

Curriculum Vitae

Pat M. Fidopiastis

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Education

2001- Ph.D. Microbiology; Univ. of Hawai'i, Manoa

1998- Microbial Diversity summer course, Marine Biological Laboratory, Woods Hole, MA

1995- M.A. Biological Sciences, emphasis in Microbiology; Cal. State Univ., Fullerton;

1992- B.A. Biological Sciences, emphasis in Microbiology; Cal. State Univ., Fullerton;

Other Institutions Attended

Univ. of Southern Cal.; Ph.D. program in Marine Biology and Oceanography; transferred to the Univ. of Hawai'i with my advisor (Sept. 1996)

Work Experience

2010-present Associate Professor, Dept. of Biological Sciences, California Polytechnic University, San Luis Obispo, CA

2006- 2010 Assistant Professor, Dept. of Biological Sciences, California Polytechnic University, San Luis Obispo, CA

Courses: Diversity and History of Life (BIO 160), Orientation to Biotechnology (SCM 201), General Microbiology (MCRO 221 and MCRO 224), Wine Microbiology (MCRO 301), Emerging Infectious Diseases (MCRO 320); Molecular Biology (BIO 375); Food Microbiology (MCRO 421), Microbial Physiology (MCRO 424), Proposal Writing (BIO 461), Symbiosis Seminar (BIO 590)

Committees: Bio. Dept. Assessment Committee; Access to Excellence "Domain 2", Lecturer Hiring Committee, College Information Technology Committee

Work Experience (cont.)

2003-2006 Assistant Professor, Dept. of Biology, Skidmore College;

Courses: General Biology 105/Lab, Food Microbiology 165/Lab (non-majors), General Microbiology 246/Lab and 314/Lab, Molecular Biology 343/Lab, Virology 361/Lab, Bacterial Pathogenesis 362, and Liberal Studies I

Committees: Assessment Subcommittee; Institutional Review Board

2001-2003- Visiting Assistant Professor, Dept. of Biology, Skidmore College

1999-2001- Lecturer for Biology of Microorganisms 351; Univ. of Hawai'i, Manoa; lecture topics: bacterial metabolism, food microbiology, pathogenesis, and symbiosis

1996-2001- Research Assistant, Pacific Biomedical Research Center, Univ. of Hawai'i, Manoa

1995-2001- Computer consultant; Apple and IBM-compatible computers

1996- Instructor of general microbiology laboratory; Univ. of Southern Calif.

1995- Instructor of microbiology for nurses laboratory; Univ. of Southern Calif.

1994-1995- Substitute lecturer for microbiology faculty; Calif. State Univ., Fullerton

1993- Microbiology lab technician; R.P.I. Fresh Water Institute, Bolton Landing, NY

1991-1995- Instructor of general microbiology laboratory; Calif. State Univ., Fullerton

Research Experience

2001-present- 1) Role of proteases in the symbiotic colonization of squid by *Vibrio fischeri*, 2) Construction and screening of a large transposon mutant library of *V. fischeri* strains to identify symbiosis determinants

Luminescence gene regulation in the cold-water fish pathogen *Vibrio salmonicida*; virulence factors in *V. salmonicida*

Research Experience (cont.)

Role of gut microbes in the digestive processes of herbivorous marine fishes

2001-present- Supervised 50 undergraduates in various research projects, including six members of underrepresented groups

1995-2001- Ph.D. Dissertation: Benign infection of sepiolid squids by luminous *Vibrio* species: model systems for understanding environmental and genetic factors that regulate bacteria-host interactions; 1) Identification and study of symbiotic determinants in *Vibrio fischeri* that are homologs of virulence factors of related *Vibrio* species; 2) metabolic, physiological (temperature dependence of growth rate and luminescence), and molecular phylogenetic study of light organ symbionts of Mediterranean sepiolid squids; 3) luminescence physiology of *Vibrio salmonicida*, the causative agent of cold water vibriosis in salmon and trout, and 4) luciferase as a putative virulence factor in *V. salmonicida*; Univ. of Southern Cal. and Pacific Biomedical Research Center (Univ. of Hawai'i, Manoa)

1992-1995- Supervised and assisted in 10 undergraduate research projects that were generated from my masters research

1992-1995- Masters Thesis: Microbial activity in the gut of an herbivorous marine fish; TEM, SEM, epifluorescence microscopy, and HPLC analyses of fish gut contents; isolation of bacterial DNA for molecular phylogenetic applications; pure culture isolation of bacteria to determine the metabolic activities of gut microbes participating in the digestive processes of the herbivorous marine fish *Hermosilla azurea*; Cal. State Univ., Fullerton

1993- Primary researcher in a project to monitor concentrations of coliform bacteria at specific sites in Lake George, NY throughout the summer of 1993; my data were used to prepare a report that was presented to various New York State environmental commissions; R.P.I. Fresh Water Institute, Bolton Landing, NY

Academic Awards and Research Grants

2010- Office of Naval Research- "Developing a Visual Tracking System for Small Marine Animal Research" (\$40,000)

2010- Cal Poly EFI Grant - Cryptic Toxin Production by the Cold Water Fish Pathogen *Vibrio salmonicida* (\$11,500)

Academic Awards and Research Grants (Cont.)

- 2009- National Science Foundation- “Use of genome enable tools to understand symbiosis” (\$110,500)
- 2008- Office of Naval Research- Tracking Shallow Water Squid via an Underwater Robot System” (\$40,000)
- 2007- Cal Poly EFI Grant- “A novel *lux* operon in the fish pathogen *Vibrio salmonicida* is associated with virulence” (\$11,375)
- 2005- National Science Foundation- RUI/ROA Grant (co-PI)
“The role of oxidative stress in light production by *Vibrio fischeri*” (\$15,000)
- 2004- Faculty/Student Summer Collaborative Research Grant, Skidmore College;
“Biochemical characterization of *Vibrio fischeri* superoxide dismutase” (\$3,000)
- 2003- National Science Foundation Major Research Instrumentation Grant (co-PI);
“Acquisition of a variable pressure scanning electron microscope and energy dispersive spectrometer for faculty-student research at Skidmore College”
(\$235,000)
- 2003- Faculty Development Grant, Skidmore College (\$1,500)
- 2002- Faculty/Student Summer Collaborative Research Grant, Skidmore College;
“Purification and composition of *V. fischeri* exopolysaccharide” (\$3,000)
- 2001- Faculty Development Grant, Skidmore College (\$1,500)
- 2001- Student Travel Grant Award; American Society for Microbiology, 101th General Meeting, Orlando, FL
- 1999- Best Presentation Award; American Society for Microbiology, Hawai‘i branch meeting
- 1998- University of Hawai‘i Foundation Ph.D. Completion Fellowship
- 1998- American Society for Microbiology (Hawai‘i Branch) Travel Grant (to present research at the 98th American Society for Microbiology meeting, Atlanta, GA)
- 1997- Sigma Xi Best Presentation Award; American Society for Microbiology, Hawai‘i branch meeting

Academic Awards and Research Grants (cont.)

- 1997- Student Travel Grant Award; American Society for Microbiology, 97th General Meeting, Miami, FLA
- 1997- Best Presentation Award; American Society for Microbiology, Hawai'i branch meeting
- 1995- Departmental Associations Council Travel Grant (to present research at the American Society for Microbiology 95th General Meeting, Washington, D.C.); Cal. State Univ., Fullerton
- 1993-1995- Departmental Associations Council Research Grant; Cal. State Univ., Fullerton
- 1992-1995- Biological Sciences Department Research Grant; Cal. State Univ., Fullerton
- 1994- Outstanding Teacher Award; Cal. State Univ., Fullerton
- 1991- Awarded with the opportunity to teach microbiology laboratory as a senior undergraduate based on my academic performance in undergraduate microbiology courses; Cal. State Univ., Fullerton

Publications and Abstracts (*student's names are underlined*)

Fidopiastis, P.M., Rader, B.A., Gerling, D.G., Gutierrez, N.A., Watkins, K.H., Frey, M.W., Nyholm, S.V., and C.A. Whistler. 2012. Characterization of a *Vibrio fischeri* Aminopeptidase and Evidence for Its Influence on an Early Stage of Squid Colonization. J. Bacteriol. 194:3995-4002

Erasmus, M.F. and P.M. Fidopiastis. 2008. Characterizing a transposon mutant of *Vibrio fischeri*. **Presentation.** COSAM Research Symposium, Cal Poly

A. Mohn, Pat M. Fidopiastis, Nils Peder Willassen, and Henning Sørum. 2008. Generation and phenotypic screening of a *Vibrio salmonicida* transposon mutant library. Presentation. International Conference on Fish Diseases and Fish Immunology, Reykjavic, Iceland

Nelson, E. J., Tunnsjø, H.S., Fidopiastis, P.M., Sørum, H., and, E.G. Ruby. 2007. A novel *lux* operon in the cryptically bioluminescent fish pathogen *Vibrio salmonicida* is associated with virulence. Appl. Environ. Micro. 73: 1825-1833

Publications and Abstracts (cont.)

Fidopiastis, P.M., Bezdek, D. J., Kandel, J. S., and M. H. Horn. 2006. Characterizing the resident, fermentative microbial consortium in the hindgut of the temperate-zone herbivorous fish, *Hermosilla azurea* (Teleostei: Kyphosidae). *Mar. Biol.* 148: 631-642

Fidopiastis, P. M., Miyamoto, C. M., Jobling, M. G., Meighen, E. A., and E. G. Ruby. 2002. LitR, a new transcriptional activator in *Vibrio fischeri*, regulates luminescence and symbiotic light organ colonization. *Mol. Microbiol.* 45: 131-143

Fidopiastis, P.M. Ph.D. Dissertation. 2001. Benign infection of sepiolid squids by luminous *Vibrio* species: model systems for understanding environmental and genetic factors that regulate bacteria-host interactions. Univ. of Hawai'i, Manoa

Fidopiastis, P.M., and E. G. Ruby. 2001. LitR, a newly described transcriptional activator of *luxR*, regulates the symbiotic colonization of squid by *Vibrio fischeri*. American Society for Microbiology General Meeting, Orlando, FL

Fidopiastis, P. M., H. Sørum, and E. G. Ruby. 1999. Cryptic luminescence in the cold-water fish pathogen *Vibrio salmonicida*. *Arch Microbiol.* 171: 205-209

Fidopiastis, P. M., and E. G. Ruby. 1999. The role of a homologue of the *V. cholerae* *hapR* gene in the symbiotic colonization of squid by *Vibrio fischeri*. American Society for Microbiology General Meeting, Chicago, IL

Fidopiastis, P. M., S. von Boletzky, and E. G. Ruby. 1998. A new niche for *Vibrio logei*, the predominant light organ symbiont of the Mediterranean sepiolid squids *Sepioloidea affinis* and *S. robusta*. *J. Bacteriol.* 180: 59-64

Fidopiastis, P. M., and E. G. Ruby. 1998. Enhancement of symbiotic colonization of squid by cholera toxin; Abstr. 98th Annu. Meet. Am. Soc. Microbiol.

Fidopiastis, P.M., and S. von Boletzky. 1998. Identification and physiological characterization of light organ symbionts of Mediterranean sepiolid squids. *Pacific Science* vol. 52

Fidopiastis, P. M., S. von Boletzky, and E. G. Ruby. 1997. Molecular and physiological identification of the light organ symbionts of Mediterranean sepiolid squids; Abstr. 97th Annu. Meet. Am. Soc. Microbiol.

Fidopiastis, P. M. 1995. Microbial Activity in the Gut of an Herbivorous Marine Fish; Masters Thesis; Calif. State Univ., Fullerton

Publications and Abstracts (cont.)

Fidopiastis, P. M., J. S. Kandel, M. H. Horn, and W. Van Antwerp. 1995. Microbial activity in the gut of an herbivorous marine fish; Abstr. 95th Annu. Meet. Am. Soc. Microbiol.

Fidopiastis, P. M., J. S. Kandel, and M. H. Horn. 1994. The Role of Gut Microbes in the Digestive Processes of the Herbivorous Marine Fish, *Hermosilla azurea*; Abstract; CSUperb Biotechnologies Symposium, Pomona, CA

Research Presentations

- 2006- Characterizing the resident, fermentative microbial consortium in the hindgut of a temperate-zone herbivorous fish. Ocean Sciences Meeting, Honolulu, HI
- 2004- LitR-regulation of luminescence, biofilm formation, and symbiotic competence in *Vibrio fischeri*. Invited speaker, University of Georgia Microbiology Seminar Series.
- 2004- Update on the role of Zn-metalloproteases, superoxide dismutases, and LitR in the physiology and symbiotic competence of *Vibrio fischeri*. The 16th Annual *Vibrio fischeri-Euprymna scolopes* Symbiosis Symposium, Hawaiian Institute of Marine Biology, Hawaii
- 2002- Investigating the role of Zn-metalloproteases, superoxide dismutases, and LitR in the physiology and symbiotic competence of *Vibrio fischeri*. The 14th Annual *Vibrio fischeri-Euprymna scolopes* Symbiosis Symposium, Hawaiian Institute of Marine Biology, Hawaii
- 2002- LitR, a newly described positive regulator of luminescence in *Vibrio fischeri*, also controls biofilm formation. Faculty/student summer collaboration symposium, Skidmore College.
- 2001- Benign infection of sepiolid squids by luminous *Vibrio* species: model systems for understanding environmental and genetic factors that regulate bacteria-host interactions; Dissertation defense
- 1999- The role of a homologue of the *V. cholerae hapR* gene in the symbiotic colonization of squid by *Vibrio fischeri*. American Society for Microbiology, Hawai'i branch meeting
- 1997- A new niche for *Vibrio logei*, the predominant light organ symbiont of the Mediterranean sepiolid squids *Sepiola affinis* and *S. robusta*; American Society for Microbiology, Hawai'i branch meeting

Research Presentations (cont.)

- 1995- Molecular and physiological identification of the previously unidentified light organ symbionts of the Mediterranean sepiolid squids *Sepiola affinis* and *S. robusta*; West Coast Bacterial Physiologists Meeting, Asilomar, CA and Tester Symposium, University of Hawai'i, Manoa
- 1995- Microbial activity in the gut of an herbivorous marine fish; Masters Thesis Defense and Univ. of Southern Calif. Marine Biology Department Weekly Seminar Series

Professional Service

- 2007- Trained a visiting Ph.D. candidate from Norway
- 2006-present- Journal Reviewer- 1) *Cladistics*, 2) *Applied and Environmental Micro*, and 3) *Environmental Micro*
- 2000- present- Hawaiian Academy of Science student mentoring program
- 2000- Hawai'i State Science Fair judge
- 1999- Letter to the Editor contribution (ASM News, Vol. 65, March, p. 124)
- 1998- American Society for Microbiology web site reviewer (ASM News, Vol. 64, Oct. 1998, p. 600-601)
- 1997- American Society for Microbiology General Meeting Student Science Day volunteer
- 1996- California State Science Fair Judge, Microbiology Division
- 1990- present- Science Education Network member; guest speaker for elementary, junior high, and high school level classes to promote interest in science using microbiology demonstrations; recent classroom visits: Kensington Elementary School, Glens Falls, NY (3rd grade), Glens Falls Middle School, Glens Falls, NY (6th grade), Kaimuki High School, Honolulu, HI (10th grade), Waialae School, Honolulu, HI (1st grade), Big Cross Elementary School, Glens Falls, NY (3rd grade)