

# Javier V Alvarez Zepeda, PhD

Gran Bretaña 1111, Valparaiso, Chile

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## 1. Doctoral Research Institutions

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2010 - 2015 Dr. J Sook Chung's Lab: Crustacean Molecular Endocrinology and Physiology  
Institute of Marine and Environmental Technology  
University of Maryland Center for Environmental Science  
Baltimore, MD 21202  
USA

Doctoral dissertation Understanding molecular mechanisms regulating the initial shell-hardening process of the blue crab *Callinectes sapidus*: involvement of prophenoloxidase and the tanning hormone bursicon

PhD Program Marine, Estuarine and Environmental Science  
University of Maryland, at College Park & University of Maryland Center for Environmental Sciences

## 2. Education

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2015 PhD, Marine, Estuarine and Environmental Science  
Area of Specialization: Physiology, Molecular Biology, Marine Biotechnology.  
University of Maryland, College Park &  
University of Maryland Center for Environmental Sciences, MD, USA

2008 Master in Science, Marine Sciences  
Universidad Católica del Norte, Chile

1998 Aquaculture Engineer  
Universidad Católica del Norte, Chile

1995 Bachelor Degree, Aquaculture Sciences  
Universidad Católica del Norte, Chile

### Additional training

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2010-2015 Molecular and Biochemical techniques (PCR, Quantitative PCR, Cloning, Immunocytochemistry, Flow-cytometry, dsRNA knockdown, Enzymatic assays, Protein isolation, SDS-PAGE and Western blot, ImageJ analysis, Protein isolation)

Institution Institute of Marine and Environmental Technology  
Location Baltimore, USA

2013  
Institution                   Communicating Science Effectively  
                                  The Integration and Application Network  
                                  University of Maryland Center for Environmental Sciences  
Location                     Baltimore, USA

2006  
Institution                   Soft Shell Crab Production  
                                  BioHabitats  
Location                     Tampico, Mexico.

### **3. Awards**

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2010 – 2014                 Fulbright Scholarship – Beca Igualdad de Oportunidades  
                                  Fulbright Chile and CONICYT, Chilean Government

1984 – 1991                 Beca Presidente de la República de Chile, Chilean Government

### **4. Research interest**

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My research involves elements of Molecular Biology and Physiology, and focus in areas of Biotechnology, Genomic and Physiology such as:

- Molecular and General Physiology
- Endocrine control –behavior and development
- Innate Immunity: Humoral and Cellular Response (Hemocytes); Animal Stress

### **5. Publications**

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**Alvarez JV & JS Chung.** 2015. The involvement of hemocyte prophenoloxidase in the shell-hardening of the new cuticle of the postmolt blue crab, *Callinectes sapidus*. *PLoS One* 10(9): e0136916. doi:10.1371/journal.pone.0136916

J Sook Chung, JS Pitula, E Schott, **JV. Alvarez**, L Maurer and K Lycett. 2015. Elevated water temperature increases the levels of reo-like virus and selected innate immunity genes in hemocytes and hepatopancreas of adult female blue crab, *Callinectes sapidus*. *Fish and Shellfish Immunology* 47(1): 511-520.

Techa, S, **Alvarez JV & JS Chung.** 2015. Changes in ecdysteroid levels and expression patterns of ecdysteroids-responsive factors and neuropeptide hormones during the embryogenesis of the blue crab, *Callinectes sapidus*. *General and Comparative Endocrinology* 214: 157 – 166.

**Alvarez JV & JS Chung.** 2013. Cloning of prophenoloxidase from hemocytes of the blue crab *Callinectes sapidus* and its expression and enzyme activity during the molt cycle. *Fish and Shellfish Immunology* 35(5): 1349 – 1358.

**Alvarez J & J Meruane.** 2009. Limb regeneration in the paddle crab *Ovalipes trimaculatus* (de Han 833) (Crustacea, Brachyura, Portunidae), and its practical use in aquaculture and fishery. *Revista de Biología Marina y Oceanografía*. 44(2): 285 - 293.

**Alvarez J, Véliz C & J Meruane.** 2009. Molt cycle stages of the paddle crab *Ovalipes trimaculatus* (de Hann, 1833) based on the external morphology, *Revista de Biología Marina y Oceanografía*. 44(1): 217 - 225.

**Alvarez J & J Meruane.** 2007. Manual Técnico N° 1: Instalación y operación de un corral de fondo para jaibas. Alvarez J. & J. Meruane (Eds.). Universidad Católica del Norte. FONDEF D04I 1410. ISBN 956-310-311-4, Chile. 58 pgs.

## **6. Academic Experience**

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2012 – 2014	Graduate Assistant Crustacean Endocrinology Lab, Dr. J Sook Chung Institute of Marine and Environmental Technology University of Maryland Center for Environmental Science, USA
2013 and 2014	Teaching Assistant Summer Marine Science Education Program Institute of Marine and Environmental Technology, USA Faculty: Dr. J Sook Chung
2005 – 2009	Researcher Crustacean Aquaculture and Management Research Group Research Group associated to the Department of Aquaculture, School of Marine Sciences Universidad Católica del Norte, Chile (PI: Dr. Jaime Meruane)