

CURRICULUM VITAE FOR GARRIET W. SMITH

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PRESENT POSITIONS:

Washington Chair of Sciences
Microbial Ecologist and Prof. of Biology, University of South Carolina at Aiken
Full Faculty, Department of Marine Biomedicine and Environ. Sci., MUSC
Research Associate, Belle W. Baruch Institute of Marine Biology and Coastal Research
Assoc. Faculty, School of the Environment, University of South Carolina at Columbia
Adjunct Prof., Dept. of Microbiology and Molecular Medicine, Clemson Univ.

RESEARCH INTERESTS:

Bacterial and Fungal Interactions with Plants and Animals, Marine Microbial Ecology, Seagrass Ecosystems, Coral Reef Diseases and Ecology, Sea Fan Pathology, Microbial Symbiosis.

EDUCATION:

A.A. , Biology. 1972. Gulf Coast Comm. College (now Florida State Univ. at Panama City), FL.
B.A., Biology. 1974. Winthrop University, Rock Hill, SC.
M.A.T., Biology. 1975. Winthrop University, Rock Hill, SC.
M.S., Soil Microbiology. 1977. Clemson University, Clemson, SC.
Ph. D., Microbiology. 1981. Clemson University. Clemson, SC.

SERVICE and PROFESSIONAL ASSOCIATIONS:

Subject Editor: Diseases of Aquatic Organisms, 2010-present
American Society for Microbiology, Member since 1973, past councilor SC Branch
Association of Marine Laboratories of the Caribbean, Lab Representative for the Bahamian Field Station 1989-1991, Member-at-Large 1992-2000, Secretary 2000-2002, Lab Rep Gerace Research Center 2002-2008.
Coral Disease Working Group: Co-chair with C.D. Harvel sponsored by the World Bank, 2002-2010.
Coral Health and Disease Workshop: Member of the Diagnostic Working Group. 2002-present.
National Center for Ecological Analysis and synthesis: Working Group "The Ecology of Marine Diseases: 2001- present.
8th Symposium on the Natural History of the Bahamas: Organizer and co-editor of the Proceedings. 2000.
Scientific Advisory Committee: Gerace Research Center. 1994-present.
Reviewer: Many journals (including Nature, Science, PNAS etc.); many granting agencies (NSF, NOAA, DOE, Seagrant, etc.)

Editor, Marine Diseases Theme Section for Diseases of Aquatic Organisms, 2004.
Covonor of the Diseases of Coral Reef Organisms: Evolutionary Aspects, Current Status and Prognosis. At 10th Internat. Coral Reef Symposium at editor of Proceedings.

Major Research Adviser:

Ph.D.

Diego Luis Gil Agudelo: Microbiology of Dark Spots Disease in Corals: exp grad. 2004; Marine Sciences, USCC

James Cervino: Yellow Band disease in Corals: exp grad. 2005; Marine Sciences, USCC

M.S.

Shawn W. Polson: Isolation and Characterization of Bacteria Associated with Three Coral Diseases. Grad: 2002; Microbiology, Clemson U.

Sara C. Polson: Isolation and Characterization of a Tetrodotoxin Producing Bacterium Pathogenic to Sea Urchins. Grad: 2002; Microbiology, Clemson U.

Juliana Weir: *Aspergillus sydowii*, a Gorgonian Pathogen, in African Dust. Grad. 2003; Marine Sciences, USCC.

Joel Koska, MS, Marine Science College of Charleston, PhD. Univ. Delaware, present Assoc. Prof. Florida State U.

Undergrad. Res. Advisor (examples)

Wendy Wong, Research Tech., Harvard Med. School, 1998-2000, present PhD student UCLA.

Karen Wehner, PhD Genetics, Yale Univ., 2002, present: Post-doc Stanford U.

Tanya Morgan, MD, 2000, present: pathologist Walter Reed Hospital.

Lara Ducate, PhD, 1999, present Asst. Prof., Univ. Texas Austin

Many others that have done undergrad research have gone to med, vet and other prof. schools

William Jackson, PhD Virology, MCG, 1992, present: Prof. USCA

Interns and Visiting Researchers that have worked in my lab over the past few years:

Mohammad Silliman, 2008, PhD student, Univ. Dar as Salam, Tanzania

Elizabeth Sileg, 2004, PhD student from UNC-CH (John Bruno)

Krystal Rypien, 2002, PhD student from Cornell (C.D. Harvel's student)

Tom McGrath, 2001, Visiting Researcher, Corning College NY

Katie Patterson, 2000, PhD student from UGA (Jim Porter's Student)

Diego Luis Gil Agudelo, 1998, Visiting Researcher, INVEMAR, Colombia, S.A.

PEER REVIEWED JOURNAL PUBLICATIONS:

Vizcaino, M., W. Johnson, N. Kimes, K. Williams, M. Torralba, K. Nelson, G. Smith, E. Weil, and P. Morris. *Vibrio coralliilyticus* strains and Caribbean sister phylotypes isolated from a diseased octocoral exhibit high antimicrobial resistance. **Microb Ecol** (2010) 59:646–657

Cervino, JM, Quirolo C, Goreau TJ, Thompson F, Gomez-Gill B, Dona AR, Hughen K, Kneeland J, Smith GW, Hayes RL, The effect of increased temperature on Vibrio-induced Yellow Band Coral disease. **J. Exp. Mar. Biol Ecol.** (submitted)

Cunning, JR, JE Thurmond, GW Smith, E Weil, KB Ritchie. A survey of Vibrios associated with healthy and Yellow band diseased *Montastraea faveolata*. **Proc. 11th ICRS**:206-210

Weil E, KB Ritchie, A Croquer, GW Smith, Inoculation of *Vibrio* spp. onto *Montastraea faveolata* fragments to determine potential pathogenicity. **Proc. 11th ICRS**: 202-205.

Gil-Agudelo DL, R Navas-Camacho, A Rodriguez-Ramirez, MC Reyes-Nivia, S Bejarano, J Garzon-Ferreira, GW Smith. Coral diseases and their research in Colombian reefs. **Bol. Invest. Mar. Cost.** 38(2) 171-195. 2009.

Bourne DG, Garren M, Work TM, Rosenberg E, Smith GW, Harvell D, Infectious disease and the coral holobiont. **Trends in Microbiology.** 17(12), 554-560. 2009.

LD Mydlarz, CS Couch, E. Weil, GW Smith and CDHarvell. Immune defenses of healthy, bleached and diseased *Montastraea faveolata* during a Natural bleaching event. **Diseases of Aquatic Organisms.** 87: 67-78, 2009.

Ein-Gil, N , M Iian, S Carmeli, GW Smith, JR Pawlik, O Yarden. Presence of *Aspergillus sydowii*, a pathogen of gorgonian sea-fans in the marine sponge *Spongia obscura*. **Internation Journal of Microbial Ecology.** 3: 752-755. 2009.

Smith GS, Mills M, Weil E. Aspergillosis of *Pseudopterogorgia americana*: Increased host range of gorgonians from the wider Caribbean. *Marine Biology* (submitted).

J.M. Cervino, F. L. Thompson, Bruno Gómez-Gil, E.A. Lorence, T. J. Goreau , Raymond L.Hayes, K.B. Winiarski, G.W. Smith, K. Hughen E. Bartells, The *Vibrio* core group induces Yellow Band Disease in Caribbean and Indo-Pacific Reef Building Corals. **Appl. Microbiol.**, 105(5),1658-1671. 2008.

Warren M, Leverette CL, Smith MA, Smith GW. Carotenoid is the purple pigment in *Gorgonia ventalina* sclerites. **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy** 69:1058-1061, 2008.

Magdalena Piskorska, G. W. Smith Ernesto Weil. Bacteria associated with the coral *Echinopora lamellosa* (Esper 1795) in the Indian Ocean - Zanzibar Region. **African J. Environ Sci Technol.** 1:93-98, 2007.

McGrath TA, Smith GW, Rollino J. A decade-long evaluation of three coral patch reefs of San Salvador, Bahamas. *Bahamian Naturalist and J. of Sci.* 2: 4-12, 2007

Harvell D, Merkel S, Jordan-Dahlgren E, Rosenberg E, Raymundo L, Smith G, Weil E, Willis B, Coral Diseases: the balance between coral and microbial associates. *Oceanography* 20:58-81, 2007.

Gil-Agudelo DL , DP. Fonseca, E. Weil, J. Garzón-Ferreira, GW Smith. Bacterial communities associated with the mucopolysaccharide layers of three coral species affected and unaffected with dark spots disease. *Can. J. Microbiol.* 53:465-471, 2007

Cervino JM, K Winiarski-Cervino, SW Polson, T Goreau, GW Smith. Identification of bacteria associated with a disease affecting the marine sponge *Ianthella basta*, in New Britain, Papua, New Guinea. *Marine Ecology Progress Series*, 324:139-150. 2006.

Weil E, GW Smith, D Gil-Agudelo. Status and progress in coral reef disease research. *Diseases of Aquatic Organisms.* 69:1-7. 2006.

Gil-Aguedlo DL, Ali-Hassan L, Kim K, Smith GW. Characterization of coral surface microbiota using metabolic profiling. *Proc. 10th Internat. Coral Reef Symp.* 146-152. 2006

Smith GW and E Weil. Diseases of coral reef organisms: Evolutionary aspects, current status and prognosis. *Proc. 10th Internat. Coral Reef Symp.* 132. 2006.

Gil-Aguedlo DL, C Myers, GW Smith, K Kim. Changes in the microbial communities associated with *Gorgonia ventalina* during Aspergillois infection. *Diseases of Aquatic Organisms.* 69:89-94. 2006

Ward, JR, KL Rypien, J Bruno, CD Harvell, E Jordan-Dahlgren, KM Mullen, RE Rodriguez-Martinez, J Sanchez, GW Smith. Coral diversity and disease in Mexico. *Diseases of Aquatic Organisms.* 69:23-31. 2006

Garrison VH, WT Foreman, S Genualdi, DW Griffin, CA Kellogg, MS Majewski, A Mohammed, A Ramsabhag, EA Shinn, SL Simonich, GW Smith. Saharan dust-carrier of persistent pollutants, metals and microbes to the Caribbean? *Rev. Biol. Tropical* 54: 2006

Gil-Aguedlo DL, GW Smith E Weil. The white band disease type II pathogen in Puerto Rico. *Rev. Biol. Tropical* 54: 59-67. 2006

- Wilson, C, R Brigmon, A Knox, J Seaman, GW Smith. Effects of microbial phosphate amendments on the bioavailability of lead (Pb) in shooting range soil. *Bull. Environ. Toxicol.* 76: 392-399. 2006
- Cervino, J.M., M. Littler, D. Littler, S.W. Polson, T.J. Goreau, B. Brooks, G.W. Smith. Identification of microbes associated with coralline lethal algal disease and its relationship to glacial ice melt (global warming). *Phytopathology.* 95:6. 2005.
- McCallum HI, A Kuris, CD Harvell, KD Lafferty, GW Smith, J Porter. Does terrestrial epidemiology apply to marine systems? *Trends in Ecology and Evolution* 19: 585-591. 2004
- Cervino, JM, RL Hayes, TJ Goreau, SW Polson, SC Polson, RJ Martinez, GW Smith. *Vibrio* spp. Infection and elevated temperatures as links to Yellow Blotch/Band disease in the Caribbean. *Appl. Environ. Microbiol.* 40(11): 6855-6864. 2004
- Nugues MM, GW Smith, R vanHooidek, M Seabra and R Bak. Algal overgrowth as a trigger for coral disease. *Ecology Letters:* 7: 919-923. 2004
- Harvell D, R Aronson, N Baron, J Connell, A Dobson, S Ellner, L Gerber, K Kim, A Kuris, H McCallum, K Lafferty, B McKay, J Porter, M Pascual, G Smith, K Sutherland, J Ward. The rising tide of ocean diseases: unsolved problems and research priorities. *Front Ecol Environ:* 2: 375-382, 2004.
- Cervino JM, Hayes R, Goreau T, Smith GW. Zooxanthellae regulation in Yellow Blotch/Band and other coral diseases contrasted with temperature related bleaching: in-situ destruction vs expulsion. *Symbiosis:* 37:63-86, 2004.
- Weir, J.R., V. Garrison, G.W. Smith and E.A. Shinn. The relationship between gorgonian coral (Cnidaria: Gorgonacea) disease and African dust storms. *Aerobiologia* 20:119-126. 2004
- Garrison, V.H., E.A. Shinn, R. S. Carr, P. Chavez, W. Foreman, D. Griffin, C. Holmes, C. Kellogg, M. Majewski, L. Richardson, K. Ritchie, G.W. Smith, R. Young. Globally transported African and Asian dust and the health of downstream ecosystems. *BioScience* 53: 469-480. 2003.
- Denner, EBM, GW Smith, HJ Busse, P Schumann, W Lubitz and LL Richardson. Characterisation of the bacterial pathogen, WP1, the causative agent of plague type II on Caribbean scleractinian corals : description of *Aurantimonas coralicida* gen. Nov., sp. nov. *Internat. J. Syst. Evol. Microbiol.* 53:1115-1122, 2003
- McGrath, AT and GW Smith. Comparisons of the 1995 and 1998 coral bleaching events on the patch reefs of San Salvador Island, Bahamas. *Rev. Biol Trop* 51:67-76, 2003

Patterson, K.L., J.W. Porter, K.B. Ritchie, S.W. Polson, E. Mueller, E.C. Peters, D.L. Santavy and G.W. Smith. The etiology of white pox, a lethal disease of the Caribbean elkhorn coral, *Acropora palmata*. *Proc. Nat. Acad. Sci.* 99:8725-8730. 2002.

Bagwell, J.R. LaRocque, G.W. Smith, S.W. Polson, M.J. Friez, J.W. Longshore and C.R. Lovell. Molecular diversity of diazotrophs in oligotrophic tropical seagrass bed communities. *FEMS Micro. Ecol.* 39:113-119. 2002.

Alker, A.P., G.W. Smith and K. Kim. Characterization of *Aspergillus sydowii* (Thom et Church), a fungal pathogen of Caribbean sea fan corals. *Hydrobiologia* 460: 105-111, 2001

Ritchie, K.B., S.W. Polson and G.W. Smith. Microbial disease causation in marine invertebrates: Problems, practices and future prospects. *Hydrobiologia* 460:131-139, 2001.

Richardson, L.L. G.W. Smith, K.B. Ritchie and R.G. Carlton. Integrating microbiological, microsensor, molecular and physiological techniques in the study of coral disease etiology. *Hydrobiologia* 460: 71-89, 2001.

Harvell, C.D., K. Kim, C. Quirolo, J. Weir and G.W. Smith. Coral bleaching and disease: contributors to 1998 mass mortality in *Briareum asbestinum* (Gorgonacea). *Hydrobiologia* 460: 97-104, 2001.

Cervino, J., T. J. Goreau, I. Nagelkerken, G.W. Smith and R. Hayes. Yellow band and dark spot syndromes in Caribbean corals: Distribution, rate of spread, cytology and effects on abundance and division rate of zooxanthellae. *Hydrobiologia* 460: 53-63, 2001.

Kim, K., C.D. Harvell, P.D. Kim, G.W. Smith and S.M. Merkel. Role of secondary chemistry in fungal disease resistance of sea fans (*Gorgonia* spp.). *Marine Biology* 136: 259-267. 2000.

Goreau, T. J., R. L. Hayes, A. E. Strong, M. Goreau, Marshall Hayes, Ernest Williams, Garriet Smith, and J. Cervino. Global Coral Reef Bleaching and Sea Surface Temperature Trends from Satellite-derived HotSpot Analysis. *Science*, 2000.

Shinn, EA, GW Smith, JM Prospero, P. Betzer, ML Hayes, V. Garrison, RT Barber. African dust and the demise of Caribbean coral reefs. *Geophysical Research Letters*: 27: 3029-3032 Oct. 2000; reprinted in *Earth in Space* 13: 7-9, 2000.

Ritchie, K.B., I. Nagelkerken, S. James and G.W. Smith. A tetrodotoxin-producing marine pathogen. *Nature* 404:354. 2000.

Nagelkerken, I., G.W. Smith, E. Snelders, M.Karel, S. James. Mortality in the sea urchin *Meoma ventricosa* in Curaçao (Netherlands Antilles) associated with a pathogenic bacterium. *Dis. Aquatic Org.* 38:71-74.1999.

Harvell, C.D., K. Kim, J.M. Burkholder, R.R. Colwell, P.R. Epstein, J.Grimes, E.E. Hofmann, E. Lipp, A.D.M.E. Osterhaus, R. Overstreet, J.W. Porter, G.W. Smith, G. Vasta. Emerging Marine Diseases: Climate Links and Anthropogenic factors. *Science* 285: 1505-1510. 1999.

Goreau TJ, R Hayes, A Strong, E Williams, GW Smith, J Cervino, M Goreau. Coral reefs and global change: Impacts of temperature, bleaching and emerging disease. *Sea Wind* 12(3): 2-5. 1998.

Richardson, L.L., R.B. Aronson, W.M. Goldberg, G.W. Smith, K.B. Ritchie, K.G. Kuta. J.C. Halas, J.S. Feingold and S.L. Miller. Florida's mystery coral-killer identified. *Nature* 392:557-558. 1998

McGrath, T.A. and G.W. Smith. The effects of the 1995/1996 Western Atlantic coral bleaching event on the patch reefs around San Salvador Island, Bahamas. *Revista de Biologia Tropical.* 46: 91-99, 1998

Cervino JM, TJ Goreau, RL Hayes, L Kaufman, I Nagelkerken, K Patterson, JW Porter, GW Smith, C Quirolo, Letters on RWD, *Science* 280:499. 1998.

Ritchie, K.B. and G.W. Smith. Type II white-band disease. *Revista de Biologia Tropical* 46 Supl. 5: 199-203, 1998

Smith, G.W., C.D. Harvell and Kiho Kim. Response of sea fans to infection with *Aspergillus* sp. . *Revista de Biologia Tropical* 46 Supl. 5: 205-208. 1998

TJ Goreau, J Cervino, M Goreau, R Hayes, M Hayes, L Richardson, G Smith, K DeMeyer, I Nagelkerken, J Garzon-Ferreira, D Gil, EC Peters, G Garrison, EH Williams, L Bunkley-Williams, C Quirolo, K Patterson, JW Porter, K Porter, Rapid spread of diseases in Caribbean coral reefs, *Rev Biol Trop* 46 Supl 5: 157-171, 1998

Geiser, D.M., J.W. Taylor, K.B. Ritchie, G.W. Smith. Cause of sea-fan death in the West Indies. *Nature* 394: 137-138, 1998.

K.B. Ritchie and G.W. Smith. Physiological Comparisons of Bacterial Communities from Various Species of Scleractinian Corals. *Proc. 8th International Coral Reef Symp.*,1:521-526, 1997

Zieman, J., P. Penschaszadeh, J.R. Ramirez, D. Perez, D. Bone, J. Herrera-Silveira, R.D. Sanchez-Arguelles, D. Zuniza, B. Martinez, K. Bonair, P. Alcolado, R. Laydoo, J. R.Garcia, J. Garzon-Ferreira, G. Diaz. P. Gayle, D.T. Gerace, G. Smith, H. Oxenford, C. Parker, L.P.J.J. Pors, J.A. Nagelkerken, B. Van Tussenbroek, S.R. Smith, R. Varela, K.

Koltes and J. Tschirky. Variation in Ecological Parameters of *Thalassia testudinum* across the ARICOMP Network. Proc. 8th Int. Coral Reef Symp., 1:663-668. 1997.

Nagelkerken, I., K. Bucan, G.W. Smith, K. Bonair, P. Bush, J. Garzon-Ferreira, L. Botero, P. Gayle, C. Heberer, C. Petrovic, L. Pors and P. Yoshioka. Widespread Disease in Caribbean Sea Fans: I. Spreading and general characteristics. Proc. 8th International Coral Reef Symp., 1: 679-682. 1997

Jordan-Dahlgren, E., J. Cortes, SR Smith, C Parker, HA Oxenford, R Varela, M Llano, JC Capelo, Y Velazques, F Ruiz, R Rodrigues, B van Tussenbroek, JG Singh, S George, A Smith, K Buchan, KH Koltes, JJ Tschirsky, IC Feller, JR Garcia, C Smith, A Winter, FX Geraldles, PMH Gayle, J Woodley, M Haley, JA Herrera-Silveira, J Ramirez-Ramirez, RD Sanchez-Arguelles, D Gerace, G Ostrander, G Smith, J Ryan, JL Miller, RS Laydoo, K. Bonair, G Alleng, J Garzon-Ferreira, D Bone, p Penchaszadeh, JC Ogden, J Zieman, B Kjerfve, W Wiebe, PM Alcolado, M Sosa, R Gomez, P Garcia-Parrado, L Menendez. Physiography and setting of CARICOMP: A pattern analysis. Proc. 8th Int Coral Reef Sym. 1:647-650. 1997.

Woodley, JD, D Bone, K Buchan, P Bush, K De Meyer, J Garzon-Ferreira, P Gayle, DT Gerace, L Grober, E Klein, K Koltes, F Losada, MD McField, T McGrath, JM Mendes, I Nagelkerken, G Ostrander, LPJJ Pors, A Rodriguez, R Rodriguez, F Ruiz-Renteria, G Smith, J Tschirky, P Alcolado, K Bonair, JR Garcia, FX Geraldles, H Guzman, C Parker, SR Smith. Studies on Caribbean coral bleaching, 1995-96. Proc. 8th Int. Coral Reef Sym. 1:673-678. 1997.

Nagelkerken, I., K. Bucan, G.W. Smith, D. Harvell, K. Bonair, P. Bush, J. Garzon-Ferreira, L. Botero, P. Gayle, C. Heberer, C. Petrovic, L. Pors and P. Yoshioka. Effects of a Wide-spread Disease in Caribbean Sea Fans: II. Patterns of infection and tissue loss. Marine Ecology Progress Series. 160:255-263. 1997.

Goreau, T.J., A.W. Bruckner, J. Cervino, R.L. Hayes, I. Nagelkerken, J.W. Porter, K.G. Porter, L.L. Richardson, D.L. Santavy, G.W. Smith, E.H. Williams. *Assessing coral reef health*. (letter) Science 277: 165-166. 1997.

Cervino, J.M., T.J. Goreau, G.W. Smith, K. deMeyer, R.L. Hayes. *Fast spreading new Caribbean coral disease*. Reef Encounter 22: 16-18. 1997.

Cervino, J.M. and G.W. Smith. *Corals in Peril*. Ocean Realm, 42:33-35. 1997.

G.W. Smith, L.D. Ives, I.A. Nagelkerken and K.B. Ritchie. Caribbean Sea Fan Mortalities. Nature 383:487, 1996.

Kim B. Ritchie and Garriet W. Smith. Carbon-Source Utilization of Coral-Associated Marine Heterotrophs. J. Mar. Biotechnol., 3: 107-109. 1995.

Kim B. Ritchie and Garriet W. Smith. Preferential Carbon Utilization by Surface Bacterial Communities from Water Mass, Normal and White-Band Diseased *Acropora cervicornis*. *Molecular Marine Biology and Biotechnology*, 4: 345-352. 1995.

W.J. Kenworthy, C.A. Currin, M.S. Fonseca, G.W. Smith. Production, Decomposition, and Heterotrophic Utilization of the Seagrass *Halophila decipiens* in a Submarine Canyon. *Mar. Ecol. Prog. Ser.* 51:277-290. 1989.

G.W. Smith. Influence of Microbial Deamination on Ammonium Pools in Marine Waters. *Science of the Total Environment*. 75:319-324. 1988.

W.J. Kenworthy, C.A. Currin, G.W. Smith, and G.W. Thayer. The Abundance, Biomass & Acetylene Reduction Activity of Bacteria Associated with Decomposing Rhizomes of two Seagrasses, *Zostera marina* and *Thalassia testudinum*. *Aquatic Botany* 27:97-119. 1987.

G.W. Smith and S.S. Hayasaka. Tetrazolium-linked dehydrogenase as an indicator of microbial root associations with seagrasses. *Botanica Marina* 29:299-303. 1986.

G.W. Smith, S.S. Hayasaka and G.W. Thayer. Ammonification of amino acids in the rhizosphere of *Zostera marina* and *Halodule wrightii*. *Botanica Marina* 27:23-27. 1984.

G.W. Smith and S.S. Hayasaka. Nitrogenase activity associated with *Zostera marina* from a North Carolina estuary. *Can. J. Microbiology* 28:448-451. 1982.

G.W. Smith and W.H. Ornes. A preliminary survey of nitrogen fixation associated with aquatic plants in Aiken County, S.C. *Proc. So. Weed Sci. Soc.* 35:267-269. 1982.

G.W. Smith and S.S. Hayasaka. Nitrogenase activity of bacteria associated with *Halodule wrightii* roots. *Appl. Envir. Microbiol* 43:1244-1248. 1982.

G.W. Smith, A.M. Kozuchi and S.S. Hayasaka. Heavy metal sensitivity of the seagrass rhizosphere and sediment bacteria. *Botanica marina* 25:19-24. 1982.

G.W. Smith. Effect of inoculation level and sieving on the *Gigaspora gigantea* : Soybean symbiosis. *Soil Biology Biochemistry* 13:539-540. 1981.

G.W. Smith, G.W. Thayer and S.S. Hayasaka. Seasonal rates of ammonification and nitrogen fixation associated with North Carolina seagrasses. *Estuaries* 4:270. 1981.

G.W. Smith, S.S. Hayasaka and G.W. Thayer. Root Surface area measurements of *Zostera marina* and *Halodule wrightii*. *Botanica Marina* 22:347:358. 1979.

G.W. Smith and H.D. Skipper. Comparison of methods to extract spores of Vesicular-Arbuscular Mycorrhizal fungi. *Soil Sci. Soc. Amer. J.* 43:722-725. 1979.

H.D. Skipper and G.W. Smith. Influence of soil pH on the soybean: Endomycorrhizal symbiosis. *Plant and Soil* 53:559-563. 1979.

H.D. Skipper, B.J. Gossett and G.W. Smith. Field evaluation and soil residual characteristics of CGA-24705 and Alachlor. *Proc. So. Weed Sci. Soc.* 29:418-422. 1976.

Book Chapters:

Smith GW, KB Ritchie, Susceptibility of Echinoderms to Infection by *Pseudoalteromonas haloplanktis* subsp. *tetraodonis*. in *Health and Disease of Aquatic Organisms: Bilateral Perspectives* (RC Cipriano, IS Shchelkunov and M Faisal, eds.) Living Oceans Found , Mich. State Univ. Press. (in review)

Smith , G.W. and M.A. Smith, Coral Disease and Global Climate Change. *Proceedings of the 2007 Nat. Conf. on Environ. Sci. and Tech..* Springer Press, pp. 233-238. 2009.

Brigmon RL, P Morris, G Smith, Evaporite Microbial Films, Mats, Microbialites and Stromatolites, In: *Links between Geological Processes, Microbial Activities and Evolution of Life*, Y Dilek, H Furnes, K Muehlenbachs (eds), *Modern Approaches in Solid Earth Sciences Vol.4*, Springer Publs. Pp. 197-230. 2008.

Kim K, and GW Smith, Gorgonia-Aspergillus Pathosystem: Review of a fungal disease affecting Caribbean sea fan corals. in *Health and Disease of Aquatic Organisms: Bilateral Perspectives* (RC Cipriano, IS Shchelkunov and M Faisal, eds.) Living Oceans Found #2005-05, Mich. State Univ. Press. Pp. 285-292. 2005

Garrison VH, LL Richardson and GW Smith. Disease on Coral Reefs-2004 State of the Knowledge. in *Health and Disease of Aquatic Organisms: Bilateral Perspectives* (RC Cipriano, IS Shchelkunov and M Faisal, eds.) Living Oceans Found #2005-05, Mich. State Univ. Press. Pp. 152-161 285-292. 2005

K.B. Ritchie and G.W. Smith, Microbial Communities of Coral Surface Mucopolysaccharide Layers. In *Coral Health and Disease*. E. Rosenberg and Y. Loya (eds). Springer-Verlag, 2004 pp. 259-263.

D. L. Gil-Agudelo, G.W. Smith, J. Garzon-Ferreira, E. Weil and D. Petersen. Dark Spots and Yellow Band Disease, Two Poorly Known Coral Diseases with High Incidence in Caribbean Reefs. In *Coral Health and Disease*. E. Rosenberg and Y. Loya (eds). Springer-Verlag, 2004 pp. 337-348.

G.W. Smith and E. Weil. Aspergillosis of Gorgonians. In *Coral Health and Disease*. E. Rosenberg and Y. Loya (eds). Springer-Verlag, 2004 pp. 279-286.

Five Chapters in The Ecology and Etiology of Newly Emerging Marine Diseases: Developments in Hydrobiology.

J.W. Porter (ed.), Kluwer Academic Publishers. 2001

Carolyn Clark-Simpson and Garriet Smith (eds.), Proceedings of the Eighth Symposium on the Natural History of the Bahamas. Published by the Gerace Research Center, San Salvador, Bahamas, 2001.

D.T. Gerace, G.K. Ostrander and G.W. Smith. San Salvador, Bahamas. In: Caribbean Coastal Marine Productivity (CARICOMP): Coral Reef, Seagrass, and Mangrove Site Characteristics. (ed. B. Kjerfve), 15pp., UNESCO, Paris, France. 229 -245. 1998

F. G. F. Smith and G. W. Smith. Digital Mapping and Monitoring of Seagrass Communities. Using Multi-Spectral Imagery. In: Remote sensing and Environmental Monitoring for the Sustainable Development of the Americas. Raytheon. 12pp. 1996.

Garriet W. Smith, Seagrass Meadows of Grahams Harbour, San Salvador, Bahamas. In Field Trip Guidebook. 26th AMLC. Bahamian Field Station, San Salvador, Bahamas. pp.3-6. 1994

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Scientific Correspondance:

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"Nitrogen Transformations in a Maritime Forest". Baruch Institute.\$2000.00.Awarded 1984.

"Detection and Control of Industrial Microbial Contamination" Owens-Corning Fiberglas.\$2500.00.Awarded 1985.

"Effect of Increased Nitrates on Microbial Nitrogen Transformations in Tim's Creek and Upper Three Runs Stream" DOE.\$25,823.00.Awarded 1985.

"Comparison of Bacterial Isolates from Aiken Wet Chop and Process Waters. Owens-Corning Fiberglas.\$580.00.Awarded 1985.

"Growth and Degradation of the Deepwater Seagrass, *Halophia decipiens*.NOAA Undersea Program.\$2000.00.Awarded 1985.

"Seagrass Distribution along the Southwestern Coast of Jamaica".Coastal Caribbean Study and Univ. of the West Indies. \$1500.00.Awarded 1986.

"Application of Used Biochemical Equipment for Energy Related Research and Teaching at USCA".DOE.\$144,757.06.Awarded 1986.

"Nitrogen Cycling in Caribbean Seagrass Ecosystems".USCA-RIF. \$2894.00.Awarded 1986.

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"Impact of Hurricane Hugo on the Marine Ecology of San Salvador,Bahamas." USC-RPS Grant.\$1620.00.Awarded 1989.

"The Feasibility of Establishing USCA as a Worldwide Repository for Seagrass Bacterial Isolates." USCA-RIF.\$595.00 Awarded 1990.

"Seagrass Biomass and Species Distribution:An Indication of Oceanic Pollution."The Center for Field Research.\$27,570.00 Awarded 1990.

"Use of Remote Sensing to Evaluate Ecological and Environmental Impacts of Commercial Development." NASA-VIP Program. Provides satellite data from the Landsat Thematic Mapper and training on interpretation. Awarded 1990.

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"Development of Procedures for the Identification of Organisms Capable of Degrading Trichloroethylene in the Environment" (Co-PI with Jim Yates), \$116,000.00. Awarded 1992.

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"Studies on White band Disease and Dark Spots in Puerto Rico". 20K Living Oceans Foundation. 2004

'African and Asian Dust' NOAA with Texas A&M, 2K/ yr ;3 yrs for supplies.2004

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'Establishment of a Microbial Biofuel Laboratory at the Center for Hydrogen Research, Aiken County, SC. PROPOSAL TO THE ECONOMIC DEVELOPMENT PARTNERSHIP FOR AIKEN & EDGEFIELD COUNTIES. \$140,000 2yrs, awarded 2007. This is a new research endeavor.

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201. Smith GW, E Weil. Coral reef diseases revisited. 10th Internat. Coral Reef Symp. Okinawa, Japan, June, 2004.

202. Rypien KL, GW Smith, CD Harvell. Fungal disease in Caribbean Gorgonian corals: Pathogen population genetics. 10th Internat. Coral Reef Symp. Okinawa, Japan, June, 2004.

203. Gil-Agudelo DL, X Hernandez, Y Ben-Haim, E Rosenberg, R Iglesias-Prieto, GW Smith. Differential response of zooxanthellae to toxins that produce bacterial bleaching in stony corals. 10th Internat. Coral Reef Symp. Okinawa, Japan, June, 2004.

204. Cervino JM, R Hayes, T Goreau, S Polson, S Polson, R Martinez, G Smith. Bacteria, viruses and rising sea-water temperature as links to Yellow Band disease. 10th Internat. Coral Reef Symp. Okinawa, Japan, June, 2004.

205. Nugues MM, GW Smith, RPM Bak. Algal overgrowth, coral disease and phase shifts on coral reefs: are they linked? 10th Internat. Coral Reef Symp. Okinawa, Japan, June, 2004.

206. Garrison VH, RS Carr, WF Foreman, DW Griffin, CA Kellogg, MS Majewski, EA Shinn, GW Smith. Synthetic organic chemicals, microorganisms, African and Asian dust, and coral reefs. 10th Internat. Coral Reef Symp. Okinawa, Japan, June, 2004.

207. Johnson C, P Morris and GW Smith. Acyl serine lactones isolated from the surface mucus layer of *Pseudoteragorgia americana*. . 5th Annual MBES SROH, Charleston SC, July, 2004.
208. Cervino JM, K Winiarski, TJ Goreau, SW Polson, SC Polson, GW Smith. Bacterial infection in a disease of the sponge *Ianthella basta*. Amer. Museum of Nat. History, Invert. Symp. March, 2004.
209. Carr RS, M Nipper, V Garrison, D Griffin, G Smith. Effects of globally transported African dust to Caribbean marine ecosystems. 4th World Congress Soc. for Environ. Toxicology and Chemistry, Portland OR,. Nov. 2004.
210. Christopher Johnston, SM. Dayse, G W. Smith, C M. Woodley and PJ. Morris. Microbial Diversity Associated with a Gorgonian Coral, *Pseudopterogorgia americana*, as Determined by Cultivation and Molecular Methods, Student Day Research, MUSC, Charleston SC, Nov. 2004.
211. GW Smith. Microbial Influence on Backreef Environments. Backreef Conf. Lee Stocking Island, Bahamas, Jan. 2005.
212. C Wilson, R Brigmond, G Smith. Effects of Phosphate and microbial admendments on lead contaminated soil. SC Acad. Sci., Winthrop Univ. Rock Hill SC. March 2005.
213. A Toole CL McElroy, C Wilson DL Gil-Agudelo, BA Nevius, GW Smith. Bacterial Components of African Dust. SC Acad. Sci., Winthrop Univ. Rock Hill SC. March 2005.
214. GW Smith. African Dust: Implicationd for Biodefence. MCG Microbiology and Biodefence Conf. Augusta GA, May 2005.
215. R. Iglasiase, E. Rosenburg and G.W. Smith. Does *Vibrio shiloi* affect Caribbean Corals? Joint Meeting of World Bank Bleaching and Coral Disease Working Groups. Puerto Moreles MX. May 2005.
216. GW Smith. Studies on Yellow Band disease. Joint Meeting of World Bank Bleaching and Coral Disease Working Groups. Puerto Moreles MX. May 2005.
217. D Harvell S Elnor, J Bruno, G Vasta, GW Smith, L Jones, J Ward, K Rypien, J Andreas, N Douglas, L Mydyarz, A Shaw, B Mahoney. Environmental Factors affecting the spread of Coral Diseases. Joint Meeting of World Bank Bleaching and Coral Disease Working Groups. Puerto Moreles MX. May 2005.
218. DL Gil-Agudelo, E Weil, GW Smith. White-band disease in Puerto Rico. Joint Meeting of World Bank Bleaching and Coral Disease Working Groups. Puerto Moreles MX. May 2005.

219. C Johnson, GW Smith, CM Woodley, PJ Morris. Microbial Community Analysis of a Gorgonian Coral, *Pseudopterogorgia Americana*. 105th Ann. Meet. Amer. Soc. Microbiol., Atlanta GA, June, 2005.
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223. VH Garrison, RS Carr, WF Foreman, D Griffin, C Holmes, C Kellogg, MS Majewski, M Nipper, EA Shinn, SL Simonich, GW Smith. Saharan dust and the degradation of coral reefs- evidence of a link. 32nd Sci. Meet., Assoc. of Marine Labs. Of the Caribbean, Curacao, Dutch WI, June, 2005.
224. DL Gil-Agudelo, GW Smith, E. Weil. Fulfilling Koch's posulates for white band disease type II. 32nd Sci. Meet., Assoc. of Marine Labs. Of the Caribbean, Curacao, Dutch WI, June, 2005.
225. JM Cervino, RL Hayes, TJ Goreau, M Moscato, GW Smith. The links between global warming induced high seawater temperatures and *Vibrio* infections in the Pacific amemone *Stichodactyla sp.*. 16th Global Warming Internat. Conf., & Expo. New York NY April, 2005.
226. CL McElroy, C Wilson, BA Nevius, VH Garrison, GW Smith. Microorganisms associated with African dust. 32nd Sci. Meet., Assoc. of Marine Labs. Of the Caribbean, Curacao, Dutch WI, June, 2005.
227. J. Rollino, T McGrath, G Smith. A tale of two reefs-Lindsay's reef and Rice Bay: Comparison of the long-term variation of Scleractinia populations on San Salvador's shallow water patch reefs. 11th Symp. Natural History of the Bahamas. San Salvador, Bahamas, June, 2005.
228. Christopher Johnston, Garriet W. Smith, Cheryl M. Woodley, and Pamela J. Morris Microbial Community Analysis of a Gorgonian Coral, *Pseudopterogorgia americana*. MUSC, Charleston, SC. July, 2005.
229. GW Smith, D. Gil-Agudelo, E. Weil. Studies on white-band disease in Puerto Rico. 18th Biennial Conf. of the Estuarine Research Federation. Norfolk, VA, Oct. 2005.

230. GW Smith The formation and maintenance of normal microbiota in corals. Microbial Interactions Symposium, Tel-Aviv, Israel, Nov. 2005.
231. GW Smith, E. Weil, D. Gil-Agudelo. The role of *Vibrio* in white band and yellow band disease in the Caribbean. GEF DWG Workshop, Heron Island, Australia, Jan.2006.
232. L Raymundo, M Sussman, GW Smith. A causative agent for *Porites* Ulcerative white spot disease. GEF DWG Workshop, Heron Island, Australia, Jan.2006.
233. GW Smith CA Johnson, PA Morris. Bacterial communities and interactions in gorgonians. GEF DWG Workshop, Heron Island, Australia, Jan.2006.
234. VH Garrison, CA Kellogg, WT Foreman, MS Majewski, M Nipper, SL Simonich, GW Smith. Do persistent organic pollutants, metals, and microbes transported with African dust contribute to disease on coral reefs? Ocean Sciences Meeting, Honolulu, Hawaii. Feb. 2006 abst. EOS Trans.AGU 87 (36).
235. CA Wilson, GW Smith, R Brigmon. Characterization of aerosolized bacteria from African dust. SC Acad. Sci., Columbia SC, March, 2006.
236. FF Blanco, GW Smith. The survival of organisms from African dust: Characterization of the aeromycology of African dust in dust and non-dust events. SC Acad. Sci., Columbia SC, March, 2006.
237. MJ Warren, CL Leverette, GW Smith. Chemical analysis of pigmented sclerites from diseased coral sea fans. SC Acad. Sci., Columbia SC, March, 2006.
238. CA Wilson, RL Brigmon, GW Smith. Comparison of genotypic and phenotypic characterization of environmental bacteria collected from African dust air filters. SC Branch Amer. Soc. Microbiol., Columbia SC, March, 2006.
239. FF Blanco, GW Smith. Aeromycology and pathogenicity assessment of African dust isolates. SC Branch Amer. Soc. Microbiol., Columbia SC, March, 2006.
240. C Johnson, C Savoie, CM Woodley, GW Smith, PJ Morris. The microbial diversity associated with the Gorgonian coral *Pseudopterogorgia americana*. 31st Eastern Fish Health Workshop, Charleston SC. March 2006.
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243. BA Nevius, C Wilson, F Spradley, F Blanco, J Brumfield, G Garrison, GW Smith. Summary of bacterial isolates from African dust. SC Branch Amer. Soc. Microbiol., Columbia SC, March, 2006. 2nd Place Student Presentation.
244. GW Smith. Microbial methods for identifying coral disease. Workshop on Coral Disease in East Africa. Inst. of Marine Sciences Univ. Dar es Salaam, Zanzibar. April, 2006.
245. J. M. Cervino, Jr., J. M. McClanahan, E. A. Lorence, F. Thompson, T. J. Goreau, Y. Ben-Haim, R. L. Hayes, G. W. Smith. *Vibrio* Infection Intensifies Following Thermal Stress on Zooxanthellae Clade Species in Culture and in the Pacific Anemone *Stichodactyla* sp. 106th Ann. Meet. Amer. Soc. Microbiol., Orlando FL. May, 2006.
246. FT Spradley, BA Nevius, CA Wilson, FF Blanco, JW Brumfield, GW Smith. Survival of airborne bacteria and fungi from African Dust. Annual Meeting, Amer. Inst. Biological Sci., Washington DC, May 2006.
247. C.J. Johnston, C.A. Savoie, G.W. Smith, C.M. Woodley, P.J. Morris. Microbial community diversity associated with a common gorgonian coral, *Pseudopterogorgia americana*. Internat. Symp. On Microbial Ecology, Vienna Austria. Aug. 2006.
248. LJ Raymundo, M . Sussman, GW Smith, A causative agent for Porites ulcerative white spot disease. Univ. of the Philippines, Manila, Nov., 2006.
249. G.W. Smith, Overview of marine diseases. Coral Reef Health Issues, Univ. of the Philippines. Southeast Asia Center of Excellence. Jan., Manila, Philippines, Jan. 2007.
250. CE Hagan, DI Nathan, BA Nevius, GM Holley, GW Smith. Trans-Atlantic movement and introduction of bacteria from Africa into established Caribbean ecosystems. SC Acad. Sci., Columbia SC, April 2007.
251. DI Nathan, CE Hagan, BA Nevius, GM Holley, GW Smith. Viable fungal spores from African dust found in the Caribbean. SC Acad. Sci., Columbia SC, April 2007.
252. M Piskorska, E Weil, GW Smith. Bacteria associated with the coral Echinopora in the Indian Ocean. SC Acad. Sci., Columbia SC, April 2007.
253. GW Smith, CL Leverette, M Warren, MA Smith. Defense mechanisms in gorgonians against infections by *Aspergillus sydowii*. 32nd Eastern Fish Health Workshop, Gettysburg, PA, June, 2007.
254. M Piskorska, GW Smith C Yeager. A new method to detect Hydrogen in bacterial cultures. Meeting of the Hydrogen Consortium. Hydrogen Research Center, Aiken Aug. 2007.

255. GW Smith and MA Smith. Coral disease and Global Climate Change. 3rd National Conf. on Environ.Sci. and Technol., Sept. 2007.
256. Cervino JM, Lorence EA, F. Thompson, TJ Goreau, GW Smith. RL Hayes, Identification of *Vibrio* species and the links between thermal stress, coral reef and shell-fish diseases. VIBRIO 2007, Institut Pasteur, Paris France, Nov. 2007.
257. Smith MA, GW Smith. Yellow Band Disease: Evidence for increased Prevalence due to Global Climate Change. SC Branch, Amer. Soc. Microbiol., Clemson U. March, 2008.
258. Cervino JM, FL Thompson, B. Gomez-Gil, EA Lorence, TJ Goreau, RL Hayes, KB Winiarski, GW Smith, VE Karachun. The pathogenic effect of *Vibrio* species on clonal Symbiodinium clade sub-types. ASLO/AGU Ocean Sciences Meeting, Orlando FL, March 2008.
259. Cervino JM, FL Thompson, B. Gomez-Gil, EA Lorence, TJ Goreau, RL Hayes, KB Winiarski, GW Smith, K Huguen, E Bartells. The *Vibrio* Core Group Induces Yellow Band Disease in Caribbean and Indo-Pacific Corals. 33rd Eastern Fish Health Workshop, Atlantic Beach NC, April, 2008.
260. Smith GW, MA Smith, CL Leverette. Comparative Defense Mechanisms in *Pseudopterogorgia americana* and Other Gorgonians. 33rd Eastern Fish Health Workshop, Atlantic Beach NC, April, 2008.
261. Piskorska M, GW Smith, C Yeager, C Milliken. Hydrogen Detection Method Using Different Microorganisms. National Hydrogen Conf., Sacramento CA, April, 2008.
262. Richards Dona, J.M. Cervino, V. Karachun, E. Lorence, E, Bartels, Konrad Huguen, Garriet Smith, Thomas Goreau. Coral Yellow Band Disease; Current Status in the Caribbean, Outbreaks And The Links To New Indo-Pacific Lesions [11th International Coral Reef Symposium, Ft. Lauderdale, FL, July 2008](#)
263. Heat-Induced Toxin Production in *Vibrio* Species Associated With Yellow Band Disease. James Cervino, Elizabeth Lorence, Fabiano Thompson, Konrad Huguen, Jessie Kneeland, Garriet Smith. [11th International Coral Reef Symposium, Ft. Lauderdale, FL, July 2008](#)
264. Ross Cunning, Joel Thurmond, Garriet Smith, Ernesto Weil, Kim Ritchie. A survey of *Vibrios* associated with healthy and Yellow Band Diseased *Montastraea faveolata*. [11th International Coral Reef Symposium, Ft. Lauderdale, FL. July 2008](#)
265. Ernesto Weil, Kim Ritchie, Garriet Smith. Inoculation Of *Vibrio* Spp. Onto *Montastraea Faveolata* Fragments To Determine Potential Pathogenicity. [11th International Coral Reef Symposium, Ft. Lauderdale, FL, July 2008](#)

266. Wes Johnson, Reney Henderson, Garriet Smith, Ernesto Weil, Karen Nelson, Pamela Morris. Bacterial Communities Associated With The Surface Mucopolysaccharide Layer And Tissues Of Healthy And Diseased *Montastrea faveolata*. [11th International Coral Reef Symposium, Ft. Lauderdale, FL, July 2008](#)

267. Katherine Williams, Maria Vizcaino, Jennifer Delaney, Garriet Smith, Karen Nelson, Pamela Morris. Patterns Of Antibiotic Resistance in Microbial Isolates From *Pseudopterogorgia americana*. [11th International Coral Reef Symposium, Ft. Lauderdale, FL, July 2008.](#)

268. Mary Alice Coffroth, Maria Gabriella Jackson, Patricia Matrai, Carlton Rauschenberg, Garriet Smith. Variation in Zooxanthella Production Of Dimethylsulfoniopropionate (Dmsp). [11th International Coral Reef Symposium, Ft. Lauderdale, FL, July 2008.](#)

269. Smith Garriet, Sclerites, Vibrios and mucus. World Bank Meeting, Ft. Lauderdale Fla. July, 2008

270. Wes Johnson, R.A. Henderson, G.W. Smith, E. Weil, K.E. Nelson, P.J. Morris Influence of coral health on composition and structure of bacterial communities associated with surface mucopolysaccharide layer and tissues of *Montastrea faveolata*. Student Research Open House, MUSC, MBES, Ft. Johnson SC, July 2008.

271. Smith GW, C Johnston, P Morris, M Piscorska. The microbial ecology of *Pseudopterogorgia Americana*. Invited Speaker. 12th International Symposium on Microbial Ecology. Cairns, Australia, August 17-22, 2008.

272. Morris PA, RL Brigmon, GW Smith. Comparison of evaporate microbial films from the Bahamas and the Dead Sea. Geological Soc. Amer., Huston TX, Oct. 2008.

273. Morris PA, RL Brigmon, GW Smith. Evaporite environments on Earth as potential Mars analogue. Geological Soc. Amer., Huston TX, Oct. 2008.

274. Piskorska M, GW Smith, C Yeager. Detection method to screen nitrogen-fixing microorganisms for biohydrogen production. SC Branch Amer. Soc. Microbiol. Aiken SC, Nov. 2008.

275. Smith, GW, E. Weil, A. Croquer, D.Gil-Agudelo. White-Band and Caribbean Yellow-Band pathogens associated with scleractinian corals. Coral Reef Ecosystems Studies symposium, Lajas, Puerto Rico, Feb. 2009.

276. Leverette CL, Weil E., Smith MA, GW Smith, Chemical analysis of sclerite pigments from Puerto Rico and the Bahamas. Coral Reef Ecosystems Studies symposium, Lajas, Puerto Rico, Feb. 2009.

278. Smith, GW. Update on Coral Diseases of the US . Invited Speaker, 3rd Bilateral US/Russian Conf. On Aquatic & Marine Animal Health. Shepardstown WV, July, 2009.

279. Smith, GW, KB Ritchie. Susceptibility of Echinoderms to Infection by *Pseudoalteromonas haloplanktis* subsp. *tetraodonis*. Invited Speaker, 3rd Bilateral US/Russian Conf. On Aquatic & Marine Animal Health. Shepardstown WV, July, 2009.

280. Magdalena Piskorska, Garriet Smith, Chris Yeager. Overview of hydrogen production among cyanobacteria strains under modified environmental conditions. SC Branch ASM, Columbia SC, Oct, 2009.

SEMINARS AND TALKS PRESENTED

1. "Coastline Ecology". S.C. House of Representatives in defense of The Tidelands Bill. Columbia, S.C. 1974.
2. "Scanning Electron Microscopy of the Seagrass Rhizosphere". Beaufort Laboratories, NOAA, Beaufort, NC, 1979.
3. "Microbiota of Seagrasses" Botany Dept., Clemson University, 1981.
4. "Nitrogen Cycling in the Marine Environment" Sandwich Seminar, USCA, 1982.
5. "Interactions between Rhizosphere Bacteria and Seagrasses" Winthrop College, 1983.
6. "The Role of the Microflora in the Growth of Marine Plants" Baruch Institute, Georgetown, SC, 1984.
7. "Reyes Syndrome" Medical Seminar Series, USCA, 1984.
8. "Microbial Nitrogen Transformations." SRL-Dupont. Aiken, SC, 1985.
9. "Pathogens in the Environment." Medical Seminar Series. USCA. 1985.
10. "Microbial Influences on Seagrass Growth". Mona Campus, Univ. of the West Indies, Kingston, Jamaica. 1985.
11. "Release of Genetically Manipulated Bacteria into the Environment". Technology and Human Values, 25th Anniversary Symposium of USCA. 1986.
12. "Scanning Electron Microscopy Exhibition". USCA Library. 1986.
13. "Research at USCA". Aiken Chapter of AMBUCS Club. 1986.

14. "Protection of Shorelines by Seagrass Meadows". Nature Club of Barbados. Barbados, W.I. 1987.
15. "Biotechnology Education". Biotechnology and Entrepreneurship Conference. USCA. 1987.
16. "Seagrass Meadows as Indicators of Environmental Pollution". School of Public Health, USC-Columbia. 1989.
17. "The Caribbean: The Gap in the Bridge of History". FIPSE Lecture: The Mission of International Education for Small Universities and Community Colleges. USCA, Feb., 1992.
18. "Rate Studies in Biological Science". South Carolina Mu Alpha Theta convention. Aiken, S.C., March, 1992.
19. "The Biogeochemistry of Seagrass Meadows in North Carolina and San Salvador Island". CSRA Geological Society, Aiken, SC, May, 1992.
20. "Seagrass Ecology". Invited Presentation and Workshop for NSF funded Watershed Worlds Summer Institute at Thames Science Center, New London, CT. Aug., 1992.
21. "Biogeochemistry of Seagrass Ecosystems." CSRA Sigma Xi. Augusta Ga., Oct. 1992
22. "Seagrasses". Invited Speaker at the Workshop for Biology Professors. Bahamian Field Station, San Salvador, Bahamas. June, 1993.
23. "Corals". Invited Speaker at the Workshop for Biology Professors Bahamian Field Station, San Salvador, Bahamas. June, 1993.
24. "Bahamas' Coral Reefs and Underwater Meadows." Invited Program at The John G. Shedd Aquarium. Chicago, Ill., August, 1993.
25. "Earthwatch Research in San Salvador" Public Lecture Series in South Carolina. Charleston, Columbia and Greenville. November, 1994.
26. "Diseases of Corals and Other Marine Invertebrates" Invited by Sir Nicholas Nuttal, Director of the Bahamas Reef Environmental Educational Foundation (administered through the Ohio State Univ.). San Salvador Island, Bahamas. June, 1997.
27. "Coral Disease and Mechanisms of Resistance of Sea Fans to Aspergillosis" Invited speaker (with Drew Harvell, Cornell Univ.) at New England Biolabs, Beverly, MA. October, 1997.

28. "The state of Caribbean Coral Reefs" Invited participant for SciTalk. A program sponsored by Genentech to inform high school students, nationwide, of scientific issues by leading scientists through the world-wide web. 1998
<http://www.gene.com/webx-bin/WebX?13@118.hVaCsGVN^17@.ee6d22f>
29. "Microbiological Studies of Coral Diseases" Invited Seminar Speaker, Microbiology Society and Dept. of Microbiology and Molecular Medicine, Clemson Univ., March, 1998.
30. "Protocols for Collecting and Processing Diseased Marine Organisms" Invited Speaker, CARICOMP Workshop on Coral Pathologies, Tobago, WI. May 1998.
31. "Diseases of Corals and Other Marine Invertebrates" Reinvited by Sir Nicholas Nuttal, Director of the Bahamas Reef Environmental Educational Foundation (administered through the Ohio State Univ.). San Salvador Island, Bahamas. June, 1998.
32. "Coral Diseases on Caribbean Reefs" Invited Seminar Speaker for the NSF sponsored, Minorities Biomedical Research Program, University of the Virgin Islands, St. Thomas and St. Croix campuses. October, 1998.
33. "Corals in Peril" USCA, Science Seminar, March, 1999.
34. "Diseases of Reef Organisms" Seminar at Paine College, Augusta, GA. March 1999.
35. "Microbiology of Caribbean Reef Disease Pathogens" Ft. Johnson Marine Seminars, MUSC, SC-DNR, NOAA and Charleston Univ.; Charleston SC, Sept., 1999.
36. "Microbial Ecology of Coral Reefs" SRS, DOE, Aiken SC, Sept., 1999.
37. "Microbiology of Coral Reefs" Biology Dept Seminar, Georgia Southern Univ. April, 2000
38. "Pathogens of reef associated organisms" Seminar, Marine Sciences Program, USC-Columbia. Sept., 2000
39. "Coral Reef Pathogens" Comparative Immunology Series funded by NIH, Florida International Univ., Miami, FL, Dec., 2000.
40. "The Structure of Microbial Communities Associated with Marine Organisms" Special Seminar, MicroGenomics, Carlsbad, CA, Feb. 2001.
41. "Diseases of Corals" Tropical Marine Biology Class, Shoals Marine Lab, Aukamal, Mexico. June. 2002

42. "Etiology of white pox, a lethal disease of the Caribbean Elkhorn coral, *Acropora pa;mata*", sponsored by Sustainable Universities Initiative and the Dept of Environ. Toxicology, Clemson U. Feb 2003.
43. "Recent Observations on Coral Reef Diseases in the Atlantic and Pacific", Ft. Johnson Seminar, Charleston, SC, April, 2003.
44. "Global Threats to Coral Reef Organisms", Public Lecture, Centro Ukana I Akumal, Mexico. June, 2003
45. "Coral Diseases; A Global Threat to Reef Health", Lecture to Penn State students at San Salvador, Bahamas, May, 2005.
46. "Microbiology of Coral Health and Disease" SREL, Univ. GA Seminar Series, May 2006.
47. "Bacterial Symbiosis on the Surface of Corals" Biology Dept. USC Columbia, Sept. 2006
48. "Coral Reef Health" Lifelong Learning Program, USCA, March, 2007.
49. "Pathogens of Corals" Seminar given to Faculty and Students from Miami of Ohio in San Salvador, Bahamas, May 2007
50. "Molecular and Microbiological Techniques used to study Coral Pathology". Seminar given to faculty and students from the Univ. Virginia in San Salvador, Bahamas, May 2007.
51. "Similarities and Differences among Pacific and Atlantic Coral Diseases", University of Guam, Marine Institute, August, 2007.
52. "Coral Reef Health and Climate Change". Sierra Club of York County, Rock Hill SC Feb. 2008.
53. "Coral Diseases around the World" CSRA Geological Soc., USCA, May, 2009.
54. 'Corals and Disease'. Aiken Prep. Aiken SC, Sept., 2009

Television Programs:

"Coral Ecosystems" on *The World Around Us* . Sponsored by Ruth Patrick Science Education Center and SCETV. Hosted by Jeff Priest. May 4, 1998.

"Dust Busters" on the Science in Paradise edition of **Scientific American Frontiers**. National PBS program sponsored by GTE and Scientific American. Hosted by Alan Alda. Oct.-Nov., 1998.

"Coral Killers ", Wildlife Detectives Series, Animal Planet. The National Geographic Channel. Dec. 2001- Feb.2002.

“Alien Invasion” **Scientific American Frontiers**. National PBS program sponsored by GTE and Scientific American. Hosted by Alan Alda. Nov. 2001

Many other talks,workshops,in-services and demonstrations given to high school,middle school,and elementary teachers and students.Many talks given to various university classes in San Salvador.