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PLENARY LECTURES

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Plenary lecture

Presentation Volume LTER: The Italian network for long-term ecological research - The study of biodiversity and changes

Curators: **Capotondi L., Ravaioli M., Acosta A., Chiarini F., Lami A., Stanisci A., Leone Tarozzi L., Mazzocchi M.G.**

Ecology is the study of the interactions between organisms and the environment that hosts them. Because ecosystems are characterized by numerous biotic and abiotic components that interact dynamically, their investigation is complex, and requires an interdisciplinary scientific approach. Long Term Ecological Research (LTER) provides the basis scientific reference to distinguish the natural dynamics of ecological processes, which is manifested on long time intervals, from the effects of global trends such as climate change or factors local influence and disturbance. The availability of long series of ecological and biodiversity data allows, in addition, to evaluate the effectiveness of environmental protection and recovery actions, becoming a planning and verification tool in the management of resources and the territory. The LTER-Italy Network, which gathers 79 sites distributed throughout the national territory in

which they are conducted long-term ecological research, is characterized by an extreme diversity of natural environments (eco-domains in the terrestrial, marine, inland and transitional waters) and is the context of trans-ecodomain and interdisciplinary studies for a holistic approach to understanding of the environment and its dynamics. This integrated approach is connected to basic, applied and technological sciences and the availability of long time series of ecological data on the Italian territory, allows to create a bridge between researchers, citizens, users and decision makers. This volume offers an updated overview of the various activities carried out by the LTER-Italy Network of the results acquired during the first 15 years of its establishment. It is an overview that it ranges from historical and informative aspects to political and social ones, having as its fulcrum the research carried out in the countless observation sites and covering a broad spectrum of themes and approaches. This volume, the result of a great collective effort, is aimed at all those who are driven by interest in learn about the diversity and beauty of our environment, together with its many problems.

Biosketch

CNR Research Director. - Research Associate at ISMAR-CNR. Degree in Natural Sciences. Faculty of Mathematical, Physical and Natural Sciences of the University of Bologna (1976). She has been a researcher at the CNR since 1985, then Research Director at ISMAR-CNR. She is an expert in marine environmental geology, she has dealt in particular with biogeochemical processes and cycles in the marine and lake environment, sedimentation processes, pollution and the use of radioactive tracers, long-term in situ observation in the Italian and Antarctic seas. She was responsible and coordinator of numerous regional, national, and European research projects. She has been a member of Scientific Councils and Commissions including IGBP, PNRA, GOON, LTER, FISR-Vector, CROP, Women and Science, AGI. You are involved in technology transfer. From 1994-2003 she was Director of F.F. of the Institute of Marine Geology of the CNR (now Ismar-CNR). From 2003-2015 she was in charge of the Marine Geology Office in Bologna. From 2009 to 2015 she was President of the Research Area of the CNR of Bologna. She is currently a Research Associate at Ismar-CNR. She is a member of the Environment and Gender Group of the Women and Science Association. Contact person for initiatives on Gender Equity for the Metropolitan City of Bologna. You are active in the dissemination of science in schools of all levels and with stakeholders, Author and co-author of numerous publications in national and international journals

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Selected publications

- Riminucci F., Funari V., Ravaioli M., Capotondi L. (2022). Trace metals accumulation on modern sediments from Po river prodelta, North Adriatic Sea. *Marine Pollution Bulletin* 175 (2022) 113399 Volume 175, February 2022, 113399, pp 0-13.
- Grilli F., Accoroni S., F Acri, F Bernardi Aubry, C Bergami, M Cabrini, M. Ravaioli et al. - Seasonal and Interannual Trends of Oceanographic Parameters over 40 Years in the Northern Adriatic Sea in Relation to Nutrient Loadings Using the EMODnet Chemistry Data Portal. *Water* 12 (8), 2280 (2020)

- Barra E., Riminucci F., Dinelli E., Albertazzi S., Giordano P., Ravaioli M., et al.-Natural Versus Anthropic Influence on North Adriatic Coast Detected by Geochemical Analyses. *Applied Sciences* 10 (18), 6595 (2020)
- Giglio F., Romano S., Albertazzi S., Chiarini F., Ravaioli M., Ligi M., et al.- Sediment Dynamics of the Neretva Channel (Croatia Coast) Inferred by Chemical and Physical Proxies. *Applied Sciences* 10 (3), 807(2020)
- Chiarini F., Ravaioli M., Capotondi L.- Interannual variability of vertical particle fluxes in the Ross Sea (Antarctica). *NATURE CONSERVATION-BULGARIA*, (34):417-440; 10.3897/natureconservation.34.30732 MAY 3 2019.
- Capotondi L., N. Mancin, V. Cesari, E. Dinelli, M. Ravaioli, F. Riminucci (2019). Recent agglutinated foraminifera from the North Adriatic Sea: What the agglutinated tests can tell. *Marine Micropaleontology*, 147, pp. 25-42, DOI: <https://doi.org/10.1016/j.marmicro.2019.01.006>.
- Ravaioli M., Chiarini F., Tarozzi L. Considerazioni su Cambiamenti climatici e biodiversità, Esempi di Studi e riflessioni di genere. In *AMBIENTE E CLIMA. Il presente per il futuro*. a cura di Cristina Mangia, Giuliana Rubbia, Mariangela Ravaioli, Sveva Avveduto, Patrizia Colella. Convegno Donne e Scienza-Lecce. (IRPPS Monografie) CNR-IRPPS e-Publishing: <http://www.irpps.cnr.it/e-pub/ojs/>. ISBN (online) 9788898822218 DOI: 10.14600/978-88-98822-21-2020. pp.
- AMBIENTE E CLIMA. Il presente per il futuro*. a cura di Cristina Mangia, Giuliana Rubbia, Mariangela Ravaioli, Sveva Avveduto, Patrizia Colella. Convegno Donne e Scienza-Lecce. (IRPPS Monografie) CNR-IRPPS e-Publishing: <http://www.irpps.cnr.it/e-pub/ojs/>. 2020. ISBN (online) 9788898822218 DOI: 10.14600/978-88-98822-21-8.pp. 297
- La Rete Italiana per la Ricerca Ecologica di Lungo Termine. Lo studio della biodiversità e dei cambiamenti (2021) a cura di Capotondi L., Ravaioli M., Acosta A., Chiarini F., Lami A., Stanisci A., Tarozzi L., Mazzocchi M.G. CNR-Edizioni, Roma. DOI: 10.5281/zenodo.5570272. ISBN versione on-line: 978-88-8080-214-3, ISBN versione a stampa: 978-88-8080-208-2., 16 dicembre 2021.
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