

Opening Remarks

Hirokuni Taguchi

Vice President, Executive Director
for Research, Kochi University.



It is my great pleasure to welcome so many researchers to Kochi from Philippines and Taiwan. I want also to express thanks to Prof Hiroyuki Matsuda from Yokohama National University and Prof. Akihiro Takemura from Ryukyu University and Emeritus Professor of Kochi University ; Yoshinobu Morooka for participating in this symposium. This year we invited 10 young researchers from abroad, 6 from Philippines and 4 from Taiwan by the financial aid of Japan Science and Technology Agency by the name of Sakura Science Plan.

This Symposium started in 2007 and Japan, Taiwan, Philippines have hosted twice each and last year 7th Symposium was held at Pontianak City in Indonesia co-organized by University of Malaysia Sarawak and Tanjungpura University. Most participants of this symposium may be well familiar with the name "Kuroshio", meaning black colored ocean current flowing north from the east Bicol coast of Philippines then along Taiwan up to south of Kochi. We owe much to the Kuroshio to warm weather and rich natural resources. Researchers attending this symposium have exchanged their new findings in this area and collaborated for the development of science on Kuroshio. These many achievements through this symposium have given great contribution not only for science but also for education in each country. In Kochi University, we are planning to reform the Faculty of Agriculture to the Faculty of Agriculture and Marine Science. We hope Marine Resource Science course students will attend this symposium and learn a lot about Kuroshio science in near future. Finally I wish you all enjoy a pleasant stay here in Kochi.

Thank you.

Houng-Yung Chen

Dean, College of Marine Sciences
National Sun Yat-sen University
Kaohsiung, Taiwan



Distinguished colleagues and participants of the Kuroshio Symposium, it has been a great privilege for my university, The National Sun Yat-sen University, to join hand in hand with brother and sister universities in the Kuroshio region to study and share the

beauty and truth of the Kuroshio. This year, with the input and promotion of Professor Akira Tominaga and the organizing committee, we are seeing a major advancement of the annual gathering. Many students from different campuses are taking part in the Symposium and related activities in a great depth. Similar to our partner universities, my University is actively engaging in Kuroshio science research. But unlike the Kochi University that stresses on humanity, society and human health, our focus has been more on science and resources development. The interactions among the partner universities during the past Kuroshio Symposiums have broadened our vision on the Kuroshio. This year, the Asia-Pacific Ocean Research Center of the Sun Yat-sen University added a research group on marine affairs and ocean governance. The APORC is a research center of excellence for ocean studies under the auspice of the Taiwan Ministry of Education. In addition to academic research, the APORC has made social impact as a key performance index for the Center. We will host before the end of this year at least 2 international events on the South China Sea, including a bilateral fisheries resources management meeting between Taiwan and China, and a marine biodiversity and conservation meeting with participants from various ASEAN countries. We welcome your participation in the meetings.

I am pleased to see a broadened attendance in this Symposium. This year we have many new faces. We like to welcome you, our new partners in Kuroshio studies and education. The attendance of the students is especially encouraging. The Sakura program that brings the students here is highly acknowledged.

I wish to thank the Kochi University for the kind invitation and warm welcome extending to us. I congratulate the success of the Symposium.

Fay Lea Patria M. Lauraya

President, Bicol University
Philippines



Greetings from Bicol University!

The parameters of quality education takes on new dimension as the world gets smaller through globalisation while the need for innovation and discovery widens with the enabling presence of technology and pressure to alleviate social conditions through food and water security, environment and natural resource management, enhancing the competitiveness of business and

industry, gender and development, improving basic social services, and climate change adaptation. Knowledge generation need not be responded to by one institution rather will be enhanced through collaboration and partnerships committed to a common platform of bringing the universities closer and responsive to community development.

It is along this principle that Bicol University willingly entered as founding member in the Kuroshio Network. The dedication and commitment of the researchers and professors to strengthen the alliance has given birth to many initiatives that has brought opportunities to students and faculty researchers of the partner universities in the Kuroshio Region. The gathering of this network through the 8th International Symposium on Kuroshio Science hosted by Kochi University is a testimony to the growing strength of the collaboration. The theme Kuroshio University League Network Formation Toward the Establishment of a Sustainable Society in the Kuroshio Region through Cross Border Education brings the initial objective of the network to a higher level, the international exchange of knowledge beyond research but a promise to embrace other forms of initiatives in the area of cross border education. The way forward is promising. we specially welcome the proposal of Dr. Rhodora Azanza, Asst. Vice President for Academic Affairs and Director, Office of International Linkages of the University of the Philippines to establish a Kuroshio Science Consortium Academy. This is a highly specialised engagement that will surely draw the valuable talents of researchers, faculty and students along the Kuroshio Region to dedicate themselves towards the development of this region. Bicol University already commits itself in transforming this inspired thought into a reality.

Bicol University wishes to thank the organisers of the 8th Kuroshio Symposium and express its commitment to its success. Most importantly, beyond work, the friendship and trust developed through the years are invaluable gains that will be the foundation in building the new avenues of collaboration among the Kuroshio University League.

To all our friends in the Kuroshio University League, Maraming Salamat at Mabuhay.

Potential Roles of Kuroshio Science Network

Hiroyuki Matsuda

Professor, Faculty of Environment and Information Sciences, Yokohama National University



I would like to express my sincere congratulations on success of the International Symposium on Kuroshio Science. I am honored to have a chance of plenary talk for the 8th International Symposium on Kuroshio Science, held in Kochi University on September 12 in 2014. Yokohama National University (YNU) established the Center for Oceanic Studies and Integrated Education in 2007 to enhance interdisciplinary research in various departments of YNU. YNU has joined Port-city University League (PUL), the mission of which is to promote communication between students by mutual visit. Yokohama is the only member city of PUL from Japan.

Recently, conservation of marine ecosystems is one of key topics in international environmental issues. It is well known that Kuroshio Current connects marine ecosystems in east Asian. Marine ecosystems are probably threatened by climate change, pollution, exotic species, land development of coastal areas, and overfishing. State parties of Convention on Biological Diversity agreed in 2010 to establish marine protected areas (MPAs) by 10% of the exclusive economic zone (EEZ) of each nation by 2020, designated by Aichi Target. CBD encourage to build network of MPAs between nations.

United Nations Convention Law of the Sea (UNCLOS) recognizes the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, as the common heritage of mankind, UN encourages each nation to make integrated policy of comprehensive management in its EEZ. There usually exist conflicts in fisheries and other marine resources between nations, between fisheries and other human activities.

Biodiversity conservation is not solely ecological issues. UNESCO encourages both conservation of natural capitals and traditional and local knowledge that utilizes natural capitals. Biological diversity is linked to cultural diversity. Conservation of bio-cultural diversity is included in comprehensive approach for sustainable development. Therefore, trans-disciplinary approach is indispensable for conservation of bio-cultural diversity.

There is a variety of measures to enhance sustainable development between nations. Ocean Health Index, used by Conservation International, is one of the comprehensive measures of marine sustainability, which includes both biological and socioeconomic factors. I expect to develop network of universities along Kuroshio current. Yokohama National University will willingly contribute this network.

Future of Kuroshio Science Network

Akihiro Takemura

Professor, Department of Chemistry,
Biology and Marine Science, University
of the Ryukyus



First of all, I would like to send all the persons concerned my sincere congratulations on successful continuation and expansion of the International Symposium on Kuroshio Science. I attended, for the first time, the 8th International Symposium on Kuroshio Science, which was held in Kochi Prefecture, Japan, in September of 2014. It seemed that I was the first person to participate in this symposium from University of the Ryukyus. This participation gave me good experience in and deep insight into a recent direction of Kuroshio Science, because I knew that the mutual networks on education and research on this field have been already established among some leading universities – Kochi University in Japan, National Sun Yat-sen University in Taiwan, and Bicol University in the Philippines – along with the Kuroshio Current. The theme of this symposium in 2014 was “Kuroshio University League Network Formation Toward the Establishment of a Sustainable Society in the Kuroshio Region Through Cross-Border Education”. Since cross-border education is the facing issue in universities aiming to internationalize education and research, it is absolutely important to discuss it under a relationship of mutual trust among universities.

A challenge on cross-border education at the level of undergraduate students has been carried out in countries of Association of South-East Asian Nations (ASEAN). Namely, six ASEAN countries (Malaysia, Indonesia, Thailand, Philippines, Vietnam, and Brunei) and Japan started the ASEAN International Mobility for Students Programme (AIMS) in 2010 under the supervisions of ASEAN University Network (AUN) as well as of Southeast Asian Ministers of Education Organisation (SEAMEO) – Regional Institute of Higher Education and Development (RIHED). Seven fields – Hospitality and Tourism, Agriculture, Language and Culture, International Business, Food Science and Technology Engineering, and Economics – are considered in AIMS. AUN-ASEAN Credit Transfer System (ACTS) is also established. In addition, the educational quality of AIMS is guaranteed by the project of “iAward”. These pioneer challenges in ASEAN countries will provide us with useful information.

Regarding regional cross-border education, on the other hand, the focus and goal of Kuroshio University League Network may be very simple but specialized. The issues are addressed as the present sessions, which are (1) Network Formation and Studies of Kuroshio Ecosystems and

Biodiversity, (2) Network Formation and Studies of Marine Resources and Management, (3) Network Formation and Studies in Coral Cell Research, (4) Cross-Border Education and Studies in Marine Biomedicine, (5) History and Societies along Kuroshio Current, and (6) Network Formation of Cross-Border Education in Kuroshio Region. These may be summarized as importance in resources obtained from as well as human living with the Kuroshio Current.

At present, University of the Ryukyus is not the formal member of this consortium. However, when the geographical position of the Ryukyu Islands is viewed, everybody easily realizes that the Ryukyu Islands form a line between Taiwan and Kyushu and are located at the center of the Kuroshio Current. I think that since the Ryukyu Islands become a tab for sticking, University of the Ryukyus, as a keystone, plays an important role in contributing to the further development the Kuroshio University League Network.

Finally, I was honored to participate in the beginning of the third cycle of this conference series and witness the future success of this consortium. I pray “the KUROSHIO MAFIA” will continue for eternity!

Kuroshio Science Network: Today and Beyond

Milagros C. Morales

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Bureau of Fisheries and Aquatic
Resources Region 02
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Philippines



At the outset, I would like to take this opportunity to convey my very best wishes for an effective, successful and productive conference – the 8th International Symposium on Kuroshio Science. It was an impressive event, both in terms of intellectual eminence and social gratification. I am honoured to be part of the wonderful experience with high level of professionalism and diversity of discussion. The symposium covered extensive interesting topics relating to studies within the Kuroshio region and were delivered by respectable speakers coming from the areas under the influence of the Kuroshio Current.

The symposium held last September 2014 in Kochi University, Japan marked the beginning of the third cycle of this Conference Series which started in 2007. The conference put emphasis on the Cross-Border Education in the Kuroshio Region to establish a sustainable society in this area.

Cross Border Education has a long-standing history for

developing countries. Centers for learning draw students and scholars to come to advance knowledge, exchange ideas and proliferate views and opinions. This has been seen as an opportunity to improve skills and competencies of individuals which will serve as an engine for innovation and capacity development. Looking further, this is perceived to be benefitting to the receiving country thru its human, social, economic and cultural enhancement in the future. With the advent of globalization and regional integration, it is just but timely to tackle issues and concerns in line with this theme.

The Bureau of Fisheries and Aquatic Resources (BFAR), although not an academic institution, is one with the Kuroshio Science Network, in realizing the importance of understanding mutual trust among universities. Along the way, it is important to consider some ideas on policy frameworks for cross border education, continuous collaboration in research and extension, and promotion of regional scholarship among others. BFAR, being the lead agency that is mandated to conserve, manage and protect the fisheries and aquatic resources in the Philippines, welcomes collaboration and partnership in crafting measures that shall address issues and promote sustainability within the Kuroshio Region.

Kuroshio Science Network plays a vital role in international education and development. The Network is understood to support its members with the skills required to mobilize and build expertise, knowledge, opportunity and leadership in developing and maintaining a sustainable environment within the region. I therefore urge all member countries to continuously pool efforts, resources, enthusiasm and commitment to discover more about the Kuroshio Current and how it helps in changing and defining outlooks, giving especial considerations to the fisheries sector.

Let us continue to forge partnerships and allow cross-border education so that we may share later on the benefits of nationalities and bring these benefits beyond our own national frontiers!

New Landscapes of the International Symposium on Kuroshio Science

Yoshiaki Iiguni

Professor, Laboratory of Environmental Change and Sustainable Society
Head, Graduate School of Kuroshio Science
Kochi University



The 8th international symposium on

Kuroshio Science was held in Kochi under the title of “Kuroshio University League Network Formation toward the Establishment of a Sustainable Society in the Kuroshio Region through Cross-Border Education”. From the time of planning this symposium, we had placed importance on cross-border education, and intended not only to have a place for discussion of cross-border education, but also to provide a venue for actual cross-border education of young researchers.

Fortunately Japan Science and Technology Agency (JST) supported us in inviting young researchers. In total 10 researchers came from the Philippines and Taiwan, namely the University of the Philippines, Diliman, the Bureau of Fisheries and Aquatic Resources, Regional Office No. 2, National Sun Yat-sen University, National Dong Hwa University, Bicol University Tabaco Campus and Catanduanes State University. They attended the symposium, reported on their own research and visited laboratories of researchers of Kochi University for further collaboration after the symposium.

They came to Kochi a few days earlier than the other members of their institutions, and worked as a group with other young researchers for over one week. The group action built up friendships, formed a network, and also added a new feeling to the symposium. Even after returning back to their own countries, the researchers are still keeping in touch through facebook and other social media sites.

The young researchers’ activities might stimulate other generations. At the time of the welcome party, two founders of the Kuroshio Current Alliance, professors emeritus Dr. H. Mok (Sun Yat-sen University) and Dr. Y. Morooka (Kochi University), declared that they would set up a new association named the “Old Boys” club. They stood up suddenly and let us know that they had retired but that they could support the activity of the alliance across the Kuroshio region hereafter. Their strong will to keep these commitments inspired us with confidence and their rich experience and knowledge of their specialties will encourage us to keep and develop our network further. I guess that the membership of the Old Boys club will increase through the successive participation of retired professors in the club, and become a new pillar of our alliance.

Our symposium has continued for over eight years. The founders’ generation has begun to retire. We are now entering a new phase. In this phase, we should start preparing for the change of generations and give support to the succeeding younger generation. This symposium will hopefully inform us in regard to this turning point. Let us take advantage of this experience and try to enhance the sustainability of our alliance.