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in memoriam akademiku
Zlatku Winkleru
16. – 17. studenog 2023.
na Tehničkom fakultetu Sveučilišta u Rijeci

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Conference Proceedings of the 10th INTERNATIONAL CONFERENCE ON
MARINE TECHNOLOGY in memoriam of the academician Zlatko Winkler

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Uvodna riječ Glavnog urednika / Foreword Chief Editor

Poštovani Čitatelji,

nakon pandemijskog okruženja održavanja svih međunarodnih i domaćih konferencija u 2021. godini pa tako i prošlog IX. Međunarodnog Savjetovanja o morskoj tehnologiji, u desetom izdanju prošle 2023. godine vratili smo se u normalno održavanje Savjetovanja, u živo. Rezultat je specijalni broj Pomorskog zbornika kojeg držite u ruci, a ponovo je plod suradnje Udruge za proučavanje i razvoj pomorstva i Organizacijskog odbora Međunarodnog Savjetovanja o morskoj tehnologiji – in memoriam akademiku Zlatku Winkleru, tj. Tehničkog fakulteta Sveučilišta u Rijeci kao glavnog organizatora Savjetovanja. Radovi prikazani u ovom broju su probrani i recenzirani radovi koji su bili prezentirani na X. Međunarodnom Savjetovanju o Morskoj tehnologiji, a koje je održano 16.-17. studenog 2023. godine, kao i dosadašnja, na Tehničkom fakultetu Sveučilišta u Rijeci.

I ove je godine uz organizatora, Tehnički fakultet Sveučilišta u Rijeci i stalnih suorganizatora, Pomorski fakultet Sveučilišta u Rijeci i Udruge za proučavanje i razvoj pomorstva, u organizaciji ponovo sudjelovala i međunarodna institucija Fakultet za pomorstvo i promet Sveučilišta u Ljubljani. Uz međunarodni znanstveni odbor i nešto manji odaziv stranih autora, savjetovanje je ipak zadržalo međunarodni karakter. Pokrovitelj je već tradicionalno bila Hrvatska akademija znanosti i umjetnosti – Razred za tehničke znanosti.

Dear Readers,

after the pandemic environment that capture the most of all international and national conferences in 2021 as well as IX. International Conference on marine Technology – in memoriam academician Zlatko Winkler, tenth edition finally brings normal surroundings, in live. The result is this special issue of the Journal of Maritime & Transportation Sciences held in your hand. Once again it is result of a collaboration between the Association for Research and Development of Maritime Industries and the Organizing Committee of the International Conference on Marine Technology - in memoriam academician Zlatko Winkler, i.e. the Faculty of Engineering, University of Rijeka. Papers presented in this issue are selected and reviewed papers presented at 10th International Conference on Marine Technology which was held on 16-17. November 2023 at the Faculty of Engineering in Rijeka, Croatia.

This year, in addition to the organizer, the Faculty of Engineering of the University of Rijeka and co-organizers, the Faculty of Maritime Studies of the University of Rijeka and the Association for Research and Development of Maritime Industries, the international high education institution Faculty of Maritime Studies and Transport of the University of Ljubljana participated in the organization again. With an international scientific committee and a bit lower interest of foreign authors, the conference still retained international character. The

Organizacijski odbor Savjetovanja bio je u sastavu, profesori Albert Zamarin, predsjednik, Tomislav Mrakovčić, dopredsjednik, Marko Hadjina, tajnik, Julijan Dobrinić, Zoran Vukić, Jakov Dulčić, Elen Twrdy (Fakultet za pomorstvo i promet Sveučilište u Ljubljani), Špiro Ivošević (Pomorski fakultet Kotor, Crna Gora), Merica Slišković, Tin Matulja, Lidija Runko Luttenberger, Siniša Vilke, Goran Vukelić i Marko Perčić.

Od prijavljenih 25 sažetka pristigao je 21 kompletni rad, od čega 5 u poster sekciji, sa 72 autora i koautora. Dodatno su održana i tri plenarna predavanja i to iz vrlo atraktivnih područja i od aktualnih firmi na svjetskom tržištu: LEAN SHIP DESIGN: CUSTOMER FOCUS, OPTIMIZED EFFICIENCY AND MAXIMIZED VALUE, Lürsen Design Center Kvarner & Maritime center of Excellence, PROJEKT KATAMARANA ZA JU REZERVAT LOKRUM, Navis Consult, KONGSBERG Hrvatska, te prikaz znanstvenog istraživanja sa Fakulteta prirodnih znanosti Sveučiliste Juraj Dobrila Pula, pod naslovom UTJECAJ INVAZIVNIH REBRAŠA U SJEVERNOM JADRANU I MOGUĆE MJERE NJIHOVOG SUZBIJANJA.

Podnesena su 24 priopćenja kroz 6 sekcija, iz područja tehničkih znanosti iz različitih polja i grana, i to: Zaštita okoliša i Pomorska Biologija (4), Mali plovni objekti, Plovila za sport i razonodu (5), Konstrukcija i projektiranje u brodogradnji, Inteligentni podmorski sustavi i tehnologije, Obnovljivi izvori energije (3), Pomorski transport, Ekonomija, Legislativa (5), Primjena kompjuterskih aplikacija u projektiranju, proiz-

patron is traditionally the Croatian Academy of Sciences and Arts - The Department of Technical Sciences.

The Organizing Committee of the Conference was composed of professors: Albert Zamarin, president, Tomislav Mrakovčić, Vice-President, Marko Hadjina, secretary, Julijan Dobrinić, Zoran Vukic, Jakov Dulčić, Tin Matulja, Lidja Runko Luttenberger, Siniša Vilke, Goran Vukelic, Elen Twrdy (Faculty of Maritime Studies and Transport, University of Ljubljana), Špiro Ivošević (Maritime Faculty Kotor, Montenegro), Merica Slišković, and Marko Perčić.

Out of the 25 abstracts submitted, 21 complete papers were submitted, 5 in poster session, with 72 authors and co-authors. Three very actual plenary lectures from recognised global company were held in the field of: LEAN SHIP DESIGN: CUSTOMER FOCUS, OPTIMIZED EFFICIENCY AND MAXIMIZED VALUE, Lürsen Design Center Kvarner & Maritime center of Excellence, Croatia, DESIGN OF CATAMARAN FOR NATIONAL RESERVAT LOKRUM, Navis Consult, KONGSBERG Croatia, and review of research activities done by Faculty of Natural Sciences University 'Juraj Dobrila' Pula, under the title INFLUENCE OF INVASIVE SPECIES IN THE NORTH ADRIATIC AND POSSIBLE MEASURES OF THEIR CONTROL.

24 communications were submitted through the work of 6 sessions, in different field of technical sciences: Marine Environmental Protection, Marine Biology (5), Small and Pleasure Craft (5), Construction and Design in Shipbuilding, Intelligent Underwater Systems and Tech-

vodnji i održavanju postrojenja morske tehnologije (4), Tehnologija brodogradnje i Brodogradilišta (3).

Plenarna predavanja, priopćenja i diskusija su održani na engleskom jeziku, dok je ceremonija otvaranja održana paralelno na hrvatskom i engleskom jeziku. Savjetovanju je, tijekom dva dana prisustvovalo oko stotinjak sudionika, autora, koautora, organizatora, suorganizatora, sponzora, profesora, studenata, gostiju. Recenzirani sažetci priopćenih radova se nalaze na mrežnim stranicama Savjetovanja te su dodatno objavljeni u obliku knjige sažetaka. Kompletni radovi se, nakon drugog kruga recenzije, evo nalaze u Vašim rukama kroz ovaj specijalni broj Pomorskog zbornika.

Dodatno, neposredno prije samog održavanja Savjetovanja obilježena je u Mošćeničkoj Dragi 125. godišnjica rođenja Prof. Adama Armande. Njegov izuzetan doprinos u stručnom i akademskom razvoju brodogradnje u Hrvatskoj je prikazan kroz knjižicu 'Prof. ADAM ARMANDA TOTINA dipl. ing. brodogradnje 1898.-1958. povodom 125. obljetnice rođenja' u izdanju Katedre čakavskog sabora općine Mošćenička Draga. Stoga se uredniku učinilo prikladnim prikazati skraćenu verziju koja se odnosi na njegov stručni i akademski rad, a kroz prilog na samom početku ovog izdanja Pomorskog zbornika.

Srdačan pozdrav

Glavni urednik
Prof. dr. sc. Albert Zamarin

nologies, Renewable Energy Sources (3), Maritime Transport, Economy, Legislative (5), Computer applications in the design, manufacture and operation of marine technology facilities (4), and Shipbuilding Technology and Shipyards (3). Plenary lectures, announcements and discussions were held in English, while the opening ceremony was held in parallel in Croatian and English. The conference was attended of around 100 participants, authors, co-authors, organizers, co-organizers, sponsors, professors, students, and guests. The list of reviewed abstracts of the submitted papers are available on the Conference web pages and is published in Book of Abstracts ISBN 978-953-8246-02-09 while complete papers, after the second stage of the review process are in your hands.

In addition, just few days before the Conference, the 125th anniversary of the birth of Prof. Adam Armanda was celebrated in Mošćenička Draga. His exceptional contribution to the professional and academic development of shipbuilding in Croatia is shown in the booklet 'Prof. ADAM ARMANDA TOTIN, dipl. ing. NA 1898-1958.-125th anniversary of his birth', published by the 'Katedra Čakavskog sabora' of the municipality of Mošćenička Draga. Therefore, the editor thought it would be appropriate to present an abbreviated version that refers to his professional and academic work through the appendix at the beginning of this Special edition.

Kind regards

Editor-in-chief
Prof. dr. sc. Albert Zamarin

