

Comparative analysis of alternative solutions for the new Port of Genoa breakwater

19 March 2021 – 15:00 - 17:00

A new breakwater for the Port of Genoa is being designed. The goal of the new breakwater is to allow access to the new generation container ships (23.000 TEU; length overall 400 m; breath 61,5 m; draught 14,5 m) at the Sampierdarena terminal.

Three alternative solutions were selected for the new breakwater.

The three solutions were submitted to the “Public Debate”, as required by Italian legislation (DPCM 76/2018). The goal of the public debate is to collect comments and proposals to allow the proponent of the work, the Port System Authority of the Western Ligurian Sea, to improve the project and assess its feasibility.

The aim of the seminar is to simulate the Public Debate by involving future experienced port engineers. In this context, the three selected alternative solutions together with the hydraulic studies performed for their verification (harbor agitation, navigability, environmental studies, ecc.) will be illustrated during the seminar. The results of the studies will be compared to the current situation, which is assumed as the environmental zero option (do nothing, see Figure 1).

At the end of the seminar, students are encouraged to prepare a list of advantages and disadvantages for each solution using the material illustrated during the lesson. The list must be motivated from a technical point of view and the “best” solution should be identified.

Before the event, students are advised to access the following link where they will be able to read an overview of the problem and the description of the three alternative solutions selected. The link is in Italian but can be easily translated into any language.

<https://dpdigaforanea.it/>

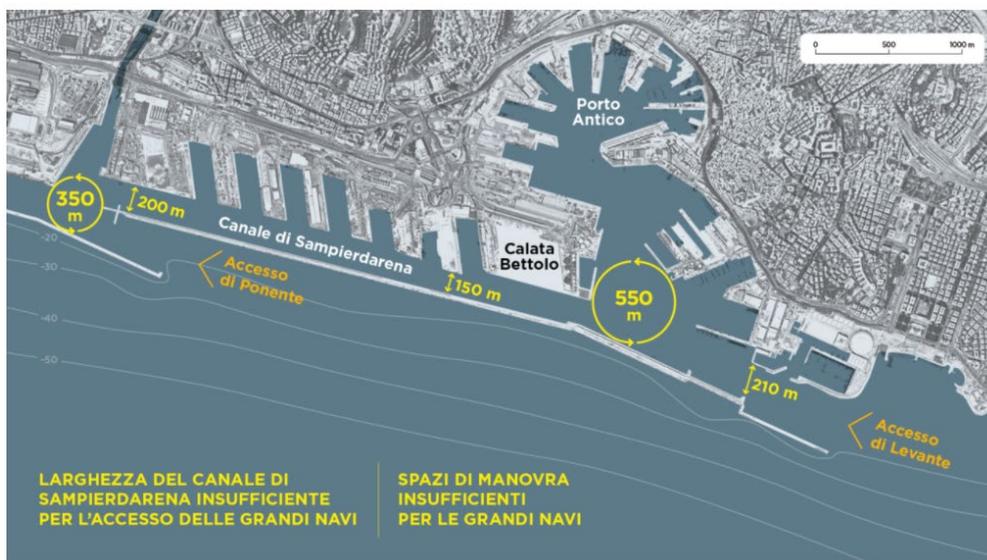


Fig. 1 - Current situation of the Port of Genoa, (available at mentioned website)

Prof. Paolo De Girolamo is a civil hydraulic engineer. In 1988 he obtained the PhD in Maritime Hydraulics at the University of Rome La Sapienza. Since 1998 he has been associate professor of Maritime Construction and Coastal Engineering. In 2012 he obtained in Italy the National Scientific Qualification (ASN) as full professor. He currently teaches at the Faculty of Engineering of the University of Rome La Sapienza where he is also the Scientific Director of the Hydraulic and Maritime Construction Laboratory. His research activity concerns the interaction between wave and structures, tsunami waves generated by landslides, coastal dynamics and modelling, coastal defence. Together with the research and teaching

activities Prof. De Girolamo also works in the engineering consultancy field taking part of several national and international marine works including the new Port of Genoa breakwater.

The online seminar is organised by TUDelft Department of Hydraulic Engineering and will be available at this [TEAMS link](#).