

ANNUAL REPORT

2021



CONTENTS

Message from the Chancellor	2
Message from the President	4
2021 Highlights	6
Governance and Leadership	8
Our Students	9
Our Programmes	10
PhD in Maritime Affairs – Malmö, Sweden	10
MSc in Maritime Affairs – Malmö, Sweden	10
MSc Outreach in China	11
MPhil	11
Professional Education	11
LLM	11
Postgraduate Diplomas	11
Executive and Professional Development Courses	11
English & Study Skills Programme (ESSP) – Malmö, Sweden	11
Research	12
WMU-Sasakawa Global Ocean Institute	14
International Conferences & Events	16
International Collaboration	16
Publications	17
Human Resources	18
Contributions to the UN 2030 Sustainable Development Agenda	20
Industry Liaison Group	21
Stewards of the Sea Campaign	22
Fellowship Donors	23
Donations in 2021	24
Field Studies	25
New Facilities	25
Finances	27
Publications 2021	28

THE MISSION OF THE WORLD MARITIME UNIVERSITY (WMU) IS TO BE THE WORLD CENTRE OF EXCELLENCE IN POSTGRADUATE MARITIME AND OCEANS EDUCATION, PROFESSIONAL TRAINING AND RESEARCH, WHILE BUILDING GLOBAL CAPACITY AND PROMOTING SUSTAINABLE DEVELOPMENT.

THE VISION OF WMU IS TO INSPIRE LEADERSHIP AND INNOVATION FOR A SUSTAINABLE MARITIME AND OCEANS FUTURE.

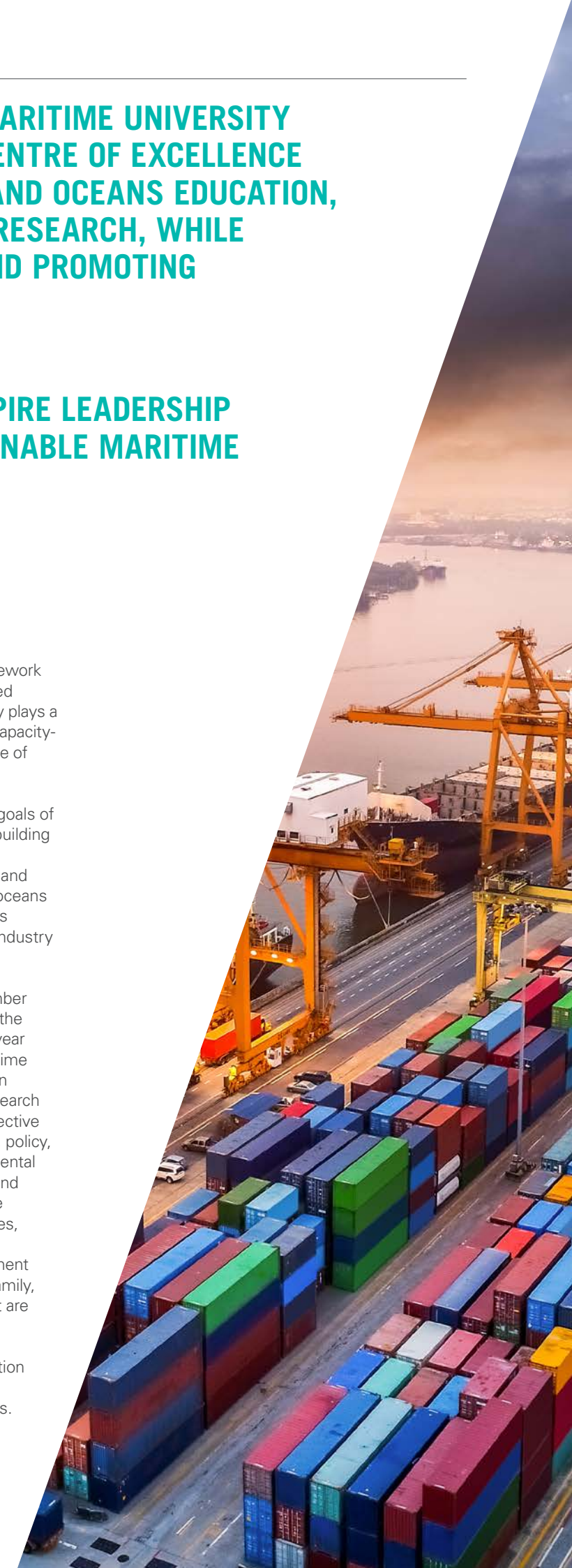
WHO WE ARE

As a global centre of excellence established within the framework of the International Maritime Organization (IMO), a specialized agency of the United Nations, the World Maritime University plays a significant role in maritime and ocean education, research, capacity-building and economic development while promoting the role of women in the maritime and ocean sectors.

The aim of WMU is to further enhance the objectives and goals of the IMO, IMO member States and the maritime industry, building global capacity through our unique postgraduate education programmes as well as professional development courses and research that meet the highest standards in maritime and oceans affairs. We work closely with the IMO and key stakeholders including maritime and port administrations, the maritime industry and non-governmental organizations.

The United Nations General Assembly (UNGA) on 9 December 2021 adopted Resolution 76/72 on Oceans and the Law of the Sea. The resolution continues, for the twelfth consecutive year since 2009, to recognize the importance of the World Maritime University (WMU) of the International Maritime Organization (IMO), as a centre of excellence for maritime education, research and capacity building. The resolution confirms WMU's "effective capacity-building role in the field of maritime transportation, policy, administration, management, safety, security and environmental protection, as well as its role in the international exchange and transfer of knowledge, notes the role of the World Maritime University-Sasakawa Global Ocean Institute and urges States, intergovernmental organizations and other bodies to make voluntary financial contributions to the University's Endowment Fund." The University's connection to the United Nations family, and unique relationship with IMO, are invaluable assets that are only offered by WMU.

The impact of WMU has been immense since its inauguration in 1983. With an international presence and a global reach, there are 5,634 graduates from 171 countries and territories. WMU continues to build maritime and ocean capacity and expertise taking into account the UN Sustainable Development Goals (UN SDGs) 2030.



MESSAGE FROM THE CHANCELLOR



Mr. Kitack Lim
WMU Chancellor and Secretary-General,
International Maritime Organization,
WMU Class of 1991

“ AS A WMU ALUMNUS, I CAN ATTEST TO THE FACT THAT WMU GRADUATES ARE UNIQUELY EQUIPPED TO WORK IN THE INTERNATIONAL MARITIME AND RELATED OCEAN COMMUNITIES. THEIR HIGHLY FOCUSED INTERDISCIPLINARY STUDIES AND THE UNIQUE CULTURAL ENVIRONMENT OF WMU GROUNDS THEM IN MARITIME AND OCEAN EDUCATION AS WELL AS INTERNATIONAL RELATIONS. ”

As the Chancellor of the World Maritime University (WMU), it is an honour for me to present the 2021 Annual Report on behalf of the University's Board of Governors and the Executive Board. I wish to thank the members of the Boards for their dedication and hard work.

Despite the ongoing pandemic throughout 2021, the University continued to deliver on its mandate, providing uninterrupted education to its students. I received regular briefings from the President, since March of 2020, regarding the steps taken by the University to ensure the health and safety of its Staff and students. I am pleased to report that despite these ongoing challenges, the University completed another successful academic year under the pandemic and was able to once again hold a single, momentous graduation ceremony for the entire Class of 2021 that was live streamed for a global audience of family, friends and the wider WMU community.

The Class of 2021 included 249 graduates – 105 MSc graduates from the Malmö Headquarters and 62 MSc graduates from the China programmes (a combined total of 167 MSc graduates), one MPhil graduate, two PhD graduates and 79 graduates from the distance learning programmes (including 7 LLM graduates). In support of UN SDG 5 focusing on gender equality, 35 percent of the overall graduates in 2021 were women. The total number of WMU graduates now stands

at 5,634 from 171 countries and territories. Together, they form a mighty international network of experts, that can rely on each other, on those who came before them and on the WMU Faculty and Staff who have accompanied them on their journey.

As a WMU alumnus, I can attest to the fact that WMU graduates are uniquely equipped to work in the international maritime and related ocean communities. Their highly focused interdisciplinary studies and the unique cultural environment of WMU grounds them in maritime and ocean education as well as international relations. They are the next generation of maritime leaders and are equipped with the necessary skills to contribute effectively to the realisation of IMO's goals and the UN SDGs. They will rely on their WMU education and training when advising or representing their countries, when negotiating with international partners, in their home countries and internationally.

In addition to the excellent education provided at the University, in 2021, WMU continued to excel in supporting the shipping industry and offered eight public webinars that ranged from decarbonization and smart shipping, to empowering women in ocean science and service robotics in an ocean industry context. Over 4,200 participants from all continents registered for the complementary events. The WMU-Sasakawa Global Ocean Institute (GOI) continued to expand its work towards the achievement of UN SDG 14 concerning

the conservation and sustainable use of the oceans, as an independent focal point working at the interdisciplinary interface of several cognitive fields pertaining to science, policy, ocean governance and law, and through a wealth of on-going maritime and ocean research projects and PhD opportunities.

The United Nations General Assembly (UNGA) on 9 December 2021 adopted Resolution 76/72 on Oceans and the Law of the Sea. The resolution continues, for the twelfth consecutive year, to recognize the importance of WMU as a centre of excellence for maritime education, research and capacity building and calls on intergovernmental organisations and other bodies to make voluntary financial contributions to the University's Endowment Fund. A sustainable future for the University can be secured through the continued commitment of donors who understand the impact of WMU's education, research and capacity-building mission. Donor contributions also support the effective implementation of IMO instruments and policies, as well as that of the UN SDGs, for the benefit of humankind.

I wish to express my gratitude to Dr. Cleopatra Doumbia-Henry, President of WMU, and the Faculty and Staff who have admirably seen the University through the

challenges of the ongoing pandemic. They have ensured that WMU remains at the forefront of maritime and ocean education, research and capacity-building. They have also tirelessly sought to secure the financial sustainability of the University through the Stewards of the Sea campaign to help ensure the long-term future and success of WMU, which will benefit future generations of maritime and ocean leaders.

I take the opportunity to express my heartfelt appreciation to all organisations and institutions that support WMU in achieving its global mission, and in particular, to the Government of Sweden and the City of Malmö for their generosity in hosting and supporting WMU since it was founded, in 1983. My deepest gratitude also goes to the donors who provided fellowships for the Class of 2021, as well as many governments that sponsored their employees.

The interdisciplinary studies offered at WMU ensure that the education students receive enables them to be well-rounded, informed and intelligent individuals who take a holistic approach to maritime and oceans issues. Our concerted efforts will continue to inspire leadership and innovation for a sustainable maritime and oceans future that will ensure that our beautiful oceans are passed onto future generations.



MESSAGE FROM THE PRESIDENT



Dr. Cleopatra Dombia-Henry
President

“ THE PANDEMIC HAS HIGHLIGHTED THE IMPORTANCE OF EXPERTISE, INNOVATION AND THE CAPACITY TO BE ADAPTABLE. THIS HAS BEEN CLEARLY DEMONSTRATED BY WMU WHICH HAS THE CAPACITY TO AFFECT REAL CHANGE GLOBALLY, INCLUDING PROMOTING SUSTAINABLE DEVELOPMENT THROUGH OUR UNIQUELY FOCUSED MARITIME AND OCEAN EDUCATION, RESEARCH AND CAPACITY BUILDING PROGRAMMES. ”

The COVID-19 pandemic continued to significantly impact all of our lives in 2021 with uncertainty, concern for families and loved ones, and worry about the industry as a whole.

I wish to take this opportunity to thank the entire WMU community for their invaluable support that was instrumental in ensuring that WMU unwaveringly delivered the highest standards of education and continued to advance important maritime and ocean research. Throughout the pandemic, our students, faculty, staff, and wider community have exhibited strength, resilience and calm, rising above the circumstances yet again in 2021 to complete another successful academic year that culminated in the graduation of the Class of 2021. I am particularly proud of the WMU faculty and staff who ensured that WMU continued to deliver on its mission of providing excellence in postgraduate maritime and oceans education, professional training and research, while building global capacity and promoting sustainable development.

The Class of 2021 is the only WMU class to complete their studies wholly during the time of COVID-19. The difficulties they overcame will undoubtedly contribute to their strength of character and determination that will serve them well in the pandemic response and recovery process to ensure a sustainable maritime and oceans future for the industry. I am also pleased to report that 35 percent of the graduates in 2021 were women, and the incoming MSc Class in Dalian set a gender equality record for the programme with 50/50

enrolment, a record that has already been set by the MSc programme in Shanghai. The overall number of WMU graduates now stands at 5,634 from 171 countries and territories. We are immensely proud of our alumni who are utilizing their expertise gained at WMU to rise as maritime and ocean leaders enabling positive change in the industry at national, regional and global levels.

Among the 32 research projects and consultancies underway at WMU in 2021, the highlights include the launch of an EU funded Horizon 2020 research project, CHEK –deCarbonizing sHipping by Enabling Key technology symbiosis on real vessel concept designs. In 2021, the CAHEMA project (Concepts of ammonia/hydrogen engines for marine application) was also initiated. Work continued in 2021 on two consultancy projects for the European Maritime Safety Agency (EMSA). They include support to EMSA's Academy through the delivery of customized education and training to support the enrichment of EMSA experts in the fields of maritime safety, security, environmental protection and pollution response, as well as capacity-building support for non-EU countries in the Mediterranean and the Black and Caspian Sea in areas related to the implementation of IMO instruments. In 2021, WMU also joined a partnership to enhance the safety and energy efficiency of domestic ferry operations in the Philippines as part of a year-long project funded by the World Bank Group (WBG), the International Finance Corporation (IFC) and the IMO Integrated Technical Cooperation Programme.

In 2021, the WMU-Sasakawa Global Ocean Institute (GOI) continued to advance the University's commitment to Goal 14, focused on the ocean. A highlight was the endorsement of the “Empowering Women for the United Nations Decade of Ocean Science for Sustainable Development” Programme. It is an official Decade Action to the UN Decade of Ocean Science for Sustainable Development (2021-2030) under the auspices of the Intergovernmental Oceanographic Commission (IOC) of the UN Educational, Scientific and Cultural Organization (UNESCO) (IOC-UNESCO). Key among the many accomplishments to date are the involvement in the United Nations Second World Ocean Assessment (WOA II) with the co-convenership and co-authorship of Chapter 12 of the WOA II on changes in inputs and distribution of solid waste, other than dredged material, in the marine environment. Ocean education and literacy was further supported by the GOI through the PhD scholarship and Post-Doctoral fellowship programmes including the Land-to-Ocean Leadership Programme, the Empowering Women in the United Nations Decade of Ocean Science for Sustainable Development Programme, the European Union H2020 BugWright2 project focused on autonomous robotic inspection and maintenance on ship hulls, and the Closing the Circle Programme focused on Marine Debris, Sargassum and Marine Spatial Planning.

In-person conferences continued to largely be on hold in 2021. The University hosted its first wholly online conference from 8-10 September 2021, “Seas of Transition: Setting a Course for the Future”. The conference brought together for the first time the International Maritime Lecturers' Association (IMLA) with all three of its Special Interest Groups, the International Conference on Engine Room Simulators (ICERS), the International Maritime English Conference (IMEC), and the International Navigation Simulator Lecturers' Conference (INSLC).

I wish to extend sincere thanks to the Government of Sweden and the City of Malmö, the hosts of WMU, for their continued generosity, including the financial support for the operations of the University and our headquarters facilities, adjacent space for the GOI, and in 2021 newly inaugurated office space in close proximity to support the expanding WMU community of faculty, staff, researchers, PhD students and visiting lecturers. Sincere thanks are also extended to our many donors for their ongoing support to the University and to its mission. Special thanks are extended to the donors who provided Malmö MSc fellowships in 2021 with 31 fellowships awarded by The Nippon Foundation, 14 by the IMO, ten by the Government of Norway, seven by the Government of the Republic of Korea,

six by the Australian Maritime Safety Authority, five each by the from the ITF Seafarers' Trust and Orients Fond, four each by the Government of Germany and the TK Foundation, two each by the Government of the United Kingdom and Stena Rederi AB, and singular awards by the Government of The Netherlands, GARD AS, the International Chamber of Shipping, the MPA Academy of Singapore, Norwegian Cruise Line Holdings, the Norwegian Seafarers' Union and the World Nuclear Transport Institute. It is the support from our donors that makes it possible to fulfill our capacity building mission as we educate the maritime and ocean leaders of today and tomorrow.

The pandemic has highlighted the importance of expertise, innovation and the capacity to be adaptable. This has been clearly demonstrated by WMU which has the capacity to affect real change globally, including promoting sustainable development through our uniquely focused maritime and ocean education, research and capacity building programmes. Our mandate and work help to contribute to and support the United Nations 2030 Sustainable Development Goals. The WMU community, and our graduates in particular, have a vital role to play in the rebuilding and strengthening of our maritime and ocean sectors taking into account the intense impact of the pandemic on our interconnected world.

It is extremely important that the long-term financial sustainability of WMU is secured. Its mandate and mission are global with respect to maritime and ocean affairs, not only through education but also with respect to research and capacity building. We must continue our unwavering efforts to advance our Stewards of the Sea campaign in support of the WMU Endowment Fund. This will ensure that this postgraduate academic institution for the world can continue to educate the maritime and ocean leaders as well as the professionals of the maritime and ocean industry. They will help support and achieve a greener transition for a sustainable future for generations to come.

2021 HIGHLIGHTS

February



Contribution from Liberia Alumni

On 8 February, the WMU Alumni Association of Liberia presented a donation to the WMU Endowment Fund in appreciation of the quality of education that WMU has imparted to Liberians and many developing countries.

March



WMU and COLP Release BBNJ Volume

The volume is comprised of papers delivered at the 43rd Annual Conference of the Center for Oceans Law and Policy (COLP) that was held at WMU from 14 May to 16 May 2019.

April



MTCC - Africa Global Sulphur Cap Workshop

The second international workshop by WMU and the Danish Maritime Authority on IMO's 2020 Global Sulphur Cap was hosted online by MTCC Africa from 30-31 March.



President Doumbia-Henry Recognized

President Doumbia-Henry was featured as a Remarkable Woman in the field of transport for the year 2021 by the Transformative Urban Mobility Initiative (TUMI).



Second World Ocean Assessment

The United Nations Second World Ocean Assessment was released on 21 April. WMU played a key role in co-convenership and co-authorship of Chapter 12 on changes in inputs & distribution of solid waste, other than dredged material, in the marine environment.



"Dangers at Sea" Exhibit, Malmö

The "Dangers at Sea" exhibit opened at the Technology and Maritime Museum/ Malmö Museum in April, showcasing the work of WMU and President Doumbia-Henry as well as the research work of five PhD candidates.

May



5th Consecutive Woman Appointed to WMU Governing Bodies

In April, HE Auren Aguirre O. Sunza became the fifth consecutive woman appointed by the IMO Secretary-General to join the WMU Board of Governors or Executive Board.



WMU Co-Hosts Conference on Oceans Law & Policy

From 10-12 May, WMU co-hosted the world-wide Conference on Oceans Law & Policy: Peaceful Maritime Engagement in East Asia and the Pacific Region that took place virtually.

June



CHEK Project Initiated

On 3 June, the CHEK - deCarbonizing shipping by Enabling Key technology symbiosis on real vessel concept designs project kicked off with a digital meeting of consortium partners. WMU will communicate & disseminate project results & conduct lifecycle assessments.



Empowering Women Programme Endorsed as Ocean Decade Action

On 8 June, WMU's Empowering Women for the United Nations Decade of Ocean Science for Sustainable Development programme was endorsed as a Decade Action by IOC-UNESCO.



Dalian MSc Programme Reaches Gender Equality

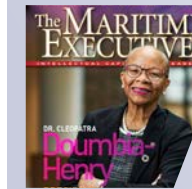
On 21 June, the Class of 2022 in the Maritime Safety and Environmental Management Programme in Dalian set a gender equality record for the programme with 50/50 enrolment.



MARI-WEL Open Access

In honour of Day of the Seafarer on 25 June, WMU and the ITF Seafarers' Trust announced that the ground-breaking online Maritime Welfare Professional Development Programme would be available free of charge going forward.

August



WMU & President Doumbia-Henry Featured

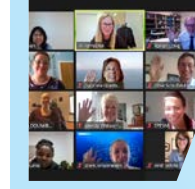
The July/August issue of The Maritime Executive featured an introduction to the work of WMU as well as a special interview with President Doumbia-Henry.

September



2021 Academic Year Begins, Malmö

The Malmö academic year began on 20 September. Despite the COVID-19 pandemic, the Class includes 132 students from 53 countries enrolled in the Malmö MSc programme.



China Graduation Ceremonies

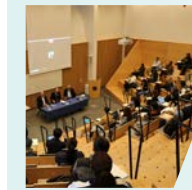
Graduation ceremonies were held during September in both Shanghai and Dalian for a total of 63 students in WMU's MSC programmes in China.



WMU Illuminated Blue

For World Maritime Day, on 30 September, WMU headquarters in Malmö were illuminated blue in honour of the world's seafarers.

October



Open Seminar

On 11 October, WMU delivered the open seminar, "Can a Regulation be Assessed Against Performance in Shipping?" with prominent speakers discussing the role that industry good practice(s) can play in achieving a good performance.



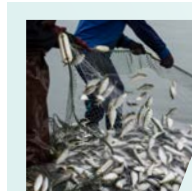
Sheldon Kinney Memorial Lecture

The 2021 Sheldon Kinney Memorial Lecture was delivered on 19 October by Mrs Lois Zabrocky, President and CEO of International Seaways, Inc., on the topic of Worldwide Energy: Navigating Today, Innovating for Tomorrow.



New Premises

On 22 October, WMU inaugurated new premises generously provided by the City of Malmö. A short walk from the main building, the new premises provide an additional 46 rooms with office & meeting space.



CAPFISH Workshop on IUU Fishing

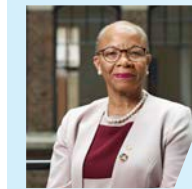
As part of the CAPFISH research project, WMU delivered a workshop for students that included a broad spectrum of presentations from high level IUU fishing experts to tackle the complex and multi-faceted issue.

November



Malmö Graduation Ceremony

On 31 October, graduates from the Malmö MSc and the PhD programme participated in the Class of 2021 graduation ceremony that was held in Malmö, bringing the total number of graduates to 5,634 from 171 countries.



Lloyd's List Top 100

In December it was announced that President Doumbia-Henry was selected for the 2021 Lloyd's List Top 100 annual ranking of the most influential people in shipping.



WMU/ITF Transport 2040 Phase II - First Workshop

The workshop set a road map of future shipping technologies to help in identifying the required knowledge, skills, and competencies for seafarers as a result of technological advancement in the maritime sector.



UN General Assembly Continues to Recognize Important Role of WMU

On 31 December, the UNGA continued for the 12th consecutive year, to recognize the importance of WMU as a centre of excellence for maritime education, research and capacity building.

GOVERNANCE AND LEADERSHIP

WMU IS GOVERNED BY A CHARTER ADOPTED BY THE IMO ASSEMBLY, WHICH IS MADE UP OF DELEGATIONS FROM 175 IMO MEMBER STATES AND 3 ASSOCIATE MEMBERS.

THE WMU REVISED CHARTER, ADOPTED BY THE 30TH SESSION OF THE IMO ASSEMBLY IN DECEMBER 2017, SETS THE COURSE FOR THE NEXT DECADE.

In accordance with the Charter, WMU's governance structure consists of a Board of Governors (BoG) and an Executive Board (EB). The IMO Secretary-General is the WMU ex-officio Chancellor. The President directs and administers the University.

The BoG meets once a year and is responsible for exercising due governance of the University, ensuring the effectiveness and continuity of its operations, protecting the autonomous nature of the University within the framework of the IMO, and ensuring the maintenance of the highest academic and professional standards. The BoG is composed of up to 30 members who are appointed by the IMO Secretary-General for a renewable period of three years. The BoG meets annually and is chaired by the Chancellor. The reports approved by the BoG are submitted to the IMO Council. The Chairperson of the Executive Board, the President of the University as well as the ex-officio member from the Government of Sweden attend meetings of the BoG.

The EB is composed of up to 11 members, 8 of whom are appointed by the BoG, while the IMO Secretary-General appoints the Chairperson of the EB. They have a renewable two-year term of office. The EB meets three times a year. In addition to performing functions specified in the Charter, it facilitates the work of the University, provides oversight between sessions of the BoG, monitors the implementation of the decisions of the BoG and gives directions and guidelines as necessary.

The President is appointed by the Secretary-General of the IMO to direct and administer the University, in accordance with the University's Statutes, Regulations and Rules, strategic directions and plans. The President presides over the Academic Council, which assists in the coordination, promotion and implementation of the academic work programme of the University. The President is assisted by the Vice President International, the Vice President Academic, Director of the WMU – Sasakawa Global Ocean Institute and the Chief Operations Officer.

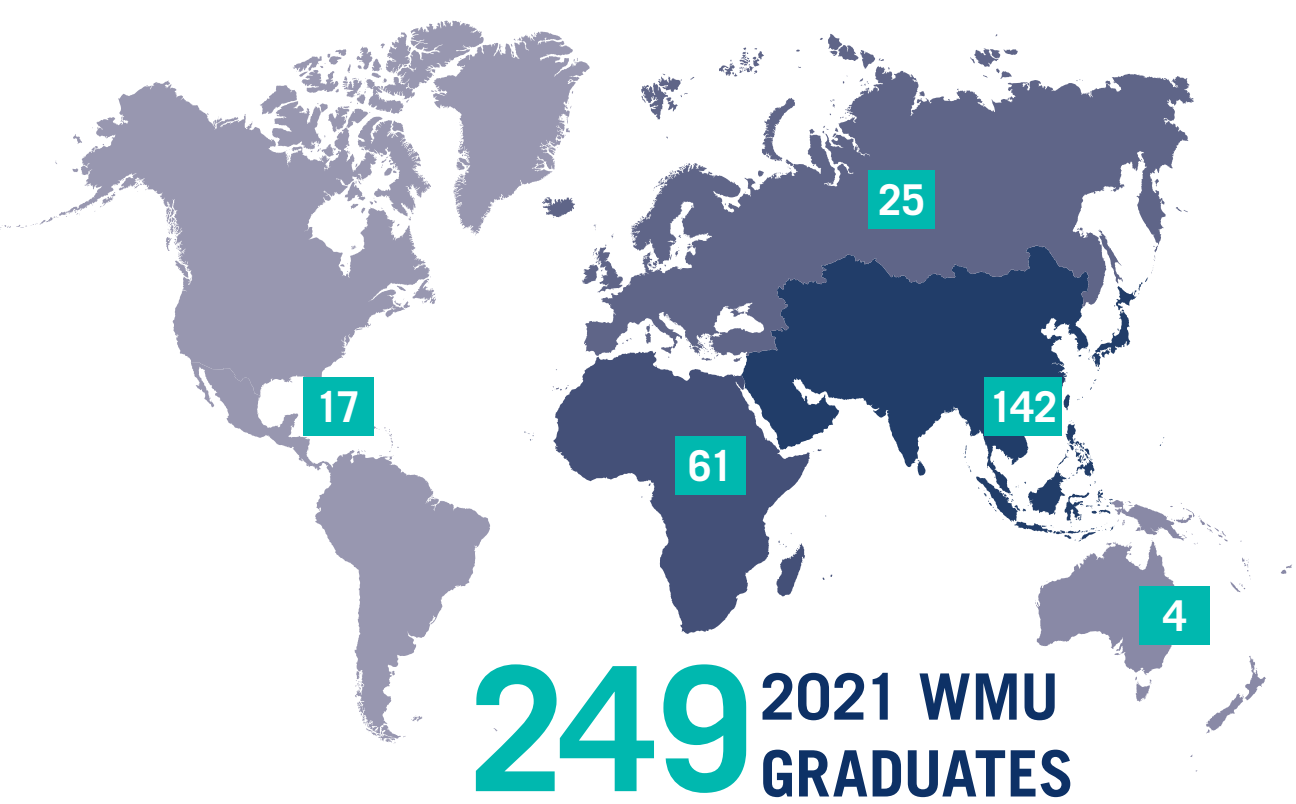
OUR STUDENTS

WITH 5,634 ALUMNI FROM 171 COUNTRIES & TERRITORIES, WMU HAS A REMARKABLE PRESENCE IN THE MARITIME SECTOR.

The total number of female graduates to date is 1,254 including 707 female graduates of the Malmö MSc programme.

WMU alumni assume positions of prominence around the world such as prime minister, ministers and senior maritime officials, directors of shipping companies and ports, and as heads of maritime academies and naval organizations. They hold prominent positions within UN organizations including the current Secretary-General of the IMO, and many represent their home countries at the IMO and in international forums and organizations. The alumni maintain close ties with each other creating a unique maritime global network that increases by ~350 graduates annually.

Enrolled Students	2020	2021
Malmö	110	131
PhD (continuing)	42	46
Dalian	35	41
Shanghai	29	23
MPhil	1	2
Marine Insurance	6	5
Maritime Energy	11	12
Executive Maritime Management	40	37
International Maritime Law	55	42
LLM	7	8
ESSP	(no ESSP only) 21	(no ESSP only) 26
Total	336	347



OUR PROGRAMMES

PhD in Maritime Affairs – Malmö, Sweden

Designed as a flexible research degree related to the IMO mission of safety, security and environmental protection, the PhD programme involves 3-6 years of study on a full or part-time basis at WMU or elsewhere. PhD students are either self-funded or supported by research projects. The PhD programme provides the University with both an income stream from tuition fees and significantly increases its publication and citation listings.

Doctoral research at WMU falls mainly within one of the following Research Priority Areas (RPAs):

- Environmental Impacts of Marine Activities
- Maritime and Marine Technology and Innovation
- Maritime Economics and Business
- Maritime Energy Management
- Maritime Law, Policy and Governance
- Maritime Safety
- Maritime Social and Labour Governance

In addition to the above RPAs, the WMU–Sasakawa Global Ocean Institute carries out and coordinates research in line with its vision to act as an independent focal point for the ocean science–policy–law–industry–society interface where policy makers, the scientific community, regulators, industry actors, academics, and representatives of civil society meet to discuss how best to manage and use ocean spaces and their resources in accordance with the UN SDGs. Through evidence–based research, the Institute seeks to provide new perspectives on how to address the manifold threats facing the ocean.

MSc in Maritime Affairs – Malmö, Sweden

In 2021, student enrolment was 133 on the flagship Malmö-based MSc programme. This enrolment number, despite the pandemic, speaks to the strength and influence of the University. The proportion of MSc students (Malmö) who are funded by their employer, government, or from personal resources is an indicator of the University’s financial health. In 2021, eight students (6%) were self-funded.

The Malmö MSc programme is designed for mid-career maritime professionals to meet the current needs of the maritime sector. The first term of the standard 14–month programme includes research methodology and lays the foundation for successful graduate studies. The accelerated 10–month programme begins in the second specialization term that integrates

academic subjects with real–world applications through the field study programme and visiting lecturers from the maritime and ocean sector. In the final term, students deepen their knowledge in their main field of study while simultaneously broadening their knowledge base through exploration of the other subject areas. The Class of 2019 was the first class for which a written dissertation was a requirement for all.

The MSc programme in Malmö offers:

- Maritime Safety & Environmental Administration
- Maritime Law & Policy
- Maritime Education & Training
- Port Management
- Shipping Management & Logistics
- Maritime Energy Management
- Ocean Sustainability, Governance & Management

Despite the pandemic, in 2021 more than 66 Visiting Lecturers from around the world contributed to the online teaching at WMU. These visiting maritime professionals provide unique and invaluable insight into the maritime industry and are a guarantor for practice-informed research and teaching at WMU.

2021 Malmö MSc – Enrolments by type of funding	
Donor funded students	93
Government/company funded students	32
Self-funded students	8

2021 Graduates by Programme	
PhD	2
Malmö	105
Dalian	34
Shanghai	28
MPhil	1
PgDip Marine Insurance	5
PgDip Maritime Energy	10
PgDip Maritime Safety & Security	1
PgDip Executive Maritime Management	26
PgDip International Maritime Law	30
LLM International Maritime Law	7
Total	249

MSc Outreach in China

Established in 2005, the outreach MSc in Maritime Affairs programmes in China were designed to extend WMU’s professional education to a new and thriving clientele from the region and beyond, and to meet the maritime industry’s demand for high–level specialized professionals in China’s maritime market. The International Transport & Logistics (Shipping & Finance) specialization (ITL) is delivered in Shanghai in cooperation with Shanghai Maritime University. The Maritime Safety & Environmental Management (MSEM) specialization is delivered in Dalian in cooperation with Dalian Maritime University. The 14–month intensive programmes are taught entirely in English and the entry requirements, grading system and quality assurance process are those in force at WMU.

In 2021, enrolment in the two programmes was stable overall with 64 students in total. In the Shanghai programme enrolment dropped slightly with 29 students in 2020 and 23 in 2021. The Dalian programme enrolment increased with 35 students in 2020 and 41 in 2021. The overall steady enrolment is commendable in light of the ongoing effects of the pandemic. It is of note that the MSEM Class of 2022 sets a new record for gender parity in the MSEM programme with 21 female students representing 50 per cent of the enrolment. A WMU gender parity record of 50/50 was first set in 2019 in the Shanghai programme.

MPhil

In 2017, WMU and the International Maritime Law Institute (IMLI), sister institutions founded by the IMO, welcomed the first student in the Master of Philosophy (MPhil) programme in International Maritime Law and Ocean Policy. The unique, two–year programme offers students the chance to spend their first academic year in Malmö, following WMU’s specialization in Ocean Sustainability, Governance and Management (OSGM), and the second academic year in Malta, following IMLI’s LLM programme. The MPhil has been designed to provide a unique learning opportunity for maritime professionals who aim to shape the future of the world’s oceans in accordance with Goal 14 of the UN 2030 Agenda for Sustainable Development. Graduates of the programme are expected to play an important role in developing national ocean governance policies to reflect the latest international initiatives, rules and regulations. One student graduated from the programme in 2021 and there were two new enrolments.

Professional Education

WMU collaborates with internationally renowned partners to deliver a variety of distance learning programmes including an LLM and four Postgraduate Diplomas. Three

of the programmes are offered in partnership with either Lloyd’s Maritime Academy or DNV GL Maritime Academy. These programmes address current topics of critical importance in the maritime industry with a blended-learning approach. The distance learning programmes offered in 2021 by WMU and our partners included:

Masters Degree

LLM in International Maritime Law*

Postgraduate Diplomas

Maritime Energy
Marine Insurance Law and Practice
International Maritime Law*
Executive Maritime Management**

*in partnership with Lloyd’s Maritime Academy

**in partnership with DNV’s Maritime Academy

Executive and Professional Development Courses

WMU delivers Executive and Professional Development Courses (EPDCs) around the world, providing an opportunity for mid–career updating and knowledge–sharing for maritime professionals. EPDCs range in length from a few days to several weeks and the blend of academic expertise and hands–on practical experience can be immediately applied in the workplace. Topics addressed meet current and future needs of the maritime market, particularly in key IMO-mandated areas. EPDCs can be customized to meet the educational requirements of a particular organization.

WMU’s EPDC activities continued in 2021 despite the ongoing coronavirus pandemic. Three EPDCs were conducted for three clients with a total of 136 participants over 5 training days and 26 training hours. Topics included Seafarer Health and Wellbeing for GEFO and Sulphur Cap Workshops for MTCC Africa and MTCC Caribbean. In addition, WMU collaborated with the IMO on the delivery of three online workshops with a total of 76 participants over 6 days and 15.5 training hours. Topics included an Introduction to the National Maritime Transport Policy (NMTP) for MPA Singapore and the IMO International Maritime Law Institute (IMLI), and a Train the Trainer course on Marine Casualty Investigation.

English & Study Skills Programme (ESSP) – Malmö, Sweden

A new promotional effort for the ESSP was made in 2016. Open to students joining WMU’s standard MSc programme, or to independent students, the 3–month English & Study Skills Programme (ESSP) curriculum is designed to upgrade the English language competencies of the participants to postgraduate level. The programme begins in June annually. In 2021, all students enrolled in ESSP continued on to the Malmö MSc programme.



RESEARCH

The WMU Maritime Research Agenda and the Global Ocean Research Agenda are integral components of the WMU Strategic Plan 2020-2023. WMU undertakes research work for the IMO and other UN agencies, the EU and for maritime and ocean organizations and the industry worldwide. Research cooperation was strengthened and a major Maritime Research Agenda for the University was developed in 2019 and adopted by the Board of Governors. WMU has twelve Research Priority Areas.

Maritime Research Priority Areas

- Environmental Impact of Maritime Activities
- Maritime Safety
- Maritime Energy Management
- Maritime Social and Labour Governance
- Maritime and Marine Technology and Innovation
- Maritime Economics and Business
- Maritime Law, Policy and Governance

Ocean Research Priority Areas

- Navigational Right & Freedoms
- Deep Blue: Capacity Building & Areas Beyond National Jurisdiction
- Oceans, Climate Action & the UN 2030 Agenda
- Blue Limits: Spatial Governance of Ocean Space & the Ocean/Coastal/Terrestrial Interface
- Challenges in Ocean Governance

In 2021, WMU continued to successfully attract funding from a number of sources for research projects and consultancies. These projects generate significant gross income for WMU and enable the recruitment of research associates and research assistants whose employment costs are met from research contracts. As a result of the research efforts, the University contributes valuable knowledge to the maritime community, and also benefits from an enhanced publication record, reputation and global impact. In 2021, there were 32 ongoing WMU research projects and consultancies that generated revenue worth USD 3.89 million. Highlights of maritime research in 2021 include the following:

CHEK Project Initiated

Work began in 2021 on the EU funded Horizon 2020 research project, CHEK – deCarbonizing sHipping by Enabling Key technology symbiosis on real vessel concept

designs. The CHEK consortium consists of the University of Vaasa (coordinator), WMU, Wärtsilä, Cargill, MSC Cruises, Lloyds Register, Silverstream Technologies, Hasytec, Deltamarin, Climeon, and BAR Technologies. CHEK aims to demonstrate a combination of innovative ship design and technologies operating in symbiosis. Sail power, hydrogen propulsion, waste heat recovery, battery electric power, hull air lubrication, innovative anti-fouling technology and digital operational improvements, will be used in combination to reduce greenhouse gas emissions by 99%, achieve at least 50% energy savings and reduce black carbon emissions by over 95%. The technologies will be demonstrated at full scale with two, first-of-their-kind vessel concept designs (Kamsarmax bulk carrier and Meraviglia class cruise ship) based on real operational profiles. WMU's role in the project is to communicate the project results and disseminate them amongst stakeholders and policy makers. WMU is also responsible for conducting life-cycle assessments of the various technologies and to compare potential greenhouse gas emissions savings.

CAHEMA Project Initiated

Initiated in 2021, the CAHEMA (Concepts of ammonia/hydrogen engines for marine application) project investigates 'ammonia' and 'hydrogen' as maritime fuels. WMU is part of a consortium led by Lund University (Sweden), and includes DTU (Denmark), NTNU (Norway), and Aalto University (Finland) along with MAN Energy Solutions, (Denmark), and Wärtsilä (Finland) and two of the world's leading shipping companies, FORSEA and Stolt Tankers. WMU's role is to conduct life-cycle assessments of the technologies, communicate project results and evaluate the environmental and socio-economic impact of these new fuels. The project is jointly funded by Nordic Energy Research and several national funding institutions, comprising Business Finland, the Norwegian Research Council, and the Swedish Transport Administration (Trafikverket). It is aimed at addressing IMO's objective of fully decarbonizing international shipping before the end of the century.

EMSA Projects Continued

In 2021, WMU continued work on two consultancy projects for the European Maritime Safety Agency (EMSA). The first project,

secured in 2020, provides support to EMSA's Academy by delivering customized education and training to support the enrichment of EMSA experts in the fields of maritime safety, security, environmental protection and pollution response. The second delivers capacity building support for non-EU countries in the Mediterranean and the Black and Caspian Sea in areas related to the implementation of IMO instruments. The projects evolved from the Cooperation Agreement signed between WMU and EMSA in 2019 that focuses on matters of capacity building and research with particular emphasis on the design, development and delivery of joint training activities and modules falling under common areas of interest and research.

Literature Review on Comprehensive Impact Assessment of the Short-term Measure

WMU contributed to advancing the efforts to reduce GHG emissions from ships and the decarbonization of international shipping through a literature review on the comprehensive impact assessment of the short-term measures approved by the International Maritime Organization's (IMO) Marine Environment Protection Committee (MEPC) at its 75th session in November of 2020. The WMU literature review was considered by MEPC as its 76th session from 10-17 June 2021. The literature review specifically evaluated the potential impact of the approved short-term measures using the eight impact criteria on reduction of GHG emissions from ships that include: (1) geographic remoteness of and connectivity to main markets; (2) cargo value and type; (3) transport dependency; (4) transport costs; (5) food security; (6) disaster response; (7) cost-effectiveness; and (8) socio-economic progress and development. The full literature review is available in IMO's MEPC 76/INF.68 document.

Enhancing Safety and Energy Efficiency of Domestic Passenger Ships in the Philippines

In 2021, WMU joined a partnership to enhance the safety and energy efficiency of domestic ferry operations in the Philippines as part of a year-long project funded by the World Bank Group (WBG), the International Finance Corporation (IFC) and the International Maritime Organization's (IMO) Integrated Technical Cooperation Programme (ITCP). The project kicked off with a virtual meeting in December 2021 for multiple stakeholders involved in the operation and certification of the country's shipping and ferry services. The goal of the project is to identify gaps and map the way forward for the safety, energy efficiency and decarbonization of domestic passenger ships in the Philippines. The project team

includes experts from WMU, the University of Strathclyde, and national stakeholders from the Philippines alongside national consultants – coordinated by the Philippines Marine Industry Authority (MARINA). It is anticipated that the pilot project will provide a blueprint to be expanded to other regions in future where domestic ferry operations play a crucial role in the movement of people and goods.



WMU-SASAKAWA GLOBAL OCEAN INSTITUTE

The WMU-Sasakawa Global Ocean Institute (GOI) was inaugurated in 2018 with generous support from The Nippon Foundation, together with the Governments of Sweden, Canada, and Germany, as well as the City of Malmö. The vision of the GOI is to act as a working focal point at the interdisciplinary interface between science, industry, policy, ocean governance and law for discussions on how to best manage and use ocean spaces and their resources.

With the adoption by the WMU Board of Governors of the WMU Ocean Research Agenda and Priorities Programme 2019 - 2023 developed by the GOI, the faculty, staff and researchers at the Institute undertake challenge-led and evidence-based research, as well as educational and capacity-building training, with a particular focus on the implementation of Goal 14 – Life Below Water, as well as multiple interconnecting goals such as Goal 5 concerning Gender Equality and Goal 13 on Climate Action under the UN 2030 Agenda for Sustainable Development.

Implementing the Ocean Agenda

The GOI is committed to implementing and strengthening ocean research. These efforts are enabled through the generosity and invaluable support from our donors, in particular the core funding provided by The Nippon Foundation of 1.4 Million USD per annum. During 2021, the Institute progressed exceptionally well and pursued work in a hybrid mode to manage the challenges faced from the Covid-19 pandemic.

Noteworthy accomplishments and efforts of the GOI during 2021 include:

Research and Innovation:

- In June, the “Empowering Women for the United Nations Decade of Ocean Science for Sustainable Development” Programme was endorsed as an official Decade Action to the UN Decade of Ocean Science for Sustainable Development (2021-2030) through the Intergovernmental Oceanographic Commission (IOC) of the UN Educational, Scientific and Cultural Organization (UNESCO) (IOC-UNESCO).
- Key involvement in the United Nations Second World Ocean Assessment (WOA II), with co-convenership and co-authorship of Chapter 12 of the WOA II on changes in inputs and distribution of solid waste, other than dredged material, in the marine environment.

- Engagement in several key ocean processes and conferences throughout 2021, including the contribution to the development and implementation of a Plastics Management Index, published in October 2021 by The Economist and supported by The Nippon Foundation.
- Key interventions and contributions to the Virtual Intersessional High Seas Treaty Dialogues on biodiversity beyond national jurisdiction (BBNJ) with discussions towards a new international legally binding instrument (ILBI) for the conservation and sustainable use of biodiversity beyond national jurisdiction (BBNJ) .
- The WMU feature for the Malmö Museum Exhibition entitled “Dangers at Sea” as part of the ‘Women and Men at Sea’ exhibit, launched in April 2021 and ongoing to 2023, highlighting WMU research, education and capacity building efforts as well as profiling President Doumbia-Henry and four PhD candidates working on ocean-related research.
- Publication of 50 international scholarly works by the GOI team including 27 peer-reviewed journal articles (published and forthcoming), 16 Scholarly book chapters in specialist books concerning ocean affairs, three Academic edited collections as well as three Conference reports and one Ocean assessment report chapter.

Teaching and Learning

The GOI is committed to furthering ocean education and literacy. To further the Ocean Agenda and build capacity, in 2021 the GOI contributed to WMU’s PhD scholarship and Post-Doctoral fellowship programmes by pursuing the implementation of challenge-led and evidence based interdisciplinary research, education and outreach through key research and capacity building programmes on a broad range of topics in contemporary ocean affairs including:

Land-to-Ocean Leadership Programme

PhD research programme exploring the potential for joint action between ocean, freshwater and land-based communities, the promotion of innovation in governance and socially inclusive regulatory systems across different geographical scales and with multiple stakeholders, in particular, the Small Island Developing States (SIDS). Funded by the Swedish Agency for Marine and Water Management (SwAM / HaV), and the German Federal Ministry of Transport and Digital Infrastructure (<https://land-to-ocean.wmu.se/>)

Empowering Women in the United Nations Decade of Ocean Science for Sustainable Development Programme

PhD, post-doctoral research and capacity building programme aiming to advance an alternative, inclusive model for the sustainable governance of ocean spaces and maritime activities taking into account the need to ensure effective gender equality and the empowerment of women at all levels. Funded by Fisheries and Oceans Canada (DFO) (<https://empoweringwomen.wmu.se/>)

European Union H2020 BugWright2 project

WMU is part of the consortium, funded by European Horizon 2020 Project 871250 on: ‘Autonomous Robotic Inspection and Maintenance on Ship Hulls’. WMU research looks at the governance and regulatory barriers for service robotics in an ocean industry context. (<https://bugwright2.wmu.se/>)

Closing the Circle Programme: Marine Debris, Sargassum and Marine Spatial Planning

The PhD research programme focuses on exploring challenges and advancing potential solutions with respect to marine debris, Sargassum threats and marine spatial planning (MSP) in Small Island Developing States, with a particular focus on the Eastern Caribbean

region. This project is funded by The Nippon Foundation (<https://closing-the-circle.wmu.se/>)

The GOI has also continued to contribute to the Ocean Sustainability, Governance & Management (OSGM) specialization in the Malmö MSc programme by providing expert lectures on a wide range of topics as well as participating in field studies.

Realizing Networks

Key to delivering on the GOI’s objective of supporting transformative partnerships is to engage at a high level and to maintain and build networks. During 2021, the GOI team continued to strengthen strategic engagements with key partners and stakeholders including multiple UN agencies and partners. This includes Sweden’s Ocean Ambassador, Ministry of Foreign Affairs and Development Agency; the City of Malmö, including local schools for youth engagement and capacity building; collaboration with international and regional organizations, academic institutions, non-governmental organizations, and civil society; hosting or co-hosting ten virtual events including international conferences, webinars and programme events; six capacity building workshops and activities locally; and virtually contributing to more than 45 international events within the oceans realm.





INTERNATIONAL CONFERENCES & EVENTS

WMU typically hosts and/or partners on several events annually, however, the coronavirus pandemic continued to affect the option to deliver events on-site at WMU. From 8-10 September, WMU hosted its first entirely virtual conference, "Seas of Transition: Setting a Course for the Future," which brought together for the first time, the International Maritime Lecturers' Association (IMLA) with all three of its Special Interest Groups: International Conference on Engine Room Simulators (ICERS), International Maritime English Conference (IMEC), and International Navigation Simulator Lecturers' Conference (INSLC).

From 19-22 October, WMU students from 19 countries had the opportunity to attend an engaging workshop held at WMU on Illegal, Unreported and Unregulated (IUU) fishing. As part of the CAPFISH research project sponsored by the Ministry of Oceans and Fisheries (MOF) of the Republic of Korea and delivered in cooperation with the Korea Maritime Institute, the workshop included a broad spectrum of presentations from high level IUU fishing experts to tackle the complex and multi-faceted issue. The workshop was WMU's first hybrid event with some speakers on-site and others participating via video conferencing.

In 2021, WMU hosted eight webinars. Five were delivered as part of the Alumni Webinars in the "Knowledge for Life" series, and three focused on work through the WMU-Sasakawa Global Ocean Institute (GOI).

Alumni Webinars

- Decarbonization of International Shipping
- Women in Leadership: Paths Through Education
- Digital Innovation for Smart Shipping
- The "Ever Given" - A Legal Status Update
- The World of the Seafarer

GOI Webinars

- World Oceans Day Webinar & Book Launch on Ocean and Climate Challenges: Seeking Sustainable Solutions
- The People We Need for the Ocean We Want - Launch of Report 2021 of the 'Empowering Women for the United Nations Decade of Ocean Science for Sustainable Development' Programme
- EU Horizon 2020 BUGWRIGHT2: Overcoming Regulatory Barriers for Service Robotics in an Ocean Industry Context

The majority of the webinars were open to the public. Over 4,200 participants from all continents registered for the complementary events.

From 10-12 May, WMU co-hosted the world-wide Conference on Oceans Law & Policy: Peaceful Maritime Engagement in East Asia and the Pacific Region that took place virtually.

The 2021 Sheldon Kinney Memorial Lecture was delivered on 19 October by Mrs Lois Zabrocky, President and CEO of International Seaways, Inc., on the topic of Worldwide Energy: Navigating Today, Innovating for Tomorrow.



INTERNATIONAL COLLABORATION

Through its membership with the Baltic University Programme and the International Association of Maritime Universities, WMU continued to strengthen its cooperation with maritime universities worldwide. Inter-agency seminars and workshops contributed to an intensified collaboration with UN maritime and oceans stakeholders. Internally, procedures were streamlined to achieve

a more strategic approach to partnership development in support of the University's mission and ensuring its long-term financial sustainability. In 2021, fourteen Memoranda of Understanding/Agreements with partners from government, private sector, academia, international organizations and foundations were successfully negotiated, signed and implemented.



PUBLICATIONS

Members of the Faculty continued to publish widely in 2021, including chapters in books, contributions to learned journals including many with A/A* ratings, and conference proceedings further enhancing the University's academic status and reputation.

The year 2021 marked the nineteenth year of the WMU Journal of Maritime Affairs (JoMA) which has been published by Springer Verlag since 2012. Since 2014, JoMA also contains a section dedicated to the activities of the International Association of Maritime Universities (IAMU). JoMA has been extremely successful and its expanded global impact is noticeable. In 2021, JoMA issues were published in March, June, September and December. The June issue was entitled Beyond COVID-19 and the Future of Maritime Transport. It included nine articles ranging from ensuring academic continuity with online learning to cybersecurity and the psychological impact of the pandemic regarding behaviour at sea.

Among others, 2021 also saw the following major WMU publications enter the public domain. Further publications can be found beginning on page 28.

Song, D-W., Panayides, P. (2021). Maritime Logistics. A Guide to Contemporary Shipping and Port Management, 3rd ed., Kogan Page, London.

Ko, B-W., **Song, D-W.** (eds.) (2021). New Maritime Business. Uncertainty, Sustainability, Technology and Big Data, Springer, Heidelberg.

Rokas I., **Theocharidis G.**, (2021). A Treatise on Greek Maritime Law, 4th ed., Sakkoulas Publications, Athens

Nordquist M. H., **Long, R.** (2021). Marine Biodiversity of Areas beyond National Jurisdiction, Series Center for Oceans Law and Policy, 24, Brill.

Barnes, R., **Long, R.** (2021). Frontiers in International Environmental Law. Oceans and Climate Challenges. Essays in Honour of David Freestone, Brill/Nijhoff, Leiden/Boston.

Doelle, M., Sinclair, A. J. (2021). The Next Generation of Impact Assessment - A Critical Review of the Canadian Impact Assessment Act, Irwin Law.

Doelle, M., Seck, S. (2021). Research Handbook on Climate Change Law and Loss & Damage, Edward Elgar Publishing Ltd.

Schofield, C.H. (2021). The Regime of Islands Reframed. Developments in the Definition of Islands and their Role in the Delimitation of Maritime Boundaries under the International Law of the Sea, Brill Research Perspectives in the Law of the Sea, 3(1-2), 1-126.

Carpenter, A., **Johansson, T.**, Skinner, J. (2021). Sustainability in the Maritime Domain. Towards Ocean Governance and Beyond, Springer, Strategies for Sustainability Series.

The Maritime Commons, the digital repository of WMU, is another successful, internationally recognized outlet for WMU publications. Since it was launched in August of 2015, over 3,600 works have been posted, which have received over 2.1 million downloads. In 2021, there were 577,445 full-text downloads accessed by over 11,084 institutions across 225 countries and territories.

HUMAN RESOURCES

IN 2021, THE INTERNATIONAL FACULTY CONSISTED OF 30 FULL-TIME FACULTY AND 66 VISITING LECTURERS FROM 29 COUNTRIES.

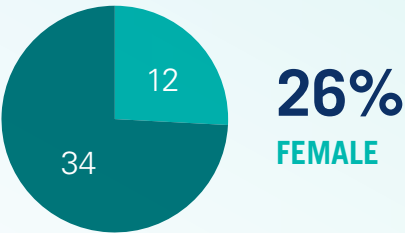
The WMU Faculty and Administration were strengthened in 2021 with a new Associate Professor and two administrative staff including a Secretary for the Global Ocean Institute and an Administrative Assistant in the Office of the President.

Visiting Lecturers are an integral part of the academic experience at WMU. In 2021, 66 Visiting Lecturers taught in the Malmö MSc programme, mainly online due to the pandemic. Many of the Visiting Lecturers are from international organizations including the International Maritime Organization (IMO), the United Nations Conference on Trade and Development (UNCTAD), the European Commission (EC), the European Maritime Safety Agency (EMSA), European Sea Ports Organization (ESPO), and the International Tanker Owners Pollution Federation Limited (ITOPF).

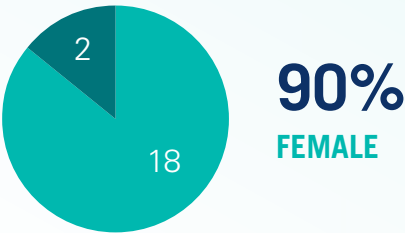
STAFF GROUP BY GENDER AS OF 31 DECEMBER 2021



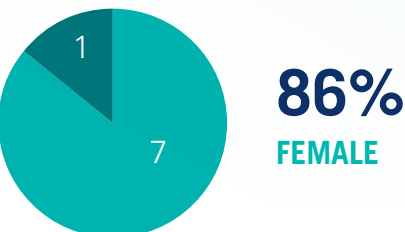
Professional



General Service



Research



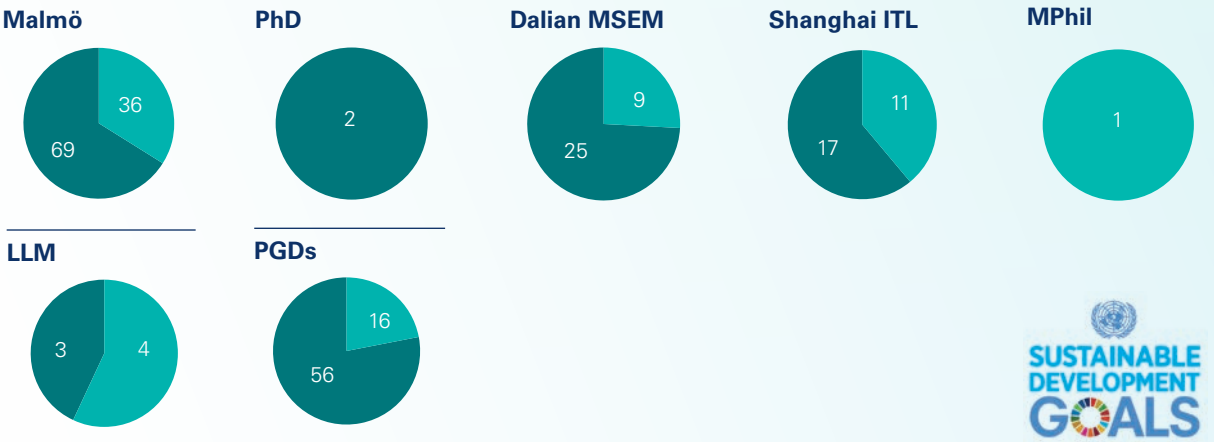
CONTRIBUTIONS TO THE UN 2030 SUSTAINABLE DEVELOPMENT AGENDA

The United Nations (UN) 2030 Agenda for Sustainable Development, adopted by the UN General Assembly in 2015, includes a bold set of Sustainable Development Goals (UN SDGs). The 17 Goals and their targets are intended, inter alia, to guide the global efforts to end poverty, promote prosperity and well-being for all, protect the environment and address climate change.

Through its well-established education, capacity building and research agenda and recognizing that all the Goals are interrelated and indivisible, in 2021 WMU continued its direct and tangible contribution to the implementation of Global Goals 4, 5, 7, 8, 9, 13, 14, 16 and 17.

WMU’s proactive approach to Goal 5 of the UN SDGs regarding gender equality and the empowerment of women continued in 2021. Until the late 1990s, female students made up less than 5% of the Malmö intake. A recruitment strategy with strong support from fellowship donors has resulted in the proportion of female students rising to around a third of the annual intake. In 2021, the Malmö MSc intake was 35 percent women. In 2021, five women were successively appointed to the WMU governing bodies.

2021 GRADUATES BY GENDER



INDUSTRY LIAISON GROUP

The shipping industry requires a cadre of well-educated, trained and skilled professionals to support the moving of 80 percent of world trade. Mutually beneficial relationships between WMU as the preeminent maritime academic institution and the maritime industry are therefore indispensable.

To facilitate the WMU-industry partnership, it was decided that the President, supported by an Advisory Group, should establish an Industry Liaison Group (ILG) involving key industry stakeholders reflecting a wide variety of maritime and oceans industry, value chain

actors and expertise. The ILG is to create and strengthen mutually beneficial strategic relationships and partnerships between the University and maritime industry stakeholders, including in the area of research. It is also to serve as an expert information source on key trends and developments in the industry and to further support WMU’s mission and its contribution to the UN Sustainable Development Goals. Meetings of the ILG Development Group took place in 2021 and discussions are continuing with that group, the Development Committee, and a number of industry leaders, to move the ILG initiative forward.



STEWARDS OF THE SEA CAMPAIGN

In support of the WMU Endowment Fund efforts, the Stewards of the Sea campaign aims to achieve the strategic objective of long-term financial stability, independence and sustainability of the University as well as to augment WMU's capacity to provide education, training, research, scholarship and capacity building in maritime and ocean related matters for government officials and industry stakeholders, particularly those in developing countries.

Supported by the Endowment Fund Committees, the University devised an Institutional Advancement and Communications Plan as the basis for strategic and systematic engagement with

potential donors across a range of funding opportunities, including giving to the WMU Endowment Fund. In addition, the WMU Business Case brochure titled "Stewards of the Sea" was developed as one of the communication tools in support of fundraising efforts. The implementation of the Stewards of the Sea campaign was developed in 2018 and will be pursued in 2022 and beyond.



FELLOWSHIP DONORS

A limited number of full fellowships are available to Malmö MSc students annually on a competitive basis. Including the 31 Sasakawa Fellowship Students who joined the University in 2021, The Nippon Foundation of Japan continued to be the largest fellowship donor to the University with an overall total of 730 sponsored students. The International Maritime Organization provided 14 fellowships in 2021 making it the second largest fellowship donor followed by the Government of Norway with 10 fellowships. The Government of the Republic of Korea and the Austrian Maritime Safety Authority provided 7 and 6 fellowships respectively. The International Transport Workers' Federation Seafarers' Trust (ITF Seafarers' Trust) and the Orients Fond each provided five fellowships. Many member States provided support in 2021 as well by sponsoring their own students, in particular Bahrain, Chile, China, India, Nigeria, Peru, the Philippines and South Africa. Additionally, many governments, organizations and companies provide funding for their own employees. Approximately 6% of the MSc students in Malmö were self-funded in 2021.

The following donors provided fellowships for the Class of 2022

The Nippon Foundation of Japan (31)
International Maritime Organization (14)
Government of Norway (10)
Government of the Republic of Korea (7)
Australian Maritime Safety Authority (6)
Government of Germany (5)
ITF Seafarers' Trust (5)
Orients Fond (5)
The TK Foundation (4)
Government of the United Kingdom (2)
Stena Rederi AB (2)
Government of the Netherlands (1)
Gard AS (1)
International Chamber of Shipping (1)
MPA Academy Singapore (1)
Norwegian Cruise Line Holdings (1)
Norwegian Seafarers' Union (1)
World Nuclear Transport Institute (1)



DONATIONS IN 2021

Contributions

Government of Sweden
Malmö City
The Nippon Foundation
Government of Canada
Government of Cyprus
Government of Germany
Government of the Republic of Korea
Government of Thailand
International Transport Workers' Federation
Turkish Shipbuilders
United States Friends of WMU

Fellowships and Fees

International Maritime Organization

IMO Global Capacity-building and Training
Technical Cooperation Programme
– Government of The Netherlands
Republic of Korea/IMO

Governments

Australian Maritime Safety Authority
Bahamas Maritime Authority
Kingdom of Bahrain
Chile – Chilean Navy
China – Ministry of Transport
Germany – Ministry of Transport
Ghana Ports and Harbours Authority
Shipping Corporation of India
Indonesia Endowment Fund for Education

Nigerian Maritime Administration and Safety Agency
Norway – Norad
Philippines Coast Guard
Kingdom of Saudi Arabia
Maritime and Port Authority of Singapore
South Africa – Transport Education Training Authority
National Institute of Transport - Tanzania
Government of the United Kingdom
Yeosu Gwangyang Port Authority

Industry

GARD
International Chamber of Shipping
Korean Register of Shipping - Republic of Korea
Norwegian Cruise Lines
Stena Rederi AB
Tanzania Shipping Agencies
Wallenius Marine AB

Non-Governmental Organizations

FUZE
ITF Seafarers' Trust
The Nippon Foundation
Maritime Academy of Asia & the Pacific
Norwegian Seafarers' Union
Orients Fond
TK Foundation
World Nuclear Transport Institute

FIELD STUDIES

Students in the Malmö MSc benefit from a unique programme of field studies at host organizations such as shipping companies, port authorities, maritime administrations and other governmental and non-governmental organizations around the world. Cooperation with a range of global institutions offers students a unique opportunity to experience the application of the latest theories and technologies in real-life maritime situations, and to forge bonds with a network of maritime professionals worldwide. Field studies are a

highlight of the WMU experience and vary each year by specialization. Although the field study programme continued to be significantly impacted in 2021 by the pandemic, physical field studies took place in Denmark, Norway, and several locations in Sweden. Virtual field studies were conducted with organizations in Argentina, Finland, Germany, Hong Kong Special Administrative Region of China, IMO, Italy, Japan, Lithuania, the Netherlands, Norway, the Philippines, the United Kingdom, and the United States of America.

NEW FACILITIES

On 22 October, WMU inaugurated new premises generously provided by the host City of Malmö. Located a short walk from the main WMU building, the new premises provide an additional 46 rooms of office and meeting space. The new Neptune facilities house administrative staff including the Finance and IT teams, as well as researchers, PhD students and visiting faculty.

With the exceptional growth and expansion of the University, WMU now occupies the main building that was inaugurated in 2015, offices in an adjacent building that house the WMU-Sasakawa Global Ocean Institute and were inaugurated along with the Institute in 2018, and now the additional space at Neptune inaugurated in 2021.



FINANCES

The Government of Sweden and the City of Malmö continue to provide considerable support to the University. All donors that provide contributions to the operational budget, student fellowships, Visiting Lecturers and field study opportunities are greatly appreciated including in-kind contributions that support the financing and core activities of the University.

Financial Outcome (General Fund) for the years 2019 to 2021 (in thousand USD)

Revenue	2019	2020	2021
Donor Contributions	6,340	6,816	6,340
Fellowship and Fees	6,900	7,607	6,432
Commercial and Reserve Generating Activities	1,959	2,078	2,588
Other Revenue	745	298	382
Total Revenue	15,944	16,799	15,742
Expenditure			
Staff and other Personnel Costs	8,562	10,081	9,271
Travel	918	291	166
Supplies, Consumables and Other Running Costs	1,208	957	909
Cost of Sales of Inventory	13	7	7
Outsourced Services	445	599	513
Student Direct and Training Costs	2,885	2,627	2,447
Depreciation	170	224	197
Other Expenses	538	366	167
Total Expenses	14,739	15,152	13,677
Operational Surplus	1,204	1,648	2,065

The 2021 Financial outcome reported total revenue of USD 15.7 million and a total expenditure of USD 13.6 million and a Gain on Currency Exchange of USD 1.6 million. The total amount transferred to the reserves was USD 3.7 million.

Reserve and Fund Balances (General Fund) as at 31 December 2019 to 2021 (in thousand USD)

	2019	2020	2021
General Fund Reserve as at 1 January	7,051	8,709	7,897
Surplus	1,658	-812	3,658
General Fund Reserve as at 31 December	8,708	7,897	11,555
Working Capital Fund	940	1,042	939
Special Reserve Fund	1,873	2,075	1,870
Total Reserves and Fund Balances as at 31 December	11,521	11,014	14,364

The University is steadily building up its Reserve Fund, attributed to the surplus it generated in recent years, which is transferred to form part of the Reserve and Fund Balances.

The Reserve and Fund Balances of USD 14.4 million will contribute to the long term financial sustainability of the University.

	USD 16.8 million 2021
Donors and Other Revenue Sources	
The Nippon Foundation, Japan	29%
Government of Sweden	23%
Outreach Programme	7%
IMO Global Capacity-building and Training Technical Cooperation Programme	5%
Government of the Republic of Korea	4%
Government of Norway	3%
International Transport Workers' Federation	2%
Government of Australia	1%
Government of Canada	1%
Government of Germany	1%
Government of South Africa	1%
Government of the United Kingdom	1%
PhD and Other Fees	1%
Self-Financed	1%
Other Revenue	14%
Malmö City (in-kind contribution)	5%
United States of America (in-kind contribution)	2%

PUBLICATIONS

MARITIME PUBLICATIONS HIGHLIGHTS

Ballini, F., Vakili, S.V., Schönborn, A., Ölçer, A.I., Canepa, M., & Sciutto, D. (2021). Optimal decision making for emissions reduction measures for italian container terminals. Proceedings of the Institution of Mechanical Engineers, Part M, Journal of Engineering for the Maritime Environment, 236(1), 283-300.

Vakili, S.V., Ölçer, A.I. & Ballini, F. (2021). The development of a transdisciplinary policy framework for shipping companies to mitigate underwater noise pollution from commercial vessels, Marine Pollution Bulletin, 171, 112687. <https://doi.org/10.1016/j.marpolbul.2021.112687>.

Nyanya, M.N., Huy B.V., **Schönborn, A. & Ölçer, A.I.** (2021). Wind and solar assisted ship propulsion optimisation and its application to a bulk carrier, Sustainable Energy Technologies and Assessments, 47, 101397. <https://doi.org/10.1016/j.seta.2021.101397>.

Alamoush, A.S., Ölçer, A.I. & Ballini, F. (2021). Port greenhouse gas emission reduction: Port and public authorities’ implementation schemes, Research in Transportation Business & Management, 100708. <https://doi.org/10.1016/j.rtbm.2021.100708>.

Alamoush, A., Ballini, F., Dalaklis, D. (2021). Port sustainable supply chain management framework. Contributing to the United Nations’ Sustainable Development Goals, Maritime Technology and Research, 3(2), 137-161, <https://doi.org/10.33175/mtr.2021.247076>.

Alamoush, A.S., Ballini, F. & Ölçer, A.I. (2021). Revisiting port sustainability as a foundation for the implementation of the United Nations Sustainable Development Goals (UN SDGs), Journal of Shipping and Trade, 6, 19. <https://doi.org/10.1186/s41072-021-00101-6>

Vakili, S.V., Ölçer, A.I. & Schönborn, A. (2021). Identification of shipyard priorities in a multi-criteria decision-making environment through a transdisciplinary energy management framework: A real case study for a Turkish shipyard, Journal of Marine Science and Engineering, 9, 1132. <https://doi.org/10.3390/jmse9101132>

Vakili, S.V., Ölçer, A.I. & Schönborn, A. (2021). The development of a transdisciplinary framework to overcome energy efficiency barriers in shipbuilding: A case study for an Iranian shipyard, Journal of Marine Science and Engineering, 9, 1113. <https://doi.org/10.3390/jmse9101113>

Vakili, S.V., Ölçer, A. I., & Ballini, F. (2021). The development of a transdisciplinary policy framework for shipping companies to mitigate underwater noise pollution from commercial vessels, Marine Pollution Bulletin, 171, 112687.

Frost, J., Tall, A., Sheriff, A.B., **Schönborn, A.** & Hellier, P. (2021). An experimental and modelling study of dual fuel aqueous ammonia and diesel combustion in a single cylinder compression ignition engine, International Journal of Hydrogen Energy, 46(71), 35495-35510. <https://doi.org/10.1016/j.ijhydene.2021.08.089>.

Bethel, L., **Hollander, J. & Jessen, H.** (2021). Implementing the Port State Measures Agreement to combat illegal, unreported and unregulated fishing in the Caribbean, Marine Policy, 132, 104643. <https://doi.org/10.1016/j.marpol.2021.104643>

Baumler, R., Carrera Arce, M. & Pazaver, A. (2021). Quantification of influence and interest at IMO in Maritime Safety and Human Element matters, Marine Policy, 133,104746. <https://doi.org/10.1016/j.marpol.2021.104746>.

Fonseca, T., Lagdami, K. & Schröder-Hinrichs, J.U. (2021). Assessing innovation in transport: An application of the Technology Adoption (TechAdo) model to Maritime Autonomous Surface Ships (MASS), Transport Policy, 114, 182-195.

Bartusevičienė, I., Pazaver, A. & Kitada, M. (2021). Building a resilient university: ensuring academic continuity – transition from face-to-face to online in the COVID-19 pandemic, WMU Journal of Maritime Affairs, 20, 151–172 . <https://doi.org/10.1007/s13437-021-00239-x>.

De Klerk, Y., **Manuel, M. E., & Kitada, M.** (2021). Scenario planning for an autonomous future: A comparative analysis of national preparedness of selected countries, Marine Policy, 127, 104428. <https://doi.org/10.1016/j.marpol.2021.104428>

Cassar, M. P., **Dalaklis, D., Ballini, F., & Vakili, S.V.** (2021). Liquefied natural gas as ship fuel: a Maltese regulatory gap analysis, Transactions on Maritime Science, 10(1), 20. DOI: 10.7225/toms.v10.n01.020.

Carballo Piñeiro, L., Mejia, M.Q. Jr., Ballini, F. (2021). Beyond COVID-19: the future of maritime transport, WMU Journal of Maritime Affairs, 20(2): 127-133. <https://doi.org/10.1007/s13437-021-00243-1>

Cai, J., **Chen, G.**, Lützen, M., & Rytter, N.G.M. (2021). A practical AIS-based route library for voyage planning at the pre-fixture stage, Ocean Engineering, 236, 109478.

Martinez-Garcia, L., Hansson, B. & **Hollander, J.** (2021). Assessment of local genetic structure and connectivity of the common eelgrass (*Zostera marina*) for seagrass restoration in northern Europe, Marine Ecology Progress Series, 664, 103-116. <https://doi.org/10.3354/meps13658>.

(Continued)

Sheehan, R., Dalaklis, D., Christodoulou, A., Drewniak, M., Raneri, P. & Dalaklis, A. (2021). The Northwest Passage in the Arctic: A Brief Assessment of the Relevant Marine Transportation System and Current Availability of Search and Rescue Services, Logistics, 5(2), 23. DOI: 10.3390/logistics5020023

Ávila-Zúñiga-Nordfjeld, A. & **Dalaklis, D.** (2021). Repercussions of a weak ocean governance and a non-existent maritime security policy: The resurgence of piracy and Armed Robbery in the Gulf of Mexico, Journal of International Maritime Safety, Environmental Affairs, and Shipping (TSEA), 5(2), 73-84. DOI: 10.1080/25725084.2021.1925461

Johansson, T.M., Dalaklis, D. & Pastra, A. (2021). Maritime Robotics and Autonomous Systems Operations: Exploring Pathways for Overcoming International Techno-Regulatory Data Barriers, Journal of Marine Science and Engineering (JMSE), 9(6), 594. DOI: 10.3390/jmse9060594

Christodoulou, A., Dalaklis, D., Ölçer, A.I. & Ghaforian Masodzadeh, P. (2021). Inclusion of Shipping in the EU-ETS: Assessing the Direct Costs for the Maritime Sector Using the MRV Data, Energies, 14(13), 3915. <https://doi.org/10.3390/en14133915>

Hebbar, A.A. & Geymonat, S.J. (2021). Simple, intuitive key performance indicators for flag state performance and its pilot application in Latin-America, Journal of Safety Science and Resilience, 2(3), 101-110. <https://doi.org/10.1016/j.jnlssr.2021.06.003>

Anh, T.H., Nižetić, S., **Ölçer, A.I.** & Ong, H.C. (2021). Synthesis pathway and combustion mechanism of a sustainable biofuel 2,5-Dimethylfuran: Progress and prospective, Fuel, 286(2), 119337. <https://doi.org/10.1016/j.fuel.2020.119337>

Anh, T.H., **Ölçer, A.I.** & Nižetić, S. (2021). Prospective review on the application of biofuel 2,5-dimethylfuran to diesel engine, Journal of the Energy Institute, 94, 360-386. <https://doi.org/10.1016/j.joei.2020.10.004>.

Anh, T.H., Nižetić, S. & **Ölçer, A.I.** (2021). 2,5-Dimethylfuran (DMF) as a promising biofuel for the spark ignition engine application: A comparative analysis and review, Fuel, 285, 119140. <https://doi.org/10.1016/j.fuel.2020.119140>.

Anh, T.H., Tabatabaei, M., Aghbashlo, M., Carlucci, A.P., **Ölçer, A.I.**, Anh, T.L. & Ghassemi, A. (2021). Rice bran oil-based biodiesel as a promising renewable fuel alternative to petrodiesel: A review, Renewable and Sustainable Energy Reviews, 135, 110204. <https://doi.org/10.1016/j.rser.2020.110204>.

Xuan, P.N., Anh, T.H., **Ölçer, A.I.**, Engel, D., Van V.P. & Nayak, S.K. (2021). Biomass-derived 2,5-dimethylfuran as a promising alternative fuel: An application review on the compression and spark ignition engine, Fuel Processing Technology, 214, 106687. <https://doi.org/10.1016/j.fuproc.2020.106687>.

Anh, T.H., Nižetić, S., **Ölçer, A.I.**, Ong, H.C., Chen, W.H., Chong, C.T, Thomas, S., Bandh, S.A.- & Nguyen, X.P. (2021). Impacts of COVID-19 pandemic on the global energy system and the shift progress to renewable energy: Opportunities, challenges, and policy implications, Energy Policy, 154, 112322. <https://doi.org/10.1016/j.enpol.2021.112322>.

Bolmsten, J., Manuel, M. E., Kaizer, A., Kasepöld, K., Skold, D. & Ziemska, M. (2021). Educating the Global Maritime Professional. A case of collaborative e-learning, WMU Journal of Maritime Affairs, 20(3), 309-333, <https://doi.org/10.1007/s13437-020-00224-w>.

Drewniak, M., **Dalaklis, D., Christodoulou, A., Sheehan, R.** (2021). Ice-Breaking Fleets of the United States and Canada. Assessing the Current State of Affairs and Future Plans, Sustainability, 13(2), 703, <https://doi.org/10.3390/su13020703>.

Joseph, A., **Dalaklis, D.** (2021). The International Convention for the Safety of Life at Sea. Highlighting Interrelations of Measures towards Effective Risk Mitigation, Journal of International Maritime Safety, Environmental Affairs, and Shipping (TSEA), 5(1), 1-11, <https://doi.org/10.1080/25725084.2021.1880766>.

Progoulakis, I., Nikitakos, N., Rohmeyer, P., Bunin, B., **Dalaklis, D.**, Karamperidis, S. (2021). Perspectives on Cybersecurity for Offshore Oil and Gas Assets, Journal of Marine Science and Engineering (JMSE), 9(2), 112, <https://doi.org/10.3390/jmse9020112>.

Jessen, H. (2021). Eric Van Hooydonk. The EU Seaports Regulation, WMU Journal of Maritime Affairs 20(1), 119-122, <https://doi.org/10.1007/s13437-021-00229-z>.

Romero, M.C. (2021). Richard T. Griffiths. The maritime silk road. China’s belt and road at sea, WMU Journal of Maritime Affairs, 20(1), 115-117, <https://doi.org/10.1007/s13437-021-00227-1>.

Alexandropoulou, V., **Johansson, T.M.**, Kontaxaki, K., Pastra, A., **Dalaklis, D.** (2021), Maritime remote inspection technology in hull survey & inspection. A synopsis of liability issues from a European Union context, Journal of International Maritime Safety, Environmental Affairs, and Shipping (TSEA), 5(4), 184-195, <https://doi.org/10.1080/25725084.2021.2006463>.

PUBLICATIONS

(Continued)

Hussein, K. and **Song, D-W.** (2021). Sustainably Integrated Port Supply Chains. Concepts and Propositions, International Journal of Logistics Research and Applications, <https://doi.org/10.1080/13675567.2021.1981274>.

Gstöttner, S., **Jessen, H.**, Lachmayer, K., Uhlmann F. (2021). Dürfen automatisierte Fahrzeuge Recht brechen? Zur rechtlichen Konzeption von Vorgaben für automatisierte Fahrzeuge, Neue Zeitschrift für Verkehrsrecht (NVZ), 12, 593-599.

Baumler, R., Bhatia, B. S., & **Kitada, M.** (2021). Ship first. Seafarers’ adjustment of records on work and rest hours. Marine Policy, 130, <https://doi.org/10.1016/j.marpol.2020.104186>.

OCEAN PUBLICATIONS HIGHLIGHTS

Pastra, A., Doelle, M., Johansson, T. (2021). The Shipping Sector and Ports as Central Actors in the Decarbonization Effort. A Case Study of China, Asia-Pacific Journal of Ocean Law and Policy, 6(2), 247-270, <https://doi.org/10.1163/24519391-06020005>.

Polejack, A., Gruber, S., Wisz, M.S. (2021). Atlantic Ocean science diplomacy in action. The pole-to-pole All Atlantic Ocean Research Alliance, Humanities and Social Sciences Communications, 8(1), 1-11, <https://doi.org/10.1057/s41599-021-00729-6>.

Liu M., Wang H., Wang H., Ma S., Yu Q., Balal U.K., Li Y., **Hollander J.**, Jeppesen, E. (2021). Decreasing toxicity of un-ionized ammonia on the gastropod *Bellamya aeruginosa* when moving from laboratory to field scale, Ecotoxicology and Environmental Safety, 227, <https://doi.org/10.1016/j.ecoenv.2021.112933>.

Bernard, L., Kaye, S., Petterson, M., **Schofield, C.H.** (2021). Securing the Limits of Large Ocean States in the Pacific. Defining Baselines amidst Changing Coastlines and Sea Level Rise, Geosciences 11(9), 394-414, <https://doi.org/10.3390/geosciences11090394>.

Johansson, T., Dalaklis, D., Pastra, A. (2021). Maritime Robotics and Autonomous Systems Operations. Exploring Pathways for Overcoming International Techno-Regulatory Data Barriers, 9(6), Journal of Marine Science and Engineering, 594.

Pastra, A., Koufopoulos, D.K., Samac, N., **Johansson, T.** (2021). Conflict in the boardroom. perceptions of board members in the Nordic Region, International Studies of Management & Organization, 51(2), 116-135, <https://doi.org/10.1080/00208825.2021.1927312>.

Pastra, A., Doelle, M., Johansson, T. (2021). The Shipping Sector and Ports as Central Actors in the Decarbonization Effort. A Case Study of China, Asia-Pacific Journal of Ocean Law and Policy, 6, 247-270.

Ramírez-Monsalve, P. Coelho, N.F., Carballo-Cárdenas, E., van Tatenhove, J.P.M., Papadopoulou, N., Smith, C.J. (2021). Marine restoration governance arrangements.

Issues of Legitimacy, Environmental Policy and Governance, 1-13, <https://doi.org/10.1002/eet.1970>.

Stöfen-O’Brien, A. (2021). New Beginnings. Towards a Global Treaty on Marine Plastic Pollution. Perspectives from the Asia-Pacific Region, Asia-Pacific Journal of Ocean Law and Policy, 6, 332-340.

Cusa, M., **Neat, F.** et al. (2021). A future for seafood point-of-origin testing using DNA and stable isotope signatures. Review in Fish Biology and Fisheries, 32, 597-621, <https://doi.org/10.1007/s11160-021-09680-w>.

Pastra, A., Koufopoulos, D.N., Samac, N., **Johansson, T.** (2021). Behavioral integration in the boardroom, Team Performance Management, 27(3/4), 260-277, <https://doi.org/10.1108/TPM-07-2020-0058>.

Pastra, A., Koufopoulos, D.K., Skintzti, V., **Johansson, T.**, Samac, N. (2021). Exploring trust in the boardroom. The case of Nordic region, Team Performance Management, 27(3/4), 278-293, <https://doi.org/10.1108/TPM-11-2020-0093>.

Sun, Z. (2021). Enforcing International Maritime Legislation on Air Pollution through UNCLOS, written by Jesper Jarl Fanø, The International Journal of Marine and Coastal Law, 36(3), 519-522, <https://doi.org/10.1163/15718085-BJA10050>.

Martinez-Garcia, L., Hansson, B., **Hollander J.** (2021). Assessment of local genetic structure and connectivity of the common eelgrass (*Zostera marina*) for seagrass restoration in northern Europe, Marine Ecology Progress Series, 664, 103-116, <https://doi.org/10.3354/meps13658>.

Polejack, A. (2021). The importance of Ocean Science Diplomacy for Ocean Affairs, Global Sustainability, and the UN Decade of Ocean Science, Frontiers Marine Science, <https://doi.org/10.3389/fmars.2021.664066>.

Galgani, F., **Stöfen-O’Brien, A.** et al. (2021). Are litter, plastic and microplastic quantities increasing in the ocean? Microplastics and Nanoplastics, 1(2), <https://doi.org/10.1186/s43591-020-00002-8>.

Alexandropoulou, V., **Johansson, T.**, Kontaxaki, V., **Pastra, A.**, and **Dalaklis, D.** (2021). Maritime Remote Inspection Technology in Hull Survey & Inspection: A Synopsis of Liability Issues from a European Union Context, Journal of International Maritime Safety, Environmental Affairs and Shipping, 5(4), 184-195, <https://doi.org/10.1080/25725084.2021.2006463>.

Thorburn, J., **Neat F.C.**, et al. (2021). Seasonal and ontogenetic variation in depth use by a Critically Endangered benthic elasmobranch and its implications for spatial management. Frontiers in Marine Science, 8, <https://doi.org/10.3389/fmars.2021.656368>.

van Tatenhove, J.P.M., **Ramírez-Monsalve, P.**, Carballo-Cárdenas, E., Papadopoulou, N., Smith, C.J., Alferink, L., Ounanian, K. and **Long, R.** (2021). The governance of marine restoration. Insights from three cases in two European seas, Restoration Ecology, 29. <https://doi.org/10.1111/rec.13288>.

(Continued)

Kelly, R., **Elsler, L., Polejack, A.**, van der Linden, S., Tönnesson, K., Schoedinger, S. E., Santoro, F., Pecl, G. T., Palmgren, M., Mariani, P., Glithero, D., Evans, K., Cvitanovic, C., Cooke, J., Bartram, J., **Wisz, M. S.** (2021). Empowering young people with climate and ocean science. Five strategies for adults to consider, <http://dx.doi.org/10.2139/ssrn.3961791>.

Freestone, D., **Schofield, C.H.** (2021). Pacific Islands Countries Declare Permanent Maritime Baselines, Limits and Boundaries. Current Legal Developments. The South Pacific, International Journal of Marine and Coastal Law, 35, 685-695.

Østhagen, A., **Schofield, C.H.** (2021). An Ocean Apart? Maritime boundary agreements and disputes in the Arctic Ocean, The Polar Journal, <https://doi.org/10.1080/2154896X.2021.1978234>.

Schofield, C.H. (2021). Options for Overcoming Overlapping Maritime Claims. Developments in Maritime Boundary Dispute Resolution and Managing Disputed Waters, Journal of Territorial and Maritime Studies, 8(2), 21-41.

Schofield, C.H. (2021). Geographical Dimensions to Ocean Governance, Geographical Review,. <https://doi.org/10.1080/00167428.2020.1852879>

BOOKS

Song, D-W., Panayides, P. (2021). Maritime Logistics. A Guide to Contemporary Shipping and Port Management, 3rd ed., Kogan Page, London.

Ko, B-W., **Song, D-W.** (eds.) (2021). New Maritime Business. Uncertainty, Sustainability, Technology and Big Data, Springer, Heidelberg.

Rokas I., **Theocharidis G.**, (2021). A Treatise on Greek Maritime Law, 4th ed., Sakkoulas Publications, Athens

Nordquist M. H., **Long, R.** (2021). Marine Biodiversity of Areas beyond National Jurisdiction, Series Center for Oceans Law and Policy, 24, Brill.

Barnes, R., **Long, R.** (2021). Frontiers in International Environmental Law. Oceans and Climate Challenges. Essays in Honour of David Freestone, Brill/Nijhoff, Leiden/ Boston.

Doelle, M., Sinclair, A. J. (2021). The Next Generation of Impact Assessment - A Critical Review of the Canadian Impact Assessment Act, Irwin Law.

Doelle, M., Seck, S. (2021). Research Handbook on Climate Change Law and Loss & Damage, Edward Elgar Publishing Ltd.

Schofield, C.H. (2021). The Regime of Islands Reframed. Developments in the Definition of Islands and their Role

in the Delimitation of Maritime Boundaries under the International Law of the Sea, Brill Research Perspectives in the Law of the Sea, 3(1-2), 1-126.

Carpenter, A., **Johansson, T.**, Skinner, J. (2021). Sustainability in the Maritime Domain. Towards Ocean Governance and Beyond, Springer, Strategies for Sustainability Series.

BOOK CHAPTERS

Kitada, M. (2021). Women seafarers. An analysis of barriers for their employment, in: Gekara, V. O., Sampson, H. (eds.), The World of the Seafarer. Qualitative Accounts of Working in the Global Shipping Industry, Cham, Springer, DOI: 10.1007/978-3-030-49825-2_6.

Ávila-Zúñiga-Nordfjeld, A., **Dalaklis, D., Mejía, M.**, Neri, K. (2021). Applying the Legal Provisions of the ISPS Code to Streamline Cooperation between Government Authorities Involved in Maritime Security Duties, in: Musi, M. (ed.), 8th Collective Volume of “Il Diritto marittimo - Quaderni” - “An Overview of Transport Law Regulatory Policies. The Search for New Answers to Old Problems and Possible Solutions to the Challenges Posed by Technological Evolution, The Pandemic, And Brexit”, Bonomo Editore, Bologna, 59-78. ISBN 978-88-69721-96-0.

Long, R. (2021). Beholding the Emerging Biodiversity Agreement Through a Looking Glass, and What Capacity-Building and Gender Equality Norms Should Be Found There?, in: Nordquist, M., Long, R., Marine Biodiversity of Areas beyond National Jurisdiction, Brill/Nijhoff, Leiden/ Boston, 241–272.

Pastra, A., Zachariadis, P., Alifragkis, A. (2021). The Role of Slow Steaming in Shipping and Methods of CO2 Reduction, in: Carpenter A., **Johansson T.M.**, Skinner J.A. (eds.), Sustainability in the Maritime Domain. Strategies for Sustainability, Springer, Cham. https://doi.org/10.1007/978-3-030-69325-1_17.

Pastra, A., Swoboda, M. (2021). Mind the Gap. Women in the Boardroom, on Board and in the Port, in: Carpenter A., **Johansson T.M.**, Skinner J.A. (eds.), Sustainability in the Maritime Domain. Strategies for Sustainability, Springer, Cham, https://doi.org/10.1007/978-3-030-69325-1_19.

Derrig, R., (2021). Science and Psychology in the New Haven School, in: Peters, A., Schäfer, R., Politics and the Histories of International Law. The Quest for Knowledge and Justice, Martinus Nijhoff/Brill, Leiden/Boston, 353-376.

Schofield, C.H. (2021). Competing Maritime Claims and Enduring Disputes in the South China Sea, in: Zou, K (ed.), Routledge Handbook of the South China Sea, Routledge, London, 104-122.

PUBLICATIONS

(Continued)

Schofield, C.H. (2021). A New Frontier in the Law of the Sea? Responding to the Implications of Sea Level Rise for Baselines, Limits and Boundaries, in: Barnes, R., Long, R. (eds.), *Frontiers in International Environmental Law. Oceans and Climate Challenges*, Brill/ Nijhoff, Leiden, 171-193. https://doi.org/10.1163/9789004372887_007.

Mossop, J., **Schofield, C.H.** (2021). Biodiversity beyond National Jurisdiction and the Limits of the Commons, in: Nordquist, M.H., Moore, J.N., **Long, R.** (eds.), *Marine Biodiversity of Areas beyond National Jurisdiction*, Brill/Nijhoff, Leiden, 285-305. https://doi.org/10.1163/9789004422438_016.

Jessen, H. (2021). The Future of a European Union Block Exemption Consortia Regulation in a Post-Pandemic Era of More Frequent Business Disruptions. *Festgabe für Prof. Dr. Marian Paschke*, Lit Verlag, 171-200.

Derrig, R. (2021). Was Rockall Conquered? An Application of the Law of Territory to a Rock in the North Atlantic Ocean. *Irish Yearbook of International Law*, 14.

Kitada, M. (2021). Exploring the relevance of sustainable fishing, energy and gender, in: Fernández Prol, F. (ed.), *Los desafíos de la pesca sostenible diagnóstico y propuestas desde una óptica jurídica*. Libreria Bosch, S. L., 57-68, ISBN: 978-84-124109-4-5.

Jessen, H., Ph.D. (2021). Gunther Handl and Kristoffer Svendsen, eds., *Managing the Risk of Offshore Oil and Gas Accidents: The International Legal Dimension* (Cheltenham, UK: Edward Elgar Publishing, 2019), 467 pp., *Ocean Yearbook Online*, 35(1), 670-677. doi: <https://doi.org/10.1163/22116001-03501026>

Sun, Z. (2021). UNCLOS Part XII and IMO Instruments on Regulating Environmental Impacts of Shipping: Towards an Effective Regulatory Synergy. *Ocean Yearbook*, 35, 473–495.

Christodolou, A., Pasta, A., Doelle, M. & Johansson, T. (2021). Four Spheres of Influence: The Critical Role of Ports in Global Decarbonization Efforts. *Ocean Yearbook*, 35.

Schofield, C.H. & Freestone, D. (2021). Impacts of Sea Level Rise on Archipelagic Claims. *Ocean Yearbook*, 35, 340-387.

Schofield, C.H. & Østhagen, A. (2021). The Arctic Ocean: Boundaries and Disputes. *The Arctic Yearbook 2021*. <https://arcticyearbook.com/arctic-yearbook/2021>.

Jessen, H. (2021). The Legal Understanding of the Term “Ship” Under the United Nations Convention on the Law of the Sea (UNCLOS). *Yearbook on the Law of the Sea (YLoS)*, 1.

Stöfen-O’Brien, A., et al. (2021). Chapter 12.2 Dumping, United Nations Regular Process for Global Reporting and Assessment of the State of the Marine Environment,

including Socio-economic Aspects (Regular Process), in *Second World Ocean Assessment* Cambridge Press.

Galgani, F., **Stöfen-O’Brien, A.**, et al. (2021). Chapter 12.1 Marine Litter, United Nations Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects (Regular Process), in *Second World Ocean Assessment* Cambridge Press.

INSTITUTIONAL PUBLICATIONS

Baumler, R., Jessen H., & Theocharidis G. (2021). Review and Update of the National Maritime Transport Policy Handbook (mandate received by IMO).

Manuel, M. E., Goldberg, M., Trauthwein, G., Tse, J. (2021). World Maritime University, Marine Learning Systems, & New Wave Media. *Maritime Training Insights Database (MarTID): 2021 Training Practises Report*. Retrieved from www.martid.org

Fakhry, A. (2021). Rapport : préévaluation juridique et organisationnelle de la sûreté portuaire et de la protection civile aux ports d’Abidjan et de San-Pédro. WMU/WeCAPS.

Fakhry, A. et al. (2021). Rapport : pré-évaluation juridique et organisationnelle de la sûreté portuaire et de la protection civile au port de Lomé. WMU/WeCAPS.

Fakhry, A. (2021). Rapport : pré-évaluation juridique et organisationnelle de la sûreté portuaire et de la protection civile au port de Douala. WMU/WeCAPS.

Fakhry, A. (2021). Rapport : pré-évaluation juridique et organisationnelle de la sûreté portuaire et de la protection civile aux ports de Pointe-Noire et Brazzaville. WMU/WeCAPS.

Fakhry, A. (2021). Baseline Report on Lebanon’s International Conventions and Agreements Related to Integrated Border Management with Special Reference to the Maritime Field. Submitted to the International Centre for Migration Policy Development (ICMPD).

Freestone, D., & **Schofield, C.H.** (2021). Sea Level Rise and Archipelagic States: A Preliminary Risk Assessment. Report for the International Law Association Committee on International Law and Sea Level Rise.



World Maritime University
PO Box 500
S-201 24 Malmö
Sweden
www.wmu.se

The World Maritime University was
established in 1983 within the framework
of the International Maritime Organization,
a specialized agency of the United Nations.