

Jo-Ann C. Leong, Ph. D., Professor & Director Emeritus (retired 9/1/14)

**Education:**

University of California, Berkeley	Zoology	B.A.	1964
University of California, San Francisco Med.Sch.	Microbiology	Ph.D.	1971
University of California, San Francisco Med.Sch.	Biochemistry	Postdoc	1971-74
University of California, San Francisco Med.Sch.	Cancer Res.	Postdoc	1974-75

**Appointments:**

Director, Hawaii Institute of Marine Biology, University of Hawaii	2001-2014
Professor, School of Ocean & Earth Sciences Technology, Univ. Hawaii	2001-2014
Asst., Assoc., Full Professor of Microbiology, Oregon State University	1975-1992
Distinguished Professor of Microbiology, Oregon State Univ.	1993-2003
Chairperson, Dept. of Microbiology, Oregon State Univ.	1996-2001
Emile Pernot Endowed Professor of Microbiology	1998-2003
Editor, Viral Diseases of Fish, Diseases of Aquatic Organisms	1996-2006
Editorial Board, Marine Biotechnology, J. Virol. Methods, Methods in Cell Sci	1991-2006
USDA/NSF Microbial Genome Sequence	2001, 2003, 2004
USDA Molecular Basis of Animal Diseases Panel	2005, 2006
President, Board of Governors, Center for Tropical and Subtropical Aquaculture	2001-2014
Myron B. Thompson Academy School Board	2002-2011
Co-Chair, Ecosystem Science and Management Working Group, a standing committee of the NOAA Scientific Advisory Board	2008-2017
President, National Association of Marine Laboratories	2012-2013
Chairman, Public Policy Committee of NAML	2010-2012

**Refereed Publications (2010-2014):**

Leong, J. C., and G. Kurath. 2010. Novirhabdoviruses. **The Springer Index of Viruses**. (C.A. Tidona and G. Darai, Editors), online. Springer-Verlag.

Palumbi, S.R., J. D. Allen, M. W. Beck, D. G. Fautin, M.J. Fogarty, B. S. Halpern, L.S. Incze, J. Leong, E. Norse, J. J. Stachowicz, D. H. Wall, and P. A. Sandifer. 2009. Managing for Ocean Biodiversity: Creating a National Biodiversity Agenda to Sustain Marine Ecosystem Services. **Frontiers in Ecology and the Environment** 7(4):204-211.

Van Oppen, Madeleine JH, Jo-Ann Leong, Ruth D. Gates. 2009 Coral-virus interactions: a double-edged sword? **Symbiosis** 47(1):1-8..

Work, T.M., J. Dagenais, G.H. Balazs, J. Schumacher, T. D. Lewis, J. C. Leong, R. N. Casey, and J. W. Casey. 2009. In vitro biology of fibropapilloma-associated turtle herpesvirus and host cells in Hawaiian green turtles (*Chelonia mydas*). **Journal of General Virology** 90:1943-1950.

Hagedorn, M., V.L. Carter, J. C. Leong, and F. W. Kleinhaus. 2010. The physiology and cryosenstivity of Coral endosymbiotic algae (Symbiodinium). **Cryobiology** 60(2):147-158.

Mary Hagedorn, Virginia L. Carter, Steven Ly, Raymond M. Andrell, Paul H. Yancey, Jo-Ann C. Leong, and Frederick W. Kleinhaus (2010) Analysis of Internal Osmolality in Developing Coral Larvae, *Fungia scutaria*. **Physiological and Biochemical Zoology** 83(1): 157-166.

Fautin, D., P. Dalton, L. S. Incze, J.C. Leong, C. Pautzke, A.Rosenberg, P. Sandifer, G.Sedberry, J.W. Tunnell Jr., I. Abbott, R.E.Brainard, M.Brodeur, L.G. Eldredge, M. Feldman, F.Moretzsohn, P. S.Vroom, M.Wainstein, N.Wolff. 2010. An Overview of Marine Biodiversity in United States Waters. **PloS One** 5(8), e11914, p. 1-47. (Leong, Abbott, Eldredge contributed section on Insular Pacific –Hawaiian Large Marine Ecosystems).

Wiener, C.S., M. Rivera, R. J. Toonen, J. Leong, R.K. Kosaki, S.A. Karl, K. Keller and H. Johnson. 2010. Creating Effective Partnerships in Ecosystem Based Management: A Culture of Science and Management. **J. Marine Biology** DOI 10.11555/2011/241610.

Alonso, M.A., P.P. Chiou, and J. Leong. 2011. Development of a Suicidal DNA vaccine for Infectious Hematopoietic Necrosis Virus. **Fish and Shellfish Immunology** 30:815-823.

Misumi, I., T. D. Lewis, A. Takemura, and J. C. Leong. 2011. Elicited cross-protection and specific antibodies in Mozambique tilapia (*Oreochromis mossambicus*) against two different immobilization serotypes of Cryptocaryon irritans isolated in Hawaii. **Fish and Shellfish Immunology** 30:1152-1158.

Misumi, I., Leong J.C., Takemura, A., and Lewis, T.D. 2012. Immune protection of Mozambique tilapia (*Oreochromis mossambicus*) exposed to different infectious doses of ectoparasite (*Cryptocaryon irritans*). **Parasitology Research** 110 (1):363-372.

Ackermann, M. M. Koriabine, F. Hartmann-Fritsch, P.J.de Jong, T.D. Lewis, N. Schettle, T. M. Work, J. Dagenais, G.H. Balazs and J. C. Leong. 2012. The Genome of Chelonid Herpesvirus 5 Harbors Atypical Genes. **PLoS One** 7(10): e45523. Doi:10.1371/journal.pone.0046623

Alonso, M. and J. C. Leong. 2012. Licensed DNA Vaccines against Infectious Hematopoietic Necrosis Virus (IHNV). **Recent Patents DNA Gene Sequences**. Bentham Science, June 12 Epub ahead of print. PMID 22670604.

Hagedorn, M., Carter, V., Martorana, K. Paresa, M.K., Acker, J., Baums, I.B., Borneman, E., Britton, M., Byers, M., Henley, M., Laterveer, M. Leong, J., McCarthy, M., Meyers, S., Nelson, B.D., Petersen, D., Tiersch, T., Cuevas Uribe, R., Woods, E., Wildt, D. 2012. Preserving and using germplasm and dissociated embryonic cells for conserving Caribbean and Pacific coral. **PLoS One** 7(3):e33354.

Farrar, C.E., Forsman, Z.H., Gates, R.D., Toonen, R.J., and Leong, J.C. 2013. Observing the Coral Symbiome Using Laser Scanning Confocal Microscopy. **Science** 339 (6119):515-518.

Chiou, P.P., M.J. Chen, C-M. Lin, J. Khoo, J. Larson, R. Holt, J. Leong, G. Thorgaard, T.T. Chen. 2013. Production of Homozygous Transgenic Rainbow Trout with Enhanced Disease Resistance. **Marine Biotechnol.**, DOI 10. 1007/S 10126-013-9550-z.

J. C. Leong and T. A. Wilhelm. 2011. Coastal and Marine Spatial Planning and the Northwestern Hawaiian Islands. **Proceedings of the Fifth International Fishers Forum on Marine Spatial Planning and Bycatch Mitigation**, Taipei, Taiwan. ed E. Gilman, A. Ishizaki, D. Chang, W-Y Liu, and P. Dalzell. Western Pacific Regional Fishery Management Council.

J.C. Leong and J. J. Marra (Convening Lead Authors); M. Finucane, T. giambelluca, M. Merrifield, S.E. Miller, J. Polovina, E. Shea (Lead authors); M. Burkett, J. Campbell, P. Lefale, F. Lipschultz, L. Loope, D. Spooner, and B. Wang. 2014 Chapter 23. Hawaii and U.S. Affiliated Pacific Islands. **Climate Change Impacts in the United States: The Third National Climate Assessment**, J. M. Melillo, Terese Richmond, and G W. Yohe (eds.) U.S. Global Change Research Program, 537-556. Doi:10.7930/JOW66HPM.

Falter, J., Hochberg, E., Schar, D., and Leong, J. 2013. Obituary. Marlin J. Atkinson 1951-2013. **Limnology & Oceanography Bulletin** 22 (2): 56-58.

Evenson, O., and Leong, J. 2013. DNA Vaccines against viral diseases of farmed fish. **Fish & Shellfish Immunology** 56:1751-1758.

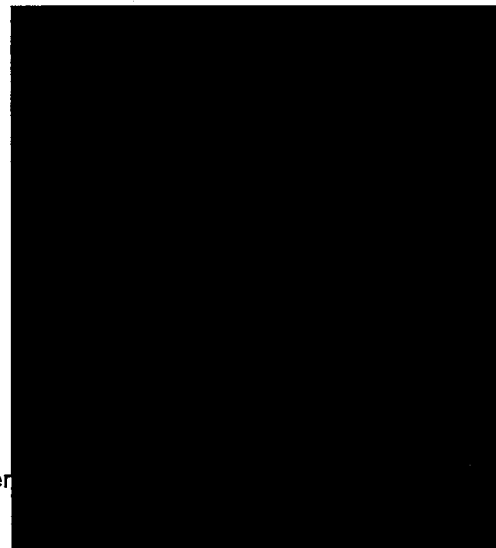
Davies, N., Field, D., Amaral-Zettler, L., Clark, M.S., Deck, J., Drummond, A., Faith, D.P., Geller, J., Gilvert, J., Clockner, F.O., Hirsch, P.R., Leong, J. A., et al. 2014. The founding charter of the Genomic Observatories Network. **GigaScience** 3:2.

Chen, P.P., Chen, M.J., Lin, C-M., Khoo, J., Larson, J. Holt, R., Leong, J., Thorgaard, G., and Chen, T.T. 2014. Production of homozygous transgenic rainbow trout with enhanced disease resistance. **Marine Biotechnol.** 16: 299-308.

J.C. Leong and G. Kurath. 2016 Chapter 2. Infectious Hematopoietic Necrosis Virus. In *Fish Viruses and Bacteria: Pathobiology and Protection*. CABI, in press.

**Thesis Advisor & Postgraduate Scholar Sponsor:**

Marta Alonso	NEIKER- Tecnalia, Spain
Eric Anderson	Maine Bio-tek, VP
Rosemary Barrie	Newberg, Oregon
Linda Bootland	Novartis, retired
Peter PinWen Chiou	National Taiwan Ocean University
John D. Drennan	Schering-Plough Animal Health Corp
Barbara A. Drolet	Agricultural Res. Service, Laramie, WY
Linda Durrin	Beckman Research Institute, CA.
H. Mark Engelking	Oregon Dept. of Fish & Wildlife
Manley Huang	Panorama Research Institute
Robert D. Gilmore Jr	CDC, Fort Collins, Co
Yali Hsu	Academia Sinica – Zoology
Marc Johnson	University of Missouri Med Sch
Carol Kim	University of Maine at Orono
Jennifer Kishimori	USAMRIID
Gael Kurath	USGS, Seattle, WA
Teresa Lewis	Center Director, Midwest Fisheries Center
Carla Mason Endres	College of Eastern Utah, Sasn Juan
Ichiro Misumi	University of North Carolina Sch Med



Dan V. Mourich            Antivirals, Inc.  
Jay A. Nelson            Oregon Health Sciences Univ., Portland  
Benjamin Simon        Evergreen State College  
Leslie Tengelsen        Epidemiology Services, State of Idaho  
Grant D. Trobridge      University of Washington  
Scott W. Wong            Gene Therapy Institute, OHSU  
Dawn Jordan Hayes      Calif, Animal Health & Food Safety Lab  
Li Xu                      Sea Lane Biotechnologies, Menlo Park



**Synergistic Activities:**

Executive Secretariat, National Climate Assessment Development Advisory Committee, 2010-2014  
NCADAC and convening Lead Author, Hawaii and the Pacific Islands Chapter, 2010-2014  
Team Leader, Ecogenomics and Metabolomics, Hawaii EPSCoR statewide, IMUA III (Investing in  
Multidisciplinary University Activities) 2009-2015; Team Leader Ecological and Evolutionary Genetics, IMUA  
II, 2006-2009.  
Chairman, Marine Biology Graduate Program Initiative at UH Mānoa. Co-Director, 2011-2013.

**Sabbatical Visitors:** recent

Mathias Ackerman      University of Zurich, Institute for Virology, Faculty of Veterinary Med., Switzerland  
Borre Robertsen        University of Tromsø, Tromsø, Norway  
Colin Munn              Plymouth University, Plymouth, UK

**Short Biography:**

Dr. Jo-Ann C. Leong is Director Emeritus of the Hawai'i Institute of Marine Biology and Professor in the School of Ocean & Earth Science & Technology at the University of Hawai'i at Mānoa. Dr. Leong was a Distinguished Professor of Microbiology and the former Chairman of the Department of Microbiology at Oregon State University. There, she held the Emile Pernot Endowed Professorship. She is an elected member of the American Academy of Microbiology. She is the past Chairman of the Board of Directors for the Center of Tropical and Subtropical Aquaculture in Hawai'i, is Past President of the National Association of Marine Laboratories, is Co-Chair of the Ecosystem Science and Management Working Group for the NOAA Scientific Advisory Board, and was on the Executive Secretariat of the National Climate Assessment Development and Advisory Committee. She was a lead author for the chapter on climate impacts on Hawaii and the Affiliated Pacific Islands.

She served as the editor of the Viral Diseases section of Diseases of Aquatic Organisms for more than 10 years and was on the Editorial Board of Marine Molecular Biology and Biotechnology and the Journal of Marine Biotechnology. Dr. Leong has published over 150 refereed research papers that resulted from the work of her 18 doctoral students and 6 M.S. students. She holds 3 patents for the first viral vaccine for fish and the first DNA vaccine for aquacultured species in the U.S. It was in her laboratory that a new genus of Rhabdoviridae, the Novirhabdovirus, was discovered and the type virus, Infectious Hematopoietic Necrosis Virus, kills millions of young trout and salmon each year. She has devoted much of her career to the development of vaccines and control strategies for diseases of aquatic organisms. At the Hawaii Institute of Marine Biology, Dr. Leong assembled a faculty whose expertise includes coral reef ecosystem health, marine vertebrate and invertebrate evolution, connectivity and biogeography. The HIMB faculty has focused their research efforts on coral reef biodiversity, mesophotic reef ecosystems, marine animal sensory processes and ecology, physiological basis for coral reef health, and the recruitment and training of the next generation of ocean scientists, managers, and public stewards.

When Dr. Leong assumed the position of Director of HIMB, the Kāne'ōhe Bay community viewed the research institute as an enclave of scientists with no connection to its neighborhood. It was her aim to change that view and welcome the community to Moku o Lo'e. She serves on the Boards for Paepae O He'eia, Kako `o` O'iwi, and is a contributing member of the Ko`olapoko Hawaiian Civic Club. She and Jonathan Kanekoa Kekua Shultz proposed the designation of the National Estuarine Research Reserve site at He'eia and that proposal was selected for the federal designation process by the state. She lives in the ahupua`a of He'eia and has a strong commitment to the people who live there and in the Kāne'ōhe Bay region.