

Melinda P. Simmons
215 Beach Ave.
Atlantic Beach, FL 32233
Phone: 831-521-0288 (cell)
e-mail: MelindaPSimmons@gmail.com

Degrees

Ph.D. in Ocean Sciences **2007-2014**
University of California Santa Cruz

M.S. in Biological Oceanography **2002-2005**
University of California San Diego

B.S. in Aquatic Biology with Technical Writing emphasis **1997-2001**
University of California Santa Barbara

Teaching Experience

Professor of Biology & Marine Science
Jacksonville University

2016-current

Classroom and field instruction for the following courses: Biological Oceanography, Introduction to Oceanography, Introduction to Marine Biology – lecture, Introduction to Marine Biology – laboratory course, General Biology

Adjunct Biology Instructor
FSCJ Deerwood Campus

2015-2016

On-line and classroom instruction for course BSC1005 – Life in the Biological Environment

Biology Department Teaching Assistant
University of California Santa Cruz

2012

Participated in lectures and helped college students develop ecological research plans, in addition to grading and correcting exams, assignments to attain UCSC writing requirement credits, and presentations. Co-lead data acquiring field trips.

Ocean Sciences Teaching Assistant
University of California Santa Cruz

2010

Independently taught three introductory biology labs for two semesters. Co-lead data acquiring field trips. Prepared lectures and graded and corrected exams, written assignments, and presentations for over sixty students.

Laboratory Instructor
Sea Education Association (SEA) Semester

2010

Taught a Thermohaline Circulation Laboratory to college and graduate students

Annotation Instructor

Canadian Institute for Advanced Research (CIFAR)

2010

Co-taught senior scientists and researchers hands-on genome annotation using the Joint Genome Institute *Bigeloviella natans* portal, as part of the CIFAR Integrated Microbial Biodiversity Program.

Institute for Scientist & Engineer Educators Professional Development Program Contributor

University of California Santa Cruz

2009

Co-designed and taught a laboratory class using inquiry based teaching methods to explain physical, chemical, and biological processes in the ocean to college and graduate students.

Management & Research Experience

Program Manager

Jacksonville Arboretum & Gardens

2014-present

Editor of monthly newsletter and quarterly e-magazine, grant writing, oversee email marketing; administer member and volunteer databases, design educational lessons and activities for various age groups, develop training manuals and lead ranger trainings, organize field trips, lead tours, give talks

Graduate Researcher

Monterey Bay Aquarium Research Institute (Dr. A. Worden)

2007-2014

Scientific manuscript writing and editing, molecular biology (PCR, cloning, nucleic acid extraction and sequencing), primer design, genome annotation and data analysis, axenic algal culturing, flow cytometry, ship-board DNA, RNA, flow cytometry, trace metal and fluorescent *in situ* hybridization sampling, virology, marine ecology

Program Associate

Marine Microbiology Initiative, Gordon and Betty Moore Foundation

2005-2007

Grant writing, science writing, editing, grant administration and evaluation including financial management, production of program materials, employment of project management tools, conference attendance, workshop and symposium facilitation, site visitation

Graduate Researcher

Scripps Institution of Oceanography (Dr. M. Landry)

2003-2005

University of Hawaii (Dr. M. Landry)

2002-2003

Microscopy (Olympus and Zeiss Axiovert epifluorescent microscopes), plankton net tows, zooplankton sample processing for carbon and nitrogen analyses, production of epifluorescent slides (preservation and staining), fluorescent *in situ* hybridization of bacteria samples, dilution experiments, primary productivity arrays

Research Technician

Marine Science Institute UC Santa Barbara (Dr. J. Case)

2001-2002

Phytoplankton culture collection manager, fluorescence data analysis of algae and fireflies, bathyphotometer and spectrophotometer analyses of bioluminescence, filming and editing of bioluminescence videos using regular and low light level cameras

Undergraduate Researcher

UC Santa Barbara (Dr. B. Prezelin)

2000-2001

Maintained phytoplankton cultures, dinoflagellate growth rates assessment, data analysis, spectrophotometer and HPLC measurements to identify phytoplankton pigments, the corresponding taxa and concentrations

National Science Foundation REU Internship

Columbia University (Dr. R. Sambrotto)

2000

Raised and maintained algal cultures, isotope labeling for simultaneous monitoring of production and respiration, cell density, carbon, and nitrogen measurements

Internship

UC Santa Barbara (Dr. M. Love)

1999

Midwater trawl participation, sorting and identification of fish, weighing and measuring of specimens, data recording

Publications

Simmons MP, Sudek S, Monier A, Limardo AJ, Jimenez V, Perle C, Elrod V, Pennington T, & Worden A (2016). **Abundance and biogeography of picoprasinophyte ecotypes and other phytoplankton in the Eastern North Pacific Ocean.** *Applied & Environmental Microbiology*. 82(6): 1693-1705.

Simmons MP, Bachy C, Sudek S, van Baren J, Sudek L, Ares M, & Worden A (2015). **Intron invasions trace algal speciation and reveal nearly identical Arctic and Antarctic *Micromonas* populations.** *Molecular Biology and Evolution*. 32(9): 2219-2235.

Worden AZ, Lee* JH, Mock* T, Rouze* P, **Simmons* MP**, Aerts AL, Allen AE, Cuvelier ML, Derelle E, Everett MV, Foulon E, Grimwood J, Gundlach H, Henrissat B, Napoli C, McDonald SM, Parker MS, Rombauts S, Salamov A, Von Dassow P, Badger JH, Coutinho PM, Demir E, Dubchak I, Gentemann C, Eikrem W, Gready JE, John U, Lanier W, Lindquist EA, Lucas S, Mayer KFX, Moreau H, Not F, Otilar R, Panaud O, Pangilinan J, Paulsen I, Piegu B, Poliakov S, Robbens S, Schmutz J, Toulza E, Wyss T, Zelensky A, Zhou K, Armbrust EV, Bhattacharya D, Goodenough UW, Van de Peer Y & IV Grigoriev (2009). **Green evolution and dynamic adaptations revealed by genomes of the marine picoeukaryotes *Micromonas*.** *Science*. 324: 268-272.

*These authors contributed equally, i.e. co-second authors

Landry, M; Brown, S; Rii, Y; Selph, K; Bidigare, R; Yang, E; and **Simmons, M.** (2008). **Depth-stratified phytoplankton dynamics in Cyclone Opal, a subtropical mesoscale eddy.** *Deep-Sea Research Part II* 55: 1348-1359.

Landry, M; Decima1, M; **Simmons, M**; Hannides, C; and Daniels, E. (2008). **Mesozooplankton biomass and grazing responses to Cyclone Opal, a subtropical mesoscale eddy.** *Deep-Sea Research Part II* 55: 1378-1388.

Benitez-Nelson, C.R., Bidigare, R.R., Dickey, T.D., Landry, M.R., Leonard, C.L., Brown, S.L., Nencioli, F., Rii, Y.M., Maiti, K., Becker, J.W., Bibby, T.S., Black, W., Cai, W-J., Carlson, C.A., Chen, F.,

Kuwahara, V.S., Mahaffey, C., McAndrew, P.M., Quay, P.D., Rappé, M.S., Selph, K.E., **Simmons, M.P.** and Yang, E.J.. (2007). **Mesoscale Eddies Drive Increased Silica Export in the Subtropical Pacific Ocean.** *Science*. 316: 1017-1021.

Invited Talks

“Biogeographic Mapping of Pico-sized Organisms” **MP Simmons**. University of North Florida Biology Seminar, 2016.

“Biogeographic Mapping of Pico-sized Organisms” **MP Simmons**. Cornell University Summer Seminar, 2016.

“Population-specific algal transcripts and qPCR pinpoint novel marine ecotypes and biogeographic expression of unknown function genes” **MP Simmons**, AJ Limardo, A Monier, CR Perle, V Jiminez, S Sudek, J van Baren, & AZ Worden. International Congress of Protistology XIV, 2013.

“Decoding Mysterious *Micromonas* Introns” **MP Simmons** & AZ Worden. Ocean Sciences Seminar, UC Santa Cruz 2010.

Presentations

“Assessing Metal Pollution in the Lower St. Johns River” Ksenja L Lazar, Matthew Chesser, Mary Freund, Dr. Gretchen Bielmyer-Fraser, and **Dr. Melinda Simmons**. JU Symposium 2017. Poster

“Photosynthetic picoplankton and putative uncultured ecotypes in the wild” A.J. Limardo, **M.P. Simmons**, S. Sudek and A.Z. Worden. ICOP 2013. Poster

“Distribution of Novel Introns in the Marine Eukaryotic Green Alga *Micromonas*” **Simmons, M P**; Worden, AZ. ASM 2011. Poster

“Picoeukaryote-omics” **Simmons, MP**. UCSC Graduate Seminar 2009. Talk

“Gene structure and expression in the marine alga *Micromonas* RCC299” **Simmons, M P**; Worden, A. CIFAR 2009. Poster

“A Randomized Approach to Evaluating Gene Characteristics and Overlap in the Green Lineage Marine Alga *Micromonas pusilla*” **Simmons, M**; Bhattacharya, D; Aerts, A; Salamov, A; Perle, C; Grigoriev, I; Van de Peer, Y; Worden, A. JGI User Meeting 2008. Poster

“Overview of the Moore Microbial Sequencing Project” **Simmons, MP**. Gordon and Betty Moore Foundation Marine Microbiology Symposium 2007. Talk

“The Gordon and Betty Moore Foundations Marine Microbiology Initiative: Accomplishments to Date” Maxon, M; **Simmons, M**; Vasconcellos, A; Kingsbury, D. Jacques Monod 2007. Poster

“The Gordon and Betty Moore Foundation Marine Microbial Genome Sequence Project” Proctor, L; **Simmons, M**; Kingsbury, D. ASLO 2006. Poster

“SUPACC: Ultraviolet Spectral Radiation of Phytoplankton Biomass, Pigmentation and CDOM Dynamics in Diverse California Coastal Waters” Gorga, J; Haling, J; **Simmons, M**; Fukada, G; Prezelin, B. ASLO 2001. Poster

Awards, Grants, & Honors

Florida EPIC Program Funding Award to Develop an Automatic Precipitation Sampler

January 2018

Jacksonville University

Co-awarded with Dr. Maria Javaid, Dr. Emre Selvi, and Dr. Jeremy Stalker

Three Florida EPIC Program Funding Awards to Assess Water Chemistry and Metal Pollution in the Lower St. Johns River

January 2017

October 2017

January 2018

Jacksonville University

Co-awarded with Dr. Bielmyer-Frasier and Dr. Willette

Travel & Attendance Award for National Science Foundation Ocean Observing Initiative

May 2017

Rutgers University

Florida EPIC Program Funding 2016

Jacksonville University

Co-awarded with Dr. Bielmyer-Frasier and Dr. Willette

Research and Development - Science Staff Council Representative 2012

Monterey Bay Aquarium Research Institute

Peer nominated and elected position

Graduate Student Support Award 2011

University of California Santa Cruz

Department of Ocean Sciences funds awarded to students whose academic standing and performance is exemplary

Ocean Sciences Graduate Student Fellowship 2007

University of California Santa Cruz

Distinction in the Major 2001

University of California Santa Barbara

Department of Ecology, Evolution & Marine Biology award for outstanding undergraduate research

Vice Chancellor for Research Award 2000

University of California Santa Barbara

Department of Ecology, Evolution & Marine Biology award with funding for the project “Photoecological Responses of Phytoplankton Due to Radiation”

Senior Honors 2000

University of California Santa Barbara

National Science Foundation-REU Internship 2000

Columbia University

Nationally selected to carry out the research project “Analysis of Phytoplankton Production and Nitrogen and Carbon Uptake” at the Lamont-Doherty Observatory

Community Service

Southeast Coastal Ocean Observing Regional Association (SECOORA)

Education and Outreach Board Member January 2018 – present

Jacksonville Arboretum & Gardens 2014-present

Board Member

National Garden Club & Florida Federation of Garden Clubs 2016-2017

Instructor for Environmental Studies Course IV and guest speaker

Jacksonville Arboretum & Gardens Programs Manager 2014-2016

Duval Count Public School Volunteer 2014-2016

J. Allen Axson Elementary School - guest instructor and field trip chaperone

Mayport Middle School – helped with The Wonderful World of Plankton project

Greater Jacksonville Kingfish Tournament Volunteer 2005 & 2015

Took measurements and recorded data

Skills

Excellent written and verbal communication

Science communication to varied audiences

General computer skills including Outlook, Word, Excel, Adobe, Power Point

Program management

Grant writing

Proficient with genome browsers, sequence databases and bioinformatics tools

Fluent in state of the art microbiology and molecular biology techniques

Analysis of environmental metagenome and transcriptome data

Laboratory skills including: PCR, DNA sequencing, FCM, Microscopy, FISH

Algal, bacterial, viral, and axenic culturing

Bioinformatics skills including: genome annotation, manual sequence alignment, primer design

Knowledge of flora and fauna