Europass
Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Leslie Aveytua Alcázar**
Address(es)	
Telephone(s)	
Fax(es)	
E-mail	
Nationality	Mexican
Date of birth	
Gender	

Desired employment / Occupational field

Work experience

Dates	**01/10/2024 – current**
Occupation or position held	Posdoctoral continuos and coordinated collaboration research
Main activities and responsibilities	To contribute to risk modelling activities within the REST-COAST project, focusing in particular on "WP2: Climate risk reduction through innovative restoration (warning indicators)" and WP4 "Adaptation management for restoration and upscaling". As part of this work, an assessment for leading and supervising the development of a dynamic 1 D model to simulate vegetation dynamics (growth and mortality) and nutrient fluxes between saltmarsh vegetation and water and sediment; guiding the 1D model results integration in SHYFEM-BFM model. Provide support for the scenario analysis to understand the impact of saltmarsh restoration on the Venice Lagoon water quality.
Name and address of employer	CMCC Euro-Mediterranean Center on Climate Change| Ca' Foscari University of Venice Porta dell'Innovazione Building - 2nd Floor Via della Libertà, 12 - 30175 Venice (VE), Italy
Type of business or sector	Research centre
Dates	**22/04/2024 – 30/09/2024**
Occupation or position held	Posdoctoral continuos and coordinated collaboration research
Main activities and responsibilities	To contribute to risk modelling activities within the REST-COAST project, focusing in particular on "WP2: Climate risk reduction through innovative restoration (warning indicators)" and WP4 "Adaptation management for restoration and upscaling". As part of this work, an assessment of the provision of ecosystem services by nature-based solutions is envisaged, focusing in particular on the water quality purification service provided by salt marshes in the pilot case of the Venice Lagoon"
Name and address of employer	CMCC Euro-Mediterranean Center on Climate Change| Ca' Foscari University of Venice Porta dell'Innovazione Building - 2nd Floor Via della Libertà, 12 - 30175 Venice (VE), Italy
Type of business or sector	Research centre
Dates	**21/10/2023 – 21/12/2023**

Occupation or position held	Posdoctoral Research
Main activities and responsibilities	The activities conducted were mainly dedicated to the simulations of the project VENEZIA2021. Specifically, they involved the modeling and statistical analysis of biogeochemical environmental data in the Venice Lagoon. Several simulation scenarios were developed to complete the characterization of the future state of the Venice Lagoon using the 3D coupled model SHYFEM-BFM.
Name and address of employer	National Institute of Oceanography and Applied Geophysics (OGS)
Type of business or sector	Research centre
Dates	**01/09/2016 – 31/08/2022**
Occupation or position held	Posdoctoral Research
Main activities and responsibilities	I collaborated on two projects: 1. "Physical Biogeochemical Modeling of a Coastal Lagoon," funded by the Italian Ministry of Education, Universities and Research (MIUR), as part of a joint research collaboration program of high relevance between Italy and the United States of Mexico from 2016 to 2019. 2. Venezia2021, a research program for a "regulated" Lagoon, Line 3.1 (Integrated System Assessment), funded by the Triveneto Directorate-General for Public Works through the Consortium Venezia Nuova from 2019 to 2022. Within this framework, the following activities have been undertaken: a) implementation of a new computational grid for Venice Lagoon, including a portion of the Adriatic Shelf, b) collection and integration of data for various modeling scenarios, c) calibration and validation of the model for generating different present and future scenarios, and d) preparation of statistical analyses for analyzing simulations.
Name and address of employer	National Institute of Oceanography and Applied Geophysics (OGS), Borgo Grotta Gigante 42/C 34010, Sgonico (TS), Italy – International Centre for Theorethical Physics (ICTP). ICTP - Strada Costiera, 11, 34151, Trieste, Italy.
Type of business or sector	Research centre
Dates	**01/04/2013 – 31/08/2016**
Occupation or position held	Posdoctoral Research
Main activities and responsibilities	I participated in the TRIL program (Training and Research in Italian Laboratories) with a scholarship awarded by the OGS and ICTP. The focus of my research was on the physical-biogeochemical modeling of a Coastal Lagoon, as part of the joint research collaboration program between Italy and the United States of Mexico, funded by the Italian Ministry of Education, Universities, and Research (MIUR). The main activities included the implementation of a coupled model (SHYFEM-WASP) to explain the nitrogen cycle in a coastal lagoon. Within this framework, the following activities were carried out: a) data processing for model preparation, calibration, and validation, b) contribution to the development of SHYFEM, particularly the creation of a module for the carbon dynamics of Ulva spp., added to the model's code.
Name and address of employer	National Institute of Oceanography and Applied Geophysics (OGS), Borgo Grotta Gigante 42/C 34010, Sgonico (TS), Italy – International Centre for Theorethical Physics (ICTP). ICTP - Strada Costiera, 11, 34151, Trieste, Italy.
Type of business or sector	Research centre
Dates	**01/10/2012 – 31/03/2013**
Occupation or position held	Posdoctoral Research
Main activities and responsibilities	Creation of a biogeochemical database for the Mediterranean Sea, specifically designed for the calibration and validation activities of the numerical physical-biogeochemical model OPTAM-BFM, within the TRIL program (Training and Research in Italian Laboratories). I conducted data collection (harvesting), harmonization, and standardization, and I oversaw the process of integrating them into the NODC (National Oceanographic Data Center) database.
Name and address of employer	National Institute of Oceanography and Applied Geophysics (OGS), Borgo Grotta Gigante 42/C 34010, Sgonico (TS), Italy – International Centre for Theorethical Physics (ICTP). ICTP - Strada Costiera, 11, 34151, Trieste, Italy.
Type of business or sector	Research centre
Dates	**01/01/2009 – 31/12/2010**
Occupation or position held	Posdoctoral Research
Main activities and responsibilities	Participation in the TRIL program (Training and Research in Italian Laboratories) with a scholarship awarded by the ICTP and OGS, with the project titled: "Benthic Biogeochemical Modeling in a Coastal Lagoon." The research activities were conducted, including: a) application of a diagenetic model to the Gulf of Trieste, b) analysis of the impact of in situ seawater conditions on benthic ecosystem dynamics and c) reproduction of biogeochemical distributions in sediments.

Name and address of employer	National Institute of Oceanography and Applied Geophysics (OGS), Borgo Grotta Gigante 42/C 34010, Sgonico (TS), Italy – International Centre for Theorethical Physics (ICTP). ICTP - Strada Costiera, 11, 34151, Trieste, Italy.
Type of business or sector	Research centre

Education and training

Dates	**01/02/2003 – 01/08/2008**
Title of qualification awarded	PhD in Science in Coastal Oceanography
Principal subjects/occupational skills covered	Study courses included fluid mechanics, dynamic oceanography, and estuarine hydraulics. Acquired skills and activities: 1. Planning sampling campaigns, 2. Sampling and laboratory analysis of sediment-water samples, 3. Creation of a database for the application of the GOTM-ERSEM model., 4. Adaptation of the 1D GOTM-ERSEM model to explain the biogeochemical dynamics of nutrients in the Bahia San Quintin Lagoon, 5. Development of a module for Ulva spp and Zostera Marina added to the ERSEM model. The main results obtained during the Ph.D. included the drafting of a research project, the thesis, and a publication.
Name and type of organisation providing education and training	Autonomous University of Baja California – Marine Sciences Faculty – Oceanology Research Institute
Dates	**01/08/1999 – 04/09/2002**
Title of qualification awarded	Master of Science in Coastal Oceanography
Principal subjects/occupational skills covered	Courses attended included coastal biology oceanography, coastal physical oceanography, multivariate statistics, diagenetic processes, coastal geological oceanography, coastal chemical oceanography, and microheterotrophic processes. Acquired skills and activities: 1. Sampling and laboratory analysis of samples acquired in the Bahia San Quintin Lagoon, Mexico, 2. Use of analytical instrumentation for dissolved organic carbon analysis, 3. Thesis writing.
Name and type of organisation providing education and training	Autonomous University of Baja California – Marine Sciences Faculty – Oceanology Research Institute
Dates	**01/01/1993 – 17/02/1999**
Title of qualification awarded	Bachelor's degree in Oceanology
Principal subjects/occupational skills covered	Some courses included Thermodynamics, Advanced Statistics, Introduction to Meteorology, Geological Oceanography, Chemical Oceanography, Physical Oceanography, Biological ceanography, Marine Microbiology, Coastal Ecology, and Marine Contamination. The main activities during the undergraduate studies were: 1. Sampling and laboratory analysis of samples taken in the sediment of the Delfin Basin, north of the Gulf of California, 2. Learning to use laboratory instrumentation, 3. Participation in a research cruise, 4. Writing a publication.
Name and type of organisation providing education and training	Autonomous University of Baja California – Marine Sciences Faculty

Personal skills and competences

Mother tongue(s)	**Spanish**
Other language(s)	**Italian and English**

Self-assessment	Understanding		Speaking		Writing
European level (*)	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Italian	C2	C2	C2	C2	B2

(*) Common European Framework of Reference for Languages

Social skills and competences	Good social and interpersonal skills acquired through working as a member of multidisciplinary teams of different research projects; and the participation of scientific divulgation activities.

Technical skills and competences	Planning and Implementation of the project and preparation of project reports
	The technical report **"Updating the finite element mesh of the Venice lagoon: methodology and application"** (2022/104 SEZ OCE 67) was developed within the VENEZIA2021 project. The authors are: Aveytua Alcázar, L., Laurent, C., Melaku Canu, D.
	This report provides a methodology for modifying and updating the computational grid named VenlagBio_20 to support 3D biogeochemical simulations. Specifically, for the implementation of the new grid, we utilized code in the Python programming language and the open-source QGIS software platform.
Technical skills and competences	The database named LAGUNA (Prot.2022/56 SEZ. OCE 56) provides a tool for the storage and processing of historical observations and for the description and tracking of changes in the ecosystem of the Venice Lagoon. The authors are: Aveytua Alcázar, L., Brosich, A., Melaku Canu, D.
	This database has enabled the availability of validated, standardized, and consolidated data in a single system, simplifying and expediting the preparation of different setups for the 3D coupled hydrodynamic and biochemical model SHYFEM-BFM (Shallow Water Hydrodynamic Finite Element Model – Biogeochemical Flux Model) for the mathematical modeling of hydrodynamic and biochemical processes in the Venice Lagoon.
Computer skills and competences	Microsoft office Suite | Excellent proficiency with Matlab | Excellent proficiency with GIMP | FORTRAN programming language | Excellent proficiency with QGIS | Windows, linux and MacOS | Basic knowledge of SQL | Python programming
Other skills and competences	**Member of the Doctoral Committee** for the student Mariana Ribas Ribas, with the thesis title "Dynamics of carbon in coastal areas" at the University of Cadiz (UCA) in Marine and Environmental Sciences, Cadiz, Spain.
Other skills and competences	**Member of the Master's Committee** in Coastal Oceanography for student Rebeca Zertuche Chanes at the Institute of Oceanographic Research, Faculty of Marine Sciences, UABC. In the role of thesis advisor, I supervised the student, who conducted a research stay at OGS from May 3 to June 15, 2015, to complete her master's project "Numerical simulation of the hydrodynamics of Bahia San Quintin, and its influence on nitrogen distribution."
Other skills and competences	I have been at the Proudman Oceanographic Laboratory (Liverpool, England) under the supervision of Dr. Alejandro Souza and at the Plymouth Marine Laboratory (Plymouth, England) under the supervision of Dr. Icarus Allen. During this period, I learned to use various oceanographic models, including the operational sea level forecasting model POL, and the physical models POLCOMS and biogeochemical ERSEM.
Other skills and competences	Participation in the field and laboratory activities of the SEP-CONACyT project (No. 40144)
	The fieldwork took place in various campaigns from 2004 to 2005 in San Quintin Bay, Mexico, with a team of researchers from the Autonomous University of Baja California. I was tasked with collecting seawater samples for nutrient, dissolved organic carbon (COD), and dissolved oxygen (O2) analyses. Additionally, I continuously measured nitrogen concentration using an automatic Sea-Bird Scientific instrument and analyzed COD concentration in the laboratory with a TOC-5000 SHIMADZU.
Additional information	Supporting documentations and additional information can be provided

Professional and Academic references	Federica Zennaro, Elisa Furlan, Donata Canu, Leslie Aveytua Alcazar, Ginevra Rosati, Cosimo Solidoro, Andrea Critto, 2024. Hypoxia extreme events in a changing climate: Machine learning methods and deterministic simulations for future scenarios development in the Venice Lagoon. Marine Polution Bulletin, 208, https://doi.org/10.1016/j.marpolbul.2024.117028
	F Zennaro, E Furlan, D Melaku Canu, L Aveytua Alcazar, G Rosati, S Aslan, C Solidoro, A Critto, 2023. Evaluation of lagoon eutrophication potential under climate change conditions: A novel water quality machine learning and biogeochemical-based framework. Ecological Indicators, 157, https://doi.org/10.1016/j.ecolind.2023.111245
	L. Aveytua-Alcázar, D. Melaku Canu, V.F. Camacho-Ibar, C.Solidoro, 2020. Changes in upwelling regimes in a Mediterranean-type lagoon: A model application. Ecological Modelling, 418. https://doi.org/10.1016/j.ecolmodel.2019.108908
	Donata Melaku-Canu, Leslie Aveytua-Alcázar, Victor, F. Camacho-Ibar, Stefano Querin, Cosimo, Solidoro, 2016. Hydrodynamics properties of San Quintin Bay, Baja California: Merging models and observations. Marine Pollution Bulletin, 108, https://doi.org/10.1016/j.marpolbul.2016.04.030
	Aveytua-Alcázar, L., Camacho-Ibar, V.F., Souza, J.A., Allen, J.I., 2008. Modelling Zostera marina and Ulva spp. in a coastal lagoon. Ecological Modelling, 218, 10, https://doi.org/10.1016/j.ecolmodel.2008.07.019
	Camacho-Ibar, V.F., Aveytua-Alcázar, L., and Carriquiry, J.D., 2003. Fatty acids in sediment cores from the northern Gulf of California. Organic Geochemistry, 34, https://doi.org/10.1016/S0146-6380(02)00211-5
Additional information	Supporting documentations and additional information can be provided

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