

Report of 12th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS12 Conference)



The International EMECS Center (hereinafter referred to as “EMECS Center”) organized the 12th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS12), which was held for five days from November 4 to 8, 2018 in Pattaya, Thailand.

The conference was held under the theme of “Cooperative stewardship for integrated management toward resilient coastal seas” and attended by 321 researchers and other persons from 18 countries around the world. From Japan, 83 researchers and others involved in research into coastal sea including enclosed coastal sea and estuary environments attended the conference, including Toshizo Ido, Governor of Hyogo Prefecture (Chair, Board of Directors, EMECS Center),

Motoyuki Suzuki, President of EMECS Center and a group from the Hyogo Prefectural Assembly headed by Vice-Chair Takanori Konishi.

Following the opening ceremony and the plenary session, the conference featured the Satoumi and ICM Special Session, individual sessions at three different venues, a Students and Schools Partnership (SSP) session and Plastics in the Sea session. 70 oral presentations and 61 poster presentations were given at the conference.

At the closing ceremony, the Pattaya Declaration and the Students and Schools Partnership Declaration were adopted. It was announced that the next EMECS Conference, EMECS 13, will be held in Kingston upon Hull, UK in 2020.

| Conference program | | | | | |
|--------------------|---|-----------------|--|------------------|-----------------|
| 2018 | (AM) | | (PM) | (Evening) | |
| Nov.4 (Sun) | | | Registration, Ice break | | |
| Nov.5 (Mon) | Opening ceremony | Opening session | Satoumi & ICM Session Oral sessions | Reception | |
| Nov.6 (Tue) | Oral sessions | | Oral sessions | Poster session | |
| Nov.7 (Wed) | Oral sessions SSP Session | | Closing session | Closing ceremony | Farewell dinner |
| Nov.8 (Fri) | Technical tour (Visit environment conservation project in Samae San Island) | | | | |

CONTENTS

| | | | |
|--|-------|--|-------|
| Report of 12th International Conference on the Environmental Management of Enclosed Coastal Seas | 1 ~ 3 | Students and Schools Partnership declaration | 5 |
| Pattaya declaration | 4 | Report of EMECS International Seminar | 6 ~ 7 |
| | | Outcomes of EMECS Overseas Activities | 8 |

On the final day, the participants joined a technical tour to visit an environmental conservation project held on the Samae San Island in Sattahip located to South of Pattaya.

Conference title

EMECS 12 Conference

Theme

Cooperative stewardship for integrated management toward resilient coastal seas

Conference period

4 – 8 November, 2018

Venue

Jomtien Palm Beach Hotel, Pattaya, Thailand

Organizer

International EMECS Center

Local secretariat

Chulalongkorn University, Thailand

■ Opening Ceremony

The opening ceremony was held in the Marine 2-3 room at the Jomtien Palm Beach Hotel.

The opening ceremony featured welcome addresses from Piamsak Menasveta (Chulalongkorn University, Royal Society of Thailand) as a representative of Thailand, Toshizo Ido (Governor, Hyogo Prefecture, Japan), Motoyuki Suzuki (President, EMECS Center) as representatives of Japan and H.E. General Surayud Chulanont (Privy Councillor, Thailand) as a guest. At the end of the opening session, “What a Wonderful World” was sung in chorus by local students.



(Opening ceremony)

■ Opening Session

Following the opening ceremony, the opening session was held, and Masataka Watanabe (Chair, Scientific & Policy Committee of EMECS Center), Sanit Aksornkaeu (Royal Society of Thailand) and Vo Si Tuan (WESTPAC) gave keynote speeches.



(Masataka Watanabe)

After the keynote speeches, a photo session with all of the participants was held in order to take commemorative photographs in the garden of the hotel.

■ Oral Presentations

Oral presentations were given in parallel sessions at three venues. The topics of the oral presentations were as follows.

- Satoumi and ICM (Integrated Coastal Management)



(Parallel sessions)

- Gulf of Thailand : history and current studies
- Cooperative management restoration and protection of coastal seas
- Coastal and marine ecosystems : monitoring, modelling, restoration, and conservation
- Ecosystems / communities based coastal management and Sato-Umi
- Estuaries of the world : issues and perspectives
- Climate change mitigation and adaptation
- Sustainable use and development of coastal resources : effective management and approaches
- Physical and biogeochemical oceanography

■ Poster Session

The poster session was held in the afternoon of November 6. A total of 61 posters (including 3 posters by the SSP students) were presented. At the session venue, there were lively questions and answers, and exchange of views between participants and presenters. In addition, on November 7, a meeting of the Best Poster Award Selection Committee was held

to select the winners of the best poster award, with Olli Varis (Aalto University, Finland) serving as Chair. Three general posters and three SSP posters were selected to receive awards for outstanding posters.



(Poster session)

■ Closing Session

On the afternoon of November 7, the final day of the conference, the closing session was held under the theme of “Plastics in the sea”, and Shuhei Tanaka (Kyoto University, Japan) and Varoon Varanyanond (Chulalongkorn University, Thailand) gave speeches based on the theme.

■ Closing Ceremony

Following the closing session, the closing ceremony was held. At the beginning of the ceremony, Takanori Konishi (Vice-Chair, Hyogo Prefectural Assmeby, Japan) gave a closing address. Next, David Nemazie (The University of Maryland, USA) read the Pattaya Declaration, then, the Students and Schools Partnership Declaration (SSP Decralation) was read aloud by the SSP students, and they were adopted.

Olli Varis (Aalto University, Finland) announced the winners of the Best Poster Award that had been selected by the Best Poster Award Selection committee. The

winners were introduced and presented with certificates of commendation and commemorative gifts.

Next, Masataka Watanabe (Chair, Scientific & Policy Committee of EMECS Center) gave a general overview of the achievements of the conference and expressed gratitude to all who had helped to make it a success.

Finally, Michael Elliott (University of Hull, UK) and Tim Jennerjahn (Leibniz Centre for Tropical Marine Research, Germany) announced that the next EMECS conference, EMECS 13, would be held in Kingston upon Hull in UK, 2020 as EMECS 13 - ECSA 58 Joint Conference, and invited all of the participants to attend.

After the closing ceremony, a farewell dinner was held to



(Best poster award ceremony)

facilitate the deepening of exchanges among the participants from various countries.

■ Technical tour

The participants visited the Thai Island and Sea Natural History Museum and an environmental conservation project held on the Samae San Island in Sattahip located to South of Pattaya, which takes about one hour by car.



(Tour to mangrove forests)

The participants saw displays about nature in the land and the sea. At the island, they visited protective areas of sea turtles, coral restoration, mangrove planting and others which were a part of the project supported by Thai Royal Family.

Satoumi & ICM Special Session

The Satoumi & ICM Special Session was held on the afternoon of November 5, served by Tetsuo Yanagi (EMECS Center) as Chair.

The session began with a greeting from Takanori Konishi (Vice-Chair, Hyogo Prefectural Assembly), then followed by 9 oral presentations.

□ Session program

- Tetsuo Yanagi (EMECS Center)
- Wataru Nishijima (Hiroshima University) Japan
- Teruhisa Komatsu (Yokohama College of Commerce) Japan
- Takafumi Yoshida (Northwest Pacific Region Environmental Cooperation Center) Japan
- Robert Summers (University of Maryland) USA
- Takuro Uehara (Ritsumeikan University) Japan
- Suhendar Sachoemar (Agency for the Assessment and

Application of Technology)
Indonesia

- Satoshi Yamamoto (Ministry of the Environment) Japan
- Bill Carter (University of the Sunshine Coast) Thailand



(Chair: Tetsuo Yanagi)

There was spirited debate during the question and answer session, with questions such as “In Indonesia, where there are various types of local wisdom such as the traditional ‘Sasi’ system of managing fishery resources, is there really a need to introduce the concept of Satoumi?” “What are the similarities and differences in coastal marine area management in Japan, Brazil, Indonesia and Thailand?” and “What is the most effective methodology for achieving cooperative action on the part of local residents, the government and scientists?”

Students and Schools Partnership (SSP) Session

The Students and Schools Partnership (SSP) Session has been held since EMECS 6 in 2003, which was held in Bangkok, Thailand. The purpose of the session is to help to promote environmental education for the students who will become the leaders of environmental conservation activities in the next generation.

At EMECS 12, a total of 17 students (2 from Japan, 15 from Thailand) participated in the session.

The students visited the Srisuvit School in Pattaya and interacted and exchanged views about marine environment with local students. Also, they presented their posters at the poster session. At the SSP Session, there were oral presentations and discussions by the students.

At the closing ceremony, Issei Nishigami (Japan) and Wakana Emi (Japan) and a group consisting of 8 students from the Srisuvit School (Thailand) received the Best Poster Awards with general participants.

On the final day of the conference, they joined the technical tour and visited the environmental conservation project held on the Samae San Island.



(SSP participants)



(Visiting local school)

Pattaya Declaration

Cooperative Stewardship for Integrated Management Toward Resilient Coastal Seas

The rendition by Thai students of “What a Wonderful World” (Louis Armstrong) at the EMECS12 Conference Opening Ceremony serves a strong metaphor of how people with shared knowledge and goals can achieve harmony. Engagement between stakeholders have shown that pollution can be reduced and environments can begin the long process of recovery and restoration. But continued threats, such as a warming climate, rising seas, ocean acidification, micro-plastics, eutrophication, and harmful algal blooms will make restoration even more challenging. Further harmonization between all stakeholders to enhance resiliency while restoring enclosed coastal seas will require additional collaboration across all sectors at unprecedented levels.

Coastal seas are highly productive ecosystems that provide essential services and sustenance to society, therefore, it is critical that stakeholders work together to enhance resiliency to minimize the continued and potential impacts of these hazards and restore coastal ecosystems. Predictive tools that are estimating the rate of change under various scenarios (such as the IPCC scientific reports) continue to get stronger and can directly inform

management communities from local to global scales.

THEREFORE, WE DECLARE, along the shores of the Gulf of Thailand that the international community of scientists must work even more closely with all stakeholders to apply innovative predictive tools to enhance coastal resiliency to minimize hazards that impact productivity, human health, and infrastructure *WHILE* continuing to actively restore these ecosystems and reduce greenhouse gas emissions. This requires the harmonization of scientific, social, and educational networks focused on collaboration between stakeholders from local to global scales. We have made great progress but we must become more resilient in the face of rapid change that the world is currently experiencing.

FURTHERMORE, to show its leadership, EMECS shall voluntarily register its commitments to the UN Sustainable Development Goal on the conservation and sustainable use of the oceans, seas, and marine resources (SDG 14).

Pattaya, Kingdom of Thailand

7 November, 2018



David Nemazie
Chair, Closing Statement Drafting Committee

The Students and Schools Partnership Declaration

United by the Ocean

This declaration is the collaborative efforts of 17 student representatives, teachers, and scientists from Japan and Thailand, who participated in the 12th International Conference on Environmental Management of Enclosed Coastal Seas or EMECS12. The theme of this year's conference is "Cooperative stewardship for integrated management toward resilient coastal seas". This, truly, is appropriate based on the circumstances and issues that we are facing today. We are separated by political boundaries, dividing us into citizens of different countries. However, we are ultimately connected by one ocean. What unite us are the environmental issues and the similar sense of uncertainty for our future.

We have long noticed that the coastal areas near our schools and local communities are littered with trash of all kinds, some of which are composed of harmful materials. Not only is it aesthetically not pleasing to the eyes, the trickle-down effects of such pollutants are potentially harmful to the marine lives, including economically important and endangered species. We have realized that terrestrial activities can induce harmful effects in canals and rivers, which will eventually prove to be detrimental to the marine environments. We have considered the physiological effects resulting from the consumption of contaminated food on our bodies and the eventuality of such effects on our children. We have stood by the beach, feeling apprehensive about swimming in the ocean. We have recognized that what occurs along the coastlines of our countries, can, and will, affect citizens of other countries.

Regardless of whether or not we are part of the problems, we certainly want to be part of the solutions. Some of us are actively involved in beach clean-ups, raising awareness among the local communities, and related research projects. Some of us have braced the summer sun and the winter cold, to pick up trash, piece by piece, in hopes of seeing a beach that once was. Some of us have tried to convince the governing bodies in our schools and local communities to sort and properly dispose of

trash. We have experimented on innovative methods to recycle and convert fishery byproducts and reducing waste.

Despite our efforts, we sometimes feel dejected and discouraged. Every so often, it appears that our efforts are in vain. We feel that the problem of trash in the ocean is not widely recognized by the general public. In places where the problem is apparent and persistent, only a small group of people are involved in the conservation movements. We strongly believe that it is necessary to raise awareness among larger groups of individuals, to promote environmental education in schools, and to encourage the general public to get involved and be part of the solutions. Ocean trash is a global environmental issue, which requires worldwide collaborative efforts. The citizens of the world must travel on the same journey toward cleaner marine environments and better quality of life for the future generations.

Lastly, on behalf of the participants of the EMECS Students and Schools Partnership Program, we would like to express our sincere gratitude to the hosts and the organizing committees for giving us this opportunity to exchange ideas and perspectives. In the past few days, we've been inspired by the people we've met and the experiences we've shared. Through our trials and tribulations, we feel a renewed sense of hope and togetherness, as well as courage to face future challenges.

Pattaya, Kingdom of Thailand
7 November, 2018



Report of EMECS International Seminar

On Thursday, February 21, 2019, the International EMECS Center held the EMECS International Seminar at the Lasse Hall in Kobe, Hyogo prefecture in order to introduce current status of coastal environment in the Puget Sound, the enclosed coastal sea in the Washington state, USA and a sister state of Hyogo prefecture, and the Seto Inland Sea in Japan, and management and measures taken for them.

The theme was “Integrated Coastal Management in the Washington State and Satoumi in the Seto Inland Sea” and the seminar was attended by more than 100 participants.

In the seminar, there were eight presentations and a panel discussion.



■ Abstracts

1. Social equity in coastal enclosed seas management: to whom shall the sea belong?

Lecturer: Yoshitaka Ota, Assistant Research Professor, Washington State University (U.S.)

What is essential for coastal management is to ensure the balance between the interest of people and the need for conservation that accommodates both societal and ecological changes. However, worldwide this balance is endangered due to environmental impact, such as climate change, overexploitation of fisheries resources and land-based pollution. To respond those changes, management is called for a long-term and cross-scale perspective and knowledge that would lead us to solve immediate issues regarding the utilization of resource and multiple uses of ocean space. When we investigate how external influences affect environment of sea under enclosure, it is critical that we approach from an understanding of the local characteristics of the landscape. External impacts interact cumulatively and are non-linear. As we consider coastal activities, our view moves from the water to the society. Notably, management would be given the task to respect the diversity, consensus, and distribution in the practice of responding to the changes.

2. Coastal Zone Management in Washington State: from Shoreline Management to Marine Spatial Planning

Lecturer: Jennifer Hennessey, Senior Policy Advisor-Ocean Health, Washington State Governor Jay Inslee (U.S.)

In the early 1970s, Washington State became the first state to have a Coastal Zone Management Program (CZMP) approved by the federal government under the newly adopted federal Coastal Zone Management Act. A cornerstone of the state’s program and approach was, and continues to be, the Shoreline Management Act (SMA). Over the years, the SMA has been updated to address various concerns. Marine Spatial Planning (MSP) is a more recent process and tool that has been used by the state’s CZMP to plan for new ocean use on Washington’s Pacific Ocean coast, while protecting existing

uses and the environment, and provides a way to integrate and analyze disparate ocean and coastal data. It ultimately develops a process for guiding and evaluating future proposed projects and uses more comprehensively.

3. Collective Impact as a Management Framework for Recovering Puget Sound

Lecturer: Sheida Sahandy, Executive Director, Puget Sound Partnership, State of Washington (U.S.)

Industrial pollution, rapid increases in human population, toxic storm water runoff, lost of habitat by the impacts of changing climate and ocean conditions brought serious threat to the health of the Puget Sound. The social complexity, which includes cities, counties, state agencies, federal agencies, non-profit organizations, and 19 sovereign tribal nations contributes to the complexity of the overall problem of recovery and protection of these waters. The challenge is increased because the law describes “recovery” very broadly, to include: Healthy Human Populations, Vibrant Human Quality of Life, Thriving Species etc. Protected and Restored Habitat, Abundant Water and Healthy Water Quality. In the Puget Sound, a small state agency tasked with recovering Puget Sound is testing the application of Collective Impact theory and serving the role of a Backbone Organization as the framework within which to manage recovery.

* Collective impact is an approach in which organizations in different positions share their strengths beyond inter-organizational borders and aim to solve social issues.

4. Environmental Governance of the Seto Inland Sea

Osamu Matsuda, Vice Chair of Board of Directors, International EMECS Center
Professor Emeritus, Hiroshima University (Japan)

The environment of the Seto Inland Sea changed dramatically due to water pollution and eutrophication caused by expansion of industrial activities during Japan’s period of high economic growth. In response, various measures were taken such as establishment of the Law

Concerning Special Measures for Conservation of the Environment of the Seto Inland Sea (“Seto Inland Sea Law”). Subsequently, the environment of the Seto Inland Sea was gradually remedied and a “beautiful sea” (which was the initial objective) was achieved to a considerable degree. In recent years, however, oligotrophication has started to become a new problem. Major revisions were made to the Seto Inland Sea Law as well as the national basic plan that is based on this law, and “abundant ocean” was added as a new objective. Accordingly, specific policies on the prefectural level also accompanied by active “bottom-up” style Satoumi creation efforts, in which local residents became involved with the ocean areas near them in order to achieve an “abundant ocean.” The Seto Inland Sea Law has played an important role in the environmental governance of the Seto Inland Sea. From this point on, based on the national Basic Environment Law and Basic Ocean Law, as well as new systems such as the Basic Act on Establishing a Sound Material-Cycle Society, efforts should be promoted through cooperation on the part of industry, government, academia and the general public, in which SDGs and other international frameworks are employed while on the local level community-led efforts at Satoumi creation are pursued.

5. Responses to Ocean Acidification on the U.S. West Coast

Terrie Klinger, Professor, University of Washington (U.S.)

Waters along the west coast of the U.S. are particularly vulnerable to ocean acidification. Concern over the sustainability of the shellfish aquaculture industry in Washington led to legislative action to address the issue. At the same time, growing concerns over coast-wide ocean acidification and the associated stressor hypoxia motivated legislative action in California. Rapid increases in scientific understanding of ocean acidification provide the basis for experimentation and innovation in marine resource management. For example, along the U.S. west coast, ecosystem-based fisheries management, spatial protections, coastal ecosystem management, vegetation management, and pollution reduction all have been proposed as means of supporting ecological resilience under conditions of ocean acidification. These innovations are likely to have general applicability in coastal regions exposed to ocean acidification.

6. Nutrient Management in the Seto Inland Sea

Tetsuo Yanagi, Principal Researcher, International EMECS Center
Professor Emeritus, Kyushu University (Japan)

This is a report on methods for managing nutrient concentration in the Seto Inland Sea based on the result of research for the “Development of Coastal Management Method to Realize the Sustainable Coastal Sea” project conducted under the S-13 Environment Research and Technology Development Fund.

The goal of the project was to develop effective coastal zone management techniques to achieve “a sustainable

coastal sea that is beautiful, productive and prosperous.” A study was conducted to define what type of ocean environment constituted “a beautiful and productive coastal sea” in the case of the Seto Inland Sea. The study determined that “beautiful and productive” corresponded to a moderate transparency (nutrient concentration) and a moderate nutrient transfer, and “prosperous” corresponded to a sustainable indicator integrating economy, environment and society.

7. Towards An Inclusive Blue Economy

Edward Allison, Professor, University of Washington (U.S.)

The Blue Economy, Blue Growth and the Blue Revolution have become popular slogans to galvanize the potential of the oceans in contributing to human prosperity and food security. This wave of ‘blue enthusiasm’ aims to attract new investors into the maritime economy and improve governance of the oceans. But it also risks sweeping away those with less capital to invest, including the small scale fishers and farmers that are the largest group of ocean resource users, globally. Supporters of the blue economy idea claim it can help to reduce global economic inequalities by providing new opportunities for poverty reduction, nutrition security and improved wellbeing, while sustaining the productive capacity of ocean and coastal ecosystems. Can it? Will it? How? Drawing on plans for Washington State’s ‘Maritime Blue’ project and experiences from around the world, I set out an agenda for policy-relevant research to support an inclusive blue economy.

8. Economic Valuation of Ecosystem Services in the Seto Inland Sea

Ken’ichi Nakagami, Specially Appointed Professor, Ritsumeikan University (Japan)

The meaning of economic valuation of ecosystem services is not so much ensuring the rigorousness of numerical values as it is helping to formulate policy scenarios. Deploying ecosystem services in policy is an effective means not only of preserving biodiversity in coastal seas and stimulating the local economy but also of embodying the concept of regional revitalization in Satoumi. As examples of economic valuation of the ecosystem services in the Seto Inland Sea, this lecture presents (1) an economic valuation of the beautiful and abundant Satoumi in Hiroshima Bay and (2) the long-term changes in the economic valuation of the environmental value of the Seto Inland Sea (from 1998 to 2015).

It is proposed that a formula for estimating the Actual Ecosystem Services of Coastal Zones (AESCZ) as a way to enable realistic use of economic valuations of coastal sea ecosystem services in policy development and introduced the examples of this methods applied in Hinase Bay, Shizugawa Bay and Nanao Bay. The deployment of economic valuation of ecosystem services in the Seto Inland Sea in policy is one technique for conducting “blue economy” assessments, as well as being a pioneering model for achieving integrated coastal zone management through the discovery and creation of new value provided by Satoumi.

Outcome of EMECS Overseas Activities

Report of ECSA 57 Conference in Perth, Australia

The 57th international conference of the Estuarine & Coastal Sciences Association (ECSA 57) was held September 3 - 6, 2018 in Perth, Australia. The theme of the conference was 'Changing estuaries, coasts and shelf systems: Diverse threats and opportunities.' The International EMECS Center (hereinafter "EMECS") was a sponsor of the conference and also presented EMECS Awards. Director of the Department of Fisheries, Government of Western Australia, the host state, gave a welcome address. There were 6 plenary speeches, approximately 300 oral presentations and 160 poster presentations. In all, ECSA 57 was attended by approximately 450 persons.

■ Session topics (extract)

- Changing sea levels and changing tides
- Social values
- Oceanography and physical-biological coupling
- EMECS Sponsored Session: Environmental management of enclosed coastal seas
- Policies for improvement of artisanal fisheries in developing countries

Attending the conference from EMECS were Vice-Chair of Board of Directors Osamu Matsuda (Professor Emeritus, Hiroshima University), Principal Researcher Tetsuo Yanagi (Professor Emeritus, Kyushu University) and Eric Wolanski, member of the EMECS Scientific & Policy Committee (Professor, James Cook University, Australia).

Professor Wolanski and Professor Matsuda served as co-chairs of the EMECS Session which was held on the second day of the conference and attended by approximately 70 persons. The session featured eight presentations by attendees from Japan, China, Australia and Saudi Arabia. Professor Yanagi gave a presentation on the Ministry of the Environment's Environment Research and Technology Development Fund S-13 "Development of Coastal Management Method to Realize the Sustainable Coastal Sea." Professor Matsuda's presentation was entitled, 'Reality of Satoumi-type coastal management expanding in Japan.' Both presentations were followed by spirited questions and answers.

On the final day of the conference, ECSA Awards for outstanding presentation by general participants and EMECS Awards for outstanding presentation by students were given to the winners. This was the fifth EMECS Awards at the ECSA Conference. Professor Matsuda and Professor Wolanski presented the EMECS Awards to four outstanding presentations (by presenters from India, U.K., Japan, Australia). The recipients received enthusiastic applause from the conference attendees. At the end of the conference, Michael Elliott, Chair of ECSA, encouraged the participants, especially young researchers, to participate in the next ECSA Conference, and announced that the next conference would be held with EMECS jointly in Kingston upon Hull, U.K, in September, 2020 as the EMECS 13-ECSA 58 Joint Conference.

The four-day conference filled with enthusiastic atmosphere finished successfully.



Report of East Asian Seas (EAS) Congress 2018

Two persons of International EMECS Center participated in the East Asian Seas (EAS) Congress 2018 hosted by Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) held from November 27 (Tue.) to 30 (Fri.) 2018 in Iloilo city, Philippines.

Co-hosted by Philippines government, Iloilo city and PEMSEA, the EAS Congress 2018 was held, and more than 800 persons participated in the Congress from PEMSEA's country partners and non-country partners during the period of the Congress. After keynote speeches at a plenary session held following the opening ceremony on day one, Kochi, Director of International EMECS Center, played a role of respondent urging question-and-answer session and discussion between participants and presenters.

Subsequently, parallel sessions were held from afternoon on November 27 to 29. In a work shop held in the afternoon on day one with a chairman Keita Furukawa, Senior Research Fellow of the Ocean Policy Research Institute in the Sasakawa Peace Foundation, a case presentation was provided on a topic of Blue Economy by Osamu Matsuda, International EMECS Center Vice Chair of Board of Directors (Professor Emeritus of Hiroshima University) regarding initiative of Satoumi at the Seto Inland Sea. Professor Matsuda summarized recent Satoumi creation-related activities in Japan and suggested a direction of Satoumi to be pursued, and in the subsequent question-and-answer session, participants from overseas made remarks that the presentation and discussion were meaningful and that each country should be involved in ICM -Satoumi creation project.

In the work shop, approaches and environment education activities in Shima city, Japan were also introduced by concerned personnel of Shima city, Mie Prefecture and Mr. Fujita, a student of Graduate School, the University of Tokyo who participated in the event by qualification as youth.

At a plenary meeting held on the last day of the Congress, chairmen of sessions made reports on main achievements and problems in the future including necessity to cultivate a new economic framework (Blue Economy) by recognizing trends of SDGs and taking measures for environment preservation in order to fully utilize ecosystem service in coastal sea area. With an announcement that next EAS Congress is held in Indonesia in 2021, a series of meeting programs were completed.



(Presentation by Prof. Matsuda)

Publisher

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