

Wednesday, 23. Oct. 2024

- 12:00 **Registration**
12:30 **Lunch**
13:45 **Opening and Welcome**
Bettar Ould el Moctar
University of Duisburg-Essen
- 14:00 **Computational Fluid Dynamics Analysis of Inland Waterway Ship Maneuvering in Extremely Shallow Water**
Philipp Mucha
Siemens Digital Industries Software
- 14:25 **Full scale prediction of ship induced waves in restricted waters with numerical tools – a comparative study**
Georg Göbel¹, Lahbib Zentari¹, Cristian Brutto², Jacek A. Jankowski¹
¹Bundesanstalt für Wasserbau, ²University of Trento
- 14:50 **Development of a CFD-based Collision Avoidance Model for Maritime Autonomous Surface Ships in Restricted Waters**
Muhammed Talha Özdenoğlu, Yao Zhang, Stephen Tumock, Tahsin Tezdogan
University of Southampton
- 15:15 **Ship hydrodynamics in steady circular motion in shallow waters - Experience from the SHINING workshop**
Guillermo Chillce¹, Lahbib Zentari², Bettar Ould el Moctar¹
¹University of Duisburg-Essen, ²Bundesanstalt für Wasserbau
- 15:40 **Coffee Break**
16:00 **Development and validation of underwater radiated noise analysis method using computational fluid dynamics simulations**
Genis Masioan Vallés^{1,2}, Juha Tanttari¹, Ville Vuorinen²
¹Elomatic Oy, ²Aalto University
- 16:25 **CFD Analysis of Air Lubrication Effects on Ship Propulsive Performance**
Arne Heuvelman, Sasha Zverkhovskiy, Scott Terry
Damen Shipyards Group
- 16:50 **CFD Modeling Approaches for Simulating Air Lubricating System in Ships: Preliminary Findings**
Roya Shademani¹, Tommi Mikkola¹, Teemu Manderbacka¹, Sasan Tavakoli², Heikki Remes¹
¹Aalto University, ²University of Melbourne
- 17:15 **Detecting Numerical Instabilities in Propeller Cavitation Erosion Modelling Using Unsupervised Learning**
Ian Hubbard, Themistoklis Melissaris
Wärtsilä Netherlands B.V.
- 17:40 **Landrini Award**
18:00 **Dinner**

Thursday, 24. Oct. 2024

- 8:10 **Hydrodynamic performance enhancement of Newcastlemax bulk carriers via parametric modelling and Computational Fluid Dynamics (CFD)**
Carlos Eduardo Simões de Almeida¹, Claudio Mueller Prado Sampaio¹, Mariana Lopes Pinto², Philip Pritzelwitz²
¹University of São Paulo; ²Vale Institute of Technology, Brazil
- 8:35 **Multiphase Computational Fluid Dynamics Based Optimization of Hydrofoil Envelope Performance**
Aaron Harrison Godfrey, Miles Wheeler
Siemens Industry Software

- 9:00 **A CFD-Based Analysis of Bow Modification Influence on Ship Resistance and Energy Efficiency**
Ines Ivković¹, Matija Vasilev², Milan Kalajdžić²
¹University of Belgrade, ²Ocean Pro Marine Engineers LTD
- 9:25 **Hull Optimizaion of a Catamaran in both Deep and Shallow Water**
Yanxin Feng, Bettar Ould el Moctar
University of Duisburg-Essen
- 9:50 **Coffee Break**
10:10 **Gap effect of a Rim Driven thruster in convergent and divergent duct configuration**
Marco Lugaresi, Diego Villa, Stefano Gaggero
University of Genoa
- 10:35 **Numerical study on tip-leakage flow for a stationary hydrofoil**
Kenshiro Takahashi
University of Tasmania
- 11:00 **Propeller Prediction in Behind Condition using a RANS-Based Artificial Body Force Method**
Daniel Akinmulewo, Simon Froitzheim
Schiffbau-Versuchsanstalt Potsdam
- 11:25 **Simulation workflow for flexible marine propellers**
Laurens-Jan Legendijk¹, Arjan Lampe², Jaap Windt², Stefan Hickel¹, Tom van Terwisga^{1,2}
¹TU Delft, ²MARIN
- 11:50 **Investigating the Impact of Geometric Variations on the Performance of a Ducted Propeller**
Negin Don'yavizadeh, Arash Eslamdoost, Rickard Benschow
Chalmers University of Technology
- 12:15 **Lunch**
13:15 **Ship Hydrodynamic Simulations Using an Upgraded Direct Forcing Immersed Boundary Method**
Ahmet Soydan, Widar W. Wang, Hans Bihs
Norwegian University of Science and Technology
- 13:40 **Assessment of hydrodynamic characteristics and computational resources for submarine resistance analysis: A comparative study between CFD Codes with application of the BB2 Submarine**
Noh Zainal Abidin^{1,2,3}, Frederic Grondin², Pol Muller Muller³, Jean-François Sigrist⁴
¹National Defence University of Malaysia, ²Ecole Centrale de Nantes, ³Sirehna, ⁴eye-p
- 14:05 **Calibration of RANS Wall Model for Accuracy Improvement of Submarine CFD Resistance Prediction**
Charles Badoe, Merrick Stanley, Peter Bull, Richard Pattenden
QinetiQ
- 14:30 **Quantifying the effect of turbulence intensity on turbulence-interaction noise of an airfoil using scale-resolving simulations**
Gert J. Dekkers^{1,2}, Artur K. Lidtke², Thomas P. Lloyd², Fernanda L. dos Santos², Gabriel D. Weymouth¹
¹TU Delft, ²MARIN
- 14:55 **Coffee Break**
15:25 **A VOF-PLIC Algorithm for Modeling the Impact of Breaking Waves on Structures in the CFD Solver REEF3D::CFD**
Fabian Knoblauch, Widar Weizhi Wang, Hans Bihs
Norwegian University of Science and Technology
- 15:50 **Comparison of different approaches to couple the higher-order spectral (HOS) method with computational fluid dynamics solvers**
Eric Heilshorn¹, Kevin J. Maki¹, Robinson Perić², Jannes Berndt², Moustafa Abdel-Maksoud²
¹University of Michigan, ²Hamburg University of Technology

- 16:15 **Water wave simulations using fully nonlinear potential flow: spectral/hp element models implemented in nektar++**
Claes Eskilsson
Research Institutes of Sweden
- 16:40 **Effects of Density Ratio on Slashing-Induced Impact Pressures**
Andreas Peters, Bettar Ould el Moctar, Robert Potthoff
University of Duisburg-Essen
- 17:05 **MESHFREE Simulations for Maritime Applications**
Chaitanya Sanghavi, Isabel Michel, Fabian Castelli, Jörg Kuhnert
Fraunhofer ITWM, Kaiserslautern
- 17:30 **Announcement of NuTTS 2025**
18:00 **Dinner**

Friday, 25. Oct. 2024

- 8:35 **Effects of Oxygen Molecules on nucleation and growing of nanobubbles**
Mazyar Dawoodian, Bettar Ould el Moctar
University of Duisburg-Essen
- 9:00 **Simulation practice and scale effects for sail-driven cargo ships in sideslip**
Jeroen Wackers¹, Gaétan Rousseau^{1,2}, Ganbo Deng¹
¹LHEEA Lab – Centrale Nantes, ²IUT de Nantes
- 9:25 **Evaluation of the Performance of Model-Based Identification Method of Ship Manoeuvring Parameters using Convex Programming**
Ricardo Francisco Suarez Fernandez¹, Moustafa Abdel-Maksoud², Carlos Jahn¹
¹Fraunhofer Center for Maritime Logistics and Services CML, ²Hamburg University of Technology
- 9:50 **Development of an azimuth propeller duct for shallow water applications**
Benjamin Kossmann, Bettar Ould el Moctar
University of Duisburg-Essen
- 10:15 **Hydrodynamic Characteristics of a Gate Rudder During Straight-sailing and Sailing with a Ship Drift Angle**
Wout Opdam¹, Maarten Bijlard¹, Bart van Esch², Themis Melissaris¹
¹Wärtsilä Netherlands B.V., ²Eindhoven University of Technology
- 10:40 **Coffee Break**
11:10 **Extreme-event analysis of a floating structure with mooring dynamics in an irregular sea state**
Qi Zhang, Bettar Ould el Moctar, Changqing Jiang
University of Duisburg-Essen
- 11:35 **Modelling turbine-turbine interactions using techniques learned from Naval Engineering**
João Muralha, Tiago Gomes, António Maximiano, Guilherme Vaz
blueOASIS
- 12:00 **Hydroelasticity Effects during Helicopter Ditching**
Eduardo Tadashi Katsuno, Simon Tödter, Jörn Linde, Andreas Peters, Bettar Ould el Moctar
University of Duisburg-Essen
- 12:25 **Closing Remarks**
12:30 **Lunch**