

# For entrants in AY 2024

Attachment Form 1

## Description of Major Program

Name of Faculty (Department) [School of Applied Biological Science (Department of Applied Biological Science)]

Name of Program	Integrative Hydrospheric Science Program
1.Degree to be obtained: Bachelor of Agriculture	
<p>2.Overview</p> <p>The School of Applied Biological Science aims to educate students to acquire a wide range of knowledge and understanding in the realms of the natural and social sciences related to applied biology. Specifically, we provide education that allows students to acquire basic knowledge regarding food production, biotic resources, and biotechnology, gain experience in field science, understand bioethics and engineering ethics, and gain abilities in foreign languages, such as English, and in data processing.</p> <p>In the Integrative Hydrospheric Science Program, the education is provided by faculties involved in areas represented by five keywords (marine ecosystem, biological environment, hydrosphere organisms, aquatic resources, and field work) to students to acquire basic knowledge and study skills for physiology, pathology, biochemistry, ecology, ethology, and use as a resource regarding hydrosphere organisms and techniques for cultivation of aquatic organism. Students are also educated to obtain basic knowledge regarding problems related to the themes mentioned above and a wide point of view for international challenges and development in these fields. In addition to that, they are educated to develop capability for planning and executing the study for a solution for problems that they may encounter in the field of fisheries oceanography on their own, analyzing and organizing material that they collect, and publishing and discussing the result orally and in writing.</p> <p>This Program educates students to become experts who have acquired a higher level of expertise in the graduate school after this program or a research worker and a specialist with an international point of view in such as a public office for agriculture and fisheries or in business fields related to agriculture, foods, and chemical and pharmaceutical products.</p>	
<p>3.Diploma policy (policy for degree conferment and target to be achieved in the program)</p> <p>The Integrative Hydrospheric Science Program aims to develop human resources who are capable of working as a specialist in a company and corporation that is engaged in such as food production and recycling and effective use of resources in the hydrosphere. Therefore, in this program, the degree of Bachelor of Agriculture will be awarded to students who acquire the capabilities described below, earn the required credits and to satisfy the specified achievement level, and pass the examination that is administered by the School of Applied Biological Science.</p> <p>Through liberal arts education subjects:</p> <ol style="list-style-type: none"> <li>(1) The ability to study autonomously; the ability to collect, analyze, and criticize data; and putting these abilities into practice;</li> <li>(2) Insight, from a broad perspective, into the essentials and the background of phenomena, and the linguistic ability and concern about peace which are required for a citizen of the world;</li> <li>(3) The ability to identify a problem based on broad knowledge, integrate findings to establish a "knowledge system"</li> </ol>	

that is really useful for problem solving, and examine phenomena from a top-down perspective based on this integrated knowledge; and

- (4) General and basic knowledge of science that enables the student to develop the knowledge and skills required for application in any of the specialty fields of applied biological science.

Through the specialized fundamental subjects for specialized education, the student is required to acquire:

- (5) The ability to understand cutting-edge topics, as well as the basic ideas related to organisms and the biosphere;
- (6) The ability to understand the value orientation and relevance to a globalized society of applied biology, and the importance of communication and consensus building in relation to the application of scientific results; and
- (7) Understanding of problems regarding research misconduct and the importance of research and engineering ethics.

Through the specialized education in this program, the student is required to acquire:

- (8) Knowledge regarding the hydrosphere organisms, fishery, and hydrosphere environment and understanding how to manage aquatic resources and use aquatic products;
- (9) Ability to understand theories required for compatibility between fishery and maintenance of hydrosphere environment and analyze and evaluate characteristics of a hydrosphere organism using methods of physiology, biochemistry, and ecology;
- (10) Ability to handle a hydrosphere organism based on its characteristics and manage and use valuable aquatic resources for practical application from the multi-disciplinary point of view while respecting the ethics of engineers and researchers; and
- (11) Ability to organize his/her own ideas for a specific phenomenon related to a hydrosphere organism, logically publish them orally and/or in writing, and discuss the topic.

#### 4. Curriculum policy (policy for arranging and executing the educational courses)

To enable students to achieve the targets that are defined for the Integrative Hydrospheric Science Program, the educational courses are organized and executed according to the following policies:

- (1) Courses in the liberal arts education aim to develop a wide-ranging and in-depth education and general intelligence, and to foster in students a depth of humanity and desire for peace. They also aim to develop practical foreign language abilities, an international perspective, the ability to understand different cultures, and the ability to utilize information and communication. In addition to this, courses in fundamental subjects are incorporated into the liberal arts education in order to develop professionals with the basic scientific knowledge and skills required for application in any of the specialty fields of applied biological science.
- (2) Courses in special education develop basic capabilities related to biology and the biosphere through the "specialized fundamental subjects" that are common for all cour

provided for students to acquire skills and attitudes that can be practically applied and used. In addition to that, students develop general capabilities for problem solving including skills for communication, presentation, and practical foreign language capability while preparing his/her "graduation thesis."

- (4) Achievement in education is evaluated based on the grade scores for the subjects and the achievement level against the target defined for this program.

#### 5. Start time and acceptance conditions

The School of Applied Biological Science holds the entrance examination collectively for the Department of Applied Biological Science. Students mainly take the liberal arts curricula that are held for the whole of the university (seminar for developing intelligence, subject regarding peace, introduction to university education, foreign language study, data processing study, disciplinary subjects, and subject regarding health & sports) in the first and second semesters of the first year and the first semesters of the second year. Assignment of students to the Integrative Hydrospheric Science Program is actually conducted in the second semester of the second year.

Students study the fundamental subjects for one year after entering the university to acquire the basic knowledge required for studying the expertise. Then they mainly study the specialized fundamental subjects common for the all students of School of Applied Biological Science in the second semester of the second year. Particularly, they take the subjects of Laboratory Work in General Chemistry, Laboratory Work in General Physics, and Laboratory Work in General Biology I & II (including computer exercise) as those regarding experiments that are common for all students of the School of Applied Biological Science that consist of to get basic training for experiments in a wide area that is commonly required for the students of the School of Applied Biological Science. Students acquire a wide range of intelligence, capability in foreign languages such as English, dt tu

## 8.Academic achievement

The supervisor is determined under the guidance of the tutor. The tutor holds a guidance seminar for students to

#### Evaluation method

In this program, the achievement in the program is evaluated from the viewpoints described above for students in the second semester of the fourth year. For the "educational effectiveness", the results and achievement of the students who took the program are evaluated comprehensively by the group of faculty members who are engaged in the execution of the program. Also, the level of achievement of all the students is evaluated and reviewed. The "social effectiveness" is evaluated based on such things as the rate of employment in corporations that have a close connection with the contents of this program and the pass rate in public servant examinations. We regularly request a human resources staff member of a company that employs mainly students of this program to evaluate this program. In addition to that, we request graduates of this program to evaluate both their own achievement and that of the program. The staff in the company and graduates are requested to provide evaluation and advice regarding whether the class subjects and their contents in this program were effective for social activities, whether the contents of class appropriately corresponded to the changes in science, technology, and society, and any class subjects that would be required for the future.

#### Policy and method for feedback to students

The education reform promotion committee regularly conducts inquiries and interviews for students to review and evaluate the program, improve the contents of the program, and provide advice and recommendations for improvement.



			“Basic Laboratory Work in Chemistry” or “Experimental Methods and Laboratory Work in Chemistry I” (Note5)	1	Required								
			“Experimental Methods and Laboratory Work in Biology I”	1									
	Total	40											



## **○ Instruction regarding credits**

Note 1: The year indicated with a circle mark represents that in which students typically take the subject. The year with a double circle mark indicates the year in which students are highly recommended to take the subject. Students are allowed to take the subject in any year after that indicated with a circle or double circle mark. It is required to confirm the semester in which the subject is provided in the class schedule for liberal arts education subjects in the Students' Handbook because some subjects might be provided in different semester from that which is provided in this document.

Note 2: The credit for "Online English Seminar I," "Online English Seminar II," and "Online English Seminar III" that is earned through a self-study, are accepted as the credit for English required for graduation. Achievement in a foreign language skill test and language training might be accepted as a credit. For further information, refer to the description regarding English subjects in the liberal arts education and the item "Credit based on Achievement in Foreign Language Skill Test" in the Students Handbook.

(PP. 32 - 38, Liberal Arts)

Note 3: Area Courses are required to earn 4 credits or more for the natural science subjects and 4 credits or more for the human & social science subjects.

However, "Fundamentals of Biology" of the natural science subjects is a subject for which students are requested to take if he/she did not take biology subjects in the entrance exam (including the University Testing Center Examination).

For the other students, the credit for the subject "Fundamentals of Biology" is not accepted as that for graduation.

Credits earned in Information and Data Science Courses exceeding 4 credits may be included in Natural Sciences. Up to 4 credits of Social Cooperation Courses may be included in Humanities/Social Sciences. Development Seminars may be included in Area Courses.

Note 4: For health & sports subjects, it is recommended to take a practicum in sports.

Note 5: It is required to take "Basic Laboratory Work in Chemistry" that is provided in the first semester in the first year. Only when failing to earn the credit for "Basic Laboratory Work in Chemistry", it is allowed to take the subject "Experimental Methods and Laboratory Work in Chemistry I" that is provided in the second semester in the first year.

Type	Subject type	Required No. of credits	Class subjects	No. of credits	Year in which the subject is taken								
					1 <sup>st</sup> grade		2 <sup>nd</sup> grade		3 <sup>rd</sup> grade		4 <sup>th</sup> grade		
					Springs	Fall	Springs	Fall	Springs	Fall	Springs	Fall	
		24	Introduction to Applied Biological Sciences	2									
			Introduction to Microbiology	2									
			Introduction to Molecular Biochemistry	2									
			Agricultural Production Resources	2									
			Physics for Applied Biological Science	2									
			Ethics of Science and Technology	2									
			Statistics in Biology	2									
			Environmental Sciences for Bioproduction	2									
			Laboratory Work in General Biology I	1									
			Laboratory Work in General Biology II	1									
			Laboratory Work in General Chemistry	1									
			Laboratory Work in General Physics	1									
			Required Subjects: Total 20 credits										

			Seminar in Field Science Research Front of Bioresource Sciences Research Front of Food and AgriLife Science Introduction to Physiology Public Health	2 2 2 2 2 2							
Elective Required Subjects Take 6 credits from above subjects (Redundant credits over 6 credits move to Elective Subjects in each Program)											

Table of Registration Standards (Specialized Subjects)

## Integrative Hydrospheric Science Program

Type	Subject type	Required No. of credits	Class subjects	No. of credits	Year in which the subject is taken							
					1 <sup>st</sup> grade		2 <sup>nd</sup> grade		3 <sup>rd</sup> grade		4 <sup>th</sup> grade	
					Springs	Fall	Springs	Fall	Springs	Fall	Springs	Fall
Specialized Subjects	Specialized Subjects	56	Field Work on Training Vessel	2								
			Reading of Foreign Literature in Hydrospheric Science	2								
			Graduation Thesis I	2								
			Graduation Thesis II	2								
			Graduation Thesis III	2								
			Required Subjects: Total 10credits									
			Aquaculture I	2								
			Hydrospheric Zoology I	2								
			Hydrospheric Ecology I	2								
			Hydrospheric Environmental Science I	2								
			Hydrospheric Primary Production I	2								
			Introduction to Hydrospheric Biodiversity I	2								
			Laboratory Work in Hydrospheric Biology I	1								
			Laboratory Work in Hydrospheric Biology II	1								
			Control of the Fish and Shellfish Disease in Aquaculture	2								
			Aquaculture II	2								
			Hydrospheric Zoology II	2								
			Hydrospheric Ecology II	2								
			Hydrospheric Environmental Science II	2								
			Hydrospheric Primary Production II	2								
			Introduction to Hydrospheric Biodiversity II	2								
			Laboratory Work in Hydrospheric Biology III	1								
			Practical Work in Hydrospheric Field Science I	1								
			Practical Work in Hydrospheric Field Science II	1								
			Exercises in Integrative Hydrospheric Science I	1								
			Exercises in Integrative Hydrospheric Science II	1								
			Aquatic Biogeochemical Cycles	1								
			International Fishery I	1								
			International Fishery II	1								
			Fisheries Socioeconomics	1								

			Applied Extreme Environmental Life Science	2					
			Hydrospheric Biochemistry	2					
			Specialized Practical Work in Marine Biology	1					
			<p>Elective Required Subjects: Take 25 credits from above subjects (Redundant credits over 25 credits move to Elective Subjects)</p> <p>At least 3 credits must be obtained from following five subjects, Hydrospheric Environmental Science I, II, III and Exercises in Integrative Hydrospheric Science I, II.</p> <p>Student who wish to take International Fisheries Science I or II should, in principle, take both International Fisheries Science I and II.</p> <p>Elective Subjects: At least 23 credits must be obtained.</p> <p>Specialized subjects from other Applied Biological Science programs can be included in the elective subjects.</p> <p>Up to 12 credits obtained from specialized subjects at another School and from subjects offered by the AIMS Program completed at the dispatch destination can be included in the credits required for graduation.</p> <p>Credits obtained from Liberal Arts Education Subjects and subjects related to the teaching procession cannot be included in the credits required for graduation.</p>						
		124							

[Credits required for graduation] 124 credits (40 credits for liberal arts education subjects + 26 credits for specialized fundamental subjects + 58 credits for specialized subjects)

## Results of study in Integrative Hydrospheric Science Program

## Relation between evaluation items and evaluation criteria

Study achievement			Evaluation criteria		
Evaluation items			Excellent	Very Good	Good
Knowledge & understanding	(1)	Ability for comprehensive and cross-disciplinary thinking and knowledge / understanding required to see a phenomenon from a wide bird's eye view to take an action for solving problems regarding the specialized area.	Has superior ability for comprehensive and cross-disciplinary thinking and capability to see a phenomenon from a wide bird's eye view to take an action for solving problems regarding the specialized area.	Has sufficient ability for comprehensive and cross-disciplinary thinking and capability to see a phenomenon from a wide bird's eye view to take an action for solving problems regarding the specialized area.	Has basic ability for comprehensive and cross-disciplinary thinking and capability to see a phenomenon from a wide bird's eye view to take an action for solving problems regarding the specialized area.
	(2)	Basic knowledge and understanding required for studying the expertise	Has fundamental knowledge and profound understanding required for studying the expertise and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge required for studying the expertise and is capable of sufficiently understanding issues in the specialized area and explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and general understanding required for studying the expertise and is capable of providing basic explanation regarding the knowledge and understandings.
	(3)	Comprehensive understanding on characteristics regarding morphology, ecology, physiology, pathology, biochemistry, and genetics of various hydrosphere organisms	Has fundamental knowledge and profound understanding and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and sufficient understanding and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and general understanding is capable of providing basic explanation regarding the knowledge and understandings.
	(4)	Understanding on economic trend regarding management, breeding, and use of aquatic resources and fishery	Has fundamental knowledge and profound understanding and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and sufficient understanding and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and general understanding is capable of providing basic explanation regarding the knowledge and understandings.
	(5)	Understanding on physiologic, pathologic, biochemical, and genetic mechanisms required for management and breeding of aquatic resources	Has fundamental knowledge and profound understanding and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and sufficient understanding and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and general understanding is capable of providing basic explanation regarding the knowledge and understandings.
	(6)	Understanding on relation between form and ecology of hydrosphere organisms and hydrosphere environment	Has fundamental knowledge and profound understanding and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and sufficient understanding and is capable of explaining the knowledge while associating it with items regarding any other area.	Has fundamental knowledge and general understanding is capable of providing basic explanation regarding the knowledge and understandings.

A b i l i t i e s & s k i l l s	(1)	Basic ability for communication, information processing, and physical activities required for studying the expertise	Has superior ability for all the elements regarding communication, information processing, and physical activities required for studying the expertise.	Has sufficient ability for all the elements regarding communication, information processing, and physical activities required for studying the expertise.	Has basic ability for all the elements regarding communication, information processing, and physical activities required for studying the expertise.
	(2)	Basic experiment abilities and skills required for studying the expertise	Has sufficient basic experiment abilities and skills required for studying the expertise and is capable of autonomously applying it.	Has sufficient basic experiment abilities and skills required for studying the expertise and is capable of applying it according to instruction.	Generally has basic experiment abilities and skills required for studying the expertise and is capable of giving support to execution.
	(3)	Method for analyzing and evaluating various characteristics of hydrosphere organisms and environment	Capable of autonomously analyzing and evaluating characteristics of hydrosphere organisms and hydrosphere environment.	Capable of analyzing and evaluating characteristics of hydrosphere organisms and hydrosphere environment according to instruction.	Capable of substantially analyzing and evaluating characteristics of hydrosphere organisms and hydrosphere environment.
	(4)	Basic skills and analysis methods for breeding and management of hydrosphere organisms	Has sufficiently acquired basic skills and analysis methods for breeding and management of hydrosphere organisms and is capable of autonomously applying the skills and methods.	Has acquired basic skills and analysis methods for breeding and management of hydrosphere organisms and is capable of applying the skills and methods according to instruction.	Has substantially acquired basic skills and analysis methods for breeding and management of hydrosphere organisms and is capable of assisting the breeding and management
	(5)	Method for analyzing and evaluating roles of fishery for human lives and the impact of it on hydrosphere environment	Capable of autonomously analyzing and evaluating roles of fishery for human lives and the impact of it on hydrosphere environment.	Capable of analyzing and evaluating roles of fishery for human lives and the impact of it on hydrosphere environment according to instruction.	Capable of substantially analyzing and evaluating roles of fishery for human lives and the impact of it on hydrosphere environment.
	(6)	Ability for reading and communication in English regarding hydrosphere organisms	Has very advanced ability for reading English texts, is capable of understanding technical manuals, and has acquired sufficient and profound capability for international communication.	Has advanced ability for reading English texts, is capable of understanding technical manuals for some extent, and has acquired sufficient and profound capability for international communication.	Has ability for reading English texts, is capable of partly understanding technical manuals, and has acquired sufficient and profound capability for international communication.

c a p a b i l i t	s i v e	(1) Ability to identify issues that he/she should pursue for a specific phenomenon related to hydrosphere organisms, organize his/her own opinion, logically publish them orally and/or in writing, and discuss the topic	Has advanced capabilities regarding elements of comprehensive ability and skills for such as identification of targeted issues, information processing, statistical analysis, and responsive communication.	Has capabilities regarding elements of comprehensive ability and skills for such as identification of targeted issues, information processing, statistical analysis, and responsive communication.	Has basic capabilities regarding elements of comprehensive ability and skills for such as identification of targeted issues, information processing, statistical organization, and responsive communication.
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## Role of liberal arts education in this program

The liberal arts education in this program aims to build both the language skills and the academic foundation required for the specialized education. It develops not only a capability for studying autonomously and a scientific intelligence based on the ability to collect, analyze and criticize data, but also language skills that allow the student to exchange ideas with others in English. Also, it enhances insight from a broad perspective for the essentials and the background of phenomena, and the linguistic ability and concern for peace which are required for a citizen of the world. It enables students to acquire the ability to integrate findings and establish a "knowledge system" that is really useful for problem solving, and to examine phenomena using a top-down perspective based on this integrated knowledge.



### Relation between evaluation items and class subjects

[illegible]

Specialized Introduction to  
subjects Microbiology

[illegible]

[illegible]

## Curriculum map for Integrated Hydrospheric Science Program

St	1st year				4th year			
	1st semester	2nd semester	3rd semester	4th semester	5th semester	6th semester	7th semester	8th semester
Evaluation items								

Study achievementStudy achievement Evaluation items		1st year		2nd year		3rd year		4th year	
		1st semester	2nd semester	3rd semester	4th semester	5th semester	6th semester	7th semester	8th semester
⑤Understanding on physiologic, pathologic, biochemical, and genetic mechanisms required for management and breeding of aquatic resources						Fisheries Socioeconomics (○)			
					AquacultureI (○)	AquacultureII (○)			
					Hydrospheric Zoology I (○)	Hydrospheric ZoologyII (○)			
					Hydrospheric Environmental Science I (○)	Hydrospheric EcologyII (○)			
						Aquatic Biogeochemical Cycles (○)			
						Hydrospheric Biochemistry (○)			
					Hydrospheric Ecology I (○)	Hydrospheric EcologyII (○)			
					Hydrospheric Primary Production I (○)	Hydrospheric Primary ProductionII (○)			
					Hydrospheric Environmental Science I (○)	Hydrospheric Environmental Science II (○)			
					Introduction to Hydrospheric Biodiversity I (○)	Introduction to Hydrospheric BiodiversityII (○)			
					Control of the fish and shellfish disease in aquacure (○)	Aquatic Biogeochemical Cycles (○)			
						Applied Extreme Environmental Life Science (○)			

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	D"%DVLF VNLOOV DQG PHWKRGV IRU EUHHGLQJ PDQDJPHQW RI K\GURVSKHUH RUJDQLVPV								



Study achievementStudy achievement Evaluation items		1st year		2nd year		3rd year		4th year	
		1st semester	2nd semester	3rd semester	4th semester	5th semester	6th semester	7th semester	8th semester
	⑤Method for analyzing and evaluating roles of fishery for human lives and the impact of it on hydrosphere environment					Practical Work in Hydrospheric Field Science I (○)		Specialized Practical Work in Marine Biology (○)	
						Practical Work in Hydrospheric Field ScienceII(○)			
						Field Work on Training Vessel(◎)			
	⑥Ability for reading and communication in English regarding hydrosphere organisms					Reading of Foreign Literature in Integrative Hydrospheric Science (◎)	Graduate Thesis I (◎)	Graduate Thesis II (◎)	Graduate Thesis III (◎)
						Exercises in Integrative Hydrospheric			
						Exercises in Integrative Hydrospheric			
Comprehensive capability	①Ability to identify issues that he/she should pursue for a specific phenomenon related to hydrosphere organisms, organize his/her own opinion, logically publish them orally and/or in writing, and discuss the topic					Reading of Foreign Literature in Integrative Hydrospheric Science (◎)	Graduate Thesis I (◎)	Graduate Thesis II (◎)	Graduate Thesis III (◎)
						Exercises in Integrative Hydrospheric ScienceI(○)			
						Exercises in Integrative Hydrospheric ScienceII(○)			

(Example) Liberal arts subjects Specialized fundamnt Specialized subjects Graduation thesis (◎) Required subjects (○) Elective required : (△) Elective subjects

## Attachment 5

List of Faculty Members of the Integrative Hydrospheric Science Program

Name of faculty	Name of program and position	Extension number	Laboratory	Mail address
Tetsuya Umino	Professor	7944	A308	umino@hiroshima-u.ac.jp
Susumu Ohtsuka	Professor	4116	Takehara Station	ohtsuka@hiroshima-u.ac.jp
Kazuhiko Koike	Professor	7996	A407	kazkoike@hiroshima-u.ac.jp
Yoichi Sakai	Professor	7975	A209	sakai41@hiroshima-u.ac.jp
Takeshi Tomiyama	Professor	7941	A208	tomiyama@hiroshima-u.ac.jp
Takeshi Naganuma	Professor	7986	A408	takn@hiroshima-u.ac.jp
Satoshi Asaoka	Associate Professor	7945	A409	stasaoka@hiroshima-u.ac.jp
Aki Kato	Associate Professor	6377	Takehara Station	katoa@hiroshima-u.ac.jp
Hisato Kuniyoshi	Associate Professor	7948	A606	hkuni@hiroshima-u.ac.jp
Hidetoshi Saito	Associate Professor	7895	A211	saito@hiroshima-u.ac.jp
Toshiya Hashimoto	Associate Professor	7896	A410	thasimt@hiroshima-u.ac.jp
Lawrence M. LIAO	Associate Professor	4375	A305	lliao@hiroshima-u.ac.jp
Masayuki Yoshida	Associate Professor	7982	A306	yosidam@hiroshima-u.ac.jp
Kaori Wakabayashi	Associate Professor	7989	A307	kaoriw@hiroshima-u.ac.jp
Yusuke Kondo	Assistant Professor		Takehara Station	ykondo@hiroshima-u.ac.jp
Kentaro Kawai	Assistant Professor		A304	kawai-ken@hiroshima-u.ac.jp
Kenji Toyota	Assistant Professor	7894	A210	
Panakkool Thamban Aneesh	Assistant Professor		Takehara Station	aneesh@hiroshima-u.ac.jp
Kazumitsu Nakaguchi	Associate Professor	4114	Training and Research Vessel TOYOSHIO MARU	nakaguchi-kazu3@hiroshima-u.ac.jp
Shuhei Yamaguchi	Assistant Professor	4114	Training and Research Vessel TOYOSHIO MARU	s-yamaguchi@hiroshima-u.ac.jp
Seiji Oshimo	Guest Professor			
Takashi Torii	Guest Associate Professor			

\* To call a direct phone number, dial the extension number after "082-424". The numbers ( 4116, 4375 and 4114 ) are only for an extension.