

## **Kelly Rakow Sutherland**

Woods Hole Oceanographic Institution, Woods Hole, MA 02543 USA, [krakow@whoi.edu](mailto:krakow@whoi.edu)

### **EDUCATION**

#### **MIT-WHOI Joint Program in Oceanography**

PhD candidate. Biological Oceanography. Thesis: *Morphology, locomotion and filtration mechanics of salps*. Advisor: Larry Madin

#### **University of South Alabama and Dauphin Island Sea Lab**

MSc Marine Sciences, 2004. Thesis: *Oriented swimming by the scyphomedusa Aurelia against shear flow*. Advisor: Monty Graham

#### **Tufts University**

B.S. Biology and Child Development, 1999

### **RECOGNITION**

WHOI Ocean Ventures Fellowship (2007)

Journal of Experimental Biology Traveling Fellowship (2006)

University of South Alabama Graduate Fellowship (2003)

Nelson Award for best M.Sc. candidate in Marine Sciences, U. South Alabama (2004)

### **RESEARCH & PROFESSIONAL EXPERIENCE**

#### **Woods Hole Oceanographic Institution**, Woods Hole, MA (2004- present)

Studying filtration mechanics and jet propulsion of salps using Particle Image Velocimetry, dye visualizations, fluorescence microscopy and bluewater diving techniques off the Pacific coast of Panama.

Assisted in study of *Salpa thompsoni* in the Southern Ocean using a combination of net tows, a towed optical instrument, bluewater diving and laboratory measurements.

#### **Dauphin Island Sea Lab**, Dauphin Island, AL (2002- 2004)

Studied jellyfish swimming mechanics in the laboratory using frame-by-frame video analysis and in the field using ADCP, CTD and 'JellyCam' video profiles.

Assisted in study of zooplankton distribution data using tucker trawl, MOCNESS, ring nets, and blue water diving in the Gulf of Mexico.

Processed plankton samples: identifications, dry weights and C:N ratios.

#### **New England Aquarium**, Boston, MA (1999- 2002)

As jelly culture aquarist, maintained jellies and investigated new display species, culturing methods and tank designs. Advised other institutions on jellyfish maintenance.

Selected, trained and supervised a group of 10 interns.

## PUBLICATIONS

**Rakow, K.C.** and Graham, W.M. (2006) Orientation and swimming mechanics by the scyphomedusa *Aurelia* sp. in shear flow. *Limnology and Oceanography* 51(2)

## PRESENTATIONS

**Rakow Sutherland, K.** *In situ* filtration rates of pelagic tunicates from morphometric measurements – WHOI Biology Department seminar, November 2008

**Rakow Sutherland, K.,** Techet, A., and Madin, L. *In situ* visualization of the propulsive jet wakes produced by pelagic tunicates –Gallery of Fluid Motion poster. APS DFD 2008 Annual Meeting.

**Rakow, K.** Trade-offs between propulsion and filter feeding among three species of pelagic tunicates – Oral presentation. SICB 2008 Annual Meeting.

**Rakow, K.** and Graham, W.M. Swimming mechanics by jellyfish in shear flow – Oral presentation. ASLO 2004 Summer Meeting

**Rakow, K.** and Graham, W.M. Oriented swimming by jellyfish in flow – **Best oral presentation.** Southeastern Ecology and Evolution Conference. 2004

**Rakow, K.** Blue water diving with gelatinous zooplankton – Invited oral presentation. New England Aquarium, April 2002

## TEACHING AND MENTORING

**Lecturer** at Bridgewater State College, MA, Biology labs (2007)

**Teaching assistant** at Sea Education Association, Oceanography (2006 and 2007)

**Teaching assistant** at WHOI, Marine Invertebrates (2005)

**Ocean scientist** liaison for Plymouth, MA middle schools, COSEE-NE (2005 – 2007)

**Mentor** to SOARS intern (Significant Opportunities in Atmospheric Research in Science) (2006)

**Science fair judge** at Falmouth high school (2005, 2007, 2008)

**Women in Science workshop leader** for middle school girls (2003 and 2004)

**Aquarium Educator** at the New England Aquarium (2000- 2001)

## ACTIVITIES AND SKILLS

Elected to WHOI women's committee, 2007

Elected MIT/WHOI Graduate Student Representative, 2005

Elected DISL Graduate Student Organization Treasurer, 2002

AAUS Research SCUBA certified; experience blue water and dry suit diving

Conversant in Spanish

## PEER REVIEW

Journal of Sea Research (2), Limnology and Oceanography (1), Deep Sea Research (1 co-review), Marine Biology (1 co-review)

## MEMBERSHIPS

American Society of Limnology and Oceanography, Society of Integrative and Comparative Biology, Union of Concerned Scientists