

## PERSONAL INFORMATION

## Tomas Lovato

-  Via B. Pichat, 6/2 I-40127 BOLOGNA (office)
-  +39.051.0301606
-  [tomas.lovato@cmcc.it](mailto:tomas.lovato@cmcc.it)
-  <http://www.cmcc.it/people/lovato-tomas-2>

## RESEARCH TOPICS

Biogeochemical cycles in marine environments  
Open ocean and coastal hydrodynamic processes  
Experimental data analysis and synthesis  
High frequency processes in transitional marine environments  
Uncertainty/sensitivity analysis of environmental models

## WORK EXPERIENCE

November 2015-now

**Junior Scientist**

Fondazione CMCC - Centro Euro-Mediterraneo sui Cambiamenti Climatici

- Development and application of marine biogeochemical models

May 2015 – October 2015

Scientific research

**Junior Research Associate**

CMCC - Centro Euro-Mediterraneo sui Cambiamenti Climatici

- Implementation of new marine biogeochemical processes in the CMCC Earth System Model

June 2014 - April 2015

Scientific research

**Post-Doctoral Student**

CMCC - Centro Euro-Mediterraneo sui Cambiamenti Climatici

- Coordination of research activities to investigate the current and future productive capacity of the marine ecosystems in the Southern European Seas under the EU project Perseus ([www.perseus-fp7.eu](http://www.perseus-fp7.eu))

January 2013- June 2014

Scientific research

**Post-Doctoral Student**

CMCC - Centro Euro-Mediterraneo sui Cambiamenti Climatici

- Development of spatial analysis tools to evaluate the ecosystem dynamics reproduced by global ocean biogeochemical models in the framework of the EU project GreenSeas ([www.greenseas.eu](http://www.greenseas.eu))

April 2011-July 2014

Scientific research

**Post-Doctoral Student**

CMCC - Centro Euro-Mediterraneo sui Cambiamenti Climatici

- Implementation of a coupled physical-biogeochemical marine model to assess the impacts of acidification and climate change in the Mediterranean Sea within the EU project MedSea ([medsea-project.eu](http://medsea-project.eu))

Jun 2009-Mar 2011

Scientific research

**Post-Doctoral Student**

Dept. of Environmental Sciences, University Ca' Foscari Venice

- Development of mathematical models to investigate the climate changes effects in the ecosystem dynamics of the Lagoon of Venice. Research program CO.RI.LA.- MAV (Magistrato alle Acque di Venezia) 2009-2011

Scientific research

EDUCATION AND TRAINING

2005-2008 **Ph.D. in Environmental Sciences (and Doctor Europaeus)** 8  
 Ca' Foscari University of Venice

- Dissertation: Modelling the hydrodynamic circulation and the biogeochemical cycles in the Lagoon of Venice and along the North Adriatic coast.

Replace with dates (from - to) **Degree in Environmental Sciences (ante D.M. 509/99)** 7  
 Ca' Foscari University of Venice

- Thesis: Application of a numerical model to a gulf of the Mediterranean Sea.

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	B2	C1	B2	C1
French	C1	B2	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Proficient user	Proficient user	Independent user	Proficient user

- Advanced skills in parallel programming and scripting for scientific applications on supercomputing platforms.
- Extensive knowledge of computational languages Fortran, Visual Basic, Matlab, and Python under Linux/UNIX and Microsoft Windows operating systems
- Professional competence with office suite, SPSS, GIS software, Golden Software Suite
- Good command of photo editing and graphic design software (Adobe suite)

Driving licence B

## ADDITIONAL INFORMATION

## Peer-reviewed Publications

- Galli, G., Solidoro, C., Lovato, T., 2017. Marine heat waves hazard 3D maps, and the risk for low motility organisms in a warming Mediterranean Sea. *Frontiers in Marine Science*, 4, 136.
- Epicoco, I., Mocavero, S., Macchia, F., Vichi, M., Lovato, T., Masina, S., Aloisio, G., 2016. Performance and results of the high-resolution biogeochemical model PELAGOS025 v1. 0 within NEMO v3. 4. *Geoscientific Model Development*, 9(6), 2115-2128.
- Visinelli, L., Masina, S., Vichi, M., Storto, A. and Lovato, T., 2016. Impacts of data assimilation on the global ocean carbonate system. *Journal of Marine Systems*, 158, pp.106-119.
- Lovato, T., and Vichi, M., 2015. An objective reconstruction of the Mediterranean Sea carbonate system. *Deep Sea Research Part I: Oceanographic Research Papers* 98, 21-30.
- McKiver, W. J., Vichi, M., Lovato, T., Storto, A., and Masina, S., 2015. Impact of increased grid resolution on global marine biogeochemistry. *Journal of Marine Systems* 147, 153-168.
- Lovato, T., Ciavatta, S., Brigolin, D., Rubino, A., Pastres, R., 2013. Modelling dissolved oxygen and benthic algae dynamics in a coastal ecosystem by exploiting real-time monitoring data. *Estuarine, Coastal and Shelf Science*, 119, 17-30.
- Soldatini, C., Albores-Barajas, Y.V., Lovato, T., Andreon, A., Torricelli, P., Montemaggiore, A., Corsa, C., Georgalas, V., 2011. Wildlife Strike Risk Assessment in Several Italian Airports: Lessons from BRI and a New Methodology Implementation. *PLoS ONE* 6(12), e28920.
- Brigolin D., Lovato T., Rubino A., Pastres R., 2011. Coupling early-diagenesis and pelagic biogeochemical models for estimating the seasonal variability of N and P fluxes at the sediment-water interface: Application to the northwestern Adriatic coastal zone. *Journal of Marine Systems* 87(3-4), 239-255.
- Lovato, T., Androsov, A., Romanenkov, D., Rubino, A., 2010. The tidal and wind induced hydrodynamics of the composite system Adriatic Sea/Lagoon of Venice. *Continental Shelf Research* 30(6), 692-706.
- Ciavatta, S., Lovato, T., Ratto, M., Pastres, R., 2009. Global Uncertainty and Sensitivity Analysis of a food web bioaccumulation model. *Environmental Toxicology and Chemistry* 28 (4), 718–732.
- Micheletti, C., Lovato, T., Critto, A., Pastres, R., Marcomini, A., 2008. Spatially distributed ecological risk for fish of a coastal food web exposed to dioxins. *Environmental Toxicology and Chemistry* 27(5), 1217-1225.

## Other Publications

- Lovato, T., Pecenic, G., 2012. Three-Dimensional Modeling of Pollutant Dispersion in Lake Garda (North Italy). In: Eds. Ferenc J. and Jorgensen S.E., *Models of the Ecological Hierarchy, Developments in Environmental Modelling*, 319-330.
- Brigolin, D., Lovato, T., Ciavatta, S. and Pastres, R., 2008. The impact of mussel farming on the biogeochemistry of the Northern Adriatic coastal ecosystem: preliminary results from a modelling study. *ICES CM paper 2008/L:12*, 17 pp.
- Lovato, T., Micheletti, C., Pastres, R., Marcomini, A., 2006. Verification of a POPs bioaccumulation model for the Venice lagoon. *CORILA Research Program 2004-2006, Volume IV*, 259-272.

## Research and Technical reports

- Lovato, T., Storto, A., Masina, S., 2015. Global ocean biogeochemistry non assimilative hindcast (PELAGOS025) (1998-2013), *MyOcean product user manual*, <http://marine.copernicus.eu>, pp. 17.
- Vichi, M., Lovato, T., Lazzari, P., Le-Vu, B., Orr, J., Solidoro, C., 2014. Report on projected impacts of increasing acidification and climate change in the Mediterranean Sea, <http://medsea-project.eu>, pp. 34.
- Vichi M., Cossarini G., Gutierrez Mlot E., Lazzari P., Lovato T., Mattia G., Masina S., McKiver W., Pinardi N., Solidoro C., Zavatarelli M., 2013. The Biogeochemical Flux Model (BFM): Equation Description and User Manual. BFM version 5 (BFM-V5). Release 1; BFM Report series N. 1. March 2013, Bologna, Italy, <http://bfm-community.eu>, pp. 85
- Lovato, T., Vichi, M., Oddo, P., 2013. High-resolution simulations of Mediterranean Sea physical oceanography under current and scenario climate conditions: model description, assessment and scenario analysis. *CMCC Research Paper*, RP0207.
- Brunson, J., Lovato, T., Vichi, M., McKiver, W., Gutierrez Mlot, E.D., 2013. Performance characteristics of the PELAGOS coupled model. *CMCC Research Paper*, RP0208.
- Pastres, R., Ciavatta, S., Lovato, T., Schiavo, R., Benvenuto, F., 2009. Avvio delle attività di supporto al Servizio Informativo ed alla Sezione Antinquinamento: Rapporto Finale. Contratto di Ricerca Dipartimento di Chimica Fisica – Consorzio Venezia Nuova.
- Pastres, R., Solidoro, C., Fuoco, R., Ciavatta, S., Cossarini, G., Lovato, T., 2009. Monitoraggio di mantenimento delle conoscenze sullo stato delle acque e del macrobenthos - MELa4 (2007-2009). Rapporto di sintesi: analisi qualità delle acque. 170 pp., Magistrato alle Acque di Venezia.

## Recent international congress

- Palazov, Atanas, et al., 2017. The Black Sea Monitoring and Forecasting Center (BS-MFC) in the framework of the Copernicus Marine Service. EGU General Assembly 2017, EGU2017-15637-2.
- Álvarez M., Sanleón-Bartolomé H., Velo A., Tanhua T., Lovato T., 2016. Carbon, ancillary and tracer data in the MedSea: compilation and quality control. 41th CIESM Congress, Kiel.
- Lovato, T., Storto, A., Vichi, M., Masina, S., Santoleri, R., Sathyendranath, S., 2015. Skill assessment of a high-resolution global marine biogeochemical model. EGU General Assembly 2015, Wien, EGU2015-15777.
- Mattia G., Zavatarelli, M., Lovato, T., 2015. Investigating the northern Adriatic Sea ecosystem state with a very high-resolution model. EGU2015-1773,
- Solidoro, C., Lazzari, P., Cossarini, G., Melaku Canu, D., Lovato, T., Vichi, M., 2014. Modelling physical and biogeochemical state of the Mediterranean Sea under contemporary and future climate. EGU General Assembly 2014, Wien, EGU2014-13499.
- Lovato, T., Vichi, M., McKiver, W., Ziveri, P., 2013. Toward the assessment of Mediterranean Sea carbonate system climatologies. 40th CIESM Congress, Marseille.
- McKiver, W., Vichi, M., Lovato, T., 2012. Impact of resolved scales on global marine biogeochemical models. ICES Annual conference, Bergen.
- Lovato, T., Pecenic, G., 2011. Three dimensional modeling of pollutant dispersion in Lake Garda (Northern Italy). 7th ECEM Congress, Riva del Garda.
- Lovato, T., Ciavatta, S., Brigolin, D., Rubino, A., Pastres, R., 2010. Combining a RTM biogeochemical model and high-frequency in situ observations for the short-term prediction of algal blooms. 39th CIESM Congress, Venice.

## Community models development

- since 2011: System Team member and developer of the Biogeochemical Flux Model ([www.bfm-community.eu/](http://www.bfm-community.eu/))
- since 2014: System Team member and developer of the Nucleus for European Modelling of the Ocean (NEMO, [www.nemo-ocean.eu/](http://www.nemo-ocean.eu/))

Bologna, 1<sup>st</sup> September 2018

Tomas Lovato