



Interview

Fibro-material Exploration and Development Leads to People-friendly, Environmentally-friendly Monozukuri

International Correspondence

Relishing a Second Kyoto Winter

Feature

Thai Researchers Study Kyoto Cultural Heritage Conservation / Restoration Accomplishments

Topics

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- 60th Anniversary of National University Status at KIT

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Fibro-material Exploration and Development Leads to People-friendly, Environmentally-friendly Monozukuri

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Professor,
Chair of the Master's and Doctoral Programs of Advanced Fibro-Science
Graduate School of Science and Technology

The Advanced Fibro-Science Program, established in April 1998, was created in response to the societal demands for increased sensitivity and environmental mindfulness which are now essential in the fields of science and engineering. This new interdisciplinary field is composed of faculty from textile, engineering and electronics backgrounds. As indicated by the *Fibro-* in our program title, the central focus of our research involves fibrous materials – those of polymeric, metallic, ceramic, glass, carbon, animal, vegetable and mineral origin. In addition, we encourage the skills of scientific inquiry and planning which are applicable beyond the field of fiber, and will contribute to Monozukuri (cradle to cradle design and manufacturing) in the coming generation.

Our program is currently KIT's sole "independent" graduate program, meaning it is not preceded by an undergraduate program. This makes our curriculum unique. Students who have no previous background in fiber or textiles can study basic textile science (materials and processing). Students then specialize in: 1) composite manufacturing, 2) nano engineering, 3) kansei engineering and human interface, 4) sustainability (recycling, deterioration and longevity of textiles) or other area. The study of each specialization runs concurrent with non-textile-related practica such as internship programs in industry, planning and management of seminars and international communication sessions. Characteristic of this program, these enriching, non-textile features of our curriculum ensure that students are able to optimize their specialization.

We stress that textiles and fiber are merely subjects for research; what must be mastered in Advanced Fibro-science is the inquisitive process. Students assigned to climb a mountain must decide what approach to take. They may forge through the undergrowth and arrive at the top. Or they may construct a ropeway. If they fail, they may attempt another method. During the two years of the master's

program our graduate students are trained in "climbing plans and methods." They learn to analyze their ideas and put them into action. In the three years of the doctoral program, students develop foresight and judgment regarding which mountains are worthy of pursuit. Our graduates who advance to research positions are human resources capable of posing meaningful questions that take global impacts into consideration. Similarly, graduates who select careers in business will be adept at identifying profitable "mountains." To meet these needs, we have developed a five-year consolidated program which produces graduates who will be assets within any area of any industry. Our curriculum embodies a carefully planned, step by step process through which graduates are assured of mastering the arts of bargaining and leadership ability.

Our Japanese students' horizons and those of international students are broadened by exposure to students from such diverse regions as Nigeria, Thailand, China, Malaysia, Mongolia and Turkey. This creates an ideal environment for future work or study in similar international environments. In one of our laboratories, if we disregard mid-career students, over half the students are international. The use of English as the lingua franca of laboratory communication is more than a regulation. Students have no choice but to speak English as many international students in this department do not speak Japanese. Although differences in customs can be a source of frustration to international and Japanese students alike, the experience of overcoming communication barriers and the exposure to other cultures is invaluable.

The variety of experience provided through this 5-year course, will broaden students' views, aid them in making successful life choices and enable them to "climb the right mountains." We are confident our graduates will become human resources capable of infusing the future with people-friendly, environmentally-friendly Monozukuri.

Relishing a Second Kyoto Winter

Dai Thi Xuan Trang

2006 Alumni, Division of Applied Science for Functionality, Graduate School of Science and Technology
Lecturer, Department of Biology, College of Science, Cantho University, Vietnam

Former Japanese Government Scholarship student, Dr. Dai Thi Xuan Trang received her master's degree from the Biotechnology Research and Development Institute of Cantho University and studied at KIT from October 2002 to March of 2006 where she completed her PhD. JASSO (Japan Student Service Organization) brought Dr. Trang to KIT through the 2009 Follow-up Research Fellowship program for three months this past autumn to further her current anti-malarial research.



In high school, long before I came to Japan, I was aware Japan was a developed country where the economy had rapidly developed after WWII. We learned this was achieved through the discipline and hard work of the Japanese people. Vietnam also struggled after the war ended here in 1975. Conditions were very difficult so I worked in earnest to have a chance to study in a developed country. This is how I managed to be the first Cantho student to train at KIT.

When I first came here I felt Kyoto a very quiet place and her people, very polite. I remember the first time I had a problem with my bicycle. I was at a complete loss but an old man helped me. My tire had a flat. He told me about patches and helped me fix it. People asked me about the cold Kyoto winters. The climate difference was never a problem; I enjoy the climate here. I find it much more comfortable than Vietnam where we have a rainy and a dry season but we joke that we have three seasons: hot, hotter and hottest.



Dr. Trang conducted intensive research at Assoc. Prof. Kaeko Kamei's laboratory from October to December 2009. "Professor Kamei was my supervisor. She continues to support me in my research. This is facilitated by her trips to Vietnam once or twice every year."

At Cantho University we have many partnerships with universities all over the world. That is one way that students go abroad. Another way is . . . Our students are very active. Many students are fluent in other languages and find study abroad programs on their own. I haven't ever needed to encourage a student. It's hard to say how popular Japan is as a destination for Vietnamese students. Speaking from my personal experience, when I came to KIT there was only one other Vietnamese studying here but now there are fourteen. Research students from Cantho tend to go to Europe, where English is a second language, rather than the US. It's a challenge to contend with native speakers.

That's not to say that Japanese is easily mastered. I didn't progress much beyond basic-level Japanese during my time

here. Verbal communication isn't my strong point – even in Vietnamese. Some people have the flexibility to explain things well. A person can lack that ability, however, and still do excellent research.

During the three months I spent in the KIT lab this time, I used in-vitro screening and found a Vietnamese plant that might inhibit the growth of the malarial parasite. I isolated anti-malarial candidate compounds using HPLC (high performance liquid chromatography) to determine their structure. In Vietnam, we currently lack the equipment necessary for these experiments so the cooperation of another university is essential.

Anti-malarials have been developed from the plant *Artemisia annua* which grows in China and Vietnam. Between 1992 and 96 the number of deaths from malaria in Vietnam decreased 90% and malaria cases dropped by 40% so it is only prevalent in the mountain regions now. My home is in the Mekong Delta where malaria is not a problem. However, we need to develop new anti-malarial drugs because the malaria parasite rapidly acquires resistance to anti-malarials. Ultimately my findings should make possible the development of effective therapeutic agents from Vietnamese plants.

Over the past three months, my husband and aunt have been taking care of our son. It can be difficult for women in Vietnam to focus on their work or on furthering their studies but my husband is very understanding about my work. He encourages me to study more. Although after getting married or having a baby it's not easy to work the same long hours as men, the situation of women in Vietnamese higher education is improving.



Dr. Trang (third from left) joined an excursion with KIT students from Vietnam, and enjoyed wearing a Kimono. "I see many international students at KIT. I hope they all study hard, enjoy everything in Japan and forge good relationships with the people who are here from all over the world."

JSPS Exchange Program for East Asian Young Researchers:

Thai Researchers Study Kyoto Cultural Heritage Conservation / Restoration Accomplishments

A practical training program held at KIT over a four week period in August and September of 2009 welcomed three young researchers and seven graduates from Chulalongkorn University, King Mongkut's University of Technology Thonburi and Kasetsart University in Thailand. This program was supported by the JSPS Exchange Program for East Asian Young Researchers and enabled participants to study the current state of cultural and architectural preservation in Japan. Participants observed cultural landscapes, conditions at world heritage sites, aspects of town development, conservation of cityscapes, *machiya* (traditional wooden townhouses) conservation, and methods for insuring that these structures remain a vital and integral part of residents' lives. The Thai researchers accompanied KIT students and faculty to various towns, sites of architectural interest, and areas undergoing renovation in Kyoto and nearby areas. One of these areas was Ine town in the Tango region. Several days were spent observing sites in traditional and corporately-dominated towns around the Setouchi (Inland Sea) area. On-site observation included traditional craft studios in Kyoto such as a roof tile factory and a center for applied arts where antique restoration was underway. Researchers took advantage of this training program to discover methods for preserving both tangible and intangible cultural properties and learn how they remain important to their communities today. KIT students and faculty also took part in the presentations and workshops and enjoyed this excellent opportunity for academic and cultural exchange.

Here are comments from participants who expressed sincere gratitude for the opportunity to participate in this program, for the efforts of the professors and experts in various fields, and for lasting impressions of Kyoto and friendships made here.



In preparation for practical, hands-on training in Japan, our professors conducted lectures in Bangkok on Japanese wooden structures and architectural history, touching on current issues and challenges.



The careful, systematic process for passing tangible and intangible Japanese cultural property to subsequent generations seems characteristic of Japanese culture.

Mr. Bordin Jotinandana



Over 26 days, instructors presented us with a concise story of Japanese architecture. We learned of details from roof nailing to the underground technology of copper mines.

Dr. Chanen Munkong



Cultural conservation could attempt to freeze time. This is definitely not the case in Japan. Urban planning to craft, Kyoto is the place to experience cultural layers.

Ms. Hansa Srilertchaipanij



Seeing other cities highlighted Kyoto's identity. In Thailand, I will apply preservation and development knowledge I learned in Kyoto, where people of all ages are a priority.

Ms. Issariya Mongkolphitthayathorn

Specialists spoke to us of architectural sites and demonstrated applied craft. Participating in tea ceremony and visiting a Machiya house were especially memorable.

Ms. Monsinee Attavanich

Greater time flexibility and ongoing cooperative research between Japanese and Thai students, would further enhance an otherwise fulfilling academic experience.

Ms. Preeyachanan Saisakares

Kyoto has successfully maintained a historical presence in the modern world and is living proof that traditional lifestyles can merge with the modern world.

Ms. Sirinda Tanettakool

Training Program Schedule

Aug. 25th	visit Chion-in temple and Kiyomizu-dera temple and on-site restoration projects
Aug. 26th	visit Nara National Research Institute for Cultural Properties, Todai-ji temple, and Heijyo-kyo site of the 8th century national capital
Aug. 27th	attend lecture on <i>shohekiga</i> , pictures on folding screens and sliding doors visit Bokusen-do, a <i>shohekiga</i> restoration studio
Aug. 28th	visit a restored <i>machiya</i> town house and one currently under restoration
Aug. 31st	visit the former site of Kodokan, a <i>sukiya</i> -style traditional wooden residence, experience <i>chado</i> , Japanese tea ceremony, and survey the building
Sep. 1st	visit "Craft Concierge Kyoto, Expo 2009" in KIT Museum and Archives visit alley revitalization sites, Karahori and Hozenji, in Osaka
Sep. 2nd	visit artisan studios; observe production of clay walls and roof tiles in Kyoto
Sep. 3rd	visit artisan studio; observe metal ornament production
Sep. 4th	tour the dyed-textile and <i>urushi</i> (lacquerware) collections in KIT Museum and Archives visit Shimogamo-jinja shrine
Sep. 5th	attend traditional Japanese Puppet Show
Sep. 7th	visit Valuable Cultural Asset designated Reizei-ke, Kyoto's only remaining residence of an aristocrat
Sep. 8th-9th	travel to northern Kyoto and neighboring prefectures: Obama, Ine, Izushi and surrounding areas
Sep. 10th-13th	travel to western Japan visit townscapes and architecture in Hiroshima, Itsukushima-jinja shrine, Tomonoura, Onomichi, old Besshi-dozan (copper mine), Kurashiki, and other locations
Sep. 15th	visit Konnichi-an, Tea House attend a lecture on landscape regulation in Kyoto city
Sep. 16th	present summaries of research in Japan and its relevance to projects in Thailand

I was entranced by wonderful cultural heritage sites. As a conservationist, I hope to apply this experience to progressive cultural heritage preservation in Thailand.

Mr. Treechart Loakaewnoo

We gained insights on conservation challenges from successful and controversial case studies, had exclusive access to preservation sites and learned through experience.

Dr. Saithiwa Ramasoot

Thai researchers strove to absorb everything. In their final presentations, they summarized it and conveyed its relevance to Thailand. I hope the success of this effective and well-organized program is the forerunner to an increased level of international academic exchange.

Dr. Terdsak Tachakitkachorn



Asia and Africa Science Platform Program on Neo-Fiber Technology: Final Seminar

The final seminar of the JSPS funded, three year Asia and Africa Science Platform Program "Establishment of Collaboration Research for 'Neo-Fiber Technology' in Asia and Africa" was held at KIT from December 1st through 4th. Researchers from the six universities who collaborated with KIT on this program, were invited to present the results of their research. This was followed by a panel discussion which summed up the past five seminars and collaborative research. At the conclusion of the seminar, all collaborating university representatives signed a declaration stating their willingness to continue to promote the networks and platforms established through this program and be core centers for future collaborative research.

Universities participating in the program:

Japan: Kyoto Institute of Technology / Republic of Korea: Yeungnam University / People's Republic of China: Donghua University, Zhejiang Sci-Tech University, Hong Kong Polytechnic University / Socialist Republic of Vietnam: Hanoi University of Technology / Arab Republic of Egypt: Helwan University



パネルディスカッションの様子

Panel discussion

Experiencing Japanese Culture: Kimono, Tea Ceremony and Calligraphy

Biweekly tea ceremony lessons began at Marikoji Kaikan in 2008. Many international students take part in these and host tea ceremony events, in the spring and for Tanabata Star Festival in July, which are open to the community. Now, calligraphy instruction by grand master Hiroaki Tokunaga is available weekly at the Matsugasaki campus. Students are showing rapid improvement under his direction.

In November, more than 40 international students participated in the Kyoto Autumn Excursion. Each student selected a kimono, obi and accessories, was professionally dressed and had his/her hair arranged. In full kimono attire, they strolled around the Kiyomizu Temple area where their colorful procession attracted the attention of many leaf-viewing tourists.

In a February Setsubun festival, students threw beans to chase away evil and welcome good. Noticing puzzled looks on the faces of students who were to eat their sushi rolls unsliced, we explained it was for good luck.

It was a pleasure to see the students, who are often so intently focused on their research, relaxing into these activities. Encouraged by the big turn out and positive response, KIT intends to organize and host more events of this kind.



紅葉をバックに清水の舞台に立つ着物姿の留学生たち

Kimono-clad students stand on the main stage of Kiyomizu Temple

60th Anniversary of National University Status at KIT

In 2009, many events were held to commemorate the 60th year since KIT became a national university. In conjunction with these events, representatives from our International Exchange Center visited several countries in Asia where they conducted international seminars and presented plaques to chairs of KIT International Academic Exchange Club Key Stations. They also participated in JASSO Japan Education Fairs and visited our partner universities to discuss global internship programs, student exchange programs and other future collaboration.



上海で開催された国際セミナーで一堂に会した元留学生たち

KIT alumni/alumnae assembled at the international seminar in Shanghai, China



多くの学生で賑わうベトナムでの留学フェアのKITブース

KIT booth visited by many students at the Japan Education Fair, Vietnam



バンコク連絡事務所でのプレート贈呈式

Bangkok Key Station plaque presentation ceremony



Feedback Welcome

Thank you for reading the KIT International Journal. Please send comments, questions and/or suggestions to:
e-mail: ab7129a@jim.kit.ac.jp

表紙写真 Cover photos

「花」:アレクサンドラ・クルスティックさん

マケドニアからの留学生 博士前期課程造形工学専攻在籍
「日本に来たばかりの頃は、どこへ行くにもカメラを持ち歩いて、どんなものでも撮っていました。これは円山公園で撮ったつじです。」

Flower: Ms. Aleksandra Krstik from Macedonia Master's student of Architecture and Design

"When I first came to Japan, I took my camera wherever I went and photographed whatever I saw. This photo is of an azalea at Maruyama Park."



「木々」:ダルヨシ・ハズイクさん

アフガニスタンからの留学生 工学部造形工学課程在籍
「僕の出身のアフガニスタン北部は山々の自然がとても美しいところなんです。今は建築の勉強をしているので、日本の建物の写真をよく撮りますよ。」

Trees: Mr. Daryoosh Haziq from Afghanistan

Undergraduate student of Architecture and Design
"My home in northern Afghanistan is a place with beautiful mountainous scenery. Now, as I am studying architecture, I often take pictures of Japanese architecture."