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EDUCATION

- Ph.D. Department of Botany and Ecology, Evolution and Conservation Biology Program, University of Hawai'i, Manoa, Honolulu, HI (Dec 2003)
- B.S. in Zoology, Humboldt State University, Arcata, CA (May 1997)
- B.S. in Biology, Humboldt State University, Arcata, CA (May 1997)

PROFESSIONAL EXPERIENCE

Research

- **2004 Junior Researcher. Department of Botany, University of Hawai'i.**
Design and implementation of a large-scale study to determine the factors influencing the formation of harmful/invasive macroalgal blooms along the west-Maui coastline.
- **2003 Graduate Research Assistant. Waikiki Aquarium & Department of Botany, University of Hawai'i.**
Designed and conducted statewide surveys to quantify alien/invasive algae abundance in relation to other benthic species and abundance of herbivores in the Hawaiian Islands, conducted ecological and physiological experiments to help identify invasive characteristics of individual species and analyzed, prepared and submitted all research findings for publication.
- **2003 Project Coordinator and Principal Researcher, The City and County of Maui & EPA.**
Designed and conducted experiments investigating the linkage between land-based nutrients, ground water and algal blooms on the reefs in Kihei, Maui.
- **2002 Graduate Research Assistant, Waikiki Aquarium & Department of Botany, University of Hawai'i.**
Examined potential management options for control and eradication of alien/invasive algae in the Hawaiian Islands; conducted a number of experiments assessing physiological tolerances and susceptibility of invasive species to chemical, temperature and salinity treatments; tested potential use of native herbivorous fish and urchins as control agents; conducted experiments addressing the influence of multiple factors on reestablishment of alien algae following removal; organized and helped run community based volunteer alien algae removal programs in Waikiki, analyzed, prepared and submitted research findings for publication.
- **2001 Graduate Research Assistant, Department of Botany, University of Hawai'i.**
Conducted benthic SCUBA surveys throughout the main Hawaiian Islands with the Coral Reef Monitoring and Assessment Program (CRAMP), prepared and identified all seaweed samples and designed web pages for dissemination of results.
- **2001-2002 Research Biologist: Dynamics of the bloom forming green alga *Cladophora sericea* on West Maui, HI, Hawai'i Sea Grant.**
Designed and conducted field and laboratory experiments examining the physiological ecology of the invasive bloom-forming green alga *C. sericea* with specific reference to nutrient responses.

- **2000 Graduate Research Assistant, Waikiki Aquarium, University of Hawai'i.**
Conducted experiments to identify factors that influence the success of alien/invasive algae in Hawai'i including: growth and physiological responses to nutrient enrichment, native grazer preferences for a variety of native and invasive algal species. Surveys were conducted throughout the main Hawaiian Islands to determine the current distribution of alien species in the State of Hawai'i; results were published in a peer reviewed scientific journal.
- **1998-2000 Research Biologist, National Undersea Research Center (NURC, UNCW/NOAA), Key Largo, FL.**
Conducted a variety of research projects on the subtidal ecology of the green alga *Halimeda tuna* in the Florida Keys reef tract.
- **1999 Graduate Research Assistant, Waikiki Aquarium, University of Hawai'i.**
Designed, implemented, managed and conducted experiments to assess the effects of herbivory and nutrient enrichment on benthic community structure on a Hawaiian reef, results were published in a peer reviewed scientific journal.
- **1998 Research Technician, National Marine Fisheries Service, NOAA.**
Participated in a ship-based assessment of lobster fishery in the North Western Hawaiian Islands.
- **1998 Field Biologist, Bernice P. Bishop Museum.**
Conducted marine invasive species surveys on the island of Kaho'olawe, HI
- **1995-1997 Scientific SCUBA Diver.**
Humboldt State University: Several Projects
- **1997 Senior Thesis.**
Studied the photobiology and symbiotic relationship of the Pacific Green Sea Anemone *Anthopleura xanthogrammica* and associated zooxanthellae, Advisor: Dr. Gary Brusca
- **1993 Internship, Center for Coastal Field Studies.**
Quebec, Marine Mammal Behavior. Studied the foraging and behavioral ecology of cetaceans and pinnipeds in the Gulf of the St. Lawrence.

Teaching

- **1998-2005 Faculty Member, Lecturer, University of Hawai'i, Hilo**
Participated as a visiting faculty member, lecturer and safety diver in a team-taught intensive coral reef ecology field course (Quantitative Underwater Ecological Surveying Techniques), taught phycology, experimental design, statistics and ecology.
- **1997-2005 Workshop Convener, Marine Option Program, University of Hawai'i.**
Prepared and convened workshops on the taxonomy and field identification of marine algae in the Hawaiian Islands twice yearly at the University of Hawai'i's Hilo and Manoa campuses.
- **1999-2004 Workshop Convener, Waikiki Aquarium, University of Hawai'i.**
Prepared and convened workshops across the state of Hawaii at schools, federal and state agencies and community groups on identification of alien and invasive macroalgae in Hawaii and on seaweed & coral reef ecology.
- **1997-1998 Graduate Teaching Assistant, Department of Botany, University of Hawaii, Manoa.**
Biology 101: Introductory Biology
Botany 101: Introductory Botany
Botany 362: Plant Taxonomy and Systematics

GRANTS

- 2003-2004 Principal Investigator, Environmental Protection Agency and the City and County of Maui. Assessing the relationship between nutrients and algal blooms in Kihei. \$50K, 1 year

- 2004 Principal Investigator, US Fish and Wildlife Service, Inventory of coastal resources around the Kane'ohē Marine Base, \$10K
- 2002-2005 NOAA, Harmful Algal Bloom Program. Co-author. Assessing linkages between land-based nutrients and algal blooms on Maui. \$900 K, 3 years
- 2001 Hawaii Sea Grant Project Development Grant. Co-author. Dynamics of the bloom forming green alga *Cladophora sericea*. \$10 K, 1 year
- 1999-2003 Hawaii Coral Reef Initiative Research Program, NOAA. Co-author, various projects. Yearly grants ranging from \$50K-130K per year

HONORS & AWARDS

2004 Invited Participant of the DIALOG symposium, Dauphin Island Sea Laboratory
2003 Mia Tegner Award for best paper in Conservation and Ecology, Western Society of Naturalists annual meeting, Long Beach, CA
2003 Coastal America Partnership Award for implementing a multiagency and community based invasive algae removal program, NOAA
2003 Harold C. Bold Award, best oral presentation for outstanding, original and innovative predoctoral research at the Phycological Society of America's annual meeting, Gleneden Beach, OR
2003 Hoshaw Travel Award from the Phycological Society of America to attend annual meeting
2003-2004 Student Representative for the Phycological Society of America's Gerald W. Prescott Award Committee
2003 University of Hawai'i Ecology, Evolution & Conservation Biology Travel Award
2003 Hawai'i Coral Reef Initiative Travel Award
2003 Student Representative for the University of Hawai'i College of Natural Sciences
2002 Hawai'i Coral Reef Initiative Travel Award
2002 ARCS Award (Achievement Rewards for College Scientists) for outstanding predoctoral research in botany
2001 Student Support/Travel Award: International Phycological Congress
2000 Best Paper Award: Albert L. Tester Symposium University of Hawai'i
1996-1997 Howard Hughes Medical Institute (HHMI) Scholarship
1995-1997 Presidential Scholar, Humboldt State University

PUBLICATIONS

In Press

Smith, J. E., J. W. Runcie and C. M. Smith (In Revision) Bloom dynamics and physiological ecology of the invasive green alga *Cladophora sericea* on West Maui. *Mar. Ecol. Prog. Ser.*
Conklin, E. J. and **J. E. Smith** (In Press) Increases in abundance and development of management options for the invasive red alga *Kappaphycus* in Kane'ohē Bay, Hawai'i. *Biological Invasions*.
Schaffelke, B., **J. E. Smith** & C. L. Hewitt (In Press) Introduced macroalgae- a growing concern. Proceedings of the International Seaweed Symposium in *Hydrobiologia*.
G. C. Zuccarello, A.T. Critchley, **J. E. Smith** & J. A. West (In Press) Systematics and genetic variation in commercial *Kappaphycus* and *Eucheuma* (Solieriaceae, Rhodophyta). Proceedings of the International Seaweed Symposium in *Hydrobiologia*.
Friedlander, A. , G. Aeby, E. Brown, A. Clark, S. Coles, S. Dollar, D. Gulko, C. Hunter, P. Jokiel, **J. E. Smith**, B. Walsh, I. Williams and W. Wiltse (In Press) The Status of the Coral Reef

Ecosystems of the Main Hawaiian Islands. In *The Status of the Coral Reef Ecosystems of the United States and Pacific Freely Associated States: 2004*.

Published

- Smith, J. E.**, C. Smith, P. Vroom, K. Beach, S. Miller (2004) Nutrient dynamics of the green alga *Halimeda tuna* on Conch Reef, Florida Keys: possible influence of internal tides on nutrient status and physiology. *Limnology and Oceanography* 49(6): 1923-1936.
- Smith, J. E.**, R. Most, T. Sauvage, C. Hunter, C. Squair and E. Conklin (2004) Ecology of the invasive red alga *Gracilaria salicornia* in Waikiki and possible mitigation strategies. *Pacific Science* 58(2) 325-343.
- Smith, J. E.** (2003) Factors influencing the formation of algal blooms on tropical reefs with an emphasis on nutrients, herbivores and invasive species. Doctoral Dissertation, University of Hawaii, Manoa, 425 pp.
- Vroom, P. S., C. M. Smith, J. A. Coyer, L. J. Walters, C. L. Hunter, K. S. Beach, **J. E. Smith** (2003) Field biology of *Halimeda tuna* (Bryopsidales, Chlorophyta) across a depth gradient: comparative growth, survivorship, recruitment, and reproduction. *Hydrobiologia* 501(1): 149-166.
- Runcie, J. W. and **J. E. Smith** (2003) Introduction to special issue: Nutrient dynamics in coastal ecosystems-linking physical and biological processes. *Journal of Marine Systems* 42(3-4): 81-82.
- Smith, J. E.**, C. L. Hunter and C. M. Smith (2002) Distribution and reproductive characteristics of nonindigenous and invasive marine algae in the Hawaiian Islands. *Pacific Science* 56(3): 299-315.
- Vroom, P. S., **J. E. Smith** and C. M. Smith (2001) Observations of reproduction in *Rhipidosiphon javensis* (Halimedineae, Bryopsidales) in Hawai'i. *Phycologia* 40(1): 97-100.
- Smith, J. E.**, C. L. Hunter and C. M. Smith (2001) The effects of herbivory and nutrient enrichment on benthic community structure and development on a Hawaiian Reef. *Coral Reefs* 19: 332-342.
- Coles, S.L., R.C. DeFelice, **J.E. Smith**, D. Muir & L.G. Eldredge (1998) Determination of baseline conditions for introduced marine species in near shore waters of the island Kaho'olawe, Hawai'i. *Bishop Museum Technical Report No. 14*.

In Review

Zemke-White, W. L. and **J. E. Smith** (In Review) Environmental impacts of seaweed farming in the tropics. Book chapter, *Seaweed Resources of the World*.

In Prep

- Smith, J. E.**, E. J. Conklin, C. L. Hunter and C. M. Smith (In Prep) Invasive species on coral reefs a new threat to diversity and coral persistence. *Ecology Letters*.
- Smith, J. E.** (In Prep) A review of invasive macroalgae in tropical marine ecosystems. Invited for *Frontiers in Ecology & the Environment*.

CONTRIBUTED PAPERS

Smith, J. E. and E. J. Conklin (2004) The effects of herbivores, nutrients and biodiversity on the success of invasive macroalgae in Hawaii, Western Society of Naturalists, Sonoma, CA.

- Smith, J. E.** (2004) Algal Blooms and phase-shifts on coral reefs. DIALOG (Dissertation Initiatives for the Advancement of Limnology and Oceanography), Dauphin Island Sea Lab, AL, November.
- Smith, J. E.** and E. J. Conklin (2004) Invasive macroalgae in Hawaii: the role of biodiversity in invasion success and ultimate consequences to ecosystem structure and function. 13th International Aquatic Invasive Species Conference, Ireland, September.
- Smith, J. E.** and J. Runcie (2004) Nutrient dynamics of the ephemeral bloom forming green alga *Cladophora sericea* on Maui's reefs. 10th International Coral Reef Symposium, Okinawa, June.
- Smith, J. E.** (2003) Invasive macroalgae on Hawaii's coral reefs: Impacts, interactions, mechanisms and management. Western Society of Naturalists, Long Beach, CA.
- Smith, J. E.** (2003) Impacts, Interactions, Mechanisms and Management of The Invasive Alga *Kappaphycus* on Hawaii's Coral Reefs. Annual Meeting of the Phycological Society of America, Gleneden Beach, OR.
- Hunter, C. L., E. Co, C. Smith, **J. Smith**, S. Atkinson, R. Honebrink and M. Markrich (2003) Building Community Awareness and Involvement In Alien Species Eradication. 3rd International Marine Bioinvasions Conference, Scripps Institute of Oceanography, La Jolla, CA.
- Conklin, E. J., **J. E. Smith**, C. L. Hunter and C. M. Smith (2003) Developing a research based management protocol for the invasive alga *Kappaphycus* in Hawai'i. 3rd International Marine Bioinvasions Conference, Scripps Institute of Oceanography, La Jolla, CA.
- Smith, J.E.** and J. Runcie (2002) Nutrient Dynamics in Coastal Ecosystems: Linking Physical and Biological Processes. Special Session. American Society of Limnology & Oceanography's Ocean Sciences 2002 Meeting, Honolulu, HI.
- Smith, J. E.** (2002) Nutrient Dynamics of the Green Alga *Halimeda tuna* Along a Depth Gradient at Conch Reef, Florida Keys: Possible Influence of Internal Tides? American Society of Limnology & Oceanography's Ocean Sciences 2002 Meeting, Honolulu, HI.
- Vroom, P. S., C. M. Smith, J. A. Coyer, L. J. Walters, K. S. Beach, C. L. Hunter and **J.E. Smith**. (2001). The natural history of *Halimeda tuna* on Conch Reef, Florida Keys. 7th International Phycological Congress, Thessaloniki, Greece. Phycologia 40(4): 55.
- Smith, J. E.**, C. M. Smith, and C. L. Hunter. (2001). An experimental analysis of nitrate uptake kinetics in native and alien/invasive algae in Hawai'i. 7th International Phycological Congress, Thessaloniki, Greece. Phycologia, 40(4): 14-15.
- Smith, J. E.** (2001). Herbivory and nutrient enrichment: Effects on benthic community structure in and development on a Hawaiian Reef. 25th Annual Albert L. Tester Symposium. University of Hawai'i. Pacific Science 55(1): 108-109.
- Smith, J. E.**, C. L. Hunter and C. M. Smith (2000). Alien algae in Hawai'i: Current distribution and unique ecological characteristics. 9th International Coral Reef Symposium, Bali, Indonesia.
- Smith, J. E.**, C. M. Smith and C. L. Hunter (2000). Herbivory and nutrient enrichment on tropical reefs: An experimental analysis of benthic community structure in Hawai'i. 9th International Coral Reef Symposium, Bali, Indonesia.
- Hunter, C. L. and **J. E. Smith** (1999). There's No Such Thing As Dead Coral: "Cryptic" algal diversity and abundance in coral reef communities. International Conference on Scientific Aspects of Coral Reef Assessment, Monitoring, and Restoration: Ft. Lauderdale, FL

INVITED PAPERS

- 2004 Plenary Lecture co-authored with Britta Scheffelke and Chad Hewitt, Invasive Seaweeds, International Seaweed Symposium, Bergen, Norway, July
- 2004 World Aquaculture Society, Suggestions For Environmentally Sound And Sustainable Cultivation Of Tropical Marine Algae, Honolulu, HI, Feb
- 2003 Keynote Address for the University of Hawaii Marine Option Program Graduation
- 2003 Ecological Problems And Management Concerns Associated With Invasive Algae In Hawaii. Hawaii Aquatics Conference.
- 2003 Hawai'i Workshop on Coral Reefs and Land Based Pollution, EPA, Maui
- 2002 Coordinating Group on Alien Pest Species: Update of marine invasive marine seaweeds in Hawai'i. Hawai'i State Capitol Auditorium, Honolulu, Hawai'i
- 2002 Aquatic Nuisance Seaweeds (ANS) on Hawai'i's Coral Reefs. United States Aquatic Nuisance Species Task Force (ANSTF) Meeting, Honolulu, Hawai'i
- 2001 The status of alien and invasive algae in the Hawaiian Islands. Hawai'i Aquatics Conference
- 2001 Invasive macroalgae in the Hawaiian Islands: A threat to our reefs. Hawai'i Department of Land and Natural Resources, Honolulu, Hawai'i

SYMPOSIUM ORGANIZATION & EDITORIAL EXPERIENCE

- 2003 Guest Editor, Special Issue: Linking physical processes to biological patterns, Proceedings of a special session chaired by the authors at Ocean Sciences 2002 Meeting (ASLO and AGU) Journal of Marine Systems
- 2002 Session Chair & Special Seminar Convener: Nutrient Dynamics in Coastal Ecosystems Linking Physical and Biological Processes. Ocean Sciences Meeting, ASLO and AGU, Honolulu, HI. <http://www.agu.org/meetings/os02top.html>
- 2001 Session Chair: Algae and Human Affairs, International Phycological Congress, Thessaloniki, Greece <http://7ipc.bio.auth.gr/default2.htm>
- 2000 Organizer & Judge: Albert L. Tester Symposium, University of Hawai'i

PROFESSIONAL MEMBERSHIPS

Sigma Xi, Full Member, Honolulu Chapter
Phycological Society of America
American Society of Limnology and Oceanography
International Society for Reef Studies
Ecological Society of America
Western Society of Naturalists

SKILLS AND CERTIFICATES

AAUS & NOAA Scientific Diver, NAUI beginning and advanced SCUBA certification
CPR, First Aid and DAN Oxygen Provider certification
GIS/GPS and associated software
Multivariate Statistics, PRIMER, NPMANOVA, PC-Ord software
Ability to operate small boats
Ability to operate scanning electron microscopes
Web page design

WEB PAGES

<http://www.botany.hawaii.edu/GradStud/smith/JENHOME.htm>
<http://www.botany.hawaii.edu/GradStud/smith/web/Invasive-Algae-HOME.htm>
<http://www.botany.hawaii.edu/GradStud/smith/invasive/Control.htm>
<http://www.botany.hawaii.edu/GradStud/smith/invasive/BROCHURE.htm>
<http://www.botany.hawaii.edu/GradStud/smith/CRAMP/TEAM-homepage.htm>
<http://www.botany.hawaii.edu/GradStud/smith/websites/ALIEN-HOME.htm>

REFERENCES & ADVISORS

Ph.D. Advisory Committee:

- Major Advisor: Dr. Celia Smith, Phone: (808) 956-6947, University of Hawai'i, Manoa, Department of Botany, Professor
- Dr. Cynthia Hunter, Phone: (808) 440-9022, University of Hawai'i, Manoa, Waikiki Aquarium, Interim Director and Associate Professor, University of Hawaii, Marine Biology Program
- Dr. Larry Basch, Phone: (808) 956-8820, Associate Professor, Ecology, Evolution and Conservation Biology Program, University of Hawaii Manoa and Senior Scientist, National Park Service Pacific Islands Coral Reef Program
- Dr. Michael Hamnett, Phone: (808) 956-7469, University of Hawai'i, Director, Social Science Research Institute and Professor of Sociology, Director of the Hawaii Coral Reef Initiative Research Program
- Dr. Lu Eldredge, Phone: (808) 848-4139, Bernice P. Bishop Museum, Executive Secretary, Pacific Science Association

Bachelor of Science:

- Dr. Gary Brusca (Deceased), Professor of Zoology, Humboldt State University, Arcata, CA

Other References:

- Dr. Brian Tissot, Director, Science Program, Associate Professor of Environmental Science & Regional Planning, Washington State University Vancouver, 14202 NE Salmon Creek Ave., Vancouver, WA 98686, office: (360) 546-9611
- Dr. Peter Vroom, Algal Biologist, Coral Reef Ecosystem Investigation (CREI), NOAA Fisheries Honolulu Laboratory, Kewalo Basin Research Facility, 1125B Ala Moana Blvd., Honolulu, HI 96814, office: (808) 592-2817
- Dr. Isabella Abbott, Emeritus Faculty, University of Hawaii at Manoa, Botany Department, 3190 Maile Way, Honolulu, HI 96822, office: (808) 956-8073
- Dr. Sherwood Maynard, Director of Biology, University of Hawaii, 2450 Campus Rd., Honolulu, HI 96822, office: (808) 956-8303
- Dr. Francis J. Sansone, Department of Oceanography, 1000 Pope Road, Honolulu, HI 96822, U.S.A., Email: sansone@soest.hawaii.edu, Phone: (808) 956-8370, Fax: (808) 956-7112