### Juan A. **Ugalde**

- Garcia Moreno 797-2, Ñuñoa. Santiago, Chile

### **EDUCATION**

Ph.D. Marine Biology. Scripps Institution of Oceanography, University of California, San Diego. Dissertation: "Metagenomics approaches to unlock the microbial diversity of a hypersaline microbial ecosystem". PI: Eric E. Allen

B.Sc. Molecular Biotechnology Engineering. Facultad de Ciencias, Universidad de Chile.

### Professional Experience

April 2022 Assistant Professor, Center for Bioinformatics and Integrative Biology, Facultad Ciencias de la

Present

Present

January 2022

### Bioinformatics Strategy Consultant, PHAGE TECHNOLOGIES, Santiago, Chile

VIDA, UNIVERSIDAD ANDRES BELLO, Santiago, Chile

- Support the scientific teams with bioinformatics and genomics analysis strategies.
- > Provide guidance and hands-on support to the bioinformatics team in areas such as microbial genomics and bioinformatics pipeline development.

January 2021

Adjunct Researcher, C+, RESEARCH CENTER IN TECHNOLOGIES FOR SOCIETY, SCHOOL OF ENGINEERING, UNIVERSIDAD DEL DESARROLLO, Santiago, Chile

March 2022

#### May 2021 December 2021

#### Lead Bioinformatician, TINY HEALTH, INC, Santiago, Chile | San Francisco, CA

- Implementation of bioinformatics pipelines for the analysis of metagenomic datasets.
- Data analysis and visualization of microbiome information.

#### January 2020 April 2021

#### Senior Bioinformatician, PHYLAGEN, INC, San Francisco, CA

- > Implementation of ETL pipelines for data analysis and visualization of unstructured microbiome and qPCR result information.
- General bioinformatic support, including primer evaluation and analysis of NGS runs.
- Development of bioinformatic pipelines for processing of microbiome datasets.
- Data analysis and visualization of results to generate internal and external reports, as well as internal dashboards using the Databricks platform.

July 2019

Adjunct Researcher), MILLENIUM INITIATIVE FOR COLLABORATIVE RESEARCH ON BACTERIAL RESISTANCE (MICROB-R), Santiago, Chile

December 2021

### March 2019

### Co-Founder and Scientific Advisor, FOOD LAB Spa, Santiago, Chile

Present

 Consulting work with food industry partners on using microbial genomics approaches to improve food quality.

#### January 2019 Present

#### Bioinformatics Independent Contractor, , Santiago, Chile

- Consulting and contract work for companies and universities in the US, Australia, and Chile, on genomics and bioinformatic analysis.
- Data analysis and report generation of different genomics experiments (microbiome, GBS, microbial genomics).

#### January 2019 July 2017

### Director of Bioinformatics, UBIOME, INC., Santiago, Chile | San Francisco, CA. USA.

- > Led multiple teams, including data science, data engineering, algorithm development, and data quality, with a total of 14 people.
- ➤ Led the development of the bioinformatics component of two novel diagnostics kits based on microbiome sequencing information.
- ➤ Provide technical expertise for the development of new products to the R&D wet lab.
- **>** Led the developing of quality metrics and visualization dashboards for the production laboratory.
- > Support the bioinformatics and data analysis needs of the executive team (VPs, CTO, CEO).

### February 2017 July 2017

#### Bioinformatics Group Lead, UBIOME, INC., Santiago, Chile.

- Led a three person team, developing internal bioinformatic pipelines, and supporting the R&D wet lab
- > Support internal and external collaborations with academic and industry partners.

### February 2017

### Assistant Professor, Centro de Genética y Genómica. Facultad de Medicina, Universidad del Desarrollo, Santiago, Chile

January 2016

- > Fondecyt Iniciación Grant (PI).
- > Co-PI on 3 Fondecyt Regular Grants.
- ➤ Led of a research group of 2 bioinformaticians, 1 master and 1 undergraduate student.
- > Teach a bioinformatic course for graduate students.

#### December 2015

### Head of Bioinformatics Unit, CENTRO DE GENÓMICA Y BIOINFORMÁTICA, FACULTAD DE CIENCIAS, UNIVERSIDAD MAYOR, Santiago, Chile.

January 2015

- ➤ Led a team of 3 bioinformaticians supporting internal and external projects.
- > Provide support on experimental design for costumers.

#### December 2015

### Assistant Professor, Centro de Genómica y Bioinformática, Facultad de Ciencias, Universidad Mayor, Santiago, Chile

June 2014

- > Principal Investigator on a Fondecyt Iniciación Grant.
- > Co-PI on 1 Fondecyt Regular Grants.
- ➤ Led a team of 2 bioinformaticians and 1 undergraduate student.

### May 2014

### Graduate Student Researcher, Scripps Institution of Oceanography, University of California, San Diego., San Diego, CA. USA

### September 2008

- ➤ Analysis of metagenomic data from diverse environments.
- Develop pipelines for the assembly, annotation, and comparative genomic analysis of microbial genomes.

#### August 2008

# Project Engineer, Laboratory of Bioinformatics and Mathematics of the Genome. Facultad de Ciencias Físicas y Matemáticas. Universidad de Chile., Santiago, Chile.

#### October 2003

- **>** Biological interpretation of microbial genome information.
- > Generation of reports, analysis, and scientific publications.

### 2004

### Research Assistant, Whitney Laboratory for Marine Biosciences. University of Florida., Saint Augustine, FL. USA.

2003

### ➤ Bioinformatic predictions of ancestral sequences of fluorescent proteins.

> Develop molecular biology methods for the reconstruction of ancestral fluorescent proteins.

#### October 2003

### Research Assistant, Laboratory of Bioinformatics and Gene Expression, INTA, Universidad de Chile, Santiago, Chile

#### December 2001

> Analysis of gene expression data from microarrays.

### TEACHING EXPERIENCE, COURSES

| BIOINFORMATICS APPLICATIONS IN BIOTECHNOLOGY Undergraduate Course Universidad Andres Bello  | 2017 |
|---|------|
| Introduction to Bioinformatics Graduate Course Facultad de Medicina, Universidad del Desarrollo   | 2016 |
| INTRODUCTION TO BIOSTATISTICS Undergraduate Course Facultad de Ciencias, Universidad Mayor  | 2015 |
| TEACHING EXPERIENCE, WORKSHOPS  |      |
| Introduction to sequence technologies Introductory workshop to sequence technologies, including analysis of Sanger data Servicio Agricola y Ganadero, Santiago, Chile.  | 2021 |
| Introduction to NGS approaches and applications to Microbial Genomics Introductory workshop to NGS sequencing technologies (short and long read approaches), and its applications to microbial genomics. Servicio Agricola y Ganadero, Santiago, Chile. | 2021 |
| INTRODUCTION TO R Introductory workshop to R, based on the Data Carpentry model Course organized by the Center for Genomic Sciences, Universidad Nacional Autónoma de México  | 2018 |
| BIOINFORMATICS APPROACHES TO GENOMICS AND METAGENOMICS Two-day workshop on basic skills for genomics and metagenomics analysis. Universidad Autónoma de Baja California, Mexico   | 2018 |
| THESIS SUPERVISION  |      |
| <b>FELIPE SEPULVEDA</b> SCCmecCLA, clasificador de SCCmec codificados en genomas de Staphylococcus aureus resistente a meticilina Master degree on Biotechnology, Universidad Andres Bello  | 2019 |
| FREDDY ASENJO  Análisis de la degradación de ácidos grasos por microorganismos de la microbiota intestinal humana Undergraduate degree on Biotechnology, Universidad Andres Bello   | 2016 |



#### MARIO MORENO

Study of the functional potential of microorganisms associated to antarctic sponges: assesing the particular signature for this ecosystem

PhD program in Integrative Genomics, Universidad Mayor, Santiago, Chile

#### CAMILA GONZALEZ

Estudio de la regulacion del gen DbPAD de la levadura deteriorante del vino Brettanomyces bruxellensis LAMAP2480 PhD program in Science and Food Technology, Universidad de Santiago de Chile

#### **KEVIN GONZALEZ**

Estrategias moleculares e interecciones entre bacterias representativas del microbioma intestinal humano durante la utilización del glicomacropéptido

PhD program in Chemical Engineering and Bioprocess, Pontificia Universidad Catolica de Chile

#### FERNANDO DUEÑAS

Caracterización de la diversidad de bacteriófagos de Salmonella aislados en producciones bovinas y estudio de la actividad lítica como herramienta de biocontrol

PhD program in Veterinary Medicine, Universidad Andres Bello, Chile.

#### **RAUL ARIAS**

Non-coding RNAs in archaeal species living at different temperatures PhD program in Integrative Genomics, Universidad Mayor, Santiago, Chile

#### VILMA PEREZ

Mecanismos de respuesta a estrés inducido por radiación UV, en un microorganismo aislado de tapetes microbianos de ambientes expuestos a alta radiación UV en el Altiplano Chileno PhD program in Biological Sciences, Universidad de Antofagasta, Chile

#### **ALEXIS FONSECA**

Identificación de genes relacionados en biosíntesis de antibióticos en dos genomas bacterianos de sedimentos anóxicos Master program in Biochemistry and Bioinformatics, Universidad de Concepcion, Chile



### ISI Publications (38)

Genetic characterization of clinically relevant class 1 integrons carried by multi-drug resistant bacteria (MDRB) isolated from the gut microbiota of highly antibiotic treated Salmo salar

Journal of Global Antimicrobial Resistance. In press

Vasquez-Ponce, F., Higuera-Llanten, S., Paras-Silva, J., Gamboa-Acuña, N., Cortes, J., Opazo-Capurro, A., **Ugalde, J.A**, Alcalde-Rico, M., Olivares-Pacheco, J.

Digital Therapeutics Care Utilizing Genetic and Gut Microbiome Signals for the Management of Functional Gastrointestinal Disorders: Results from a Preliminary Retrospective Study

Frontiers in Microbiology. 13

Kumbhare, S.V., Lyon-Francis, P.A., Kachru, D., Uday, T., Irudayanathan, C., Muthukumar, K.M., Ricchetti R.R., Singh-Rambiritch, S., **Ugalde, J.**, Dulai, P.S., Almonacid, D.E., Sinha, R.

Annotating unknown species of urban microorganisms on a global scale unveils novel functional diversity and local environment association

Environmental Research, 207:112183

Wu, J., Danko, D., Afshinnekoo, E., Bezdan, D., Bhattacharya, M., Castro-Nallar, E., Chmielarczyk, A., Hazrin-Chong, N.H., Demg, Y., Dias-Neto, E., Frolova, A., Mason-Buck, G., Iraola, G., Jang, S., Łabaj, P., Lee, P.K.H., Nieto-Caballero, M., Osuolale, O., Ouzounis, C., Perlin, M.H., Prithiviraj, B., Rascovan, N., Rozanska, A., Schriml, L.M., Semmler, T., Suzuki, H., **Ugalde, J.A.**, Young, B., Werner, J., Zambrano, M.M., Zhao, Y., Mason, C., Shi, T.

#### 2021 | COVID-19 y ciudad : hacia un modelo integrado de vivienda, microbiología, ambiente y urbanismo ACE : Architecture, City and Environment 16(46):9645

Encinas, F., Soto-Liebe, K., Aguirre-Ñuñez, C.A., Gonzalez, B., Bustamente, W., Schueftan, A., **Ugalde, J.**, Blondel, C., Trufello, R, Araya, P., Freed, C.

### 2021 Global Genetic Cartography of Urban Metagenomes and Anti-Microbial Resistance *Cell* 184(13), 3376-3393.

Danko, D., Bezdan, D., Afshinnekoo, E., Ahsanuddin, S., Bhattacharya, C., Butler, D., Chng, K., Donnellan, D., Hecht, J., Jackson, K., Kuchin, K., Karasikov, M., Lyons, A., Mak, L., Meleshko, D., Mustafa, H., Mutai, B., Neches, R., Ng, A., Nikolayeva, O., Nikolayeva, T., Png, E., Ryon, K., Sanchez, J., Shaaban, H., Sierra, M., Thomas, D., Young, B., Abudayyeh, O., Alicea, J., Bhattacharyya, M., Blekhman, R., Castro-Nallar, E., Cañas, A., Chatziefthimiou, A., Crawford, R., De Filippis, F., Deng, Y., Desnues, C., Dias-Neto, E., Dybwad, M., Elhaik, E., Ercolini, D., Frolova, A., Gankin, D., Gootenberg, J., Graf, A., Green, D., Hajirasouliha, I., Hernandez, M., Iraola, G., Jang, S., Kahles, A., Kelly, F., Knights, K., Kyrpides, N., Labaj, P., Lee, P., Leung, M., Ljungdahl, P., Mason-Buck, G., McGrath, K., Meydan, C., Mongodin, E., Moraes, M., Nagarajan, N., Nieto-Caballero, M., Noushmehr, H., Oliveira, M., Ossowski, S., Osuolale, O., Özcan, O., Paez-Espino, D., Rascovan, N., Richard, H., Rätsch, G., Schriml, L., Semmler, T., Sezerman, O., Shi, L., Shi, T., Song, L., Suzuki, H., Court, D., Tighe, S., Tong, X., Udekwu, K., **Ugalde, J.A**, Valentine, B., Vassilev, D., Vayndorf, E., Velavan, T., Wu, J., Zambrano, M., Zhu, J., Zhu, S., Mason, C.

# 2021 Antimicrobial Resistance Dynamics in Chilean Shigella sonnei Strains Within Two Decades : Role of Shigella Resistance Locus Pathogenicity Island and Class 1 and Class 2 Integrons

Frontiers in Microbiology. 12:794470

Toro, C.S., Salazar, J.C., Montero, D.A., **Ugalde, J.A.**, Diaz, J., Cadiz, L.A., Henriquez, T., Garcia, C., Diaz, P., Camponovo R., Hermosilla, G., Ulloa, M.T.

### An Integrative Bioinformatic Analysis for Keratinase Detection in Marine-Derived Streptomyces *Marine Drugs.* 19(6), 286.

Valencia, R., Gonzalez, V., Undabarrena, A., Zamora-Leiva, L., Ugalde, J.A., Camara B.

### Bacteria isolated from the Antarctic sponge Iophon sp. reveals mechanisms of symbiosis in Sporosarcina, Cellulophaga, and Nesterenkonia

Frontiers in Microbiology. 12

Moreno-Pino, M., Ugalde, J.A., Vales, J.H., Rodriguez-Marconi, S., Parada-Pozo, G., Trefault, N.

### Validation of the COVID-19 Indoor Test by Phylagen for Detection of SARS-CoV-2 Virus on Stainless Steel Surfaces AOAC Performance Tested Method 122004

Journal of AOAC International. qsab051

Fantin, N., Taft, B., **Ugalde, J.**, Spring, K., Lam, H., Tran, A., Green, J.

### 2020 Distinctive Gene and Protein Characteristics of Extremely Piezophilic Colwellia

BMC Genomics. 21:692.

Peoples, L.M., Kyaw, T., **Ugalde, J.A.**, Mullane, K., Chastain, R., Yayanos, A., Kusube, M., Methe, B., Bartlett, D.H

### 2020 Bacterially produced metabolites protect C. elegans neurons from degeneration

PLoS Biology. 18(3): e3000638

Urrutia, A., Garcia-Angulo, V.A., Fuentes, A., Caneo, M., Legue, M., Urquiza, S., Delgado, S.E., **Ugalde J.A.**, Burdisso, P., Calixto, A.

### 2019 Evidence of a large and unique reservoir of antimicrobial resistance genes in the intestinal bacterial resistome of long-term care facility residents

Frontiers in Microbiology. 10:2260.

Araos, R., Battaglia, T., Ugalde, J.A., Blaser, M.J., D'Agata, E.M.C.

### 2019 A new sequencing-based women's health assay combining self-sampling, HPV detection and genotyping, STI detection, and vaginal microbiome analysis

PloS One. 14(5):e0215945.

Bik, E.M., Bird, S.W., Bustamante, J.P., Leon, L.E. Nieto, P.A., Addae, K., Alegria-Mera, V., Bravo, C., Bravo, D., Cardenas, J.P., Caughey, A., Covarrubias, P.C., Perez-Donoso, J., Gass, G., Gupta, S.L., Harman, K., Hongo, D.M.B., Jimenez, J.C., Kraal, L., Melis-Arcos, F., Morales, E.H., Morton, A., Navas, C.F., Nunez, H., Olivarez, E., Ordenes-Aenishanslins, N., Ossandon, F.J., Phan, R., Pino, R., Soto-Liebe, K., Varas, I., Walton, N.A., Vera-Wolf, P., Almonacid, D.E., Goddard, A.D., **Ugalde, J.A.**, Richman, J., Apte, Z.S.

#### 2018 Microbial biotransformations in the human distal gut

British Journal of Pharmacology 175:4404-4414.

Bik, E.M., Ugalde, J.A., Cousins, J., Goddard, A.D., Richman, J., Apte, Z.S.

### Distinctive archaeal composition of an artisanal crystallizer pond and functional insights into salt-saturated hypersaline environment adaptation

Frontiers in Microbiology 9:1800

Plominsky, A.M., Henriquez, C.A., Delherbe, N., Podell, S., Ramirez, S., **Ugalde, J.A.**, Santibañez, J.F., Van Den Engh, G., Hanselmann, K., Ulloa, O., De La Iglesia, R., Allen, E.E., Trefault, N.

## 2018 Complete genome sequence of the marine Rhodococcus sp. H-CAF8f isolated from the Comau fjord in Northern Patagonia, Chile

Marine Genomics 40:13-17

Undabarrena, A., Salva Serra, F., Jaen-Luchoro, D., Castro-Nallar, E., Mendez, K.N., Valencia, R., **Ugalde, J.A.**, Moore, E., Seeger, M., Camara, B.

### 2018 The fecal microbiome among nursing home residents with advanced dementia and Clostridium difficile

Digestive Diseases and Sciences 63:1525

Araos, R., Andreatos, N., Ugalde, J.A., Mitchel, S., Mylonakis, E., D'Agata, E.M.C.

#### 2017 | Microbial disruption indices to detect colonization with multidrug-resistant organisms

Infection Control & Hospital Epidemiology 38:1312-1318.

Araos, R., Montgomery, V., Ugalde, J.A., Snyder, G., D'Agata, E.M.C.

### 2017 The gut microbiota of healthy chilean subjects reveals a high abundance of the phlum Verrucomicrobia

Frontiers in Microbiology 8:1221

Fujio-Vejar, S., Vasquez, Y., Morales, P., Magne, F., Vera-Wolf, P., **Ugalde, J.A.**, Navarrete, P., Gotteland, M. Corresponding author

### 2017 Phylogenomics insight into Salinispora (Bacteria, Actinobacteria) Species Designations

Scientific Reports 7: 3564

Millán-Aguiñaga, Chavarria, K.L., Ugalde, J.A., Letzel, C.A., Rouse, G.W., Jensen, P.R

# Genomic data mining of the marine actinobacteria Streptomyces sp. H-KF8 unveils insights into multi-stress related genes and metabolic pathways involved in antimicrobial synthesis Peerl. 5:e2912

-ee/J. **J**.e2312

Undabarrena, A., **Ugalde, J.A.**, Seeger, M., Cámara, B.

### A novel gene cluster allows preferntial utilization of fucosylated milk oligosaccharides in Bifidobactierium longum subsp. longum SC596

Scientific Reports, 6:35045

Garrido, D., Ruiz-Moyano, S., Kirmiz, N., Davis, J.C., Totten, S.M., Lemay, D.G., **Ugalde, J.A.**., German, J.B., Lebrilla, C.B., Mills, D.A.

### 2016 Comparative transcriptome assembly and genome-guided profiling for Brettanomyces bruxellensis LAMAP2480 during p-coumaric acid stress.

Scientific Reports 6:34304

Godoy, L., Vera-Wolf, P., Martinez, C., Ugalde, J.A., Ganga, M.A.

### 2016 Genome Sequencing and Analysis of the First Complete Genome of Lactobacillus kunkeei strain MP2, an Apis mellifera gut isolate

PeerJ, 4:e1950

Asenjo, F., Olmos, A., Henriquez-Piskulich, P., Polanco, V., Aldea, P., **Ugalde, J.A.**, Trombert, A.N Corresponding author

### 2016 Impact of Dietary Lipids on Colonic Function and Microbiota : An Experimental Approach Involving Orlistat-Induced Fat Malabsoprtion in Human Volunteers

Clinical and Translational Gastroenterology 7:e161

Morales, P., Fujio, S., **Ugalde, J.A.**, Magne, F., Carrasco-Pozo, C., Tralma, K., Quezada, M.P., Hurtado, C., Covarrubias, N., Brignaerdello, J., Henriquez, D., Gotteland, M.

## 2015 Identification of Thiotetronic Acid Antibiotic Biosynthetic Pathways by Target-directed Genome Mining

ACS Chemical Biology 10: 2841-2849

Tang, X., Li, J., Millán-Aguiñaga, N., Zhang, J.J., O'Neill, E., **Ugalde, J.A.**, Jensen, P., Mantovani, S., Bradley, M.

#### 2015 | Evolution in the Indoor Biome

Trends in Ecology and Evolution 30:223-232

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.

### 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

Malfatti, F., Turk, V., Tinta, T., Mozetič, P., Manganelli, M., Samo, T., **Ugalde J.A.**, Kovač, N., Stefanelli, M., Antonioli, M., Fonda-Umani, S., Del Negro, P., Cataletto, B., Hozić, A., Ivošević Denardi, N., Žutić, V., Svetličić, V., Mišić Radić, T., Radić, T., Fuchs D., Azam, F.

# 2014 | Seasonal Fluctuations in Ionic Concentrations Drive Microbial Succession in a Hypersaline Lake Community

ISME Journal, 8: 979-990

Podell, S., Emerson, J., Jones, C.M., Ugalde, J.A., Welch, S., Heidelberg, K.B., Banfield, J.F., Allen, E.E.

### 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 **79**: 7491-7501 Kharbush, J., **Ugalde J.A.**, Hogle, S., Allen, E.E., Aluwihare, L.

### 2013 Microbial Life in a Fjord : Metagenomic Analysis of a Microbial Mat in Chilean Patagonia PLoS ONE 8: e71952

**Ugalde, J.A.**, Gallardo, M.J, Belmar, C., Muñoz, P., Ruiz-Tagle, N., Ferrada-Fuentes, S., Espinoza, C., Allen, E.E., Gallardo, V.A.

Corresponding author

#### 2013 | Assembly-Driven Community Genomics of a Hypersaline Microbial Ecosystem

PLoS ONE 8: e61692

Podell, S., Ugalde, J.A., Narasingarao, P., Banfield, J.F., Heidelberg, K.B., Allen, E.E.

### 2012 De novo metagenomic assembly reveals abundant novel major lineage of Archaea in hypersaline microbial communities

ISME Journal 6:81-93

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 Xenorhodopsins, an enigmatic new class of microbial rhodopsins horizontally transferred between archaea and bacteria

Biology Direct 6:52

Ugalde, J.A., Podell, S., Narasingarao P., Allen, E.E.

## 2008 Comparative genomic analysis of carbon and nitrogen assimilation mechanisms in three indigenous bioleaching bacteria: predictions and validations

BMC Genomics 9:581

Levican, G., \*Ugalde, J.A., Ehrenfeld N., Maass, A., Parada, P.

First author

### 2005 Applications of ancestral protein reconstruction in understanding protein function : GFP-like proteins

Methods in Enzynmology 395: 652-670

Chang, B.S., Matz, M.V., Ugalde, J.A.

#### 2004 | Evolution of coral colors recreated

Science 305:1433

Ugalde, J.A., Chang, B.S., 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

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.

### O

#### 2020 Draft Genome Sequence of Blautia luti DSM 14534T, Isolated from Human Stool

Microbiology Resource Announcements 9:e00088-20

Ortiz, R.L., Melis-Arcos, F., Covarrubias, P.C., **Ugalde J.A**, Apte, Z.S., Perez-Donoso, J., Cardenas, J.P., Almonacid, D.E.

### 2017 Microbial disruptions indices in the fecal microbiome predicting acquisition of multidrug-resistant organisms in nursing homes

Open Forum Infectious Diseases 4 (suppl\_1): S235

Araos, R., **Ugalde, J.A.**, D'agata, E.

### 2017 Genome sequence of Streptomyces sp. strain H-KF8, a marine actinomycete isolated from a northern Chilean Patagonian fjord

Genome Announcements 5: e01645-16

Undabarrena, A., **Ugalde, J.A.**, Castro-Nallar, E., Seeger, M., Cámara, B.

### 2016 Low Microbial Diversity Characterizes the Fecal Microbiome of Patients Colonized with Multidrug-Resistant Microorganisms

Open Forum Infectious Diseases 3 (Suppl 1): 2229

Araos, R., Snyder G.M., Ugalde, J., D'Agata, E.M.C.

### 2015 Genome sequence of Vibrio VPAP30, isolated from an episode of massive mortality of reared larvae of the scallop Argopecten purpuratus

Genome Announc. 3: e00745-1

Rojas, M., Miranda, C.D., Romer, J., Asenjo, F., Valderrama, K., Segovia, C., **Ugalde, J.A.**, Santander, J. Corresponding author

### 2014 Metagenome Sequencing of the Microbial Community of a Solar Saltern Crystallizer Pond

*Genome Announc.* **2** : e01172-14

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., Vaulot, 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 Draft genome sequence of Salmonella enterica serovar Typhi strain STH2370

Genome Announc. 2: e00104-14

Valenzuela, C., Ugalde, J.A., Mora, G.C., Alvarez, S., Contreras, I., Santiviago, C.A.

### Draft Genome Sequence of "Candidatus Halobonum tyrrellensis" Strain G22, Isolated from the Hypersaline Waters of Lake Tyrrell, Australia

Genome Announc. 1:e01001-13

Ugalde, J.A., Narasingarao, P., Kuo, S., Podell, S., Allen, E.A.



### **BOOK CHAPTERS**

#### 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.

Matz, M.V., Labas, Y.A. and Ugalde, J.



### SUBMITTED AND PREPRINTS

### 2018 Measures of reproducibility in sampling and laboratory processing methods in high-throughput microbiome analysis

bioRxiv (https://doi.org/10.1101/322677)

Vera-Wolf, P., Cardenas, J.P., Morton, A.M., Norambuena, T., Torres, R., Leon, L.E., Bik, E.M., **Ugalde, J.A.**, Almonacid, D.E., Richman, J., Apte, Z.S.



### **PATENTS**

### 2019 | Single Molecule Sequencing and Unique Molecular Identifiers to Characterize Nucleic Acid Sequences

US Patent 20,190,135,310

Apte, Z., Richman, J., Almonacid, D., Morales, E., Leon, L., Bird, S.W., Ugalde, J.

### 2019 Method and system for characterization for female reproductive system-related conditions associated with microorganisms

US Patent 20,190,078,142

Apte, Z., Bik. E., Bird, S.W., Leon, L.E., Nieto, P.A., Alegria-Mera, V., Bravo, C., Cardenas, J.P., Covarrubias, P., Gupta, S.L., Harman, K., Jimenez, J., Melis-Arcos, F., Navas, C.F., Nunez, H., Olivares, E., Ordenes-Aenishanslins, N., Ossandon, F.J., Ignacio V., Vera-Wolf, P., Hongo, D.M.B., Kraal, L., Walton, N., Morton, A., Bustamante, J.P., Addae, K., Gass, G., Soto-Liebe, K., **Ugalde, J.A.**, Morales, E.H., Almonacid, D., Richman, J.

#### 2019 Nasal-related characterization associated with the nose microbiome

US Patent 20,190,019,575

Apte, Z., Richman, J., Almonacid, D., Ugalde, J., Vera-Wolf, P., Valenzuela, S.

#### 2017 Method and system for microbial pharmacogenomics

US Patent 20,170,308,669

Apte, Z., Richman, J., Almonacid, D., Pedroso, I., Ugalde, J., Ortiz, R.

# Array of nucleotidic sequences for the detection and identification of genes that codify proteins with activities relevant in biotechnology present in a microbiological sample, and methods for using this array

US Patent 8,207,324

Ehrenfeld, N., Ugalde J., Aravena, A., Loira, N., Maass, A., Parada, P., Badilla, R.

### RESEARCH GRANTS

#### 2022-2026 | Establishing a long-term observatory of the urban microbiome and antimicrobial resistance in Chile

Fondecyt Regular 1221209

Principal Investigator

### 2017-2021 Determinants for tuberculosis infection acquisition in contacts: exploring the role of nasopharyngeal mucosal environment

Fondecyt Regular 1171570

Co-Investigator

### 2017 - 2021 Genomics-guided bioprospecting: targeting bioactive marine actinomycetes for natural product

discovery

Fondecyt Regular 1171555

Co-Investigator

### 2016 - 2020 Identifying endotypes and potential therapeutic targets in atopic dermatitis through an integrated

systems biology approach

Fondecyt Regular 1150858

Co-Investigator

### 2016 - 2018 Diversity and inter-annual variability of eukaryote microbial communities in Antarctic coastal waters

Chilean Antarctic Institute Grant

Principal Investigator

#### 2014 - 2017 Development of reproducible bioinformatics workflows for comparative microbial genomics

Fondecyt Iniciación 11140666

Principal Investigator

### 2015 - 2017 US\$20,000 for computer analysis using the AWS infraestructure

Amazon Web Services (AWS) Research Grant.

Principal Investigator

### 2013 - 2015 | US\$15,000 for computer analysis using the AWS infraestructure

Amazon Web Services (AWS) Research Grant. Principal Investigator

| NVITED TALKS     |  |  |
|------------------|--|--|
| 2018, May 28     | Genomics and Metagenomics approaches for the study of diversity and adaptations in microbial communities. Universidad Autónoma de Baja California, Ensenada, México. |  |
| 2018, March 9    | Developing clinical tests based on large-scale microbiome data. University of California, San Diego  |  |
| 2018, Jan. 25    | <b>Microbioma humano y su potencial en Biomedicina</b> . Invited Seminar, School of Medicine, Pontificia Universidad Católica  |  |
| 2017, Nov. 14-17 | XXXVIV Annual Meeting of the Chilean Microbiology Society. La Serena, Chile  |  |
| 2016, Nov. 22-25 | XXXVIII Annual Meeting of the Chilean Microbiology Society. Valdivia, Chile.   |  |
| 2016, Oct. 28    | Invited Seminar. Universidad de Valparaiso.  |  |
| 2016, Sep. 22    | Coloquios de Microbiología, Valparaiso, Chile  |  |
| 2016, May 16     | Invited Seminar. The University of Texas, Health Science Center at Houston. Houston, TX. USA.  |  |
| 2014, Aug. 25    | Coloquios de Microbiología, Concepción, Chile.   |  |
| 2014, July 16    | I Simposio en Bioinformática Integrativa. Santiago, Chile.   |  |
| 2014, May 29     | Illumina Users Meeting. San Diego, California. USA.  |  |
| 2013, Nov. 26-30 | XXXV Annual Meeting of the Chilean Microbiology Society. Marbella, Chile.  |  |
| <b>Q</b> Awards  |  |  |
| 2011             | Zobell Fellowship Award. Scripps Institution of Oceanography, UC San Diego   |  |
| 2011             | Latin American Studies Fellowship. Scripps Institution of Oceanography, UC San Diego   |  |
| 2011             | Travel Grant, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)   |  |
| 2008-2012        | Fulbright Fellowship   |  |



### MEDIA COVERAGE

| · MEDIT GOVERNOE               |  |  |
|--------------------------------|--|--|
| August 30, 2021<br>August 2019 | Noches Nerd, NTV Chile. https://www.tvn.cl/ntv/nochesnerd/ultimoscapitulos/noches-nerd-virulento-y-bacteriologico-capitulo-4-4946548 Interview for CNN Chile, Metasub project https://www.cnnchile.com/programas-completos/juan-ugalde-lugares-publicos-normal-encontrar-bacterias_20190813/ |  |
| August 2019                    | Interview for Meganoticias, Metasub project https://www.youtube.com/watch?v=OZR16SL1Dow  |  |
| July 2017                      | Interview for Chilevision newscast, kitchen sponges and bacterial associated with them. https://www.youtube.com/watch?v=xOReqlGC3KI  |  |
| June 2017                      | Interview for Chilevision newscast, regarding the microbiome subway project. https://www.youtube.com/watch?v=c_HPt-CWja0   |  |
| June 2016                      | Interview for TVN, Antimicrobial resistance. http://map.conectamedia.cl/index.php/clippingNews/download?id=559370  |  |

2003 Latin American Exchange Program. Whitney Laboratory, University of Florida