

Schery Umanzor, Ph.D.

Research Assistant Professor
University of Alaska Fairbanks
17101 Lena Point Rd, Juneau

EDUCATION AND TRAINING

Doctor of Science in Marine Ecology 2014- 2017

CICESE, Baja California

Research topic: Biological response to the physical changes driven by intertidal macroalgae as ecosystem engineers.

Master's degree in Biology: Ecology and Evolution 2006- 2008

New Mexico State University, USA

Research topic: Phylogenetic analysis of the Chromodorididae using a combined approach

2001- 2005

Bachelor's degree in Marine and Freshwater Biology

National University of Costa Rica

Research topic: Community structure of macroinvertebrates associated to seagrasses along the Caribbean coast of Costa Rica

PROFESSIONAL APPOINTMENTS

Research Assistant Professor

University of Alaska Fairbanks

2020

Postdoctoral fellow/ Research Associate I

University of Connecticut, Stamford

Seaweed Biotechnology Laboratory, Department of Ecology and Evolutionary Biology

- Optimize protocols for microscopic development of *Saccharina* for breeding purposes
- Develop direct seeding protocol to attach kelp gametophytes on grow-out substrates
- Measure nutrient bioextraction capacity by kelp in open water systems
- Develop mass cultivation of the tropical red seaweed, *Eucheumatopsis isiformis*

2018-2020

Principal Investigator

Blue Forest

- Develop protocols and test the feasibility of low-cost reforestation of *Macrocystis* in Baja California, Mexico.

2017

Short-term intern fellow

Institute of Marine Science Research, TAS, Australia

- Assessed microphytobenthic settlement underneath kelp patches as a function of amelioration of the physical environment by *Ecklonia radiata*

2017

Research Associate

FUNDEVI- University of Costa Rica (UCR)

- Developed protocols for the cultivation of terrestrial crops on floatation
- Developed prototypes to hold small farms on floatation
- Coordinated a binational (Costa Rica-Nicaragua) effort to measure yields on different farm setups

2013-2014

Research Assistant

FUNDEVI- University of Costa Rica (UCR)

- Developed protocols for the cultivation of tropical seaweeds for human consumption
- Design seaweed farms prototypes for exposed coastal sites
- Tested processing techniques to include seaweeds as an ingredient of daily meals
- Contributed to bringing seaweed consumption to the public

2011-2013

HONORS AND AWARDS

Commencement speaker, PhD graduation ceremony – CICESE, Baja California

2017

NF-POGO-NUIG Ocean & Climate Scholarship - NF-POGO-NUIG Ocean & Climate

2017

Programme II, University of Galway, Ireland	
CONACyT International Scholarship – Short-term internship, University of Tasmania, Australia	2016
CONACyT award – Fully funded doctoral degree, CICESE, Baja California	2014-2017
United Nations/International Seabed Authority Scholarship - Technical Assistance Program for Marine Scientific Research (TAPMAR II), National Institute of Oceanography, Goa, India	2010
1st place symposium award - Graduate School Department, NMSU	2008
International Student Exchange Program (ISEP) award - Fully funded master's degree programme, New Mexico State University	2006-2008

PUBLICATIONS

Peer reviewed:

- Umanzor, S., Han, S., Song, H.-I., Critchley, A.T., Yarish, C. and Jang, J.K.** (2020) Can the interaction of seaweed-derived biostimulants and temperature induce the formation of conchocelis in *Pyropia yezoensis*? Submitted to the *Journal of Applied Phycology*
- Umanzor, S., Li, Y. and Yarish, C.** (2020). Effect of direct “seeding” binders and embryonic sporophyte sizes on the development of the sugar kelp, *Saccharina latissima*. Submitted to the *Journal of Applied Phycology*
- Mao, X., Augyte, S., Huang, M., Hare, M. P., Bailey, D., **Umanzor, S.**, Marty-Rivera, M., Robbins, K. R., Yarish, C., Lindell, S., & Jannink, J.-L. (2020). Population genetics of sugar kelp in the Northwest Atlantic region using genome-wide markers. *BioRxiv*, 2020.04.21.050930. <https://doi.org/10.1101/2020.04.21.050930>
- Umanzor, S., Jang, S., Antosca, R. Critchley, A.T., Yarish, C. and Kim, J.K.** (2020). Optimizing the application of selected biostimulants to enhance the growth of *Eucheumatopsis isiformis*, a carrageenophyte with commercial value, as grown in land-based nursery systems. *Journal of Applied Phycology*. doi: 10.1007/s10811-020-02091-7
- Cabrera R., Díaz-Larrea J., **Umanzor S.**, Clero L., Alfonso, Y., Núñez-García L.G. (2020) Comparative growth and demographics of *Thalassia testudinum* meadows in Cuba using direct and reconstructive methods approaches to inform conservation efforts. *Int J Recent Sci Res* 11:37446–37452. doi: 10.24327/IJRSR
- Augyte, S., G. Wikfors, S. Pitchford, M. Marty- Rivera, **Umanzor, S.**, Yarish, C., Bailey, D. and Lindell, S. (2020). The application of flow cytometry for kelp meiospore isolation. Accepted: *Algal Research*, 48: 101810. doi.org/10.1016/j.algal.2020.101810
- Umanzor, S., Shin, S. Marty-Rivera, M., Augyte, S., Yarish, C. and Kim, J.K.** (2019) Exploratory evaluation of the effects of Kelpak® seaweed extract on cultivated kelp *Saccharina* spp. exposed to sublethal and lethal temperatures. *Journal of World Aquaculture Society*, 1-10. doi.org/10.1111/jwas.12687
- Umanzor, S., Ramírez, M.M., Sandoval-Gil, J.M., Zertuche-González, J.A, and Yarish, C.** (2019). Evaluation of the photoacclimative capacity of early-juvenile sporophytes of *Macrocystis pyrifera*, cultivated at different depths. Accepted: *Journal of Phycology*, doi: 10.1111/jpy.12951
- Cabrera, R., Díaz-Larrea, J., **Umanzor, S.**, Núñez García, LG (2019). Using a macroalgal functional form approach to assess the level of disturbance of seagrass meadows in Bahía of Nuevitas, Cuba (2000-2002). *American Journal of Plant Sciences* 10(11):2020-2033
- Cabrera, R., **Umanzor, S.**, Díaz-Larrea, J., Araújo, P.G. (2019) *Kappaphycus alvarezii* (Rhodophyta): New Record of an Exotic Species for the Caribbean Coast of Costa Rica. *American Journal of Plant Sciences*. doi: 10.4236/ajps.2019.1010133
- Cabrera, R., Díaz-larrea, J., **Umanzor, S.** (2019) New records of marine macroalgae on the Caribbean Coast of Costa Rica. *American Journal of Plant Sciences*. doi: 10.4236/ajps.2019.1010122
- Umanzor, S., Shin, S. Marty-Rivera, M., Augyte, S., Yarish, C. and Kim, J.K.** (2019). Preliminary assessment on the effects of the commercial seaweed extract, AMPEP, on growth and thermal tolerance of the kelp *Saccharina* spp. from the Northwest Atlantic. *Journal of Applied Phycology*. doi.org/10.1007/s10811-019-01852-3
- Umanzor, S., Ladah, L. Calderon-Aguilera, L.E. and Zertuche-González, J.A.** (2019). Testing the relative importance of intertidal macroalgae as ecosystem engineers across extreme scenarios. *Journal of Experimental Marine Biology and Ecology* 511: 100–107
- Umanzor, S., Ladah, L. and Zertuche-González, J.A.** (2018). Intertidal seaweeds modulate a contrasting response in understory macroalgal and microphytobenthic recruitment. *Frontiers in Marine Science* 5:296. doi.org/10.3389/fmars.2018.00296
- Umanzor, S., Ladah, L. and Zertuche-González, J. A.** (2017). The influence of species, density, and diversity of macroalgal aggregations on microphytobenthic settlement. *Journal of Phycology*. doi: 10.1111/jpy.12565
- Umanzor, S., Ladah, L., Calderon-Aguilera, L. E. and Zertuche-González, J.A.** (2017). Intertidal macroalgae influence macroinvertebrate distribution across stress scenarios. *Marine Ecology Progress Series*. doi:10.3354/meps12355.

- Radulovich, R., **Umanzor, S.**, Cabrera, R. and Mata, R. (2015). Tropical seaweeds for human food, their cultivation and its effect on biodiversity enrichment. *Aquaculture*, 436, 40–46.
- Cheney, K. L., Cortesi, F., How, M. J., Wilson, N. G., Blomberg, S. P., Winters, A. E., **Umanzor, S.** and Marshall, N. J. (2014), Conspicuous visual signals do not coevolve with increased body size in marine sea slugs. *J. Evol. Biol.*, 27: 676–687

Book chapters:

- Radulovich, R. and **Umanzor, S.** (2020). Halophyte cultivation and use. In *Handbook of Halophytes. From molecules to ecosystems towards biosaline agriculture. In press*

Non peer reviewed:

- Augyte S., **Umanzor, S.**, Yarish C., Lindell S. (2018) Enhancing marine ecosystem services via kelp aquaculture. *ISAP Newsl.* December-2018 10–14
- Radulovich, R., **Umanzor, S.**, Mata, R. and Elizondo, D. (2015). Aquatic Agriculture: Cultivating Floating Crops on Lakes. *World Aquaculture*, Mar: 62–67.
- Radulovich, R., **Umanzor, S.** and Cabrera, R. (2013). *Algas Tropicales Cultivo y Uso como Alimento 2013 (Tropical Seaweeds: Cultivation and Use as Food) (1st ed.)*. Universidad de Costa Rica.

PROJECTS

	2020
MARINER Program, ARPA-e, Department of Energy	
Assessing kelp nutrient bioextraction capacity in aquaculture farms in the US with implications for conservation and management	Pending
Sea Forester	
Breeding and induction of stress-memory to obtain thermal tolerant strains of giant kelp (<i>Macrocystis pyrifera</i>) for reforestation in Baja California (Mexico)	Pending
USDA-NIFA	
Population structure of bull kelp, <i>Nereocystis luetkeana</i> and winged kelp, <i>Alaria marginata</i> in Alaska: Implications for regional mariculture and resource management	2017
The Rufford Foundation	
Restoration of the Giant kelp, <i>Macrocystis pyrifera</i> , in Baja California Mexico	2012
Rising Stars in Global Health. Grand Challenges Canada	
Cultivation of land crops on floatation	