



## Personal information

Name / Surname

**Mannarini, Gianandrea**

Address

<https://www.cmcc.it/people/mannarini-gianandrea>

Nationality

Italian

## Current position

Job title

Senior scientist

Employer

CMCC Foundation Euro-Mediterranean Center on Climate Change, Institute for Earth System Predictions, Global Coastal Ocean Division

Place

Lecce (Italy)

## Research activity

- My research focuses on evaluating the impact of maritime trade on climate change. I led the development of the open-source ship routing models VISIR-1 (coded in MATLAB) and VISIR-2 (in Python). My interests include data mining from shipping observational datasets and the evolution of regulatory frameworks at both European and international levels. I am also involved in research projects with Digital Twins and data analytics.
- I have experience in coordinating task teams composed of cross-disciplinary developers and PhD researchers, managing teams of varying size and project duration.
- Over time, I have been affiliated with IMarEST, RINA, EGU
- I am keen on sharing and disseminating scientific results.

## Projects management responsibilities

- Horizon Europe MISSION project "Maritime just-in-time optimization interoperable port call and voyage optimization tool: CMCC scientific lead and WP2.4 lead
- Horizon Europe EDITO-Model Lab project "European Digital Twin Ocean: WP6 "End-to-end demonstrations for Focus Applications" contributor
- Italy-Croatia Interreg V-A, Programme Priority Axis "Maritime transport", GUTTA project: Project Coordinator
- Horizon-2020 AtlantOS project "Optimizing and Enhancing the Integrated Atlantic Ocean Observing System: CMCC scientific lead

## Publication and citation services

ORCID 0000-0001-9205-7765  
Scopus 6507693465  
Publons (WoS) M-6124-2019

## Social media presence

LinkedIn <https://www.linkedin.com/in/gianandreamannarini/>  
ResearchGate <https://www.researchgate.net/profile/Gianandrea-Mannarini>

## Selected Publications

- 5) G. Mannarini, M. L. Salinas, L. Carelli, N. Petacco, and J. Orović. VISIR-2: ship weather routing in Python, *Geoscientific Model Development* 17, 4355–4382, 2024 DOI:10.5194/gmd-17-4355-2024
- 4) G. Mannarini, D. Subramani, P. Lermusiaux, and N. Pinardi. Graph-Search and Differential Equations for Time-Optimal Vessel Route Planning in Dynamic Ocean Waves, *IEEE Transactions on Intelligent Transportation Systems*, vol. 21, no. 8, 2020 DOI: 10.1109/TITS.2019.2935614
- 3) G. Mannarini, L. Carelli, and A. Salhi. EU-MRV: an analysis of 2018's Ro-Pax CO2 data. In *21st IEEE International Conference on Mobile Data Management (MDM)*, 2020 DOI:10.1109/MDM48529.2020.00065
- 2) G. Mannarini and L. Carelli. VISIR-1.b: ocean surface gravity waves and currents for energy-efficient navigation, *Geoscientific Model Development* 12, 3449–3480, 2019 DOI:10.5194/gmd-12-3449-2019
- 1) G. Mannarini, L. Carelli, D. Zissis, G. Spiliopoulos, and K. Chatzikokolakis. Preliminary inter-comparison of AIS data and optimal ship tracks, *TransNav*, 13(1):53–61, 2019. DOI:10.12716/1001.13.01.04

## Prizes and Awards

- 2019 Best presentation award for "Preliminary Inter-comparison of AIS Data and Optimal Ship Tracks" talk given at the 13th International Conference on Marine Navigation and Safety of Sea Transportation, Gdynia (Poland), June 14, 2019
- 2011 Boeing prize for meritorious invention disclosure "Probability Density Function -based calculation of CE90" (90th percentile of Circular Error), Jeppesen Italia, December 2011
- 2007 "Cultore della Materia" (i.e., Expert on Subject) in "General Physics I" at the Università del Salento, Lecce, Italy, February 2, 2007

## Education and Training

MSc Physics, Università degli Studi di Pisa, Italy (2000)  
PhD Humboldt-Universität zu Berlin, Germany (2005)  
Declaration I hereby give my consent for the use of the data provided in this CV in accordance with Regulation 679/2016 of the European Parliament ("GDPR").