

MICHAEL L. BOLLER

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EDUCATION

Ph.D. Candidate, Biological Sciences (exp. Spring 2005)

Department of Biological Sciences, University of Rhode Island

M.S. Biological Sciences (2000)

Department of Biological Sciences, State University of New York at Buffalo

B.S. Biological Sciences (1997)

Department of Biological Sciences, State University of New York at Buffalo

RESEARCH INTERESTS

Biomechanics of Flexible Organisms

Hydrodynamics of macroalgae and gorgonian corals

Solid mechanics of flexible organisms

Ecological consequences of flexibility

Hydrodynamics

Turbulence in biology

Scaling of Physical Processes in Biology

Ecological Instrumentation Design

Microcontroller based sensors/data loggers development

PREVIOUS AND CURRENT RESEARCH TOPICS

Biomechanics of flexible macroalgae: reconfiguration, morphological and canopy effects on drag generation (Doctoral Disertation)

Advisor: Emily Carrington, Dept. Biol. Sci., University of Rhode Island

Effects of mechanics and morphology on the fragmentation of *Plexaura kuna*. (Masters Thesis)

Advisor: Howard Lasker, Dept. Biol. Sci., SUNY at Buffalo

Population Dynamics and Colony Growth modeling of *Pseudopterogorgia elisabethae*.

Advisor: Howard Lasker, Dept. Biol. Sci., SUNY at Buffalo

Evolution of the secondary structure of the D2 subunit of the 28S rRNA of insects

Advisor: Derek Taylor's lab, Dept. Biol. Sci., SUNY at Buffalo

Reproductive output in the calcareous green algae, *Halimeda* spp.

Advisor: Howard Lasker, Dept. Biol. Sci., SUNY at Buffalo

Patterns of reproduction and growth in the gorgonian coral *Plexaura kuna*

Advisor: Kiho Kim, Dept. Biol. Sci., SUNY at Buffalo

PUBLICATIONS

Lasker, H. R., M. L. Boller, J. Castanaro, and J. A. Sanchez (2003) **Determinate growth in the gorgonian coral *Pseudopterogorgia elisabethae*, a modular marine invertebrate.** Biological Bulletin 205: 319-330.

Boller, M. L., T. D. Swain And H. R. Lasker (2002). **Skeletal morphology and material properties of a fragmenting gorgonian coral.** Marine Ecology Progress Series 228:131-141.

CONFERENCE PRESENTATIONS

- In situ* measurement of hydrodynamic force on a canopy-forming intertidal macroalga:** 2005 Society for Integrative and Comparative Biology Annual Meeting, January 2005.
- A new model for drag generation in flexible organisms;** 2004 Society for Integrative and Comparative Biology Annual Meeting, January 2004.
- Reconfiguration of flexible algae: incorporating shape and area changes into a new model for drag formation;** 84th Western Society of Naturalist Annual Meeting, November 2003.
- Collapsing under the pressure: relating drag to water velocity in a flexible organism;** 33rd Benthic Ecology Meeting, March 2003.
- Drag and flexibility in *Chondrus crispus* Stackhouse: what drives the Vogel Number?;** 2003 Society for Integrative and Comparative Biology Annual Meeting, January 2003.
- Reconfiguration in *Chondrus crispus* Stackhouse;** 32nd Benthic Ecology Meeting, March 2002.
- Effects of tidal height on temperature in the rocky intertidal;** 31st Benthic Ecology Meeting, March 2001.
- Mechanisms of fragmentation of a gorgonian coral: Why we're not pigs when we say "the weaker sex";** 2000 Society for Integrative and Comparative Biology Annual Meeting, January 2000.
- Axis constrictions as an adaptation for fragmentation of the gorgonian coral *Plexaura kuna*;** 29th Benthic Ecology Meeting, March 1999.
- Patterns of reproduction and growth in a gorgonian coral;** 1998 Society for Integrative and Comparative Biology Annual Meeting, January 1998.

GRANTS AND HONORS

- URI Dept. Biol. Sci. Rube Goldberg Award for Do-It-Yourself Science,** February 2004 (\$300)
- URI Graduate Research Grant,** January 2004 (\$797).
- URI Alumni Association Graduate Fellowship,** September 2003 to May 2004 (\$15,500).
- College of Arts and Sciences Hope and Heritage Travel Award,** October 2003 (\$250).
- Biological Sciences Research Support,** 2000-2003 (\$450).
- College of Arts and Sciences Hope and Heritage Travel Award,** January 2003 (\$250).
- Biological Sciences Travel Award,** January 2003, October 2003 (\$250).
- SICB Annual Meeting Support,** January 2003, 2004 (\$300).
- PISCO Educational Training Grant,** Summer 2001 (\$5,000).
- Best Spoken Paper,** 1999 Graduate Group in Ecology and Evolution Student Paper Competition (\$350).

TEACHING EXPERIENCE

- Introductory Ecology Instructor: BIO262;** Summer 2003, *College of Continuing Education, URI*
- Core Science Laboratory Instructor: CORE101;** Fall 2002, *FCAS, Roger Williams University*

TEACHING ASSISTANT EXPERIENCE

- Biology of the Algae Laboratory TA: BIO465;** Spring 2001, 2002, & 2003, *Dept. Bio. Sci., URI*
- Freshwater Ecology Laboratory TA: BIO458;** Fall 2004, *Dept. Bio. Sci., URI*
- Introductory Zoology Laboratory TA: BIO113;** Fall 2000, *Dept. Bio. Sci., URI*
- Marine Biology Laboratory TA: BIO360;** Fall 2001, *Dept. Bio. Sci., URI*
- Marine Botany Laboratory TA: BIO418;** Fall 2002, *Dept. Bio. Sci., URI*
- Marine Ecology Laboratory TA: BIO457;** Spring 2001, 2002, & 2003, *Dept. Bio. Sci., URI*
- Marine Invertebrates of Southern New England TA: BIO355;** Summer 2002, *Dept. Bio. Sci., URI*

PROFESSIONAL EXPERIENCE

Naval Research Enterprise Intern, Office of Naval Research

May 2004 to July 2004, Naval Undersea Warfare Center, Newport

Graduate Representative to the Faculty

December 2002 to January 2003, *Department of Biological Sciences, URI*

Research Technician II

September 1999 to August 2000, Department of Biological Sciences, SUNY at Buffalo

Supervisor: Dr. Howard Lasker.

Graduate Research Assistant

January 1998 to August 1999, Department of Biological Sciences, SUNY at Buffalo

Supervisor: Dr. Howard Lasker.

Research/Field Assistant

June 1997 to December 1997, Section of Ecology and Systematics, Cornell University

Supervisor: Dr. Elizabeth Gross

PROFESSIONAL MEMBERSHIPS

Phycological Society of America

Northeast Algal Society

Society for Integrative and Comparative Biology

Western Society of Naturalists

Sigma Xi

REFERENCES

Dr. Emily Carrington

Dept. of Biological Sciences, University of Rhode Island, 100 Flagg Road, Kingston, RI 02881
401-874-2667, 401-874-4256 (fax), carrington@uri.edu

Dr. Cheryl D. Wilga

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Dr. Howard R. Lasker

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716-645-2363x184, 716-645-2975 (fax), hlasker@buffalo.edu