

## CURRICULUM VITAE

### David Thomas Elliott

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## EDUCATION:

**Ph.D. Candidate: Marine Science**, College of William and Mary, USA.

Anticipated graduation August 2010

My research combines field sampling, laboratory experimentation, and mathematical modeling to study the population dynamics of copepod zooplankton in the Lower Chesapeake Bay. I am using both traditional and novel methods to study the mortality component of these populations.

**M.S.: Marine Science**, University of San Diego, USA. 2005

**B.S.: Biological Science**, Oklahoma State University, USA. 2001

## PUBLICATIONS:

**Elliott, D.T.**, Tang, K.W. (*submitted-Estuaries & Coasts*) Spatial and Temporal Distributions of Live and Dead Copepods in the Lower Chesapeake Bay (Virginia, USA)

**Elliott, D.T.**, Harris, C.H., Tang, K.W. (*accepted-Limnology & Oceanography*) Dead in the water: The fate of copepod carcasses in the York River estuary, Virginia.

**Elliott, D.T.**, Tang, K.W. (2009) Simple staining method for differentiating live and dead marine zooplankton in field samples. *Limnology and Oceanography: Methods* 7 585.

Tang, K.W., Smith, W.O. Jr, Shields, A.R., **Elliott, D.T.** (2009) Survival and recovery of *Phaeocystis antarctica* (Prymnesiophyceae) from prolonged darkness and freezing. *Proceedings of the Royal Society B* 276 81.

**Elliott, D.T.**, Tang, K.W., Shields, A.R. (2008) Mesozooplankton beneath the summer sea ice in McMurdo Sound, Antarctica: Abundance, species composition, and DMSP content. *Polar Biology* 32 113.

Tang, K.W., Smith, W.O. Jr, **Elliott, D.T.**, Shields, A.R. (2008) Colony size of *Phaeocystis antarctica* (Prymnesiophyceae) as influenced by zooplankton grazers. *Journal of Phycology* 44 1372.

**Elliott, D.T.**, Kaufmann, R.S. (2007) Spatial and Temporal Variability of Mesozooplankton and Tintinnid Ciliates in a Seasonally Hypersaline Estuary. *Estuaries and Coasts* 30 418.

**Elliott, D.T.** (2006) A Study on the Zooplankton Community and Environment of Mission Bay. University of San Diego, Masters Thesis

Elliott, N.C., Tao, F.L., Fuentes-Granados, R., Giles, K.L., **Elliott, D.T.**, Greenstone, M.H., Shufran, K.A., Royer, T.A. (2006) D-vac sampling for predatory arthropods in winter wheat. *Biological Control* 38 325.

Elliott, N.C., Royer, T.A., Giles, K.L., Kindler, S.D., Porter, D.R., **Elliott, D.T.**, Waits, D.A. (2004) A Web-Based Decision Support System for Managing Greenbugs in Wheat. *Crop management* Available @ <http://www.cropmanagement.org>.

## PRESENTATIONS:

**Elliott, D.T.**, C.S. Freund, K.W. Tang. Patterns and Sources of Copepod Mortality in Chesapeake Bay. Poster presentation, ASLO conference (February 2010), Portland, OR.

**Elliott, D.T.**, C.S. Freund. Using Neutral Red to Estimate the Abundance of Dead Copepods and Its Applications. Invited Oral Presentation, Hampton University DREAMS Seminar Series (2009), Hampton, VA.

**Elliott, D.T.**, K.W. Tang. The occurrence and fate of copepod carcasses in the York River Estuary over an annual cycle. Oral presentation, Atlantic Estuarine Research Society conference (March 2009), Ocean City, MD.

**Elliott, D.T.**, R.S. Kaufmann. Dynamics of the Zooplankton Community in Mission Bay, San Diego, California. Poster presentation, ASLO conference (June 2004), Savannah, GA.

**Elliott, D.T.** Copepod Carcasses in Chesapeake Bay: Occurrence and Implications. (and additional titles). Oral presentations, Biological Science Seminars (2007, 2008, 2009, 2010), Virginia Institute of Marine Science, Gloucester Point, VA.

**Elliott, D.T.** Spatial and Temporal Dynamics of Mission Bay Zooplankton: Relationship to the Environment. Oral presentation, University of San Diego thesis defense (2005), San Diego, CA.

**Elliott, D.T.** Dynamics of the Zooplankton Community in Mission Bay. (and additional title). Oral presentations, MARS graduate colloquia (2003, 2004), University of San Diego, San Diego, CA.

#### **TEACHING/MENTORING EXPERIENCE:**

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| 2010      | Attended full day <i>COSIA</i> workshop at the Virginia Aquarium, to learn methods for <i>Communicating Ocean Science to an Informal Audience</i> .  |
| 2009-2010 | High School Instruction: 200+ hours of in classroom interaction/instruction with high school students (grade 10-12), GK-12 PERFECT Program, VIMS, College of William and Mary<br>( <a href="http://www.vims.edu/education/teaching/gk12">http://www.vims.edu/education/teaching/gk12</a> ) |
| 2009      | Invited instructor: Marine science instrumentation workshop, DREAMS Project, VIMS, College of William and Mary<br>( <a href="http://sites.google.com/site/vimsdreams/">http://sites.google.com/site/vimsdreams/</a> )  |
| 2005      | Invited instructor: Graduate level marine science fieldtrip (501L), VIMS, College of William and Mary  |
| 2004-2005 | Instructor to numerous “citizen volunteers” in lab/field safety and techniques for water quality monitoring, San Diego Baykeeper   |
| 2003      | Coordinator and instructor of “intertidal field day” for middle school science students, Sacred Heart Academy, San Diego   |
| 2002-2005 | Supervisor to multiple undergraduate research assistants, Department of Marine Science and Environmental Studies, University of San Diego  |

#### **RELEVANT SKILLS:**

- Field techniques in marine science and zooplankton ecology
- Laboratory techniques in marine science and zooplankton ecology
- Quantitative modeling of processes in marine science and zooplankton ecology, using field and laboratory results in combination with archived studies
- Statistical analyses of ecological data using:
  - R, Minitab, SPSS, MS Excel, CANOCO, CANODRAW, and SAS
- Additional computer software used:
  - FORTRAN, MS Access, ArcGIS, AutoCAD, Corvid Expert Systems
- Engineering and construction of scientific instrumentation:

- Custom designed and built a plankton pump for in situ discrete depth samples of copepod carcasses
- Custom designed and built a camera mount/track for recording vertical video transects of an experimental water column
- Custom designed and built a small scale revolving plankton wheel to fit inside a biosafety hood. Used for experiments with hazardous algal culture
- VIMS certified small vessel and tow vehicle operator
- First aid/CPR certified

**RELEVANT WORK EXPERIENCE:**

**2005-2009 Virginia Institute of Marine Science Research Specialist & Graduate Research Assistant**

Dr. Kam Tang, Gloucester Point, VA, 23062

- Participated as scientist in **ESCAP** (Ecology of solitary and colonial Antarctic *Phaeocystis* sp.) project during austral summers of 2005-06 and 2006-07. Duties included logistic support, experimental design and implementation, data management and analysis. Project website: <http://web.vims.edu/phae/?svr=www>
- Initiated field study with Kam Tang to measure *in situ* zooplankton mortality in Chesapeake Bay (led to dissertation research).
- Managed daily lab operations including plankton culture maintenance, equipment and supply purchasing, and use and upkeep of equipment (gas chromatograph, YSI 6600 hydrographic sonde, microscopy and imaging systems, biosafety hood, incubators and environmental rooms).

**2002-2004 University of San Diego Graduate Research Assistant**

& Dr. Ron Kaufmann, San Diego, CA, 92110

**2004-2005 Coordinator: Mission Bay water quality & pelagic biology study**

Hiram Sarabia, San Diego Baykeeper, San Diego, CA, 92106

- Coordinated and conducted biweekly field trips to collect data on marine planktonic and benthic communities and on water quality in the San Diego area (water quality data: dissolved nitrate, phosphate, and oxygen concentrations, fecal coliform contamination, suspended sediment loads, salinity, temperature, and chlorophyll concentrations)
- Identified and enumerated mesozooplankton, microzooplankton, and phytoplankton species in plankton samples
- Operated and trained new users on Lachat brand nutrient auto-analyzer at University of San Diego (ammonia, phosphate, silica, and nitrate/-ite)
- Maintained scientific equipment and disposed of hazardous wastes
- Managed water quality and plankton database
- Prepared quarterly technical reports
- Trained citizen volunteers in methods of water quality monitoring

**2001-2002 Oklahoma State University Lab Technician**

Dr. Kris Giles, Stillwater, OK, 74078

- Conducted ecological sampling for insects in grain fields
- Processed field samples (insect identification by microscopy, measurement of agricultural grain yield)
- Managed ecological database

**FELLOWSHIPS:**

2009-2010 GK-12 PERFECT Fellowship.  
2006-2007 VIMS Graduate Research Assistantship.  
2004-2005 Hannon Fellowship.

**MEMBERSHIPS:**

Estuarine Research Federation (ERF)  
Atlantic Estuarine Research Society (AERS)  
American Academy for the Advancement of Science (AAAS)

**PROFESSIONAL SERVICE:**

Referee, Scientia Marina  
Referee, Polar Biology