**April D. Makukhov**

UVM Biology Department

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**EDUCATION**

**University of Vermont**

Ph.D. Biology

Start date: August 2015

GPA: 3.92

Advisor: Dr. Melissa Pespeni

**California State University, Monterey Bay**

B.S. Biology (Concentration: Ecology, Evolution, and Organismal Biology)

Minor: Mathematics

Degree obtained with honors and distinction in major: May 2015

Advisor: Dr. Cheryl Logan

**RESEARCH INTERESTS**

• Marine ecophysiology; ecological/population genomics; global change impacts

**HONORS AND AWARDS**

• National Science Foundation Graduate Research Fellowship — 2015-2020

• California Sally Casanova Pre-Doctoral Scholarship — 2014-2015

• Best Undergraduate Research Poster Award, Sanctuary Currents — April 2015

• Selected student presenter to represent CSU Monterey Bay’s marine research program at the CSU Chancellor’s office — March 2015

• McNair Scholar Alumna

**PUBLICATIONS**

• Melanie M. Lloyd, **April D.** **Makukhov**, Melissa H. Pespeni. 2016. Loss of genetic diversity as a consequence of selection in response to high *p*CO2. *Evolutionary Applications, Special Issue: Transgenerational Plasticity, Epigenetics and the Evolution of Marine Species Under Global Change*, 9(9): 1124-1132.

• Scott L. Hamilton, Cheryl A. Logan, Hamilton W. Fennie, Susan M. Sogard, James P. Barry, **April D. Makukhov**, Lauren R. Tobosa, Kirsten Boyer, Christopher F. Lovera, Giacomo Bernardi.2017. Species-Specific Responses of Juvenile Rockfish to Elevated *p*CO2: From Behavior to Genomics. *PLoS ONE*, 12(1): e0169670. doi:10.1371/journal.pone.0169670

**TEACHING EXPERIENCE**

• BIO 430: Marine Experimental Physiology, CSU Monterey Bay:

* Led upper-division Biology and Marine Science students in a hands-on session for analyzing differential expression of RNA-seq data in R (April 2015).
* Co-led students in RNA extractions and cDNA library prep of samples for RNA-sequencing with PI, Dr. Cheryl Logan (February-March 2015).

**LEADERSHIP, SERVICE, & COMMUNITY OUTREACH**

* CSUMB Peer-to-Peer Undergraduate Science Mentor (March 2014-May 2015)
* Pacific Grove Museum LiMPETS Volunteer (February-May 2014)
* CSUMB Marine Science Club Seminar Committee Chair (Sept 2013-Sept 2014)
* Volunteer Apprentice Guide, Monterey Bay Aquarium (Oct 2011-June 2015)

**PREVIOUS RESEARCH EXPERIENCE**

***Physiological Impacts of Ocean Acidification on Juvenile Rockfish Using RNA-seq***

Undergraduate Researcher, CSUMB (Jan 2014-May 2015), PI: Dr. Cheryl Logan & Research technician (june 2015-august 2015)

•Investigating the impacts of ocean acidification (OA) on the muscle and gill tissue gene expression of juvenile rockfish congeners, *Sebastes mystinus* and *S. caurinus*.

•Analyzing rockfish RNA-seq expression data (Trinity, RSEM, edgeR).

•Developing qPCR assays for candidate muscle and gill tissue genes.

***Assessment of Marine Invertebrate Settlement in Monterey Bay***

Undergraduate Researcher, Hopkins Marine Station of Stanford University (November 2012-August 2014), PI: Dr. Jennifer O’Leary

• Developed methods for classifying over 60 newly settled kelp forest invertebrate groups as part of a larger project to develop and test metagenomic methods as a tool to rapidly assess invertebrate recruitment patterns in kelp forests.

• Conducted the first assessment of central California abalone recruitment rates.

• Assisted on a project investigating the effects of ocean acidification on settlement substrates (coralline algae) and the settlement cues they provide to abalone.

• Led new intern training on sample preparation and data collection methods.

***Ocean Warming Impacts on Endangered Green Sea Turtle Movement***

Undergraduate Researcher, San Diego State University (May 2012-August 2012), PI: Dr. Rebecca Lewison

• Collected temperature data and tracked green sea turtle movement (*Chelonia mydas*) near the South Bay Power Plant via active telemetry to investigate the impacts of thermal change on spatial and temporal movement of an endangered local species.

**ORAL PRESENTATIONS**

• April D. **Makukhov**. *How does Ocean Acidification impact juvenile rockfish cellular physiology?* Marine Science Honors Thesis Capstone. Advisor: Dr. Cheryl Logan. CSU Monterey Bay 2015 Capstone Festival, Monterey Bay, CA

**POSTER PRESENTATIONS**

• **Makukhov**, A.D.; Tobosa, L.; Bernardi, G.; Fennie, H.W.; Hamilton, S.; Logan, C.A. 2015. *Ocean acidification impacts on the cellular physiology of juvenile rockfish (Sebastes spp*,), NOAA National Marine Sanctuary Currents Symposium, Monterey Bay, CA . **Award:** Best Undergraduate Research Poster.

• **Makukhov**, A.D.; Tobosa, L.; Bernardi, G.; Fennie, H.W.; Hamilton, S.; Logan, C.A. 2015. *Effects of ocean acidification on juvenile rockfish (Sebastes spp.) gene expression*, CSU COAST Meeting at Chancellor's Office, Long Beach, CA. **Honor:** Selected student presenter to represent CSU Monterey Bay’s marine research.

• **Makukhov**, A.D.; Tobosa, L.; Bernardi, G.; Fennie, H.W.; Hamilton, S.; Logan, C.A. 2014. *Effects of ocean acidification on juvenile rockfish (Sebastes spp.) gene expression*, American Physiological Society (APS) Intersociety Meeting, San Diego, CA

• **Makukhov**, A.D.; Rogers-Bennett, L.; Catton, C.A.; Micheli, F.; O’Leary, J.K. 2014. *Does sea otter predation enhance abalone recruitment via aggregation? Initial assessment of red abalone settlement in Monterey Bay*, Ecological Society of America Meeting, Sacramento, CA

• **Makukhov**, A.D.; Rogers-Bennett, L.; Catton, C.A.; Micheli, F.; O’Leary, J.K. 2014. *Initial assessment of red abalone settlement in Monterey Bay*, NOAA National Marine Sanctuary Currents Symposium, Monterey Bay, CA

• **Makukhov**, A.; Madrak, S.V.; Lewison, R.; Seminoff, J.; Eguchi, T. 2012. *Power Plant Closures: An Experimental System to Study Responses to Changing Thermal Conditions*, California Estuarine Research Society (CAERS), Long Beach, CA

**MEMBERSHIPS**

• American Physiological Society, Society of Integrative and Comparative Biology