

RESEARCH
PROJECTS

HABIT (Harmful Algal Blooms species In Thin layers) from 6th Framework Program of the European Commission (HABIT/GOCE-CT-2005-003932).

TURDIRRIAS (Estudio del acoplamiento entre la turbulencia de pequeña escala y la ecofisiología de dinoflagelados tóxicos en las Rías Bajas) from the Spanish Ministry of Research (CTM2006-13884-C02-02/MAR).

MIDTAL (Microarrays for the Detection of Toxic ALgae) from 7th Framework Program of the European Commission (Grant agreement no: 201724).

ASIMUTH (Applied Simulations and Integrated Modeling for the Understanding of Toxic and Harmful Algal Blooms) from 7th Framework Program of the European Commission (Grant agreement no: 261860).

MOHAB (Multidisciplinary mOdelling approaches to understand Harmful Algal Blooms dynamics) from 7th Framework Program of the European Commission (FP7-PEOPLE-2009-IOF; Grant agreement no: 252260).

PEER-REVIEWED
PUBLICATIONS

Velo-Suárez, L., and J.C. Gutiérrez-Estrada. 2007. Artificial neural network approaches to one-step weekly prediction of *Dinophysis acuminata* blooms in Huelva (Western Andalucía, Spain). *Harmful Algae*, 6(3): 361-671.

Velo-Suárez, L., S. González-Gil, P. Gentien, M. Lunven, C. Bechemin, L. Fernand, R. Raine, and B. Reguera. 2008. Thin layers of *Pseudo-nitzschia* spp. and the fate of *Dinophysis acuminata* during an upwelling-downwelling cycle in a Galician Ría. *Limnology and Oceanography*, 53(5): 1816-1834.

Velo-Suárez, L., B. Reguera, E. Garcés, and T. Wyatt. 2009. Vertical distribution of division rates in coastal dinoflagellate *Dinophysis* spp. populations: implications for modelling. *Marine Ecology Progress Series*, 385: 87- 96.

Velo-Suárez, L., L. Fernand, P. Gentien, and B. Reguera. 2010. Hydrodynamic conditions associated with the formation, maintenance and dissipation of a phytoplankton thin layer in a coastal upwelling system. *Continental Shelf Research*, 30: 193-202.

González-Gil, S., **L. Velo-Suárez (first co-author)**, P. Gentien, I. Ramilo, and B. Reguera. 2010. Phytoplankton assemblages and characterization of a *Dinophysis acuminata* population during an upwelling-downwelling cycle. *Aquatic Microbial Ecology*, 58: 273-286.

Velo-Suárez, L., B. Reguera, S. González-Gil, M. Lunven, P. Lazure, E. Nézan, and P. Gentien. Application of a 3D Lagrangian model to explain the decline of a *Dinophysis acuminata* bloom in the Bay of Biscay. *Journal of Marine Systems special issue: Models of harmful algal blooms: conceptual, empirical, and numerical approaches*. 83: 193-202.

González-Gil, S., G. Pizarro, B. Paz, **L. Velo-Suárez**, and B. Reguera. *Accepted*. Is *Dinophysis rotundata* a toxigenic species? *Aquatic Microbial Ecology*.

Batifoulier, F., P. Lazure, **L. Velo-Suárez**, D. Maurer, P. Bonneton, C. Dupuy, and P. Gentien. *In revision*. Distribution of *Dinophysis* species in the Bay of Biscay and possible transport pathways to Arcachon Bay. *Journal or Marine Systems*.

Velo-Suárez, L., B. Reguera, S. González-Gil, and Y. Pazos. *In preparation*. Seasonal variability of biological conditions of *Dinophysis acuminata* in the Ría de Pontevedra (NW Spain). *Harmful Algae*.

Reguera, B., **L. Velo-Suárez**, M.G. Park. *In preparation*. Biology, ecophysiology and bloom dynamics of *Dinophysis* spp. *Harmful Algae special issue: 10¹⁰ Anniversary*.

OTHER
PUBLICATIONS

Reguera, B., **L. Velo-Suárez**, L. Escalera, S. González-Gil, E. Nézan, P. Gentien. 2010. Some new views on *Dinophysis* ecology. In: Ho, K.C., M. Zhou and Y. Qi (eds.). *Harmful Algae 2008*.

Proceedings of the 13th International Conference on Harmful Algae. International Society for the Study of Harmful Algae and Environmental Publications House Hong Kong, Copenhagen, pp. 88-91.

González-Gil, S., G. Pizarro, B. Paz, **L. Velo-Suárez**, and B. Reguera. 2010. Is *Dinophysis rotundata* a toxigenic species? In: Ho, K.C., M. Zhou and Y. Qi (eds.). Harmful Algae 2008. Proceedings of the 13th International Conference on Harmful Algae. International Society for the Study of Harmful Algae and Environmental Publications House Hong Kong, Copenhagen, pp. 128-131.

GEOHAB, 2011. "GEOHAB Modeling: Linking Observations to Predictions - a Workshop Report." D.J. McGillicuddy, P.M. Gilbert, E. Berdalet, C. Edwards, P. Franks and O.N. Ross (eds.). IOC and SCOR, Paris and Newark, Delaware. 85 pp.

Velo-Suárez, L., M. Ruiz-Villareal, L. Fernand, P. Gentien, and B. Reguera. 2010. Population dynamics of *Dinophysis acuminata* in the Ría de Pontevedra (NW Spain): Physical and biological coupling in a coastal upwelling system. ICES Annual Science Conference 2010, Nantes, France. September 2010.

Silke, J., G. Nolan, P. Gentien, M. Sourisseau, P. Lazure, B. Reguera, N. Ruiz-Villareal, **L. Velo-Suárez**, and others. ASIMUTH: Applied simulations and integrated modelling for the understanding of toxic and harmful algal blooms. ICES Annual Science Conference 2010, Nantes, France. September 2010.

INVITED
LECTURES

Velo-Suárez, L. Temporal and spatial evolution of a *Pseudo-nitzschia* spp. thin layer in relation to physical processes in the Ría of Pontevedra, NW Spain. 07 March 2008, Mediterranean Marine and Environmental Centre (CMIMA), Barcelona, Spain.

Reguera, B., and **L. Velo-Suárez**. Biological observations of relevance for species-specific models of low biomass HABs. GEOHAB Modeling Workshop, Galway, Ireland, 14-19 June 2009.

COMMUNICATIONS

Mamán, L., D. Jaén, R. Fernández, L. Fernández, A. Ocaña, and **L. Velo-Suárez**. Harmful algal events in Andalusian coast (Southern Spain) from 1997-2003. Poster session. XI International Conference on Harmful Algae, Cape Town, South Africa, 15-19 November 2004.

Velo-Suárez, L., and J.C. Gutiérrez-Estrada. Artificial neural network approaches to one-step weekly prediction of *Dinophysis acuminata* blooms in Huelva (Western Andalucía). Oral communication. XII International Conference on Harmful Algae, Copenhagen, Denmark, 04-08 September 2006.

Reguera, B., **L. Velo-Suárez**, S. González-Gil, P. Gentien, M. Lunven, C. Bechemin, L. Fernand, and R. Raine. Thin layers of *Pseudo-nitzschia* spp. and the fate of *Dinophysis acuminata* during an upwelling/downwelling cycle in a Galician Ría. Oral communication. XII International Conference on Harmful Algae, Copenhagen, Denmark, 04-08 September 2006.

González-Gil, S., **L. Velo-Suárez**, and B. Reguera. Ecological and physiological studies of *Dinophysis* spp. during an upwelling-downwelling cycle in the Ría de Pontevedra (NW Spain). Poster session. XII International Conference on Harmful Algae, Copenhagen, Denmark, 04-08 September 2006.

Velo-Suárez, L., and J.C. Gutiérrez-Estrada. Predicción de floraciones de *Dinophysis acuminata* en la costa onubense mediante redes neuronales computacionales. Oral communication. V Congreso Ibérico sobre planificación y gestión de aguas "Cuencas compartidas. Claves para la gestión sostenible del agua y del territorio", Faro, Portugal, 04-08 December 2006.

Velo-Suárez, L., S. González-Gil, I. Ramilo, P. Gentien, M. Lunven, L. Fernand, R. Raine, and B. Reguera. Capas finas de *Pseudo-nitzschia* spp. y distribución de *Dinophysis acuminata* durante un ciclo de afloramiento/hundimiento en la Ría de Pontevedra. Oral communication. IX Reunión Ibérica sobre Fitoplancton Tóxico y Biotoxinas, Cartagena, Spain, 07-10 May 2007.

Reguera, B., L. Escalera, Y. Pazos, G. Pizarro, S. González-Gil, **L. Velo-Suárez**, and A. Moroño. Los proyectos DINOPHYSIS GALICIA y HABIT: Objetivos y primeros resultados. Oral communication. IX Reunión Ibérica sobre Fitoplancton Tóxico y Biotoxinas, Cartagena, Spain, 07-10 May 2007.

González-Gil, S., **L. Velo-Suárez**, and B. Reguera. Estudio fisiológico de *Dinophysis* spp. en poblaciones naturales durante un periodo de upwelling/downwelling en la Ría de Pontevedra (Galicia). Poster session. IX Reunión Ibérica sobre Fitoplancton Tóxico y Biotoxinas, Cartagena, Spain, 07-10 May 2007.

Velo-Suárez, L., B. Reguera, S. González-Gil, I. Ramilo, L. Fernand, H. Farrel, R. Raine, M. Lunven, P. Lazure, C. Bechemin, E. Nézan, and P. Gentien. Meso and microscale conditions associated with the decline of *Dinophysis acuminata* in the Bay of Biscay during an exceptionally hot summer. Oral communication. XIII International Conference on Harmful Algae, Hong Kong, China, 03-07 November 2008.

Reguera, B., **L. Velo-Suárez**, L. Escalera, S. González-Gil, E. Nézan, and P. Gentien. Some new views on Dinophysis ecology. Oral communication. XIII International Conference on Harmful Algae, Hong Kong, China, 03-07 November 2008.

González-Gil, S., G. Pizarro, B. Paz, **L. Velo-Suárez**, and B. Reguera. Is *Dinophysis rotundata* a toxigenic species? Poster. XIII International Conference on Harmful Algae, Hong Kong, China, 03-07 November 2008.

Velo-Suárez, L., S. González-Gil, I. Ramilo, Y. Pazos, and B. Reguera. Variabilidad estacional de las condiciones biológicas de *Dinophysis acuminata* en la Ría de Pontevedra. Oral communication. X Reunión Ibérica sobre Fitoplâncton Tóxico e Biotoxinas, Lisbon, Portugal, 12-15 May 2009.

Reguera, B., **L. Velo-Suárez**, L. Escalera, S. González-Gil, E. Nézan, and P. Gentien. Nuevos puntos de vista sobre la ecología de *Dinophysis*. Oral communication. X Reunión Ibérica sobre Fitoplâncton Tóxico e Biotoxinas, Lisbon, Portugal, 12-15 May 2009.

González-Gil, S., G. Pizarro, B. Paz, **L. Velo-Suárez**, and B. Reguera. ¿Es *Dinophysis rotundata* una especie toxigénica? Poster session. X Reunión Ibérica sobre Fitoplâncton Tóxico e Biotoxinas, Lisbon, Portugal, 12-15 May 2009.

Velo-Suárez, L., B. Reguera, T. Wyatt, J.C. Gutiérrez-Estrada, P. Lazure, and P. Gentien. Three models of *Dinophysis* population dynamics. Poster. GEOHAB modeling workshop, Galway, Ireland, 14-19 June 2009.

Velo-Suárez, L., M. Ruiz-Villarreal, L. Fernand, P. Gentien, and B. Reguera. Population dynamics of *Dinophysis acuminata* in the Ría de Pontevedra (NW Spain): Physical-biological coupling in a coastal upwelling system. Oral communication and ICES journal publication. ICES Annual Science Conference, Nantes, 20-24 September 2010.

Velo-Suárez, L., S. González-Gil, Y. Pazos, and B. Reguera. Seasonal variability of biological conditions of *Dinophysis acuminata* in the Ría de Pontevedra (NW Spain). Oral communication. XIV International Conference on Harmful Algae, Hersonissos, Crete-Greece, 01-05 November 2010.

Farrel, H., R. Raine, **L. Velo-Suárez**, and B. Reguera. Phased cell division and growth of *Dinophysis* populations off the South coast of Ireland. Oral communication. XIV International Conference on Harmful Algae, Hersonissos, Crete-Greece, 01-05 November 2010.

Reguera, B., L. Escalera, **L. Velo-Suárez**, Y. Pazos, and M. Ruiz-Villarreal. *Dinophysis acuta* time series and thermal stratification in Northwestern Iberian waters. Oral communication. XIV International Conference on Harmful Algae, Hersonissos, Crete-Greece, 01-05 November 2010.

ADVANCED COURSES AND MEETINGS	<p>International Course on Harmful Marine Phytoplankton. Copenhagen, Denmark. April-June 2005.</p> <p>Training Course in Acoustics; Operation of the EK60 Echo Sounder. Vigo, Spain, January 2007.</p> <p>International Summer School on Turbulence, Plankton and Marine Snow. Barcelona, Spain, September 2008.</p> <p>Scientific Seminar “Marine Biotoxins Analysis and Toxicology” Awarding Professor Yasumoto as “Doctor Honoris Causa” by the University of Vigo. Vigo, Spain, January 2010.</p>
TEACHING ACTIVITIES	<p>IOC-AECL-IEO VIII Training course on toxic phytoplankton and marine biotoxins. Spanish Institute of Oceanography, Vigo, Spain. February 2007.</p> <p>IOC-AECL-IEO IX Training course on harmful marine phytoplankton. Spanish Institute of Oceanography, Vigo, Spain. June 2008.</p>
EXPERIENCE AT SEA	<p>Familiar with CTDs, sampling hoses, plankton nets and Niskin bottles, ADCPs, ADVs and high vertical resolution instrumentation and fine scale samplers.</p> <p>5-23 July 2006. <i>R/V Thalassa</i> HABIT cruise on the Bay of Biscay.</p> <p>28 May-08 June 2007. <i>R/V Mytilus</i> HABIT cruise on the Ría de Pontevedra.</p> <p>Mach-November 2007. Routine weekly sampling on board <i>R/V Jose María Navaz</i>.</p> <p>4-7 June 2008. <i>R/V Jose María Navaz</i> HABIT cruise on the Ría de Pontevedra.</p> <p>July-December 2009. Routine weekly sampling on board <i>R/V Jose María Navaz</i>.</p>
OTHER ACTIVITIES	<p>Guest investigator at CEFAS, Lowestoft, UK</p> <p>1 Nov-2 Dec 2006: Estimates of different physical parameters from fine-scale instrumentation outputs; relate them with the <i>Dinophysis acuminata</i> population distribution during the first HABIT cruise in the Galician Rías.</p> <p>14 Jan-2 March 2008: Estimates of turbulence dissipation rates from ADCP data; integrate turbulence results with physical parameter estimates; relate them with phytoplankton distribution data from different HABIT cruises.</p> <p>Guest investigator at IFREMER, Brest, France</p> <p>30 Jun-29 Jul 2008: Map the distribution and study the population behaviour of <i>Dinophysis</i> spp. in relation to the physical environment within the Loire plume region of the Bay of Biscay, Brittany, France.</p> <p>03 May 2010-31 May 2011: Analysis of the actual knowledge on <i>Dinophysis</i> spp. Study of the vertical migration of <i>Dinophysis</i> spp. in relation to their optimum (and only known) food source (<i>Myrionecta rubra</i>) and dissolve organic matter (DOM). Analysis of the motile and swimming behavior of <i>Dinophysis</i> spp. Develop a biological module based on the actual knowledge on the population dynamics and behaviour of <i>Dinophysis</i> species and integrate its output into a Lagrangian individual-based model.</p> <p>Guest investigator at WHOI, Woods Hole, USA</p> <p>01 Jun 2011-31 May 2013: Application of biological parameters into a 3D Lagrangian model to understand <i>Alexandrium fundyense</i> bloom dynamics in the Gulf of Maine.</p>
PHYTOPLANKTON ANALYSIS TECHNIQUES	<p>Very good background on general phytoplankton taxonomy. Identification and enumeration of phytoplankton species. Experienced with various light and epi-fluorescence microscopes. Isolation and culture of algae from field samples. Familiar with media preparation and sterile techniques for the establishment and transfer of cultures. Viability assays of phytoplankton cells (<i>Dinophysis</i> spp. and <i>Pseudo-nitzschia</i> spp.) using different vital/mortal stains (i.e FDA, SYTOX-Green, Trypan Blue, Calcein-AM).</p>
LANGUAGE SKILLS	<p>Spanish: native speaker; English: high level (fluent and scientific); French: fluent.</p>

COMPUTER SKILLS **Programming:** MATLAB, and Fortran.

Applications: T_EX, L^AT_EX, B_IB_TE_X, Office (Microsoft, iWork and OpenOffice) and other common productivity packages for Windows, OS X, and Linux platforms, STASTISTICA and SPSS for statistical analysis, Microcal ORIGIN, VOXLER, and SURFER for plotting and analyzing field data, HC Image and Adobe Creative Software. Experience with Seabird, RDI, Nortek and Anderaa software for the acquisition and processing of CTD and ADCP-ADV data.

Operating Systems: Microsoft Windows 7/Vista/XP, Apple OS X, Debian GNU/Linux, and other UNIX variants.

AFFILIATIONS Member of “ISSHA” (International Society for the Study of Harmful Algae).