

CURRICULUM VITAE

PERSONAL

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Address: 170 Ocean Lane Drive # 409, Key Biscayne, Florida 33149, U.S.A.

Primary Appointment: Professor and Director of Aquaculture Division of Marine Affairs & Policy, Rosenstiel School of Marine and Atmospheric Science, University of Miami.

Secondary Appointments: Member of several national and international Scientific Advisory Boards and technical advisor of major private aquaculture companies operating in the Americas and the Caribbean.

Status: U.S. Citizen. Also a citizen of Brazil and Italy.

HIGHER EDUCATION

1992 Ph.D. Marine Biology and Fisheries

University of Miami, U.S.

1985 M.Sc. Aquaculture and Fishery Management

University of Stirling, Scotland, U.K.

1978 B.Sc. Biological Oceanography

University of Rio Grande, Brazil

1987 Navy Officer Lieutenant Commander, Former Leadership Training

Brazilian Navy, Rio de Janeiro, Brazil

EXPERIENCE

Aug. 1998-Present Professor & Director of Aquaculture – University of Miami Rosenstiel School of Marine and Atmospheric Science (RSMAS)

Associate Professor and Chairman (2004-2009)

Division of Marine Affairs & Policy, RSMAS

Director of Aquaculture from August 1998 to date.

Assistant Professor at RSMAS/UM from 1998 to 2002.

May 1998- Dec. 2000 Adj. Assist. Professor at MBF Division at RSMAS/UM

July 1996-August 1998 Research Scientist at Harbor Branch Oceanographic Institution, Aquaculture Division (HBOI).

Sept. 1993-June 1996 President, Aquaculture International Consulting, Inc. (AIC), a company based in Miami, Florida. Designed and implemented aquaculture projects for private companies and government institutions in several countries in North, Central and South America, the Caribbean, Europe, Asia and the Middle East.

Aug. 1993-Nov. 1994 Director, Mariculture Project, Ecuador, under contract with C.A.F. (Corporación Andina de Fomento), a multi-government institution to foster development in Latin American countries. Designed and implemented a multi-million dollar project jointly funded by the government and private sectors to diversify the shrimp aquaculture and fishing industries.

Jan. 1988-Aug. 1990 Research Associate, The Oceanic Institute, Honolulu, Hawaii. Aquaculture Program. Research in the biology, physiology and aquaculture of marine fish and shrimp.

Aug. 1990-Aug. 1992 Research Assistant and Teaching Assistant, Rosenstiel School of Marine and Atmospheric Science, Division of Marine Biology and Fisheries, University of Miami. TA for aquaculture courses and RA at the RSMAS/UM Experimental Hatchery.

Jan. 1978-Dec. 1987 Navy Officer (Lieutenant Commander, Oceanographer, on reserve since 1987), Naval Oceanographic Research Institute (ONR). Head Researcher of the Division of Aquaculture and Division of Projects, Brazilian Navy.

LANGUAGES

Fluent in Portuguese, Spanish and English. Basic Italian.

FIELD WORK EXPERIENCE

Besides my academic and research credentials, I have extensive international professional experience, having worked, consulted, and established research, commercial and educational programs and projects for the private and government sectors in > 20 countries throughout 5 continents over the last 30 years. Expertise in obtaining funding, planning, designing, implementing and running marine fish hatcheries and growout aquaculture operations, including training of scientific, technical and managerial staff. Experience in designing, planning and implementing aquaculture projects, ventures

and operations for both government and private sector in a number of countries. Main expertise and interest focus on hatchery and cage growout technologies. PI and Co-PI in current and past government grants, including biological, environmental, social and economical studies related to aquaculture development. Experience in obtaining funds from government agencies, research and educational institutions and the private sector both in the U.S. and abroad.

For the past twelve years, co-organizer and primary instructor of the Annual UM-IATTC Tuna Workshop at the Achotines Laboratory in Panama, C.A., attended by leading tuna scientists and biologists/farmers from the world over. Consultant to private and government sectors and universities and in a number of countries, including some of the largest companies in the world (list and/or references available upon request). Scientific Coordinator of Hatchery and Offshore Aquaculture Projects conducted in partnership with the private sector and the government. Currently leading the Aquaculture Program at RSMAS University of Miami and carrying out interdisciplinary research and technology transfer for the development of sustainable aquaculture projects in the US, Australia, Brazil, Ecuador, Chile, Colombia, Panama, Mexico, the Bahamas, China, Turkey, Norway and other Asian, European and Latin American countries. Prior to joining the faculty of the University of Miami in 1998, I was a research scientist at Harbor Branch Oceanographic Institution in Ft. Pierce, Florida.

In addition, I'm a member of the Board of Directors of the Cape Eleuthera Foundation/ Cape Eleuthera Institute/The Island School in the Bahamas; a Science Advisory Board member, Seafood Watch, Monterey Bay Aquarium; a Science Steering Committee member, World Wildlife Fund SCAD; an Independent Expert Evaluator, EU Commission Directorate Gen. Research & Innovation; an Independent Expert Evaluator, Panel Member, Norwegian Research Council; and an Independent Expert Science Advisor, Kuwait Institute for Scientific Research .

Relevant media coverage

Strong outreach program, including public relations efforts that resulted in wide local, national and international news coverage by newspapers, magazines, radio and prime time TV such as ABC News, Nightline, PBS Business Nightly Report, National Geographic, NPR (three times), Chronicle of Higher Education, New York Times, The Guardian, Miami Herald, CNN, PBS, WLRN, etc.

Sample links to national media coverage:

ABC Nightline

<http://www.youtube.com/watch?v=vYdlwlxDK7k>

ABC World News Tonight

<http://www.youtube.com/watch?v=wXiXD5XtHt4&feature=related>

PBS Nightly Business Report

http://www.youtube.com/watch?v=d_5zpnpmwkw&feature=related

Nano German TV (Technology Report)

<http://www.youtube.com/watch?v=faMWkRvHF3k>

National Geographic Strange Days on Planet Earth

http://www.youtube.com/watch?v=EyG_Om9CTqQ

National Public Radio

<http://stream.publicbroadcasting.net/production/mp3/apti/local-apti-557226.mp3>

Miami Herald

<http://www.miamiherald.com/business/story/525250.html>

Sample links to international media coverage:

<http://www.seagri.ba.gov.br/noticias.asp?qact=view¬id=13362>

http://www.pesca.sp.gov.br/noticia.php?id_not=2404

http://www.revistafator.com.br/ver_noticia.php?not=30220

http://www.revistafatorbrasil.com.br/ver_noticia.php?not=30933

<http://www.tvtribuna.com/videos/?video=13545>

http://www.revolucaomkt.com.br/clipping_integra.asp?codigo=32262

<http://www.empreendedor.com.br/?secao=Noticias>

<http://www.empreendedor.com.br/?secao=Noticias&codigo=6556>

<http://www.portaldoagronegocio.com.br/index.php?poticia>

<http://www.portaldoagronegocio.com.br/index.php?poticia&idN=21315>

http://www.ilhacomprida.sp.gov.br/home/2008/pag_meio-ambiente_002.htm

<http://www1.uol.com.br/diariodolitoral/20080215-6.htm>

ASSOCIATIONS AND NATIONAL PANELS:

United Nations Food and Agriculture organization (F.A.O.) GESAMP (Group of Experts) for assessing and making recommendations for the development of sustainable offshore aquaculture.

Expert Advisor, European Union Science Advisory Board (2012)

Seafood Watch (Monterey Bay Aquarium, Monterey, California) Science Advisory Board Member
2012-present

World Wildlife Fund Steering Committee Member for the Seriola and Cobia Aquaculture Dialogue (SCAD) 2011-present

National Marine Aquaculture Task Force (National Committee), a 10-member committee who met 6 times in 2006-2007 to elaborate the document titled "Sustainable Marine Aquaculture: Fulfilling the Promise; Managing the Risks", with recommendations for sustainable aquaculture development in the US

Florida Oceans and Coastal Resource Council: Aquaculture Sub-Committee (Member; UM is Lead Organization)

Florida Marine Aquaculture Working Group (FL State Dept. Agriculture Committee, Division of Aquaculture), a 12-member panel who met 4 times in 2005-2006 to elaborate the document titled "Best Management Practices", with recommendations for sustainable aquaculture development in the State of Florida.

Board of Directors, Cape Eleuthera Foundation (Cape Eleuthera Institute and Sal Creek Middle School), South Eleuthera, the Bahamas. 2003-present

Board of Advisors, Island School, South Eleuthera, Bahamas (Lawrenceville High School, New Jersey) 1998-present

Vice-President of the Caribbean Aquaculture Society (CAA) 2003-2005

World Aquaculture Society (WAS) member 1987-present

Board of Directors, Caribbean Aquaculture Association (CAA) 1997-2000

U.S. Representative, Latin American Aquaculture Association, Asociación Latinoamericana de Acuicultura (ALA) 1996-present

U.S. Representative, Brazilian Association of Aquaculture, Associação Brasileira de Aquicultura (ABrAq) 1996-2002

Florida Aquaculture Association (FAA) Member, 1997-

National Aquaculture Association (NAA) Member, 1997-

Aquaculture Advisory Committee, University of Florida. July 1999-

Commercial Marine Foodfish Aquacultural Production in Florida (DEP Panel Member) 1998

Florida Ocean Sciences Panel: member

SEACon - South East Aquaculture Consortium (Co-chair)

PROFESSIONAL

Funding:

As coordinator of the NOAA's National Marine Aquaculture Initiative for the SE U.S. and Caribbean regions since 2000, I have been the PI and Co-PI on several government grants and private sector projects exceeding \$ 4 Million, leading to breakthrough hatchery and offshore aquaculture technology.

My funding situation has always been very good. My current, recent and past funding history is solid. I have been consistent in fully covering my salary from day one at RSMAS, and expect to continue receiving funding provided by projects from both the government and private sectors. My salary coverage is complemented by the three courses I teach. I have been consistently funding several graduate students (three to five per year).

Current funding:

PI, Open Blue Sea Farms Research Agreement: Breeding Program of Cobia (*Rachycentron canadum*) and Supporting the Development of Advanced Hatchery and Offshore Aquaculture Technologies. FY 2012-2014/year, \$ 1,050,000 (350,000/year); FY 2015-2016, \$ 960,000 (\$430,000/year); ongoing

PI, Aqquua LLC. Research Agreement: Perfecting Hatchery Technology of Tuna (*Thunnus* spp), flounder (*Paralichthys olivaceus*) and mahi (*Coryphaena hippurus*). FY 17-19, \$1,500,000 (\$500,000/year)

Co-PI (PI Martin Grosell), Contract with Stratus Consulting working for NOAA on the Deepwater Horizon Natural Resource Damage Assessment, FY 2010-2015, \$ 1,500,000

Co-PI (PI Martin Grosell) Relationships of Effects of Cardiac Outcomes in fish for Validation of Ecological Risk (RECOVER Consortium), Gulf of Mexico Research Institute (GOMRI), FY 2014-2017, \$ 3,000,000

PI (Co-PI Garry Hitchcock), NOAA MARFIN Environmental Monitoring Offshore Aquaculture Farm, FY 2014-2016, \$ 225,000

PI (Co-PI Gary Hitchcock), NOAA Sea Grant Environmental Monitoring Offshore Aquaculture Farm, FY 2014-2016, \$ 125,000

Recent Funding:

PI, NOAA Saltonstall-Kennedy (S-K), Developing Hatchery Technology of Black Fin Tuna, FY 2010-2012, \$ 375,000

PI, NOAA Saltonstall-Kennedy (S-K), Aquaculture Technology of Goggle-Eye, FY 2011-2013, \$275,000

PI (Co-PI Jorge Suarez), Illinois Soybean Association, Using Soybean as Alternative Ingredient for Florida Pompano Diets, FY 2012-2013, \$200,000

PI (Co-PI Jorge Suarez), United Soybean Association (USB I), Using Soybean as Alternative Ingredient for Formulating and Manufacturing Aquafeeds for Small Size Pompano, FY 2012-13, \$186,518

PI (Co-PI Jorge Suarez), United Soybean Association (USB II), Using Soybean as Alternative Ingredient for Formulating and Manufacturing Aquafeeds for Small Size Pompano, FY 2012-13, \$ 166,972

PI (Co-PI Jorge Suarez), United Soybean Association (USB III), Using Soybean as Alternative Ingredient for Formulating and Manufacturing Aquafeeds for Large Size Pompano, FY 2012-13, \$106,464

PI (Co-PI Jorge Suarez), Testing Commercial Diets for Cobia, Contract with Biomar Chile, 2012-2014, \$100,000

PI (Co-PI Jorge Suarez), Illinois Soybean Association, Using Soybean as Alternative Ingredient for Formulating and Manufacturing Aquafeeds for Cobia, FY 2011-12, \$97,500

Previous Funding:

PI, NOAA Marine Aquaculture Program grant for continuing and perfecting research on cobia aquaculture technology. FY 2008-09 \$ 400,000: \$375,000 FY 2008 and \$ 25,000 FY 09

Co-PI with Dr. Larry Brand, NOAA Marine Aquaculture Program grant for continuing environmental assessment and monitoring for offshore aquaculture. Approved FY 2008-09 \$ 150,000: \$125,000 FY 2008 and \$ 25,000 FY 09.

PI on a NOAA Marine Aquaculture Initiative (FY 2006-7) for \$ 800,000 (\$ 400,000/yr) for development of hatchery and offshore aquaculture technology of cobia (*Rachycentron canadum*). Second year was reduced to \$275,000 due to NOAA budget restriction imposed by the government.

Co-PI (with Dr. Larry Brand from MBF) on a NOAA Marine Aquaculture Initiative (FY 2006-7) for environmental monitoring of offshore aquaculture in the Caribbean: \$ 150,000

PI on two MOUs with ESPOL/CENAIM from Ecuador and ACUANAL/CENIACUA from Colombia for technology transfer and training in aquaculture totaling \$ 200,000 FY 2008-09

PI on three MOU's with private companies in Brazil (TWB Brasil, S.A.) and Mexico (Ixoye Tropicales S.A. de C.V. and Finca Marina S.A. de C.V.) totaling \$ 450,000 (\$ 150,000 each, \$ 75,000/yr each). FY 2006-08

In addition, the RSMAS Aquaculture Program has been selling selectively bred broodstock, eggs, larvae and fingerlings of cobia to private companies. This source of funding generates enough money to fund graduate students and to maintain the research program active. In FY 2007, sales of eggs and larvae generated about \$ 130,000 in funding to the school. In FY 2008-9, the production and sales exceeded \$ 400,000.

PI on NOAA grant (National Marine Aquaculture Initiative) FY 2004-2005 (extended to 2006) for \$ 143,000.

PI on FL Sea Grant project for marine fish hatchery technology FY 04-05 (extended to 06) for \$ 150,000

PI on a grant from the Elizabeth Ordway Dunn Foundation for reducing fishmeal use in aquaculture feeds (FY 2006-7) for \$ 20,000.

PI on Aquaculture Research Council, Florida Department of Agriculture grant: Intensive, semi-intensive and extensive aquaculture of cobia, *Rachycentron canadum*, in tanks, raceways and ponds. FY 2004-05, PI, \$ 197,000.

PI on NOAA/National Marine Aquaculture Initiative (NMAI): Hatchery production of cobia *Rachycentron canadum*, using probiotics. \$ 218,000. FY 2004-05.

PI on Florida Sea Grant College Program: Advanced hatchery technology of cobia, *Rachycentron canadum*, using proactive health management and a simplified feed regime. PI. \$ 150,000. FY 2004-05.

Offshore Mariculture Project: Offshore cage culture of mutton snapper (*Lutjanus analis*) in Puerto Rico. Snapperfarm, Inc., New York, U.S. / Puerto Rican Industrial Development Co. (PRIDCO). Single PI. \$ 75,000 to RSMAS (10% technology transfer of a 2-year \$ 750,000 project). FY 2002-03.

Cape Eleuthera Offshore Aquaculture Project (CEOAP): Cape Eleuthera Foundation. \$ 580,000 with \$ 50,000 donation to RSMAS FY 03-04 for technology transfer. (Donor committed with \$ 100,000 FY 04-05).

NOAA/National Marine Aquaculture Initiative (NMAI): Hatchery production of mutton snapper (*Lutjanus analis*) and other high-value marine food fish, with the Aquaculture Center of the Florida Keys (ACFK). Single PI. \$ 700,000. RSMAS subcontracted for \$ 216,000. FY 2001-03.

NOAA/National Marine Aquaculture Initiative (NMAI): Using GIS for offshore aquaculture siting in the U.S. Caribbean and Florida", with NOAA and the Florida State Department of Agriculture. Co-PI with J. Gifford. \$ 100,000. FY 2001-03.

NOAA/National Marine Aquaculture Initiative (NMAI): Environmental, economical and social impact of sustainable offshore cage aquaculture in Puerto Rican waters", with the University of Puerto Rico. Co-PI with other researchers from the UPR. \$ 200,000. RSMAS subcontracted for \$ 20,000. FY 2001-03.

NOAA/Salston Kennedy: Offshore cage culture: environmental impact and perceptions by local fishing community", with the University of Puerto Rico. Co-PI with other researchers from UPR. Sarah Meltzoff collaborating from RSMAS. \$ 430,509. RSMAS subcontracted for \$ 20,000. FY 2001-03.

NOAA/Sea Grant (R/LR-A-35) (TAQ-99-108) \$ 147,500 FY 2000-2001 Single PI: Commercial hatchery production and growout of mutton snapper (*Lutjanus analis*) and greater amberjack (*Seriola dumerili*) in offshore cage systems.

Center for Sustainable Fisheries (CSF): PI and Co-PI in two projects FY 2001-02 totaling \$ 120,000 (\$ 60,000/yr): Bionergetics of billfishes during early developmental stages and Captive sailfish studies at Achotines Laboratory, Panama.

CEPEMAR Brazil Memorandum of Understanding with RSMAS: \$ 50,000 FY 03-04 for collaborative work for seeking World Bank funds for developing sustainable aquaculture projects in Brazil.

Aquaculture Center of the Florida Keys (ACFK), through the Kalamazoo Foundation: \$150,000 FY 1999-2000.

Snapperfarm, Inc., Puerto Rico/ New York: \$ 33,000 FY 2000. Offshore aquaculture project off the Island of Culebra, Puerto Rico.

Offshore mariculture project: cage culture of mutton snapper (*Lutjanus analis*) in Puerto Rico. Snapperfarm, Inc., New York, / PRIDCO: Committed to \$ 75,000/yr FY 2002-03 for RSMAS (10% technology transfer of a 2-year \$ 750,000 project)

Epicore Biotechnology, Inc., \$ 6,000 FY 2001. PI. Project: Larval Rearing of Tropical Marine Finfish Using Probiotics.

Provost's Summer Awards, Summer 2002: \$ 9,500. Project "Aquaculture performance of mutton snapper raised in floating net cages".

FY 1998-1999: Maturation, Spawning and Larval Husbandry Techniques of Southern Flounder, *Paralichthys lethostigma*. Harbor Branch Oceanographic Institution / Disney Wildlife Fund. Project Co-PI. \$ 60,000

FY 1998-1999: Aquaculture Development of Southern Flounder. Harbor Branch Oceanographic Institution / Nature Coast Industries, Inc. Project Co-PI. \$ 175,000 (concluded)

FY 1996-1997: Aquaculture Development of Mutton Snapper. Harbor Branch Oceanographic Institution / Treasure Coast Seafood, Inc. Project Co-PI. \$ 250,000

FY 1993-1994: Corporación Andina de Fomento (C.A.F.), a multi-government organization for the development of Andean countries. Project: Marine Fish Hatchery and Growout Technology to Diversify Shrimp Aquaculture in Ecuador. \$ 2,000,000 (concluded)

Honors and Awards:

Iron Arrow (Fall of 2006). Highest Honor achieved at the University of Miami.

Provost's Summer Awards (\$9,500). Project: Aquaculture performance of mutton snapper, *Lutjanus analis* raised in floating net cages. (funded research published in 2002 in peer review journal – see publications list)

The British Council Fellowship: \$ 80,000 Full Competitive Scholarship for pursuing a Masters Degree in Aquaculture and Fisheries Management in the United Kingdom) – 1984-5

The Brazilian Council for Technology Development: \$ 180,000 Full Competitive Scholarship for pursuing a Doctorate degree in Marine Biology and Fisheries in the U.S.) - 1987-1992

ILTTA (International Light Tackle Tournament Association) Award Fellowship (\$2,000). Project: Bioenergetics of Pelagic Fish Species

Post-Doctoral Fellowships:

Corporacion Andina de Fomento, (CAF) award contract for marine finfish aquaculture project design and implementation in Ecuador, South America, funded through an agreement between CAF and RSMAS University of Miami (Dr. E. Iversen, advisor), \$ 75,000 – 1992-1994

TEACHING

I am committed to teaching excellence and have developed a strong, nationally and internationally recognized Aquaculture Management Program at MAF/ RSMAS. I have always taken my teaching responsibilities and assignments very seriously and am fully committed to prepare and deliver the best classes to our students. This effort has and is paying off: my courses are popular and I have continuously teach over 90 credit hours of graduate teaching over the years (among the highest at RSMAS).

I have developed and am currently teaching four graduate level courses at MAF/RSMAS. These courses, described below, are dynamic and updated. The courses are mandatory for graduate students in the aquaculture track but are all elective and very popular among students. Student course evaluations have always been excellent. These four courses are offered on an annual basis as part of the MS/MPS tracks in aquaculture, as well as of the new MES MS and PhD programs. They encompass science, technology, management, business, economics, and environmental aspects of aquaculture. The overall objective of the three courses combined is to resolve the conflict between developing a productive activity like aquaculture and maintaining biodiversity and the environment. The courses provide a balance between science, technology, business, economics feasibility and environmental issues of aquaculture.

MAF 512 Aquaculture Management I (AQUA I). Species, systems and environmental issues: focus on species, environment, management, economics and operational aspects of sustainable aquaculture operations.

MAF 513 Aquaculture Management II (AQUA II), Advanced Techniques in Sustainable Aquaculture): focus on science and technology issues related to aquaculture and the environment.

MAF 519 Aquaculture Management III (AQUA III): Fieldwork. Practical, hands-on experience is provided during a 2-week fieldtrip to a foreign country (in recent years, this course is taught in Panama, as part of a collaborative program between UM and IATTC.

MAF 517 Legal and Environmental Issues in Aquaculture (AQUA IV). Covers legal and sustainability issues in aquaculture as well as business and business and production planning. Co-taught with Josh Grubman

I also teach a number of short courses and seminars at all levels in Latin American Universities and Government Institutions on a yearly basis. I also conduct training and outreach programs, as part of MOUs and agreements with the government and private sector in foreign countries. In addition, for the last 14 years, I have been organizing and running the UM-IATTC Tuna Workshop in collaboration with the Inter-American Tropical Tuna Commission in Panama. It is a 2-week workshop attended by academicians and researchers specialized in tuna aquaculture from several countries.

GRADUATE STUDENTS ADVISING:

Currently chair/co-chair of a total of 25 MPS, MS and PhD student committees. Total number of graduate students advised in excess of 50.

List of current and past students with respective degrees and thesis/dissertations available upon request.

SERVICE

University Committee and Administrative Responsibilities:

Member of the UM-RSMAS School Council from 2010-2015.

Chairman of the Division of Marine Affairs and Policy from 2004 to 2008.

Served in several other committees within RSMAS and UM in the past and present: Faculty Senate, MAF Representative Facilities Committee (Chair), Library Committee, Office Space Committee, Faculty Search Committees, etc.

Institutional Animal Care and Use Committee (IACUC) Committee Member (2006-2010).

Member of the National Marine Aquaculture Task Force (PEW/WHOI National Committee) (2006-8).

Member of the Florida Aquaculture Task Force (State of Florida Dept. of Agriculture Committee) (2008-9).

Hosted two national meetings at RSMAS: NOAA Code of Conduct for Sustainable Aquaculture in 2004 and COMPASS/SeaWeb Architects for Sustainable Offshore Aquaculture in 2005.

Hosted two American Soybean Association Aquaculture Investment Workshops at RSMAS (2013 and 2015).

Co-chair (with Dr. Thomas Jamir of NOAA-NMFS-SEFSC) of the South East Aquaculture Consortium (SEACon), a regional center for planning and development sustainable aquaculture in the S.E. U.S.

Committee member responsible for developing and publishing the Florida Department of Agriculture Aquaculture Division's Aquaculture Best Management Practices in 2007.

Played major role in developing the National Offshore Aquaculture Act of 2005, a proposed law submitted to Congress in June 5, 2005 and presented to Senate on April 6, 2006. The Act was revised as the National Offshore Aquaculture Act of 2007 and resubmitted to the Senate.

Met in D.C. with representatives of the Ocean Caucus and make presentations to Congressional Staff to discuss offshore aquaculture in the US EEZ. (see Aquaculture Information Center IOC/NOAA, www.lib.noaa.gov/doc/aqua/present-ations.html). Between 2004 and 2013, I made 8 presentations to politicians and decision-makers in Tallahassee, Florida, and Washington D.C. and met with Senators and Commerce Secretary Carlos Gutierrez to discuss and lobby for the Act.

Provided written testimony for the record at the Senate Committee after the hearing.

Research extensively featured in local, state, national and international media (newspapers, magazines, websites, radio and TV) dozens of times in recent years. Examples include The Chronicle of Higher Education, New York Times, The Guardian (UK), 3 segments of NPR (Alaska, New York, Florida) and TV state, national and international News (Nightline, ABC World News, PBS Nightly Business Report, etc.)

Seafood Watch Science (Monterey Bay Aquarium) Advisory Board and World Wildlife Fund steering committee member for developing standards for sustainable aquaculture (2012-2013).

Community activities:

Volunteer establishment of an educational sustainable aquaculture syllabus for mid-school and high school in the Island of Culebra, Puerto Rico.

Volunteer teaching and syllabus development at the Island School in the Bahamas.

Volunteer soccer and tennis coaching for Key Biscayne youth.

Frequent talks at schools, universities and organizations (e.g. Rotary Club)

Website: <http://www.rsmas.miami.edu/groups/aquaculture>

Personal: <http://www.rsmas.miami.edu/people/faculty-index/?p=daniel-benetti>

Benetti's Students Peer-Reviewed Publications List 2010-17

Kloeblen, S., J. Stieglitz, J. Suarez, M. Grosell, and D. Benetti (2017) Characterizing egg quality and larval performance from captive mahi-mahi (*Coryphaena hippurus*) over time. *Aquaculture Research*. Submitted, in review.

Stieglitz, J., R. Hoenig, S. Kloeblen, C. Tudela, M. Grosell, and D. Benetti (2016) Capture, transport, prophylaxis, acclimation, and continuous spawning of mahi-mahi (*Coryphaena hippurus*) in captivity. *Aquaculture*. Submitted, in review.

Stieglitz, J., E. Mager, R. Hoenig, M. Alloy, A. Esbaugh, C. Bodinier, D. Benetti, A. Roberts and M. Grosell (2016) A novel exposure system for embryo-larval toxicity testing of pelagic fish species: Assessment of photo-enhanced toxicity of crude oil. *Chemosphere*, 162: 261-268.

Stieglitz, J., Mager, E., Hoenig, R., Benetti, D., and Grosell, M. (2015) Impacts of Deepwater Horizon crude oil exposure on adult mahi-mahi (*Coryphaena hippurus*) swim performance. *Aquatic Toxicology*. Submitted.

Zink, I., Douillet P. & Benetti, D.D. (2013). Improvement of rotifer (*Brachionus plicatilis*) population growth dynamics with inclusion of *Bacillus* spp probiotics. *Aquaculture Research* 44, 200-211

Welch, A. (2013). The second commons: Rethinking fisheries reform for the political market. *Stanford Journal of Law, Science and Policy*, January 2013, 1-31 <http://sjlsp.org/?q=node/67>

Suarez, J.A., Tudela, C., Davis, D., Daugherty, Z., Taynor, M., Glass, L., Hoenig, R., Buentello, A., Benetti, D. (2013). Replacement of fishmeal by a novel non-GM variety of soybean meal in coho, *Rachycentron canadum*: Ingredient nutrient digestibility and growth performance. *Aquaculture* 316-417: 328-333

Zink, I., P. Douillet and D. D. Benetti 2013. Improvement of rotifer (*Brachionus plicatilis*) population growth dynamics with inclusion of *Bacillus* spp probiotics. *Aquaculture Research* 44, 200-211

Stieglitz, J.D., Benetti, D.D., Hoenig, R., Welch, A., Miralao, S. & Sardemberg, B. (2012). Volitional year-round spawning of coho (*Rachycentron canadum*) in broodstock maturation systems. *Aquaculture Research* 43, 1557-1566

Stieglitz, J.D., Benetti, D.D & Serafy, J. (2012). Optimizing transport of live juvenile coho (*Rachycentron canadum*): Effects of salinity and shipping biomass. *Aquaculture* 364-365: 293-297

Partridge, G., Benetti, D. D., Stieglitz, J.D., Margulies, D., Scholey, V. (2011). The effect of extended photo-period (24L) on growth and survival of pre-flexion yellow fin tuna (*Thunnus albacares*) larvae. *Aquaculture* 318: 471-474

Zink, I., Benetti, D.D., Douillet, P., Margulies, D. & Scholey, V. (2011). Improvement of water chemistry with *Bacillus* probiotics inclusion during simulated transport of yellow fin tuna (*Thunnus albacares*) yolk sac larvae. *AFS North American Journal of Aquaculture*: 73: 42-48.

Rotman, F. J., M. Ritche, P. V. Wyk and D. D. Benetti. 2011. Efficacy of a commercial probiotic relative to oxytetracycline as gram-negative bacterial control agents in a rotifer (*Brachiouneus plicatilis*) batch culture. *North American Journal of Aquaculture* 73, 3: 343-349

Welch, A., Hoenig, R., Stieglitz, J.D., Benetti, D.D., Tacon, A., Sims, N. & O'Hanlon, B. (2010). From fishing to the sustainable farming of carnivorous marine finfish. *Reviews in Fisheries Science* 18(3): 235-247

Daniel Benetti, Ph.D.

Professor & Director of Aquaculture

University of Miami - RSMAS

Dr. Daniel Benetti is a Professor and Director of Aquaculture at the University of Miami's Rosenstiel School of Marine and Atmospheric Science, where he was the Chairman of the Division of Marine Affairs and Policy from 2004 to 2009. He has over 30 years experience in aquaculture worldwide. Besides his academic and research responsibilities, he carries out scientific and R&D projects on technology development and environmental issues related to aquaculture. He specializes in advanced hatchery, land-based (Recirculating Aquaculture Systems RAS and flow-through) and open ocean growout technologies of marine fish, including, but not restricted to, cobia, *Seriola*, mahi, tuna, snapper, grouper, pompanos and flounder.

He has published over 120 articles in aquaculture technology and production, has extensive experience with the industry and has been a consultant for the private and government sectors in Latin America, U.S., Europe, Asia, Caribbean, Africa, Australia and the Middle East. He is currently consulting for projects and operations in the US, Chile, Peru, Ecuador, Colombia, Panama, Costa Rica, Mexico, Brazil, the Bahamas, Turkey and China. He collaborates with researchers and institutions the world over in tuna aquaculture and is internationally recognized for his contributions to modern aquaculture. His work is centered on innovative approaches to ensure that seafood production through mariculture is science based, wholesome, environmentally sustainable and economic viable.

Besides his academic and research credentials, Dan has extensive international professional experience, having worked, consulted, and established research, commercial and educational programs and projects for the private and government sectors in > 20 countries throughout the 5 continents over the last 30 years. He specializes in technology transfer and has experience in

obtaining funding, planning, designing, implementing and running marine fish hatcheries and growout aquaculture operations, including training of scientific, technical and managerial staff. His team of research associates, graduate students and technicians is highly trained and qualified and experienced in production.

B.Sc. Biological Oceanography 1978 University of Rio Grande, Brazil

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