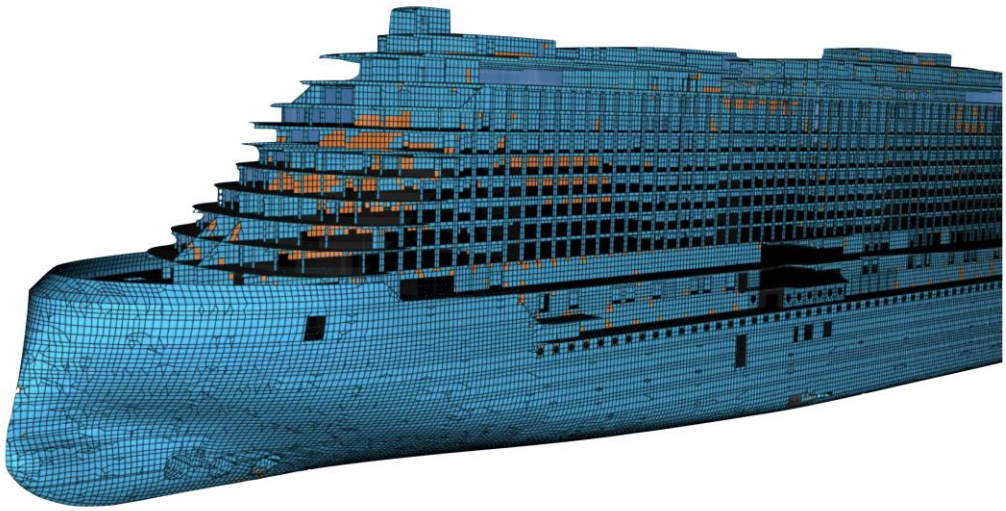
JOINT PRESS RELEASE

New approaches for ship design: ECMI rewards the work of a SISSA alumnus in collaboration with Fincantieri

Marco Tezzele's PhD thesis awarded as best thesis in industrial mathematics by the European Consortium for Mathematics in Industry



Trieste, 26 June 2023

Marco Tezzele, an alumnus of SISSA, and a current postdoctoral fellow at the Oden Institute for Computational Engineering and Sciences at The University of Texas at Austin, has been awarded the prestigious Anile-ECMI 2023 Prize for his outstanding thesis project titled "Data-driven parameter and model order reduction for industrial optimization problems with applications in naval engineering." This project was realized through a collaboration between the mathLab research group at SISSA and Fincantieri.

Tezzele's work aimed to optimize the ship design process through techniques of model and parameter space reduction. In particular, he studied various models used to solve specific problems in naval engineering, such as structural optimization of cruise ships, hull shape optimization for multipurpose vessels and NACA (National Advisory Committee for Aeronautics) airfoil profiles, and hydroacoustic noise prediction.

The jury highly appreciated his thesis work and unanimously awarded Tezzele the Anile-ECMI 2023 Prize. The prize, established in honour of Professor Angelo Marcello Anile (1948-2007) and jointly funded by ECMI and the Associazione Angelo Marcello Anile, is awarded to a young researcher for excellence in the presentation of a doctoral thesis in industrial mathematics at a European university.

"This award underlines how industrial demands can drive the academic world - by presenting stimulating challenges that lead to highly innovative results capable of advancing the state of the art in applied mathematics. I would like to thank Fincantieri and SISSA for their visionary belief in this project and for their joint efforts to bring it to a successful conclusion," commented Tezzele, who holds an MSc in Applied Mathematics from University of Milan, and a PhD in Mathematical Analysis, Modelling and Applications from SISSA.

Tezzele's research has opened new perspectives in the field of industrial optimization for naval engineering, enabling improved design processes and optimized solutions for a wide range of problems. His collaboration with the mathLab research group at SISSA and Fincantieri has demonstrated the importance of synergy between academia and industry in the field of applied mathematics. The PhD was financed by Fincantieri, confirming the company's commitment to fostering technology transfer from academia to industry. A strategy aimed at enhancing mutual expertise with concrete results and increasing the competitiveness of the shipbuilding group.

In 2021 Tezzele also received the ECCOMAS best PhD Thesis Award in the field of Computational Methods in Applied Sciences and Engineering. He is currently working on a NASA's University Leadership Initiative project at the Oden Institute.

ECMI (The European Consortium for Mathematics in Industry) is a consortium of academic institutions and industrial companies working in collaboration to promote and support the use of mathematical modelling, simulation and optimisation in all areas of social and economic relevance.

IMAGE
Structural elements comprising a passenger ship.
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