Andrea Burton

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EDUCATION­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PhD in Integrative Biology 2016 - 2022**

Integrative Biology Department at Oregon State University, Corvallis, OR

 Dissertation: Examine how marine invertebrates’ susceptibility to ocean acidification

Committee: Drs. Felipe Barreto, Chris Langdon, Francis Chan, Molly Burke, and Stephen Ramsey

**Graduate Certificate in College and University Teaching 2017 - 2018**

Graduate School Department at Oregon State University, Corvallis, OR

 Advance course work and experiential learning for teaching in higher education

**PSM in Marine Biology 2015**

Three Seas Program at Northeastern University, Boston, MA

Thesis: The invasive parasite, *Orthione griffenis*, takes advantage of its host, *Upogebia pugettensis*, reproductive season

**BS in Marine Biology 2011**

Biology Department at Juniata College, Huntingdon, PA

**Summer session - Marine Mammal & Conservation 2010**

University Marine Biological Station Millport, Cumbrae, Scotland

**Summer session – Marine Ecology Field Research Methods 2009**

Research Station Bonaire, Caribbean, Bonaire

PUBLICATIONS

2021. **Burton, A.R**., S.A. Gravem, F.S. Barreto. Little evidence for genetic variation associated with susceptibility to sea star wasting syndrome in the keystone species *Pisaster ochraceus*. *Molecular ecology*, **31**, 197-205.

2021. Chapman, J., B. Dumbauld, I. Waring-Enriquez, **A. Burton**. Morphology and surface area of *Upogebia pugettensis* and *Neotrypaea californiensis* burrows. *Hydrobiologia*: *Online Resource S1*, **848**, 993-1013.

2020. Cosmo, A., A. Topalā, **A. Burton**, D. Enache, J. Pérez, D. Cosma, M. Mileva, N. Nikolova, A. Tapia, A. Ochando, A. Carrión, E. del Alisal, B. Moreno, R. Ramírez, M. Ríos, G. Angius, G. Griva, I. Ravani, L. Stathopoulou, E. Koromila, N. Athanasopoulou, D. Poulou, M. Kapsali, A. Manolakis. The non-formal cultural heritage education book. mAPP my Europe. (Workbook: 1 chapter)

RESEARCH EXPERIENCE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Postdoctoral Scholar 2022 - Present**

Science Education Partnership and Assessment Laboratory, San Francisco State University

* To what extent do students from rural backgrounds demonstrate evidence of anthropocentric thinking and how do they compare to students at urban institutions?
* Assess faculty metacognitive awareness of their use of anthropocentric language in biology explanations.
* Measure the extent to which instructor talk, language used during a lecture that is unrelated to course content, positively or negatively influences students

**Graduate Research 2016 - 2022**

Integrative Biology, OSU

* Identify the mechanisms of how ocean acidification impacts *Crassostrea gigas* during settlement
* Estimating the adaptive capacity of marine shellfish to ocean acidification and hypoxia
* Measuring the vulnerability and adaptive potential of two important local Oregon crustaceans to ocean acidification
* Assessing natural sea star populations to resistance to Sea Star Wasting Syndrome

**Research Technician 2015 - 2016**

USDA, Newport, OR

* Sampled and reared mud and ghost shrimp
* Compare lipids in mud shrimp when infested with parasitic isopod
* Dissected ghost shrimp brains to isolate lipofuscin in order to age shrimp

RESEARCH EXPERIENCE | CONTINUED\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Research Assistant**  **2015 - 2016**

Oregon State University, OR

* Monitored and sampled tsunami debris washing up on the Pacific Norwest coast
* Cataloged species found on debris

**Undergraduate Research 2009 - 2011**

Juniata College, PA

* Examined speciation between northern and southern populations of the Bocaccio Rockfish
* Indexed discard-catch from local fisherman in Pondicherry India

**Research Assistant 2009**

Fish and Wildlife Services, State College, PA

* Profiled stream of fish and macro invertebrates
* Constructed mud sill and log veins to prevent erosion and provide shelter for freshwater organisms

TEACHING EXPERIENCE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*INSTRUCTOR POSITION*

**Introduction to Human Anatomy and Physiology Laboratory 2017 - 2022**

Integrative Biology Department, OSU

* Instructor of three-term introductory series
* 2-credit, 200-level course
* First-term: Structure, function, and regulatory mechanisms in human skeletal, muscular and integumentary system
* Second-term: Nervous, endocrine, and reproductive systems
* Third-term: Cardiovascular, respiratory, urinary and digestive systems

**English Practicum II 2019 - 2020**

Ovidius University, Constanta, Romania

* Instructor of year-long English practicum course
* 3-credit, 2nd years

**English Practicum III 2019 - 2020**

Ovidius University, Constanta, Romania

* Instructor of year-long English practicum course
* 3-credit, 3rd years

TEACHING EXPERIENCE | CONTINUED\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Invertebrate Zoology Laboratory 2019**

Integrative Biology Department, OSU

* Instructor of sing-term course
* 2-credit, 300-level course
* Morphology and anatomy of representative invertebrates
* Dissections and both microscopic and macroscopic examination

*TEACHING ASSISTANT POSITION*

**Principles of Biology Lab 2016 - 2017**

Integrative Biology Department, OSU

* Teaching Assistant of three-term introductory series
* 1-credit, 200-level course
* First-term: Origins of life, energy transformations, plant and animal diversity
* Second-term: Cell biology, organ systems, plant and animal physiology
* Third-term: Genetics, evolution, natural selection, and ecology

*GUEST LECTURES/WORKSHOPS*

**American Corner 2020**

*Ovidius University, Constanta, Romania*

* Workshop. *Space Week.* Invited by Dr. Ludmila Martanovschi
* Workshop. *Computer Science.* Invited by Dr. Ludmila Martanovschi

**Invertebrate Zoology 2019**

Integrative Biology Department, OSU

* Guest lecture. *Arthropoda development and vision diversity*. Invited by Dr. Eli Meyer

**Graduate Teaching Assistant Orientation** **2018**

Graduate Education Department, OSU

* Workshop. *Technology in the classroom.* Invited by Dr. Jessica Beck

*OTHER TEACHING EXPERIENCE*

**Math/Science Teacher 2011 - 2013**

Machakos School for the Deaf, Kenya

* Peace Corps Volunteer in the Math/Science education and Deaf education sectors
* Taught Biology, Physics, Agriculture, and Match to secondary school
* Classes conducted in Kenyan Sign Language (KSL)

**Percussion Instructor – Summer Camp 2007 - 2010**

McLean High School, BA

* One-and-a-half-week camp
* Led rehearsals for the percussion ensemble in the marching band

MENTORING/TUTORING\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Integrative Biology Peer-Graduate Mentee 2020 - 2022**

* Meet with new graduate student, Jared Freedman, quarterly to see how he is adjusting to graduate school

**Integrative Biology Undergraduate Mentees 2016 - 2022**

* Mentor three undergraduate students in genomic research methods
* Advise students on DNA extractions and image analyses
	+ Brooke Gaylon – Current research assistant at OSU in the Freitag lab
	+ Justin Lim – Current undergraduate researcher and peer advisor in the OSU College of Science
	+ Timothy Somers – Recent graduate of OSU

**Biology Tutor 2009 - 2010**

Biology Department, Juniata College

* Tutored freshman and sophomore students in introductory Biology course

SCIENCE COMMUNICATION

**After Dark 2019**

Oregon Museum of Science and Industry, OR

* Related ocean acidification to beverage acidity for 3-hour even for adults visiting OMSI

**Meet a Scientist 2019**

* 2-hour event in which I communicated upwellings relation to ocean acidification through hands on demonstrations to OMSI visitors.

**Open House 2017, 2018**

Oregon State University, OR

* Planned and participated in explaining to the public what the Integrative Biology Department is and our research

**Marine Science Day 2014 - 2016, 2018**

Hatfield Marine Science Center, OR

* Educated the public about sea star wasting syndrome
* Introduced visitors to burrowing shrimp and their importance to the ecosystem

**Periwinkle Elementary Family Science Night 2016, 2017**

Periwinkle Elementary, OR

* Introduced elementary students to tide pools and research techniques

**Discover the Scientist Withing 2017**

Oregon State University, OR

* Educated young female scientist about coral disease and stress.

SCIENCE COMMUNICATION | CONTINUED

**Winter Wonderings 2017**

Oregon State University, OR

 Educated students aged 10-12 about invertebrates

**Newport Elementary Mentor 2015**

Newport Elementary, OR

* Mentored a 4th grade class on estuary biology project

PROFFESIONAL DEVELOPMENT

*ORGANIZED*

**Integrative Biology Diversity Values Statement** **2020 - 2021**

Oregon State University – EJI committee, OR

* Equity Justice and Integration subcommittee
* Summarized Integrative Biology Department individual contributions to one cohesive diversity statement.
* Represents core values of all members of the department

**Decolonizing the Classroom Workshop** **2020 - 2021**

Oregon State University – EJI committee, OR

* Three 1-hour workshops where we discussed ways to decolonize the classroom
* Introduce inclusive practices to teaching

**Graduate Climate Discussion 2019**

Oregon State University, OR

* Aided in distributing and summarizing surveys
* Assessed how graduate students were filling in the Integrative Biology Department
* Address concerns on equity and inclusivity ranging from graduate life to faculty and student dynamics

**Sexual Misconduct and Awareness Training 2018**

Oregon State University, OR

* Helped organize three 4-hour workshops
* Provide participants with practical skills in recognizing and addressing sexual misconduct in academic settings
* Awareness, prevention, and response within the OSU research community

PROFFESIONAL DEVELOPMENT | CONTINUED

*ATTENDED – TEACHING*

**SABER Conference 2022**

Minneapolis, MN

**DEJI Focus Group 2020**

Oregon State University, OR

* Diversity, Equity, Justice and Inclusion Focus Group
* 90-minute workshop on student and faculty needs to close the gap

**SACNAS Conference  2020**

Online

**Graduate Certificate in College and University Teaching Coursework 2017 - 2018**

Oregon State University, OR

* Theories of Teaching and Learning in Higher Education
* Course Design and Methods in Higher Education
* The Inclusive Classroom
* Professional Development Seminar
* Capstone Seminar
* Internship
* GTA Orientation Mentor

*ATTENDED – SCIENCE*

**Department of Biostatics Summer Institutes Workshops 2019**

University of Washington, WA

* Quantitative Genetics
* Mixed Models in Quantitative Genetics
* Association Mapping: GWAS and Sequencing Data

**OMSI Science Communication Fellowship**  **2019**

Oregon Museum of Science and Industry, OR

* Attended four workshops on science communication
* Developed hands on activities for communicating ocean acidification impacts on calcifying organisms

SCIENTIFIC PRESENTATIONS

**Society for the Advancement of Biology Education Research 2019**

Irvine, CA

**Burton A**, Dzeidzic K, Biga L: Advantages of laboratory course for learning performance in Anatomy and Physiology courses

**National Shellfisheries Association 2018**

Seattle, WA

**Burton A**, Meyer E, Durland E, Langdon C: Impacts of ocean acidification on the settlement of *Crassostrea gigas*

**State of the Coast 2015**

Florence, OR

**Burton A**, Chapman J, Caldwell D, Dumbauld B, Copeman L: The introduced Asian parasite, *Orthione griffenis*, waits for its new North American host, *Upogebia pugettensis*, to get fat

**Pacific Estuarine Research Society 2015**

Seattle, WA

Chapman J, Asson D, **Burton A**, Young D: Invasive parasite *Orthione griffenis* waits for fat *Upogebia pugettensis* hosts

**Liberal Arts Symposium 2010**

Huntingdon, PA

**Burton A**, Buonaccorsi V: Development of polymorphic microsatellite markers in bocaccio rockfish from anonymous genomic regions

**American Fisheries Society 2010**

Pittsburg, PA

B**urton A**, Buonaccorsi V: Development of polymorphic microsatellite markers in bocaccio rockfish

OTHER ORGANIZATIONS

**Equity, Justice and Inclusion Committee (EJI) 2019 - 2022**

Committee member

**Women in science 2017 - 2018**

Committee Organizer

**Open House Planning Committee 2017 - 2018**

 Committee Chair

**Integrative Biology Graduate Student Association 2017 - 2018**

 Social Committee Head

**Marine Science Club 2016 - 2018**

 Member

FUNDING AND SCHOLARSHIPS

**Fulbright English Teaching Assistant $19,000 2019**

Ovidius University, Romania

**SACNAS National Diversity in STEM conference award $205 2020**

Oregon State University, OR

**UW Biostatistics Summer Institute Scholarship $900 2018**

**OMSI Science Communication Fellowship**

 **College of Science $925 2018**

 **Integrative Biology Department $925 2018**

**ZORF**

Oregon State University, OR  **$300 2018**

Oregon State University, OR **$500 2017**

OTHER WORK EXPERIENCE

**Temping 2013**

Randstad, VA

* Receptionist, filing, organizing and data recording

**National Zoo Invertebrate Exhibit Internship 2008**

National Zoo, Washington D.C

* Maintained and regulated tank temperature, salinity, and sedimentation
* Educated visitors about the invertebrates during live feedings

REFERENCES­­­­­­­­­­­­­­­

**Dr. Kimberly Tanner**

Professor; Director of SEPAL. Department of Biologu, SFSU, 1600 Holloway Avenue San Francisco, CA 94132. **KDTanner@sfsu.edu** (415) 405-3438

**Dr. Felipe Barreto**

Professor. Department of Integrative Biology, OSU, 3029 Cordley Hall, Corvallis, OR 97331. **Felipe.Barreto@oregonstate.edu**(949) 433-5274.

**Dr. Lindsay Biga**

Senior Instructor I. Department of Integrative Biology, OSU, 3029 Cordley Hall, Corvallis, OR 97331. **Lindsay.Biga@oregonstate.edu**(541) 220-0103.