

## Refugio Robles-Sikisaka M.Sc. Ph.D.

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### Education

- 2001 - 2008 **Doctor of Philosophy in Ecology - Conservation Biology Emphasis.**  
University of California, Davis and San Diego State University. December 2008.  
Dissertation Topic: Population Structure and Genetic Diversity of Shrimp (*Litopenaeus stylirostris*) and its Viral Pathogen, Infectious Hypodermal Haematopoietic Necrosis Virus (IHHNV).
- 1999 - 2001 **Master of Science in Biology** - California State University, San Marcos, California. June 2001. Thesis Topic: Genome Characterization and Genetic Diversity of Taura Syndrome Virus (TSV) of Penaeid Shrimp.
- 1992 - 1997 **Bachelor of Science in Biology** - Universidad Autónoma de Baja California. Ensenada, Baja California. Mexico. June 1997. Thesis Topic: Patterns of Molecular Evolution in Exon and Intron Sequences from Sperm Acrosomal Proteins of Abalone (*Haliotis spp.*)

### Appointments

- 01/2011-Present **Postdoctoral Employee.** Study of microbial communities in human ecosystems. Department of Pathology; University of California, San Diego.
- 2009 - 2010 **Postdoctoral Research Associate.** Discovery and characterization of viral pathogens of marine mammals. Hubbs-SeaWorld Research Institute.
- 2009 **Lecturer II.** Biol 221L - Organismal Biology Laboratory. University of San Diego.
- 2002 - 2008 **Teaching Assistant.** Biol 354 - Ecology and the Environment. San Diego State University.
- 2001 - 2002 **Teaching Assistant.** Biol 201 - Organismal Biology. San Diego State University.
- 2000 **Teaching Assistant.** GES 102 - General Education Biology. California State University, San Marcos.

### Awards & Scholarships

- 2001 - 2004 **National Council of Science and Technology, CONACyT.** Mexican government grant to pursue doctoral degree studies at SDSU-UCD.
- 2002 - 2003 **Joint Doctoral Program in Ecology, San Diego State University.** Award for research expenses at UCD.
- 1999 - 2001 **National Council of Science and Technology, CONACyT.** Mexican government grant to pursue masters degree studies at CSUSM.
- 1997 - 1998 **National Council of Science and Technology, CONACyT/Universidad Autónoma de Baja California.** Scholarship for undergraduate thesis preparation.

- 1997 **Fundación México-Estados Unidos para la Ciencia.** Assistance for talk presentation at the 1997 Mexican Society of Genetics annual meeting.
- 1993 - 1996 **Universidad Autónoma de Baja California Student Compensation Scholarship.** Award for research in the reproduction biology laboratory.
- 1992 - 1996 **Universidad Autónoma de Baja California Student Scholarship.** Grant to pursue bachelor of science degree at UABC.

### Key Technical Skills

**Molecular Biology Techniques:** DNA and RNA extraction (saliva, stool, blood, muscle tissues, hemolymph), cDNA synthesis, Virus purification, CsCl gradient, epifluorescence microscopy, DNA library construction, next-generation sequencing (Personal Genome Machine - Ion Torrent), quantitative real-time PCR, RT-PCR, rolling-circle amplification, oligonucleotide primer design, agarose gel electrophoresis, Northern and Western blotting, cloning, aseptic technique, bacterial culture, culture media preparation.

**DNA sequence editing and analysis:** CLC (Main and Genomics Workbench), BLAST, ORFinder, ClustalX, Chromas; Phylogenetic and molecular evolutionary analysis: RDP3, DNAsp, MEGA, Arlequin, PAUP, MrBayes, RAXML, McClade, TCS;

**Statistical analysis:** Excel, SAS; **Graphical presentation:** Powerpoint, Corel Draw, Adobe Illustrator.

### Additional Research Experience

- 2006 **Detection of hepatitis a virus and enteroviruses near the United States-Mexico border using SYBR Green real-time PCR.**  
San Diego State University. Advisors: Dr. Richard Gersberg and Dr. Arun K. Dhar.
- 2003 **Genetic diversity of *candidatus xenohaliotis californiensis*, causative agent of withering syndrome (*Haliotis* spp).**  
Bodega Marine Laboratory. Advisor: Dr. Jim Moore.
- 2002 - 2003 **PCR detection and optimization of yellow band syndrome in *Montastrea* spp. coral.**  
University of California, Davis. Advisor: Dr. Janet Foley.
- 1993 - 1996 **Induction of egg maturation in marine invertebrates.**  
Universidad Autonoma de Baja California.  
Advisors: Dr. Meredith C. Gould-Chambers and Dr. Jose Luis Stephano.

### Publications

**Robles-Sikisaka R**, Rivera R, Nollens HH, St. Leger J, Durden WN, Stolen M, Burchell J, Wellehan JF Jr. 2012. Evidence of recombination and positive selection in cetacean papillomaviruses. *Virology* 427(2): (189-197).

Rivera R, **Robles-Sikisaka R**, Hoffman EM, Stacy BA, Jensen ED, Nollens HH, Wellehan JF Jr. 2012. Characterization of a novel papillomavirus species (ZcPV1) from two California sea lions (*Zalophus californianus*). *Veterinary Microbiology* 155(2-4):257-66.

**Robles-Sikisaka R**, Bohonak AJ, McClenaghan Jr LM, Dhar AK. 2010. Genetic signature of rapid IHHNV (infectious hypodermal and hematopoietic necrosis virus) expansion in wild *Penaeus* shrimp populations. *PLoS ONE* 5: e11799. doi:10.1371/journal.pone.0011799.

Dhar AK, Lakshman DK, Amundsen K, **Robles-Sikisaka R**, Kaizer KN, Roy S, Hasson KW,

Allnutt FC. 2010. Characterization of the Taura syndrome virus isolate originating from the 2004 Texas epizootic in cultured shrimp. *Archives of Virology* 155 (3):315-327.

**Robles-Sikisaka R.** 2008. Population structure and genetic diversity of shrimp (*Litopenaeus stylirostris*) and its viral pathogen, infectious hypodermal haematopoietic necrosis virus (IHHNV). Ph.D. Dissertation. San Diego State University/University of California, Davis. 122 pp.

Gersberg RM, Rose MA, **Robles-Sikisaka R**, Dhar AK. 2006. Quantitative detection of hepatitis a virus and enteroviruses near the United States-Mexico border and correlation with levels of fecal indicator bacteria. *Applied and Environmental Microbiology* 72: 7438-7444.

**Robles-Sikisaka R**, Hasson KW, Garcia DK, Brovont KE, Cleveland KD, Klimpel KR, Dhar AK. 2002. Genetic variation and immunohistochemical differences among geographic isolates of Taura syndrome virus of penaeid shrimp. *Journal of General Virology* 83: 3123-30.

**Robles-Sikisaka R.** 2001. Genome characterization and genetic diversity of Taura syndrome virus (TSV) of penaeid shrimp. MS Thesis. California State University, San Marcos. 63 pp.

**Robles-Sikisaka R**, Garcia KD, Klimpel KR, Dhar, AK. 2001. Nucleotide sequence of 3-end of the genome of Taura syndrome virus of shrimp suggests that it is correlated to insect picornaviruses. *Archives of Virology* 146:941-952.

**Robles-Sikisaka R.** 1999. Patterns of molecular evolution in exon and intron sequences from sperm acrosomal proteins of abalone (*Haliotis spp.*). BS Thesis. Universidad Autónoma de Baja California. 63 pp.

Metz EC, **Robles-Sikisaka R**, Vacquier VD. 1998. Nonsynonymous substitution in abalone sperm protein loci exceeds synonymous substitution in introns and mitochondrial DNA. *Proceedings of the National Academy of Sciences U.S.A.* 95: 10676-10681.

### **Scientific Meetings**

**Robles-Sikisaka R**, Bohonak AJ, McClenaghan L, Dhar AK. 2010. Genetic signature of rapid IHHNV (infectious hypodermal and Hematopoeitic necrosis virus) expansion in wild *Penaeus* shrimp populations. Society for the Study of Evolution. Portland, OR.

**Robles-Sikisaka R**, Wellehan J, Rivera R, Venn-Watson S, St. Leger J, Nollens H. 2010. Characterization of novel circular viruses from bottlenose dolphin (*Tursiops truncatus*). Presented in two meetings: International Association for Aquatic Animal Medicine (IAAAM), Vancouver, B.C. & American Society of Virology (ASV), Bozeman, MT.

Dhar AK, Lakshman DK, Amundsen K, **Robles-Sikisaka R**, Kaizer KN, Roy S, Hasson KW, Allnutt FCT. 2009. Characterization of the Taura syndrome virus isolate originating from the 2004 Texas epizootic in cultured shrimp. World Aquaculture Society meeting, Seattle, WA.

Dhar AK, Licon KS, **Robles-Sikisaka R**, Zhang X, Bullis RA, Read B. 2006. differential gene expression profiling in healthy and white spot syndrome (WSSV) virus-infected shrimp (*Penaeus stylirostris*) by EST analysis isolated by suppression subtractive hybridization. Plant and Animal Genome Mapping Conference XIV, San Diego, CA.

Dhar AK, Klimpel KR, **Robles-Sikisaka R**, Hasson KW. 2002. Genetic and antigenic variation of Taura syndrome virus of penaeid shrimp *Litopenaeus* sp. World Aquaculture America. San Diego, CA.