

Curriculum Vitae:

Emilio F. CAMPANA

Name, place and date of birth

Emilio Fortunato CAMPANA -
Nationality - Citizenship: Italian

Address

National Research Council (CNR)

Head, Dept. Engineering, ICT and Technologies for Energy and Transport
(CNR-DIITET)
Piazzale Aldo Moro 7, 00185 Rome, Italy
Phone: mobile
e-mail :

Bibliometric indexes

Google Scholar	All	Since 2018
Citations	4475	2136
H-index	37	27
i10-index	92	57

More than 200 publications on books,
int. journals and conferences

Professional Rank / Position

Research Director - **CNR Department Head: Engineering, ICT and Technologies for Energy and Transport (CNR-DIITET)**
The Department includes 15 research institutes (about 1550 FTE, 1050 researchers) with 49 different sites spread all over Italy, covering the areas: (i) Industrial and Civil Engineering, (ii) Computer Science and Informatics, (iii) Applied Mathematics, (iv) Systems and Communication Engineering.

Education

- Ph.D. degree in **Theoretical and Applied Mechanics** granted by the University of Rome **Sapienza** (1991)
- Honors degree ('*Summa Cum Laude*') in **Mechanical Engineering** (5 years), granted by the University of Rome **Sapienza** (1984)

Languages

English, fluent; German, elementary; Italian (mother)

Past Employments / Professional Activities

- Since May 2017 **CNR- DIITET**, Department Head, Engineering, ICT and Technologies for Energy and Transport, CNR
- 2011-2017: **CNR - INSEAN** – Director of the Institute of Marine Technology
INSEAN has been – from 1927 to 2010 – an independent research institute in the field of marine and maritime engineering, under the supervision of the Ministry of Transport and of the Ministry of Defense. In 2010 INSEAN was included in the CNR to establish the CNR-INSEAN research institute. Current name of INSEAN is CNR-INM (INgegneria del Mare – Marine Engineering: www.inm.cnr.it).
- 2010: **INSEAN** - Director General
- 2009-2010: **INSEAN** - Research Director, Head of all the Scientific Departments
- 2002-2009: **INSEAN** - Research Director, Head of the Dept. of Ship Resistance & Optimization
- 1996-2002: **INSEAN** - Senior researcher
- 1991-1996: **INSEAN** - Researcher
- 1989-1991: **IBM - ECSEC (IBM - European Center for Scientific and Engineering Computing)**- Researcher:
IBM-ECSEC was one of the first HPC Center in the world.
- 1986-1988: **INSEAN** - Researcher Engineer
- 1985-1986: Compulsory military service: IT Army Corps of Engineers (Lieutenant)

International Scientific Committees / Editor

Chairman

International Towing Tank Conference

- Special Group on "Impact of CFD in Marine Hydrodynamics", 26th Int. Towing Tank Conf.
- Resistance Committee, 25th Int. Towing Tank Conf.
- Resistance Committee, 24th Int. Towing Tank Conf.

NATO Science and Technology Organization - AVT (Advanced Vehicle Technology)

Co-Chair, AVT-204, *Assess the Ability to Optimize Hull Forms of Sea Vehicles for Best Performance in a Sea Environment*

Co-Chair, AVT-253: *Assessment of Prediction Methods for Large Amplitude Dynamic Maneuvers for Naval Vehicles*

ONR (Office of Naval Research, US Navy) Symposium on Naval Hydrodynamics

Organizing Committee, *26th ONR Symp. on Naval Hydrodynamics*

Secretary

International Towing Tank Conference

Resistance Committee, *23rd Int. Towing Tank Conf.*

Member

NATO Science and Technology Organization

Since 2017, National representative (for research) in the **NATO Science and Technology Board (STB)**, the highest authority within the Science and Technology Organization (STO)

NATO Science and Technology Organization - AVT (Advanced Vehicle Technology)

- AVT-161: Assessment of Stability and Control Prediction Methods for NATO Air & Sea Vehicles;
- AVT-ET-180 Sea Dumped Munitions and Environmental Risk
- AVT-183: Reliable Prediction of Separated Flow Onset and Progression for Air and Sea Vehicles
- AVT-191: Application of Sensitivity Analysis and Uncertainty Quantification to Military Vehicle Design
- AVT-216: Evaluation of Prediction Methods for Ship Maneuvering and Control
- AVT-252: Stochastic Design Optimization For Naval And Aero Military Vehicles
- AVT-ET-185: Goal-Driven, Multi-Fidelity Approaches for Military Vehicle System-Level Design (TCMSM)

ONR (Office of Naval Research, US Navy) Symposium on Naval Hydrodynamics

- Standing member (representing Europe) in the Organizing and Paper Committee, since 2015.
- Organizing and Paper Committee, *27th ONR Symp. on Naval Hydrodynamics*
- Organizing and Paper Committee, *31th ONR Symp. on Naval Hydrodynamics*

Others

- IUTAM (*Int. Union Theoretical and Applied Mechanics*): CNR representative in the IUTAM Italian delegation
- Scientific Committee, *9th International Conf. on Numerical Ship Hydrodynamics*
- Scientific Committee, *5th Osaka Colloquium on Ship Viscous Flow and Hull Form Design by EFD and CFD*
- Scientific Committee, *ANTS 2012 - Eighth International Conference on Swarm Intelligence*

Editor

- Journal of Marine Science and Technology (Springer), Associated Editor
- *19th Int. Workshop on Water Waves and Floating Bodies*, Editor

Other

European Defense Agency

Via a research agreement with the It Minister of Defense, he has obtained that all the research members of the Italian delegations into the 14 CAPTECH of EDA are CNR researchers. He has personally selected all the representatives and supervised their work.

Reviewer /Membership in European Structures

Reviewer for International Journals: *AIAA Journal • Computer & Fluids • Comp. Methods in Applied Mechanics and Engineering • IEEE Transaction on Evolutionary Computation • Int. J. for Numerical Methods in Fluids • J. of Ship Research • J. of Marine Science and Technology • Int. J. of Numerical Methods for Heat and Fluid Flow • J. of Engineering Mathematics • Iranian J. of Science and Technology • Ocean Engineering • Optimization and Engineering • Swarm Intelligence • Engineering Optimization • Journal of Optimization Theory and Applications • Numerical Algorithms*

Reviewer for European Research Agencies:

- **French National Research Agency (ANR)** - External reviewer for the "Investissements d'Avenir", action "Equipment of Excellence 2011" (Equipex 2011);
- **Research Foundation of Flanders, FWO (Belgium)** – External scientific reviewer;
- **Dutch Technology Foundation (STW)**; External scientific reviewer.

Reviewer for Academic Promotions:

- **USA:** Pennsylvania State University / University of Michigan / University of Iowa
- **UK:** Universities of Glasgow and Strathclyde
- **South Korea:** Seoul National University

Reviewer/ Membership for Italian Ministries

- **Scientific Commission for Innovation and Research (Ministry of Infrastructure and Transport);** Member since 2013, appointed by the Minister of Infrastructure and Transport, D.G. Maritime and Inland Waterways Transport, Italy.
- **National Expert for the Program Committee for Horizon 2020;** Since 2013, appointed as national expert for the societal challenge "Smart, Green and Integrated Transport" by the Ministry of Education and Research, Italy.
- **National Expert for the Italian Research Plan** – Member of the Marine resources group
- **G7** - National representative in the G7 group for the Digital Twin of the Ocean, under the Future Oceans and Seas Initiative (FOSI)
- **CORILA – Consortium for Coordination of Research Activities Concerning the Venice Lagoon System;** Member of the Management (2013-2019), appointed by the Ministry of Education and Research, Italy.
- **National Platform for Marine Technology;** From 2012 to 2013, Secretary of the national platform - mirror group of the European WATERBORNE^{TP}- appointed by the Ministry of Infrastructure and Transport.
- **Regional Government of Lazio, Italy;** Scientific assistant on Technology Transfer, Research and Innovation (2007-2009).
- **National Technology Clusters (promoted by the Italian Ministry of Education and Research)**
 - **Energy:** member of the Board of administration;
 - **Blue Growth:** Head of the Scientific Committee;
 - **Transport:** member of the Board of administration.

Membership in Structures of the European Union

- **Joint Programming Initiative for Healthy and Productive Seas and Oceans (JPI Oceans).** Since 2013, Member of the JPI Oceans Management Board, Italian representative, on behalf of the Italian Ministry of Infrastructure and Transport .
- **Public Private Partnership "Vessels for the Future".** Since 2014, member of the Board of Directors
- **WATERBORNE Technology Platform.** Since 2018, Chair of the IRAG Blue Growth working group

International Awards

- **American Bureau of Shipping (ABS) - Captain Joseph H. Linnard Prize** - Best paper presented at the SNAME (Society of Naval Architects & Marine Engineers, USA) Annual Meeting 2009
- **NATO RTO Scientific Achievement Award 2012.**
The RTO Scientific Achievement Award is the highest research group award within NATO. The group awarded was the "AVT-161 - Assessment of Stability and Control Prediction Methods for NATO Air & Sea Vehicles".
- **36th Georg Weinblum Memorial Lecturer** (2013-2014), in recognition of his contributions to the field of marine hydrodynamics. The Weinblum Memorial Lecture (<https://www.tuhh.de/weinblum-foundation/homepage.html>) is sponsored:
 - in Germany: by *Institut für Schiffbau* of the University of Hamburg;
 - in the United States: by *Naval Studies Board* of the *US National Research Council* and by the *Society of Naval Architects & Marine Engineers*.The lecturers are chosen by a Selection Committee representing the *Institut für Schiffbau*, the *Fachausschuss "Schiffshydrodynamik" der Schiffbautechnischen Gesellschaft*, and the *Journal of Ship Research Committee* and *Analytical Ship Wave Relation Panel (H-5)* of the *Society of Naval Architects and Marine Engineers*.
- **NATO "Spring 2021" AVT Panel Excellence Award.**
As member of the working group AVT-253 "Assessment of Prediction Methods for Large Amplitude Dynamic Maneuvers for Naval Vehicles" in "recognition and appreciation for the extraordinary scientific contribution".

Educational Work

October 1993 - June 1994	Professor of Aerodynamics, Faculty of Aerospace Engineering, Univ. of Perugia, Italy.
March 1999 - June 1999	Professor of Hydraulics, Faculty of Environmental Engineering, Univ. of L'Aquila, Italy.
October 1999 - Jan. 2000	Professor of Hydraulics, Faculty of Environmental Engineering, Univ. of L'Aquila, Italy.

Major International / European Research Projects

1) Variable-Physics techniques in Simulation-Based Design for High Speed Waterjet Ship Design

Funding : Office of Naval Research (US Navy), 50%
Research Program : NICOP
Duration : 2008-2010
Participating nations : IT, USA, JP
Position : Principal Investigator

2) Global Optimization Methods Applied to High-Speed Ship Design

Funding : Office of Naval Research (US Navy), 50%
Research Program : NICOP (N. 000140510617)
Duration : 2005-2008
Participating nations : IT, USA, JP
Position : Principal Investigator

3) Surface Combatant 5415 capsizing tests for validation of unsteady RANS codes

Funding : Office of Naval Research (US Navy), 50%
Research Program : NICOP (N. 000140410288)
Duration : 2004-2008
Participating nations : IT, USA
Position : Research staff

4) Multiple Criteria CFD-Based Optimization for Ship Design

Funding : Office of Naval Research (US Navy), 50%
Research Program : NICOP (N. 000140210489)

Duration : 2002 - 2005
Participating nations : IT,USA,JP
Position : Principal Investigator

6) HULLOPT - Optimal Techniques for Hull Geometry (EUCLID RTP 10.14)

Funding : Western European Union (WEU - UEO), 50 %
Research Program : CEPA 10
Duration : 1999 - 2003
Participating nations : IT, GR, TK, UK
Position : Project Manager

7) Advanced Monohull Concepts: (THALES 10.111)

Funding : Western European Union (WEU - UEO), 100%
Research Program : CEPA 10
Duration : 1999 - 2003
Participating nations : IT, NL, DM
Position : Research staff

Major National Research Projects

1) Cluster Tecnologico Nazionale TRASPORTI ITALIA 2020

Funding : *Ministry of Education and Research*
Research Program : **TRIM (Tecnologia e Ricerca Industriale per la mobilità Marina)**
Duration : 2014-2017
Position : Project Manager (Grant: 10.5 M€)

2) Flagship project RITMARE

Funding : *Ministry of Education and Research*
Duration : 2011-2015
Position : "Marine Technology" Subproject Manager (Subproject Grant: 28 M€)

3) RESMARE (Ricerca E Sviluppo per il MARE)

Funding : *Lazio Region*
Duration : 2015-2017
Position : Project Manager (Grant: 1.5 M€)

4) AGORA'

Funding : *Ministry of Infrastructure and Transport*
Duration: 2017-2018
Position: CNR Project Manager (Overall Grant: 29.3 M€)

5) POLAR

Funding : *Ministry of Infrastructure and Transport*
Duration: 2017-2018
Position: CNR Project Manager (Overall Grant: 21.3 M€)

6) LEADERSHIP TECNOLOGICA

Funding : *Ministry of Infrastructure and Transport*
Duration: 2017-2018
Position: CNR Project Manager (Overall Grant: 25.0 M€)