

# KOBE UNIVERSITY

## GRADUATE SCHOOL OF MARITIME SCIENCES

神戸大学大学院海事科学研究科





# *Voyage toward the Future*



**ABE Akihisa, Ph. D.**

*Dean, the Graduate School of Maritime Sciences,  
Kobe University*

## *Message from the Dean*

Humanity has developed by utilizing the sea. This is especially true in Japan, an Island country surrounded by the sea on all sides, where the benefits from the sea are immeasurable. The maritime industry plays an important role in connecting the world through the sea.

The Graduate School of Maritime Sciences is based on the Kobe University Charter of Education, and aims to foster and produce highly skilled experts / global leaders with specialized knowledge and professional skills concerning the sea who can contribute to the development of maritime society. Under this principle, we conduct education and research on “human activities related to the ocean,” which contribute to solve various issues facing the maritime sciences. We continue to strive for promoting interdisciplinary education and research from the viewpoint of science, engineering, and social science.

Fukae Campus, where The Graduate School of Maritime Sciences is located, has a long history of providing merchant ship education in Japan. We have established a learning environment to embody essential principles so that the acquisition of advanced techniques and skills can be fulfilled. We have a port facing Osaka Bay on the southside of the campus, and have a large number of vessels, including our training ship “Kaijin Maru.” Also, we have many experimental training and research facilities, such as the Ship Model Basin Experimental Facilities, the Ship Navigation Simulator System, a Hyper-Cryogenic Laboratory, and an Accelerator and Particle Beam Experiment Facility. In addition, our Library for the Maritime Sciences has books about the sea and ships, and our Maritime Museum, which is open to the public, holds and displays a large number of historical artifacts related to ships. In addition, we are continually improving the learning environment for our students, such as the operation of student study spaces and the enhancement of the Wi-Fi capabilities in our school buildings.

As the Dean responsible for the most advanced education and research on ocean science, we strive to increase our international presence in the area of ocean science.

We work to educate, research, produce human resources, and to do our best to contribute to society towards the creation of a sustainable future in maritime society and new maritime technologies.





## Brief History

The predecessor of the Faculty of Maritime Sciences was Kobe University of Mercantile Marine, whose origin can be traced back about 100 years. Kobe University of Mercantile Marine had long contributed to the education of top-level professionals in the maritime industries. With such a long tradition and high reputation it was decided that Kobe University of Mercantile Marine would integrate into Kobe University in 2003. The mission of the Faculty of Maritime Sciences is to foster experts who possess both a comprehensive knowledge of the marine sciences and are able to use this knowledge to contribute to the field of global transportation and logistics.

## Kobe City










The City of Kobe is located to the west of center on the Mainland of Japan. It is accessible by land, sea, and air via domestic and international destinations. It takes 2 hours and 50 minutes to get to Tokyo by Shinkansen Bullet Train, and 1 hour and 20 minutes by plane. Within easy reach of Kobe, there are several famous cities with many historical sites and spots of interest, such as Himeji, Kyoto, Nara and Osaka.



Ever since it was opened to the world, Kobe has developed as a cosmopolitan port city where people, goods and information from around the globe are in constant motion. Now, Kobe has a population of 1.5 million including 45,000 foreign residents from as many as 139 different countries and regions, and is well known throughout Japan as being an "international city". With a diverse population of foreign residents and the resulting facilities and amenities established by and for such foreign communities, Kobe is uniquely qualified to support a comfortably refined lifestyle for any individual from any country.

Sandwiched by Mt. Rokko in the north and the Inland Sea of Seto in the south, Kobe is endowed with its overall mild climate averaging 17.3°C (63.1°F) with four seasonal changes.

## Contents

Degree Programs .....	03	
Admission Information .....	04	
Division of Global Transportation Sciences .....	05 06	
Division of Ocean Safety Systems Science .....	07 08	
Division of Marine Engineering .....	09 10	
Education Program for Global Marine Science and Technology .....	11	
International Exchanges .....	12	
Campus Life .....	13	
Career Opportunities .....	14	



# Degree Programs

## NEXT VOYAGE from Kobe

"We, The Graduate School of Maritime Sciences, are located in Kobe, an international port city, promoting education and research under the theme of global transportation."

### Interdisciplinary Approach

We are conducting research in various maritime fields including safe and efficient navigation and management in maritime transportation, energy, preservation of the maritime environment, law, and economics through a scientific approach combining natural and social sciences.

### International Academic Exchanges

We also have academic exchange agreements with universities in Australia, China, France, Indonesia, Korea, Philippines, Sweden, Taiwan, Thailand, Turkey, U.K., U.S.A., Vietnam and Croatia, thus actively promoting international exchanges. In addition, since the establishment of the International Association of Maritime Universities (IAMU) in 1999, we are proud that we have been playing a major role as one of its international executive leaders.

### Employment Opportunities all over the world

Our students have received job offers from companies, universities and research institutions not only in Japan but also in various countries worldwide due to our global academic research field. Therefore, our alumni are active in a wide range of fields including Japanese private companies such as shipbuilding, logistics and electronics as well as public institutions like the Ministry of Land, Infrastructure, Transport and Tourism.

## The Graduate School of Maritime Sciences

### Doctoral Degree Program (3 years)

Global Transportation  
Sciences

Ocean Safety  
Systems Science

Marine Engineering

### Master's Degree Program (2 years)

Global Transportation  
Sciences

Ocean Safety  
Systems Science

Marine Engineering

### The International Maritime Research Center

affiliated with the Graduate School

### The Training Ship "Kaijin Maru"

affiliated with the Graduate School

### Sea Training Course (6 months)

### The Faculty of Maritime Sciences (4 years)

Undergraduate Program

Global Transportation  
Sciences

Ocean Safety  
Systems Science

Marine Engineering

### The Organization of Advanced Science and Technology, Kobe University

cooperated with the Graduate School

We offer a 2-year Master's program and 3-year Doctoral program. The purpose of our education and research is dedicated to cultivating creative researchers, educators and top-level professionals who possess diverse global perspectives as well as problem-solving abilities. After completing the Master's program, students receive the degree of Master of Maritime Sciences and students who complete the Doctoral program can obtain the degree such as Doctor of Philosophy in Maritime Sciences and Technology, Doctor of Philosophy in Engineering, or Doctor of Philosophy. Our goal is to produce quality graduates who can provide a scientific approach in a highly advanced manner combining both natural and social sciences in the Maritime Sciences field.



# Admission Information

## Degree-Seeking students

### Eligibility

Applicants who do not hold Japanese nationality should have successfully completed the equivalent of 16 years (for Master's program) or 18 years (for Doctoral program) of school education or the equivalent.

### Admission Procedures



\* Prior to entering the graduate school, some of the international students spend from six months to a year as a research student (Non-degree seeking student), and then take the entrance examination for the graduate level degree programs.

\* Detailed information can be found at <http://www.maritime.kobe-u.ac.jp/en/>

	Application Form Available	Application Period	Pre-Evaluation for Eligibility	Examination Date	Examination Subjects	Announcement of the results	Start of the Semester
<b>Master's Degree Program</b>	Late May	Mid-July Early November	Mid-June Early October	Late August Mid-December	Paper-based examination, TOEFL/TOEIC scores and oral examination	Early September Late December	April or October
<b>Doctoral Program</b>	Late May	Early July Late October Mid-January	Early June Early October Early January	Late August Mid-December Early February	Oral examination	Early September Late-December Early March	

\* You can view (or obtain) samples of the past examinations' questions at the Library of Maritime Sciences.

## Research students (Non-degree seeking students)

### Eligibility

Applicants should have successfully completed the equivalent of 16 years (for Master's program) or 18 years (for Doctoral program) of school education or the equivalent.

Start of the Semester	Application Form Available	Application Period	Selection Method	Formal Consent by Supervisor
<b>April</b>	Anytime on Request	Mid-February *Non-Residents of Japan : Late-November of the previous year	Screening Examination	Required
<b>October</b>		Mid-August *Non-Residents of Japan: late May		

\* Applicants are required to contact a supervisor who is doing research in the same field as your interest to gain a consent of acceptance as a research student before applying.

\* Detailed information can be found at <http://www.maritime.kobe-u.ac.jp/en/>



# Division of Global Transportation Sciences

The Division of Global Transportation Sciences provides education and research programs on ship operation, management technology, logistics management, and information analysis in order to multilaterally construct the optimal transportation and logistics system that combines all modes of transportation especially with a focus on marine transport. The mission of this division is to contribute to construct advanced transport systems that would support the foundation of international logistics, while reacting to the globalization of world economy.

## Education and Research Area

- Fundamental Science for Navigation
- Maritime Human Factors Science
- Navigation System Science
- Planning Science for Transportation
- Information Science for Transportation
- Social Science for Transportation

## Courses at Master's Degree Program ( \_ : Courses in English)

- International Maritime Sociology
- Exercises for Marine Science and Technology
- Transport Packaging 1, 2
- International Law of Maritime Management 1, 2
- Maritime Administrative Law 1, 2
- Mathematical Analysis 1, 2
- Business Administration for Maritime Industry 1, 2
- Excellent Seamanship for Maritime Safety 1, 2
- Human Movement Science 1, 2
- Fleet Safety Management 1, 2
- Maritime Traffic Management 1, 2
- Maritime Human Science 1, 2
- Ship Operating Theory 1, 2
- Maritime Information Theory 1, 2
- Oceanographic and Navigational Cybernetics 1, 2
- Marine Observation Systems 1, 2
- Transportation System Planning 1, 2
- Logistics Management 1, 2
- Transport Policy, Planning and Management with Applied Mathematics 1, 2
- Project Evaluation 1, 2
- Communication Networks 1, 2
- Image Processing 1, 2
- Knowledge Engineering 1, 2
- Mathematical Optimization 1, 2
- Multimedia 1, 2
- Human Interface 1, 2
- International Transportation Economics 1, 2
- Transportation Business 1, 2
- Organizational Theory 1, 2
- Environmentally Sustainable Systems 1, 2

## Message from International Student



*Sinar Noé  
Corzo García*

Autonomous University of Sinaloa



### 1. Why did you choose the Graduate School of Maritime Sciences, Kobe University?

Along history, Kobe has been a crucial port city for Japan, being the busiest port in the world prior 1996, now a days the city has all kind of transport connections, with 3 airports close-by, train lines, national highways, and a huge amount of docks that connect the city to the rest of the country and the world. The city has one of the best academic institutions in the country, Kobe University, which has a long history in the

business/trade/transportation areas, and particularly, the faculty of Maritime Sciences has a history of more than 100 years, and I choose it immediately.

### 2. How do you feel after enrolling at Kobe University?

It is incredible, it is such an amazing place, where different ideas converge and new ones are born, the friendliness of the students and the staff makes you feel at home, while the guidance and expertise of the professors help you to focus and achieve your goals.

### 3. Please explain briefly what your research is.

My research is about air transportation, and airline competition between traditional airlines and low-cost airlines.

### 4. Do you have opportunities for cultural exchange?

So many; in the faculty of maritime sciences I have met many students from abroad, some of my professors are from overseas, and all of my professors have been abroad so the faculty itself is a melting pot of different cultures and experiences; but Kobe University as a whole is actively promoting cultural exchange through different activities and events along the year.

### 5. What are your plans for after graduation?

Currently I'm planning to extend my stay in Kobe University all the way up to PhD. If not, I'm aiming to work for a prestigious Japanese logistics company in the international division to work all around the globe.

### 6. What was your biggest culture shock after coming to Japan?

Punctuality and personal space. First, being on time is highly important in Japan, in my country, being late by 5-10 mins it is not only accepted, but expected, whereas in Japan everything is on time. Second, the strict respect for personal space is something that being from a country where shaking hands, hugging, kissing the cheeks, fist bumping and high five-ing is normal, it is a shock to suddenly stop doing it.

### 7. What are the appeal points of the Graduate School of Maritime Sciences for you?

The long academic history of the faculty, the expertise of the professors, and the multidisciplinary of its students create an amazing academic spirit between the people within the faculty. The connections of the faculty with the stakeholders on all the areas of the faculty's research interests. And finally, all the equipment that the faculty has to conduct research such as the many boats, specialized laboratories, testing facilities, simulation equipment, and even its own ship, the Kaijin Maru

### 8. Please give a message or advice to anyone who wishes to study abroad.

Study abroad is a life-changing experience that cannot be described by words, it opens your mind and allow you to appreciate both your origins and other countries/cultures, just remember to face everything with an open mind and be flexible to change, otherwise you would have a not-so-good experience. Thanks to studying abroad I have friends all around the world, in every single continent which otherwise I would never have met o; if you decide to study abroad, my advice is that, even though it might be a little frightening at the beginning, remember that other exchange students face the same difficulties and are in a somewhat equal situation, you are not alone, so don't be afraid and talk to new people, you never know who would turn out to be one of your best friends in the world.

as of June, 2023



# グローバル輸送科学コース

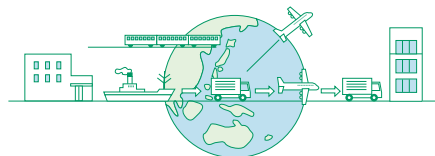
世界経済のグローバル化に対応し、国際物流の基盤を支える輸送体系の高度化に貢献することを目的として、海上輸送を中心とした陸海空一体の最適な輸送と物流システムの構築を多角的に行うために、船舶運航・管理技術と物流経営・情報解析に関する教育研究を行う。

## 本コースの教育研究分野

- ・航海基盤科学
- ・航海システム科学
- ・輸送情報科学
- ・海事人的要因科学
- ・輸送計画科学
- ・輸送社会科学

## 本コースの授業科目（\_：英語による授業科目）

- ・国際海事社会学
- ・海洋理工学演習
- ・輸送包装論 1, 2
- ・国際海事管理法論 1, 2
- ・海事行政法 1, 2
- ・数理解析 1, 2
- ・海事産業経営論 1, 2
- ・人的海事安全論 1, 2
- ・身体運動科学 1, 2
- ・船隊安全管理論 1, 2
- ・海上交通管理論 1, 2
- ・海洋人間科学 1, 2
- ・船舶運航論 1, 2
- ・海洋情報論 1, 2
- ・海洋計測論 1, 2
- ・海洋観測システム論 1, 2
- ・交通システム計画論 1, 2
- ・ロジスティクスマネジメント 1, 2
- ・交通政策と数理計画 1, 2
- ・プロジェクト評価論 1, 2
- ・ネットワーク解析論 1, 2
- ・画像情報処理論 1, 2
- ・知識工学 1, 2
- ・数理最適化論 1, 2
- ・マルチメディア論 1, 2
- ・ヒューマンインタフェース 1, 2
- ・国際交通論 1, 2
- ・交通経営論 1, 2
- ・組織理論 1, 2
- ・環境システム論 1, 2



## 在学生からのメッセージ



近藤 大祐

海洋ロジスティクス科学領域  
(グローバル輸送科学コース)



日本

### 1. 海事科学研究科を選んだ理由は？

私は学部4年生の時にしていた卒業研究をさらに深め、それを自律運航船に関する研究につなげたいと考え海事科学研究科を選びました。海事科学研究科での研究室を選ぶにあたっては、一番自分のやりたい分野の研究ができ、かつ自分に合った研究室を選びました。

### 2. 入学後の大学院の印象は？

学生数が少なく、授業では教員との距離が非常に近いです。研究室においても学生同士のみならず、留学生や教員とも密接に関わりがあり、和やかな研究環境です。英語での授業や留学生と交流することで英語力の向上にもつながります。自分の研究したいことを自由に選択でき、計画性をもって研究を行うことができます。

### 3. あなたの研究内容について簡単に教えてください。

私は海難審判における「無難に航過する」に関して研究を行っています。「無難に航過する」は具体的な数値基準が存在せず、そのような状況では数値的なアルゴリズムで動く自律運航船の出現に影響が出ると考え、「無難に航過する」距離に関して明らかにすることを目的として研究を行っています。

### 4. 大学院進学の魅力について教えてください。

学部ではできない長期的な研究を行うことができます。自分のやりたい研究を、目標をもって行うことができるのは大学院進学の魅力です。また、TAとして教育の場にも立つことで自身の知識を深めることもできます。

### 5. 卒業後のあなたの進路について教えてください。

私は卒業後、博士課程後期課程への進学を予定しています。進学後は学部、前期課程で培った自身の考えや知識をより深めたいと考えています。前期課程で得た専門性を発展させ、今後出現が予想される自律運航船と船隊管理に関して研究を行う予定です。

### 6. 海事科学研究科の魅力は何ですか？

海事科学研究科は教員との距離が近く、多くのことを学べる機会、様々なことに挑戦できる環境に恵まれています。練習船を所有しており、実際の船や港湾の見学もあるため海事科学に関する見識を深めることができます。

### 7. 海事科学研究科を目指す高校生、大学生へのメッセージ

海事科学研究科は他大学と比べて比較的学生の数が少なく、教員との距離が近いことが特徴です。海事科学分野を研究することができる大学院は少ないと考えます。海事科学研究科を目指す高校生、大学生は他大学の研究室の研究や環境を比較し、自分に合った研究室を選択することをお勧めします。同じ分野を学びあえる後輩に会える日を、楽しみにしています。

2023年6月現在



# Division of Ocean Safety Systems Science

The Division of Ocean Safety Systems Science provides education and research programs which cover the fields of Water Environment, Meteorology, Geology, Maritime Safety, Radiations and Particle Beam Science, Material and Analytical Chemistry, and Mathematics, with paying the special attentions on the preservation of global and marine environment and safety development and uses of the oceans, in order to achieve the sustainable development of the human society.

## Education and Research Area

- Aquatic Environmental Science
- Oceanography and Meteorology
- Ocean Safety Engineering
- Radiation and Particle Beam Science
- Ocean Fundamental Science

## Courses at Master's Degree Program ( \_ : Courses in English)

- International Maritime Sociology
- Exercises for Marine Science and Technology
- Aquatic Environmental Science 1, 2
- Conservation of Aquatic Environment 1, 2
- Applied Oceanography 1, 2
- Applied Meteorology 1, 2
- Atmospheric Environmental Science 1, 2
- Ocean Safety Engineering A1, A2
- Ocean Safety Engineering B1, B2
- Radiation Science and Applications 1, 2
- Applied Nuclear Reaction Engineering 1, 2
- Quantum Beam Science 1, 2
- Exploring Safety Systems through Cognitive Psychology 1, 2
- Functional Materials Science 1, 2
- Applied Mathematical Science A1, A2
- Applied Mathematical Science B1, B2

## Message from International Student



*Mélody N. C.  
Dumont*

Université Paris Cité



FRANCE

### 1. Why did you choose the Graduate School of Maritime Sciences, Kobe University?

I choose Kobe University for my cotutelle because of its relationships and agreements with my French University. It was the occasion to strengthen the links between those two institutions and to create new exchanges in my field, in geography.

Moreover, I had the opportunity to be guided by the Professor Christopher Gomez during my master degree and his expertise was extremely helpful. I wanted to continue to work with him during my PhD and be my co-director.

### 2. How do you feel after enrolling at Kobe University?

I feel lucky enrolling at Kobe University! The staff is always very helpful, reactive, and kind, when I am in Japan or even in France. The University offers several advantages to its student. For example, its documentary resources are very extensive, and it is a pleasure to visit its libraries. Kobe University campuses are also very pleasant!

### 3. Please explain briefly what your research is.

My research focuses on the evolution of fluvial hydrosystem management in Japan since the Meiji era. As you know, Japan is prone to natural hazards and the archipelago has developed several tools to protect its territory. The actual methods of post-disaster reconstruction, which are mainly based on engineering, come from a complex history influenced by environmental, but also political, economic and social factors. All these factors have influenced the way Japan copes with natural disasters.

Through the case of Northern Kyushu's disaster, which happened in July 2017, I analyse the actual post-disaster reconstruction choices and the role of each actor involved in this process. The study of constructed facilities or newly spaces for citizens permit to understand the political, economic, and social visions actors apply to the territory they reconstruct. It is also the opportunity to analyse the perception of inhabitants: how they receive, interpret, and take ownership of these visions. Thus, the study of post-disaster reconstruction policies is a way to understand Japanese society.

### 4. Do you have opportunities for cultural exchange?

I do have opportunity for cultural exchange, especially in my laboratory. I have the chance to share my laboratory with Japanese students and it is a real pleasure to interact with them. Living in the dormitory of Kobe University also helps to meet new people.

### 5. What are your plans after graduation?

I plan to continue to work in research and teaching after my graduation. My first plan would be to have a job in Japan to continue my research in Geography.

### 6. What was your biggest culture shock after coming to Japan?

When I first came in Japan few years ago, I was pleasantly surprised of how Japanese people behave in public transport, waiting in line to enter in the bus or the train!

### 7. What are the appeal points of the Graduate School of Maritime Sciences for you?

It is fascinating to have the opportunity to work with researchers from different backgrounds. During my years in Université Paris Cité, I explored physical and human geography. Being in the Graduate school of Maritimes Sciences is an occasion to explore new fields, and it is very stimulating.

In addition, the Graduate School of Maritime Sciences offers a great work environment to its students. When I am in Japan, I am very happy to participate to the life of my laboratory and exchange with teachers and students.

### 8. Please give a message or advice to anyone who wishes to study abroad.

Studying abroad is a real opportunity for your professional, but also personal life. It is the occasion to meet new people, learn about culture, and open yourself to new way of thinking. So, if you decide to go abroad, be open-minded and curious and it will help you to live exciting adventures.

as of June, 2023



# 海洋安全システム科学コース

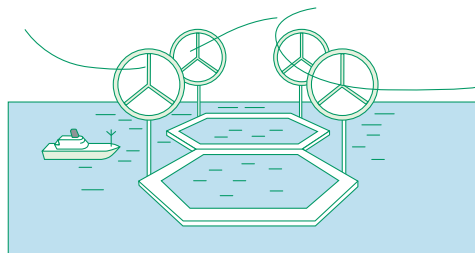
理工学分野の幅広い知識を基礎として、人類の持続的発展に不可欠な地球・海洋環境の保全、海洋の開発と活用及び海事活動に係る安全性の確保に関する教育研究を行う。

## 本コースの教育研究分野

- ・水環境学
- ・海洋・気象学
- ・海洋安全工学
- ・放射線・粒子ビーム科学
- ・海洋基礎科学

## 本コースの授業科目（\_\_：英語による授業科目）

- ・国際海事社会学
- ・海洋理工学演習
- ・水環境科学 1, 2
- ・水環境保全学 1, 2
- ・応用海洋学 1, 2
- ・応用気象学 1, 2
- ・大気環境科学 1, 2
- ・海洋安全工学 A1, A2
- ・海洋安全工学 B1, B2
- ・放射線応用科学 1, 2
- ・核反応応用工学 1, 2
- ・量子ビーム科学 1, 2
- ・実験認知安全論 1, 2
- ・機能性材料科学 1, 2
- ・応用数理科学 A1, A2
- ・応用数理科学 B1, B2



## 卒業生からのメッセージ



M.T

海洋安全システム科学コース



日本

### 1. 海事科学研究科を選んだ理由は？

もともと学部卒業後は就職しようと考えていましたが、学部での講義や研究を通じてさらに専門性を深めたいと思い、海事科学研究科へ進学しました。

海事科学部では海洋学や基礎科学分野のみならず、経済学等の社会科学も学ぶことができました。様々な分野に興味を持ちましたが、特に環境科学に興味を持ち、大学院では大気環境の研究に取り組みました。

### 2. あなたの研究された内容について説明してください。

船舶の排ガスが大気環境に及ぼす影響について研究しました。研究を実施するにあたり、環境省や地方自治体が航海している測定データのみならず、練習船に乗船し瀬戸内海周辺海域で洋上大気を測定したり、粒子状物質の化学成分を兵庫県の研究施設にて分析させていただいたり、多くの方にご協力いただき論文も出版することができました。この研究成果は、今後の船舶運航のあり方や海洋政策の立案などに生かされます。研究を通じて、環境学は化学・物理学等の基礎科学から海洋学、気象学、さらには社会科学まで、幅広い分野の知見が必要であることを学びました。

### 3. 大学院進学の魅力について教えてください。

時間をかけて専門性を深められることです。社会人になってから一層強く思いますが、学会や行き詰っていた時期も含め、研究に費やした時間はとても贅沢なものでした。特に海洋科学の分野は未開の研究領域が多く、誰でもフロンティアとなれることも魅力的だと思います。また研究を通じて「こんな社会人になりたい」と思える方々に出会えたことも貴重な財産となりました。

### 4. 卒業後の進路について教えてください。

文部科学省所管の国立研究開発法人、海洋研究開発機構(JAMSTEC)で事務職として勤務しています。専門性を直接生かせる研究職、技術職等の職種も魅力的でしたが、自分の専門性と能力を生かして活躍できること、ライフイベントにも理解があり、安心してキャリアを積める点が現在の進路を選ぶ決め手となりました。大学での課外活動や研究で培われた周囲を巻き込む力、目的を見失わず粘り強く試行錯誤する力が業務に生かされています。今後は、事務にとどまらず、大学院での研究経験を生かして、船舶運航管理等の現場に近い部署での業務や研究者とともに研究を推進する業務、海洋政策立案にかかわる業務に携わりたいと考えています。

### 5. 海事科学研究科を目指す高校生、大学生へのメッセージ

海事科学研究科には、他大学院では学べないユニークな分野・テーマの研究を行うための環境が整っています。是非興味を持った研究室を訪問してみてください。海事科学研究科の先生方・学生達が温かく迎えてくれると思います。

2023年6月現在



# Division of Marine Engineering

The Division of Marine Engineering provides education and research programs, while laying the foundations on engineering, to foster highly-skilled engineers and researchers who are capable of developing, designing, and managing naval architects and ocean related systems. The mission of this division is to pioneer new technologies and disciplines that would contribute to develop marine and ship industries.

## Education and Research Area

- Naval Architecture and Ocean Engineering
- Power and Energy Systems Engineering
- Electrical and Electronic Engineering
- Mathematics and Physics for Maritime Science

## Courses at Master's Degree Program ( \_ : Courses in English)

- International Maritime Sociology
- Exercises for Marine Science and Technology
- Machine Design of Ocean and Offshore Structures 1, 2
- Strength Mechanics for Ship and Marine Structure 1, 2
- Ship and Marine Hydrodynamics 1, 2
- Compressible Fluid Dynamics 1, 2
- Multiphase Fluid Dynamics 1, 2
- Computational Fluid Dynamics 1, 2
- Power Systems Management 1, 2
- Engine Systems Maintenance 1, 2
- Thermal Energy Transport 1, 2
- Thermal Energy Conversion 1, 2
- Energy and Environment 1, 2
- System Control Theory 1, 2
- Robot Engineering 1, 2
- Power Conversion Engineering 1, 2
- Solid State Electronics 1, 2
- Physics for Maritime Sciences A1, A2
- Physics for Maritime Sciences B1, B2
- Physics for Maritime Sciences C1, C2
- Applied Physics for Maritime Sciences 1, 2
- Mathematics for Maritime Sciences 1, 2

## Message from International Student



章 誠豫

Shanghai Maritime University



CHINA

### 1. Why did you choose the Graduate School of Maritime Sciences, Kobe University?

I graduated from Shanghai Maritime University, majoring in Shipping and Marine Engineering, and I am interested in my current instructor's research related to superconductors and liquid hydrogen. For further study, I chose to study at Graduate School of Maritime Sciences, Kobe University.

### 2. How do you feel after enrolling at Kobe University?

As one of the leading universities in Japan, I can get the latest knowledge I require for research at Kobe University. Meanwhile, the Japanese and English immersion can also help me to develop my language skills, which will provide the foundation for me to work globally.

### 3. Please explain briefly what your research is.

My research topic is fundamental research on a helical liquid hydrogen flowmeters. The research is to design and make a prototype flowmeter and optimize its accuracy by means of software simulation and 3D printing technology. It is expected to lay the foundation for the liquid hydrogen marine transportation project and the research of liquid hydrogen flowmeter.

### 4. Do you have opportunities for cultural exchange?

Yes, not only I can communicate with Japanese students in the research lab, but also the teaching associate members often announce exchange events for international students.

### 5. What are your plans for after graduation?

I want to work in Japan and become an engineer who can work globally.

### 6. What was your biggest culture shock after coming to Japan?

When boarding an escalator, people in the Kanto region stand on the left side of the escalator and leave the right side open to allow others to pass; people in the Kansai region stand on the right side and allow others to pass on the left side.

### 7. What are the appeal points of the Graduate School of Maritime Sciences for you?

The Fukae Campus, where the Marine Studies Course is located, is close to the ocean, so you can take a walk on the levees to relax and rejuvenate after researching.

### 8. Please give a message or advice to anyone who wishes to study abroad.

Once the decision is made, just do it. Studying abroad is a good opportunity to expand your horizons, see the world from a different perspective, and you will meet the bright future for yourself.

as of June, 2023



# マリンエンジニアリングコース

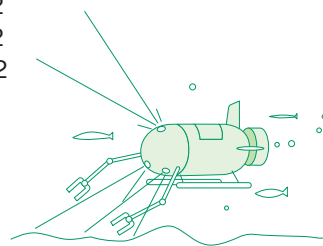
工学に基礎を置き、海や船に関わる産業分野の発展に寄与する新たな学問分野の開拓と技術開発のために、船舶海洋関連システムの開発、設計、管理を行える高度専門技術者及び研究者の養成を目的とした教育研究を行う。

## 本コースの教育研究分野

- ・船舶海洋工学
- ・動力エネルギーシステム工学
- ・電気電子工学
- ・海事数物科学

## 本コースの授業科目（：英語による授業科目）

- ・国際海事社会学
- ・海洋理工学演習
- ・海洋機械設計論 1, 2
- ・船舶・沿岸構造強度学 1, 2
- ・船舶海洋流体力学 1, 2
- ・圧縮性流体力学 1, 2
- ・混相流体力学 1, 2
- ・計算流体力学 1, 2
- ・動力システム管理論 1, 2
- ・機関システム保全論 1, 2
- ・熱エネルギー移動論 1, 2
- ・熱エネルギー変換論 1, 2
- ・エネルギー環境論 1, 2
- ・システム制御論 1, 2
- ・ロボット工学 1, 2
- ・電力変換工学 1, 2
- ・電子物性工学 1, 2
- ・海事基礎物理学 A1, A2
- ・海事基礎物理学 B1, B2
- ・海事基礎物理学 C1, C2
- ・海事応用物理学 1, 2
- ・海事基礎数学 1, 2



## 在学生からのメッセージ



杉原 弥悠加

マリンエンジニアリングコース



日本

### 1. 海事科学研究科を選んだ理由は？

私は学部生の時にクリーンエネルギーについて興味・関心があり、水素社会実現に向けた最先端の研究ができる現在の研究室を選びました。卒業研究を行っていくうちに、さらに研究を深めたいと思い、大学院への進学を決めました。また、乗船実習科に進学し、海技免状取得後進路を決めたいという考えもありました。

### 2. 入学後の大学院の印象は？

卒業に必要な単位が少ないので、学部時代より自由な時間が多いです。研究や自主勉強、資格取得に時間を割くことができます。

### 3. あなたの研究内容について簡単に説明してください。

液体水素（沸点：20 K）のような極低温液体でも使用できる全く新たな原理に基づく配管外部取り付け型のひずみゲージを用いた流量計の開発に関する研究を行っています。現在は、極低温下におけるGFRPのヤング率の温度依存性を調べています。

### 4. 大学院進学の魅力について教えてください。

学部ではできない研究の追求ができます。マンツーマンで丁寧に研究の指導をしてくださる先生や、困った時にアドバイスをしてくださる尊敬できる先輩がいることも魅力の一つです。

### 5. 卒業後のあなたの進路について教えてください。

私は大学院卒業後、船舶職員になる予定です。研究を通じて身に付けた論理的思考力は、どの職場でも必要なスキルだと考えています。2年間で培った知識や能力を船上でも最大限活かしていきたいと考えています。

### 6. 海事科学研究科の魅力は何ですか？

海洋に関わる様々な分野の教授が揃い、熱力学、流体力学、機械工学、低温工学、その他多種多様な分野について学ぶことができ、自分のやりたい研究を選ぶことができるのはこの海事科学研究科の魅力です。さらに、他大学合同の授業や、企業の方に授業をしてもらう機会があり、船舶系の他大学学生との交流や、最先端の海事産業について学ぶことができます。

### 7. 海事科学研究科を目指す高校生、大学生へのメッセージ

海事科学研究科を目指す高校生や大学生の方に私が一番伝えたいことは、多くの経験を積み重ねることで、多様な選択肢や手段を思い描くことができるということです。少しでも大学院に興味がある方は、経験の一つとして大学院進学をお勧めします。

2023年6月現在



# Education Program for Global Marine Science and Technology

The Education Program for Global Marine Science and Technology is an inter-disciplinary education program for marine engineers, which tries to develop human resources acquiring diverse expertise in natural science, technology, and social science in the maritime field. The goal of this program is to produce people playing a leading role in the maritime field by having them see things from multiple and broad perspectives through learning a variety of knowledge from different fields. A certificate of completion is conferred on the student that successfully finishes this program.

## Courses provided for this program

### •Required courses

International Maritime Sociology, Exercises for Marine Science and Technology

### •Elective courses by Division of Global Transportation Sciences

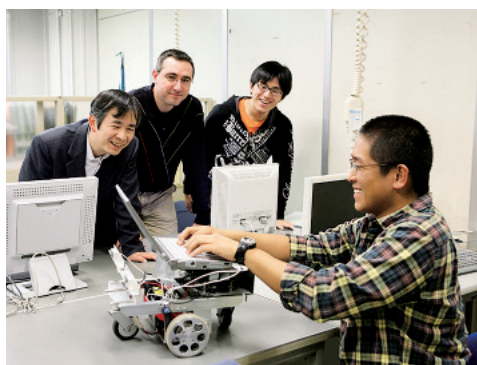
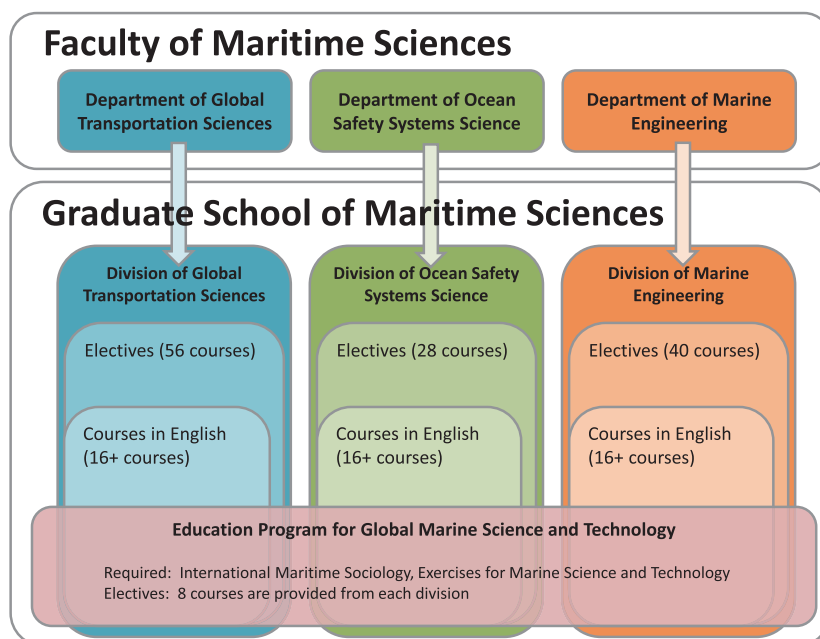
Oceanographic and Navigational Cybernetics, Marine Observation Systems, Logistics Management, Mathematical Optimization

### •Elective courses by Division of Ocean Safety Systems Science

Conservation of Aquatic Environment, Applied Oceanography, Applied Meteorology, Ocean Safety Engineering

### •Elective courses by Division of Marine Engineering

Strength Mechanics for Ship and Marine Structure, Ship and Marine Hydrodynamics, Power Systems Management, System Control Theory



## Master's Degree Program for Students from English-speaking Countries

Each division provides a group of courses taught in English, of which the total credits shall amount to 16 or more. This allows a student to receive all of the necessary credits for elective courses in English only. Every lecture of these courses is given in English, regardless of the presence of international students in the class.

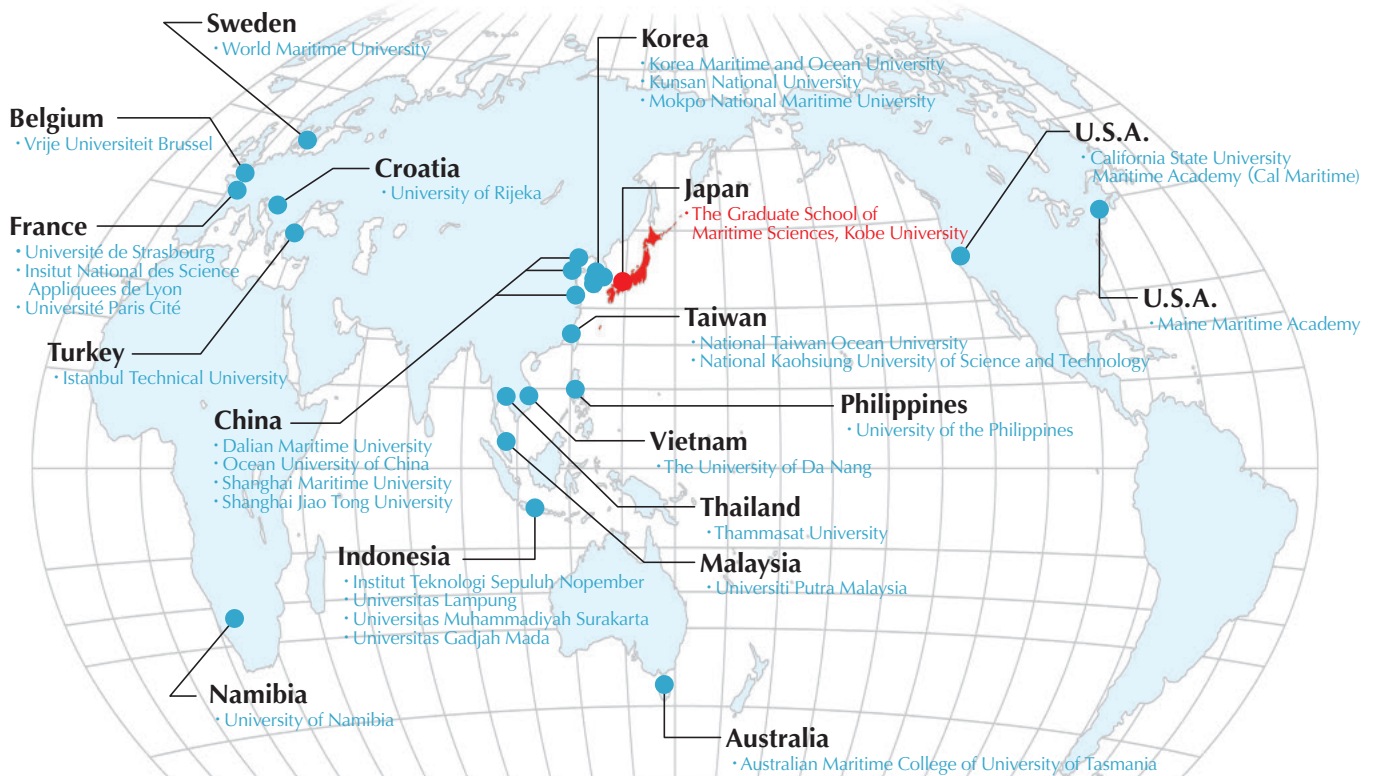


# International Exchanges

## International Exchanges

Kobe University has concluded academic exchange agreements with more than 200 overseas universities and institutions for both inter-university and inter-faculty / graduate

school exchanges. The Graduate School of Maritime Sciences is conducting intensive exchanges in education and research with the partner universities shown below.



as of June 1, 2023

## International Association of Maritime Universities (IAMU)

IAMU was founded by seven universities representing the five continents of the world (Representative Universities) in November, 1999, with a shared recognition of significance of maritime education and training in the rapid globalization of the international shipping arena. Since then, IAMU has significantly expanded its membership, and now boasts 59 universities/academies/faculties of the world's maritime education and training institutions, and The Nippon Foundation as its members, totaling 60 altogether.

The Graduate School of Maritime Sciences (the former Kobe University of Mercantile Marine) was a founding member of IAMU, and has been a representative of the Asian area, playing a key role in promoting IAMU's development.

IAMU <http://www.iamu-edu.org/>



## Asia Maritime and Fisheries Universities Forum (AMFUF)

Asia Maritime & Fisheries Universities Forum was founded on 7 November 2002, at the Korea Maritime University(KMOU) in Busan. It was the first permanent private organization in Asia, joined by 9 institutions including KMOU.

The overall objective of this Forum, which is to be held annually, is to promote the academic exchange among the Asian Maritime & Fisheries Education Institutes and to further foster international cooperation on the education and research for the maritime & fisheries experts.

The annual forum will be held in each member's institution, alternately, for advertising this linkage and activities of the programs to the society all over Asian countries. The Graduate School of Maritime Sciences (the former Kobe University of Mercantile Marine) has been playing an important role for the further development of each institutions.





# Campus Life



## Campus Calendar

1Q	April	Entrance Ceremony Orientation for New Students Medical Check-up First Quarter begins
	June	First Quarter Examination Second Quarter begins
2Q	July	
	August	Second Quarter Examination Summer Vacation begins
	September	Summer Vacation ends

3Q	October	Orientation for New Students Third Quarter begins
	November	University Festival (Rokkodai Campus) Third Quarter Examination
4Q	December	Fourth Quarter begins Winter Vacation begins
	January	Winter Vacation ends
	February	Fourth Quarter Examination
	March	Commencement Ceremony

## Tuition and Fees

as of April 1, 2023 (yen)

	Entrance Examination Fee	Admission Fee	Tuition
Undergraduate Students	17,000	282,000	535,800 (per annual)
Graduate Students	30,000	282,000	535,800 (per annual)
Research Students	9,800	84,600	178,200 (per semester)

\*If tuition is revised, the new tuition fee is applied from the time of revision.

## Exemptions of Admission Fee and Tuition

Privately financed students (only regular students) are eligible for 50% or 100% exemptions of fees if they have financial difficulties and are keeping excellent academic records.

## Scholarships

There are scholarships offered by Japanese government, local governments, and private organizations. Most of the scholarships can be applied for after entering a university. They are mostly for undergraduate and graduate students.

### Number of International Students by Nationality

as of October 1, 2022

China	31
Indonesia	4
Malaysia	1
Korea	4
Taiwan	2
Hungary	1
France	1
Mexico	1
Total	45

### Number of Faculty

as of April 1, 2023

Professor	28
Associate Professor	35
Lecturer	3
Assistant Professor	9
Total	75



# Career Opportunities

## Career Options

After completing graduate programs, many students find employment in private companies or public/educational institutions to show their highly advanced skills and knowledge.

## Graduate jobs (Including Japanese Students)

### Private Companies

- Daikin Industries, Ltd.
- Hitachi Zosen Corporation
- JFE Engineering Corporation
- Kawasaki Heavy Industries, Ltd.
- Komatsu Ltd.
- Konica Minolta, Inc.
- Kowa Seisaku Co., Ltd.
- Kubota Corporation
- Mitsubishi Electric Corporation
- Nippon Steel & Sumitomo Metal Corporation
- Nippon Telegraph And Telephone West Corporation
- Nippon Yusen Kabushiki Kaisha
- Noevir Holdings Co., Ltd.
- NSK Ltd.
- NTT Data Corporation
- Senko Co., Ltd.
- Shimadzu Corporation
- Suzuki Motor Corporation
- The Asahi Shimbun Company
- Toppan Printing Co., Ltd
- Toshiba Corporation
- Toyota Industries Corporation
- Toyota Motor Corporation

### Public Institutions

- District Police Bureau
- Japan Meteorological Agency
- Japan Nuclear Energy Safety Organization, an incorporated administrative agency (JNES)
- Ministry of Land, Infrastructure, Transport and Tourism

### Educational Institutions

- Istanbul Technical University (Turkey)
- Rajamangala University of Technology Thanyaburi (Thailand)

## Comments from our Alumni



*Meishu Piao*  
OLYMPUS CORPORATION



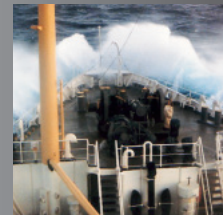
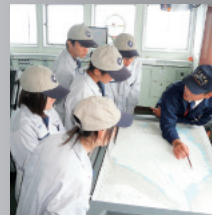
CHINA

It has been six years since firstly I came here to Japan. I majored in packaging engineering in my University in China and had a strong will to study abroad in the near future. Then, I heard that Kobe University is the only university to have a "Transport Packaging Laboratory" in Japan and I finally decided to study abroad without any hesitation.

My life was greatly influenced by many experiences at Kobe University. Once-a-month seminars at the lab provided me not only useful feedback and advice on my research, but also the opportunities to exchange ideas with people from business circles. That was helping me to decide which career direction I should take. As for my study, thanks to my professor's guidance, I was able to join domestic and international conferences to give presentations of my research findings. The knowledge which I obtained during the graduate study is greatly helpful for my current job.

Now, I work in a global medical device company that has been achieving a large global market share of gastrointestinal endoscopy. I am designing packages of the products related to healthcare segment to protect them from the damage during transport, and I am very proud of my job. I am glad my decision to study in Kobe University was the right one. I believe you will also benefit a lot from Kobe University.

as of January, 2017



## Kobe University Global Education Center

The Global Education Center was established as a university wide research/teaching facility in April 1993. The Center takes overall responsibility for international students, including providing teaching in Japanese language, Japanese studies, advising on studying and living in Japan, internships career advising, and alumni networking. We are also carrying out research and development aimed at promoting international study exchange programs such as providing support for overseas study for Japanese students registered at Kobe University. In addition, the Center is actively promoting the support of Japanese language teaching, and international exchange programs in the local community, working with regional government agencies, local volunteer organizations, schools, companies etc.  
<http://www.kisc.kobe-u.ac.jp/english/>

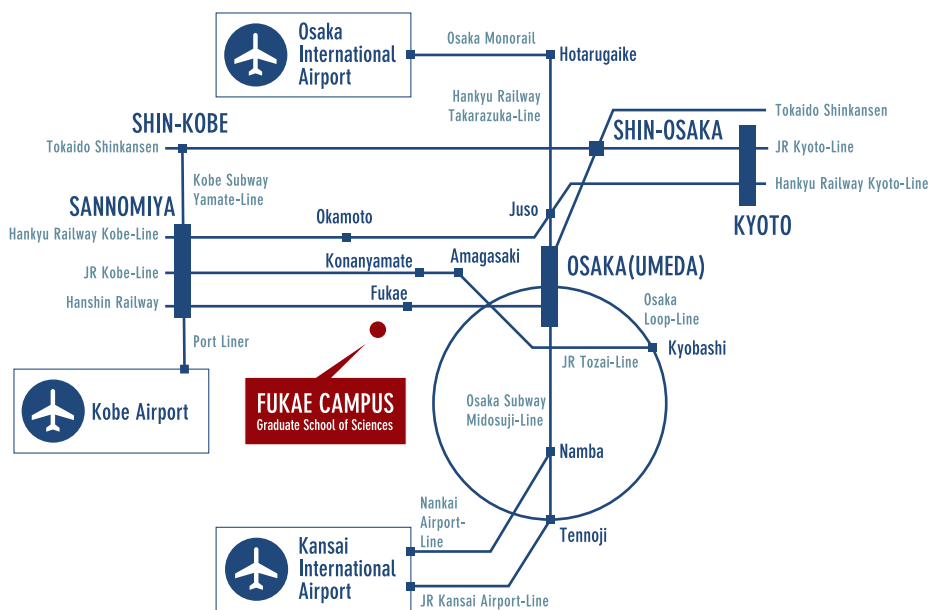




## MAP



## ACCESS



The Graduate School of Maritime Sciences, Kobe University  
5-1-1 Fukaeminami-machi, Higashinada-ku, Kobe, Japan 658-0022  
Phone: +81-78-431-6200 Fax: +81-78-431-6355  
E-mail: [qa@maritime.kobe-u.ac.jp](mailto:qa@maritime.kobe-u.ac.jp)  
<http://www.maritime.kobe-u.ac.jp/en/>

