PERSONAL INFORMATION

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Date and place of birth January, 30th 1974, Logroño, Spain **Citizenship** Spanish

EDUCATION

1998, Civil Engineer (6-year degree). Major in Structures
2000, M.C.E. University of Cantabria (Spain). Major in Hydraulics, Ocean and Environmental Engineering.
2002, Ph.D. in Civil Engineering. University of Cantabria (Spain). Major in Hydraulics and Ocean Engineering. Highest Mark (Sobresaliente Cum Laude) **Thesis:** "Numerical and experimental analysis of wave breaking process over gravel bottoms", **Supervisor:** I. J. Losada

AWARDS

2004 *MODESTO VIGUERAS Award*. Modesto Vigueras is focus to young researcher's works on applied or basic research on coastal and maritime engineering. Work titile: "Un canal numérico para el estudio de la funcionalidad y la estabilidad de obras marítimas".
2005 *DE PAEPE-WILLEMS Award*. Willems Award is focus to young professionals and researchers in the fields of interest of the International Navigation Association (PIANC). Work tittle: "A Numerical Wave Flume to Study the Functionality and Stability of Coastal Structures".

RESEARCH INTERESTS

Water wave mechanics, Wave-structure interaction, Wave generated turbulence, Infragravity wave characterization, surf-zone hydrodynamics, environmental flows

MAIN PROJECTS

2009-2012. Theseus:Innovative technologies for safer European coasts in a changing climate. Funded by the European Union within FP7-THEME 6 - Environment, including climate.
2009-2011. Three-dimnasional modelling of wave interaction with coastal structures. Spanish Ministry of Education and Science.
2004-2008. Collaborative Research Utilizing NEES Facilities: Landslide Generated Tsunamis and Runup. Funded by the National Science Foundation (NSF).
2004-2008. CROSSTEX - Swash Zone Hydrodynamics and Sediment Transport. Funded by the National Science Foundation (NSF).
2002-2005. Development of a flow numerical model for wave and structure interaction for the analysis of the functionality and stability of vertical and composite breakwaters (In collaboration with Cornell University). Funded by the State Ports of Spain. 2002-2005
2001-2003. Environmental design of low-crested coastal defence structures (DELOS). Funded by the European Union. Energy, Environment and Sustainable Development programme.
1997-1999. Surf and swash zone mechanics (SASME). Funded by the European Commission. Marine Science and Technology Program (MAST III). MAS3-CT97-0081

SCI JOURNAL PUBLICATIONS

Lara J.L., F.L. Martín and Losada I.J. (2002). Experimental analysis of infragravity waves at the entrance of Gijon harbour. Ingeniería del Agua. Vol. 9, Nº 4, 437-451.
Lara J.L., E.A. Cowen y I. Mei Sou (2002). A depth-of-field limited particle image velocimetry technique applied to oscillatory boundary layer flow over a porous bed. Experiments in Fluids 33:47-53
Garcia, N., Lara, J.L., Losada, I.J. (2004). 2-D numerical analysis of near-field flow at low-crested permeable breakwaters. Coastal Engineering. 51: 991-1020.
Losada I.J., Lara J.L., Christensen E.D. y Garcia N. (2004). Breaking process, velocities and turbulence intensity around low crested structures. Coastal Engineering. 52: 10-11, 887-913
Losada, I.J., Lara, J.L, E. Damgaard, García, N. (2005). Modeling of velocity and turbulence fields around and within low-crested rubble-mound breakwaters. Coastal Engineering, Vol. 52 (10-11), 887-913., ELSEVIER
Garcia, N., Lara, J.L., Losada, I.J. (2005). Etude numérique de l'interaction houle/brise-lames franchissables. Revue Européene de Génie Civil, Vol. 9 (no 7) pp. 919-940.
Lara, J.L., Losada, I.J., Liu, P.L.-F. (2006). Breaking waves over a mild gravel slope: experimental and numerical analysis. Journal of Geophysical Research, AGU, Vol. 111, C11019; doi: 10-1029/2005 JC003374.
Lara, J.L., Garcia, N. and Losada, I.J. (2006). RANS modelling applied to random wave interaction with submerged permeable structures. Coastal Engineering., Vol. 53 (5-6), 395-417, ELSEVIER
Torres-Feyermouth, A., Losada, I.J., Lara, J.L. (2007). Modelling of surf zone processes on a natural beach using RANS equations. Journal of Geophysical Research, AGU, 112, C09014, doi:10.1029/2006JC004050.
Liu, P. L.-F., Park, Y. S., Lara, J. L. (2007). Long wave induced flows in an unsaturated permeable seabed. Journal of Fluid Mechanics, 586:323-345
Losada, I.J., Lara, J.L., Guanche, R., Gonzalez-Ondina, J.M. (2008). Numerical analysis of wave overtopping of rubble mound breakwaters. Coastal Engineering, ELSEVIER, Vol 55 (1), pp. 47-62.
Lara, J.L. , Losada, I.J., Guanche, R. (2008) "Wave interaction with low-mound breakwaters using a RANS model" Ocean Engineering. ELSEVIER, Vol 35, pp 1388-1400.
Guanche, R., I.J. Losada and J.L. Lara. (2009). Numerical analysis of wave loads for coastal structure stability, Ocean engineering, ELSEVIER, 56, 543-558
Torres-Freyermouth, A., Lara, J.L., Losada, I.J. (2010). Numerical modelling of short- and long-wave transformation on a barred beach, Coastal Engineering, ELSEVIER, 57(3), pp 317-330.
Lara, J.L., Ruju, A., Losada, I.J. (2010). Reynolds averaged Navier–Stokes modelling of long waves induced by a transient wave group on a beach, Proceedings of the royal society A, 467, pp. 1215–1242

Stratigaki V., Manca E., Prinos P., Losada I.J., Lara J.L., Sclavo M., Caceres I. , Sanchez-Arcilla A. (2011). "Large scale experiments on wave propagation over Posidonia oceanica", J. of Hydraulic Research, IAHR, ournal of Hydraulic Research, Vol 49 (1), pp. 31-43.

Palomar, P, L.Lara,J, Losada, I, Rodrigo, M; Alvarez, A. (2011). Near field brine discharge modelling. Part I: Analysis of commercial tools. Desalination. ELSEVIER (in press)

Palomar P., Lara J.L., Losada I.J (2011) Near field brine discharge modelling. Part II: Validation of commercial tools. Desalination. ELSEVIER (in press)

del Jesus, M., Lara J.L., Losada I.J (2012) Three-dimensional interaction of waves and porous coastal structures. Part I: Numerical model formulation. Coastal Engineering ELSEVIER. (in press)

Lara J.L., del Jesus, M., Losada I.J (2012) Three-dimensional interaction of waves and porous coastal structures. Part II: Experimental validation. Coastal Engineering ELSEVIER. (in press)

Ruju, A., Lara J.L., Losada I.J (2011) Radiation stress and energy balance within the surf zone. Coastal Engineering ELSEVIER. (submitted)

PEER-REVIEWED JOURNAL PUBLICATIONS (not SCI)

Lara, J.L., Martín, F.L., Losada I.J. (2002) Análisis experimental de ondas largas en la bocana del puerto de Gijón Ingeniería del Agua. Vol. 9, Nº 4: 437-451.

Garcia, N., Lara, J.L., Losada, I.J. (2005). Etude numérique de l'interaction houle/brise-lames franchissables. Revue Européene de Génie Civil, Vol. 9 (7): 919-940.

Losada, I. J., Lara, J.L., Liu, P. L.-F. (2005), Simulación numérica de la propagación de grupos de ondas sobre una playa impermeable basado en las ecuaciones RANS. Ingeniería Civil, Vol. 140: 115-121

Lara, J.L. (2005). A numerical wave flume to study the functionality and stability of coastal structures. Journal of the International Navigation Association (PIANC), 121: 5-29

Palomar, P., Ruiz-Mateo, A., Losada, I.J., Lara, J.L., Lloret, A., Castanedo, S., Álvarez, A., Mendez, F., Rodrigo, M., Camus, P., Vila, F., Lomonaco, P., Antequera, M. (2010) MEDVSA: a methodology for design of brine discharges into seawater. Desalination and Water Reuse, 20(1): 21-25

BOOK CHAPTERS

Lomonaco, P., Vidal, C., Losada, I. J., Garcia, N., Lara, J. L. (2005) Flow measurements and numerical simulation on low-crested structures for coastal protection. Environmentally Friendly Coastal Protection. C. Zimmermann et al. (eds.). Chapter 2. pp. 191-210. DOI 10.1007/1-4020-3301-X_12

Losada, I. J., Lara, J. L., Guanche, R., Gonzalez-Ondina, J.M. (2009) Nonlinear wave dynamics. Selected Papers of the Symposium Held in Honor of Philip L-OF Liu's 60th Birthday. World Scientific. Chapter 4. pp. 89-108. ISBN: 978-981-270-903-5

Lara, J. L. (2009). Un canal numérico para el estudio de la funcionalidad y la estabilidad de obras marítimas. Premios Modesto Vigueras. Asociación Técnica de Puertos y Costas. pp 211-257. ISBN 987-84-88975-2009

SELECTED CONTIRBUTIONS TO INTERNATIONAL CONFERENCES

Lara, J.L., Losada, I.J., Guanche, R., Vidal, C. (2007) Numerical and experimental investigation of wave interaction with overtopped vertical breakwaters. Proceedings of the 30th International Conference on Coastal Engineering (ICCE), ASCE. (American Society of Civil Engineers). World Scientific. pp 4386-4397. DOI No:10.1142/9789812709554_0368

Guanche, R., Lara, J.L., Losada, I. J., Vidal, C. (2009) Pressure distribution around overtopped vertical breakwaters for regular, random and solitary waves. Coastal Structures 2007, ASCE (American Society of Civil Engineers). pp 841-852. ISBN-13 978-981-4280-99-0 (Set); ISBN-10 981-4280-99-2 (Set).

Tomás, A., López, J.D., Losada, I.J., Rodríguez, I., Lara, J.L. (2009) Vertical breakwater loads: monitoring and modeling of Reina Sofia breakwater. Coastal Structures 2007, ASCE. (American Society of Civil Engineers). pp 737-748. ISBN-13 978-981-4280-99-0 (Set); ISBN-10 981-4280-99-2 (Set).

Guanche, R., Losada, I.J., Lara, J.L., Vidal, C. (2009) An integrated approach to the analysis of coastal structures at prototype scale using COBRAS-UC. Proceedings of the 31st International Conference on Coastal Engineering (ICCE), ASCE. (American Society of Civil Engineers). World Scientific. pp 3580-3592. DOI No:10.1142/9789814277426_0297

Torres-Freyermuth, A., Lara, J.L., Losada, I.J. (2009) Modelling low-frequency waves transformation using COBRAS-UC. Proceedings of the 31st International Conference on Coastal Engineering (ICCE), ASCE. (American Society of Civil Engineers). World Scientific. pp 281-292. DOI No:10.1142/9789814277426_0297

Zanuttigh, B., van der Meer, J.W., Andersen, T.L., Lara, J.L., Losada, I.J. (2009) Analysis of wave reflection from structures with berms through an extensive database and 2DV numerical modeling. Proceedings of the 31st International Conference on Coastal Engineering (ICCE), ASCE. (American Society of Civil Engineers). World Scientific. pp 3285-3297. DOI No:10.1142/9789814277426_0297

Losada, I.J., Mendez, F.J., Diaz, G., Reguero, B.G., Camus, P., Guanche, R., Lara, J.L., Menendez, M., Espejo, A., Izaguirre, C., Gutierrez, A.D. (2009) Introducing marine climate variability into life cycle management of coastal and offshore structures. OCEANS '09 IEEE Conference Bremen, Germany. Proc. II OCEANS '09 IEEE Bremen 978-1-4244-2523-5 Library of Congress: 2008903883

Losada, I. J., Guanche, R., Lara, J. L., Vidal, C. (2010) Numerical analysis of coastal structures at prototype scale using IH-2VOF. V European Conference on Computational Fluid Dynamics. ECCOMAS CFD 2010. Proceedings of the V European Conference on Computational Fluid Dynamics. ECCOMAS CFD 2010.

Lara, J. L., Losada I. J., del Jesus, M., Barajas, G., Guanche, R. Numerical modelling of wave-structure interaction with a threed imensional navier-stokes model. V European Conference on Computational Fluid Dynamics. ECCOMAS CFD 2010 Proceedings of the V European Conference on Computational Fluid Dynamics. ECCOMAS CFD 2010.

Lara, J. L., Losada I. J., del Jesus, M., Barajas, G., Guanche, R. (2010) IH-3VOF: a three dimensional Navier-Stokes model for wave and structure interaction. 32st International Conference on Coastal Engineering. ASCE (American Society of Civil Engineers). Proceedings of the 32st International Conference on Coastal Engineering (ICCE), ASCE. Shanghai (China)