

**Name: Xavier A. Gutiérrez**

**Present position** Trainee in Recirculation Technology  
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**Degrees.** Andrés Bello University. Santiago, Chile.

2009 Master of Science in Aquaculture Engineer, Cum Laude recognition.  
2008 Aquaculture Engineer, recognition.  
2008 Bachelor in Marine Science, recognition.

**Experience**

2009 **AVS-Chile. Puerto Varas, Chile.**

**Research Assistant.**

- Scientific report: “State of Art of Recirculating Aquaculture System in Chile”, to determinate future R&D projects in this productive technology.
- Support in the submitted CORFO project: Generating a model for the Environmental Risk Assessment of substances discharged to aquatic ecosystem by activities associated to Aquaculture Cluster.
- Support in the submitted CORFO project: Programme to Attract International Centres of Excellence for Competitivity, Phase 1.

2008 **Rilab, Carlos Rivas y Cia. Ltda. Santiago, Chile.**

**Product Manager.** In-Situ and LaMotte equipments for monitoring of water quality parameters.

**Job Description:**

- Help clients in developing projects related to monitoring water quality parameters.
- Supervision of customer accounts in areas related to management, operation and monitoring of waters.
- Designing product applications

2008-2004 **Andrés Bello University. Santiago, Chile.**

**Laboratory Teacher:**

- Course: Algae culture. Class: Master in Aquaculture. First semester, 2008.

**Laboratory Assistant:**

- Course: Marine Contamination. Class: Marine Biology, First semester, 2008.
- Course: Algae culture. Class: Master in Aquaculture. First semester, 2006
- Course: Marine contamination and Waste Treatment. Class: Environmental Engineering. Second semester, 2005.

- Course: Marine Botanic. Class: Aquaculture Engineering and Marine Biology. Second semester, 2005 and 2004.

2007-2005      **National Environmental Center (CENMA). Laboratory of Bioassays and Microbiology.** Santiago, Chile.  
**Master's Thesis:** "Isolation and Proliferation of Nitrifying Bacteria, Characterization of its Activity in an Airlift Biorreactor, Desing and Construction of a Fluidized Bed Biofilter System". July 2005 to May, 2007.

**Responsible for the Unit of Bioassays** for the DGA project: "Analysis of the Physical Chemical Composition of Fluvial Sediments and its Relation with the Availability of Metals in Water. June to December, 2007.

**Job Description:**

- Equipment maintenance.
- Performing bioassays for projects and/or services.
- Maintenance of the stumps for bioassays (bacteria, micro-algae, microcrustaceos and fish)
- Development and assembly of new bioassays to determine acute and chronic toxicity in sediments with freshwater invertebrates
- Data analysis and reporting.
- Development and analytic execution of new methodologies.

2005      **Fundación Chile. Experimental Recirculating Centre.** Quillaipe, 10th Region, Chile. January to March, 2005.

**Job Description:**

- Monitoring and management of water recirculating systems.
- Helping in the construction of a Recirculating System for the set up of Southern Hake culture (*Merluza Austral*; *Merluccius australis*).
- Research, monitoring and evaluation of the Fluidized-Sand Biofilter in a pilot Recirculating Aquaculture System for Chilean croaker cultures (*Corvine*; *Cilus gilberti*).

2004      **Course: Operation and Management of Recirculating Aquaculture Systems.** Quillaipe Experimental Recirculating Centre. Fundación Chile. Quillaipe, 10<sup>th</sup> Region, Chile. November 24 to 26, 2004

2003      **International Course of Recirculating Aquaculture Systems** (by Internet). Cornell University and Freshwater Institute. By means of Fundación Chile. July 14 to 18, 2003.

**Present research activities and fields of interest**

2009      AVS-Chile report: "State of Art of Recirculating Aquaculture System in Chile"

2005-2007.      Isolation and Proliferation of Nitrifying Bacteria, Characterization of its Activity in an Airlift Bioreactor, Design and Construction of a Fluidized Bed Biofilter System.

2005      Research, monitoring and evaluation of the Fluidized-Sand Biofilter in a pilot Recirculating Aquaculture System for Chilean croaker cultures

## **Selected presentations**

### **Conference papers**

2009. Gutiérrez, X., Olmedo M., Cañas, P. Generación de un inóculo nitrificante activado, para la puesta en marcha de sistemas de recirculación de aguas. (Generation of active nitrifying inoculums for the start-up process of Aquaculture Recirculation Systems). Second National Aquaculture Congress. Universidad Católica de Temuco. January 7 to 9, 2009. Temuco, Chile.
2008. Gutiérrez, X. Cañas, P. Evaluación de la actividad nitrificante en un biorreactor aireado tipo mezcla completa. (Evaluation of the nitrifying activity in an Air-lift bioreactor). In: 28th Seminar on Marine Sciences. Andrés Bello University and the Chilean Society of Marine Science. May 27 and 28, 2008. Viña del Mar, Chile. 180 p.
2008. Gutiérrez, X. Aplicación de la sonda multiparamétrica Troll 9500 para el monitoreo en línea de la calidad de las aguas servidas. (Application of multi-parametric probe Troll 9500 for on-line monitoring of wastewater quality). 12th Conference of Laboratories of water quality and processes control. AIDIS-Chile. Torremayor Hotel, December 4 to 5, 2008. Santiago, Chile.