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海洋深層水利用学会

Report on the Annual Meeting of the Taiwan Society of Deep Ocean Water Resource Applications**Tamsuo Aquatic Products Ping-Yi Hung**

On November 25, 2021, the 7th Annual Meeting of the Taiwan Society of Deep Ocean Water Resource Applications was held so we will provide an overview. Due to the influence of COVID-19, this assembly was held simultaneously on the Taitung campus of Taitung University and on the web. In the morning, an international Deep Ocean Water Symposium was held at the Taitung University Performing Arts Hall with 67 participants from Taiwan including the President of the Taiwan Society of Deep Ocean Water Resource Applications, along with 48 online participants for a total of 115 people. From Japan, Professor IGARASHI Yasuhiro of Toyama Prefectural University was invited to give a keynote speech, which he gave online. This time was held in a rural area, and although there was uncertainty due to the influence of COVID-19, it was a success as usual.

Following opening remarks by President Tai-Wen Hsu, the international symposium followed with welcome remarks by guests such as Ching-Piao Tsai, Vice Chairperson of the Ocean Committee, Yung-Fang Chiu, President of National Academy of Marine Research, and SAKAGUCHI Hide, President of the Ocean Policy Research Institute (OPRI) of the Sasakawa Peace Foundation. First, from Japan, Professor IGARASHI Yasuhiro of Toyama Prefectural University introduced the possibility of using metabolites of marine microorganisms for new drug development in “Marine microorganisms: potential source for drug lead discovery.” Next, Dr. Tsai-Luen Yu announced considerations toward planning for deep ocean water research at the National Academy of Marine Research. In the future, research in the field of deep ocean water will focus on joint research with universities and research institutes, and it seems that they will strengthen the field of basic research in particular. The final presentation of the morning was the highlight of this meeting, where Chen-Fu Chan of the Southern Region Water Resources Office, Water Resources Agency (WRA), Ministry of Economic Affairs (MOEA) reported the completion of the newly installed water intake facility in Taitung County, which for us involved in deep ocean water research is very good news.

Following the three keynote speeches, a lively discussion was held for about 30 minutes, chaired by Professor Guo-Tien Lee of National Taiwan Ocean University.

Afterward, the General Meeting of the Taiwan Society of Deep Ocean Water Applications took place from 12:00. Professor Chun-lin Lee of Taitung University introduced his research result in “Research and Industrial Utilization of Health Foods from Deep Ocean Water.” In addition, Yu-Chi Tseng of Kung-Long Ocean Biotech presented on his experience in marketing and market development.

Afterward, participants moved to the Deep Ocean Water Center and visited the deep ocean water desalination/ mineral extraction equipment, Thalassotherapy Spa, etc.



Photo 1 : Commemorative Photo of Venue Guests



Photo 2: Discussion in the Morning

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— Tamsuo Aquatic Products Ping-Yi Hung —
Deep Ocean Water Applications Society

About Participating at the Taiwan Society of Deep Ocean Water**Toyama Prefectural University Professor IGARASHI Yasuhiro**

I was invited to the Taiwan Society for Deep Ocean Water Resource Applications held in Taitung, Taiwan on Thursday, November 25, 2021 and provided a keynote speech entitled “Marine microorganisms: potential source for drug lead discovery.”

Originally, the lecture was scheduled to be given at the Taiwan International Ocean Forum 2021, which was scheduled to be held in Taipei on June 7, but the event was canceled due to spread of COVID-19. After a while, I was invited to the Taiwan Society of Deep Ocean Water Resource Applications by Yi-Ting Tsai, who I had been coordinating with at the time.

During the scheduled time, I was unable to attend in person, so I accepted online participation, and as I was preparing, local staff Hongyu Shu responded. Initially, we prepared presentations in English, but when we conducted a connection test the day before, Hongyu Shu requested the presentation be given in Japanese with an interpreter. By the way, she is a young person who is also good at Japanese. Under such circumstances, I decided to review the contents, and hurriedly added an introduction to Toyama Prefecture, etc. so that it would not be too specialized or stiff.

On the day of the event, I was told a group photo would be taken around 10:30, and participated remotely. Afterward I gave the keynote speech just after 11:00, touching on deep ocean water utilization in Japan, and speaking for about 30 minutes, focused on the outline of the process leading to physiologically active substances produced from microorganisms from deep ocean water I have been researching and are produced from actinomycetes, especially from the isolation of actinomycetes. Afterward, I participated in the panel discussion at which I received some questions about my lecture. There seemed to be particular interest in the anti-cancer substances produced by actinomycetes.

Although I was unable to watch all the presentations, there was a lively question and answer session at the local venue, and I could see deep ocean water is being actively utilized in Taiwan. Taiwan is blessed with a warm marine environment and abundant marine biotic flora attracted to microbial resources. In the future, I hope that research on deep ocean water microorganisms will develop in Taiwan as well.

Report on Participation at the Japanese Society for Functional Water**Tokyo University of Marine Science and Technology Professor IMADA Chiaki**

The 19th annual meeting of the Japanese Society of Functional Water was held October 30-31, 2021. I have been a director of the society since 2019, so I gave a lecture this time. Originally it was planned to be held at the Shinagawa Campus of the Tokyo University of Marine Science and Technology where I work, but due to COVID-19, it was held in Shibuya, Tokyo's Japan Pharmaceutical Chair Memorial Hall as the first hybrid in person and remote meeting.

The Japanese Society for Functional Water is engaged in activities and research to acquire, accumulate, and disseminate accurate knowledge about functional water. In addition to holding an annual academic conference around autumn, we also hold small-scale seminars called "water seminars" several times a year. By the way, the definition of "functional water" is "an aqueous solution imparted with reproducible and useful functions by artificial treatment with a scientific basis for processing and functionality." If you are interested, please read the society's homepage. (<http://www.fwf.or.jp/gakkai.html>) This time, I gave a lecture on the "aspect of functional water" or "refined deep ocean water."

The theme of this 19th academic conference was "Functional Water that Opens a New Era." The number of participants was more than 90 in-person and more than 70 for remote access via the internet. I was quite honored to be the chair of the conference. After opening remarks by President YOSHIKAWA, I gave the lecture entitled "Basics and Applications of Deep Ocean Water – Possibilities of Deep Ocean Water and Issues of SDGs," as the conference's Chair Lecture. After my lecture, various lectures were given on academic activities and development at the functional water-related organization session.

From the afternoon, the "Deep Ocean Water Session" was held and four professors who are active in the Deep Ocean Water Applications Society gave lectures. First TAKAHASHI Masayuki gave a keynote speech entitled "Strengthening the Sustainability of Society by Use of Renewably Circulative Deep Ocean Water (DOW) Resources." After, Dr. IGARASHI Yasuhiro of Toyama Prefectural University gave "The Possibility of Deep Ocean Water from the Viewpoint of Searching for New Pharmaceuticals," and Director YAMADA Katsuhisa (Director of DHC Co Deep Ocean Water Research Institute) gave "Toward Maintaining and Improving Human Health," followed by Professor TAKEUCHI Hiroaki of the International University of Health and Welfare Graduate School gave a lecture on "Evaluation of Biological Function of Deep Ocean Water by Clinical Trials." After a break, Dr. SHIBATA Yuji (DHC Co.) in the general presentation session gave a lecture titled "Electrodialysis-treated water from Deep Ocean Water of Izu Akazawa promotes the expression of Aquaporin 3 (AQP3) in cultured cells. In addition, sessions on physics and chemistry technology, drinking water, education, food hygiene, etc. were held.

In addition, as a commercially available beverage that has adjusted components of ocean water, "refined deep

ocean water” is functional water that has been artificially manipulated so I had the impression that everyone who participated in the conference was interested in listening to it. In addition, many presentations dealt with content based on the “Sustainable Development Goals (SDGs)” that have been actively discussed in recent years, which was very interesting. Currently, the DOWAS is conducting various studies using deep ocean water taken from water intake facilities in various parts of Japan. Participants asked, in the future, how will we determine the “standard” for deep ocean water? I realized again the importance of this.

Next year, it will be held at the same venue in early October, so if you are interested in functional water, please join us.



Photo 1: Hybrid Event held with measures against infectious disease



Photo 2: Question and Answers



Photo 3: Lecture by Director TAKAHASHI