

PERSONAL INFORMATION



Giovanni Besio

 DICCA, Department of Civil, Chemical and Environmental Engineering, University of Genoa, Via Montallegro 1, 16145, Genoa, Italy

 +39 010 33 5

6576  +39 328 4847837

 giovanni.besio@unige.it

giospud@gmail.com

 www.dicca.unige.it/besio

www.dicca.unige.it/meteocean

 Skype [giospud](https://www.skype.com/user/giospud)

 LinkedIn - <https://www.linkedin.com/in/giovanni-besio-57a001a/>

Sex Male | Date of birth 18/06/1976 | Nationality Italian

WORK EXPERIENCE

From February 2015 to Today

Associate Professor in Coastal and Harbour Engineering

Polytechnic School, University of Genoa, Italy, www.politecnica.unige.it

- Full Professor of "Maritime Engineering", "Coastal Structures" and "Harbour Engineering" for the Civil and Environmental Engineering degree (BSc and MSc careers)

Business or sector Research and education

From November 2005 to February 2015

Assistant Professor in Coastal Engineering

Polytechnic School, University of Genoa, Italy, www.politecnica.unige.it

- Full Professor of "Maritime Engineering", "Coastal Structures" and "Environmental Fluid Mechanics" for the Civil and Environmental Engineering degree (BSc and MSc careers)

Business or sector Research and education

From October 2004 to November 2005

Post Doc – Research Fellow

Centro Andaluz de Medio Ambiente (CEAM), Granada, Spain, <http://www.iista.es/>

- Junior Scientist in Coastal Engineering and Coastal Morphodynamics

Business or sector Research

From January 2004 to September 2004

Research Fellow

DIAM (now DICCA), University of Genoa, Italy

- Researcher in Environmental Fluid Mechanics

Business or sector Research

From January 2001 to December 2003

PhD Grant

DIAM (now DICCA), University of Genoa, Italy

- PhD in Environmental Fluid Mechanics

Business or sector Research

From December 1999 to May 2000

Junior Engineer

STI, Studio Tecnico di Ingegneria, Genova, Italy

- Junior Engineer for Civil and Hydraulic works

Business or sector Civil Engineering Consultancy

EDUCATION AND TRAINING

From January 2001 to December 2003

PhD in Environmental Fluid Mechanics

DIAM (now DICCA), University of Genoa, Italy

- Fluid Mechanics, Morphodynamics, Turbulence

Level 8

From September 1994 to
November 1999

MSc in Civil Engineering with Hydraulics

Level 7

University of Genoa, Italy

▪ Civil Engineering, Fluvial and Coastal Hydraulics

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Spanish	C1	C1	C1	C1	C1
French	B2	B1	A1	A2	A1

Communication skills Good communication skills developed either teaching different courses and giving talks at international conferences

Organisational / managerial skills Leadership and tutoring (PhD and Master students)

Job-related skills Innovation and development for basic research and applied research (knowledge transfer to industry)

Digital skills

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

Levels: Basic user - Independent user - Proficient user

Digital competences - Self-assessment grid

Skills in programming languages (Fortran, Matlab, Python, shell scripting), GIS tools (QGIS, Grass, ArcGIS)

Other skills Manual abilities for laboratory works (steel and wood carpentry, PVC and similar materials handling)

Driving licence A and B

ADDITIONAL INFORMATION

Referee Activity

Advances in Water Resources
 ANVUR – VQR 2010-2014
 Applied Energy
 Atmosphere
 Coastal Engineering
 Continental Shelf Research
 Earth-Science Review
 Earth Surface Processes and Landforms
 Ecological Indicators
 Energies
 Energy
 Engineering Applications of Artificial Intelligence
 Environment International
 Environment, Development and Sustainability
 Environmental Modelling and Software
 Estuarine, Coastal and Shelf Science
 European Journal of Mechanics B/Fluid
 Frontiers in Marine Science
 Future in Research (Regione Puglia)
 Geophysical Research Letters
 IAHR - International Association of Hydro-Environment Engineering and Research
 International Journal of Marine Energy
 Journal of Cleaner Production
 Journal of Geophysical Research
 Journal of Marine Science and Engineering
 Journal of Waterway, Port, Coastal and Ocean Engineering
 Meccanica
 MIUR – PRIN Projects
 National Science Foundation (NSF)
 Natural Hazard and Earth System Science
 Natural Resource Research
 Ocean Dynamics
 Ocean Engineering
 Ocean Modelling
 Physics of Fluids
 Progress in Oceanography
 Regional Environmental Change
 Science of the Total Environment
 Water Resources Research
 Water



Affiliations

American Geophysical Union (AGU)
 European Mechanic Society (EUROMECH)
 Permanent International Association of Navigation Congresses (PIANC)
 Associazione Ingegneria Offshore e Marina (AIOM)

Institutional Activities

- Member of the AquaClew Project (ERA-NET ERA4CS) External Expert Committee - 2020
- Member of the Committee for the draft of ROM1.1 guideline (Ministry of Development, Spain, 2018)
- Expert member for fluvial and coastal hydraulics in the Regional Technical Committee for the Environmental Management (Regione Liguria, 2014-2017)
- Committee Member for Public Works Tendering processes for Spezia and Genoa Harbour (Quay Walls Design, Marinas Design, Geomatic Surveys, Road Design Services)
- Technical Consultant for the Genoa Court (Harbour Planning and Safety, Coastal Structures Damages, 2016-2019)
- Technical Consultant for TAR Liguria (Coastal Zone Management, 2015)
- Technical Consultant for the Public Waters Court of Rome (River Engineering and Managing, 2007)
- Reference Person for Research Joint Program UniGe-Regione Liguria, 2016-ongoing
- Member of the PIANC-Universities working group, 2017-today
- Coordinator of the Curriculum in Engineering for Marine and Coastal Environments belonging to the PhD in Sea Science and Technology, University of Genoa, 2019-ongoing
- Member of the Committee for the PhD in Civil, Chemical and Environmental Engng, University of Genoa, 2005-2018
- Referee for the PhD Courses:
- Territorio, Infraestructuras y Medio Ambiente, Universidad de Castilla la Mancha
 - Environmental and building risk and development, environmental and natural resources, Polytechnic of Bari
 - Civil and Environmental Engineering, University of Florence
 - Fenomeni e rischi ambientali, University Parthenope, Naples
 - Civil Engineering, University of Granada

Teaching Master and PhD Courses

2019	Classes on “Wave Modelling” for the IV International Summer School on Dynamics of Estuarine and Nearshore Systems, Granada, Spain
2018	Classes on “Wave Energy Converter Design” for the International Workshop in “Offshore Renewable and Aquaculture” ESITC Caen, France
2014, 2015	Classes on “Forecast models for ocean waves” for the “FORTEMARE – System Engineering for Maritime Technologies”, DLTM, MIUR & Regione Liguria, and DITEN, University of Genoa, Italy
2010/12/13/14	Classes on “Perturbation Methods” for the Doctorate in Fluid Mechanics and Environmental Processes, University of Genoa, Genoa, Italy
June 2012	Classes on “Submarine Dunes” at the Summer School “Morphological instabilities in natural systems”, Institut de Physique de Rennes, Universite de Rennes 1, Rennes, France
November 2011	Classes on “Hidrodinamica zona de rompientes” for the Curso Avanzado de Ingeniería de Costas y Puertos, Colegio de Ingenieros de Andalucía, Sevilla, Spain
2009, 2017	Classes on “Harbour Engineering” for the Master in Marine Geomatics, II Ed., University of Genoa and Istituto Idrografico della Marina
June 2009	Classes for the course “Fluid Mechanics” for the Doctorate in Fluid Mechanics and Environmental Processes, University of Genoa, Genoa, Italy
2007/2008/2010	Classes on “Wave averaged models” for the course “Sea Waves” for the Doctorate in Water, Material and Earth Engineering for Environment, Polytechnic University of Marche, Ancona, Italy
June 2007	Supervisor for the Summer School “Hydro and Morphodynamics of Coastal Seas”, Motril, Spain. Organized by Utrecht University, Universidad de Granada and Università di Genova.
Apr – May 2005	Classes on “Coastal Circulation” and “Analysis of Coastal Processes” within the master program “Sistemazione Idrogeologica e Riqualificazione Ambientale” organized by Regione Liguria.
May 2004	Practical lessons for the course “Elementi di base dell'idraulica applicata allo studio dei corsi d'acqua” carried out for the La Spezia Province by the Department of Environmental Engineering, University of Genoa, Genoa, Italy

Teaching
Degree Courses

A.A. 2018/19-19/20	Professor for "Renewable Energy Production", Environmental Engineering – University of Genoa
A.A. 2016/17-19/20	Full professor for "Harbour Engineering", Civil Engineering – University of Genoa
A.A. 2012/13-19/20	Full professor for "Coastal Engineering", Civil Engineering – University of Genoa
A.A. 2012/13-17/18	Full professor for "Maritime Engineering", Civil Engineering – University of Genoa
A.A. 2010/11-11/12	Full professor for "Environmental Hydraulics", Civil Engineering – University of Genoa
A.A. 2011/12	Assistant professor for "Coastal Engineering", Civil Engineering – University of Genoa
A.A. 2010/11	Assistant professor for "Coastal Engineering", Civil Engineering – University of Genoa
A.A. 2009/10	Assistant professor for "Maritime Hydraulics", Civil Engineering – University of Genoa
A.A. 2009/10	Assistant professor for "Hydraulics I", Civil Engineering – University of Genoa
A.A. 2008/09	Assistant professor for "Port Engineering" and "Coastal Engineering", Civil Engineering – University of Genoa
A.A. 2007/08, 06/07	Full professor for "Fluid Mechanics I", Mechanical Engineering – University of Genoa - Polo di La Spezia
A.A. 01/02 – 08/09	Assistant professor for "Hydrodynamics I" for the Naval Architecture and Marine Engineering Degree - University of Genoa

Teaching
PhD Students

2011-2015	Sonia Angiolani (actual position: college teacher)
2012-2016	Lorenzo Mentaschi (actual position: researcher at JRC ISPRA)
2013 – 2017	Francesco Enrile (actual position: postdoc at UniGenova)
2016 – 2020	Francesco De Leo (actual position: postdoc at CalPoly)
2018 – ongoing	Giulia Cremonini
2019 – ongoing	Stefania Magrì
2019 – ongoing	Stefano Pastorino

Invited Seminars

- "Wave Modeling in the Mediterranean Sea: hindcast, forecast and climate projection for engineering applications"* REMTECHExpo, Ferrara, Italy, September 2019
- "Wave modeling and its applications"* Universidad de La Republica, Montevideo, Uruguay, July 2018
- "Modellistica meteo-marina: lo stato dell'arte per il bacino del Mediterraneo"* Workshop La simulazione ambientale in ambito marino, ATENA, May 2017
- "Stima del potenziale energetico del moto ondoso all'interno del bacino del Mediterraneo"* Workshop Energia dal Mare, Onde e Correnti, ATENA, September 2016
- "Modellistica di reanalisi per la stima degli eventi estremi"* Studi di Aggiornamento sull'Ingegneria Off-Shore e Marina AIOM, Salerno, October 2016
- "Stima del potenziale energetico del moto ondoso all'interno del bacino del Mediterraneo"* ATENA Meeting, La Spezia, September 2016
- "Numerical Modelling for Environmental needs @ UniGe"* ARC Meeting, Toulon, France, April 2016
- "La modellistica previsionale del moto ondoso ai fini dell'ingegneria offshore e costiera"* Studi di Aggiornamento sull'Ingegneria Off-Shore e Marina AIOM, Palermo, November 2014
- "Sea-weather modeling and engineering applications"* CoastEsonda, Ferrara, September 2014
- "Operational high resolution meteo marine modelling over the Mediterranean area: tailoring WWII model for the Mediterranean basin and development of prompt coastal risk index"* DeSRAAP Workshop, NATO-CMRE, La Spezia, July 2014
- "Strutture Lagrangiane Coerenti e barriere al trasporto: applicazione al Golfo di Trieste"* Studi di Aggiornamento sull'Ingegneria Off-Shore e Marina AIOM, Bologna, November 2013
- "Lagrangian mixing and LCS as barrier to transport in compound channels"* CNR-ISMAR, U.O. Pozzuolo di Lerici (SP), Italy, January 2013
- "Wetlands, fragile ecosystems at risk. The case of Venice lagoon"* GCCRP, Griffith University, Queensland, Australia, November 2012
- "Wetlands, fragile ecosystems at risk. The case of Venice lagoon"* GCCRP, Southern Cross University, Lismore New South Wales, Australia, November 2012
- "Lagrangian Coherent Structures as barrier to transport"* IH Cantabria, Universidad de Cantabria, Santander, Spain, November 2011
- "Modelli per l'analisi della qualità delle acque costiere e dei bacini"* Studi di Aggiornamento sull'Ingegneria Off-Shore e Marina AIOM, Lecce, Italy, July 2011
- "Tidal generated Sand Waves"* GIOC, Universidad de Cantabria, Santander, Spain, June 2005

Education

- 2004: PhD grant at the University of Genoa in the field "Fluidodynamics and Environmental Engineering Processes". PhD Thesis title: "Modelling of tidally generated large scale bedforms"
- 1999: 18/11/1999 *Laurea* - Master degree in Civil Engineering in Hydraulics at the University of Genoa. Thesis: "River bifurcation stability: theoretical analysis and experimental observations". Score: 110 cum laude/110
- 1994: Classical high school degree at the C. Columbus Liceum, Genoa

Post Graduate Courses

- November 2014: "Time-frequency analysis: a glance beyond Fourier region" Prof. L. Carassale - DICCA, Università di Genova.
- November 2009: "Non-linear dynamical systems" Prof. M. Storace - DIBE, University of Genova.
- February 2009: "Advanced numerical methods for hyperbolic equations and applications" Prof. E. Toro. Organizzato dall'Università di Trento.
- October 2007: "Communication Skills Training Workshop" - Education Training Ltd (University of Edinburgh). Marie Curie EST Centre – DICAT Univ. of Genova.
- July 2003: "Hydro and Morphodynamics of coastal seas" – Renesse, Netherlands. Organized by Utrecht University and Universitat Politècnica de Catalunya.
- Apr - Jun 2003: "Problematiche della cooperazione internazionale e le progettualità applicabili" organized by Ingegneria Senza Frontiere - Genova.
- October 2002: "Water Waves for Engineers" by Prof. M. Brocchini (University of Genova) and Dr. M. Landrini (INSEAN).
- May 2002: "Le tecnologie appropriate per la cooperazione e lo sviluppo sostenibile: il ruolo dell'università" organized by CETAMB (Brescia).
- January 2000: "La progettazione strutturale con gli Eurocodici".

- Projects**
- 2019 Extreme Values Analysis for waves in the deep ocean [for MMP]
 - 2019 Study of coastal circulation and coastal flooding for the Baia del Silenzio [for Comune di Sestri Levante]
 - 2017 Wave tank experiments for Absorbing Caissons [for RINA]
 - 2017 Morphodynamics of beach nourishment in Romania [Dinamica s.r.l.]
 - 2016 Wave climate and extreme events for La Spezia Gulf [Autorità Portuale di La Spezia]
 - 2015-2019 Wave climate hindcast and analysis in the Med Sea [for different Consultancies]
 - Wave climate analysis in the Gulf Area [NMDC Abu-Dhabi]
 - March 2014 Fast ferry generated waves propagation to the coast [for Corsica Ferries]
 - July 2013 Offshore Mar Ligure wave climate. [for Studio Legale Farina]
 - June 2012 Physical modelling of Vernazzola (Ge) beach nourishment. [for Comune di Genova]
 - March 2012 Negative buoyant jet modelling for FPSO. [for DEAM]
 - February 2012 Implementation and validation of a wave forecast-hindcast model for the Western Mediterranean basin. [for ARPAL]
 - April - July 2011 Physical modelling of possible asbenthos releases due to slurry dumping in the port of Genoa (Ge). [for S.P.E.A.]
 - June 2010 Wave climate and coastal circulation analysis in Bagnoli-Coroglio area (Na). [for Typsa]
 - January 2008 - November 2010 Tanaro river physical modelling (fixed and mobile bed) along Alessandria city reach. [for A.I.Po]
 - March - December 2008 Flood propagation along Bormida and Orba rivers [for A.I.Po]
 - December 2007 Analysis of littoral sediment transport along the coast in the proximity of Lerone outlet (Genoa). [for S.T.I.]
 - July 2007 Hydraulic study of the last reach of Torrente Chiaravagna (Genoa). [for S.T.I.]
 - March 2007 Final design of rubble mound breakwater of Savona Harbour. [for S.T.I.]
 - February 2007 Wave climate for Ospedaletti (SV). [for Ing. Repetto]
 - Jan – Sept 2006 Study of flood propagation in the Tanaro river focussed on the city of Alessandria. [for A.I.Po]
 - Oct 2004 – Oct 2005 Study of erosion patterns at the offshore wind farm “Mar de Trafalgar”. Evaluation of the “Mar de Trafalgar” offshore wind farm influence on longshore sediment transport. [for CEAMA - I.N.R. Eolica]
 - January 2004 Analysis of littoral sediment transport along the coast in the proximity of Arenzano harbour (Genoa). [for S.T.I.]
 - November 2003 Analysis of sediment transport of the Leiro river outlet (Genoa). [for S.T.I.]
 - April 2003 Design of levees for the river Magra in the community of Ameglia (Spezia). [for S.T.I.]
 - February 2003 Preliminary design of rubble mound breakwater for the enlargement of Savona's commercial harbour. [for S.T.I.]
 - Dec 1999 - Jun 2000 Site preparation planning for power plants in Brasil (ABB Baden); drawing up of relative bills of quantities following CESSM3 rules; foundation design and steel structure check of the Manjung power plant, Malaysia, with Alstom, Velizy (Paris). Design of reinforced concrete retaining structures in Pieve Ligure (Genoa). Quality control for certification ISO 9001. [for S.T.I.]
- Awards**
- July 2018: Visiting Grant, IMFIA, Universidad de La Republica, Montevideo, Uruguay
 - December 2014 Trasporti & Cultura Award (Sec. A) for the book “Ingegneria e Paesaggio. Un progetto per le valli e per le coste”
 - October 2012: GCCRP visiting fellow, Griffith University, Australia
 - September 2011: Best Presentation Award, RCEM Conference, Beijing, China
 - June 2004: CARIGE grant for research activities

Research Funding

Title	Financed by	Period	Role
BE-READY - Rapid Environmental Assessment Decision sYstem	DG-ECHO	2020-2021	Collaborator
SINAPSI - asSistenza alla Navigazione per l'Accesso ai Porti in Sicurezza	Interreg - Marittimo European Union	2019-2021	Collaborator
SINBAD – Sicurezza della navigazione da diporto	POR-FESR Liguria 2014-2020	2018-2020	P.I.
SICOMAR+ - Sistema transfrontaliero per la sicurezza in mare Contro i rischi della navigazione e per la salvaguardia dell'ambiente MARino	Interreg - Marittimo European Union	2018-2020	P.I.
GEREMIA - Gestione dei reflui per il miglioramento delle acque portuali	Interreg - Marittimo European Union	2018-2020	Collaborator
SPLASH! – Stop alle plastiche in H2O!	Interreg - Marittimo European Union	2018-2020	Collaborator
RISQ'EAU – Increasing flood resilience of Alcotra territories	Interreg – Alcotra European Union	2017-2019	Collaborator
MAREGOT - MANagement des Risques de l'Erosion cotière et actions de GOuvernance Transfrontalière	Interreg - Marittimo European Union	2017-2019	Collaborator
ICODEP - Impact of Changing fOreshore on flood DEFence Performance	Hydralab+ European Union	2016	Collaborator
Subgrid obstacle modeling in wave propagation	University of Genoa	2014	P.I.
Monitoring boat anchoring pressure on Posidonia oceanica meadows through satellite SAR imagery	ESA	2013	Collaborator
PO CRO FSE 2007/13	Regione Liguria	2013-2014	P.I.
AMSEDIS - Amplified Growth of Sediment Waves in the Irish Sea	EuroFleet European Union	2011	Collaborator
Studio dei processi Lagrangiani di mescolamento dovuti a strutture vorticosi di grande scala su acqua bassa	University of Genoa	2010	Coordinator
Effetto della presenza di Parchi Eolici offshore sulla morfodinamica costiera	MIUR, IT-ES Actions	2009	Collaborator
Strumenti per la valutazione della vulnerabilità delle aree costiere in relazione ai previsti cambiamenti climatici	MIUR	2008	Collaborator
Modellazione numerica di processi morfodinamici	MIUR	2007	Collaborator
Dinamica di forme di fondo di grande dimensioni e ampiezza finita	University of Genoa	2006	Collaborator
Cave sottomarine e ripascimenti: modellazione morfologica e applicazioni	MIUR	2005	Collaborator
MODITE - Modelli di trasporto per difesa del territorio	Fondazione CariVerona	2005	Collaborator
SANDPIT - Sand Transport and Morphology of Offshore Sand Mining Pits/Areas	European Union	2002-2005	Collaborator
HUMOR - Human interaction with large scale coastal morphological evolution	European Union	2001-2004	Collaborator
Modellazione matematica e fisica di processi di sedimentazione nella laguna di Venezia	Corila	2004	Collaborator

ANNEXES

International Peer Reviewed
Articles

47. Rizza, U., Canepa, E., Miglietta, M.M., Passerini, G., Morichetti, M., Mancinelli, E., Virgili, S., Besio, G., De Leo, F. & Mazzino, A. 2021 Evaluation of drag coefficients under medicane conditions: Coupling waves, sea spray and surface friction. *Atmos. Res.* 247, <https://doi.org/10.1016/j.atmosres.2020.105207>
46. Oprandi, A., Mucerino, L., De Leo, F., Bianchi, C.N., Morri, C., Azzola, A., Benelli, F., Besio, G., Ferrari, M., Montefalcone, M. 2020 Effects of a severe storm on seagrass meadows. *Science of the Total Environment*, 748, <https://doi.org/10.1016/j.scitotenv.2020.141373>
45. Enrile, F., Besio, G., Stocchino, A. 2020 Eulerian spectrum of finite-time Lyapunov exponents in compound channels. *Meccanica*, 55(9), 1821-1828, <https://doi.org/10.1007/s11012-020-01217-y>
44. Lavidas, G., De Leo, F., Besio, G. 2020 Blue growth development in the mediterranean sea: Quantifying the benefits of an integrated wave energy converter at genoa harbour. *Energies*, 13(6), 4201, <https://doi.org/10.3390/en13164201>
43. Mentaschi, L., Vousdoukas, M., Montblanc, T.F., Kakoulaki, G., Voukouvalas, E. Besio, G. & Salamon, P. 2020 Assessment of global wave models on regular and unstructured grids using the Unresolved Obstacles Source Term. *Ocean Dynamics*, <https://doi.org/10.1007/s10236-020-01410-3>
42. Saviano, S., De Leo, F., Besio, G., Zambianchi, E. & Uttieri, M. 2020 HF radar measurements of surface waves in the Gulf of Naples (Southeastern Tyrrhenian Sea): comparison with hindcast results at different scales. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2020.00492>
41. Mazzaretto, O., Lucero, F., Besio, G., & Cienfuegos, R. 2020 Perspectives for harnessing the energetic persistent high swells reaching the coast of Chile, *Renewable Energy*, 159, 494-505, <https://doi.org/10.1016/j.renene.2020.05.031>.
40. De Leo, F., Solari, S. & Besio, G. 2020 Extreme wave analysis based on atmospheric pattern classification: an application along the Italian coast, *Nat. Hazards Earth Syst. Sci.*, 20, 1233-1246, <https://doi.org/10.5194/nhess-20-1233-2020>
39. De Leo, F., De Leo, A., Besio, G. & Briganti, R. 2020 Detection and quantification of trends in time series of significant wave heights: An application in the Mediterranean Sea. *Ocean Engineering*, 202, 107155, doi.org/10.1016/j.oceaneng.2020.107155.
38. Cutroneo, L., Reboa, A., Besio, G. et al. 2020 Microplastics in seawater: sampling strategies, laboratory methodologies, and identification techniques applied to port environment, *Environmental Science and Pollution Research*. doi.org/10.1007/s11356-020-07783-8
37. Ferrari, F., Besio, G., Cassola, F. & Mazzino, A. 2020 Optimized wind and wave energy resource assessment and offshore exploitability in the Mediterranean Sea. *Energy*, 190, 116447, doi.org/10.1016/j.energy.2019.116447
36. Stocchino, A., De Leo, F. & Besio, G. 2019 Sea waves transport of inertial micro-plastics: mathematical model and applications. *Journal of Marine Science and Engineering*, 7(1), 467
35. Putzu, S., Enrile, F., Besio, G., Cucco, A., Cutroneo, L., Capello, M. & Stocchino, A. 2019 A reasoned comparison between two hydrodynamic models: Delft3d-Flow and ROMS (Regional Oceanic Modelling System). *Journal of Marine Science and Engineering*, 7(1), 464
34. Enrile F., Besio G., Stocchino A., Magaldi M.G. 2019 Influence of initial conditions on absolute and relative dispersion in semi-enclosed basins. *PLOS ONE* 14(7): e0217073, [doi:10.1371/journal.pone.0217073](https://doi.org/10.1371/journal.pone.0217073)
33. Lo Re, C., Manno, G., Ciruolo, G. & Besio, G. 2019 Wave Energy Assessment around the Aeolian Islands (Sicily). *Energies*, 12, 333, [doi:10.3390/en12030333](https://doi.org/10.3390/en12030333)
32. De Leo, F., Besio, G., Zolezzi, G. & Bezzi, M. 2019 Coastal Vulnerability assessment: through regional to local downscaling of wave characteristics along the Bay of Lalzit (Albania). *Natural Hazards and Earth System Science*, 19, pp. 287-298, doi.org/10.5194/nhess-19-287-2019
31. Mentaschi, L., Vousdoukas, M., Besio, G. & Feyen, L. 2019 alphaBetaLab: Automatic estimation of subscale transparencies for the Unresolved Obstacles Source Term in ocean wave modelling. *SoftwareX*, 9, pp. 1-6, [doi:10.1016/j.softx.2018.11.006](https://doi.org/10.1016/j.softx.2018.11.006)

International Peer Reviewed
Articles

30. Mucerino, L., Albarella, M., Carpi, L., Besio, G., Benedetti, A., Corradi, N. Firpo, M. & Ferrari, M. 2019 Coastal Exposure on Bonassola bay. *Ocean and Coastal Management*, 167, pp. 20-31, doi:10.1016/j.ocecoaman.2018.09.015
29. Ferretti, G., Barani, S., Scafidi, D., Capello, M., Cutroneo, L., Vagge, G., Besio, G. 2018. Near real-time monitoring of significant sea wave height through microseism recordings: an application in the Liguria Sea (Italy). *Ocean and Coastal Management*, 165, pp. 185-194, doi:10.1016/j.ocecoaman.2018.08.023
28. Enrile, F., Besio, G., Stocchino, A., Magaldi, M.G., Mantovani, C., Cosoli, S., Gerin, R. & Poulain, P.M. 2018. Evaluation of surface Lagrangian transport barriers in the Gulf of Trieste. *Continental Shelf Research*, 167, pp. 125-138, doi:10.1016/j.csr.2018.04.016
27. Mentaschi, L., Kakoulaki, G., Vousdoukas, M., Voukouvalas, E., Feyen, L. & Besio G. 2018. Parametrizing unresolved obstacles with source terms in wave modeling: a real-world application. *Ocean Modelling*, 126, pp. 77-84, doi:10.1016/j.ocemod.2018.04.003
26. Bozzi, S., Besio, G. & Passoni, G. 2018. Wave power technologies for the Mediterranean offshore: Scaling and performance analysis. *Coastal Engineering*, 136, pp. 130-146, doi:10.1016/j.coastaleng.2018.03.001
25. Enrile, F., Besio, G. & Stocchino, A. 2018. Shear and Shearless Lagrangian Structures in compound channels. *Advances in Water Resources*, 113, pp. 141-154, doi:10.1016/j.advwatres.2018.01.006
24. Pepe, F., Corradino, M., Parrino, N., Besio, G., Lo Presti, V., Renda, P., Calcagnile, L., Quarta, G., Sulli, A., & Antonioli, F. 2018. Boulder coastal deposits at Favignana Island rocky coast (Sicily, Italy): Litho-structural and hydrodynamic control. *Geomorphology*, 303, pp. 191-209, doi:10.1016/j.geomorph.2017.11.017
23. Sartini, L., Besio, G. & Cassola, F. 2017. Spatio-temporal modelling of extreme wave heights in the Mediterranean Sea. *Ocean Modeling*, 117, pp. 52-69, doi:10.1016/j.ocemod.2017.07.001
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