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Short Bio

I'm Argentinean PhD student at the Centre for the Study of Marine Systems (CESIMAR) Patagonian National Research Centre (CENPAT-CONICET), and teaching assistant at National University of Patagonia San Juan Bosco. I've been working here since April 2015. My general research interest is develop solutions for the design of high quality Biodiversity/Oceanography information systems based on Semantic Web technologies.

Research Interests

- Applications of Semantic Web technologies for Biodiversity/Oceanography
- Knowledge Graphs
- Knowledge representation
- Semantic representation of biodiversity data
- Development of domain specific ontologies

Education

2015–2019[†] PhD Student, Computer Science, National University of the South (UNS), Argentina.
Thesis Title: Integrating Biodiversity and Oceanography datasets using semantic web technologies.
Supervisors: PhD. Pablo Fillottrani and PhD. Claudio Delrieux

2002–2006 B.Sc., Computer Science, National University of Patagonia San Juan Bosco, Argentina

[†] Indicates expected

Teaching Assistant

2015-Now Algorithms and programming II National University of Patagonia San Juan Bosco, Argentina

Selected Honours and Awards

2019 Young Research Award 2019: Award of 5000 € awarded by GBIF to Young Researchers that encourage innovation in the use and mobilization of shared biodiversity data through the GBIF network.

2015–2020 National Scientific and Technical Research Council (CONICET), PhD. Studentship

Publications

Published Journal Articles

- [1] Snowden, Derrick P, Tsontos, Vardis, Handegard, Nils Olav, **Zárate, M.**, O'Brien, Kevin M, Casey, Kenneth S, Smith, Neville, Sagen, Helge, Bailey, Kathleen, Lewis, Mirtha and others (2019). Data Interoperability Between Elements of the Global Ocean Observing System. *Frontiers in Marine Science*, 6, 442. DOI: [10.3389/fmars.2019.00442](https://doi.org/10.3389/fmars.2019.00442)
- [2] **Zárate, M.**, Buckle, C., Mazzanti, R., Samec, G. (2019). Improving Open Science Using Linked Open Data: CONICET Digital Use Case. *Journal of Computer Science & Technology*, 19, 45–54. DOI: [10.24215/16666038.19.e05](https://doi.org/10.24215/16666038.19.e05)
- [3] **Zárate, M.**, Lewis, M. (2016). Estimate of the Anesthesia Stage in Southern Elephant Seals using WEKA Data Mining Tool. *International Journal of Applied Information Systems (IJ AIS)*, 95, 48–52. DOI: [10.5120/ijais2016451603](https://doi.org/10.5120/ijais2016451603)

Manuscript submitted for publication

- [1] **Zárate, M.**, Braun G., Fillottrani P., Delrieux C., & Lewis, M. (2018). BiGe-Onto: An Ontology-Based System for Managing Biodiversity and Biogeography Data.

Conferences

- [1] **Zárate, M.**, Rosales, P., Braun, G., Lewis, M., Fillottrani, P., & Delrieux, C. (2019). OceanGraph: Some Initial Steps Toward a Oceanographic Knowledge Graph, 1th Iberoamerican Knowledge Graphs and Semantic Web Conference (KGSWC 2019). Villa Clara, Cuba: DOI: [10.1007/978-3-030-21395-4_3](https://doi.org/10.1007/978-3-030-21395-4_3)
- [2] **Zárate, M.**, Rosales, P., Fillottrani, P., Delrieux, C., & Lewis, M. (2018). Oceanographic Data Management: Towards the Publishing of Argentine Oceanographic Campaigns as Linked Data, 12th Alberto Mendelzon International Workshop on Foundations of Data Management. Cali, Colombia: URL: ceur-ws.org/Vol-2100/paper-20
- [3] **Zárate, M.**, Braun, G., & Fillottrani, P. (2017). Adding Biodiversity Datasets from Argentinian Patagonia to the Web of Data, 2nd International Workshop on Semantics for Biodiversity co-located with 16th International Semantic Web Conference 2017. Vienna, Austria: URL: ceur-ws.org/Vol-1933/paper-6
- [4] **Zárate, M.**, Buccella, A., & Fillottrani, P. (2017). BioOnto: Towards an Integration of Biological and Biogeographic Data, 16th Joint Ontology Workshops 2017, Bozen-Bolzano, Italy. URL: ceur-ws.org/Vol-2050/ODLS-paper-6
- [5] **Zárate, M.**, Braun, G., & Almonacid, S. (2017). Transforming Biodiversity Data in Linked Data, 19th Workshop of Researchers in Computer Science, Buenos Aires, Argentina. URL: [ISBN-978-987-42-5143-5](https://doi.org/10.1007/978-987-42-5143-5)
- [6] **Zárate, M.**, Lewis, M. (2016). Estimación del Plano Anestésico en Elefante Marinos del Sur Utilizando Técnicas de Machine Learning, 12th Argentine Congress of Computer Science, San Luis, Argentina. URL: sedici.unlp.edu.ar/handle/10915/56749

Posters

- [1] **Zárate, M.**, Lewis, M., Fillottrani, P. & Delrieux, C. (2018). Improving the Quality of Biodiversity Data Through Semantic Web Standards, 10th International Conference on Ecological Informatics (pp. 245–246).

Jena, Germany. URL: [Proceedings](#)

- [2] **Zárate, M.**, Braun, G., & Fillottrani, P. (2017). Adding Biodiversity Datasets from Argentinian Patagonia to the Web of Data, 16th International Semantic Web Conference 2017 (pp. 434–441). Vienna, Austria. URL: ceur-ws.org/Vol-1963/paper584

Contributed Presentations

- [1] Samec, G., Diez Maria E., **Zárate, M.**, Buckle, C., Lima, J., Jaramillo, R., Sanchez A., & Mazzanti, R., (2019). Aplicaciones Informáticas para el Estudio de Biodiversidad de Poliquetos Espiñonidos en los Golfos Nordpatagónicos, 21th Workshop of Researchers in Computer Science, San Juan, Argentina. URL: [ISBN 978-987-3984-85-3](#)
- [2] Mazzanti, R., **Zárate, M.**, Samec, G., Buckle, C. (2018). Integración de repositorios semánticos: un camino hacia los datos abiertos enlazados , 8th BIREDIAL ISTECS 2018 Conference, Lima, Peru. URL: [Proceedings](#)
- [3] Mazzanti, R., **Zárate, M.**, Samec, G., Buckle, C. (2018). Infraestructura de Acceso a Datos Primarios con Aporte de Semántica en Repositorios Digitales , 20th Workshop of Researchers in Computer Science, Buenos Aires, Argentina. URL: [ISBN 978-987-3619-27-4](#)
- [4] Delrieux, C., Barry, D., Stickar, R. Mazzanti, R. Buckle, C. Cura, R. & **Zárate, M.** (2015). Classification of information in Big Data through the use of artificial intelligence techniques and social network analysis, 17th Workshop of Researchers in Computer Science, Salta, Argentina, URL: [ISBN-978-987-42-5143-5](#)

Research Projects

2018–2019 PI-1424 *INFRAESTRUCTURA DE ACCESO A DATOS PRIMARIOS CON APOORTE DE SEMÁNTICA EN REPOSITORIOS DIGITALES*. Funded by the secretary of science and technology UNPSJB. Director: Carlos Buckle.

2015–2018 PGI-UNS (24/N038) *Interoperabilidad Semántica: aplicaciones para la Web y E-Gobierno*. Funded by Departamento de Ciencias e Ingeniería de la Computación. Universidad Nacional del Sur (UNS). Director: Pablo Fillottrani.

2016–2017 FI_038/14 *CLASIFICACIÓN DE INFORMACIÓN EN BIGDATA MEDIANTE LA UTILIZACIÓN DE TÉCNICAS DE INTELIGENCIA ARTIFICIAL Y ANÁLISIS DE REDES SOCIALES*. Funded by the secretary of science and technology UNPSJB. Director: Claudio Delrieux.