PERSONAL INFORMATION

Guglielmo Lacorata

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✉ guglielmo.lacorata@cnr.it

Sex Male | Date of birth -- -- -- | Nationality Italian

POSITION
PERSONAL STATEMENT

Researcher at CNR ISMAR, Italy
"These are my principles. If you don't like them, I have others."

WORK EXPERIENCE

9/19/2018 - present	**Researcher**
	National Research Council, Institute of Marine Sciences, Rome, Italy.
9/26/2018 - present	**Teacher of Physics of nonlinear Systems (6 CFU), Statistical Mechanics (3 CFU) and Physical Oceanography (3 CFU)**
	LMAST4MC (Laurea Magistrale in Atmospheric Science and Technology for Meteorology and Climate), University of L'Aquila (L'Aquila) and University "La Sapienza" (Rome).
12/28/2001 – 9/18/2018	**Researcher**
	National Research Council, Institute of Atmospheric and Climate Sciences, Lecce, Italy.
10/01/2000 – 12/20/2012	**Teacher of Physics of Non-Linear Systems (6 CFU)**
	Laurea Magistrale in Physics, University of L'Aquila, Italy.

EDUCATION AND TRAINING

1999	**Ph.D. in Physics, University of L'Aquila, Italy.**
1992	**Master Degree in Physics, University of L'Aquila, Italy.**

PERSONAL SKILLS

Mother tongue(s)	Italian

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1
Replace with name of language certificate. Enter level if known.				

(English)

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

| | Communication skills | Good communication skills achieved through my long-time teaching experience at university. |

Organisational / managerial skills   Participation in numerous research programs with different roles of responsibility, i.e., principal investigator, project manager of CNR units, coordinator of work packages and/or subtasks, etc.
Organizer and coordinator of several workshops and summer schools for students and young researches in the field of oceanography and atmospheric physics.
Tutoring of master and Ph.D. students, advisor of research associates at CNR.

Job-related skills   Dynamical systems theory, analysis and modelling of Lagrangian transport and diffusion in fluids, development of Finite-Scale Lyapunov Exponent (FSLE) technique to a wide range of first and second kind applications, kinematic simulations.

Digital skills

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

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid

Replace with name of ICT-certificates

▪ good command of office suite (word processor, spread sheet, presentation software)

▪ good command of Fortran, Latex, Gnuplot

Driving licence   B

ADDITIONAL INFORMATION

SELECTED PUBLICATIONS

Torri M. et al. (2023).
Coupling Lagrangian simulation models and remote sensing to explore the environmental effect on larval growth rate: The Mediterranean case study of round sardinella (Sardinella aurita) early life stages.
Front. Mar. Sci., vol. 9, https://doi.org/10.3389/fmars.2022.1065514

Tutar O. et al. (2022).
High levels of genetic diversity and population structure in the Mediterranean seagrass Posidonia oceanica at its easternmost distribution limit.
ICES Journal of Marine Science, vol. 79, https://doi.org/10.1093/icesjms/fsac163

La Forgia G., Cavaliere D., Falcini F., Espa. S., LACORATA G. (2022).
Numerical and experimental analysis of Lagrangian dispersion in two-dimensional chaotic flows.
SCIENTIFIC REPORTS, vol. 12, ISSN: 2045-2322, https://www.nature.com/articles/s41598-022-11350-1

Falcini F. et al. (2020).
Seascape connectivity of European anchovy in the Central Mediterranean Sea revealed by weighted Lagrangian

backtracking and bio-energetic modelling.
SCIENTIFIC REPORTS, vol. 10, ISSN: 2045-2322, https://link.springer.com/article/10.1038/s41598-020-75680-8

LACORATA G, Corrado R., Falcini F., Santoleri R. (2019).
FSLE analysis and validation of Lagrangian simulations based on satellite-derived GlobCurrent velocity data.
REMOTE SENSING OF ENVIRONMENT, vol. 221, p. 136-143, ISSN: 0034-4257,
doi: https://doi.org/10.1016/j.rse.2018.11.013

Corrado R., LACORATA G., Palatella L., Santoleri R., Zambianchi E. (2017).
General characteristics of relative dispersion in the ocean.
SCIENTIFIC REPORTS, vol. 7, ISSN: 2045-2322, doi: 10.1038/srep46291

LACORATA G. and Vulpiani A. (2017).
Chaotic Lagrangian models for turbulent relative dispersion.
PHYSICAL REVIEW. E, vol. 95, ISSN: 2470-0045, doi:10.1103/PhysRevE.95.043106

Galperin B., Hoemann J., Espa, S., Di Nitto G., LACORATA G (2016).
Anisotropic macroturbulence and diffusion associated with a westward zonal jet: From laboratory to planetary
atmospheres and oceans.
PHYSICAL REVIEW. E, vol. 94, ISSN: 2470-0045, doi: 10.1103/PhysRevE.94.063102

Maffucci F. et al. (2016).
Seasonal heterogeneity of ocean warming: a mortality sink for ectotherm colonizers.
SCIENTIFIC REPORTS, vol. 6, ISSN: 2045-2322, doi: 10.1038/srep23983

Boffetta G., LACORATA G., Vulpiani A. (2015).
Chaos, transport and diffusion. Understanding Complex Systems. vol. 116, p. 31-63,
Springer Verlag, ISBN: 978-3-319-17036-7, doi: 10.1007/978-3-319-17037-4_2

Lacorata G., Palatella L., Santoleri R. (2014).
Lagrangian predictability characteristics of an Ocean Model.
JOURNAL OF GEOPHYSICAL RESEARCH. OCEANS, vol.119, p. 8029-8038, ISSN: 2169-9275,
doi: 10.1002/2014JC010313

LACORATA G. and Espa S. (2012).
On the influence of a beta-effect on Lagrangian diffusion.
GEOPHYSICAL RESEARCH LETTERS, vol. 39, p. 1-4, ISSN: 0094-8276, doi: 10.1029/2012GL051841

Miglietta M.M., Moscatello A., Conte D., Mannarini G., LACORATA G., Rotunno R. (2011).
Numerical analysis of a Mediterranean 'hurricane' over south-eastern Italy: Sensitivity experiments to
sea surface temperature.
ATMOSPHERIC RESEARCH, vol. 101, p. 412-426, ISSN: 0169-8095, doi: 10.1016/j.atmosres.2011.04.006

Boffetta G., LACORATA G., Vulpiani A. (2010).
Low-dimensional chaos and asymptotic time behavior in the mechanics of fluids.
CHARPENTIER E; GHYS E; LESNE A, The Scientific Legacy of Poincare (History of Mathematics) . p. 207-222,
PROVIDENCE:American Mathematical Society, ISBN: 978-0-8218-4718-3

LACORATA G., Mazzino A., Rizza U. (2008).
3D chaotic model for subgrid turbulent dispersion in large eddy simulations.
JOURNAL OF THE ATMOSPHERIC SCIENCES, vol. 65, p. 2389-2401, ISSN: 0022-4928,
doi: 10.1175/2007JAS2410.1

LACORATA G, Vulpiani A. (2007).
Fluctuation-Response Relation and modeling in systems with fast and slow dynamics.
NONLINEAR PROCESSES IN GEOPHYSICS, vol. 14, p. 681-694,
ISSN: 1023-5809, doi: 10.5194/npg-14-681-2007

Gioia G., LACORATA G., Marques Filho E.P., Mazzino A., Rizza U. (2004).
Richardson's law in large-eddy simulations of boundary-layer flows.
BOUNDARY-LAYER METEOROLOGY, vol. 113, p. 187-199, ISSN: 0006-8314,
doi: 10.1023/B:BOUN.0000039373.45669.68

LACORATA G., Aurell E., Legras B., Vulpiani A. (2004).
Evidence for a k(-5/3) spectrum from the EOLE Lagrangian balloons in the low stratosphere.
JOURNAL OF THE ATMOSPHERIC SCIENCES, vol. 61, p. 2936-2942,
ISSN: 0022-4928, doi: 10.1175/JAS-3292.1

Boffetta G., LACORATA G., Vulpiani A. (2003).
Introduction to Chaos and Diffusion.
BOFFETTA G; LACORATA G; VISCONTI G; VULPIANI A: CHAOS IN GEOPHYSICAL FLOWS.
TORINO: Otto Ed., L'Aquila, 2001

Boffetta G., LACORATA G., Redaelli G., Vulpiani A. (2001).
Detecting barriers to transport: a review of different techniques.
PHYSICA D-NONLINEAR PHENOMENA, vol. 159, p. 58-70, ISSN: 0167-2789,
doi: 10.1016/S0167-2789(01)00330-X

LACORATA G., Aurell E., Vulpiani A. (2001).
Drifter dispersion in the Adriatic Sea: Lagrangian data and chaotic model.
ANNALES GEOPHYSICAE, vol. 19, p. 121-129, ISSN: 0992-7689, doi: 10.5194/angeo-19-121-2001

Boffetta G., Celani A., Cencini M., LACORATA G., Vulpiani A. (2000).
Nonasymptotic properties of transport and mixing.
CHAOS, vol. 10, p. 50-60, ISSN: 1054-1500, doi: 10.1063/1.166475