14th Baška GNSS Conference: Technologies, Techniques and Applications Across PNT
and
The 1st Workshop on Smart Blue and Green Maritime Technologies

10 - 12 May 2021
Baška, the Island of Krk, Croatia

CONFERENCE AND WORKSHOP PROGRAMME

9 May 2021 (Sunday)		
20:00 - 22:00	Conference welcome gathering / Ice-breaking dinner	Corinthia Hotel

10 May 2021 (Monday)		
08:30 - 09:00	**Registration**	Conference Hall Corinthia Hotel ~ *Online*
09:00 - 10:00	***Welcome speeches*** Mr. Petar Mamula, Deputy Prefect Primorje-Gorski Kotar County, Croatia Mr. Toni Juranić Mayor of Baška, Baška, Croatia Prof. Snježana Prijić Samaržija, PhD, Rector University of Rijeka, Croatia Prof. Alen Jugović, PhD, Dean University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia Prof. Duško Pavletić, PhD, Dean University of Rijeka, Faculty of Engineering, Rijeka, Croatia Prof. Tomislav Josip Mlinarić, PhD, Dean University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, Croatia ***Opening*** Mr. John R. Pottle, BSc MBA, FRIN, FIET, Director The Royal Institute of Navigation, London, UK	Conference Hall Corinthia Hotel ~ *Online*

	Plenary session I: Technologies, Techniques and Applications across PNT Assist. prof. Franc Dimc, PhD University of Ljubljana, Faculty of Maritime Studies and Transport, Portorož, Slovenia Prof. Hrvoje Gold, PhD University of Zagreb, Faculty of Transportation and Traffic Sciences, Zagreb, Croatia	
10:00 - 10:40	Emeritus Professor Terry Moore, PhD, FRIN University of Nottingham, Nottingham Geospatial Institute, Faculty of Engineering, Nottingham, UK *Keynote lecture* GNSS Developments – Positioning and Navigation for UAVs	*Online*
10:40 - 11:20	Prof. Serđo Kos, PhD, FRIN University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia *Keynote lecture* Scientific project *uniri-tehnic 18 – 66*: Research of environmental impact on the operation of satellite navigation systems in maritime navigation	Conference Hall Corinthia Hotel ~ *Online*
11:20 - 12:00	John R. Pottle, BSc, MBA, FIET, FRIN The Royal Institute of Navigation, London, UK *Keynote lecture* Resilient Positioning, Navigation & Timing – Systems-of-Systems Thinking: Key learnings and insights from the recent four-part Resilient PNT training delivered by the Royal Institute of Navigation	*Online*

12:00 - 12:25	Virtual gathering with plenary session speakers (Q&A)	*Online*

12:25 - 12:45	Virtual coffee break with… Prof. Slobodan Danko Bosanac, PhD Adriatic Aerospace Association & Ruđer Bošković Institute Zagreb, Croatia *Lecture* Physics of navigation	*Online*

12:45 - 13:30	Virtual meeting of the International Programme and Organising Committee (*closed session*)	*Online*

13:30 - 15:00	Lunch time	-

	GNSS session I: Inside GNSS	
	Chairs:	
	Prof. Serđo Kos, PhD, FRIN	
	University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia	
	Assist. prof. Josip Vuković, PhD	
	University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia	

15:30 - 15:50	Marin Uroda[1,*], David Brčić[1], Serđo Kos[1] [1]University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia *Presentation* Partial comparative analysis of GPS, GLONASS, Beidou and Galileo positioning performance in the broader Adriatic Region	*Online*
15:50 - 16:10	Syamala Sravya Adavi[1,*], Nisha M.S.[1] [1]Hindustan Institute of Technology, Chennai, India *Presentation* GNSS positioning: Comparison of different positioning modes using the open-source software	*Online*
16:10 - 16:30	Damien Rivoal[1], Quentin Bossard[2], David Bétaille[2,*] [1]ENAC, Toulouse, France; [2]Ifsttar, Nantes, France *Presentation* A benchmark of the GPS+GALILEO F9P receiver	*Online*
16:30 - 16:50	Beldjilali Bilal[1,*], Kahlouche Salem[1] [1]Algerian space agency, Oran, Algeria *Presentation* Assessment of EGNOS correction messages for civil aviation in Algeria without RIMS station	*Online*
16:50 - 17:10	Alan Wood[1,*], Gareth Dorrian[1], Elizabeth Donegan-Lawley[1] Golnaz Shahtahmassebi[2] [1]University of Birmingham, Birmingham, United Kingdom [2]Nottingham Trent University, Nottingham, United Kingdom *Presentation* Modelling plasma structures in the high-latitude ionosphere	*Online*
17:10 - 17:30	Andrej Androjna[1,*], Marko Perkovič[1], Ivica Pavić[2] [1]University of Ljubljana, Faculty of Maritime Studies and Transport, Portorož, Slovenia [2]University of Split, Faculty of Maritime Studies, Split, Croatia *Presentation* Cyber Security challenges for safe navigation at sea	*Online*

17:30	GNSS session I: Q&A	*Online*

19:00	Regular dinner	Restaurant Corinthia Hotel

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* Presenting author (the same applies throughout the document)

11 May 2021 (Tuesday)		
08:30 - 09:00	**Registration**	Conference Hall Corinthia Hotel ~ *Online*
09:00 - 09:10	***Workshop opening and Plenary session II*** Prof. Jasna Prpić-Oršić, PhD Chair of Smart, Blue and Green Maritime Technology Workshop University of Rijeka, Faculty of Engineering, Rijeka, Croatia	Conference Hall Corinthia Hotel ~ *Online*

Plenary session II: Smart and Blue Maritime Research Initiatives		
Chairs: Prof. Jasna Prpić-Oršić, PhD University of Rijeka, Faculty of Engineering, Rijeka, Croatia Assoc. prof. Marko Valčić, PhD University of Zadar, Maritime Department, Zadar, Croatia		

09:10 - 09:45	Prof. Kenji Sasa, PhD University of Kobe, Graduate School of Maritime Sciences Kobe, Japan *Keynote lecture* Development of Optimal Ship Routing and Evaluation of Manoeuvring Difficulty with Onboard Measuring	*Online*
09:45 - 10:20	Prof. Joško Parunov, PhD University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia *Keynote lecture* CSF Research Project "Modelling Uncertainty of Ship Response Prediction in the Adriatic Sea" (MODUS)	*Online*
10:20 - 10:55	Assoc. prof. Josip Orović, PhD University of Zadar, Maritime Department, Zadar, Croatia *Keynote lecture* Italy-Croatia Interreg project "savinG fUel and emissions from mariTime Transport in the Adriatic region" (GUTTA)	*Online*

11:00 - 11:30	Virtual gathering with keynote speakers (Q&A) / Virtual coffee break	*Online*

Workshop session I: Greener and Safer Maritime Transportation

Chairs:

Assoc. prof. Josip Orović, PhD
University of Zadar, Maritime Department, Zadar, Croatia

Assist. prof. Srđan Žuškin, PhD
University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia

11:30 - 11:50	Maro Car[1,*], Miho Kristić[1], Nermin Hasanspahić[1], Srđan Vujičić[1] [1]University of Dubrovnik, Maritime Department, Dubrovnik, Croatia *Presentation* Ecological sustainability of maritime transport with an emphasis on the surface current routing as a part of the voyage planning optimisation in the shipping	*Online*
11:50 - 12:10	Maja Perčić[1,*], Nikola Vladimir[1], Ivana Jovanović[1], Marija Koričan[1] [1]University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia *Presentation* Holistic environmental analysis of selected zero-emission powering options for ro-ro passenger ships in Croatia	*Online*
12:10 - 12:30	Dejan Žagar[1,*] [1]University of Ljubljana, Faculty of Maritime Studies and Transport, Portorož, Slovenia *Presentation* Insight on the Officer's workload measurement in the full mission simulator during collision avoidance	*Online*
12:30 - 12:50	Luca Braidotti[1,2,*], Jasna Prpić-Oršić[2], Marko Valčić[3], Francesco Mauro[4] Vittorio Bucci[1] [1]University of Trieste, Trieste, Italy; [2]University of Rijeka, Faculty of Engineering, Rijeka, Croatia; [3]University of Zadar, Maritime Department, Zadar, Croatia; [4]University of Strathclyde, Glasgow, UK *Presentation* The Ship Safety from Seafarers Perspective: Application of Fuzzy AHP for Decision Support	*Online*
12:50 - 13:10	Marija Koričan[1,*], Nikola Vladimir[1], Loukia Prentza[2] Eirini-Asimina Stamatopoulou[2], Nikolaos P. Ventikos[2] [1]University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia; [2]National Technical University of Athens, Athens, Greece *Presentation* Application of multiparameter probes for marine pollution monitoring – Interreg ADRION project SEAVIEWS	*Online*
13:10 - 13:30	Vladimir Pelić[1,*], Tomislav Mrakovčić[2], Radoslav Radonja[1] Vedran Medica-Viola[2] [1]University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia [2]University of Rijeka, Faculty of Engineering, Rijeka, Croatia *Presentation* Technical and ecological aspects of water-lubricated stern tube bearings	*Online*

13:30	Workshop session I: Q&A	*Online*

14:00	Lunch time	-

GNSS session II: GNSS Applications, Performance and Beyond

Chairs:

Prof. Tomislav Kos, PhD

University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia

Assist. prof. David Brčić, PhD

University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia

Time	Presentation	Mode
15:30 - 15:50	Tomislav Erdelić[1,*], Nikola Mardešić[1], Tonči Carić[1], Martina Erdelić[1] [1]University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, Croatia *Presentation* Estimating energy consumption of electric vehicles based on the GNSS data	*Online*
15:50 - 16:10	Danijel Šugar[1,*], Željko Bačić[1], Zvonimir Nevistić[1] [1]University of Zagreb, Faculty of Geodesy, Zagreb, Croatia *Presentation* Assessment of Galileo satellite system contribution in the modernization of CROPOS	*Online*
16:10 - 16:30	Željko Marušić[1,*], Maurizio Ivetić[1], Josip Šerić[1] [1]University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, Croatia *Presentation* GNSS in the function of improving the safety, efficiency and environmental friendliness of Croatian motorways	*Online*
16:30 - 16:50	Josip Vuković[1,*], Tomislav Kos[1] [1]University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia *Presentation* Overview of PNT Alternatives for GNSS	*Online*
16:50 - 17:10	Ivan Panić[1,*], Jasmin Ćelić[1], Miroslav Bistrović[1], Antonio Škrobonja[1] [1]University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia *Presentation* Drone as a part of maritime Search and Rescue operations	*Online*
17:10 - 17:30	Tuna Erol[1,*] [1]Balikesir University, Balikesir, Turkey *Presentation* Testing of PPP Performance in Different Satellite Systems and Data Ranges in MGEX Stations with CSRS PPP Web-Based Service	*Online*

17:30	GNSS session II: Q&A	*Online*

20:00	Conference Dinner	Restaurant Corinthia Hotel

	12 May 2021 (Wednesday)	
09:00 - 09:30	**Registration**	Conference Hall Corinthia Hotel ~ *Online*

Specialized session: Towards digital navigation
Chairs:
Mr. John R. Pottle, BSc MBA, FIET, FRIN, Director The Royal Institute of Navigation, London, UK
Assist. prof. Mate Barić, PhD University of Zadar, Maritime Department, Zadar, Croatia

09:30 - 10:05	Mark Casey Head of Research, Design & Innovation UK Hydrographic Office (UKHO), UK *Keynote lecture* AV and the Challenges of Using Traditional Navigation Products and Services	*Online*
10:05 - 10:40	George Shaw General Lighthouse Authority, UK *Keynote lecture* Complex Sea Spaces, Shipping Congestion in Restricted Waters and the Need for e-Navigation Services in Mitigation of Maritime Navigational Risk	*Online*

10:40 - 11:00	Virtual gathering with keynote speakers (Q&A)	*Online*

11:00 - 11:25	Virtual coffee break with… Renato Skejić, PhD Senior Research Scientist SINTEF Ocean AS, Trondheim, Norway *Lecture* Hydrodynamic behaviour of arbitrary bodies in different environmental conditions – Theoretical aspects	*Online*

	Workshop session II: Hydrodynamic aspects of maritime transportation Chairs: Assist. prof. David Brčić, PhD University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia Assoc. prof. Marko Valčić, PhD University of Zadar, Maritime Department, Zadar, Croatia	

11:30 - 11:50	Mate Barić[1,*], Đani Mohović[2], Robert Mohović[2], Renato Ivče[2] [1]University of Zadar, Maritime Department, Zadar, Croatia [2]University of Rijeka, Faculty of Maritime Studies, Rijeka, Croatia *Presentation* Application of navigational simulator in port planning to determine vessel movement in worst case scenario emergency berth leaving	*Online*
11:50 - 12:10	Marko Katalinić[1,*] [1]University of Split, Faculty of Maritime Studies, Split, Croatia *Presentation* Full scale measurements of ship motion in rough seas in the Adriatic Sea	*Online*
12:10 - 12:30	Tamara Petranović[1,*] [1]University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture Zagreb, Croatia *Presentation* Method for prediction of extreme wave loads based on ship operability analysis using hindcast wave database	*Online*
12:30 - 12:50	Antonino Dell'Acqua[1], Luca Braidotti[2,3], Francesco Mauro[4,*] Jasna Prpić-Oršić[3] [1]Maritime Research Institute of the Netherlands, Wageningen, Netherlands; [2]University of Trieste, Trieste, Italy; [3]University of Rijeka, Faculty of Engineering, Rijeka, Croatia; [4]University of Strathclyde, Glasgow, UK *Presentation* Two solutions for vertical motions assessment during concept design	*Online*
12:50 - 13:10	Ivana Martić[1,*], Nastia Degiuli[1], Andrea Farkas[1] [1]University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture Zagreb, Croatia *Presentation* Evaluation of the ship added resistance in waves using artificial neural network	*Online*
13:10 - 13:30	Denis Selimović[1,*], Jasna Prpić-Oršić[1], Jonatan Lerga[1] [1]University of Rijeka, Faculty of Engineering, Rijeka, Croatia *Presentation* Improved Resolution of Time-Frequency Distributions in Decision Support Systems for Green and Safe Ship Routing	*Online*

13:30	Workshop session II: Q&A	*Online*

14:00 - 15:30	Lunch time	-

16:00 - 17:00	Clare Stead The Royal Institute of Navigation, London, UK ***Conference and Workshop Summary*** _____ ***CLOSING CEREMONY*** Chairs: Mr. John R. Pottle, FRIN Prof. Serđo Kos, FRIN Prof. Hrvoje Gold Prof. Jasna Prpić-Oršić Assoc. prof. Marko Valčić Assist. prof. David Brčić _____ ***Invitation for the Call for Papers*** Conference proceedings: Proceedings of the 14th Baška GNSS Conference and the 1st SBGMT Workshop Journals (conference and workshop partners): Journal of Marine Science and Engineering Promet - Traffic & Transportation Pomorstvo - Scientific Journal of Maritime Research 	Conference Hall Corinthia Hotel ~ *Online*