Organization for Promotion Academic City by Kyushu University News Vol.28

OPACK Mail

Organization for Promotion Academic City by Kyushu University

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— Kyushu University 100th anniversary ceremony —

Photo: 100th anniversary ceremony

2011 marked the 100th anniversary of the founding of Kyushu University, and a centennial ceremony was held at the Kyushu University 50th Anniversary Memorial Hall at the Hakozaki Campus, on May 12. Since its founding as an imperial university in 1911, it cerebrated to 100th anniversary in 2011. However, the ceremony had been put off because of the lingering impact of the Great East Japan Earthquake.

The 1400 participants at the ceremony included Hirofumi Hirano, Minister of Education, Culture, Sports, Science and Technology, graduates of Kyushu University, emeritus professors, faculty staff and students, along with representatives of educational institutions and the people who have supported Kyushu University. President Arikawa expressed his appreciation for all the people who attended from concerned academic institutions and their continued support. He also described a vision for the future of the university and action plans for the next 100 years, to become among the top 100 in the world in all fields.

On the same day, Hirofumi Hirano, the Minister of Education, Culture, Sports, Science and Technology, visited Kyushu University Ito Campus.

Photo: Lecture by Special Senior Professor Shinkai

Photo: Minister Hirofumi Hirano visits Ito Campus

Photo: Kyudai Philharmonic Orchestra Concert

The next day, with the aim of creating a new Kyushu University in next 100 years in partnership with local residents, Hyakunen Matsuri Festival (Kyushu University Centennial Festival) was held primarily on the Ito Campus of Kyushu University, which was the main venue of this festival. The festival was held with the intention of offering various information, including initiatives and research activities conducted by Kyushu University. Local residents were welcomed to join in on research presentations, stage events, flea market as well as “street stalls” run by students and the local community. Many people visited and enjoyed the festival.

Photo: Hyakunen Matsuri Festival

Photo: QU WALK (20km walking event)

Activity Report

The 8th Kyushu University Academic City Information Exchange Seminar

Photo: Information exchange seminar

On Tuesday July 31, 2012, OPACK hosted the 8th Kyushu University Academic City Information Exchange Seminar at Hotel Centraza Hakata. The seminar was held with the intention of creating a sense of familiarity with Kyushu University's research by introducing various topics, including interesting examples of studies. The seminar was attended by 93 people (exceeding the 80 seat capacity) from corporations and parties involved in industry–academia–government collaboration.

The theme of "Trends in new technologies toward new energy society" is deeply associated with our aim of building a recycling-oriented society, which directs us to further promote the Academic City Plan. Prior to the lecture, under the title of "Operations of OPACK to promote the Kyushu University Academic Plan", OPACK presented its past and current initiatives, ideal image, and a growing concentration of research institutions in Academic City. In addition, Fukuoka city explained the outline of "The 2nd Fukuoka Industry - Academia Symphonicity", a new center whose construction is expected to be completed next year, and investment incentives.

Photo: Akinori Furukawa, Emeritus Professor of Kyushu University

Photo: Hikari Fujii, Associate Professor of Kyushu University

Photo: Yusaku Kyozuka, Professor of Kyushu University

Photo: Kazunari Sasaki, Distinguished Professor of Kyushu University

Lectures focused on promoting utilization of new primary energy sources, such as natural energy, and use of hydrogen energy as a secondary energy. Lectures discussed the following topics:

1."Potential application of low-head hydroelectric power generation," Akinori Furukawa, Emeritus Professor of Kyushu University, Principle of Oita National College of Technology

2."Promotion of energy-conservation heat pump system utilizing geothermal energy" Hikari Fujii, Associate Professor of Faculty of Engineering, Kyushu University

3."Current status and future prospect of tidal energy generation"
Yusaku Kyozuka, Professor of Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

4."New turns of fuel-cell and hydrogen energy technological development"
Kazunari Sasaki, Distinguished Professor /Director of Kyushu University Next-Generation Fuel Cell Research Center

During the lectures, each of speaker talked about past research activities and future prospects of their respective research fields, while a lot of questions were asked by participants.

At the exchange session following the seminar, both lecturers and participants actively exchanged information and it ended with great success.

OPACK Networking Session held
(The session co-organized with Kyushu University Public Lecture Series)

OPACK holds an exchange session every year with the aim of finding chances to match business needs and academic research ideas, discovering new research seeds, as well as promoting industry-academia cooperation by providing opportunities for Kyushu university's researchers that allow them to introduce their activities to businesses through PR activities and face-to-face interaction. The session was organized with the partnership of Kyushu University Public Lecture Series, which is given by the Chemical Evaluation and Research Institute (CERI).

Aiming toward building a future city, which will materialize an affluent way of life in harmony with the environment by translating research achievements into reality. To this end, the Department of Applied Chemistry of Kyushu University established a Consortium representing four fields: Optic, Nanotechnology, Bio, and Environment-related technology, in order to provide a place where a wide range of people can get together, for businesses and researchers in chemistry-related fields. The members of consortium will develop and conduct demonstrations of future chemical technologies that are much needed by society. The results of such research, additional information and new research seeds will be shared during special lectures at the OPACK networking session.

Up until now, we have organized 14 lectures, all of which successfully helped participants have greater interactions and learn about research achievements.

We are going to hold 14 lectures in the latter part of this program. For details, please refer to the information section.

Photo: Lecture at the networking session

On-site information session of "ILD Workshop 2012" held

Photo: Researchers checked hardness of rock at power station

Hosted by Kyushu University, an on-site information session regarding the International Linear Collider (ILC) Project for media organizations was held on Tuesday May 22, 2012 in conjunction with tours to the candidate site for ILC construction that is located in Sefuri mountain range.

This tour was organized parallel to the ILD Workshop 2012, the international workshop on research and development of the Physics and Detectors for ILD. OPACK was involved in the planning and implementation of this workshop. About 90 people, including researchers from both at home and aboard, officials of local municipalities, and media organizations participated.

Their first stop was the Kyushu Electric Power's Tenzan underground hydraulic power plant built 500meters underground. The attendees confirmed favorable environment as a construction site including the hardness of the rock in Sefurl area.

They also visited the Ito Campus of Kyushu University, where we were able to demonstrate the development potential of Kyushu University together with its advantages, such as proximity to Sefuri mountain and the Fukuoka Metropolitan area. Professor Kiyotomo Kawagoe, who hosted the workshop said that "Although this was the first visit to Kyushu for most of the researchers, I believe that they had good impression of this region"

OPACK will step up its efforts to strengthen ILC promotion to the Sefuri area by supporting and collaborating on initiatives that are being implemented by Kyushu University and industry-academia-government partnerships, so that we can further develop town planning as envisioned by the Kyushu University Academic City Plan.

Toray Industries, Inc, of Japan and KOLON Industries, Inc of South Korea visited Kyushu University Academic City

On Friday June 1, 2012, Hiroshi Murakami, Vice President of Toray Industries, Inc, Park Dong-Moon, Chair-person and CEO of KOLON Industries, Inc. and parties of both corporations visited Kyushu University Academic City.

During an inspection, various efforts such as the Kyushu University Academic City Plan, current status of corporations and institutions cluster in the Academic City, Fukuoka's hydrogen strategy, and roles undertaken by the Hydrogen Energy Test and Research Center for creating a hydrogen energy society, were reported along with an explanation of the center's facility

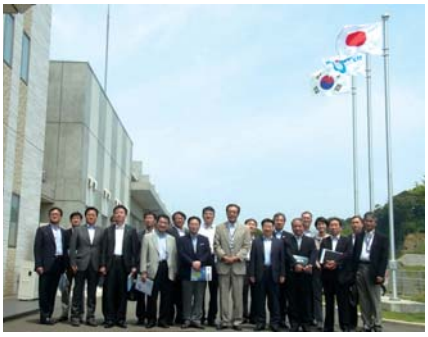


Photo: Visiting Academic City

Information

Kyushu University Academic City Seminar in Tokyo will be held

We will organize a seminar under the title of "Kyushu University Academic City, Where a Concentration of R&D Institutions is Accelerating". Topics include information on initiatives to promote advanced technologies, efforts to act as a bridge to connect research institutions with businesses as well as advantages of investment in business site in this area.

Date: Friday October,12 2012
Venue: Shinagawa prince hotel (10-30 Takanawa 4-chome, Minato-ku Tokyo, 108-8611 Japan)
Seating capacity:200

For details, please refer to enclosed leaflet.

Information about the Networking session (co-organized with the Kyushu University Public Lecture Series)

We will co-organize the session in partnership with the Public Lecture Series of the Department of Applied Chemistry that is endowed by Chemical Evaluation and Research Institute (CERI). We are looking forward to many people taking this opportunity to attend

◆October,13 (Sat)
"Organic Functional Materials" Hiroyuki Furuta (Professor of Kyushu University)
"Artificial Enzyme" Yoshio Hisaeda (Professor of Kyushu University)

◆October,20 (Sat)
"Computational Science" Kazunari Yoshizawa (Professor of Kyushu University)
"Toxicity prediction of chemical substances using Gene expression variance"
Hiroshi Matsumoto (CERI)

◆November,10 (Sat)
"Hydrogen Generator" Seiji Ogo (Professor of Kyushu University)
"Biochemical Engineering" Masahiro Goto (Professor of Kyushu University)

◆November,17 (Sat)
"Cell Materials" Tatsumi Ishihara (Professor of Kyushu University)
"Testing and evaluation methods of bio-pharmaceuticals" Hideki Miyaura (CERI)

◆December,8 (Sat)
"Bimolecular Chemistry" Satoru Kidoaki (Professor of Kyushu University)
"Imaging Materials" Shinsuke Sando (Professor of Kyushu University)

◆January,12 (Sat)
"Polymer Materials" Keiji Tanaka (Professor of Kyushu University)
"Rubber Materials" Yoshito Otake (CERI)

◆January,26 (Sat)
"Biochemical Engineering" Noriho Kamiya (Professor of Kyushu University)
"Advanced Chemical Materials" Sunao Yamada (Professor of Kyushu University)

Application
CERI Endowed Public Lecture Series Secretariat
c/o Department of Applied Chemistry, Faculty Engineering, Kyushu University
744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan
Tel: 092-802-2879
E-mail: m-nagano@cstf.kyushu-u.ac.jp

Information about companies and research institutions located in Kyushu University Academic City

This section provides Information about companies and research institutions located in Kyushu University Academic City

Ito Guest House

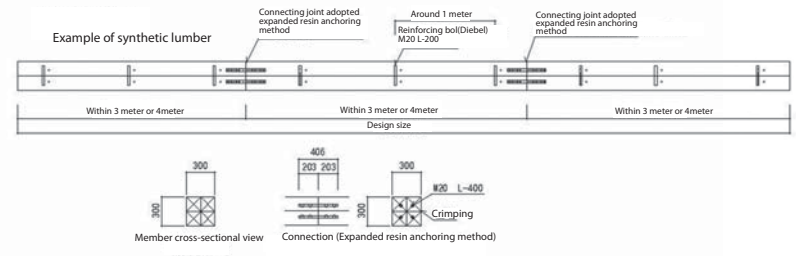
Construction of the largest all-wooden building in Fukuoka was completed near the center zone intersection at the Kyushu University Ito Campus. Although the building is surrounded by many reinforced-concrete buildings, its complicatedly constructed wooden texture is very conspicuous and even gives us nostalgic feelings. This is the "Ito Guest House", which opened on April 2012.

At present, a lot of international research is already being conducted at the campus, including hydrogen energy, nanotechnology and research in other fields. The amount of research here seems sure to increase in the future, given that this building was built to offer new accommodations for researchers who come to the Ito Campus from both, inside and outside Japan

Summary of the building

Building type	3 story wooden
Building space	859 ㎡
Floor space	Approximately 2,110 ㎡
Types of rooms	
No. of rooms	33 rooms (Single:27rooms Couple:4rooms Family:2rooms
Common use	Kitchen, Lounge, laundry room
Common facilities	Multi-purpose hall, Meeting room, Japanese-style room

The half of construction cost of this building was covered by a subsidy of the Acceleration of Forest Maintenance and Forestry Revitalization Project by Fukuoka Prefecture. Since over 60% of the timber used for this building was locally supplied, another purpose of the guest house as a public-building is to enhance consumer's recognition that is expected to boost demand, leading to wider use of local wood. This is the one of the largest three-story all-wood public buildings in Fukuoka Prefecture. It has wooden framework construction built with the connecting joint adopted expanded resin anchoring method, in which large sectional laminated lumber that is made from small pieces of wood is used as a beam, making it possible for us to reduce the construction cost and build it without protruding metal fittings. The specialty and harmonic unity of wood is beautifully represented outside and inside of the building.



Outline of building

Patio

Garden

Single room

Family room

Multi-purpose hall

Japanese-style room

Lounge

Lattice design partition

A patio with superb open space, which is located inside the guest house, delivers enough sunlight and wind into the building to create a bright and comfortable place for everyone. The garden, which faces the Japanese room and multi-purpose hall, lets visitors feel seasonal enjoyments as there is a variety of plants and flowers that changes colors through the seasons.

Aside from single type, it offers universal design type rooms and large single rooms. Family type rooms have enough space to be shared by two persons. Basically, all rooms have a wooden interior, so furniture and equipment that has been selected harmonizes with this tone.

In addition, the multi-purpose hall can be used as a place for exchange and events between residents and university' s professors and staff. Considering that there are many international visitors using the guest house, it offers a Japanese-style room that can also be used as a place to conduct tea-ceremony, where they have opportunities to experience Japanese culture.

All the furniture equipped at the entrance hall, mutli-purpose hall, Japanese-style room, lounge and other facilities are all made of trees from Fukuoka Prefecture. Most of furniture was made in Okawa City, except a meeting table and chairs. Furniture production in Okawa City has a 470 year history and the city is Japan's largest furniture production center.

We expect that international researchers who come here from both, inside and out side Japan, will feel the quality and beauty of Japanese furniture. The partition on display at the entrance hall is the work of experienced craftsmanship in Okawa, using the 300 year-old “Kumiko” woodwork technique.

Precautions

・Reservation of rooms (single and family) and common facilities (multi-purpose hall and Japanese-style) is accepted by Professors and Staff of Kyushu University as contact persons.
・Rooms (single and family) are available for researchers from abroad engaging in education and research at Kyushu University who stay more than 1 month.
・Common facilities (multi-purpose hall and Japanese-style room) are available to outside users, however, reservation must be made by Professor and Staff in Kyushu University.

◆ Contact ◆

Guest House Manager Office (GMO)
744 Motooka Nishi-ku, Fukuoka City 819-0385 TEL：092-802-2141 e-mail:itoghouse@jimu.kyushu-u.ac.jp
URL：http://www.isc.kyushu-u.ac.jp/supportcenter/housing/house-ito

Joint research project between Kyushu University and Itoshima City

Beneficial and effective use of Itoshima boar meat project

Preface

A group of young assistant professors at Kyushu University are collaborating to develop boar meat sausage. The joint project was launched after they conducted research under the title of "Efficacy evaluation of Itoshima boar meat for revitalization of rural communities", which had been granted by Itoshima-city and Kyushu University joint research projects (2011).

In recent years, the agricultural damage that the boars cause is major in farms located mountainous areas. In particular, damage caused by wild boars is said to be worth 5 billion yen in a year and reached 520 million yen in Fukuoka Prefecture as a whole in the 2007 Fiscal Year. To tackle this issue, the central government has introduced measures that provide a subsidy for protection fences, traps, and meat processing facilities. Although it is desirable not to discard the wild animal meat but to effectively use it as a new food resource, the general public has little knowledge about wild animal meat and stable demand for this meat can not be expected.

Evaluation of the boar meat quality

We conducted analysis and evaluation based on comparison between Itoshima wild boar meat and domesticated pork(white x landrace) on the following points; ①Composition of Fatty Acids ②Free amino acids ③Functional components of inedible parts

Research found that the ratio of fat in loin and ham is lower than that of pork, and the rate of polyunsaturated fatty acid is a very high component of fatty acids. In addition, components of fatty acid of boar meat are well-balanced as the ratio of fatty acid intake is very close to the desirable level for Japanese people (according to analysis of pattern similarity). Also, the ratio of free amino acid tends to be higher than in domesticated pork, especially in terms of sweetness (alanine, serine, glycine, cysteine, proline, glutamine, and threonine) while it is rich in amino groups (spartic acid, gultamic acid).

The result implied that contained turin, which has a variety of physiological functions, is very high in boar meat, and the water-holding capacity was superior to that of domesticated pork. That means, sausages made from bore meat can retain a moist texture and higher nutrition level even after cooking.

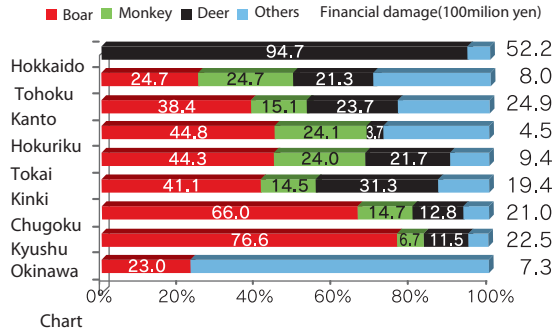


Chart
Ratio and financial damage to agricultural products by area
(Ministry of Agriculture, Forestry and Fisheries 2009)

Furthermore, when it comes to antioxidant activation functions, which inhibits evolution of an activated oxidant and remove produced oxidants, boar' s tongue and brain have the same level of antioxidant activation functions found in malabar spinach and burdock, both of which were confirmed as foods with high anti-oxidant function.

Development of boar meat sausage and tasting event

In developing boar meat sausage, we focused on its color, moisture, binding property and characteristic odor. We have painstakingly adjusted color former (sodium nitrite and others), binding materials and water amount. The research team reviewed 18 types of sausage which we had developed, and found that plain and chorizo flavors were the best as they brought out maximum taste of boar meat.

We prepared three different sausages; domesticated pork sausage, ①boar meat sausage (plain),②boar meat sausage (chorizo), and held a sausage tasting event for the general public (about 200 people). Each sausage was tested by using domesticated pork sausage as a standard. The overall assessment of taste used a scale with a highest score of 5 points and a lowest score of -5 points. Scores were: ①2.2 and ②2.5 with chorizo flavor slightly more popular than the plain one. Although 10 people gave negative appraisal for the boar meat sausages, which accounted for 15 % of the total participants, it turned out that 85% of people were in favor of boar meat sausages. Given the results of the tasting event, we are confident that generally boar meat sausages got favorable responses from participants.

We hope that our research will help the general pubic understand damage caused by wild animals in rural areas and have correct knowledge about the effectiveness of boar meat, so that we can contribute to the expansion of sales channels and demand for this meat in the market.

Photo: Sausages developed by a research group

Faculty of Agriculture, Kyushu University

Atsushi Marui,(Agro-environmental Sciences/ Leader) Wataru Mizunoya (Bioresource Sciences) Bungo Shirouchi (Food Science & Technology) Shozo Tomonaga(Biosource Science) Yutaka Nakano(Biosource Science) Kuniyoshi Shimizu (Agro-environmental Sciences),

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