

# Ariella Chelsky

Louisiana Universities Marine Consortium  
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## Education

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- PhD, Griffith University** Gold Coast, Australia  
“Ecological and biogeochemical consequences of collapsed jellyfish blooms” May 2015  
Principal supervisor: Associate Prof. Kylie Pitt  
Associate supervisors: Associate Prof. David Welsh, Prof. Rod Connolly
- Bachelor of Science, University of British Columbia** Vancouver, Canada  
Major in Marine Biology 2009  
Exchange semester at University of Queensland

## Research Experience

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- Louisiana Universities Marine Consortium, Dr. Brian Roberts** Chauvin, Louisiana  
Postdoctoral Research Associate June 2015- Present
- Investigate biogeochemical effects of Deepwater Horizon oil spill on coastal wetlands
  - Evaluate spatial and temporal patterns in marsh biogeochemical processes
  - Supervise graduate and REU students
- Griffith University, Dr. William Bennett** Urunga, Australia  
Research Collaborator November 2014
- Assessed concentrations of antimony and arsenic in the sediments and flora of a freshwater wetland impacted by historical mine waste
  - Collected surficial sediment samples to determine the spatial distribution of As and Sb, and collected flora samples to assess bioaccumulation
- NSW Office of Environment and Heritage, Dr. Angus Ferguson** Lake Macquarie, Australia  
Research Collaborator July 2014
- Tested the effect of shading and depth on seagrass communities and sediment redox conditions
  - Deployed *in situ* diffusive gradients in thin films probes in a coastal lagoon to measure high resolution porewater profiles of iron (II) and sulfide
- International Research Institute of Stavanger. Dr. Andrew Sweetman** Sognefjord, Norway  
Fieldwork Assistant- Research Cruise September 2012
- Investigated rates of deep-sea scavenging of jellyfish carcasses
  - Assisted with deployment of yo-yo camera, baited camera landers, and DO sensors to depths of approx. 1000 meters
- University of Queensland, Dr. Ian Tibbetts** Brisbane, Australia  
Research Intern 2009
- Independent laboratory project, developed PCR and SSCP method for genetic analysis of seagrass species consumed by rabbitfish. Paper published in the *Journal of Fish Biology* in 2011
  - Fieldwork included predation experiments and surveying fish assemblages and coral cover

**Griffith University, Dr. Rod Connolly and Dr. Kylie Pitt**

Gold Coast, Australia

Fieldwork Assistant

2009

- Evaluated the effects of marine protected areas on the marine ecosystem using BRUV (baited remote underwater video) and sediment coring

**University of Pennsylvania, Dr. Randolph Matthews**

Philadelphia, USA

Laboratory Assistant

Summer 2007

- Used zebrafish model to screen for mutations linked to bile duct development
- Molecular techniques included DNA extraction, PCR and agarose gel electrophoresis

**McGill University, Dr. Miguel Burnier**

Montreal, Canada

Laboratory Assistant

Summer 2006

- Contributed to various projects related to ocular diseases with an emphasis on macular degeneration and retinoblastoma, using tissue culture, animal model dissections, and cell invasivity assays

**Caprion Pharmaceuticals Inc.**

Montreal, Canada

Intern in Corporate Development

Summer 2004

- Researched competing products, compiled information on bacterial diseases

## Publications

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**Chelsky A.**, Pitt, K.A., Ferguson, A.J.P., Bennett, W.W., Teasdale, P.R. & Welsh, D.T. (2016). Decomposition of jellyfish carrion in situ: Short-term impacts on infauna, benthic nutrient fluxes and sediment redox conditions. *Science of the Total Environment* 566-567: 929-937.

Sweetman, A.K., **Chelsky, A.**, Pitt, K.A., Andrade, H., van Oevelen, D. & Renaud, P.E. (2016). Jellyfish decomposition at the seafloor can rapidly alter biogeochemical cycling and carbon flow through benthic food-webs. *Limnology and Oceanography*.

**Chelsky A.**, Pitt, K.A., & Welsh, D.T. (2015). Biogeochemical implications of decomposing jellyfish blooms in a changing climate. *Estuarine, Coastal and Shelf Science* 154: 77-83.

Pitt, K.A., **Chelsky Budarf A.**, Browne J.G. & Condon, R.H. (2014). Bloom and bust: Why do blooms of jellyfish collapse? In K.A. Pitt & C.H. Lucas (eds.), *Jellyfish Blooms*: Springer.

**Chelsky Budarf, A.**, Burfeind, D.D., Loh, W.K.W. & Tibbetts, I.R. (2011). Identification of seagrasses in the gut of a marine herbivorous fish using DNA barcoding and visual inspection techniques. *Journal of Fish Biology* 79:112-121.

## Publications in Review and in Preparation

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Warnken, J., Ohlsson, R., Welsh, D.T., **Chelsky, A.**, Teasdale, P.R., Bennett, W.W. (submitted to *Environmental Pollution*). Antimony and arsenic exhibit contrasting spatial distributions in the sediment and vegetation of a contaminated wetland.

**Chelsky, A.**, Sweetman, A.K., Pitt, K.A., Welsh, D.T., Condon, R.H., Spilmont, N. (in prep for *Deep Sea Research Part 1*). Synergistic effects of elevated water temperature and decomposing jellyfish on nutrient cycling and oxygen dynamics in the pelagic environment.

**Chelsky, A.**, Marton, J.M., Bernhard, A.E., Giblin, A.E. & Roberts, B.J. (in prep for *Estuaries and Coasts*). Spatial patterns in biogeochemical processes in oiled and unoled Louisiana salt marshes: a multi-year analysis.

## Teaching Experience

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### **Coastal Environments, Griffith University**

Gold Coast, Australia

Teaching Assistant

2014

- Assisted students with design of a group project, planning of fieldwork and statistical analyses
- Led students through field and laboratory exercises
- Student evaluation score of 4.5 out of 5

### **Environmental Monitoring Techniques, Griffith University**

Gold Coast, Australia

Teaching Assistant

2014

- Demonstrated field sampling and laboratory techniques for analysis of environmental samples
- Led small groups of students through specific tasks and reviewed relevant theory
- Student evaluation score of 4.4 out of 5

### **Chemistry 1, Griffith University**

Gold Coast, Australia

Teaching Assistant

2012, 2013

- Led student groups through laboratory exercises and explained underlying concepts
- Marked lab reports

### **Chemistry Bridging Course, Griffith University**

Gold Coast, Australia

Teaching Assistant

2012, 2013, 2014

- Prepared students for Chemistry 1 course content through laboratory exercises and revision of basic course content

### **Moreton Bay Research Station, University of Queensland**

N. Stradbroke Is., Australia

Tutor

2009, 2011

- Educated visiting high school groups about surrounding environment
- Specific responsibilities included lecturing and leading students through field activities

## Grants Awarded

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### **Conference Travel Grant - \$2,000**

Australian Rivers Institute, 2014

“Impacts of decomposing jellyfish carrion on benthic fluxes and sediment redox conditions”

### **Conference Travel Grant - \$2,000**

Australian Rivers Institute, 2013

“The effect of changing climate conditions on the decomposition of gelatinous zooplankton”

### **Higher Degree Researcher Grant - \$9,000**

Griffith School of Environment, 2012

“Ecological and biogeochemical effects of decomposing jellyfish on the water column and benthos”

### **Conference Travel Grant - \$1,500**

Griffith School of Environment, 2012

“The effect of increasing temperature and acidity on the decomposition of gelatinous zooplankton”

### **Go Global International Learning Programs Award - \$1,000**

University of British Columbia, 2012

## Conference Presentations

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**Chelsky A.**, Farley, N. & Roberts, B.J. "Rates of soil nitrification and denitrification within Louisiana salt marshes: The significance of vegetation type." Gulf Estuarine Research Society Conference, Pensacola, November 2016.

**Chelsky A.**, Marton, J.M., Bernhard, A.E., Giblin, A.E., Setta, S.P. & Roberts, B.J. "Biogeochemical processes in oiled and unoled Louisiana salt marshes: a multi-year analysis." State of the Coast Conference, New Orleans, June 2016.

**Chelsky A.**, Marton, J.M., Bernhard, A.E., Giblin, A.E., Setta, S.P., Hill, T.D. & Roberts, B.J. "Spatial patterns in biogeochemical processes during peak growing season in oiled and unoled Louisiana salt marshes: a multi-year analysis." American Geophysical Union Ocean Sciences Meeting, New Orleans, February 2016.

**Chelsky A.**, Marton, J.M., Bernhard, A.E., Giblin, A.E., Setta, S.P., Hill, T.D. & Roberts, B.J. "Nitrification, denitrification, and greenhouse gas production during peak growing season in oiled and unoled Louisiana salt marshes." Gulf of Mexico Oil Spill and Ecosystem Science Conference, Tampa, February 2016.

**Chelsky A.**, Pitt, K.A., Ferguson, A.J.P., Bennett, W.W., Teasdale, P.R. & Welsh, D.T. "Impacts of decomposing jellyfish carrion on benthic fluxes and sediment redox conditions." Association for the Sciences of Limnology and Oceanography Conference, Spain, February 2015.

**Chelsky Budarf A.**, Pitt, K.A., & Welsh, D.T. "The effect of increasing temperature and acidity on the decomposition of gelatinous zooplankton." Australian Rivers Institute Student Symposium, Australia, July 2013.  
**Winner of the Dr Christy Fellows Award for best presentation.**

**Chelsky Budarf A.**, Pitt, K.A., & Welsh, D.T. "The effect of increasing temperature and acidity on the decomposition of gelatinous zooplankton." Australian Marine Sciences Association Conference, Australia, July 2013.

**Chelsky Budarf A.**, Pitt, K.A., & Welsh, D.T. "The effect of changing climate conditions on the decomposition of gelatinous zooplankton." Jellyfish Bloom Symposium, Japan, June 2013.

**Chelsky Budarf, A.**, Pitt, K.A., & Sweetman, A.K. "Synergistic effects of decomposing gelatinous zooplankton and elevated water temperature on oxygen dynamics in the pelagic environment." American Society of Limnology and Oceanography Conference, Puerto Rico, February 2011.

**Chelsky Budarf, A.**, Burfeind, D.D., Loh, W. & Tibbetts, I.R. "A comparison of visual and DNA fingerprinting techniques in the analysis of the gut contents of *Siganus nebulosus* (Siganidae: Teleostei)." Australian Marine Sciences Association Conference, Adelaide, June 2009.

## Other Presentations

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"Biogeochemical effects of decomposing jellyfish" at the Louisiana Universities Marine Consortium in Chauvin, Louisiana, September 2015.

"Decomposing jellyfish and benthic ecosystem functioning in a Norwegian fjord" at the Australian Rivers Institute (ARI) Stable Isotope Workshop in Gold Coast, Australia, July 2014.

"The ecological and biogeochemical consequences of decomposing jellyfish blooms", at the University of Southern Denmark (SDU) in Odense, Denmark, August 2011.

“Synergistic effects of decomposing jellyfish and elevated water temperature on oxygen and nutrient concentrations in the pelagic environment” at the Norwegian Institute for Water Research (NIVA) in Bergen, Norway, March 2011.

## Academic Honors

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- Griffith University Postgraduate Research Scholarship
- Griffith University Deputy Vice Chancellor International Postgraduate Research Scholarship
- Dr Christy Fellows Award for best presentation, Australian Rivers Institute, Griffith University
- Conference Travel Grant, Australian Rivers Institute, Griffith University
- Dean of Students' Commendation for High Achievement from exchange semester at the University of Queensland
- McGill University Science Award for academic excellence
- Concordia University Award for Outstanding Achievement in Building, Civil, and Environmental Engineering

## Academic Services

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### Volunteer, Education Department

Louisiana Universities Marine Consortium

Cocodrie, Louisiana  
June 2015-Present

- Deliver short presentations to visiting high school groups
- Discuss potential career paths in marine science with students

### Science Fair Judge

TPSD Science and Engineering Fair

Houma, Louisiana  
January 2016

- Judged middle school and high school science fair projects
- Assigned prizes to top projects

### Student Representative, Australian Rivers Institute

Griffith University

Gold Coast, Australia  
2014

- Organized workshops for other postgraduate students throughout the year
- Represented postgraduate students at executive committee meetings

### Volunteer, School of Environment

Griffith University

Gold Coast, Australia  
2013

- Volunteered to assist with School activities as needed
- Examples include chairing HDR student presentations at annual forum, and assisting with Open Day booth

## Other Training

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- Driver's license, USA, Canada, Australia
- Boat license, USA, Canada, Australia
- PADI Open Water SCUBA certification
- Senior first aid/CPR certification
- Bush mechanics certification