica Vásquez (PUC).
- 2013-2015** Co-IP The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS; 2012-7719-23450-70). Sweden. “Microbial metabolic processes at Arctic and Antarctic ocean surfaces”. IP Pauline Snoeijs (Stockolm University).

Publications (49 in total and 26 as first author or corresponding author)
(25 last 5 years)

- Marco A. Molina-Montenegro*, Carolina Galleguillos, Rómulo Oses, Ian S. Acuña-Rodríguez, Paris Lavín, Jorge Gallardo-Cerda, Cristian Torres-Díaz, **Beatriz Díez**, Gonzalo E. Pizarro, Cristian Atala. 2016. Adaptive

phenotypic plasticity and competitive ability deployed under a climate change scenario may promote the invasion of *Poa annua* in Antarctica. Biological Invasions. 1-16. doi: 10.1007/s10530-015-1033-x. IP: 2.586 Citations:19

- Moreno-Pino, Mario, De la Iglesia, Rodrigo; Valdivia, Nelson; Henríquez, Carlos; Galán, Alex; **Díez, Beatriz**; Trefault, Nicole. 2016. Variation in coastal Antarctic microbial community composition at sub-mesoscale: spatial distance or environmental filtering? FEMS Microbiology Ecology. doi:10.1093/femsec/fiw088. IP:3.568 Citations:21
- Dinka Mandakovic, Carla Trigo, Derly Andrade, Brenda Riquelme, Gabriela Gómez-Lillo, Katia Soto-Liebe, **Beatriz Díez**, Mónica Vásquez. 2016. CyDiv, a conserved and novel filamentous Cyanobacteria cell division protein, is involved in septum localization and cell tagging. Frontiers in Microbiology. doi: 10.3389/fmicb.2016.00094. IP: 3.989 Citations:8
- Beatriz Díez***, Johan A. A. Nylander, Karolina Ininbergs, Christopher L. Dupont, Andrew E. Allen, Shibu Yooseph, Douglas B. Rusch, Birgitta Bergman. 2016. Metagenomic analysis of the Indian Ocean picocyanobacterial community: structure, potential function and evolution. PLOS ONE. doi.org/10.1371/journal.pone.0155757. IP: 3.234 Citations:13
- Josefa Verdugo, Ellen Damm, Pauline Snoeijs, **Beatriz Díez** and Laura Farías*. Climate relevant trace gases (N₂O and CH₄) in the Eurasian Basin (Arctic Ocean). 2016. Deep-Sea Research Part I. 117:84-94. <http://dx.doi.org/10.1016/j.dsr.2016.08.016>. IP:2.384 Citations:5
- M. Estrella Alcamán, Jaime Alcorta, Birgitta Bergman, Mónica Vásquez, Martin Polz, **Beatriz Díez***. 2017. Physiological and gene expression responses to nitrogen regimes and temperatures in *Mastigocladus* sp. strain CHP1, a predominant thermotolerant cyanobacterium of hot Springs. Systematic and Applied Microbiology. 40:102-113. doi: 10.1016/j.syapm.2016.11.007. IF:3.899 Citations:10
- Mariam I. Hamisi*, Charles Lugomela, Thomas J. Lyimo, Birgitta Bergman and **Beatriz Díez**. 2017. Plankton composition, biomass, phylogeny and toxin genes in Lake Big Momela, Tanzania. African Journal of Aquatic Science. 42:109-121. doi.org/10.2989/16085914.2017.1334621. IP:0.670 Citations: 3
- M. Estrella Alcamán-Arias, Laura Farías, Josefa Verdugo, Tomás Alarcón-Schumacher, **Beatriz Díez***. 2018. Microbial activity during a coastal summer phytoplankton bloom on the Western Antarctic Peninsula in late summer. FEMS Microbiology Letters. 365 (10): fny090. doi.org/10.1093/femsle/fny090. IF: 1.735 Citations: 5
- Jaime Alcorta, Sebastián Espinoza, Tomeu Viver, María Estrella Alcamán, Nicole Trefault, Ramon Rosselló-Móra, **Beatriz Díez***. 2018. Temperature modulates *Fischerella thermalis* ecotypes in Porcelana hot spring. Systematic and Applied Microbiology. 44 (6): 531-543. doi.org/10.1016/j.syapm.2018.05.006. IF:3.899 Citations: 6
- Beatriz Fernández-Gómez, **Beatriz Díez***, Martin Polz, José Ignacio Arroyo, Fernando D. Alfaro, Germán Marchandon, Cynthia Sanhueza, Laura Farías, Nicole Trefault, Pablo A. Marquet, Marco A. Molina-Montenegro, Peter Sylvander, Pauline Snoeijs-Leijonmalm. 2018. Bacterial community structure in a sympagic habitat expanding with global warming: brackish ice brine at 85-90 °N. ISME J. 13(2):316-333. DOI:[10.1038/s41396-018-0268-9](https://doi.org/10.1038/s41396-018-0268-9). IF: 9.6 Citations: 5
- Sergio Guajardo-Leiva, Carlos Pedrós-Alió, Oscar Salgado, Fabián Pinto, **Beatriz Díez***. Active Crossfire Between Cyanobacteria and Cyanophages in Phototrophic Mat Communities Within Hot Springs. Frontiers Microbiology. 2018. Frontiers Microbiology. 9: 2039. Doi: 10.3389/fmicb.2018.02039. IF:4.019 Citations: 4
- M.E. Alcamán-Arias, C. Pedrós-Alió, J. Tamames, C. Fernández, D. Pérez-Pantoja, M. Vásquez and **B. Díez***. Diurnal changes in active carbon and nitrogen pathways along the temperature gradient in Porcelana hot spring microbial mat. 2018. Frontiers in Microbiology. 9:2353. [Doi.org/10.3389/fmicb.2018.02353](https://doi.org/10.3389/fmicb.2018.02353). IF:4.019 Citations: 8
- S. Fuentes, J. I. Arroyo, S. Rodríguez-Marconi, I. Masotti, T. Alarcón-Schumacher, M. F. Polz, N. Trefault, R. de la Iglesia, **B. Díez***. 2018. Summer phyto- and bacterioplankton communities during low and high productivity scenarios in the Western Antarctic Peninsula. Polar Biology. 1-11. doi.org/10.1007/s00300-018-2411-5. IF:1.954 Citations: 2
- C. Urrejola, J. Alcorta, L. Salas, M. Vásquez, M. F. Polz, R. Vicuña, **B. Díez***. 2019. Genomic Mechanisms for Desiccation Tolerance and EPS Biosynthesis in the Atacama's Cyanobacterium *Gloeocapsopsis* sp. 1H9. Frontiers in Microbiology, section Evolutionary and Genomic Microbiology. doi.org/10.3389/fmicb.2019.00950. IF: 4.019 Citations: 4

- T. Alarcón-Schumacher, S. Guajardo-Leiva, J. Antón, **B. Díez***. Elucidating Viral Communities During a Phytoplankton Bloom on the West Antarctic Peninsula. 2019. *Frontiers in Microbiology*, Extreme Microbiology. doi: 10.3389/fmicb.2019.01014. IF: 4.019 Citations: 6
- Uribe-Lorio, Lorena; Brenes, Laura; Hernández-Ascencio, Walter; Mora-Amador, Raúl; González, Gino; Ramírez-Umaña, Carlos; **Díez, Beatriz**; Pedrós-Alió, Carlos. 2019. The influence of temperature and pH on community composition of microbial mats in hot springs from Costa Rica. *MicrobiologyOpen*. 00:e893. DOI: 10.1002/mbo3.893. IF:2.682 Citations: 4
- Jaime Alcorta, Pablo Vergara, Laura A. Antonaru, María E. Alcamán-Arias, Dennis J. Nürnberg, **Beatriz Díez***. 2019. *Fischerella thermalis*: a model organism to study thermophilic diazotrophy, photosynthesis and multicellularity in Cyanobacteria. *Extremophiles*. 23(6):635-647. <https://doi.org/10.1007/s00792-019-01125-4>. IF:2.046 Citations: 2
- Paulina B. Ramírez, Sebastián Fuentes, **Beatriz Díez**, Ignacio Vargas, Carlos A. Bonilla. 2020. Climate and labile organic carbon fractions drive specific microbial community patterns under different soil types and land uses. *Soil Biology & Biochemistry*. 141: 107692 doi.org/10.1016/j.soilbio.2019.107692 IF:5.290 Citations: 8
- Juan Carlos Fernández Cadena, Paula Ruíz-Fernández, Telmo Eduardo Fernández-Ronquillo, **Beatriz Díez**, Nicole Trefault, Santiago Andrade, Rodrigo de la Iglesia*. 2020. Detection of sentinel bacteria in mangrove sediments contaminated with heavy metals. *Marine Pollution Bulletin*. 150: 110701 doi 10.1016/j.marpolbul.2019.110701. IF:3.782. Citations: 5
- Carlos Galarce, Diego Fischer, **Beatriz Díez**, Ignacio T. Vargas, Gonzalo E. Pizarro*. 2020. Dynamics of biocorrosion in copper pipes under actual drinking water conditions. *Water*. 12(4): 1036. <https://doi.org/10.3390/w12041036>. IF:2.524. Citations: 0
- Sergio Guajardo-Leiva, Jonas Chnaiderman, Aldo Gaggero*, **Beatriz Díez***. 2020. Metagenomic insights into the sewage RNA virosphere of a large city. *Viruses*. 12, 1050; doi:10.3390/v12091050. IF: 3.816
- Jaime Alcorta, Tomás Alarcón-Schumacher, Oscar Salgado, **Beatriz Díez***. 2020. Taxonomic novelty and distinctive genomic features of hot spring cyanobacteria. *Frontiers in Genetics*, section Evolutionary and Population Genetics. <https://doi.org/10.3389/fgene.2020.568223>. IF: 4.019
- Manuel Ampuero, Santiago Valenzuela, Fernando Valiente-Echeverría, Ricardo Soto Rifo, Gonzalo P. Barriga, Jonás Chnaiderman, Cecilia Rojas, Sergio Guajardo-Leiva, **Beatriz Díez** and Aldo Gaggero*. 2020. SARS-CoV-2 Detection in Sewage in Santiago, Chile - Preliminary results. medRxiv preprint. doi.org/10.1101/2020.07.02.20145177
- Jaime Alcorta, **Beatriz Díez***. Las cianobacterias y el cambio climático. Capítulo Libro Francisco Bozinovic. El cambio climático y la biología funcional de los organismos. 2020. Ediciones UC.
- Maria Estrella Alcamán-Arias, Sebastián Fuentes-Alburquenque, Pablo Vergara-Barros, Jerónimo Cifuentes-Anticevic, Josefa Verdugo, Martín Polz, Laura Farías, Carlos Pedrós-Alió, **Beatriz Díez***. 2021. Coastal bacterial community response to glacier melting in the Western Antarctic Peninsula. *Microorganisms*. 9: 88. doi.org/10.3390/microorganisms9010088. IF: 4.167

Conferences and congress (most relevant in the last 3 years)

- Unveiling Microbial Functional Capacities and Activities in the N Cycle at the Antarctic Summer Coastal Waters. Oral presentation. Alcamán M.E., Marchandon G., Farías L. and **Díez B.** FEMS 2017. 7th Congress of European Microbiologista. 9-13 Julio 2017. Valencia, España.
- Viral fraction changes during a late summer phytoplankton bloom on West Antarctic Peninsula (WAP). Oral presentation. Alarcón-Schumacher T, Guajardo-Leiva S, **Díez B.** IX Latin American Congress on Antarctic Science 2017.
- Unveiling new viral-host associations in thermophilic photoautotrophic microbial mats. **Beatriz Díez** and Sergio Guajardo-Leiva. Oral presentation. 14th International meeting on thermophile biology. Thermophiles 2017. August 27-September 1. Skakuza Conference Centre, Kruger National Park, South Africa.
- Marine observatory of Chile Bay: a model study of coastal microbial ecology and biogeochemistry in Antarctica. **Díez**

- B**, Alcamán ME, Guajardo S, Alarcón-Schumacher T, Cifuentes J, Fuentes Alburquenque S, Farías L. Oral presentation. SOMICH XXXIX Congreso Chileno de Microbiología. La Serena. Chile. 14-17 Noviembre 2017.
- Primary production and inorganic nitrogen uptake by active microbial community in the central Arctic Ocean (4-89.5°S). Oral presentation. Alcamán M.E., Farías L. and **Díez B**. SOMICH XXXIX Congreso Chileno de Microbiología. La Serena. Chile. 14-17 Noviembre 2017.
 - Identity and expression of Proteorhodopsin genes in Chile Bay, Antarctica. Oral presentation. Jerónimo Cifuentes, Alcamán M.E. and **Díez B**. SOMICH XXXIX Congreso Chileno de Microbiología. La Serena. Chile. 14-17 November 2017.
 - Effect of temperature on the ecology and biogeochemistry of photoautotrophic microbial mat communities in termal systems. **Beatriz Díez**, Carlos Pedrós-Alió, Estrella Alcamán, Jaime Alcorta, Sergio Guajardo. Oral presentation. Astrobiology 2017. 26 Noviembre -1 Diciembre. Coyhaique, Chile.
 - Microbial ecology and biogeochemistry of hot springs and marine polar environments. **Beatriz Díez** *Invited speaker. EMBO Workshop “Exploring genomic landscapes”. 10 - 12 January 2019. San Pedro de Atacama, Chile.
 - Microbial communities in extreme environments. **Beatriz Díez*** Invited speaker. EMBO Workshop “Integrative Biology: From molecules to ecocystems in extreme environments”. 22 - 25 April 2019. Santiago, Chile.
 - Revisiting the taxonomy of Cyanobacteria by wide genomic analyses. Jaime Alcorta & **Beatriz Díez**. Genomic Standards Consortium meeting. Advances in sequence and function. Vienna. May 22-24. 2019.
 - Identidad y variabilidad temporal de la actividad amonio-oxidante in Bahía Chile, Antártica. María Estrella Alcamán Arias, Laura Farías, **Beatriz Díez**. Isme Latinoamerican Valparaiso, Chile. 11-13 September 2019.
 - Respuesta consistente de las comunidades microbianas frente a hidrocarburos en suelos antárticos. Sebastián Fuentes, **Beatriz Díez**. Isme Latinoamerican Valparaiso, Chile. 11-13 September 2019.
 - Microorganismos de ambientes extremos: rol ecológico y potencial Biotecnológico. **Beatriz Díez**. Seminario internacional Biotecnología para la salud. 4-6 March. Lima, Perú. 2020.
- Sergio Guajardo, **Beatriz Díez**. Wastewater viruses in a big city. ASM Microbe online. July 22. 2020

Doctorate and Master Thesis supervised (last 5 years)

- María Estrella Alcamán PhD. Effects of temperature on carbon and nitrogen metabolism of thermophilic cyanobacteria: rates, strategies and gene expression. P. Universidad Católica de Chile. 2016
- Sergio Guajardo PhD. Viral communities associated with thermophilic cyanobacteria in the Porcelain hydrothermal system. P. Universidad Católica de Chile. 2019
- José Ignacio Arroyo PhD. Thermodynamics, metabolic ecology, and microbial community genomics. P. Universidad Católica de Chile. 2020
- Jerónimo Cifuentes Master Thesis. Dynamics and identity of proteorodopsin-bearing bacteria in coastal waters of Bahía Chile, Antarctica. U de Chile. 2019
- Diego Segura Master Thesis. Determination of the role of *Pygoscelis antarctica* penguins on the community of diazotrophic bacteria in soils of Decepción Island, Antarctica. U de Chile. 2020

Postdoctoral supervised (last 5 years)

- 2014-2016 Beatriz Fernández Gómez. FONDECYT Postdoctorado. n° 3140422.
- 2015-2018 Sebastián Fuentes Alburquenque. FONDECYT Postdoctorado. n°3160424.
- 2019-2022 Christina Ridley. FONDECYT Postdoctorado. n°3190749.
- 2019-2022 Karen Jordaan. FONDECYT Postdoctorado. n°3190464.

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https://www.researchgate.net/profile/Beatriz_Diez

Total citations: 3164

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