

## University Topics

### Teams of Kochi University students performing at the 64th Yosakoi Festival

As is customary, Yosakoi—the summer festival that is a highlight of the summer in southern Kochi—lit up the Kochi streets over the traditional four-day period in mid-August. With the festival kicking off on August 9th, the festival proper rolled on over the next two days before winding down with a post-festival event on the 12th. A total of 18,000 dancers in 205 teams, including teams from Kochi University and from other prefectures as well as overseas, performed at 16 venues around Kochi.

This year (the 64th year of the event), a total of eight teams from KU—Murakumo, Suiren, Tabigeinin, Kusushi, Nanmeiryo, Paikaji, Nissho Odorikotai, and Homura—as well as a KU alumni team (Ao-no-Haru) with members from all over Japan, entertained crowds at the event with splendid performances incorporating the five unique elements of Yosakoi: the jikatasha (a truck that leads the team), music, costumes, naruko clapping, and dancing.

Among the KU teams where a team dressed in costumes based on clothes worn by Ryoma Sakamoto (a famous character from the end of the Edo era); a boys' dormitory team with a jikatasha decorated with eco-friendly tarps performing 'dormitory songs'; a team exhibiting the uniqueness of each of the dancers; and a team of prefectural student association members. These and other teams livened up the festival venues with their bright smiles and impressive dancing, drawing enthusiastic cheers from the crowds.



Murakumo



Homura



Nanmeiryo



Paikaji

### The Japanese Archery Club wins the 61st West Japan Students Archery Championship, in the men's and individual categories

Kochi University's Japanese Archery Club won the men's category of the 61st West Japan Students Archery Championship, which was held in Saga Prefecture over the weekend of July 1-2. After passing the preliminaries, the team won 6-1 in the final round, thus achieving their first championship win. Meanwhile, in the men's individual category, third-year Faculty of Science student Ushio Kurisu, triumphed.



The victorious Archery Club



#### Asakura Campus

Faculty of Humanities and Social Sciences, Faculty of Education  
Faculty of Science and Technology, Faculty of Regional Collaboration  
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Happiest memories of

## Student Exchanges

### ALUMNI MEMORIES

Representatives of Alumni Association of China, Thailand, and Sweden were invited to the Homecoming Day in Kochi University on Nov 4th 2017. They had lectures on their activities, and fun time with the KU participants, foreign students, and themselves. Two participants messaged us about their memories in Kochi University.



Elin Artonius

Sweden  
University of Gothenburg student  
Bachelor of Japanese studies



My year in Kochi was full of wonderful memories, and photos that go with them. Thanks to all of the incredible people that I met there, I gained a lot of confidence from my year in Kochi. At Kochi University you don't only make friends with your classmates, even your teachers become very close to you. Which I wasn't used to, being from Sweden. Thanks to Kochi University Collaboration Support Park and the International office, I was able to go on many small trips and see different parts of Kochi, which I otherwise would have missed. One of my favourite memories is going and helping out with a candle festival up in the mountains. It was my first trip with only Japanese students, and everyone made me feel very welcomed. Helping out with putting up all the candles, making mochi and selling cookies in the stalls. It was a beautiful festival, and an amazing experience. But it wasn't only all the events that was fun, the small stuff is always what's most important. Having lunch at Hide or Shuu with your best friends, having a few beers at Jet, Hirome or Niwatorinosuke. Or just having a few glasses of wine with your favourite teachers at Figaro. It's the people you remember, and I made friends for life in Kochi and I can't wait to see them all again. I'm glad I came to Kochi, a piece of my heart always resides here.

### Maliwan Haruthaithanasan, Ph.D.

Deputy Director, Kasetsart Agricultural and  
Agro-industrial Product Improvement  
Institute (KAPI) Kasetsart University,  
Bangkok, Thailand



### Kochi University, one of valuable places in memories.

In our lifetime there are always full of good and bad memories, many of them can be forgotten easily but some will be with us till the last day. I first knew Kochi University from Prof.Dr.Katsutoshi Sakurai, he was a JICA short term expert in Kasetsart University where I worked almost 20 years ago. Since then I wished to study in Kochi university, as a plan I entered my Ph.D. course in April 2002 in Nogakubu, Monobe, in laboratory of Soil Sciences, I was stranger at the beginning but it was not long because there were many friends, office staffs, and of course supervisor and his assistants who were with you. They kindly brought me many helps and supports. In Nogakubu where is a small place but full of warm hearts, you will never feel lonely. From Nogakubu, I explored many beautiful places with bicycle, the beautiful relax beach, Monobe River and the farming area. Three years at Kochi university provided a great lesson, it was not only for academic that I have learned a lot by doing experiments, hard working in the field and lab., but a greater lesson about how to live my life... this was the most precious lesson I have got. Last year I had a chance to go back to Kochi University, I felt like...I was home again.

# Kochi University

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Offshore breakwater survey in Nahari



# Searching the oceans of Kochi for the effects of climate change

The rise in global sea temperatures—a consequence of global tropicalisation—is being experienced in the Kochi's Tosa Bay area to a greater extent than in any other region of Japan. In many senses, this is a foretelling of the future of Japan's marine environment. Professor Yohei Nakamura, who has chosen changes in the ocean environment as his research field, explains his work



Fish survey at Yasu

## Surveying the seas off Yokonami aboard the vessel *Tara*

How many readers are aware that, in recent years, the oceanic waters off Kochi have been attracting worldwide attention? This spring the French research vessel *Tara*, which is engaged in studies of the world's coral reefs and marine life, arrived in Kochi. While here, the crew surveyed the ocean waters offshore to Kochi University's Yokonami Rinkai Experimental Station. Due to the previous affiliation between their laboratories, the professors in charge of the research facility that runs the *Tara* project requested Associate Professor Yohei Nakamura of the Faculty of Agriculture and Marine Science to take part in the study.

"The researchers who I accompanied on the ship were very interested in the changes in the ocean environment of the Yokonami Peninsula and the effect these are having on the local fishing industry. The fact that Kochi waters are showing the effects of global warming so dramatically is known by researchers all around the world."

Professor Nakamura is an expert in marine ecology. Since taking up his position at Kochi University in 2008 he has made frequent dives in local waters, and during these has made meticulous observations into the environmental changes taking place.



*Tara* anchored in the open sea off the Yokonami Peninsula



On-board observation of *Tara* in Kochi Port



Field science activities in front of the Yokonami Rinkai Experimental Station

## Due to rising seawater temperatures, seaweed beds are turning into coral-dominated reefs!

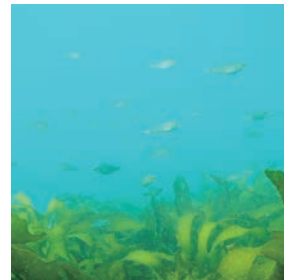
In recent years the seas of Kochi have changed beyond all expectation, the main reason being the rise in global seawater temperatures. Illustrating this is the fact that compared to about 30 years ago, the average temperature has risen by 1.2 degrees.

"The bay near Yokonami, which *Tara* surveyed, used to have a rocky area on the left, and coral-dominated reefs to the right. However, the coral-dominated reefs are now spreading steadily to the left side, too."

The research that Professor Nakamura is working on explores the effects these environmental changes have on marine life. During his underwater surveys, certain sections are partitioned by ropes and all fishes within the area are recorded.

"One major factor affecting the fish is the change in oceanic vegetation. Due to the rising seawater temperatures in the seas of Kochi, rapid shift from temperate to tropical Sargassum species has been occurring. One problem is, while the temperate species grows all year long, the tropical species only grows in spring. This may have an effect on the fish that use the seaweed bed as their habitat."

Professor Nakamura is also researching the seas near Yasu in Konan. In this area also, the environmental changes are severe. An extensive kelp bed has disappeared, and coral-dominated reefs have appeared in their place. "It is important to carefully watch whether the fish that inhabit temperate marine ecosystems can survive in this changing marine environment" Professor Nakamura states.



Fish in the afforested *Ecklonia cava* bed in Usa



Associate Professor,  
Kuroshio Science,  
Graduate School of Integrated  
Arts and Science

## Yohei Nakamura



## Experience these unique seas through hands-on activities!

Boasting an extraordinary abundance of fish species, for ichthyologists—researchers who study fish—Kochi's waters are an optimal research location. About a half of the 4,000 species of fish in Japan, including both tropical and temperate species, inhabit the area.

Moreover, according to Professor Nakamura, "it is easy to track changes in marine life as a transition from temperate to tropical ecosystems occurs. On top of that, research sites are very close and accessible."

Professor Nakamura's also feels duty-bound to convey the fascination he has for the seas of Kochi to his students. In a general education course he designed titled "Environmental Studies of the Seas of Tosa," Kashiwa Island, a well-known scuba diving destination at the southwestern end of the prefecture, serves as the field of study. The course includes by snorkeling expeditions during which observations of the ocean are made, and ethnographic studies on island life. Furthermore, in the special freshman introduction course titled "Field Science Activities," students go on snorkeling safaris in the seas near the Yokonami Rinkai Experimental Station. In this way, just after entering school, students have chance to experience 'hands-on' the abundance of marine life in local waters.

Professor Nakamura states, "They're studying in Kochi University; it would be a shame not to give them a chance to experience the wonders of the seas of Kochi." He says that field observation is the most important aspect, even in his own research.

"There are still many unknowns in the seas of Kochi. I plan to continue on my current research trajectory, steadily collecting data."

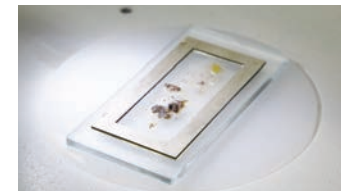
The environmental changes occurring in the seas are being witnessed here in Kochi more dramatically than in other regions. Professor Nakamura's research, which shines a light on the future of Japan's oceans, is gathering the attention of researchers around the world.



Survey of fish that inhabit drifting seaweed in Tosa Bay



Field activities on Kashiwa Island, located at the western edge of Kochi Prefecture



Examination of the feeding habits of fish through stomach content analysis

## Interdisciplinary research is also gaining attention

### Are the marine sanctuaries of the Philippines effective?



Professor Nakamura's Laboratory of Aquatic Ecology also conducts research overseas, in the marine sanctuaries in the Philippines. As a part of a government-financed foreign exchange priority program run by the graduate school's Kuroshio Science department, Philippino students are taking part in the research.

"The Philippines has over 1,000 marine sanctuaries, within which there are areas where fishing is either completely, or partially, banned. Our objective is to examine the effectiveness."

The research teams make diving expeditions into the sanctuaries to study the marine life that inhabits the areas. They also tag fish with transmission devices to study their movements. The fishing methods used in the areas where fishing is partially allowed are also studied.

"We have conducted interviews with the fishermen, and learned about the state of the fishing activity. These humanities-related studies are achievable in Kuroshio because of our interdisciplinary approach," says Professor Nakamura. By crossing the boundaries of academic disciplines, we are able to obtain research outcomes such as would not be achievable solely through field research.



Research interviews with fishermen



# with JICA

## Kochi University's global contribution to tackling global issues

Kochi University (KU) is one of the most active universities in Japan in terms of international cooperation with developing countries. It implements five international training courses and one grass-root technical cooperation program in collaboration with Japan International Cooperation Agency (JICA). This is a realization of KU's objective "To promote international cooperation with developing countries in Asia Pacific region", laid out in the university's overall 'International Strategy'.

Among the five international training courses, two are in disaster risk reduction, two in education, and one in medicine. Since "connecting the outcomes of research into local issues with the rest of the world" is one of the priorities of KU's "International Strategy", all these training courses place importance on combining local practice with theory.

## Kochi Prefecture alert to coming disaster risks

Two Disaster Risk Reduction (DRR) international training courses are worthy of special mention.

In 2011, after the Great East Japan Earthquake and consequent tsunami disaster, the Central Disaster Management Council simulated the possible maximum seismic movement and tsunami height that will be experienced in Kochi in the event of an earthquake in the Nankai Trough (a subducting tectonic zone in the ocean floor to the south of Kochi). As predicted in the simulation, the fastest of the tsunami waves will hit the Kochi seashore within 3 minutes and the highest of them as much as 34 meters. The death toll is estimated to be up to 53,000—if no countermeasures are taken beforehand.



Participants taking part in evacuation drill at a local town in Kochi prefecture



Disaster Risk Reduction education at a primary school in a local town of Kochi Prefecture

## Disaster Risk Reduction measures taken by Kochi Prefecture

Due to these looming threats, over the past few years, Kochi Prefecture has been rapidly implementing various countermeasures to lessen the impact of natural disaster. These large scale projects mean the prefecture is currently the largest per-capita recipient of national funds stipulated for such measures.

Putting the first priority on the protection of human lives, the prefecture is constructing sea walls and evacuation towers alongside the seashore, as well as evacuation routes to inland safety zones. Now, wherever you stand along the seashore, at least one tsunami evacuation tower can be seen overlooking the ocean.

At the same time the prefecture and municipalities are helping to organize community-based DRR organizations. The volunteer organizations mainly implement evacuation drill practices as well as awareness activities, and will have first response functions in the event of an emergency.

## International Training Courses on Disaster Risk Reduction conducted by Kochi University

KU's DRR related international training courses are working in close collaboration with the prefectural government, its municipalities, and community-based DRR organizations. Course instructors teach the participants the most advanced mitigation and preparedness measures in Kochi prefecture. Participants also visit the reconstruction sites in areas affected by Great East Japan Earthquake and ensuing tsunami, and Kobe City, which in 1995 was severely damaged by the Great Hanshin-Awaji earthquake.

Under the guidance of KU professors, participants—mostly government officials attached to DRR authorities in developing countries—are required to draw up action plans in the last week of the 6-week long training courses.

As one participant commented "All subjects are useful. In particular country presentation, the lessons learnt from mega-earthquakes in Japan, field visit, simulation program, recovery situation and action plan preparation related subjects are very useful. We get real ideas and knowledge from these subjects."



Stockpile base in disaster-hit area of Miyagi prefecture



The presentation of a course completion certificate in Kochi University

◀ Participants observing sea wall construction site in Kochi City

# Dissemination of Gabion techniques in Nepal



In March, 2017 Kochi University together with Yusuhara Town municipal office came to an agreement with JICA to implement "Grassroots Technical Cooperation Project for Penetration of Local Adaptation-Based Gabion Techniques for Both Disaster Management and Environmental Protection in Nepal"

Mega-earthquake occurred in Nepal on 25th April in 2015 leaving the mountainous country devastating damage not only in human lives but also in social infrastructure. Professor Tadashi Hara of Kochi University had frequently visited Nepal since then for damage assessment and research for appropriate technology for the reconstruction and mitigation from the disaster. The conclusion was to upgrade of the local gabion technology to quake-resistant level because he found many gabions were collapsed or deformed.

In this project, we leverage the technical expertise and knowledge of civil engineering, and local mason technology of Yusuhara Town. This project, in partnership with the Yusuhara Town, and Nepalese counterparts, will advance this initiative in the Dhading District adjacent to Kathmandu for three years beginning from 2017. Kochi University aims at contributing the prompt reconstruction from the mega-disaster and improving the safety of local community roads in the district.

For these purposes the project began installing high-standard experimental gabions in disaster-hit pilot areas in collaboration with local engineers in May 2017. Nepalese counterparts, local engineers and government infrastructure officials, also visited gabion experiment sites in Tsukuba and Yusuhara Town of Kochi Prefecture in July 2017 to observe Japanese gabion technology. The Nepalese engineers said they would adopt Japanese technology as much as possible in the government guideline of gabion construction.

Kochi University together with Yusuhara Town will hold technical training courses for local engineers in cooperation with Nepalese counterparts in 2018, and will try to revise the government guideline with Japanese-Nepalese mixed appropriate method until 2019.

Dhading District-topographically similar to Yusuhara hilly area ▶



Deformed gabion in Nepal after the mega-earthquake



Experimental gabion installment in Dhading District



Nepalese counterparts looking at gabion strength experiment in a Japanese research institute



Nepalese counterparts observing gabion in Yusuhara Town in Kochi Prefecture



Yusuhara town's gabion installed more than 20 years ago (From photograph owner in Yusuhara town)



# Mato Grosso do Sul and Kochi Bridging the ocean through medical collaboration



Kochi University has had a Memorandum of Understanding (MOU) with Brazil's Universidade Federal de Mato Grosso do Sul (UFMS) since 2012. Together with the office of the State Secretary of Health, the two parties have held numerous discussions relating to regional healthcare systems with specific reference to referral hospitals.

Realizing the disparity in healthcare levels between urban and rural areas in the state of Mato Grosso do Sul, especially concerning advanced medical procedures like endoscopy, Kochi Medical School Hospital donated 2 sets of endoscopy/colonoscopy apparatus to the UFMS hospital in 2016. A team of nine KU endoscopy specialists not only discussed advanced endoscopy/colonoscopy techniques with their Brazilian counterparts, but also provided a hands-on workshop that allowed the Brazilians to use a magnifying endoscope with narrow band imaging—equipment introduced to the state by the Kochi University team.

This summer, KU President Hiroshi Wakiguchi was invited by UFMS and the State Secretary of Health to visit Brazil, and was also requested to establish agreements with three other universities—the State University (UEMS), Universidade para o Desenvolvimento do Estado e da Regiao do Pantanal (Uniderp), and Federal University of Grande Durados (UFGD).

A group of Brazilian residents of Japanese descent joined the ceremony to welcome our president to UEMS. UEMS has a newest School of Medicine in Brazil, and it is ranked among the top ten medical schools in the country. The 2nd year medical students who joined our medical services at a settlement for indigenous people in Nioaqui City, were quite fluent in English, and were of great assistance in the services that we provided in conjunction with the local NGO. For students in Brazil, contributing community services is highly encouraged—they even get credit for the activity. In my view, we should also have such elective courses in Kochi University.

President Wakiguchi and his group then visited Santa Casa Hospital, a last bastion for emergency medical care in the state. Men and women in white coats or scrubs were gathered out front with big banners; at first sight it seemed that they were welcoming us, but eventually it turned out to be a strike of healthcare workers because of unpaid wages. Healthcare budgets in the country are very small; as we were told by the State politicians, there are an increasing number of traffic accident victims who require critical care, and provision of this care rapidly depletes the budgets.



President Hiroshi Wakiguchi seeing patient with medical students of UEMS and Uniderp

After gaining a deeper understanding of the reality of healthcare in Brazil, KU and UFMS has embarked on a collaborative project with Hospital Pantanal in order provide sustainable provision of public healthcare services by combining it with private healthcare services, which will raise money, together with medical school that will also be established to provide Japanese-style medical education.

In addition, the endoscopy/colonoscopy project has attracted big support from the Rotary International Foundation, and we are again sending a team of experts to the state of Mato Grosso do Sul this coming January.

Furthermore Kochi Medical School Hospital, with the support of the JICA Training Program for Japanese Descendants, is also accepting Brazilian physicians, surgeons and nurses who are working at endoscopy/colonoscopy units. In this way we are building bridges between our two countries through medical collaboration.



◀ Vice President Narufumi Suganuma donating two sets of endoscopy system to Professor Andreia Antonioli, Head of UFMS Hospital



◀ Medical Service with local NGO at a village of Indigenous people in Nioaqui

Dr. Hiroshi Mizuta supervising a Brazilian physician performing advanced endoscopic procedure ▼



## University Topics

### Summer program designed for international exchange students

For five-week period between July 4 and August 5 Kochi University hosted a short-term summer program for exchange students from partner universities. Nineteen undergraduates from three American universities—California State University, Fresno; University of Texas at Dallas; and University of Rhode Island—participated. The program was conducted jointly by the Center for International Collaboration and the International Education Program (of the Tosa Sakigake Programs). The project, which has been running since FY2016, aims at giving practical study on Japanese language, Japanese culture, and natural environment in Kochi prefecture. All class work is conducted in English, and the program provides participating Kochi University students with opportunity for international coeducation. In addition to classroom lectures, there is a Zen meditation workshop at Gokoku-ji Temple in Kochi, interactions with the children and students of an elementary and junior high school integration program that conducts activities in natural environments, a visit to Kotohira-gu Shrine in Kagawa Prefecture, and udon-making workshops. During their stay, students visited the museum of John Manjiro in Tosashimizu, in southwestern Kochi. Manjiro, a Tosashimizu native who was educated in the 19th century US, was in the first Japanese to experience study abroad. For the final assignment, students were put into groups to

make presentations on the theme of "Cool Japan" and "regional revitalization in Kochi." This gave them opportunity to share the experiences they had had in the five weeks that they studied.



Participants in a Zen meditation workshop



Group work between Kochi University students and summer program participants

### The opening of "Satobito," a volunteer project by professors and students from the Faculty of Regional Collaboration

Establishment of the Satobito company, which supports the sales and development of local products

With contributions by professors and students from the Faculty of Regional Collaboration, Satobito was established in March 2017 to support the development and sales of products made with local resources. On June 24, the "Satobito" store opened, to act as a commercial outlet for products created in collaboration with locals. The store sells take-out foods such as homemade ice cream and sandwiches, while lunch dishes such as pasta and pizza are served on the premises. They also offer direct-sales and mail order sales of blueberry wine, a specialty of the town of Otoy, as well as other local goods. (Business hours: 8 a.m. to 6 p.m.; Holidays: Mondays and Thursdays)



### Heated debate between students and researchers of the Kuroshio region at the International Symposium

The 11th International Symposium on Kuroshio Science was held from July 23 to July 27 at Asakura Campus. This year, a total of 106 students (including 33 foreign exchange students) participated.

The symposium, which is hosted by the Kuroshio Science (PhD course and Research Unit), promotes an interdisciplinary approach to education research. It has been held in collaboration with affiliated universities in the Philippines, Taiwan, and Indonesia, in rotation in the respective countries, since 2007.

The main theme of the symposium is "A vision for the structuring of international networks for Kuroshio Science research and education." The program included a debate between students from each of the attending countries on the topic of plastic pollution in coastal regions. The keynote speeches were given by Professor Hiroyuki Matsuda of Yokohama National University, Professor Victor Soliman (Vice President of Bicol University), and Professor Kimio Fukami of Kochi University. General lectures on the topics of land and ocean ecosystems and how to protect them, the lifestyles of people and their use of resources, and a wide range of other announcements of research results were also on the program. During a scheduled excursion, students visited Sea Vegetable Incorporated, a company run by students from the Graduate School of Kuroshio Science that is investigating ways of cultivating undersea vegetation on land using underground seawater. Students also visited Muroto UNESCO Global Geopark.



University President Wakiguchi speaking at the symposium opening ceremony



Keynote speech by Professor Soliman (Vice President of Bicol University)



Visiting business cultivating undersea vegetation on land



Students from the Philippines, Taiwan, and Japan