The 25th Annual Meeting of International Congress on Nutrition and Integrative Medicine (ICNIM) was held on July 8th and 9th with support from Hokkaido Bureau, Ministry of Economy, Trade and Industry (METI Hokkaido), Hokkaido government, and the City of Sapporo at the Hotel Royton Sapporo (Sapporo, Japan). The congress also received support from three associations: Integrative Medicine Japan, Japan Mibyou System Association, and Hokkaido Healthy & Medical Care Frontier.

A total of 427 participants attended the 2-day congress, including 161 foreign guests from 28 countries and regions. Following the keynote lecture, 57 presentations in total were delivered, consisting of 17 verbal presentations (6 basic studies and 11 clinical studies), and 40 poster presentations (26 basic studies and 14 clinical studies). In addition, 12 poster presentations of prospective new technologies developed in Hokkaido were introduced in a separate area.

**Keynote Lecture**

This year’s keynote lecturer was Dr. Anne Marie Minihane from the University of East Anglia, Norwich Medical School in UK. She gave a lecture entitled, "Genotype, personalised nutrition and healthy aging: choose your parents carefully". In her lecture, she introduced recent developments in technologies for genome analysis and how individual genotypes influence one’s food preferences and the uptake of nutrients. She also explained how genotypes affect nutrient absorption, distribution, and metabolism within the body.

Dr. Minihane further explained that genotyping may provide a tool to identify "at-risk" individuals before they develop clinical diseases, and the use of this information could potentially prevent illnesses by implementing interventions with meal and/or dietary supplements.

**Research Awards**

Dr. Suhad M. Bahijri (King Abdulaziz University, Saudi Arabia) received the Best Research Award from the Director-General of METI Hokkaido for her presentation, "Beneficial effects of supplementation with Oligonol - without any dietary or lifestyle modifications - on cardiometabolic risk factors in a sample of overweight and obese Saudi females." Additionally, the Young Investigator Award, an award given to the most promising researcher under 40 years old, was given to Dr. Ryo Sakamoto (Ritsumeikan University, Japan) for his presentation, "Effects of AHCC on the proliferation of human breast cancer cell line, MDA-MB-231". Lastly, Dr. Richi Nakatake (Kansai Medical University, Japan) received the Best Poster Award for his presentation, "Alleviating effect of AHCC on endotoxin-induced liver injury after partial hepatectomy in rats."

The award ceremony was carried out during the reception on July 8th, and the awards were given by the Director-General of METI Hokkaido, Mr. Shuhei Kojima, and the President of ICNIM, Dr. Toshinori Ito.
General Discussion

This year, Dr. Jun Nishihira from Hokkaido Information University (HIU) acted as a facilitator of the general discussion. Following the content of the keynote lecture by Dr. Minihane, the topic of “Nutrigenomics/Nutrigenetics and Personalized Nutrition” was discussed. For the first time, the general discussion was opened to the public this year, and the citizens of Sapporo were able to observe the discussion along with other attendees of the conference.

At the opening of the discussion, Dr. Nishihira presented what had been learned from clinical interventions with local foods at HIU and how this knowledge can be used in disease prevention based on genetic analysis. He also introduced individualized dietary instruction and how food functionality are modified by individual's genotypes. Next, Dr. Chin-Kun Wang from Chung Shan Medical University in Taiwan gave a presentation entitled, “The Effect of Nutraceuticals and Functional Foods on GI tract and Metabolic Disorders”. It was followed by Dr. Minihane discussing “Moving towards More Personalized Approaches to Disease Prevention and Therapeutics”, and Dr. Young-Joon Surh from Seoul University presenting “Personalized Treatment for Tumors from a Molecular Biology (genetic) Standpoint”. As the last presentation, Dr. Tatsuya Hisajima from Teikyo Heisei University introduced his topic, “An Approach of Integrative Medicine to Personalized Medicine: The Role of Kampo Medicine in Personalized Therapy”.

After the presentations, a panel discussion with the focus on AHCC was carried out. The panelists agreed that the necessity of identifying which genes are associated with the clinical usage of AHCC was deemed to be a future area of importance, and that the most optimal and individualized use of AHCC as a functional food would be established subsequently.

In regards to integrative approaches to individualized medicine, providing proper explanations to patients and building rapport with them were brought up as important factors, and the necessity of using traditional Eastern medicine in conjunction with conventional and cutting-edge medicine was also discussed.

Lastly, President Ito concluded the general discussion by saying, “Preventing disease would be of utmost importance from now. In order to promote the approach of personalized nutrition, reliable biomarkers that can measure its effectiveness must be identified using various technologies. The biomarkers are decided based on a combination of genetic information, analyzed by genomics and epi-genomics, and the information of immune functions including microbiota, autoimmune function, and endocrine function. Nutritional instruction in the future should be personalized considering its efficacy and cost.” and brought it to a close.

International Exchange Meeting

The 3rd International Exchange Meeting (IEM) was held at Hotel Royton Sapporo on July 8th prior to the opening of the annual meeting of ICNIM 2017. IEM aims to provide networking opportunities between universities and companies in Hokkaido and prestigious researchers from overseas who attend the annual meeting of ICNIM to promote international collaborations among them.

The number of participants this year increased by 20 compared to last year and was 61 in total. It included 26 researchers from 19 universities abroad, 6 researchers from 4 universities in Hokkaido, representatives from local companies, as well as observers, such as foreign consulates in Sapporo and government officials in Hokkaido.

After the introduction of all participants, achievements on ongoing collaborations facilitated by IEM were reported.

First, a joint project between the Graduate School of Global Food Resources, Hokkaido University (HU) and
the University of California, Davis (UC Davis), was mentioned. Dr. Robert Hackman from UC Davis reported the outcomes of this project, such as the International Forum on Global Food Resources held in February of 2017, a visit by the Hokkaido Government officials to Napa Valley in California, and his collaboration with Dr. Hitoshi Chiba from HU.

Next, Dr. Gerald Sonnenfeld from the University of Rhode Island (URI) introduced URI’s International Engineering Program (IEP) for internship and studying abroad opportunities. Dr. Nishihira reported that HIU signed the collaboration agreement with URI including development of a program similar to IEP in Hokkaido. A report was also given on a forum, “International Forum on Food and Health 2017 in Hokkaido” conducted jointly by URI and HIU on July 7th, where several speakers of the ICNIM annual meeting gave a lecture.

Furthermore, Dr. Anil Kulkarni from the University of Texas introduced the concept of a Global Surgery Alliance that would aim to make surgical treatment more readily available and easier to provide worldwide. Dr. Nishihira also introduced the “Challenge of the Asian Platform for Solution of Health Issues by ICT-based Food Science”. He explained how the platform targets the residents of a region, making full use of information technology to perform dietary and health investigations, and proposed how this data could be used to effectively improve health and prevent illness.

Prospective new technologies developed in Hokkaido was introduced briefly during the meeting, and panels were set up in the room to show the overview of the new technologies. During the free communication and networking session at the end of the meeting, attendees lively exchanged information and ideas.

### Seminars for the Public

CNIM holds seminars to raise public awareness on proper use and application of functional foods in integrative medicine including cancer treatment. In 2017, two seminars were held commemorating the publication of ‘Clinician’s Guide to AHCC’ Japanese version, as well as three seminars for women about cancers.

On Sunday, May 21, a seminar for Women’s health entitled “Listen to the sign of your body! You are not alone.” was held in Kanda, Tokyo, inviting an actress and celebrity, Ms. Chiaki Hara, and Dr. Hirofumi Mima from Akasaka Mima Ladies’ Clinic as lecturers.

First, Ms. Hara talked about what she felt at cancer notifications, how she fought with cancers after the notifications, and cancer treatments she received, based on her prior experience with cervical cancer and endometrial cancer. She emphasized the importance to take regular check-ups, to see a doctor when something is wrong, and to listen to the sign from the body, saying “I would be so happy if you feel like seeing a doctor or taking check-ups after this seminar.” Being engaged in public awareness activities by giving such lectures, she heads up a group of women with histories of female specific cancers, ‘Yotsuba-no-kai’, where members share personal experiences.

Following her compelling story, Dr. Mima illustrated the mechanism of how female hormones affect women’s mind and body. After explaining the relation between human papillomavirus (HPV) and cervical cancer, he suggested ways to prevent and detect female cancers, and to go through menopause for oneself.

On Saturday, November 11th, a seminar held in Nagoya under the theme of “Does your mind control your body?” Dr. Tatsuya Hisajima from Teikyo Heisei University gave a lecture on how mental state influences autonomic nerve and immunity. He explained that symptoms such as cold hands and feet, sore throat, stuffy nose may appear before developing a disease, and such symptoms may be due to malfunction of autonomic nerve caused by stress. He introduced the results of his clinical study in which AHCC improved nasal symptoms by modulating autonomic nervous system. There were a number of positive comments from the audience.
Greeting Message of New Board Members

I recently received the honor of being named as a board member of this International Congress on Nutrition and Integrative Medicine. I would like to use this inaugural address to express my heartfelt gratitude to all who have supported me over the years. Whilst lecturing on acupuncture and doing clinical work, I also perform research focusing on the nervous system and immune modulation. Stimulation via acupuncture is able to modulate both the autonomic nervous and immune systems. The results of several randomized controlled clinical trials, which I have presented at previous annual meetings of this congress, showed that AHCC has similar effect upon the activity of the sympathetic nervous system and NK cell activity. I also presented the effect of AHCC upon allergenic nasal symptoms caused by the suppression of the sympathetic nervous system. Through studies such as these, I see the possibility that AHCC could work effectively in intervention for various lifestyle diseases which cannot be treated adequately only with conventional Western medicine. In recent years, with the new focus on the necessity of medicine that aims to extend the healthy lifespan, the demands placed upon the functions of food is growing. With this congress, that aims to provide information about integrative medicine and the results of studies into functional foods, I will work to the best of my ability to assist in running its activities as well as sharing new research outcomes as ever. I would like to humbly ask for your continued instruction and encouragement into the future.

I am delighted to be able to say that I was appointed as a board member of the International Congress on Nutrition and Integrative Medicine (ICNIM) this year. First of all, I would like to express my sincere gratitude to the other board members, and to all members of the congress for the support and guidance they have given to me.

I personally have experience working in fields related to functional foods, including working in a research group that was subsidized by the Cancer Research Development Fund of the Ministry of Health, Labor, and Welfare (MHLW) in Japan. In that group, we investigated the safety and efficacy of foods and supplements for cancer patients through clinical studies. I have also helped to produce a website commissioned by the MHLW to share information about integrative medicine. In addition, I recently started working in the Consumer Commission of the Cabinet Office, to help with their assessment of novel foods whether they apply to the Food for Specified Health Uses (FOSHU) system.

As clearly stated in the Food with Function Claims system which is put in operation in 2015 in, irrefutable evidence is required in order to make claims about the functions of food in Japan as well. With the current state of the society, I believe the role that ICNIM plays will only grow bigger and more meaningful in the future.

I am sobered to be given this important role within the congress, and I intend to spare no effort in helping it grow and develop into the future. I would like to ask for your continued instruction and support in this endeavor.

Professor
Faculty of Human Care,
Teikyo Heisei University’s
Tatsuya Hisajima PhD.

Associate Professor
Department of Integrative Medicine
Osaka University Graduate
School of Medicine
Satoshi Ohno PhD.
AHCC

- MicroRNA signature in the chemoprevention of functionally-enriched stem and progenitor pools (FESPP) by Active Hexose Correlated Compound (AHCC)
  Émilie A. Grahamm, Chantal Matar (University of Ottawa, Canada), et al.
  Cancer Biology & Therapy, 18(10): 765-774 (2017)

- A Active hexose-correlated compound enhances extrinsic-pathway-mediated apoptosis of Acute Myeloid Leukemic cells
  Kavin Fatechand, Jonathan P. Butchar (The Ohio State University, USA), et al.
  PLOS ONE, 12(7): e0181729 (2017)

- The effects of Active Hexose Correlated Compound (AHCC) on levels of CD4+ and CD8+ in patients with epithelial ovarian cancer or peritoneal cancer receiving platinum based chemotherapy
  Wineeya Suknikhom, Ruangsak Lertkhachonsuk, Tarinee Manchara (Chulalongkorn University, Thailand)

- Evaluation of Active Hexose Correlated Compound (AHCC) in combination with anticancer hormones in orthotopic breast cancer models
  Judith A. Smith (UT Health-Memorial Hermann Cancer Center, USA), et al.
  Integrative Cancer Therapies, 16(3): 300-307 (2017)

- Randomized, allopurinol-controlled trial of the effects of dietary nucleotides and active hexose correlated compound in the treatment of canine leishmaniosis
  Sergi Segarra (Bioibérica S.A.U., Spain), José Cerón (University of Murcia, Spain), et al.
  Veterinary Parasitology, 239: 50-56 (2017)

- Long-term administration of Active Hexose Correlated Compound as a dietary supplement to a patient after breast cancer surgery and chemotherapy: A case report
  Koji Wakame, Ken-ichi Komatsu (Hokkaido Pharmaceutical University School of Pharmacy, Japan), et al.
  Integrative Cancer Science and Therapeutics, 4(1) (2017)

- DNA microarray analysis of gene expression changes in ICR mouse liver following treatment with active hexose correlated compound
  Koji Wakame, Ken-ichi Komatsu (Hokkaido Pharmaceutical University School of Pharmacy, Japan), et al.
  Integrative Molecular Medicine, 3(3): 739-744 (2016)

Oligonol

- Oligonol promotes glucose uptake by modulating the insulin signaling pathway in insulin-resistant HepG2 cells via inhibiting protein tyrosine phosphatase 1B
  Jae Sue Choi (Pukyong National University, Korea), et al.

- Oligonol, a low-molecular weight polyphenol derived from lychee, alleviates muscle loss in diabetes by suppressing Atrogin-1 and MuRF1
  Hung-Wen Liu, Sue-Joan Chang (National Cheng Kung University, Taiwan), et al.
  Nutrients, 9(9) (2017)

- Oligonol supplementation decreases cardiometabolic risk factors, and the prevalence of metabolic syndrome in a sample of overweight and obese Saudi females
  Suhad Matoug Bahijri (King Abdulaziz University, Saudi Arabia), et al.
  Annual Research & Review in Biology, 16(2) (2017)

- Supplementation with Oligonol, prevents weight gain and improves lipid profile in overweight and obese Saudi females
  Suhad Matoug Bahijri (King Abdulaziz University, Saudi Arabia), et al.
  Current Nutrition & Food Science, 13(4) (2017)

- Investigating the Amelioration Effects of Oligonol® on Tinnitus in Randomized Double-blind Placebo-controlled Trial (in Japanese)
  Takahiro Maeda, Masahiro Niijima, Jun Nishihira et al.
  Japanese Pharmacology & Therapeutics, 44(9): 1329-1336 (2016)

  Masaki Taga, Kaori Sato et al.
  Clinical Pharmacology and Therapy, 26(3): 85-96 (2016)
Global liver gene expression analysis on a murine metabolic syndrome model treated by low-molecular-weight lychee fruit polyphenol (Oligonol®)
Koji Wakame (Hokkaido Pharmaceutical University School of Pharmacy, Japan), et al.
Anticancer Research, 36(7): 3705-3713 (2016)

Oligonol, a low-molecular-weight polyphenol derived from lychee fruit, protects the pancreas from apoptosis and proliferation via oxidative stress in streptozotocin-induced diabetic rats
Chan Hum Park (National Institute of Horticultural, Korea), Takako Yokozawa (University of Toyama, Japan), et al.
Food & Function, 7(7): 3056-3063 (2016)

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Suhad M. A. Bahijri (King Abdulaziz University, Saudi Arabia), et al.
19th European Congress of Endocrinology (May, 2017)

ETAS

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Manami Kato, Inoue Shoichiro (Otsu Nutraceuticals Research Institute, Otsuka Pharmaceutical Co., Ltd.), et al.
Japan Pharmacology & Therapeutics, 44(5)  (2016)

A Double—blind Randomized Controlled Trial Regarding he Safety and Efficacy of Enzyme-Treated Asparagus Extract Intake in Healthy Human Subjects
Asuka Yasueda, Toshinori Ito (Osaka University, Japan), et al.
38th ESPEN Congress (Sep, 2016)

AHCC

Efficacy of Active Hexose Correlated Compound against nasopharyngeal complaints: a randomized, double-blind, placebo-controlled trial
Tatsuya Hisajima, Hideaki Waki (Teikyo Heisei University, Japan), et al.
39th ESPEN Congress (Sep, 2017)

Beneficial effects of Active Hexose Correlated Compound (AHCC) against cancer
Kenji Sato (Kyoto University, Japan)