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Education

- Ph.D. Marine Biology, University of California, San Diego, 2014.
 - *Dissertation*: “Metagenomics approaches to unlock the microbial diversity of a hypersaline microbial ecosystem”.
- Licenciatura in Molecular Biotechnology Engineering, Universidad de Chile. Santiago, Chile. 2007

Professional Experience

- June 2014–present. Assistant Professor. Centro de Genómica y Bioinformática, Facultad de Ciencias, Universidad Mayor. Santiago, Chile.
- September 2008–May 2014. Graduate Student Researcher. Scripps Institution of Oceanography, University of California, San Diego. USA.
- July 2004–August 2008. Project Engineer. Laboratory of Bioinformatics and Mathematics of the Genome. Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile. Santiago, Chile.
- January 2004–March 2004. Research assistant, group of Dr. Mikhail Matz. Whitney Laboratory, University of Florida. St. Augustine, FL. USA.
- October 2003–December 2003. Project Engineer. Laboratory of Bioinformatics and Mathematics of the Genome. Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile. Santiago, Chile.
- January 2003–July 2003. Research assistant, group of Dr. Mikhail Matz. Whitney Laboratory, University of Florida. St. Augustine, FL. USA.
- December 2001–October 2003. Research assistant. Laboratory of Bioinformatics and Gene Expression. INTA, Universidad De Chile. Santiago, Chile.

Fields of Research Interest

Metagenomics, Microbial Genomics, Bioinformatics, Comparative Genomics, Environmental Microbiology.

Research

Peer-Reviewed Publications

17. Tang, X., Li, J., Millán-Aguíñaga, N., Zhang, J.J., O'Neill, E., Ugalde, J.A., Jensen, P., Mantovani, S., Bradley, M. (2015). Identification of Thiotetronic Acid Antibiotic Bisynthetic Pathways by Target-directed Genome Mining. *ACS Chemical Biology*. *Accepted*.

16. Martin, L.J., Adams, R., Bateman, A., Bik, H.M., Haws, J., Hird, S.M., Hughes, D., Kembel, S.W., Kinney, K., Kolokotronis, S., Levy, G., McClain, C., Meadow, J.F., Medina, R.F., Mhuireach, G., Moreau, C.S., Munshi-South, J., Nichols, L., Palmer, C., Popova, L., Schal, C., Taeubel, M., Trautwein, M., Ugalde, J.A., Dunn, R.R. (2015). Evolution in the Indoor Biome. *Trends in Ecology and Evolution*. 30(4):223-232.
15. Plominsky, A.M., Delherbe, N., Ugalde, J.A., Allen, E.E., Blanchet, M., Ikeda, P., Santibañez, Hanselmann, K., Ulloa, O., De La Iglesia, R., von Dassow, P., Astorga, M., Gálvez, M.J., González, M.L., Henríquez-Castillo, C., Vaultot, D., Lopes do Santos, A., van den Engh, G., Gimpel, C., Bertoglio, F., Delgado, Y., Docman, F., Elizondo-Patrone, C., Narváez, S., Sorroche, F., Rojas-Herrera, M., Trefault, N. (2014). Metagenome Sequencing of the Microbial Community of a Solar Saltern Crystallizer Pond. *Genome Announc.* 2(6): e01172-14. doi:10.1128/genomeA.01172-14.
14. Valenzuela, C., Ugalde, J.A., Mora, G.C., Alvarez, S., Contreras, I., Santiviago, C.A. (2014). Draft genome sequence of *Salmonella enterica* serovar Typhi strain STH2370. *Genome Announc.* 2(1): e00104-14. doi:10.1128/genomeA.00104-14.
13. Malfatti, F., Turk, V., Tinta, T., Mozetic, P., Manganelli, M., Samo, T., Ugalde J.A., Kovac, N., Stefanelli, M., Antonioli, M., Fonda-Umani, S., Del Negro, P., Cataletto, B., Hozic Zimmermann, A., Ivošević Denardi, N., Zutić, V., Svetličić, V., Mišić Radić, T., Radić, T., Fuchs D., Azam, F. (2014). Microbial mechanisms coupling carbon and phosphorous cycles in phosphorous-limited northern Adriatic Sea, and response to phosphorous enrichment. *Science of the Total Environment*. 470:1173-1183.
12. Ugalde, J.A., Narasingarao, P., Kuo, S., Podell, S., Allen, E.A. (2013). Draft Genome Sequence of *Candidatus Halobonum tyrrellensis* Strain G22, Isolated from the Hypersaline Waters of Lake Tyrrell, Australia. *Genome Announc.* 1(6):e01001-13. doi:10.1128/genomeA.01001-13.
11. Podell, S., Emerson, J., Jones, C.M., Ugalde, J.A., Welch, S., Heidelberg, K.B., Banfield, J.F., Allen, E.E. (2013). Seasonal Fluctuations in Ionic Concentrations Drive Microbial Succession in a Hypersaline Lake Community. *ISME Journal*. Advance online publication, December 12, 2013; doi:10.1038/ismej.2013.221.
10. Kharbush, J., Ugalde J.A., Hogle, S., Allen, E.E., Aluwihare, L. (2013). Diversity of composite bacterial hopanoids and their microbial producers across oxygen gradients in the water column of the California Current. *Applied and Environmental Microbiology*. Published ahead of print, doi:10.1128/AEM.02367-13.
9. Ugalde, J.A., Gallardo, M.J., Belmar, C., Munoz, P., Ruiz-Tagle, N., Ferrada- Fuentes, S., Espinoza, C., Allen, E.E., Gallardo, V.A. (2013). Microbial life in a Fjord: Metagenomic analysis of a microbial mat in Chilean Patagonia. *PLoS ONE* 8(8): e71952
8. Podell, S., Ugalde, J.A., Narasingarao, P., Banfield, J.F., Heidelberg, K.B., Allen, E.E. (2013). Assembly-Driven Community Genomics of a Hypersaline Microbial Ecosystem. *PLoS ONE* 8(4): e61692.
7. Ugalde, J.A., Podell, S., Narasingarao P., Allen, E.E. (2011). Xenorhodopsins, an enigmatic new class of microbial rhodopsins horizontally transferred between archaea and bacteria. *Biology Direct* 6:52.
6. Narasingarao, P., Podell, S., Ugalde, J.A., Brochier-Armanet, C., Emerson, J.B., Brocks, J.J., Heidelberg, K.B., Banfield, J.F., Allen, E.E. (2011). De novo metagenomic assembly reveals abundant novel major lineage of Archaea in hypersaline microbial communities. *ISME Journal*. Advance online publication, June 30, 2011; doi:10.1038/ismej.2011.78.
5. *Levican, G., *Ugalde, J.A., Ehrenfeld N., Maass, A., Parada, P. (2008). Comparative genomic analysis of carbon and nitrogen assimilation mechanisms in three indigenous bioleaching bacteria: predictions and validations. *BMC Genomics* 9:581.
4. Chang, B.S., Matz, M.V., Ugalde, J.A. (2005). Applications of ancestral protein reconstruction in understanding protein function: GFP-like proteins. *Methods in Enzymology* 395: 652-670.

3. Matz, M.V., Labas, Y.A. and Ugalde, J. (2005). Evolution of function and color in GFP- like proteins. In: *Green Fluorescent Protein: Properties, Applications and Protocols*, 2nd Ed. (M. Chalfie and S.R. Kain eds.) Wiley press.
2. Ugalde, J.A., Chang, B.S., Matz, M.V. (2004). Evolution of coral colors recreated. *Science* 305:1433.
1. Shagin, D.A., Barsova, E.V., Yanushevich, Y.G., Fradkov, A.F., Lukyanov, K.A., Labas, Y.A., Semenova, T.N., Ugalde, J.A., Meyer, A., Nunes, J.M., Widder, E.A., Lukyanov, S.A., Matz, M.V. (2004). GFP-like proteins as ubiquitous Metazoan superfamily: evolution of functional features and structural complexity. *Molecular Biology and Evolution* 21:841-850.

Grants

- Fondecyt Iniciación 11140666. *Development of reproducible bioinformatics workflows for comparative microbial genomics*. 2014-2017. (Principal Investigator).
- Amazon Web Services (AWS) Research Grant. US\$15,000 for computer analysis using the AWS infrastructure. 2013-2015.
- Instituto Antártico Chileno (INACH). Project RG.31.15. *Diversity and inter-annual variability of eukaryote microbial communities in Antarctic coastal waters*. 2016-2018. (Principal Investigator).

Fellowships, & Awards

- 2011. Zobel Fellowship Award. US\$2000
- April 2011-June 2011. Latin American Studies Fellowship, Scripps Institution of Oceanography, UCSD.
- March 2011. National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)/National Institute on Aging (NIA) scholarship to attend the Keystone Symposia on Microbial Communities as Drivers of Ecosystem Complexity, March 25-30, 2011. Beaver Run Resort, Breckenridge, Colorado, USA.
- September 2008-August 2012. Fulbright-Conicyt fellowship for graduate studies.
- August 2004. Best oral presentation at the XXI Annual congress of the National Biochemistry Student Association, in Valdivia, Chile.
- January-April 2003. Latin American Exchange Program. Funding for a research experience as an undergraduate student at the Whitney Laboratory of the University of Florida. The Whitney Laboratory and the Grass Foundation provided the funding.

Invited Talks

- Coloquios de Microbiología, August 25, 2014. Concepcin, Chile.
- I Simposio en Bioinformática Integrativa, 16 Julio, 2014. Santiago, Chile.
- Illumina Users Meeting. May 29, 2014. San Diego, California.
- XXXV Annual Meeting of the Chilean Microbiology Society. November, 26-30, 2013. Marbella, Chile.

Oral presentations

- Ugalde, J.A., Podell, S., Banfield, J., Allen, E.E. High-resolution community genomics of a hypersaline microbial ecosystem. ISCB-Latin America, March 17- 21, 2012. Santiago, Chile.
- Ugalde, J.A., Chang, B.W., Matz, M.V. Reconstruction of ancestral proteins: Application in coral fluorescent proteins. XLVIII Annual Meeting of the Biological Society of Chile. October 13-16, 2005. Pucon, Chile.
- Ugalde, J.A., Chang, B.W., Matz, M.V. Evolutionary reconstruction of coral colors. XXI Annual Congress of the National Biochemistry Student Association. August 25-28, 2004. Valdivia, Chile.
- Ugalde, J.A., Kelmanson, I., Bulina, M., Bielawski, J.P., Matz, M.V. Natural Selection in fluorescent proteins from corals and corallimorphs. XI Annual Conference of the Society for Molecular Biology and Evolution. Junio 25-29, 2003. Newport Beach, CA. USA.
- Ugalde, J.A., Mendez, M., Gonzalez, M. Global analysis of gene expression in *Saccharomyces cerevisiae*: search for patterns of spatial and temporal correlations. II Workshop in Bioinformatics. October 16-17, 2003. Santiago, Chile.

Teaching

- Co-instructor, Environmental Microbiology (Graduate level). Facultad de Ciencias, Universidad Mayor. 2014.
- Teaching Assistant, Introduction to Computing at SIO (SIO232). Fall 2013.
- Teaching Assistant, Environmental Biology (ESYS101). Fall 2012.
- Co-instructor, Environmental Microbiology. July 2010. The class was taught as part of the Academic Connections program, at UC San Diego.
- Teaching Assistant. Course *Ecology and Diversity of Marine Microorganisms* (ECODIMM-VI). January 2010. Summer course for graduate and post-graduate students. Universidad de Concepcion, Dichato, Chile.

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