

REBECCA J. GAST

Molecular Microbial Biology
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PROFESSIONAL PREPARATION:

The Ohio State University, Microbiology, Bachelor of Science, 1987

The Ohio State University, Molecular Genetics, Ph. D., 1994

Woods Hole Oceanographic Institution, Postdoctoral Scholar, 1994-1997

APPOINTMENTS:

2001-present Associate Scientist, Biology Department, WHOI.

1997-2001 Assistant Scientist, Biology Department, WHOI.

1994-1997 Postdoctoral Scholar, Woods Hole Oceanographic Institution.

SELECTED PUBLICATIONS RELATED TO PROPOSAL:

Inpress Amaral-Zettler LA, Rocca JD, Lamotagne MC, Dennett MR and **RJ Gast**. Changes in microbial community structure in the wake of Hurricanes Katrina and Rita.

Environmental Science and Technology.

2008 Stewart JR, **Gast RJ**, Fujioka RS, Solo-Gabriele HM, Meschke S, Amaral-Zettler LA, Del Castillo E, Polz MF, Collier TK, Strom MS, Sinigalliano CD, Moeller PDR and AF Holland
Environmental Health 7(Suppl 2):S3 doi:10.1186/1476-069X-7-S2-S3.

2008 Bogomolni A, **Gast RJ**, Ellis J, Dennett M, Puglianes K and M Moore. Vectors or Victims? Marine vertebrate zoonoses from coastal waters of the Northwest Atlantic.
Diseases of Aquatic Organisms 81(1):13-38.

2007 Sinigalliano CD, Gidley ML, Shibata T, Whitman D, Dixon TH, Laws E, Hou A, Bachoon D, Brand L, Amaral-Zettler L, **Gast R**, Steward GF, Nigro OD, Fujioka R, Betancourt WQ, Vithanage G, Mathews J, Fleming LE and HM Solo-Gabriele. Impact of Hurricanes Katrina and Rita on the microbial landscape of the New Orleans area PNAS 104:9029-9034.

2007 Countway PD, **Gast RJ**, Dennett MR, Savai, P, Rose JM and DA Caron. Distinct protistan assemblages characterize the euphotic zone and deep-sea (2500m) of the western N. Atlantic (Sargasso Sea and Gulf Stream). Environmental Microbiology 9:1219-1232.

FIVE ADDITIONAL PUBLICATIONS:

Inpress Rose JM, **Gast RJ**, Bogomolni A, Ellis J, Lentell B, Touhey K and M Moore.

Occurrence and patterns of antibiotic resistance in vertebrates off the Northeastern United States coast FEMS Microbiology Ecology

2007 **Gast, RJ**, Moran DM, Dennett MR and DA Caron. Kleptoplasty in an Antarctic dinoflagellate; caught in evolutionary transition? Environmental Microbiology 9(1):39-45.

2006 **Gast, RJ**, Cushman E*, Moran DM, Ulingher K, Leavitt D and R Smolowitz. A PCR-based detection method for Quahog Parasite Unknown and its application to seed clams
Diseases of Aquatic Organisms 70:115-122.

2005 Countway PD, **Gast RJ**, Savai P and DA Caron. Protistan diversity estimates based on 18S DNA from seawater incubations in the western N. Atlantic. Journal of Eukaryotic Microbiology 52(2): 95-106.

2004 **Gast RJ**, Dennett MR and DA Caron. Characterization of Protistan Assemblages in the Ross Sea, Antarctica by Denaturing Gradient Gel Electrophoresis. Applied and Environmental Microbiology 70:2028-2037.

* indicates undergraduate student involved in the research project and publication

CRUISE and FIELDWORK PARTICIPATION:

Cruises

RV Weatherbird; Sept 26 – Oct 3, 1994 (BATS validation) & June 8 – 9, 2000 (BATS)
RVIB Nathaniel B Palmer; Dec 1998-Feb 1999; Oct 2003-Nov 2003; Oct 2005-Dec 2005
RV Endeavor (EN 343); Aug 15 – 29, 2000
RV Sea Watch (USC Microbial Observatory cruise); March 18, 2001
RV Point Sur (USC Microbial Observatory cruise); June, 2001
Extreme 2001 cruise (9N East Pacific Rise, Dr. Craig Cary Chief Scientist)
Monthly trips into Long Island Sound onboard the RV John Dempsey in 1998, 1999

Fieldwork at Marine Stations

Bermuda Biological Station for Research; 1994, 1995, 1997
Caribbean Marine Research Station; 1998
Catalina Island; 2001

SYNERGISTIC ACTIVITIES:

Teaching activities: I have participated in a course called "Living in the Microbial World," a one week intensive, hands-on enhancement workshop for middle and high school teachers. The course focuses on the diversity and importance of microbes in the biosphere and is sponsored by the Marine Biology Laboratory and the MBL Astrobiology Institute. At WHOI, I have taught a course on Symbiotic Interactions (2001, 2004, 2007), a course on Laboratory Methods in Oceanography (2003), have participated in teaching a Marine Genomics course (2003) and taught a course on Oceans and Human Health (2007). I have also participated in the New England COSEE Ocean Science Education Institute, and continue to maintain contact with the teachers that I was partnered with.

Professional Society activities: I actively serve on committees for the International Society of Protozoologists. I was the Vice President of the society in 2006, and am a member of the Editorial board for the Society's journal. I also served as the chair of the program committee for the Society's 2002 meeting, and was a member of the Education committee (which functions to raise the awareness of careers in the field of protozoology in high school and undergraduate students). I am also chair-elect for Division X and a member of the Editorial Board for the American Society for Microbiology. I serve as a Subject Editor for Diseases of Aquatic Organisms, and served as co-editor for a special issue on marine zoonoses.

Scientific Community activities: I have served as a panelist for the NSF Major Research Instrumentation Program, the Microbial Observatories Program, the Ecology Studies Program, the Ecology of Infectious Disease Program, the Antarctic Biology and Medicine Program and the Frontiers in Integrative Biological Research Program. I was also an elected member of the American Institute for Biological Sciences Infrastructure for Biology at Regional to Continental Scales (IBRCS) working group and participated in early discussions on the structure of NEON.

Collaborators:

Auburn - A. Moss; New England Aquarium - R. Smolowitz; Roger Williams University - D. Leavitt; SCCWRP – S. Weisberg, J. Griffiths; Tufts Veterinary School – M. Pokras, J. Ellis; University of California Fresno - A. Rogerson; University of Maryland - M. Cummings; University of Southern California - D.A. Caron, P.D. Countway; VIMS - C. Audemard, K. Reece

Graduate and Post Doctoral Advisors:

T.J. Byers (Graduate Advisor; The Ohio State University; Deceased 2003)
D.A. Caron (Postdoctoral Advisor; University of Southern California)

Thesis Advisor and Postgraduate-Scholar Sponsor:

Elizabeth Halliday (graduate student) Julie M. Rose (NSF OPP Postdoctoral Fellow)
Matthew First (WHOI Postdoctoral Scholar)