

Short CV Sebastián Solari

Personal Details

Name: **Sebastián Solari**
Profession: Civil Engineering
Nationality: Uruguayan / Italian
Contact information: IMFIA – Facultad de Ingeniería.

Education

- 2008-2011: Doctoral degree.** Doctorate program “Dinámica de Flujos Biogeoquímicos y sus Aplicaciones” – Universidad de Granada, Spain.
Thesis: “Metodologías de simulación de agentes naturales y desarrollo de sistemas. Modelo de Verificación y Gestión de Terminales Portuarias. Aplicación al puerto de la Bahía de Cádiz.”
Thesis directors: Miguel Ángel Losada Rodríguez and Antonio Moñino Ferrando.
Evaluation: Cum Laude (European Doctorate).
- 2007-2008: Master degree.** Máster Oficial en Hidráulica Ambiental – Universidad de Granada, Spain (official master degree in Environmental Hydraulics).
- 1998-2006: Civil Engineering degree** (environmental hydraulics track) – Engineering School at Universidad de la República, Uruguay.

Most recent positions

Universidad de la República (March 2006 – current)

Institute of Fluid Mechanics and Environmental Engineering (IMFIA)

Julio Herrera y Reissig 767, 11300 Montevideo, Uruguay.

Tel.: (+ 598) 2714 2714 Ext. 20200; <https://www.fing.edu.uy/imfia/>

April 2015 – current: Associate Professor (Tenure, Full Time).

February 2013 – March 2015: Postdoctoral Researcher. Fellowship granted by the National Agency for Research and Innovation (ANII, Uruguay). Research plan focuses on risk based optimization of navigation channels.

May 2011 – January 2013: Assistant Professor (contract).

Recent Publications

Book Chapters

Solari, S., Losada, M.A. (2015) *“Statistical Methods for Risk Assessment of Harbor and Coastal Structures”*. Chapter 8 of *Design of Coastal Structures and Sea Defenses*, Y.C.Kim (Ed.), World Scientific Publishing.

Conde, D., Vitancurt, J., Rodriguez-Gallego, L., de Álava, D., Verrastro, N., Chreties, **Solari, S.**, et al. (2015) *“Solutions for sustainable coastal lagoon management: from conflict to the implementation of a consensual decision tree for artificial opening”*. Chapter 13 of *Coastal Zones Solutions for the 21st Century*, J.Baztan et al. (Eds.), Elsevier.

Most recent journal papers (2017-2023)

Jackson, M., Fossati, M., **Solari, S.** (2022) *“Sea Levels Dynamical Downscaling and Climate Change Projections at the Uruguayan Coast”*, *Frontiers in Marine Science (Coastal and Ocean Processes)*, 9, doi: 10.3389/fmars.2022.846396.

Alonso, R., **Solari, S.** (2021) *“Automatic calibration and uncertainty quantification in waves dynamical downscaling”*, *Coastal Engineering*, 169, doi: 10.1016/j.coastaleng.2021.103944.

Alonso, R., **Solari, S.** (2021) *“Comprehensive wave climate analysis of the Uruguayan coast”*, *Ocean Dynamics*, 71, pages823–850, doi:10.1007/s10236-021-01469-6

Alonso, R., **Solari, S.** (2020) *“Improvement of the high-resolution wave hindcast of the Uruguayan waters focusing on the Río de la Plata Estuary”*, *Coastal Engineering*, 161, doi: 10.1016/j.coastaleng.2020.103724.

De Leo, F., **Solari, S.**, Besio, G. (2020) *“Extreme wave analysis based on atmospheric pattern classification: An application along the Italian coast”*, *Natural Hazards and Earth System Science*, 20 5, 1233 – 1246, doi: 10.5194/nhess-20-1233-2020.

Teixeira, M., **Solari, S.** (2020) *“Analysis of Different Protocols for the Artificial Opening of the Laguna de Rocha Inlet”*, *Journal of Coastal Research (E)*, 95(sp1), 958 - 962, doi: 10.2112/SI95-186.1.

Conde, D., **Solari, S.**, et al. (2019) *“Ecological and social basis for the development of a sand barrier breaching model in Laguna de Rocha, Uruguay”*, *Estuarine Coastal and Shelf Science*, 219, 300-316, doi: doi.org/10.1016/j.ecss.2019.02.003.

Folgueras, P., **Solari, S.**, Losada, M.A. (2019) *“The selection of directional sectors for the analysis of extreme wind speed”*, *Natural Hazards and Earth System Science*, 19(1), 221-236, doi: 10.5194/nhess-19-221-2019.

Solari, S., Alonso, R., Teixeira, L. (2018) *“Analysis of Coastal Vulnerability along the Uruguayan coasts”*, *Journal of Coastal Research*, SI.85, 1536–1540, doi: 10.2112/SI85-308.1.

Alonso, R. **Solari, S.**, Teixeira, L. (2018) *“Erosion Problem on a Fluvial Beach. The Case Study of “La Concordia” in the Uruguay River, Uruguay, South America”*, *Journal of Coastal Research*, SI.85, 131-135, doi: 10.2112/SI85-027.1.

Solari, S., Egüen, M., Polo, M.J., Losada, M.A. (2017) *“Peaks Over Threshold (POT): a methodology for automatic threshold estimation using goodness-of-fit p-value”*, *Water Resources Research*, 53, 2017, doi:10.1002/2016WR019426.

Alonso, R., Jackson, M., Santoro, P., Fossati, M., **Solari, S.**, Teixeira, L. (2017) “*Wave and tidal energy resource assessment in Uruguayan shelf seas*”, *Renewable Energy*, 114, 18-31, doi:10.1016/j.renene.2017.03.074.

Conference Proceedings (most relevant 2017-current)

Junes, R. **Solari, S.**, Fossati, M., 2022, “Characterization of flow reversals in the Uruguay river runs its relation to forcings”, *Proceedings of the 39th IAHR World Congress*, DOI: 10.3850/IAHR-39WC252171192022212

Lambert, M., **Solari, S.**, 2022, “Hydrodynamic modelling of an intermittently closed and open lagoon”, *Proceedings of the 39th IAHR World Congress*, DOI: 10.3850/IAHR-39WC252171192022342

Jackson, M., Fossati, M., **Solari, S.**, 2022, “Effects of climate change on the sea levels along the Uruguayan coast”, *Proceedings of the 39th IAHR World Congress*, DOI: 10.3850/IAHR-39WC252171192022384

Van Alboom, W., Martinez, D., Correa, M., Fossati, M., Pedocchi, F., **Solari, S.** (2018) “*Design of the scour protection layer for a breakwater in an estuarine environment*”, 34th PIANC World Congress. https://coms.events/pianc-panama/data/full_papers/full_paper_194.pdf

Solari, S., Losada, M.A. (2018) “*Simulation of sea storms including multivariate storm evolution*”, *Proceedings of the Coastal Engineering Conference ICCE 2018*, doi: 10.9753/icce.v36.papers.35.

Most relevant recently finalized and ongoing projects

Research:

SUSME: Laboratory testing and knowledge transfer for the development of sustainable strategies for marine energy harvesting

Period: 2020-2022.

Counterparty and financing: ERANET-LAC (bioregional EU – Latin American projects).

Position: PI of the project in Uruguay. Project carried on in consortium with UNAM (México), University of Cantabria (Spain), University of Granada (Spain), PLOCAN (Spain), Fraunhofer (Germany) and University of Costa Rica.

Integrated study of the hydrodynamic and ecological functioning of a coastal lagoon: inputs for the management of water quality and the recruitment of fishing species.

Period: 2018-2021.

Counterparty and financing: ANII (Uruguayan Agency for Research and Innovation)

Position: Co-PI.

Consulting:

Design of climate change adaptation measures for Colonia del Sacramento, La Aguada and Atlántida beaches

Period: 2023-2024

Counterparty and financing: Ministry of Environment, Uruguay.

Position: PI.

Integrated management of the spit at the Solis Chico River mouth

Period: 2023-2024

Counterparty and financing: Canelones local government, Uruguay.

Position: PI.

Coastal monitoring: implementation of image monitoring techniques

Period: 2021-2023.

Counterparty and financing: UN-PNUD and Ministry of Environment, Uruguay.

Position: Co-PI.

Technologies for coastal management of the province of Buenos Aires

Period: 2018-2020.

Counterparty and financing: UNIDO-CTCN.

Position: Co-PI.

Baseline studies for the construction of a recreational harbor in Atlántida, Uruguay

Period: 2018-2020.

Counterparty and financing: MTOP, Uruguay (Public Works Ministry of Uruguay).

Position: Co-PI.

Analysis of the morphological impact of the construction of a deep waters harbor in Rocha's coast

Period: 2016-2018.

Counterparty and financing: MTOP, Uruguay (Public Works Ministry of Uruguay).

Position: Co-PI.

Honors and Awards

2018: Young Scientist Award (Coastal Management), granted by KIOST, KSCDP, JCR and CERF at *The 15th International Coastal Symposium*, Busan, South Korea.

2015: **PIANC De Paepe-Willems Award 2015 (First Place).** <https://www.pianc.org/awards/pianc-de-paepe-willems-award>

2015: Extraordinary Doctoral Thesis Prize of the University of Granada (Spain) in Engineering and Architecture areas (granted to theses defended in the academic year 2011-2012).

2013: Best PhD Thesis in Civil Engineering, awarded by the National Academy of Engineering of Uruguay.

Others

2022-2023: Visiting Researcher at IH-Cantabria, Universidad de Cantabria, Spain.

2022: Visiting Professor at University of Genova, Italy.

2020: Member of the Advisory Board of the *39th IAHR World Congress*, Granada, Spain.

2018: Member of the Technical Committee of the recommendation ***ROM 1.1-18 Recommendations for Breakwater Construction Projects***, Puertos del Estado, Spain.

2018: Member of the academic committee of the *7th International Conference on the Application of Physical Modelling in Coastal and Port Engineering and Science* (Coastlab'18), Santander, Spain, 22-26 May 2018.

2017: Member of the academic committee of the *International Short Course and Conference on Applied Coastal Research SCACR 2017*, Santander, Spain, October 2017.

2013-current: Reviewer of academic journals, including: *Journal of Waterway, Port, Coastal, and Ocean Engineering* (ASCE), *Coastal Engineering* (Elsevier), *Ocean Engineering* (Elsevier), *Water Resources Research* (AGU), *Journal of Hydrology* (Elsevier), *Journal of Wind Engineering & Industrial Aerodynamics* (Elsevier), etc.