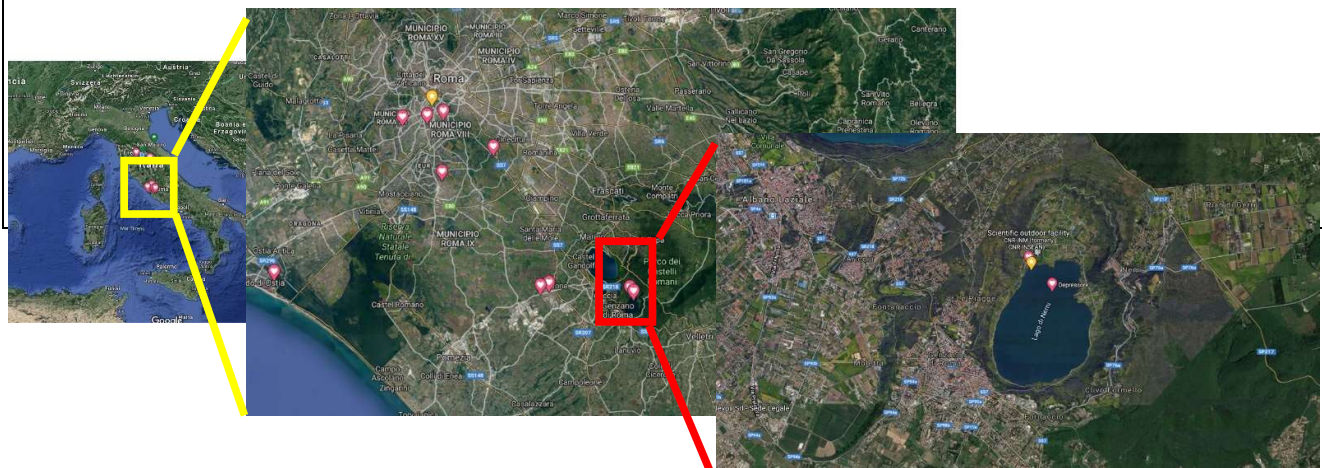
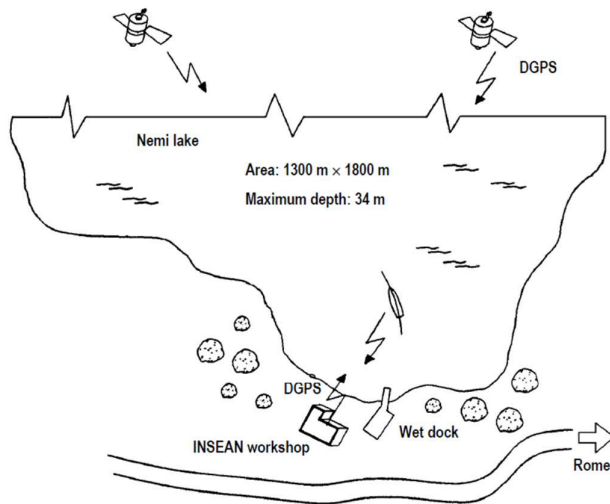


Name of organization CNR-INM National Research Council of Italy Institute of Marine Engineering		Year of information updating 2021
Year established 1927 (INSEAN) 1962 (new site in via di Vallerano) 2018 INSEAN changed to INM		Year of joining the ITTC 1933
Address Via di Vallerano 139 00128, Rome Italy		Status in the ITTC AC members
Contact details (phone, fax, e-mail) Phone +39 06 50299 222 Fax +39 06 507 0619 Email segreteria.inm@cnr.it PEC protocollo.inm@pec.cnr.it		Website http://www.inm.cnr.it/labs/maneuvering-basin/
Type of facility Outdoor Maneuvering Basin	Year constructed/upgraded 1953	
Name of facility Stazione Sperimentale di Nemi	Location (if different from the above address) Via delle Navi di Tiberio, Genzano di Roma (RM)	
Main characteristics (dimensions of tank/basin/test section; for simulators: full mission, part task or desk top) <ul style="list-style-type: none"> - Fresh water natural volcanic lake - N-S 1.8 km, E-W 1.3 km - Max depth 34m 		

Drawings of facility



Detailed characteristics (carriages, wave/current/wind generators, instrumentations, etc.)

- Large sized free-running self-propelled unmanned model tests ($L_{ppmax} = 12$ m)
- No restriction on operative speed (both on min and/or max values)
- Continuous measurements of weather conditions
- Electric servo-controlled winch for towed tests (max speed 15 m/sec)
- RT20-DGPS, RTK2-DGPS, real-time telemetry, eco-sounder, hydrophones, 3D anemometer, wave buoy, UW acoustic modems, (soon available on summer 2021) georeferenced 3D of the wetted volcanic caldera
- Background underwater noise far below Wenz's level curves at sea state zero (24/7/365)

Applications (Tests performed)

- Free running self-propelled unmanned surface model tests
 - o IMO + ANEP Maneuverability/Controllability standard tests
 - o Evaluation of the unbalanced overloads arising on the propeller axis in operative off-design conditions
 - o Evaluation of the in plane (x-y) loads arising on the propellers in operative off-design conditions
- Acoustic tests on standing submerged bodies (acoustically active/passive)
- Acoustic tests on towed bodies

Published description (Publications on this facility)

- Mauro, S., Broglia, R., Dubbioso, G., Testa, C., "Investigation of asymmetrical shaft power increase during ship maneuvers by means of model tests and CFD," 29th Symposium on Naval Hydrodynamics, 26-31 August 2012, Gothenburg, Sweden
- Mauro, S., "Asymmetrical propeller behaviour of twin screw ships during maneuvers," Proceeding of MAST 2012, September 11-13, Malmo, Sweden
- Mauro, S., "Influence of propulsion system configuration on the manoeuvring performances of a surface twin-screw ship," Proceedings of CAMS 2013, September 17-20, Osaka, Japan
- Mauro, S., "Experimental study of the asymmetrical propeller loads occurring in unmanned self-propelled free running surface model tests," Proceeding of 3rd AMT 2013, September 17-18, Gdansk, Poland
- A. Coraddu, G. Dubbioso, S. Mauro, M. Viviani, "Analysis of twin screw ships' asymmetric propeller behavior by means of free-running model tests," Ocean Engineering 28 (2013) 47-64. <http://dx.doi.org/10.1016/j.oceaneng.2013.04.013>
- A. Coraddu, G. Dubbioso, S. Mauro, M. Viviani, "Analysis of twin screw ships' asymmetric propeller behaviour by means of free-running model tests," Ocean Engineering 28 (2013) 47-64. <http://dx.doi.org/10.1016/j.oceaneng.2013.04.013>
- Dubbioso, G., Mauro, S., Ortolani, F., Martelli, M., Nataletti, M., Villa, D., Viviani, M., "Experimental and numerical investigation of asymmetrical behaviour of rudder/propeller for twin screw ships," Proceedings of MARSIM 2015, Newcastle upon Tyne, September 8-11, 2015
- Ortolani, F., Mauro, S., Dubbioso, G., "Investigation of the radial bearing force developed during actual ship operations. Part 1: Straight ahead sailing and turning maneuvers, Ocean Engineering 94 (2015), 67-87, <http://dx.doi.org/10.1016/j.oceaneng.2014.11.032>
- Ortolani, F., Mauro, S., Dubbioso, G., "Investigation of the radial bearing force developed during actual ship operations. Part 2: Unsteady maneuvers," Ocean Engineering 106 (2015) 424-445, <http://dx.doi.org/10.1016/j.oceaneng.2015.06.058>
- Buogo, S., Mauro, S., Borsani, J. F., Curcuruto, S., Biber, A., Çorakçi, Golick, A., Robinson, S., Hayman, G., Barrera-Figueroa, S., Linné, M., Sigray, P., Davidsson, P., "Underwater acoustic calibration standards for frequencies below 1 kHz: current status of EMPIR "UNAC-LOW" project," IMEKO Int. Conference on Metrology for The Sea Naples, Italy, October 11-13, 2017
- Ortolani, F., Dubbioso, G., Muscari, R., Mauro, S. and Di Mascio, A., "Experimental and numerical investigation of propeller loads in off-design conditions," J. Mar. Sci. Eng. 2018, 6, 45 – <https://doi.org/10.3390/jmse6020045>
- Ortolani, F., Dubbioso, G., Santic, I. and Mauro, S., "Experimental investigation of blade and propeller loads during straight ahead sailing," Proceedings of 19th International Conference NAV 2018, Trieste, June 21-22 2018