

# AGA 2018

## 19<sup>th</sup> Annual General Assembly (AGA) of the International Association of Maritime Universities (IAMU)

17 - 19 October 2018, Barcelona, Spain

### PROGRAMME



APREJADO FRAGATA 49 CONDRES



CONSTRUIDO  
POREL  
MAESTRE  
D'AIXA  
JOSEP PERA  
I FOU  
CON PLANOS  
DEL BARCO  
SAN JAMARO

1801  
127.

Pla de Palau, 18  
08003 Barcelona

UNIVERSITAT POLITÈCNICA DE BARCELONA  
Facultat de Disseny i Arquitectura  
UNYVA

FRAGATA:

ESLORA : 3,7 mts  
MANGA : 0,6 mts  
PUNTAL : 0,48 mts  
EN EL EDIFICIO  
NEOCLÁSICO,  
CONSTRUIDO PERA



19<sup>th</sup> Annual General Assembly

**AGA**

of the International Association  
of Maritime Universities

**IAMU**

Barcelona, Spain

October 17 – 19, 2018

## **PROGRAMME**

**A publication of:**

International Center for Numerical  
Methods in Engineering (CIMNE)

Barcelona, Spain

**CIMNE** 

**Printed by:**

Artes Gráficas Torres S.L., Huelva 9, 08940 Cornellà de Llobregat, Spain



# Contents

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Preface .....	5
Sponsors .....	7
LEC Members .....	8
International Members Committee .....	9
Secretariat .....	9
Conference Venue .....	10
Conference Information .....	13
Special Speech.....	14
Keynote Lectures .....	14
Development and Research project presentations .....	15
Social Programme .....	16
Technical Tour .....	18
Poster Sessions .....	20
Technical Programme Overview .....	23
Detailed IAMUC Technical Programme .....	25
Detailed IAMUS Technical Programme .....	37
Authors Index .....	41



## Preface

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This volume contains the programme of the 19th Annual General Assembly (AGA19) of the International Association of Maritime Universities (IAMU), held at the World Trade Center in Barcelona, Spain, the 17-19 October 2018.

The International Association of Maritime Universities (IAMU) is a global network of leading maritime universities providing Maritime Education and Training (MET) of seafarers for the global shipping industry. IAMU was founded by 7 maritime universities, academies and colleges from 5 countries in 1999 with a shared recognition of the significance of maritime education and training during the rapid globalization of international shipping. Since then, IAMU has significantly expanded its membership to 63 of the world's leading maritime universities and faculties, with The Nippon Foundation as a permanent special member bringing the total to 64 members. IAMU activities are supported by a grant from The Nippon Foundation and annual membership fees from IAMU member.

Comprising all member universities, the AGA provides a unique forum for multilateral discussion of maritime issues. Every year since 2000, IAMU has organized an AGA hosted by one IAMU member university.

The topic of this conference as part of AGA19 is "Time for Action: A new thrust for the future of MET & Research" and the event encompasses activities in the framework to promote communication and exchange between members, interested maritime industry players and international organizations.

This year's Assembly contains 1 invited plenary lecture, 2 invited keynote lectures, two sessions on Development and Research projects and more than 100 contributed presentations during the IAMU Technical Sessions and IAMU Student sessions.

The conference was organized by the Barcelona School of Nautical Studies of the Universitat Politècnica de Catalunya – BarcelonaTech. On behalf of the organizers, sincere thanks are directed to the International Panel Committee and all of the authors for their combined effort in making AGA19 an intellectually stimulating conference. We also acknowledge the financial support from the sponsors listed on the next page. Finally we appreciate Alessio Bazzanella from the CIMNE Congress Bureau of Barcelona, Spain, for his excellent work in the organization of the conference and the publication of this volume.

Barcelona, 1st of October 2018

The Local Executive Committee of AGA19.





## Sponsors

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UNIVERSITAT POLITÈCNICA DE CATALUNYA  
BARCELONATECH

Facultat de Nàutica de Barcelona



**IAMU**  
International Association of Maritime Universities



Cambra de Comerç  
de Barcelona

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Escola Europea  
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**Barcelona  
Clúster  
Nàutic**

**mmb** MUSEU MARÍTIM DE  
BARCELONA



**Port de Barcelona**



**PRACTICOS  
DE BARCELONA**

## LEC Members

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Head	Agustí Martín Barcelona School of Nautical Studies Polytechnic University of Catalonia
Deputy Head	Manel Grifoll Barcelona School of Nautical Studies Polytechnic University of Catalonia
Administrative Committee	Anna Xalabarder Barcelona School of Nautical Studies Polytechnic University of Catalonia
Social Committee	Juan Antonio Moreno Barcelona School of Nautical Studies Polytechnic University of Catalonia
Publications Committee	Marcel·la Castells Barcelona School of Nautical Studies Polytechnic University of Catalonia
Student Committee	Marc Nicolau Barcelona School of Nautical Studies Polytechnic University of Catalonia
Members	Clàudia Barahona, Mariano Badell, Xavier Calvo, German de Melo, Santi Ordás, Xavier Martínez, Jordi Torralbo Barcelona School of Nautical Studies Polytechnic University of Catalonia

## International Members Committee

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[Manel Grifoll \(Program Editor\)](#)

FNB - Universitat Politècnica de Catalunya, Spain

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[Graham Benton](#)

CSU Maritime Academy, California, USA

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[Marcel·la Castells](#)

FNB - Universitat Politècnica de Catalunya, Spain

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[Nedko Dimitrov](#)

Nikola Vaptsarov Naval Academy Varna, Bulgaria

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[Samrat Ghosh](#)

Australian Maritime College, Australia

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[Thanssis Karlis](#)

Australian Maritime College, Australia

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[Xavier Martinez de Osés](#)

FNB - Universitat Politècnica de Catalunya, Spain

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[Matthew Rooks](#)

Kobe University, Japan

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[Boris Svilicic](#)

University of Rijeka, Faculty of Maritime Studies, Croatia

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## Secretariat

**Mr Alessio Bazzanella**  
**CIMNE Congress Bureau**

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Campus Nord UPC Ed. C3, Zona Comercial

Jordi Girona 1-3, 08034

Barcelona, Spain



[www.congress.cimne.com](http://www.congress.cimne.com)

## Conference Venue: The World Trade Center

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The conference venue is the World Trade Center Barcelona a business park located on the waterfront close to the city centre, between the Southern end of the famous “Ramblas” and the Mediterranean Sea.



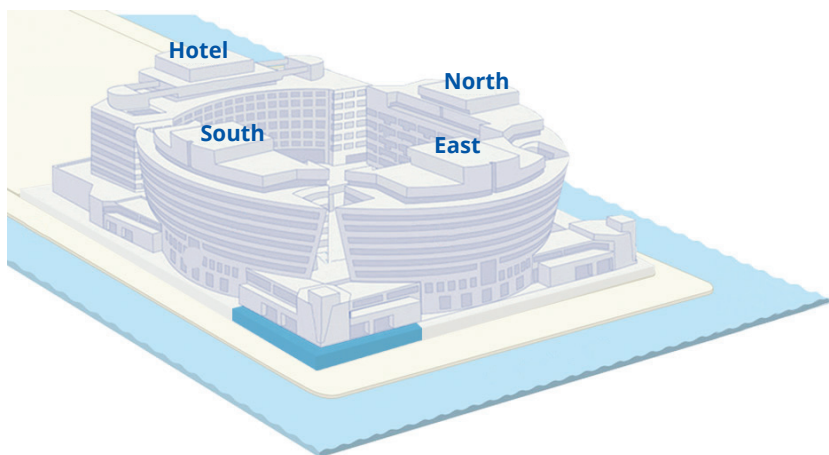
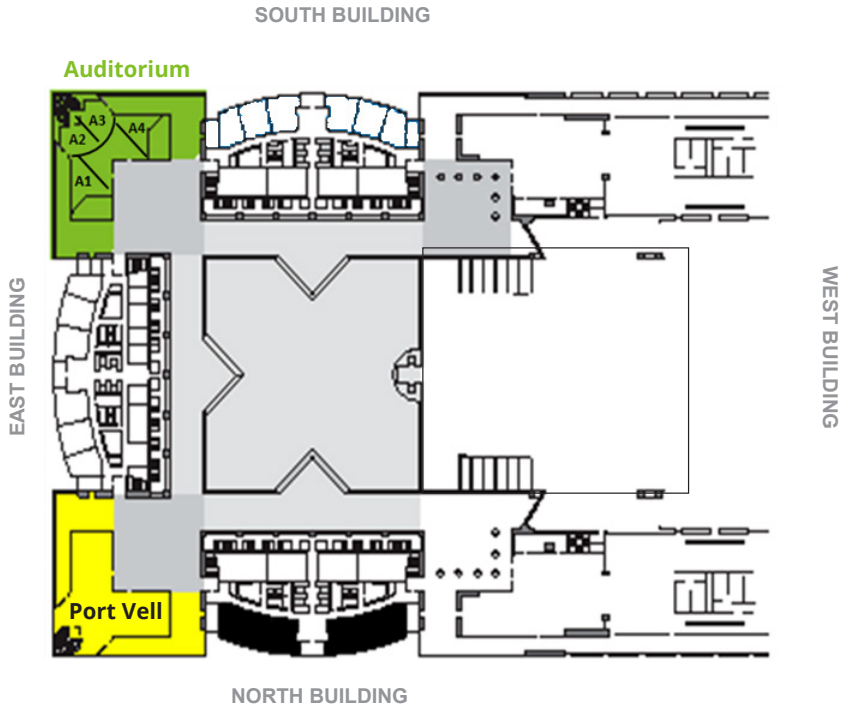
WTCB building structure was inspired by the shape of a boat surrounded by the Mediterranean Sea, and created by American architect Henry N. Cobb. The arrangement of the four buildings in a circle creates a central plaza of 2,500 m<sup>2</sup>, where shops and restaurants provide services to the users of the complex. The four towers house offices for rent, a congress center and the Hotel Grand Marina.



## World Trade Center Ground Floor

We are going to use the **Auditorium**, the room **A1** and the room **A4** located on the ground floor.

Coffee Breaks and lunches will be served in the **Port Vell Room**, where the Poster sessions will be held.





# Conference Information

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## Identification Badge

Participants are kindly invited to always wear their personal badges in the conference area. Access to coffee breaks, lunches and to technical sessions will be denied in absence of the badge. Accompanying persons are not allowed to attend technical sessions.

## Secretariat Timetable

Tuesday October 16	18:00 - 20:00
Wednesday October 17	7.30 - 16:30
Thursday October 18	9:00 - 17:00
Friday October 19	9:00 - 16:30

## Internet Access

Wireless Internet access is available throughout the WTC buildings. Out of respect to all of the congress participants, moderate access to the Internet would be much appreciated.

## Presentations

### Time and Equipment:

Special Speech at Plenary session will last 60 minutes  
Keynote Lectures will last 30 minutes

### Technical Sessions:

Each IAMUC presentation is allocated 20 minutes.  
Each IAMUS presentation is allocated 15 minutes.  
Times include questions.

A PC running Windows XP and PowerPoint XP and a projector will be present in each room. Please test your presentation in your session room during the coffee-break before your talk.

# Special Speech at the Plenary Session

Wednesday 17 October | 14:00 - 15:00

Room: WTC - Auditorium

## Status Quo to Novus ordo seclorum: A Vision for Shipping in the Exponential World Order

Not since the European Renaissance has the interplay of global megatrends, emerging technologies and new mindsets combined to deliver such transformation, but the shift from status quo to novus ordo seclorum—a new order of the ages—took centuries. During that period shipping can genuinely claim to have changed the world, but as exponential growth drives an unprecedented pace of change playing a full role in the future means asking new questions and questioning old assumptions. What's urgently required is a fresh vision for the industry, one that embraces the profound change underway, provides a platform for collaborative ecosystems to grow, and prepares people, processes and pedagogy for a radically different world.



## Keynote Lectures

Wednesday 17 October | 10:00 - 10:30  
Keynote Speech

### Future Vision of the maritime transport of the LNG

*Vicente Capell  
(Knutsen, Spain)*



Friday 19 October | 16:50 - 17:20  
Special Talk

### The work of IMO on the Human Element

*Ismael Cobos  
(IMO, head of  
Maritime Training  
and Human Element)*





## Development and Research project presentations

**09:00 - 10:40**

Development and Research  
project presentations

ThM01P

Room: World Trade Center - Auditorium  
Chair: Gamal Ghalwash

**Addressing Cyber Security in Maritime Education and Training**

*S. Ahvenjarvi*

**Developing optimal approaches for the implementation of S-Mode in MET**

*J. Fei*

**Ocean Conservancy Experiment and Network (OCEAN): Exploring What Motivates People to Protect our Oceans?**

*P. Szwed*

**Research on New Obstacle Avoidance Algorithms for Ships.**

*A. Lazarowska*

**11:10 - 12:50**

Development and Research  
project presentations

ThM01P

Room: World Trade Center - Auditorium  
Chair: Gamal Ghalwash

**Development of standard accident/incident analysis forms**

*V. Gokcek*

**Development of a ship weather routing software for academic purposes**

*C Boren*

**Development of a Common MET Question Repository**

*J. Tucker*

**WG on PIMET**

*K. Matthews*

## Social programme

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The Conference Social Programme of AGA-IAMU 2018 coincides with the Welcome dinner at the Barcelona School of Nautical Studies of Polytechnic University of Catalonia, the Conference Dinner at the Maritim Museum, the Gala dinner at Casa Lotja de Mar.

### *Tuesday October 16, 19:00, Nautical Faculty of Barcelona FNB* **Pre-Registration, Castellers show and Welcome dinner**

Registration to the 19 AGA IAMU will start at 18.00 at the Nautical Faculty of Barcelona FNB, followed by the human towers show at 19.00, the Castellers that are part of the very foundation of Catalan society, drawing on a tradition going back three centuries. After that, a welcome dinner will be served. The dinner is planned to start at 20:00



### *Wednesday October 17, 21:00 , Barcelona Maritime Museum* **The Conference dinner**

The Conference dinner on Wednesday, October 17, will be held in the beautiful vaulted Sala Marques De Comillas at the Barcelona Maritime Museum. The Museu Marítim is certainly one of the most interesting sights in Barcelona. In line with the theme, the museum is housed in the former shipyards of Drassane. The museum is located on the southern edge of the old town and at the end of the Rambla, and has an extensive collection of ships and boats and a large exhibition on the construction of medieval sailing ships. Before the dinner, delegates can visit the museum (free of charge, the conference badge will be required). We suggest arriving at 19:30 if you are interested in this visit.



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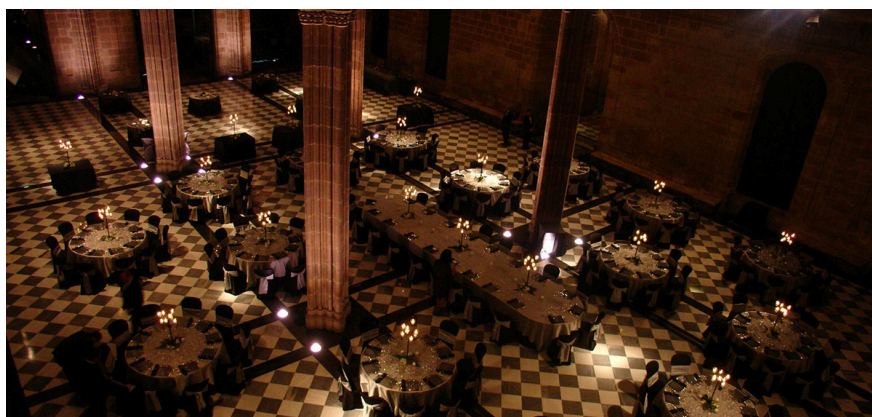
*Thursday, October 18, Norai Restaurant*  
**Student Appreciation dinner**

Student appreciation dinner will take place on Thursday, October 18, 20.30 at the Norai Restaurant, in the premises of Barcelona Maritime Museum.



*Friday October 19, 20:30, Casa Llotja de Mar*  
**AGA IAMU 2018 - The Gala dinner**

The Gala dinner will take place at the Casa Llotja de Mar, in the Saló de Contractacions (Contracts Hall). The Saló de Contractacions is the most distinguished architectural piece of Casa Llotja de Mar, and has been conserved since the medieval period. It is a large hall of 14m-high ceilings, with four columns and six arches that sustain the wooden beams of the upper floor. The scallop shells on the arches alternate with the shields of the king and the city of Barcelona, as it was King Peter III and the Consell de Cent government institution who promoted the building's construction. This hall has been witness to the first opera held in Barcelona, the Jocs Florals historically related poetry contests and other cultural events. Casa Llotja de Mar is located on the sea front in the historical center of Barcelona and one of the most significant and splendid monuments representing the economy and culture of the city. It was built in the second-half of the 14th century, the most brilliant period of Catalan Gothic



## Technical Tour

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### Modernist Tour of Barcelona with Lunch

The Modernist tour of Barcelona will take place on Saturday, from 9:00 to 15:00. Antoni Gaudí's incredible buildings are a monument not just to his distinctive genius but to the spirit of a generation. The 19th-century Catalan Renaissance saw the cultural rebirth of a nation that reached its peak with the Modernisme movement. Gaudí and his contemporaries took the spirit of the times and mixed modern techniques with traditional craftsmanship to enrich Barcelona. The tour covers Modernism and the city by exploring the art, history, literature, music and, of course, architecture of the period as well as a close look at the most celebrated proponent of modernism in Barcelona, Gaudí.

#### This tour includes:

Casa Lleó i Morera, Casa Amatller, Casa Batlló, Casa Milà (La Pedrera), Casa Fuster, Palau Baro de Quadras, Sagrada Família, Sant Pau Art Nouveau Site and Parc Güell.

We will end the tour at the restaurant Maritim, located in the Reial Club Marítim of Barcelona, with stunning views to the sea, harbour and city.







## Poster Session

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IAMU 2018 will host a poster exposition in the coffee break area on Thursday and Friday. This will provide posters a high visibility among the participants to the conference, thus furnishing the opportunity for interactions between poster presenters and conference attendees.

### **Case study on the potential of interagency information exchange for oceans' governance**

*S. Bryton, O. Delgado, J. Martínez and E. Madariaga*

### **Maritime Security Training: Evolution and Pedagogy**

*J. Helmick*

### **State of America's Marine Highway Program**

*J.B. Taub*

### **Virtualization of maritime educational space: condition, problems, prospects and proposals**

*I. Marichev*

### **Safety at sea: risk based thinking (RBT) using fuzzy logic approach**

*V.A. Loginovskiy*

### **Physics laboratory experiments at the Barcelona Faculty of Nautical Studies**

*A. Isalgue and D. A. Ochoa*

### **A Gap Analysis to Determine Adult Education Learning Styles in Instructional Training for Mariners via Online Learning**

*A. Peach and J. Tucker*

### **Study on the effect of changing hull resistances to turbochargers operations of marine diesel engine**

*V.Q. Phan, N.K. Vu and C.A.T. Phan*

### **Sea traffic management and the smart maritime community**

*S. Velasquez Correa, X. Martinez de Oses and U. Siwe*

### **Adoption of KPI's in modern ship management on example of polish offshore industry**

*T. Laczynski and B. Laczynski*

### **The autonomous vessel: analysis of the way to travel**

*G. de Melo Rodríguez and I. E. Sazatornil*

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**Intercomparison of emissions assessment methodologies in a short sea shipping framework**

*C. Borén, M. Castells and M. Grifoll*

**Developing a measurement tool for intercultural competence**

*J. Fei*

**Safety and security for unmanned vessels through updating the rules of ancient creek origins? – can we still base the future rules on the old principles or do we need to update our way of thinking ?**

*P.I. Sandell*

**Risk Analysis For Medical Treatment On Board**

*B. Essiz, E. Uflaz and O. Arslan*

**Need for Collaborative learning in maritime education and training**

*A. Sharma and S. Nazir*

**Helm's Woman – Religious, Social and Cultural Barriers and kingdom of Saudi Arabia's vision 2030**

*A.U. Rehman and H. Timraz*

**Ship manoeuvre analysis and simulation to obtain scouring related propeller variables**

*T. Llull, A. Mujal-Colilles, X. Gironella, M. Castells, X. Martínez de Osés, A. Martín and A. Sánchez-Arcilla*

**Comparing Nautical BSc-Programs and their Quality Indicators**

*T.E. Jensen and T. Resnes*

**Display and alarm of the predicted areas of danger with other vessels (PADs) in the ECDIS**

*J. Moncunill Marimón and A. Martín Mallofré*

**International maritime management, M.SC.: learning and satisfaction in distance-education**

*E. Klimmek, N. Nause and P. John*

**Suggested advancements in mariner water safety and personal survival techniques**

*J. Downey*





# Technical Programme Overview

	<b>Monday</b> October 15	<b>Tuesday</b> October 16	<b>Wednesday</b> October 17		<b>Thursday</b> October 18	<b>Friday</b> October 19	<b>Saturday</b> October 20
	Nautical Faculty of Barcelona		World Trade Center				
8:00 - 9:00			Registration				
9:00 - 10:00	IEB Meeting	IEB Meeting	AGA 19 Opening Ceremony		Development and Research project presentations	Technical Sessions	Modernist Tour of Barcelona with Lunch
10:00 - 11:00			Keynote Lecture		Coffee Break + Poster Session	Coffee Break + Poster Session	
11:00 - 12:00			Campus Tour	Presidents' Forum			
12:00 - 13:00			Lunch	Lunch	Lunch		
13:00 - 14:00	Lunch						
14:00 - 15:00	IEB Meeting		Special Speech at the Plenary Session		IAMUC Opening ceremony	Lunch	
15:00 - 16:00			AGA 19 Plenary Session		Technical Sessions	Technical Sessions	
16:00 - 17:00					Coffee Break + Poster Session	Coffee Break + Poster Session	
17:00 - 17:30			AGA 19 Closing Ceremony		Technical Sessions	Specially Selected Student Presentations	
17:30 - 18:00						Special Talk	
18:00 - 19:00		Pre-Registration, Castellars show and Welcome dinner at the Nautical Faculty of Barcelona				Closing Ceremony	
19:00 - 20:00							
20:00 - 21:00							
21:00 - 22:00				Dinner at the Museu Maritim de Barcelona			
22:00 - 23:00					Gala Dinner		



## Detailed IAMUC Technical Programme

### Monday, October 15

09:00 - 13:00 <b>IEB Meeting</b>	MoM01P Room: Nautical Faculty of Barcelona Chair: Agustí Martin Mallofré
13:00 - 14:00 <b>Lunch</b>	
14:00 - 17:00 <b>IEB Meeting</b>	MoA03P Room: Nautical Faculty of Barcelona Chair: Agustí Martin Mallofré

### Tuesday, October 16

09:00 - 13:00 <b>IEB Meeting</b>	TuM01P Room: Nautical Faculty of Barcelona Chair: Agustí Martin Mallofré
13:00 - 14:00 <b>Lunch</b>	
14:00 - 17:00 <b>IEB Meeting</b>	TuA03P Room: Nautical Faculty of Barcelona Chair: Agustí Martin Mallofré
18:00 - 22:00 <b>Pre- Registration, Castellers show and Welcome dinner at the Nautical Faculty of Barcelona</b>	

## Wednesday, October 17

08:00 - 09:00 <b>Registration at the World Trade Center</b>	
09:00 - 10:00 <b>AGA 19 Opening Ceremony</b>	WeM02P Room: World Trade Center - Auditorium Chair: Agustí Martin Mallofré
<b>Welcome from Chair LEC:</b> <i>Capt. Mr. Agustí Martin Mallofré</i> <b>President of the Spanish Merchant Fleet:</b> <i>Mr. Benito Nuñez Quintanilla</i> <b>President of the Barcelona Port Authority:</b> <i>Mrs. Mercè Conesa</i> <b>Catalan Minister of Public Works:</b> <i>Mr. Damia Calvet</i> <b>RDML</b> <i>Mr. Thomas A. Cropper (Chair of the IAMU)</i> <i>Mr. Takehiro Umemura (The Nippon Foundation)</i>	
10:00 - 10:30 <b>Keynote Lecture</b>	WeM03P Room: World Trade Center - Auditorium Chair: Agustí Martin Mallofré
<b>Future Vision of the maritime transport of the LNG,</b> <i>Vicente Capell (Knutsen Spain)</i>	
10:30 - 11:00 <b>Coffee Break &amp; Photo session</b>	
10:30 - 17:00 <b>Simulator Exhibition and IAMUC Poster show in the Main Hall</b>	
11:00 - 13:00 <b>Campus Tour</b>	
11:00 - 12:30 <b>Presidents' Forum at the room Aula dels Estels</b>	
12:30 - 14:00 <b>Lunch</b>	
14:00 - 15:00 <b>Special Speech at the Plenary Session: Kate Adamson (Futurist &amp; CEO - Futurenautics Group)</b>	WeA08P Room: World Trade Center - Auditorium Chair: Agustí Martin Mallofré
15:00 - 17:00 <b>AGA 19 Plenary Session (IAMU member only)</b>	WeA09P Room: World Trade Center - Auditorium Chair: Agustí Martin Mallofré
17:00 - 17:15 <b>AGA 19 Closing Ceremony</b>	
21:00 - 22:30 <b>Dinner at the Museu Maritim de Barcelona</b>	

Thursday, October 18

<p>09:00 - 10:40  <b>Development and Research project presentations</b></p>	<p>ThM01P          Room: World Trade Center - Auditorium          Chair: Gamal Ghalwash</p>
<p><b>Addressing Cyber Security in Maritime Education and Training</b>  <i>S. Ahvenjarvi</i></p> <p><b>Developing optimal approaches for the implementation of S-Mode in MET</b>  <i>J. Fei</i></p> <p><b>Ocean Conservancy Experiment and Network (OCEAN): Exploring What Motivates People to Protect our Oceans?</b>  <i>P. Szwed</i></p> <p><b>Research on New Obstacle Avoidance Algorithms for Ships.</b>  <i>A. Lazarowska</i></p>	
<p>10:40 - 11:10  <b>Coffee Break + Poster Session</b></p>	<p>ThM02P          Room: World Trade Center- Room A1          Chair:</p>
<p><b>Developing a measurement tool for intercultural competence</b>  <i>J. Fei</i></p> <p><b>Maritime Security Training: Evolution and Pedagogy</b>  <i>J. Helmick</i></p> <p><b>State of America's Marine Highway Program</b>  <i>J.B. Taub</i></p> <p><b>Safety at sea: risk based thinking (RBT) using fuzzy logic approach</b>  <i>V.A. Loginovskiy</i></p> <p><b>Physics laboratory experiments at the Barcelona Faculty of Nautical Studies</b>  <i>A. Isalgue and D. A. Ochoa</i></p> <p><b>A Gap Analysis to Determine Adult Education Learning Styles in Instructional Training for Mariners via Online Learning</b>  <i>A. Peach and J. Tucker</i></p> <p><b>Study on the effect of changing hull resistances to turbochargers operations of marine diesel engine</b>  <i>V.Q. Phan, N.K. Vu and C.A.T. Phan</i></p> <p><b>Sea traffic management and the smart maritime community</b>  <i>S. Velasquez Correa, X. Martinez de Oses and U. Siwe</i></p> <p><b>Suggested advancements in mariner water safety and personal survival techniques</b>  <i>J. Downey</i></p>	

10:40 - 11:10

Coffee Break + Poster Session

ThM02P

Room: World Trade Center- Room A1

Chair:

**Adoption of KPI's in modern ship management on example of polish offshore industry**

*T. Laczynski and B. Laczynski*

**Case study on the potential of interagency information exchange for oceans' governance**

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**The autonomous vessel: analysis of the way to travel**

*G. de Melo Rodríguez and I. E. Sazatornil*

<p>11:10 - 12:50  <b>Development and Research project presentations</b></p>	<p>ThM03P  Room: World Trade Center - Auditorium  Chair: Gamal Ghalwash</p>
<p><b>Development of standard accident/incident analysis forms</b>  <i>V. Gokcek</i></p> <p><b>Development of a ship weather routing software for academic purposes</b>  <i>C Boren</i></p> <p><b>Development of a Common MET Question Repository</b>  <i>J. Tucker</i></p> <p><b>WG on PIMET</b>  <i>K. Matthews</i></p>	
<p>13:00 - 14:00  <b>Lunch</b></p>	
<p>14:20 - 14:30  <b>IAMUC Opening ceremony</b></p>	
<p>14:00 - 16:00  <b>Technical Sessions</b></p>	
<p>14:00 - 16:00  <b>Electronics and Human Interface / Safety and Security</b></p>	<p>ThA06P01  Room: World Trade Center - Auditorium  Chair: Rosa Maria Fernández Cantí</p>
<p><b>A framework for cyber security risk assessment of ships</b>  <i>B. Svilicic, J. Celic, J. Kamahara and J. Bolmsten</i></p> <p><b>The effect of flag state warning letters as a means of enforcing IMO rec. 263 on pilotage in the Danish straits</b>  <i>P.M. Cossen</i></p> <p><b>Assessment and management of risks in the industrial fishery</b>  <i>S.S. Moysenko and L.E. Meyler</i></p> <p><b>Security analysis of the national maritime transport system as part of the maritime critical infrastructure</b>  <i>N. Dimitrov, B. Mednikarov and V. Vasilev</i></p> <p><b>Extension of preventive and protective measures to reduce the risk of kidnapping in piracy</b>  <i>I. Rius Teixidó and A. Martín Mallofré</i></p>	

14:30 - 16:00 <b>Maritime Environment / Maritime Education and Training I</b>	ThA06P02 Room: World Trade Center- Room A1 Chair: Vladimir Loginovskiy
<b>An investigation into making ships cleaner and more energy efficient</b> <i>G. de Melo Rodriguez, R. P. Gueraçague and J.C. Murcia Gonzalez</i>	
<b>Assessment of marine diesel engines performance based on carbon and nitrogen oxides content in exhaust gases</b> <i>V. Odintsov, D. Glazkov and N. Sviridyuk</i>	
<b>To Enhance Enrollment of Female Cadets at Maritime Institutions And to Increase Women Seafarers in the Shipping Industry</b> <i>Qi Chen</i>	
<b>Using SCAT Analysis to Evaluate the Effects of Sailing Vessel Training on Emotional Quotient (EQ) Competencies</b> <i>Y. Kunieda, T. Yamagishi and K. Murai</i>	
<b>The development of a qualification board to document engineering cadet performance as part of a training period at sea</b> <i>M.A. Cote</i>	
16:10 - 16:40 <b>Coffee Break + Poster session</b>	
16:40 - 18:20 <b>Technical Sessions</b>	
16:40 - 18:20 <b>Shipping, Navigation and Routing</b>	ThE08P01 Room: World Trade Center - Auditorium Chair: Ninna Roos
<b>The application of mathematical models and simulations in the feasibility studies of ship manoeuvring</b> <i>T.S. Do, E. Hietbrink and C.V. Tran</i>	
<b>Research on new obstacle avoidance algorithms for ships</b> <i>A. Lazarowska</i>	
<b>The algorithm for fast forecasting of the collision danger degree with ships and surface objects in the e-navigation area</b> <i>A.N. Popov, A.I. Kondratiev and I.O. Smirnov</i>	
<b>Investigation of grounding accidents in the bay of Izmir with the application of root-cause analysis</b> <i>A.C. Toz, C. Sakar and B. Koseoglu</i>	
<b>Hunts point terminal market: the demand for waterborne-transportation as a part of the outbound distribution system</b> <i>S. Yahalom, C.-Q. Guan, E. Johansson and C. Kamga</i>	



16:40 - 18:00

**Maritime Education and Training II**

ThE08P02

Room: World Trade Center- Room A1

Chair: Samrat Ghosh

**Educating the future maritime workforce in a sea of constant disrupters and change**

*M. Alfultis*

**A Course Proposal for The Training of Marine Engineering Students about Alternative Fuels, Related Systems, and Operation**

*B. Zincir and C. Deniz*

**The IAMU-PAES-P project implementation benefits: the MAAP experience**

*A. Baylon and E. Santos*

**Knowledge management at higher MET institutions**

*V. Frančiić, D. Zec, L. Maglić and I. Rudan*

09:00 - 10:40 <b>Technical Sessions</b>	
09:00 - 10:40 <b>Role of women in the maritime industries</b>	FrM01P01 Room: World Trade Center - Auditorium Chair: Angelica Baylon
<b>The role and impact of GECAMET research in empowering female seafarers</b> <i>C. Dragomir and A. Baylon</i>	
<b>Barriers to Women's Leadership in Maritime and the Ways to Overcome Them.</b> <i>P. Ozdemir and T. Albayrak</i>	
<b>How can women be encouraged to work in maritime professions? - possibilities for flexible post-graduate studies</b> <i>N.M. Roos</i>	
<b>The evolution of female figures in met institutions over a decade: some case studies</b> <i>C. Barahona, M. Castells, S. Ordás and J. Torralbo</i>	
<b>Women in the maritime industry</b> <i>A. Balasanyan and Z. Phutkaradze</i>	
09:00 - 10:40 <b>Maritime Education and Training III</b>	FrM01P02 Room: World Trade Center- Room A1 Chair: Nedko Dimitrov
<b>Paternalistic leadership in a distinctive maritime work environment: a study among maritime students</b> <i>E. Asyali and R. Allard</i>	
<b>Rethinking STCW Education to Cope with Increased Autonomy and Autonomous Shipping</b> <i>J. Mogensen</i>	
<b>Role of ECDIS training on improving situational awareness</b> <i>S.J. Cole and E. Asyali</i>	
<b>Factors that affect the delayed embarkation for and return from shipboard training of maap cadets</b> <i>D.A. Pedregosa, S. Akmad, B.D. Sodolski, L. Negapatan and G. De Guzman</i>	
<b>Seafarers education, training and crewing in Ukraine</b> <i>M. Miyusov and V. Zakharchenko</i>	
10:40 - 11:10 <b>Coffee Break + Poster session</b>	

11:10 - 13:10

**Technical Sessions**

11:10 - 13:10

**Ports and Terminal Management /  
Maritime Environment**

FrA06P01

Room: World Trade Center - Auditorium

Chair: Boris Svilicic

**Open-berth structures' bed rock scour protection system from main propeller action: case study in Vietnam***N. Thanh Son***Containership bay time and crane productivity: are they on the path of convergence?***S. Yahalom and C. Guan***Challenges and Opportunities for Enhancing Port Competitiveness in Africa***A. S. Elselmy, A. M. Morsy and M. E. Abdel Aziz***Risk regional zonation of environmental pollution on the port of Hai Phong, Vietnam and the surrounding area***L. Thi Huong Giang, N. Thi The Nguyen and N. Thanh Son***The Repelling Effect of Golden Apple Snail (*Pomacea canaliculata*) Egg Extract on Algae.***G. A. C. Casiano, H. P. T. Catalayban, C. M. Melliza, R. M. M. Parreño and V. L. Vecendario***A simulation on transportation of suspended sediment due to the maintenance dredging of the CAI LAN international container terminal, Vietnam***T.N. Nguyen Thi and H.G. Le Thi*

11:10 - 13:10

**Maritime Education and Training IV**

FrM03P02

Room: World Trade Center- Room A1

Chair: Graham Benton

**Training engineers for remotely operated ships of the future***G. Lokuketagoda, T. Miwa, S. Jayasinghe and D. Ranmuthugala***Interactive root cause analysis (IRCA) as a practical tool for developing management skills (for masters in navigation)***M. Chesnokova, O. Monastyrskaya and J. Monastyrskaya***Analyzing student feedback from the 2017 IAMU student forum: charting paths to the future***A. Yang and M. J. Rooks***Implementation of the ECDIS system: An OOW perspective as an integral part of educational improvement***D. Brčić, S. Žuškin, S. Valčić and V. Frančić***Maritime Training for Emergent Opportunities***W. Nadolny***Enhanced Fast-Time-Simulation Features to support Ship-Handling Simulator Training***K. Benedict, M. Kirchhoff, M. Schaub, G. Tuschling, M. Baldauf, M. Gehrke and M. Gluch*

13:10 - 14:30 <b>Lunch</b>	
11:10 - 13:10 <b>Technical Sessions</b>	
14:30 - 15:50 <b>Shipbuilding, Marine Engineering</b>	FrA06P01 Room: World Trade Center - Auditorium Chair: Boris Svilicic
<b>Training engineers for remotely operated ships of the future</b> <i>G. Lokuketagoda, T. Miwa, S. Jayasinghe and D. Ranmuthugala</i>	
<b>Interactive root cause analysis (IRCA) as a practical tool for developing management skills (for masters in navigation)</b> <i>M. Chesnokova, O. Monastyrskaya and J. Monastyrskaya</i>	
<b>Analyzing student feedback from the 2017 IAMU student forum: charting paths to the future</b> <i>A. Yang and M. J. Rooks</i>	
<b>Implementation of the ECDIS system: An OOW perspective as an integral part of educational improvement</b> <i>D. Brčić, S. Žuškin, S. Valčić and V. Frančić</i>	
<b>Maritime Training for Emergent Opportunities</b> <i>W. Nadolny</i>	
<b>Enhanced Fast-Time-Simulation Features to support Ship-Handling Simulator Training</b> <i>K. Benedict, M. Kirchhoff, M. Schaub, G. Tuschling, M. Baldauf, M. Gehrke and M. Gluch</i>	
14:30 - 15:50 <b>Maritime Education and Training V</b>	FrA06P02 Room: World Trade Center- Room A1 Chair: Fredrik Olindersson
<b>Development of Maritime Education and Training through Human-ware Upgrading</b> <i>A. Abdel Hamid Kassar and A. Almalt</i>	
<b>Challenges in marine engineers training. goals and opportunities in the academic education on electric marine technology</b> <i>P. Casals-Torrens, R. Bosch, F. Díaz-Gonzalez, J. Nicolas and V. Fuses</i>	
<b>Sea traffic management validation project and the european maritime simulation network(EMSN)</b> <i>Z. Bhuiyan and J. Saunders</i>	
<b>Case-studies based approach in maritime English teaching</b> <i>Z. Bezhanovi, T. Mikeladze, S. Rodinadze and K. Zarbazoja</i>	

15:50 - 16:20 <b>Coffee Break + Poster session</b>	
16:20 - 16:50 <b>Specially Selected Student Presentations</b>	FrE09P Room: World Trade Center - Auditorium Chair: Matthew Rooks
16:50 - 17:20 <b>Special Talk: The work of IMO on the Human Element</b> <i>Dr. Ismael Cobos (IMO, head of Maritime Training and Human Element)</i>	FrE10P Room: World Trade Center - Auditorium Chair: Agustí Martin Mallofré
17:20 - 17:50 <b>Closing Ceremony IAMUS/IAMUC</b>	FrE11P Room: World Trade Center- Room A1 Chair: Agustí Martin Mallofré
21:00 - 23:00 <b>Gala Dinner at the Casa Llotja of Barcelona</b>	

## Saturday, October 20

09:00 - 15:00 <b>Modernist Tour of Barcelona with Lunch - UPON RESERVATION</b>
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# Detailed IAMUS Technical Programme

Thursday, October 18

14:20 - 14:30 <b>IAMUS Opening ceremony</b>	
14:30 - 15:45 <b>Energy efficiency in maritime transport</b>	ThA02P Room: World Trade Center Room A4 Chair: Matthew Rooks
<b>Emission inventories for shipping operations: Comparison with on-board measurements</b> <i>S. Jahangiri, N. Nikolova and K. Tenekedjiev</i>	
<b>Automatic identification system data implementation to a weather ship routing</b> <i>X. Calvo Suria, M. Grifoll Colls, F.X. Martínez de Osés and M. Castells Sanabra</i>	
<b>Evolve always, but in a controlled and careful way</b> <i>L.M. Callis I Oliver</i>	
<b>Efficiency of energy in maritime transport</b> <i>Y.S. Abu-Mustapha and M. A. Azzam</i>	
<b>Social &amp; Environmental Impacts of Electric Ferries in Australia</b> <i>S.P. Caldera</i>	
15:45 - 16:15 <b>Human Element</b>	ThA03P Room: World Trade Center Room A4 Chair: Matthew Rooks
<b>Sorting of waste in the accommodation spaces and Preventing discharge of used drums into the sea</b> <i>H. Vuong</i>	
<b>Common Health Problems among Filipino Seafarers</b> <i>R.D. Alimen, K. T. Aguirre, J. B. Gamuza, H. P. Lastrilla, K. Q. Pilar, L. P. Ortizo, M. M. Suarez, K. I Barniego, C. D. Detablan and V. B. Baldemor</i>	
16:15 - 16:30 <b>Coffee Break</b>	

Thursday, October 18

<p>16:30 - 18:00 <b>IT and modern technology in maritime studies</b></p>	<p>ThE06P Room: World Trade Center Room A4 Chair: Antoni Lull</p>
<p><b>The benefits in the deck cadet training evaluation by rubrics</b> <i>A. Torné, X. Martínez and A. Isalgué</i></p> <p><b>E-provision of e-navigation strategy implementation</b> <i>G. Phalavandishvili and Z. Bezhanovi</i></p> <p><b>Camera calibration for automated behavior analysis of bridge watchkeeping personnel</b> <i>V. Gokcek, G. Kocak and Y. Genc</i></p> <p><b>Autonomous Vessels in the Maritime Industry</b> <i>N. Grillo and A. Wagner</i></p> <p><b>Designing a dynamic positioning system based on robust recurrent cerebellar model articulation controller</b> <i>V.P Ta, X.K Dang, H.D Van and V.T Nguyen</i></p> <p><b>Analysis of the possibility of using sorbents to combat oil pollution in port and coastal areas</b> <i>K. Rogowska and A. Dynowski</i></p> <p><b>Autonomous Shipping and the Human Element</b> <i>A. Schenning, I. Costello and J. Dertien</i></p> <p><b>Fuzzy-PSO Advantage Control Technical for Torpedo Motion Optimization</b> <i>X.K. Dang and V.D. Do</i></p>	
<p>18:30 - 18:45 <b>Culture and communication in maritime industry</b></p>	<p>ThE07P Room: World Trade Center Room A4 Chair: Antoni Lull</p>
<p><b>Basic research of various materials modified by friction reforming for adapting to marine environment</b> <i>T. Manabe, K. Sato, T. Fujino, T. Sugawara and T. Jibiki</i></p>	
<p>20:30 - 22:30 <b>Student appreciation dinner</b></p>	



<p>08:15 - 09:15 <b>Logistics and management</b></p>	<p>FrM01P Room: World Trade Center Room A4 Chair: Paul Szwed</p>
<p><b>Port function evolution under intermodal transport-case study of Ningbo-Zhoushan</b> <i>J. Ge and X. Wang</i></p> <p><b>An Optimization Model Suggestion for Dry Ports (OPMOPORT)</b> <i>O. Cetin and M. Saka</i></p> <p><b>Safety of cruise tourism and geoinformational (GIS) Systems</b> <i>A. Tsenteradze and T. Zoidze</i></p> <p><b>Batumi port. Making its functioning better</b> <i>A. Baramidze and I. Sharabidze</i></p>	
<p>09:15 - 11:15 <b>Maritime education and training (MET)</b></p>	<p>FrM02P Room: World Trade Center Room A4 Chair: Srđan Žuškin</p>
<p><b>An assessment of OBE implementation in the teaching of maritime courses</b> <i>L.M. Domingo and R. Dangaran</i></p> <p><b>A New Approach to Simulator Applications</b> <i>A.C. Güllapoglu</i></p> <p><b>Application of ability profiling (APRO) psychometric assessment in maritime education and training (MET)</b> <i>N. Gujabidze, Z. Bezhanovi and T. Tau</i></p> <p><b>The two models of the midshipman leadership training at the Nikola Vaptsarov naval academy</b> <i>N. S. Vladimirova and I. P. Stoyanov</i></p> <p><b>Conceptual design for the construction of a training ship</b> <i>S. Georgiev and A. Ivanova</i></p> <p><b>SIMAC - open simulator learning/traning environment</b> <i>S.B. Simonsen and L. M. Jensen</i></p> <p><b>Psychological and sociological education effect on Seafarers' condition</b> <i>A. Ahmad</i></p>	

## Friday, October 19

11:15 - 11:45 <b>Maritime English</b>	FrM03P Room: World Trade Center Room A4 Chair: Srđan Žuškin
<b>The premises of creating the legal regulation of unmanned ships.</b> <i>K. Dudnichenko</i>	
<b>Evaluating and Improving Japanese Maritime Student Listening Comprehension Skills</b> <i>T. Rina</i>	
11:45 - 12:00 <b>Coffee Break</b>	
12:00 - 12:15 <b>Culture and communication in maritime industry</b>	FrN05P Room: World Trade Center Room A4 Chair: Matthew Rooks
<b>Application of speech recognition algorithm to international VHF communication</b> <i>G. Okamoto</i>	
12:15 - 13:00 <b>Safety of navigation</b>	FrN06P Room: World Trade Center Room A4 Chair: Matthew Rooks
<b>Designing a safety assessment model of waterway transportation in Ganh Rai bay - Vietnam based on fuzzy logic</b> <i>V.T. Nguyen, X.K. Dang, V.T Nguyen and N.L Nguyen</i>	
<b>Analysis Of Ecdis Related Marine Accident</b> <i>E. Uflaz, B. Essiz and O. Arslan</i>	
<b>Improved safety of water tight doors through human detection control circuitry</b> <i>J. Jones</i>	

## Index Authors

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Abdel Aziz, M. E. ....	33	De Guzman, G. ....	32
Abdel Hamid Kassar, A. ....	34	de Melo Rodríguez, G. ....	30, 28
Abu-Mustapha, Y.S. ....	37	Delgado, O. ....	28
Aguirre, K. T. ....	37	Deniz, C. ....	31
Ahmad, A. ....	39	Dertien, J. ....	38
Ahvenjarvi, S. ....	27	Detablan, C. D. ....	37
Akmad, S. ....	32	Dimitrov, N. ....	29
Albayrak, T. ....	32	Do, T.S. ....	30
Alfultis, M. ....	31	Do, V.D. ....	38
Alimen, R.D. ....	37	Domingo, L.M. ....	39
Allard, R. ....	32	Downey, J. ....	27
Almalt, A. ....	34	Dragomir, C. ....	32
Anh Tuan, V. ....	34	Duc Hanh, N. ....	34
Arslan, O. ....	40, 28	Dudnichenko, K. ....	40
Asyali, E. ....	32	Duong Nam, N. ....	34
Azzam, M. A. ....	37	Dynowski, A. ....	38
Balasanyan, A. ....	32	Díaz-Gonzalez, F. ....	34
Baldauf, M. ....	33	Elselmy, A. S. ....	33
Baldemor, V. B. ....	37	Essiz, B. ....	28, 40
Barahona, C. ....	32	Fei, J. ....	27
Baramidze, A. ....	39	Frančić, V. ....	33, 31
Barniego, K. I. ....	37	Fujino, T. ....	38
Baylon, A. ....	31, 32	Fuses, V. ....	34
Benedict, K. ....	33	Gamuza, J. B. ....	37
Bezhanovi, Z. ....	38, 34, 39	García-Espinosa, J. ....	34
Bhuiyan, Z. ....	34	Ge, J. ....	39
Bolmsten, J. ....	29	Gehrke, M. ....	33
Borén, C. ....	29, 28	Genc, Y. ....	38
Bosch, R. ....	34	Georgiev, S. ....	39
Brčić, D. ....	33	Gironella, X. ....	28
Bryton, S. ....	28	Glazkov, D. ....	30
Caldera, S.P. ....	37	Gluch, M. ....	33
Callis I Oliver, L.M. ....	37	Gokcek, V. ....	29, 38
Calvo Suria, X. ....	37	Grifoll, M. ....	28, 37
Casals-Torrens, P. ....	34	Grillo, N. ....	38
Casiano, G. A. C. ....	33	Guan, C. ....	33, 30
Castells, M. ....	28, 32	Gueraçague, R. P. ....	30
Castells Sanabra, M. ....	37	Gujabidze, N. ....	39
Catalayban, H. P. T. ....	33	Güllapoglu, A.C. ....	39
Celic, J. ....	29	Helmick, J. ....	27
Cetin, O. ....	39	Hietbrink, E. ....	30
Chen, Qi. ....	30	Isalgué, A. ....	27, 38
Chesnokova, M. ....	33	Ivanova, A. ....	39
Cole, S.J. ....	32	Jahangiri, S. ....	37
Colom-Cobb, J. ....	34	Jayasinghe, S. ....	33
Cossen, P.M. ....	29	Jensen, L. M. ....	39
Costello, I. ....	38	Jensen, T.E. ....	28
Cote, M.A. ....	30	Jibiki, T. ....	38
Dai An, N. ....	34	Johansson, E. ....	30
Dang, X.K. ....	38, 40, 38	John, P. ....	28
Dangaran, R. ....	39	Jones, J. ....	40

Kamahara, J. ....	29	Okamoto, G. ....	40
Kamga, C. ....	30	Ordás, S. ....	32
Kirchhoff, M. ....	33	Ortiz, L. P. ....	37
Klimmek, E. ....	28	Ozdemir, P. ....	32
Kocak, G. ....	38	Oñate, E. ....	34
Kondratiev, A.I. ....	30	Parreño, R. M. M. ....	33
Koseoglu, B. ....	30	Peach, A. ....	27
Kunieda, Y. ....	30	Pedregosa, D.A. ....	32
Laczynski, B. ....	28	Phalavandishvili, G. ....	38
Laczynski, T. ....	28	Phan, C.A.T. ....	27
Lastrilla, H. P. ....	37	Phan, V.Q. ....	27
Lazarowska, A. ....	27, 30	Phutkaradze, Z. ....	32
Le Thi , H.G. ....	33	Pilar , K. Q. ....	37
Llull, T. ....	28	Popov, A.N. ....	30
Loginovskiy, V.A. ....	27	Ranmuthugala, D. ....	33
Lokuketagoda, G. ....	33	Rehman , A.U. ....	28
Madariaga, E. ....	28	Resnes, T. ....	28
Maglić, L. ....	31	Rina, T. ....	40
Mai Khanh, P. ....	34	Rius Teixidó, I. ....	29
Manabe, T. ....	38	Rodinadze, S. ....	34
Martín, A. ....	28	Rogowska, K. ....	38
Martín Mallofré, A. ....	29, 28	Rooks, M. J. ....	33
Martínez, J. ....	28	Roos, N.M. ....	32
Martínez, X. ....	38	Rudan, I. ....	31
Martínez de Osés, X. ....	37, 28, 27	Saka, M. ....	39
Matthews, K. ....	29	Sakar, C. ....	30
Mednikarov, B. ....	29	Sandell, P.I. ....	28
Melliza, C. M. ....	33	Santos, E. ....	31
Meyler, L.E. ....	29	Sato, K. ....	38
Mikeladze, T. ....	34	Saunders, J. ....	34
Miwa, T. ....	33	Sazatornil, I. E. ....	28
Miyusov, M. ....	32	Schaub, M. ....	33
Mogensen, J. ....	32	Schenning, A. ....	38
Monastyrskaya, J. ....	33	Serrano-Fontova, A. ....	34
Monastyrskaya, O. ....	33	Serván-Camas, B. ....	34
Moncunill Marimón, J. ....	28	Sharabidze, I. ....	39
Morsy, A. M. ....	33	Sharma, A. ....	28
Moyseenko, S.S. ....	29	Simonsen, S.B. ....	39
Mujal-Colilles, A. ....	28	Siwe, U. ....	27
Murai, K. ....	30	Smirnov, I.O. ....	30
Murcia Gonzalez, J.C. ....	30	Sodolski, B.D. ....	32
Nadolny, W. ....	33	Stoyanov, I. P. ....	39
Nause, N. ....	28	Suarez, M. M. ....	37
Nazir, S. ....	28	Sugawara, T. ....	38
Negapatan, L. ....	32	Svilicic, B. ....	29
Nguyen, N.L. ....	40	Sviridyuk , N. ....	30
Nguyen, V.T. ....	38, 40	Szwed, P. ....	27
Nguyen Thi , T.N. ....	33	Sánchez-Arcilla, A. ....	28
Nicolas, J. ....	34	Ta, V.P. ....	38
Nikolova, N. ....	37	Tau, T. ....	39
Ochoa, D. A. ....	27	Taub, J.B. ....	27
Odintsov, V. ....	30	Tenekedjiev, K. ....	37

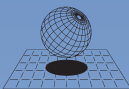
Thanh Son, N.....	33
The Nam, T.....	34
Thi Huong Giang, L.....	33
Thi The Nguyen, N.....	33
Timraz, H. ....	28
Torné, A. ....	38
Torrалbo, J. ....	32
Toz, A.C. ....	30
Tran, C.V. ....	30
Tsenteradze, A. ....	39
Tucker, J.....	27, 29
Tuschling, G.....	33
Uflaz, E. ....	40, 28
Valčić, S. ....	33
Van, H.D.....	38
Van Uy, D. ....	34
Vasilev, V.....	29
Vecendario, V. L. ....	33
Velasquez Correa, S.....	27
Vladimirova, N. S. ....	39
Vu, N.K. ....	27
Vuong, H. ....	37
Wagner, A.....	38
Wang, X. ....	39
Yahalom, S. ....	30, 33
Yamagishi, T. ....	30
Yang, A. ....	33
Zakharchenko, V.....	32
Zarbazoia, K. ....	34
Zec, D.....	31
Zincir, B. ....	31
Zoidze, T. ....	39
Žuškin, S.....	33







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