Symposium Programme

Faculty of Navigation
Gdynia Maritime University

and

The Nautical Institute
celebrating 40 years

have the honour to invite
to

9th INTERNATIONAL SYMPOSIUM
ON
MARINE NAVIGATION
AND SAFETY OF
SEA TRANSPORTATION

TransNav 2011

Gdynia 2011
Program of the Symposium

Symposium Office:

Department of Navigation
Faculty of Navigation
Gdynia Maritime University
Al. Jana Pawła II 3
81-345 Gdynia
Poland

phone: + 48 58 6901136, +48 58 6616955
fax: + 48 58 6616955
e-mail: transnav@am.gdynia.pl
web site: http://transnav.am.gdynia.pl
Ladies and Gentlemen,

It is an honour for me to take the Honorary Patronage of the 9th International Symposium TransNav 2011 on Marine Navigation and Safety of Sea Transportation. Nautical science is crucial for maritime safety. It is also very important for me personally, in view of my present professional position, to support all the measures and activities which may increase the safety of seafarers and whole shipping on the world’s oceans. Just recently I had the pleasure to participate in the European Maritime Day 2011 organized in Gdańsk, where safety of navigation was among issues of utmost concern to the participating representatives of Administrations as well as shipping and academic communities.

As I am responsible for the entire maritime economy sector in Poland, maritime safety is among the issues particularly close to my heart, especially that I am not only an Undersecretary of State but also a Master Mariner.

The Maritime Administration in Poland, under my direct guidance, is deeply involved in the process of improving the safety conditions at sea. This process is carried out on three levels.

On the national – nonconventional level, the Administration is working continuously towards improving the safety of fishing boats, domestic passenger ships and pleasure crafts. This is being done with due attention to the needs and safety of those who enjoy spending their leisure time at sea.

On the European level, we are fully involved into executing robust European maritime safety legal provisions and we follow closely the development of the new European maritime safety law, having our services widely engaged in the process of its implementation.

On the global level, we are an active member of the International Maritime Organization, being engaged in the work of all its Committees and Subcommittees, contributing to many initiatives dedicated to maritime safety and supporting the initiatives of our colleagues from the fellow Member States of the European Union.

Soon after this Symposium, on 1 July 2011, Poland will take over the Presidency of the Council of the European Union. It will be a period when many maritime meetings and conferences linked with Poland’s Presidency will be held in our country. I would especially like to invite you to the international conference Safe Shipping on the Baltic Sea, which will take place on 23 September 2011 in Gdańsk and will serve as a discussion forum for Maritime Administrations of the Baltic region States as well as shipowners to identify and address the specific problems of Baltic shipping.

I would like to take this opportunity to thank the organizers of the Symposium for their hard work and commitment. I am grateful to the speakers who agreed to deliver presentations, and to all the participants for their presence. I wish everybody fruitful discussions and new ideas. I believe that this Symposium will play an important role for further development of new maritime safety initiatives aimed at increasing the level of safety at sea.

Thank you very much for your attention.

Capt. Anna Wypych-Namiotko

Undersecretary of State in the Ministry of Infrastructure, Poland
Message from the Rector of Gdynia Maritime University:

Distinguished Guests, Ladies and Gentlemen,

I have a great pleasure and honour to welcome the Distinguished Guests and all TransNav 2011 Symposium Participants at the Gdynia Maritime University.

It is not by chance, that our University is hosting this Symposium. Safety at sea is of the paramount importance in our research effort and it is the main focus in education of future marine officers, studying at our University.

Program of this Conference offers a variety of contributions, which allow to look at various aspects of the navigational safety from different points of view. Among topics presented and discussed at the Symposium there are problems of navigation, safety at sea, sea transportation, education of navigators and simulator-based training, sea traffic engineering, ship's manoeuvrability, integrated systems, electronic charts systems, satellite, radio-navigation and anti-collision systems and many others.

I hope that this meeting will be fruitful in terms of both, gaining new knowledge and, what is equally important, extending and tightening the contacts within maritime community.

I wish the participants and organizers of the Symposium intellectual satisfaction, new contacts, and beneficial exchange of ideas. I wish you also a nice and pleasant stay in our region.

Ladies and Gentlemen,

Let me declare that the 9th International Symposium TransNav 2011 on Marine Navigation and Safety of Sea Transportation is now open.

Prof. Dr. Romuald Cwilewicz

Rector of Gdynia Maritime University
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Prof. Adam Weintrit – Dean of the Faculty of Navigation, Gdynia Maritime University

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Symposium Programme

Note: All timing and papers are subject to change - please consult the “News” and “Program” pages of our website http://transnav.am.gdynia.pl for the most up to date timetable.

9TH INTERNATIONAL SYMPOSIUM ON MARINE NAVIGATION AND SAFETY OF SEA TRANSPORTATION
TRANSNAV 2011
PROGRAMME OVERVIEW

Wednesday 15th June 2011

0800 - 1200 Registration in the Main Hall of the Gdynia Maritime University, Morska Str. 81

Plenary Session A0 - Opening Address

0900 - 0930

Place: Main Lecture Hall (Aula) of the Gdynia Maritime University, Morska Str. 81

Chairmen: Adam Weintrit, Robert McCabe

Welcome
Adam Weintrit, Chairman of Organizing Committee

Opening Address
Capt. Anna Wypych-Namiotko, Undersecretary of State in the Ministry of Infrastructure

Opening Address for TransNav 2011 at Gdynia Maritime University
Robert McCabe, Vice President of the Nautical Institute

Opening Address
Romuald Cwilewicz, President of Gdynia Maritime University

TransNav 2011 - the 9th International Symposium on Marine Navigation and Safety of Sea Transportation
Adam Weintrit, Dean of the Faculty of Navigation, Gdynia Maritime University
Tomasz Neumann, Secretary of the Organizing Committee
Plenary Session A1 – Advances in Marine Navigation and Safety of Sea Transportation

0940 - 1100  
**Place:** Main Lecture Hall (Aula) of the Gdynia Maritime University, Morska Str. 81  
**Chairmen:** Stanisław Górski, Hideo Yabuki  

- e-Navigation - Current and Future Work. Meeting Objectives and Getting Value  
  *David PATRAIKO*  

- A Harmonized ENC Database as a Foundation of Electronic Navigation  
  *Michael BERGMANN*  

- Training for Safety Operations of Ships Using Manned Models  
  *Lech KOBYLINSKI*  

- Investigations of Marine Safety Improvements by Structural Health Monitoring Systems  
  *Lech MURAWSKI, Szymon OPOKA, Katarzyna MAJEWSKA, Magdalena MIELOSZYN, Wiesław OSTACHOWICZ, Adam WEINTRIT*  

1100 - 1130  
Coffee Break in Students Club "Bukszpryt"  

1100 - 1105  
Official family photo in front of the main building of the University

Round Table Panel Session A2  
"GNSS Challenges in Maritime Navigation"

1130 - 1300  
**Place:** Lecture Hall A16, Basement of Mechanical Faculty, Gdynia Maritime University  
**Chairmen:** Vidal Ashkenazi  

**Panellists:**  
- *Bernd EISFELLER*  
  Director of the Institute of Geodesy and Navigation, University of FAF, Munich, Germany  

- *Rafael Lucas RODRIGUEZ*  
  Head of Future GNSS Systems and Technology Office, Dept of Galileo Operations & Evolution, ESA/ESTEC  

- *Carlo DES DORIDES*  
  Executive Director of the European GNSS Agency  

- *Colin M.D. BEATTY*  
  Managing Director, CBIL, Aylesbury, and President-Elect of the Royal Institute of Navigation, United Kingdom  

- *Refaat RASHAD*  
  President of the International Association of Institutes of Navigation (IAIN), Alexandria, Egypt  

- *Adam WEINTRIT*  
  Dean of the Faculty of Navigation, Gdynia Maritime University, Poland

1300 - 1330  
*Break:* Transfer by Bus to Skwer Kościuszki, Gdynia

1330 - 1445  
*Lunch* in Restaurant “Róża Wiatrów”
SPECIALIST SESSIONS

Session B1 – e-Navigation Concept

1445 - 1615

**Place:** Gdynia Maritime University, Faculty of Navigation, Lecture Hall (Aula)

**Chairmen:** Ryszard Wawruch, David Patraiko

- e-Navigation and Future Trend in Navigation
  Felicia AMATO, Michele FIORINI, Sergio GALLONE, Giovanni GOLINO

- Development of Requirements for Communication Management on Board in the Framework of the e-Navigation Concept
  Florian MOTZ, Elena DALINGER, Sabine HOECKEL, Cindy MANN

- Advanced Maritime Technologies to Support Manoeuvring in Case of Emergencies - a Contribution to e-Navigation Development
  Michael BALDAUF, Sebastian KLAES, Jens Uwe SCHRÖDER-HINRICHS, Knud BENEDICT, Sandro FISCHER, Erland WILSKE

- Concept for an Onboard Integrated PNT Unit
  Ralf ZIEBOLD, Zhen DAI, Thoralf NOACK, Evelin ENGLER

1615 - 1700

Break Time – Coctail on board of GMU Tall Ship “Dar Młodzieży”

Session C1 – Safety at Sea

1445 - 1615

**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 206

**Chairmen:** Lucjan Gucma, Tor Einar Berg

- Visual Condition at Sea for the Safety Navigation
  Masao FURUSHO, Ken-ichiro KAWAMOTO, Yoshijo YANO, Kazuya SAKAMOTO

- Safety Control of Maritime Traffic Near by Offshore in Time
  Daegwun YOON, M. YI, Jung Sik JEONG, Gyei Kark PARK, N.S. SON

  Jorge WALLISER, Francisco PINIELLA, Juan Carlos RASERO BALON, Nieves ENDRINA

- New Proposal for Search and Rescue in the Sea
  Isidro PADRÓN, Devis AVILA PRATS, Enrique MELÓN RODRÍGUEZ, Ibballa FRANQUIS VERA, José Ángel RODRÍGUEZ HERNÁNDEZ

- Applied Research of Route Similarity Analysis Based on Association Rules
  Zhe XIANG, Ru-ru LIU, Qinyou HU, Chaojian SHI

1615 - 1700

Break Time – Coctail on board of GMU Tall Ship “Dar Młodzieży”

Session D1 – Crew Resource Management and Human Factor
1445 - 1615  **Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 306  **Chairmen:** Andrzej Królikowski, Eamonn Doyle

Crew Resource Management: the Role of Human Factors and Bridge Resource Management in Reducing Maritime Casualties  
*Homayoun YOUSEFI, R. SEYEDJAVADIN*

Women Seafarers: Solution to Shortage of Competent Officers?  
*Melchor MAGRAMO, Geneva ELER*

The Manning Companies in the Philippines Amidst the Global Financial Crisis  
*Melchor MAGRAMO, Lorna GELLADA, Teresita PARAGON*

Academe and Industry Collaboration: Key to More Competent Officers?  
*Melchor MAGRAMO, Geneva ELER, Lorna GELLADA*

Human Factors As Causes for Shipboard Oil Pollution Violations  
*Abdul Hamid SAHARUDDIN, Apandi OSNIN, Rajoo BALAJI*

1615 - 1700  Break Time – Coctail on board of GMU Tall Ship “Dar Młodzieży”

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**Session E1 – Problem of Piracy and Maritime Law of Salvage**

1445 - 1615  **Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 08  **Chairmen:** Krzysztof Chwesiuk, Serdjo Kos

Somali Piracy: Relation Between Crew Nationality and a Vessel’s Vulnerability to Seajacking  
*Alexander COUTROUBIS, George KIOURKTSOGLOU*

Influence of Pirates’ Activities on Maritime Transport in the Gulf of Aden Region  
*Daniel DUDA, Katarzyna WARDIN*

Preventive Actions and Safety Measures Directed Against Pirates in the Gulf of Aden Region  
*Daniel DUDA, Katarzyna WARDIN*

Technological Advances and Efforts to Reduce Piracy  
*Marko PERKOVIC, Elen TWRDY, Rick HARSCH, Maciej GUCMA, Peter VIDMAR*

Maritime Law of Salvage and Adequacy of Laws Protecting the Salvors’ Interest  
*Francis LANSAKARA*

1615 - 1700  Break Time – Coctail on board of GMU Tall Ship “Dar Młodzieży”

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**Session B2 – Navigational Simulation**

1700 - 1830  **Place:** Gdynia Maritime University, Faculty of Navigation, Lecture Hall (Aula)  **Chairmen:** Cezary Specht, Knud Benedict

A Methodological Framework for Evaluating Maritime Simulation  
*Panagiotis VASILAKIS, Nikitas NIKITAKOS*

New level of Integrated Simulation Interfacing Ship Handling Simulator with Safety & Security Trainer (SST)  
*Knud BENEDICT, Christoph FELSENSTEIN, Olaf PULS, Michael BALDAUF*

Uncertainty in Analytical Collision Dynamics Model Due to Assumptions in Dynamic Parameters  
*Kaarle STÅHLBERG, Floris GOERLANDT, Jakub MONTEWKA, Pentti KUJALA*
Research on Ship Navigation in Numerical Simulation of Weather and Ocean in a Bay
Taisuke SODA, Shigeaki SHIOTANI, Hidenari MAKINO, Youichi SHIMADA

Development of a Costs Simulator to Assess New Maritime Trade Routes
Francesc Xavier MARTÍNEZ DE OSÉS, Marcel·la CASTELLS I SANABRA, M. RODRÍGUEZ NUEVO

1830 - 2000 Free Time

**Session C2 – Positioning Systems**

1700 - 1830

**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 206  
**Chairmen:** Jacek Januszewski, Florian Motz

Recent Advances in Wide Area Real-Time Precise Positioning  
Dariusz LAPUCHA, K. DE JONG, X. LIU, T. MELGARD, O. OERPEN, E. VIGEN

Assessing the Limits of e-Loran Positioning Accuracy  
Jan ŠAFÁŘ, Frantisek VEJRAŽKA, Paul WILLIAMS

Fuzzy Evidence in Terrestrial Navigation  
Włodzimierz FILIPOWICZ

Ground-based, Hyperbolic Radiolocation System with Spread Spectrum Signal - AEGIR  
Slawomir Jerzy AMBROZIAK, Ryszard J. KATULSKI, Jaroslaw SADOWSKI, Wojciech SIWICKI, Jacek STEFANSKI

An Algorithmic Study on Positioning and Directional System by Free Gyros  
Tae-Gweon JEONG, Sok-Chu PARK

1830 - 2000 Free Time

**Session D2 – STCW and Other International Conventions**

1700 - 1830

**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 306  
**Chairmen:** Henryk Śniegocki, Jorge Walliser

Needs and Importance of Master Studies for Navigators in XXI Century and Connectivity to STCW 78/95  
Anatoli ALOP

Implementation of STCW Convention at the Serbian Military Academy  
Svetislav ŠOŠKIĆ, Jovica ĆURČIĆ, Slobodan RADOJEVIĆ

Teaching of ROR or Learning of ROR  
Vinode MOHINDRA, I.V. SOLANKI

Electrical, Electronic and Control Engineering – New Mandatory Standards of Competence for Engineer Officers, Regarding Provisions of the Manila Amendments to the STCW Code  
Jacek WYSZKOWSKI, Janusz MINDYKOWSKI

The Hong Kong International Convention for Safe and Environmentally Sound Management of the Recycling of Ships Hong Kong 2009  
Jaime Rodrigo DE LARRUCEA, Cristina Steliania MIHAIOLOVICI

1830 - 2000 Free Time
Session E2 – Maritime Transport

1700 - 1830  
Place: Gdynia Maritime University, Faculty of Navigation, Room No. 08  
Chairmen: Andrzej Grzelakowski, Elen Twardy

Maritime Transport Single Windows: Issues and Prospects  
Kay Fjortoft, Maria A. Lambrou, Marianne Hagaeth, Paal BaltzerSEN

Effectiveness of the European Maritime Policy Instruments  
Gunars Steinerts

Sustainable Transport Planning & Development in the EU at the Example of the Polish Coastal Region Pomorskie  
Adam Przybyłowski

Development of the Latvian Maritime Policy; a Maritime Cluster Approach  
Roberts Gailitis, Maurice Jansen

European Union's Stance on the Rotterdam Rules  
Kirval Levent

1830 - 2000  Free Time

2000 - 2300  Dean’s Party in Restaurant 'Rodizio el Toro', Gdynia, Kamienna Gora

Thursday 16th June 2011

0800 - 1200  Registration in the Main Hall of Faculty of Navigation, GMU, Jana Pawla II Ave. 3

Poster Session P1 - Navigation  
GMU Faculty of Navigation, Room 114

0900 – 1000  
Place: Gdynia Maritime University, Faculty of Navigation, Room 114  
Chairmen: Włodzimierz Filipowicz, Pentti Kujala

P1 - Congested Area Detection and Projection – the User’s Requirements  
Tadeusz Stupak, Stanislaw Zulkiewicz

P2 - Studying Probability of Ship Arrival of Yangshan Port with AIS (Automatic Identification System)  
HlaingYin Ni Ni, Qinyou Hu, Chaojian Shi

P3 - Shipborne Satellite Antenna Mount and Tracking Systems  
Dimov Stojce Ilcev

P4 – An Invariance of the Performance of Noise-Resistance of Spread Spectrum Signals  
Galina Cherneva, E. Dimkina

P5 - Ship's Turning in the Navigational Practice  
Jakub Kornacki

P6 - Security Modeling Technique: Visualizing Information of Security Plans  
Daniel Ley, Elena Dalinger

P7 - Compensation of Magnetic Compass Deviation at One any Course
Ewgenij LUSZNIKOW

P8 - Comprehensive Methods of the Minimum Safe Under Keel Clearance Valuation to the Tidal Restricted Waters
Grzegorz SZYCA

P9 - Path Following Problem for a DP Ship Simulation Model
Paweł ZALEWSKI

P10 - Improving Emergency Supply System to Ensure Port City Safety
Zesheng WANG, Zhonghua ZHU, Wencai CHENG

P11 - Analysis the Accident Between m/v Ocean Asia and m/v SITC Qingdao in Hanam Canal (Haiphong Port)
Vinh NGUYEN CONG

P12 - A Simulation Model for Detecting Vessel Conflicts Within a Seaport
Qing LI, H. S. L. FAN

P13 - Simulating Method of Ship’s Turning-basins Designing
Jakub KORNACKI

P14 - Towards Safer Navigation of Hydrofoils: Avoiding Sudden Collisions with Cetaceans
Hidehiro KATO, Hiroko YAMADA, Kentaro SHAKATA, Aya ODAGAWA, Lisa KAGAMI, Yuta YONEHARA, Minoru TERADA, Kousuke SAKUMA, Hiroaki MORI, Ichiro TANAKA, Hiroko SUGIOKA, Masanori KYO

P15 - Estimation on Audibility of Large Cetaceans for Improvement of the Under Water Speaker
Hiroko YAMADA, Lisa KAGAMI, Yuta YONEHARA, Hayato MATSUNAGA, Hidehiro KATO, Minoru TERADA, Ryozo TAKAHASHI, Kazuo OKANOYA, Tadafumi KAWAMOTO

P16 - Considerations on Maritime Watch Keeping Officers' Vocational Training
Stan LIVIU-CONSTANTIN, Nicolae BUZBUCI

P17 - Implementation of the 1995 STCW Convention in Constanta Maritime University
Stan LIVIU-CONSTANTIN

P18 - The Mareng Plus Project and the New Applications
Barbara KATARZYŃSKA

P19 - Methods of Maritime-Related Word Stock Research in the Practical Work of a Maritime English Teacher
Nadiya DEMYDENKO

P20 - Integrated Vessel Traffic Management System (VTMS) for Port Security in Malaysia
Apandi OSNIN, Abdul Hamid SAHARUUDDIN, Zahuren TEH

P21 - Position Reference System for Flight Inspection Aircraft
Michał KUBIS, Andrzej NOVAK

P22 - RNAV GNSS Essential Step for the LUN Implementation and the Chance for the Polish General Aviation
Krzysztof BANASZEK, Andrzej FELLNER, Paweł TRÓMIŃSKI, P. ZADRĄG

P23 - Aircraft Landing System Utilizing a GPS Receiver with Position Prediction Functionality
Jerzy BIAŁY, Adam CIĘCKO, Janusz CWIKLAK, Marek GRZEGORZEWSKI, Piotr KOŚCIELNIK, Stanisław OSZCZAK

P24 - Ships Monitoring System
Liliana-Viorica POPA

P25 - Improving MET Quality: Relationship Between Motives of Choosing Maritime Professions and Students’ Approaches to Learning
Genutė KALVAITIENĖ, Inga BARTUSEVICIENĖ, Viktoras SENČILA

1000 - 1005 5 min Break Time

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<th>Poster Session T1 - Transport</th>
<th>GMU Faculty of Navigation, Main Hall</th>
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<td>0900 – 1000</td>
<td>Place: Gdynia Maritime University, Faculty of Navigation, Main Hall</td>
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<td>Chairman: Zbigniew Pietrzykowski, Nikita Nikitakos</td>
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<td>T1 - Ecological Risk from Ballast Waters for the Harbour in Świnoujście</td>
<td>Zofia JÓZWIAK</td>
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<td>T2 - Study of EEOI Baseline on China International Shipping</td>
<td>Wu WANQING, Zheng QINGGONG, Wu WENFENG, Yang JIANLI</td>
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<td>T3 - Elements of Tropical Cyclones Avoidance Procedure</td>
<td>Bernard WIŚNIEWSKI, Paweł KACZMAREK</td>
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<td>T4 - Analysis of Hydrometeorological Characteristics in Port of Kulevi Zone</td>
<td>Avtandil GEGENAVA, Gennady KHAIDAROV</td>
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<td>T5 - Polish Seaports – Unfavorable Weather Conditions for Port Operation (Applying Methods of Complex Climatology for Data Formation to be Used by Seafaring)</td>
<td>Jacek FERDYNUS</td>
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<td>T6 - Ice Management – from Conception to Realization</td>
<td>Ivan Y. FROLOV, Evgenii U. MIRONOV, Genndii K. ZUBAKIN, Yurii P. GUDOSHNIKOV, Alexandr V. YULIN, Vladimir G. SMIRNOV, Igor V. BUZIN</td>
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<td>T7 - Hydro-Meteorological Characteristics of the Montenegrin Coast</td>
<td>Jovica ĆURČIĆ, Svetislav ŠOSKIĆ</td>
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<td>T8 - Coalescence Filtration with an Unwoven Fabric Barrier in Oil Bilge Water Separation on Board Ships</td>
<td>Jerzy GUTTETER-GRUDZIŃSKI</td>
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<td>T10 - Modeling of Power Management System on Ship By Using Petri Nets</td>
<td>Maja KRCUM, Anita GUDELJ, Leo ŽIŽIĆ</td>
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<td>T11 - Conditions of Carrying Out and Verification of Diagnostic Evaluation in a Vessel</td>
<td>Adam CHARCHALIS</td>
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<td>T13 - Digital Multichannel Electro-Hydraulic Execution Improves the Ship’s Steering Operation and the Safety at Sea (Security of the Navigation Act)</td>
<td>Stefan DORDEA</td>
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T14 - The Method of Optimal Allocation of Oil Spill Response in the Region of Baltic Sea
Lucjan GUCMA, Wieslaw JUSZKIEWICZ, Kinga ŁAZUGA

T15 - Modeling of Accidental Bunker Oil Spills as a Result of Ship’s Bunker Tanks Rupture – a Case Study
Przemysław KRATA, Jacek JACHOWSKI, Jakub MONTEWKA

T16 - The Profile of Polish Oil Spill Fighting System
Andrzej BĄK, Kinga LUDWICZAK

T17 - A Simulation Environment for Modelling and Analysis of the Distribution of Shore Observatory Stations - Preliminary Results
Tomasz NEUMANN

T18 - Assessment Components Influencing Effectiveness of Studies: Marine Engineering Students Opinion
Inga BARTUSEVICIENE, Liudmila RUPSIENE

T19 - The Land Trans-Shipping Terminal in Processes Flow Stream Individuals Intermodal Transportion
Aldona KUŚMIŃSKA-FIJAŁKOWSKA, Zbigniew LUKASIK

T20 - Railroad Level Crossing – Technical and Safety Trouble
Jerzy MIKULSKI, Jakub MŁYŃCZAK

T21 - Application of Fractional Calculus in Identification of the Measuring System
Mirosław LUFT, Elżbieta SZYCZTA, Radosław CIOĆ, Daniel PIETRUSZCZAK

T22 - Fire Safety Assessment of Some Oxidizers in Sea Transport
Krystyna KWIATKOWSKA-SIENKIEWICZ

T23 - Coastal Area Prone to Extreme Flood and Erosion Events Induced by Climate Changes: Study Case of Juqueriquere River Bar Navigation, Caraguatatuba (Sao Paulo State), Brazil
Emilia ARASAKI, Paolo ALFREDINI, Alessandro PEZZOLI, Maurizio ROSSO

T24 - Factors of Human Resources Competitiveness in Maritime Transport
Eugen BARSAN, Felicia SURUGIU, Cristina DRAGOMIR

T25 - A Safety Assurance Assessment Model for an Liquefied Natural Gas (LNG) Tanker Fleet
Subramaniam MANIVANNAN, Abd Kader AB SAMAN

1000 - 1005 5 min Break Time

**Student Session S1**

**Safety of Navigation and the Protection of the Marine Environment**

0930 – 1000  **Place:** Gdynia Maritime University, Faculty of Navigation, Lecture Hall (Aula)

**Chairmen:** Krzysztof Czaplewski, Zofia Jóźwiak

Environmental Safe Arctic Water Exploation
Joanna SZCZEŚNIAK

Marine Environmental Protection as an Aspect of Ballast Water Management
Jan KRAL, Filip SMALCZEWSKI

1000 - 1005 5 min Break Time
### Session B3 – Electronic Chart Display and Information System (ECDIS)

1005 - 1135

**Place:** Gdynia Maritime University, Faculty of Navigation, Lecture Hall (Aula)

**Chairmen:** Adam Weintrit, Yasuo Arai

**Navigation Safety Assessment in the Restricted Area with the Use of ECDIS**

Zbigniew PIETRZYZKOWSKI, Miroslaw WIELGOSZ

**Increasing Maritime Safety: Integration of the Digital Selective Calling VHF Marine Radiocommunication System and ECDIS**

Mykhaylo V. MIYUSOV, Vitaliy M. KOSHEVOY, Aleksandr V. SHISHKIN

**Enhance Berth to Berth Navigation requires high quality ENC's – The Port ENC – a Proposal for a new Port related ENC Standard**

Dieter SEEFELDT

**The New Electronic Chart Product Specification S-101: an Overview**

Julia POWELL

**Applications and Benefits of Cartographic 3D Visualisation in Maritime Safety**

Rafał GÓRALSKI, Cyril RAY, Chris GOLD

1135 - 1200

Coffee Break in Room 121 (Faculty Board Room)

### Session C3 – Route Planning in Marine Navigation

1005 - 1135

**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 206

**Chairmen:** Andrzej Lenart, Homayoun Yousefi

**Advanced Navigation Route Optimization for an Oceangoing Vessel**

Eiichi KOBAYASHI, Takashi ASAJIMA, Nobuo SUEYOSHI

**On the Method of Ship’s Transoceanic Route Planning**

Oleksandr PIPCHENKO

**Weather Hazard Avoidance in Modeling Safety of Motor-driven Ship for Muticriteria Weather Routing**

Joanna SZŁAPCZYŃSKA, Przemysław KRATA

**Evolutionary Sets of Safe Ship Trajectories: Evaluation of Individuals**

Rafał SZŁAPCZYŃSKI, Joanna SZŁAPCZYŃSKA

**Development of a 3D Dynamic Programming Method for Weather Routing**

Shao WEI, Peilin ZHOU

1135 - 1200

Coffee Break in Room 121 (Faculty Board Room)

### Session D3 – Methods and Algorithms

1005 - 1135

**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 306

**Chairmen:** Józef Lisowski, Francesc Xavier Martinez de Oses

**Fuzzy–neuron Model of the Ship Propulsion Risk**

Alfred BRANDOWSKI, Andrzej MIELEWCZYK, Hoang NGUYEN, Wojciech FRĄCKOWIAK
Kalman-Bucy Observer Design for Multivariable Ship Motion Control
Mirosław TOMERA

Optimum Operation of Coastal Merchant Ships with Consideration of Arrival Delay Risk and Fuel Efficiency
Kyoko TAKASHIMA, Brahim MEZAOUI, Ruri SHOJI

Experimental and Numerical Methods for Hydrodynamic Profiles Calculation
Andrei Alexandru SCUPI, Dumitru DINU

Asymptotic Stability of a Class of Positive Continuous-discrete 2D Linear Systems
Tadeusz KACZOREK

1135 - 1200 Coffee Break in Room 121 (Faculty Board Room)

Session E3 – Ice Navigation and Meteorological Aspects

1005 - 1135
Place: Gdynia Maritime University, Faculty of Navigation, Room No. 08
Chairmen: Evgeniy Lushnikov, Vladimir Volkogon

Baltic Navigation in Ice in Twenty First Century
Marzena SZTOBRYN

Ship’s Navigational Safety in the Arctic Unsurveyed Regions
Tadeusz PASTUSIAK

Methods of Iceberg Towing
Aleksey MARCHENKO, Kenneth EIK

Safety at Sea – a Review of Norwegian Activities
Tor Einar BERG, Beate KVAMSTAD, Frode KJERSEM

Storm-Surges Indicator for the Polish Baltic Coast
Ida STANISŁAWCZYK

1135 - 1200 Coffee Break in Room 121 (Faculty Board Room)

Session B4 – Global Navigation Satellite Systems (GNSS)

1200 - 1330
Place: Gdynia Maritime University, Faculty of Navigation, Lecture Hall (Aula)
Chairmen: Dariusz Lapucha, Frantisek Vejražka

A Look at the Development of GNSS Capabilities over the Next 10 Years
Jacek JANUSZEWSKI

GNSS Meteorology
Jarosław BOSY, Witold ROHM, Jan SIERNY, Jan KAPŁON

Onboard Wave Sensing with Velocity Information GPS
Yasuo ARAI, Egil PEDERSEN, Nobuyoshi KOUGUCHI, Kouzaburou YAMADA

EGNOS Performance Improvement in Southern Latitudes
Liza PANAGIOTOPoulos, Kyriakos FRANGOS

An Integrated Vessel Tracking System by Using AIS, Inmarsat and China Beidou Navigation Satellite System
Chun YANG, Qinyou HU, Xinghua TU, Jie GENG
Session C4 – Collision Avoidance

1200 - 1330  
**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 206  
**Chairmen:** Władysław Rymarz, Masao Furusho

Knowledge Base in the Interpretation Process of the Collision Regulations at Sea  
Paweł BANAŚ, Marcin BREITSPRECHER

A Method for Assessing a Causation Factor for a Geometrical MDTC Model for Ship-Ship Collision Probability Estimation  
Jakub MONTEWKA, Floris GOERLANDT, Heiki LAMMI, Pentti KUJALA

The Sensitivity of Safe Ship Control in Restricted Visibility at Sea  
Józef LISOWSKI

Experimental Research on Evolutionary Path Planning Algorithm with Fitness Function Scaling for Collision Scenarios  
Piotr KOLENDO, Roman SMIERZCHALSKI, Bartosz JAWORSKI

A New Definition of a Collision Zone for a Geometrical Model for Ship-Ship Collision Probability Estimation  
Jakub MONTEWKA, Floris GOERLANDT, Pentti KUJALA

1330 - 1500  
**Lunch** in Restaurant “Róża Wiatrów”

Session D4 – Communication Systems

1200 - 1330  
**Place:** Gdynia Maritime University, Faculty of Navigation, Lecture Hall (Aula)  
**Chairmen:** Jerzy Czajkowski, Gyei-Kark Park

Maritime Communications, Navigation and Surveillance (CNS)  
Dimov Stojce ILCEV

On a Data Fusion Model of the Navigation and Communication Systems of a Ship  
Gyei Kark PARK, Young-Ki KIM, Chi Yeon KIM

Automation of Message Interchange Process in Maritime Transport  
Zbigniew PIETRZYKOWSKI, Grzegorz HOŁOWINSKI, Janusz MAGAJ, Jaroslaw CHOMSKI

Surface Reflection and Local Environmental Effects in Maritime and other Mobile Satellite Communications  
Dimov Stojce ILCEV

Systems for Prevention and Control of Communicable Diseases on Ship  
Carlos JEROME

1330 - 1500  
**Lunch** in Restaurant “Róża Wiatrów”

Session E4 – Inland Shipping

1200 - 1330  
**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 08  
**Chairmen:** Wiesław Galor, Anatoli Alop

Navigation Data Transmission in the RIS System
Andrzej LISAJ

Sea-River Technology in Transport of Energy Products  
Tomas KALINA, Peter PIALA

Novel Design of Inland Shipping Management Information System Based on WSN and Internet-of-things  
Huafeng WU, Xinqiang CHEN, Qinyou HU, Chaojian SHI, Jianying MO

About the Effectiveness of an Integrated Use of Satellite and GIS Technologies on Ships Mixed “River-Sea” Vessels  
Alexey BOYKOV, Vladimir KATENIN

SC-Method of Adaptation Marine Navigational Simulators for Training River Shipmasters  
Oleg DEMCHENKOV

1330 - 1500  Lunch in Restaurant “Róża Wiatrów”

### Session B5 – Geodetic Problems in Navigational Applications

1500 - 1630  
**Place:** Main Lecture Hall (Aula) at Faculty of Navigation, Gdynia Maritime University  
**Chairmen:** Jarosław Bosy, Bernd Eisfeller

A Novel Approach to Loxodrome (Rhumb Line), Orthodrome (Great Circle) and Geodesic Line in ECDIS and Navigation in General  
Adam WEINTRIT, Piotr KOPACZ

Approximation Models of Orthodromic Navigation  
Serdjo KOS, David BRČIĆ

Solutions of Direct Geodetic Problem in Navigational Applications  
Andrzej S. LENART

Application of the Polish Active Geodetic Network for The Railway Track Determination  
Cezary SPECHT, Aleksander NOWAK, Władysław KOC, Agnieszka JURKOWSKA

Maritime Delimitation in the Baltic Sea: Status Iuris  
Erik FRANCKX

1630 - 1645  Coffee Break in Room 121 (Faculty Board Room)

### Session C5 – Ship Construction, Stability and Propulsion Systems

1500 - 1630  
**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 206  
**Chairmen:** Alfred Brandowski, Aleksey Marchenko

Ultrasonic Sampling Phased Array Testing as a Replacement for X-ray Testing of Weld Joints in Ship Construction  
Andrey BULAVINOV, Roman PINCHUK, Sergey PUDOVIKOV, Christian BOLLER

Determination of Ship's Angle of Dynamic Heel Based on Model Tests  
Waldemar MIRONIUK, Adam PAWŁĘDZIO

Propulsive and Stopping Performance Analysis of Cellular Container Carriers  
Jarosław ARTYSZUK

Logical Network of Data Transmission Impulses in Journal-Bearing Design  
Krzysztof WIERZCHOLSKI
Optimization of Hybrid Propulsion Systems  
*Edward SCIBERRAS, Alan GRECH*

1630 - 1645  Coffee Break in Room 121 (Faculty Board Room)

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**Session D5 – Safe Shipping and Environment in the Baltic Sea Region**

1500 - 1630  **Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 306  
**Chairmen:** *Lech Kobyliński, Bengt Stahl*

Towards the Model of Traffic Flow on the Southern Baltic Based on Statistical Data  
*Agnieszka PUSZCZ, Lucjan GUCMA*

Incidents Analysis on the Basis of Traffic Monitoring Data in Pomeranian Bay  
*Lucjan GUCMA, Krzysztof MARCJAN*

Model of Time Differences Between Schedule and Actual Time of Departure of Sea Ferries in the Świnoujście Harbour  
*Lucjan GUCMA, Marcin PRZYWARTY*

Simplified Risk Analysis of Tanker Collisions in the Gulf of Finland  
*Floris GOERLANDT, Maria HÅNNINEN, Kaarle STÅHLBERG, Jakub MONTEWKA, Pentti KUJALA*

Estimating the Number of Tanker Collisions in the Gulf of Finland in 2015  
*Maria HÅNNINEN, Pentti KUJALA, Jutta YLITALO, Jenni KURONEN*

1630 - 1645  Coffee Break in Room 121 (Faculty Board Room)

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**Session E5 – Information and Computer Systems in Transport Process**

1500 - 1630  **Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 08  
**Chairmen:** *Michał Holec, Tae-Gweon Jeong*

Information in Transport Processes  
*Kornel WYDRO*

Development and Standardization of Intelligent Transport Systems  
*Gabriel NOWACKI*

Computer Systems Aided Management in Logistics  
*Krzysztof CHWESIUK*

Modelling of Traffic Incidents in Transport  
*Jacek SKORUPSKI*

The Advantage of Activating the Role of the EDI-Bill of Lading And its Role to Achieve Possible Fullest  
*Akram ELENTABLY*

1630 - 1645  Coffee Break in Room 121 (Faculty Board Room)

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**Session B6 – Ship Handling and Ship Manoeuvering**

1645 - 1815  **Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 306  
**Chairmen:** *Mirosław Jurdziński, Chaojian Shi*
Multirole Population of Automated Helmsmen in Neuroevolutionary Ship Handling
Mirosław ŁÄCKI

Assumptions to the Selective System of Navigational-maneuvering Information Presentation
Rafał GRALAK

Capabilities of ship handling simulators to simulate shallow water, bank and canal effects
Lech KOBYLIŃSKI

Analogical Maneuving Simulator with Remote Pilot Control for Port Design and Operation Improvement
Paolo ALFREDINI, Juliano GERENT, Emilia ARASAKI

Application of CFD Methods for the Assessment of Ship Maneuvrability in Shallow Water
Tomasz GÖRNICZ, Jan KULCZYK

1815 - 2000 Free Time

Session C6 – Radars and Other Detecting Equipment

1645 - 1815 Place: Gdynia Maritime University, Faculty of Navigation, Room No. 206
Chairmen: Wacław Morgaś, Reinhard Mueller

Impact of Internal and External Interferences on the Performance of a FMCW Radar
Pawel PAPROCKI

Fusion of Data Received from AIS and FMCW and Pulse Radar - Results of Performance Tests Conducted Using Hydrographical Vessels “Tukana” and “Zodiak”
Artur KROL, Tadeusz STUPAK, Ryszard WAWRUCH, Marek KWIATKOWSKI, Pawel PAPROCKI, Jaroslaw POPIK

Statistical Analysis of Simulated Radar Target's Movement for the Needs of Multiple Model Tracking Filter
Witold KAZIMIERSKI

The Modes of Radar Presentation of Situation in Inland Navigation
Wieslaw GALOR

Feasibility Study on Infrared Detecting of Large Cetaceans to Avoid Sudden Collisions
Yuta YONEHARA, Lisa KAGAMI, Hiroko YAMADA, Hidehiro KATO, Minoru TERADA, Shinsuke OKADA

1815 - 2000 Free Time

Session D6 - Maritime Education and Training

1645 - 1815 Place: Gdynia Maritime University, Faculty of Navigation, Room No. 306
Chairmen: Jędrzej Mindykowski, Melchor Magamo

Evaluation of Educational Software for Marine Training with the Aid of Neuroscience Methods and Tools
Dimitris PAPACHRISTOS, Nikitas NIKITAKOS

Methodological Approaches to the Design of Business Games and Definition of the Marine Specialist Training Content
Sergey MOYSEENKO, Leonid MEYLER

Teaching Cross Cultural Competence in Maritime Schools
Carmen CHIREA-UNGUREANU, Per-Einar ROSENHAVE

Simulation Training for Replenishment at Sea (RAS) Operations: Addressing the Unique Problems of ‘Close-Alongside’ and ‘In-line’ Support for Multi-Streamer Seismic Survey Vessels Underway
Eamonn DOYLE

Safety and Security Trainer SST7 – a New Way to Prepare Crews Managing Emergency Situations
Claus BORNHORST

1815 - 2000 Free Time

**Session E6 – Ships Monitoring System; A Decision Support Tool**

1645 - 1815

**Place:** Gdynia Maritime University, Faculty of Navigation, Room No. 08

**Chairmen:** Roman Śmierzchalski, Qinyou Hu

A Decision Support Tool for VTS Centers to Detect Grounding Candidates
*Arsham MAZAHERI, Floris GOERLANDT, Jakub MONTEWKA, Pentti KUJALA*

On the Development of an Anchor Watch Supporting System for Small Merchant Ships
*Hideo YABUKI, Takahiro TAKEMOTO, Katsuhiro YAMASHITA, Shigenobu SAITO*

Research on the Risk Assessment of Man Overboard in the Performance of Flag Vessel Fleet (FVF)
*Ting-Rong QIN, Qinyou HU, Jianying MO*

Integrated Vessel Traffic Control System
*Marek KWIATKOWSKI, Jarosław POPIK, Waldemar BUSZKA, Ryszard WAWRUCH*

The Relation with Width of Fairway and Marine Traffic Flow
*Yuchang SEONG, Jung Sik JEONG, Gyei Kark PARK*

1815 - 2000 Free Time

2000 - 2400 Friends Evening in Restaurant 'Captain Cook', Gdynia, Skwer Kościuszki

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**Friday 17th June 2011**

0830 - 2130 Technical Tour to the Ship Handling Research and Training Centre in Ilawa including Guided tour to Malbork - the monumental Gothic castle built by the Order of Teutonics in XIV and XV century, included on the List of Human Heritage of the UNESCO

0830 - 0900 Departure by coach from hotels

1030 - 1045 Arrival to Malbork

1100 - 1300 Castle tour and coffee break

1300 - 1315 Departure from Malbork to Ilawa

1430 - 1445 Arrival to Ilawa
Plenary Session I1
in the The Ship Handling Research and Training Centre in Ilawa

1445 - 1630  Special Session, visiting The Ship Handling Research and Training Centre and Symposium Closing Ceremony

1500 - 1530  Place: the Ship Handling Research and Training Centre in Ilawa, Silm Lake
Chairmen: Jacek Nowicki, Zbigniew Burciu

Ilawa Ship Handling Research and Training Centre - a Powerful Tool to Improve Safety of Navigation
Jacek NOWICKI

1530 - 1600  Practical exercises on board manned ships models at Silm Lake
1630 - 1645  Transfer to Restaurant in Hotel „Stary Tartak” in Ilawa

Plenary Session I2 – Closing Ceremony

1645 - 1800  Place: Restaurant in Hotel “Stary Tartak” in Ilawa
Chairmen: Adam Weintrit, Tomasz Neumann

1645 - 1800  Barbeque Party
1730 - 1800  Closing Speech
Adam Weintrit, Chairman of Organizing Committee

18:00  Departure from Ilawa to the hotels
21:30  Arrival to the hotels*

* possible exit in Gdańsk or Sopot for night sightseeing
# ACCOMPANYING PERSONS’ PROGRAMME

## Thursday 16th June 2011

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>0800 - 0900</td>
<td>Registration in the Main Hall of Faculty of Navigation, GMU, Jana Pawla II Ave. 3</td>
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<tr>
<td>0900 - 1700</td>
<td><strong>Touristic Trip</strong>&lt;br&gt;<strong>Round Trip</strong>: Gdynia – Hel – Władysławowo – Puck – Rzucewo - Gdynia&lt;br&gt;<strong>Responsible Person</strong>: Maria Łozińska</td>
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<tr>
<td>0930 - 1030</td>
<td>Boat trip from Gdynia to Hel Peninsula</td>
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<tr>
<td>1030 - 1230</td>
<td>Visiting Hel one of the oldest settlings in the Pomerania</td>
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<tr>
<td>1230 - 1330</td>
<td>Car excursion along the Peninsula- a glimpse at the Baltic Sea and beaches in Władysławowo</td>
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<tr>
<td>1330 - 1500</td>
<td>Visit to Puck – gothic church, town square</td>
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<tr>
<td>1500 - 1630</td>
<td>Lunch in Hotel Jan III Sobieski Castle in Rzucewo</td>
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<tr>
<td>1630 - 1700</td>
<td>Return to hotels</td>
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(In case of bad weather alternative attractions will be proposed)