

JSPS Quarterly

Japan Society for the Promotion of Science



FEATURE: JSPS Prize

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Summer

On 3 March, a ceremony was held to award the fourth JSPS Prize. Selected were 23 talented young researchers with excellent records of scientific inquiry and exceptional promise to be trailblazers of scientific research in Japan. The ceremony for the FY2007 Prize was held at the Japan Academy in the presence of Their Imperial Highnesses Prince and Princess Akishino.

Selection of JSPS Prize Awardees

JSPS sent out requests for Prize nominees to 3,121 Japanese research institutions and academic societies, from which it received 257 nominations in June. Adding the carryover nominees from the prior year, 415 researchers were screened by the staff of JSPS's

Research Center for Science Systems, directed by Dr. Yoji Totsuka, special university professor emeritus, the University of Tokyo. Based on the results, the JSPS Prize Selection Committee, chaired by Dr. Leo Esaki (chairman of the Science and Technology Promotion Foundation of Ibaraki and president of Yokohama College of Pharmacy) and comprising 13 members, made the final decision on the 23 awardees.

Award Ceremony

The ceremony for awarding the JSPS Prize was held in conjunction with the awarding of the Japan Academy Medal. At the ceremony on 3 March, JSPS president Prof. Motoyuki Ono offered an opening message, followed by a re-

port on the selection process from Dr. Esaki. Prof. Ono presented the 23 recipients with a certificate of merit, a medal and a purse of ¥1.1 million.

A ceremony was, then, held to confer the Japan Academy Medal on five of the JSPS Prize recipients. First, Japan Academy president Prof. Masaaki Kubo delivered welcoming remarks, after which Dr. Takashi Negishi, chairman of the Academy's selection committee, explained the vetting process. Then, Prof. Kubo presented the medal and a commemorative gift to each of the awardees.

Prince Akishino offered remarks, followed by Mr. Masami Zeniya, Vice Minister of Education, Culture, Sports, Science and Technology, who read a congratulatory message from the minister. To conclude the meeting, a message of appreciation on behalf of the Prize recipients was delivered by Dr. Taikan Oki, professor, Institute of Industrial Science, the University of Tokyo.

After the ceremony, a celebration party was held. Attended by Prince and Princess Akishino, the Prize recipients, their guests, and the ceremony attendees, an atmosphere conducive to pleasant conversation was enjoyed by all.



JSPS Prize

The JSPS Prize was established in FY 2004 with an objective of helping to raise the level of scientific research in Japan to the world's highest standard. It does this by recognizing at an early stage in their careers young researchers rich in both talent and creativity. The Prize is meant to encourage the young recipients in advancing their work.

The Prize is awarded to Japanese researchers and to overseas researchers who have conducted research at a Japanese research institution for five years or longer. They must have published papers or articles in scientific journals and other publications in Japan and/or abroad, and obtained excellent scientific research achievements. As of 1 April of the Prize year, they must be (1) under 45 years of age and (2) have obtained a doctorate degree (or possess an equivalent level of scientific research expertise).

Message by Dr. Leo Esaki, Chair, JSPS Prize Selection Committee

As a representative of the JSPS Prize Selection Committee, I am very pleased to offer a few remarks at this fourth award ceremony for the JSPS Prize.

In April 2007, JSPS sent out a call for Prize nominations to universities, research institutes and academic societies. Program officers of JSPS's

Research Center for Science Systems conducted a preliminary screening of the applications received over an approximately 5-month period starting from June. Based on those results, the Prize Committee, comprising 13 members including myself, met on 31 October to select the awardees. Given the many truly outstanding candidates, it was only through a vigorous

discussion and rigorous vetting process that we were able to finally choose this year's 23 Prize recipients.

I am delighted to take this opportunity to congratulate this year's awardees and all those who have supported them in their outstanding work.

Let's take a moment to consider what

the requisites are for becoming a fully qualified scientific researcher. They are more than just being able to solve given problems. What's more important is acquiring a depth of scientific knowledge that enables one to expand the envelopes of science. This means that one must first possess an inquiring scientific mind, from which well-spring s/he can identify and solve new problems by capturing the essence at

their core. Having such an inner mind for science is what I believe to be the quintessential requisite of a true scientific investigator. Borrowing from Latin, the word *cogito* connotes the beginning of self-inquiry—a mind for deep rational thought. The expression *cogito ergo sum* is well known in its English translation as “I think therefore I am.” Coined by René Descartes, it bespeaks the starting point of one's

evolution as a cognitive being.

To this year's youthful awardees, I encourage you to continue cultivating your innermost mind for science, while building upon the superb research cornerstones you've already laid. I look forward with great anticipation to the outstanding contributions that each of you will go on to make to both science and global society.

FY2007 JSPS Prize Awardees

Humanities and Social Sciences		
Kazuo Aoyama	Professor, The College of Humanities, Ibaraki University	“Study on Classic Maya Domestic Lives and Political and Economic Organization”
Yoshihiro Ishikawa	Associate Professor, Institute for Research in Humanities, Kyoto University	“History of the Chinese Communist Party, and the Modern Sino-Japanese Cultural Interactions”
Akihiro Iwashita	Professor, Slavic Research Center, Hokkaido University	“Russian Foreign Policy and Sino-Russian Relations”
Ritsuko Kikusawa	Associate Professor, National Museum of Ethnology, National Institutes for the Humanities	“Diachronic Studies of Austronesian Languages and Cultures”
Daichi Nozaki	Associate Professor, Graduate School of Education, The University of Tokyo	“Neural Mechanism of Motor Control and Learning in Human Movement”
Mathematics; Physical Sciences; Chemistry; Engineering Sciences		
Hisao Ishibuchi	Professor, Graduate School of Engineering, Osaka Prefecture University	“Pioneering Research for the Advancement of Computational Intelligence”
Shin-ichi Ohkoshi	Professor, Graduate School of Science, The University of Tokyo	“Design and Demonstration of New Magnetic Properties Based on Magneto Chemistry”
Tomotada Ohtsuki	Associate Professor, Research Institute for Mathematical Sciences, Kyoto University	“Invariants of Knots and 3-Dimensional Manifolds”
Satoshi Okabe	Associate Professor, Graduate School of Engineering, Hokkaido University	“Analysis of Complex Microbial Community Structure and Function in Multispecies Biofilms”
Taikan Oki	Professor, Institute of Industrial Science, The University of Tokyo	“Predicting the Variations of Global Hydrological Cycles and the Balance of World Water Resources”
Masaki Oshikawa	Professor, The Institute for Solid State Physics, The University of Tokyo	“New Insight on Magnetic and Transport Properties in Quantum Many-Body Systems”
Hitoshi Tabata	Professor, Graduate School of Engineering, The University of Tokyo	“Studies on Fusion Electronics of Nano-Bio and Oxide Artificial Superlattices”
Takayuki Nishizaka	Associate Professor, Faculty of Science, Gakushuin University	“Single-Molecule Studies of Structure-Function Coupling in Protein Machines”
Masashi Hazumi	Professor, Institute of Particle and Nuclear Studies, High Energy Accelerator Research Organization	“Discovery of CP Violation in B Mesons”
Makoto Matsumoto	Professor, Graduate School of Science, Hiroshima University	“Development of Practically Ideal Random Number Generator”
Biological Sciences; Agricultural Sciences; Medical, Dental, Pharmaceutical Sciences		
Motoyuki Ashikari	Professor, Bioscience and Biotechnology Center, Nagoya University	“Identification of the Gene Regulates for Grain Production and Application of the Gene for Crop Breeding”
Hirokazu Tsukaya	Professor, Graduate School of Science, The University of Tokyo	“Studies on Mechanisms of Leaf Morphogenesis”
Kazuto Nakada	Associate Professor, Graduate School of Life and Environmental Sciences, University of Tsukuba	“Elucidation of the Pathogenic Mechanisms in Mitochondrial DNA-Based Diseases”
Yasunori Hayashi	Unit Leader, RIKEN Brain Science Institute Assistant Professor, RIKEN-MIT Neuroscience Research Center, The Picower Institute for Learning and Memory, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology	“Molecular Mechanisms of Hippocampal Synaptic Plasticity”
Atsushi Hirao	Professor, Cancer Research Institute, Kanazawa University	“Molecular Mechanisms for Maintenance of Hematopoietic Stem Cell Pool”
Takema Fukatsu	Group Leader, Institute for Biological Resources and Functions, National Institute of Advanced Industrial Science and Technology	“Studies on Insect-Microbe Symbiotic Systems”
Toru Fujiwara	Associate Professor, Biotechnology Research Center, The University of Tokyo	“Discovery of Boron Transporters from Plants”
Noboru Mizushima	Professor, Graduate School and Faculty of Medicine, Tokyo Medical and Dental University	“Studies on the Molecular Mechanism of Autophagy and Its Implications for Protein Metabolism”

Titles and affiliations current as of 1 January 2008

Young Researchers at Vanguard of Science in Japan

Awardees Speak about Their Work and Aspirations

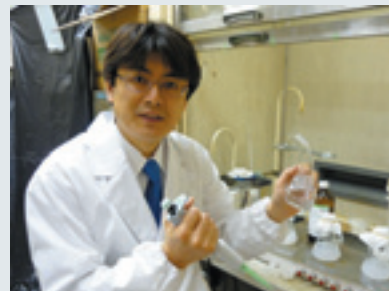
Mathematics; Physical Sciences; Chemistry; Engineering Sciences

Design and Demonstration of New Magnetic Properties Based on Magneto Chemistry

In a metal complex, it is possible to control the crystal structure, dimensionality, physical properties, and other components. Applying this knowledge, our research team chemically synthesized a uniquely structured ferromagnetic metal complex that displays novel magnetic properties not observed in conventional magnetic materials. Using it, we have succeeded in preparing temperature-induced double magnetic pole inversion materials, photo-induced magnetization materials, photo-induced magnetic pole inversion materials, and humidity- or alcoholic vapor-sensitive magnets, among other things. We have also succeeded in preparing a nano-sized iron oxide, ϵ -Fe₂O₃, which exhibits a large magnetic coercive field of 20 kOe at room temperature. In metal oxide-based mag-

nets, this coercive field value is the largest magnet force observed in the world today.

At the present stage, we are using nano-sized iron oxide (ϵ -Fe₂O₃) to advance our research on electromagnetic wave absorbent materials for application to millimeter-wave communication, which will propel the next-generation of high-speed communication. We are carrying forward our research with the dream of applying chemical magnetic materials in ways that contribute to developing the IT industry and solving environmental problems.



Dr. Shin-ichi Ohkoshi

2006-present: Professor, Graduate School of Science, The University of Tokyo

2004: Associate Professor, Graduate School of Engineering, The University of Tokyo

2003: Associate Professor, Research Center for Advanced Science and Technology, The University of Tokyo

1995: Received Ph.D. from Tohoku University

1989: Graduated from Sophia University

Global Hydrology in the Anthropocene

It was a great honor for me to be awarded the JSPS Prize in March 2008. The title of my research evaluated for the Prize was "Predicting the Variations of Global Hydrological Cycles and the Balance of World Water Resources." I suppose my pioneering studies on the estimation of global water balances and variations using an atmospheric water balance method with in-situ observation and four dimensional data assimilation datasets were highly appraised by the JSPS Prize Committee.

Even though UNESCO defined hydrology, my research field, as being a "science which deals with the waters on the earth including their responses to human activity" all the way back in 1964, my research had dealt with only natural hydrological systems. In the "Anthropocene" (a term coined by Paul Crutzen in 2000 to describe the present period of the Earth's history when humans are exerting an impact on global climate and ecosystems), water cycles are very much influenced by anthropogenic activities; natural water cycles without human influence are a mere figment of scientific purism,

not really existing even on a global scale. When I realized this, I started to collect information on human interventions in water cycles, to model anthropogenic activities, and to assess the balance between supply and demand in water resources. I feel very fortunate that such research has become a basis for future water resource assessments in which consideration is given to both climate changes and socio-economic developments, while this topic has coincidentally become vogue within society. I suspect that my previous research focused only on the natural component of water cycles would have had no chance to win the JSPS Prize.

I am very much encouraged by the Prize, and would like to continue developing an integrated water resource model system incorporating various natural and anthropogenic processes and earth observation systems. I believe that advancing such research is both scientifically significant and socially relevant in that it offers solid prospects for solving world water issues by enabling better water management.



Dr. Taikan Oki

2006-present: Professor, Institute of Industrial Science, The University of Tokyo

2003: Associate Professor, Institute of Industrial Science, The University of Tokyo

2002: Associate Professor, Research Institute for Humanity and Nature

1997: Associate Professor, Institute of Industrial Science, The University of Tokyo

1995: JSPS Postdoctoral Fellow for Research Abroad

1993: Received Ph.D. from The University of Tokyo

1987: Graduated from The University of Tokyo

Molecular Mechanisms of Learning and Memory

How is a memory formed in the brain? This has been a long-standing question but only recently have various methodologies allowed us to investigate it in molecular detail. The principal focus of my research is the hippocampus, a small, curvy structure embedded deep in the cerebrum. Although small in size, it plays a critical role in memory formation. At the cellular level, a phenomenon called "synaptic plasticity" is observed there. Neurons communicate with each other through a structure called the synapse. There, neurotransmitters are released from the presynaptic terminal into the synaptic cleft, ultimately reaching postsynaptic receptors. When a presynaptic terminal is stimulated intensely (mimicking a situation when a subject tries to remember something), synaptic transmission is enhanced and lasts for hours and days. Since this phenomenon, called long-term potentiation (LTP), was first described about three decades ago, it has been proposed as

a potential cellular correlate of learning and memory.

I am investigating the mechanisms underlying LTP by combining different technologies. In this vein, we are constructing recombinant neuronal proteins and expressing them in neurons using molecular biological techniques. These neurons are monitored electrophysiologically or with state-of-art two-photon microscopy. As a result, we have found LTP to be mediated by dynamic remodeling of synaptic proteins that mediate transmission. An increase in synaptic proteins, including AMPA receptors that mediate synaptic transmission, is observed after LTP induction. This is accompanied by an enlargement of the synaptic structure.

My ultimate goal is to understand the molecular mechanisms that underlie our everyday memory.



Dr. Yasunori Hayashi

- 2004-present: Unit Leader, RIKEN Brain Science Institute
- 2000-present: Assistant Professor, RIKEN-MIT Neuroscience Research Center, The Picower Institute for Learning and Memory, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology
- 2000: Senior Scientist, Neuronal Circuit Mechanisms Research Group, RIKEN Brain Science Institute
- 1996: JSPS Postdoctoral Fellow for Research Abroad, Cold Spring Harbor Laboratory
- 1994: JSPS Postdoctoral Research Fellow, The University of Tokyo
- 1994: Received Ph.D. from Kyoto University
- 1990: Graduated from Kyoto University

Discovery of Boron Transporter from Plants and Beyond

I don't know anybody who does not like flowers. Plants make us smile and our life better by producing foods, materials, medicines, and so on. They can do so as they grow on soils. Plants are capable of taking up essential mineral nutrients from soils, unlike animals including humans. This ability of plants acquired through evolution is the foundation of crop production and environmental conservation.

Seventeen elements are known to be essential for plant growth. Most of them are selectively taken up from the soil through transporters, a protein embedded in a membrane to selectively transport substances from one of its sides to the other. This process is very well regulated. Plants activate and/or repress transport capacity depending on the nutrient availability in the soil. With this ability, they can grow in various soils with different nutrient contents. That is, plants sense the nutrient conditions in their environment, just like we feel hungry when our body demands energy. Plants have sophisticated mechanisms to regulate nutrient uptake and usage.

Among the essential elements of plants, boron and molybdenum were the last elements for which transporters have been identified. This milestone was accomplished by our research team; we identified these transporters using abnormal plants that are incapable of efficiently transporting boron or molybdenum. The boron transporter we identified was the first one to be identified in biological systems, and the molybdenum transporter was the first one in eukaryotes. Based on our findings, others have identified boron transporters in humans.

Having gained some grasp of these transporters, we succeeded in improving plant capacity to take up boron from the soil. We also succeeded in generating plants that can tolerate toxic levels of boron in the soil. Such plants can be grown without boron fertilizers or on soils abandoned due to high boron contamination. We believe that our findings will contribute to the reduction of fertilizer (and energy) use and the enhancement of crop production in the future.



Dr. Toru Fujiwara

- 2003-present: Associate Professor, Biotechnology Research Center, The University of Tokyo
- 1992: Research Associate, Faculty of Agriculture, The University of Tokyo
- 1992: Received Ph.D. from The University of Tokyo
- 1987: Graduated from The University of Tokyo

Transporters are an important component of the interface between organisms and their environment. I believe that transporter studies will yield a range of important outputs, not only in plants but also in various other organisms too.

Humanities and Social Sciences

Socioeconomic and Political Implications of Studies on Maya Lithic Artifacts

Since 1986, I have conducted analyses on 123,242 lithic artifacts from the Copán region of Honduras and the Aguateca region of Guatemala, aimed at elucidating socioeconomic and political aspects of Classic Maya civilization (AD 250-1000). Based on an intensive experimental study on use-wear of obsidian and chert artifacts, I also analyzed the microwear of 7,049 stone artifacts using high-power microscopy to study stone tool use. The primary unit of analysis of Maya lithic artifacts, and of Maya archaeology in general, is still the individual site. In contrast, I argue that a more regional approach is needed in investigating the role of cities in regional settlement systems and the function of socioeconomic and political organizations.

The results of my analyses indicate that the royal court of the Copán dynasty had at least one managerial function, exercised in the procurement and allocation of obsidian cores, an important element of ancient

Copán utilitarian assemblages (clusters of tools, kitchenware and/or other utilitarian items found at a datable archaeological site). Managing the procurement and exchange of such utilitarian commodities played, along with other factors, a significant role in the development and maintenance of the Copán state.

Turning to Aguateca, I found that artifact assemblages from burned palaces and other structures in the ancient city's vicinity to constitute the closest parallel in the Maya lowlands to Pompeii in Italy. The results of my study suggest that elite women in Classic Maya society may have played a more important role in artistic creation and craft production than previously thought. Artistic creation by noble men and women is, along with the garnering of ideological, religious and esoteric production knowledge, seen to be an important tactic used in establishing their exclusive status and elite identity within Aguateca society. Clearly, the Classic



Dr. Kazuo Aoyama

2006-present: Professor, The College of Humanities, Ibaraki University

1997: Associate Professor, The College of Humanities, Ibaraki University

1996: Received Ph.D. from University of Pittsburgh

1985: Graduated from Tohoku University

Maya city of Aguateca was, like Copán, an important production center of both utilitarian and luxury goods.

JSPS Alumni Association Launched in Egypt

On 10 April, a ceremony was held at Cairo University to inaugurate the newly established JSPS Alumni Association in Egypt. It was founded mainly by Egyptian researchers who had experienced collaborative research in Japan as fellows under JSPS's Postdoctoral Fellowships for Foreign Researchers. Core members among them worked together with the staff of JSPS's Cairo Research Station in setting up the new alumni association.

Egypt ranks among the 10 top countries in the number of researchers invited to Japan under JSPS's postdoctoral fellowship program. Year by year, the number of returning fellows continuing their research at universities and other Egyptian institutions has been increasing.

Last June, the alumni association obtained formal recognition by the Egyptian government as a legally chartered NGO. Thereafter, new members were recruited and an inaugural symposium was held as one of the centerpiece events celebrating the Japan-Egypt Year of Science and Technology 2008. The alumni association's inauguration ceremony, which included within its program the symposium, was attended by some 100 people starting with the alumni members and faculty and students from Cairo University. The symposium featured presentations by Egyptian researchers who had experienced life and research in Japan as JSPS postdoctoral fellows.

At these linked events, messages were delivered by Prof. Dr. Ali Nigm, dean,



Faculty of Agriculture, Cairo University; Mr. Kaoru Ishikawa, Japanese Ambassador to Egypt; and JSPS executive director Mr. Naoki Murata.

The new JSPS Alumni Association in Egypt is expected to build close working networks between its members and other Egyptian researchers and their colleagues in Japan, while advancing wide and long-enduring exchange between the two countries' academic communities.

— Overseas Fellowship Division

By Dr. Yuji Oishi, JSPS Cairo Research Station



“Japanese?” A young soldier curiously gazed at me and asked in Arabic from a sandbagged post at a bridgehead on the Nile River when I looked down stream. At that time—35 years ago—East Asians’ presence in the Arab world was very rare even in Egypt, the leading country in the Arab-Islamic world.

As for Cairo and the Nile, my memory goes back to 1973 when the fourth Middle East War broke out. As a young war correspondent for a Tokyo-based Japanese language weekly, I rushed for Beirut, the capital of neutral Lebanon, to cover the hostilities and ensuing ceasefire between the three belligerent countries—Egypt, Syria and Israel.

When civil airlines resumed flights, I went to Cairo to cover the aftermath of the war. Israeli troops had crossed the

Suez Canal and threatened the Egyptian capital. But, they halted at a point only about 100 kilometers from Cairo as the UN-ordered ceasefire came into effect.

The city of Cairo had sunken into deep darkness when I arrived there at night. All the shops had switched off the lights in their show-windows and flats had drawn their curtains tightly. In the streets, taxis drove slowly with their headlamps painted blue so as to avoid an imagined air raid from the Israelis.

The next day, I strolled about the central Cairo in broad daylight to see the situation with my own eyes. Although soldiers and armed policemen guarded various strategic points, avenues and squares were bustling. I found people’s lives to be going on as usual.

Since then, time has passed by as water flows under bridges of the Nile. I became a journalist-turned-professor of international relations, researching and lecturing on Middle Eastern affairs. I had never dreamt of assuming the post as director of JSPS’s Research Station in Cairo.

Comparing Cairo to what it was 35 years ago, people now enjoy the dividends of peace. The whole city, once in total blackout, now glitters as restaurant boats decoratively illuminated cruise the Nile. Young Egyptians are no longer drafted onto the battlefield. However, talented young generations are now expected to fight a good fight on another front—that of academic endeavor in a campaign of nation building.

At a tea party held after the inauguration ceremony for the JSPS Alumni Association in Egypt on 10 April, a troop of young students clustered around me. As would-be successors of Egyptian scientists who had lived and done research in Japan, they asked me a volley of questions. “What’s the state of biotechnology in Japan?” “How does one obtain a scholarship to a Japanese university?” I was overwhelmed by their eagerness to pursue academic studies in Japan. However, when it came to questions about getting a JSPS fellowship, as they were still undergraduates, I regretfully had to advise them: “First, work hard and earn your doctoral degree and then, by all means, apply for one.”

By Dr. Hirotaka Sugawara, JSPS Washington Office



Four days ago (on 12 May), I arrived in Washington DC and already I am finding the job of office director both exciting and challenging. It is exciting because we are given the very important task of promoting scientific activities by exchanging people between two countries that are quite different yet both similar in many ways. The office also organizes joint seminars, workshops and symposia to expose researchers in both countries to new ideas and different views, as is essential to spawning creative activities.

The job is also challenging because it is not as easy as it may seem. To elaborate, I would like to promote not just the international aspect of scientific activities, but also their growing interdisciplinarity. Such interfacing has been an essential part of much scientific research over many decades; however, ways of doing so may vary by country. Japanese and US scientists can learn from each other about how interdisciplinary research is being conducted on various topics.

More and more physicists and biologists are working together, especially in the United States. I believe this to be a sound if not an indispensable approach for 21st century biology. Focusing on it, we have chosen “Interactions of Physics and Biology” as the subject of this year’s JSPS Science Forum, to which we have invited the participation of prominent scientists from both countries.

Environmental studies require more than separate physical, chemical or biological investigations, but they must merge knowledge gained from multiple fields in a cohesive way. Understanding social aspects of environment change is also essential. This requires collaboration between natural and social scientists in an unprecedented manner.

Understanding human conflict also requires a vast knowledge of both the natural and social sciences. Political theorists have explored this topic over centuries, but we are now at a new stage when historical, ethnological, sociological, and even biological knowledge must be combined to reach a deeper understanding of conflicts and their mediation. Washington is an ideal place for people to get together and seed such activities.

First HOPE Meeting Held as New Step to Building Asian S&T Community

On 24-28 February, the first HOPE Meeting was held at the Tsukuba International Congress Center in Ibaraki Prefecture, Japan.

HOPE Meetings are organized as a component of the Strategic Program for Building an Asian Science and Technology Community, launched by JSPS in FY 2006. Their objective is to foster the young researchers who will shoulder the future of S&T advancement in the Asia-Pacific region and to build long-lasting networks among them. Held under the theme "Nanoscience and Nanotechnology," this first HOPE Meeting was chaired by Dr. Leo Esaki (president of the Science Academy of Tsukuba) and attended by 81 post-graduate, mainly doctoral, students, who were specially selected by JSPS's partner agencies in the region. The young participants were divided into ten small multinational groups. They received lectures from distinguished authorities, including five Nobel laureates, and engaged in seminar-format discussions. Representatives of each student group also delivered their own presentations. Across the spectrum of these activities, the students were able to garner a deeper mutual understanding of the topic fields through direct exposure to the lecturers' profound research philosophies and cutting-edge scientific insights.

On the day of their arrival, the participants attended a welcome reception, where they met and got together for the first time with their colleagues hailing from Japan, Australia, China, India, Indonesia, Korea, Malaysia, New Zealand, the Philippines, Singapore, Taiwan, Thailand and Vietnam. At the reception, the participants were seated together with the members of their respective groups, who would interact together over the course of the 3-day meeting.

The opening ceremony on the first day was led off by welcoming remarks from JSPS president Prof. Motoyuki Ono and MEXT deputy minister Mr. Hideo Tamai, followed by a message from Dr. Esaki (1973 Nobel Laureate in Physics). He admonished the young participants to go beyond the mere application of existing knowledge and to cultivate a sharp scientific mind steeped in ra-



JSPS president Prof. Ono



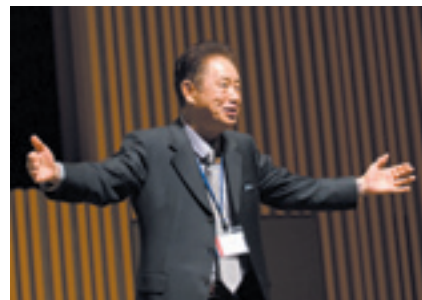
Nobel laureates and other distinguished speakers

tional thought so as to become the kind of scientists who can contribute significantly to advancing research in both the regional and global communities.

The opening ceremony was followed by the first lecture session. In his keynote address, Dr. Esaki spoke about the concept of artificial superlattices, jointly proposed with his colleague Dr. Raphael Tsu, and subsequent advances in that field, after which Dr. Heinrich Rohrer, former fellow, IBM's Zurich Research Laboratory (1986 Nobel Laureate in Physics) delivered a lecture on the contributions that nanotechnology can make to solving issues facing society. In the afternoon session, Dr. Hideki Shirakawa, professor emeritus, University of Tsukuba (2000 Nobel Laureate in Chemistry) spoke about serendipity in research, drawing upon an episode in his discovery of polyacetylene film, and Dr. Sumio Iijima, professor, Meijo University, told about the series of events leading to the discovery of carbon nanotubes using electron microscopy to characterize atomic structures.

After these sessions, the lecturers joined the student groups to hold discussions with their members. In these seminar-type meetings, the students were able to exchange views face-to-face with the Nobel laureates and other leading scientists, thus gaining valuable knowledge and experience beyond that which could be obtained by just listening to the lectures.

That evening, a formal reception was held. Opening remarks were delivered by Mr. Kenichi Ichihara, mayor of Tsukuba city; Mr. Stefan Noreén, Ambassador, Embassy of Sweden; and Dr. Yoichi Iwasaki, president, University of Tsukuba. Then, Dr. Yoshiyuki Sankai, professor, University of Tsukuba,



Dr. Esaki giving lecture

demonstrated the robot suit HAL to a riveted audience.

The second day of the meeting featured lectures by six leading authorities. First, Dr. Alan Heeger, professor, University of California, Santa Barbara (2000 Nobel Laureate in Chemistry) described how the dream of developing low-cost plastic solar cells is becoming a reality using self-assembled nano-materials, followed by Dr. Robert B. Laughlin, professor, Stanford University (1998 Nobel Laureate in Physics), who had the students imagine a world in which carbon fuels had run out, considering how ready science is to take on this great challenge that lies ahead. Then, Dr. Börje Johansson, professor, Uppsala University, and member of the Nobel Committee for Physics, spoke about the process entailed in selecting Nobel Prize winners and about the achievements of past laureates. He was followed by Dr. Yasuhiko Arakawa, professor, the University of Tokyo, whose lecture was titled "A Quarter Century of Quantum Dots: From Science to Practical Implementation," and by Dr. Akira Fujishima, chairman, Kanagawa Academy of Science and Technology, who spoke on the discovery and application of photocatalysts based on nanotechnology. Finally, the renowned Japanese painter Mr. Ikuo Hirayama, president, Foundation for Cultural Heritage and Art Research, talked about the multicultural

origins of Japanese culture derived via a long history of exchange with Asia across the Silk Road and about the contributions that the students' younger generation working together can make to Asia's development. After these lectures, the second student group discussion session was held.



Group discussion

Three more lectures were presented on the third day of the meeting. The first was by Dr. Tsuneya Ando, professor, Tokyo Institute of Technology, on the topic emerging physics in carbon nanotubes and graphene, and the second by Dr. Toshio Yanagida, professor, Osaka University, on using biomolecules in assembling nano-scale molecular machines. They were followed by Dr. David Swinbanks, CEO, NPG Nature Asia-Pacific, who as the editor of a leading international science magazine

spoke on improving the global visibility of Asian researchers and the need to expand networking and interaction among them.

In the afternoon, presentations were given by students in the discussion groups, each group having its own theme such as the advent of nano-robots for medical applications or the relationship between demand and curiosity as a driving force behind science and technology. Allotted ten minutes, each presenter summarized what the group had garnered from the lectures and discussion sessions. Following their presentations, the students fielded volleys of questions including from the eminent scientists.

In the closing session, Dr. Esaki and each of the lecturers offered a critique on the overall meeting, after which Dr. Esaki presented each of the students with a certificate of participation in the HOPE Meeting. Then, JSPS president Prof. Ono handed each of them a commemorative medal, on which note the curtain was drawn on this scintillating event that was the first HOPE Meeting.

The following morning, the participants



All the participants

made an observation tour of the National Institute of Advanced Industrial Science and Technology and NEC's Tsukuba Research Laboratories. That afternoon, they all enjoyed free time to browse around town in Tokyo. In the evening, a farewell party was held in Tokyo, giving the students an opportunity to enjoy a last night together in Japan with their colleagues from around the Asia-Pacific, whom they had interacted so vibrantly with over the course of the event.

This first HOPE Meeting laid the groundwork for the postgraduate participants to continue communicating with each other over the Internet and to form international networks for future research collaboration in the next stages of their scientific careers.

— Asian Program Division

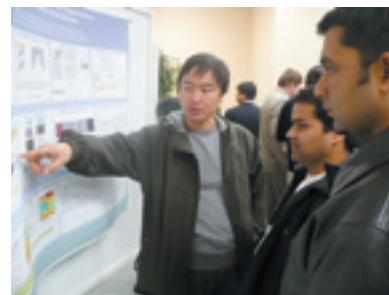
JSPS-UNT Winter School on Nanophotonics

On 14-15 February, the University of North Texas (UNT) and the JSPS Washington Office held the "Winter School on Nanophotonics" at the Gateway Center on the UNT campus in Denton, Texas. With the advent of nanofabrication and nanoscale characterization, photonics in the nanoscale region have come to play an increasingly important role in a number of related areas. Capturing the growing excitement in nanophotonics, the Winter School sought to foster young researchers highly versed in this emerging field.

Stemming from a relationship of research collaboration between UNT, Shimane University and Kobe University, this program was organized by Dr. Arup Neogi, UNT. Among the some 70 persons attending the event were more than 50 young researchers and doctoral students from the US and Japan. Taking advantage of this opportunity for

interchange and networking, they engaged each other in active discussions.

The Winter School opened with remarks from Dr. Neogi, followed by a welcome address from UNT dean Prof. Warren Burggren. The first day featured three presentation sessions and a poster session. In the first session, titled "Semiconductor Nanostructures for Photonics," Prof. Osamu Wada, Kobe University, and two young researchers gave presentations. The next session, titled "Hybrid Nanoscale Semiconductors for Photonics and Electronics," saw presentations by five researchers, including Dr. Vladimir Agranovich, University of Texas at Dallas, and Dr. Abhijit Sarkar, Michigan Molecular Institute. The poster session was held in the afternoon. Fourteen posters were prepared by the young researchers and doctoral students. Attracting many interested people, the poster presentations gave rise to lively discussions and



new ideas for collaboration. In the following third session, presentations were delivered on "Nanotechnology-based Micro-Optoelectronics Devices" by Dr. M. Saif Islam, University of California, Davis; Dr. Ryoko Shimada, Virginia Commonwealth University; and two other researchers. All reported on their state-of-the-art projects in this field. Later that evening, a reception was held to celebrate the launching of the Winter School.

The next day saw four more presenta-

tion sessions and another poster session. In the morning, presentations on “Engineering Spontaneous Emission” and “Plasmonics and Metamaterials” were given by Dr. Koichi Okamoto, Kyoto University; Dr. Pieter Kik, University of Central Florida; and four

young researchers. In the afternoon poster session, 13 researchers displayed posters describing their research, again attracting many interested people. The day ended with presentations on “Nanoscale Optical Spectroscopy and Techniques” and

“Nano-Biophotonics,” delivered by seven young researchers. Closing remarks were given by Dr. Neogi amidst an ambience of abiding excitement among the participants.

— JSPS Washington Office

Colloquium Held to Celebrate 150th Anniversary of France-Japan Relationship

On 6-7 March, the JSPS Strasbourg Office held a CNRS-JSPS Colloquium, entitled “Energy Supply and Demand in the 21st Century—Questions and Options for Sustainable Development,” to celebrate the 150th anniversary of friendly Franco-Japanese relations. Venued at the headquarters of Centre National de la Recherche Scientifique (CNRS) in Paris, the colloquium was held as one of the events in the anniversary program’s menu. It was implemented in collaboration with CNRS, which has been JSPS’s partner agency in France over the long period since a bilateral agreement was signed in 1973. The colloquium also enjoyed the support of the Embassy of Japan in France, French Ministry of Higher Education and Research, French Environment and Energy Management Agency, and French Academy of Sciences.

Energy and environment are treated as high-priority research areas in both France and Japan. As advanced industrialized nations, France and Japan operate under economic paradigms that rely heavily upon a supply of large

amounts of cheap energy. Such energy dependence engenders serious economic and environmental problems in each country. Accordingly, a need is seen for the two countries to share a common vision with regard to the colloquium’s theme. This will entail coming up with unified policies regarding such issues as energy security, usage, and conservation as well as pollution and global warming. To these ends, stronger international cooperation is expected in areas of standardization and human resource development.

The purpose of this colloquium was to address the issues of energy and environment from the perspective of analyses made by leading researchers in France and Japan. Thirteen experts from the two countries were invited to present their highly pertinent research results in fields related to the theme. They delivered presentations reflecting the latest scientific expertise on policies for greenhouse gas mitigation, on a post-Kyoto framework for reducing emissions, on the IPCC’s Fourth Assessment Report and, in suit, on effec-



tive ways of building sustainable societies, including carbon dioxide capture processes, nuclear energy, fuel cells, energy-efficient buildings, solar batteries, low-energy transportation, and biofuels. The event was attended by over 130 government officials, researchers, company executives and other members of the attentive public, who engaged the speakers in an active exchange of views and information.

The colloquium’s proceedings were broadcast in realtime over the Internet website Canal-U. They are archived at <http://www.canalc2.tv/>.

— JSPS Strasbourg Office

Seminar Held to Commemorate the Relocation of JSPS London Office

On 10 March, a seminar, entitled “University Futures,” was held to inaugurate JSPS’s new office in London. On 1 October of last year, the office moved from its previous location in Mayfair to the new one in Euston.

The seminar was launched with a welcome address from the moderator, JSPS London Office director Prof. Yuko Furukawa, followed by JSPS executive director Mr. Naoki Murata. Thanking the lecturers and participants, he described the transition of events that led to the office’s relocation and introduced



JSPS’s programs in support of university internationalization. Following this, two guest lecturers delivered presentations: Prof. Tsutomu Kimura, president of the National Institution for Aca-

demical Degrees and University Evaluation, and Prof. Malcolm Grant, president and provost of the University College London. Prof. Kimura spoke on the subject of Japanese university reform and internationalization, while Prof. Grant talked about the current state and future prospects of research at British universities.

Despite gale-force wind and rain on the day of the seminar, it drew a packed hall of some 100 people, including such noted figures as The Earl of Selborne, chairman of the Founda-

tion for Science and Technology; Sir David Watson, professor of the Institute of Education, University of London; Sir John O'Reilly, professor and vice-chancellor of Cranfield University, former chief executive of the Engineering and Physical Sciences Research Council (EPSRC); Prof. Geof Tomlinson, pro-vice-chancellor of the University of Sheffield; and Mr. Peter Williams, chief executive of the Quality Assurance Agency for Higher Education (QAA). Volleys of questions from the

floor followed each lecture, spurring a spirited discussion on issues and vistas relative to the reform and globalization of Japanese and British universities.

At a reception following the seminar, Prof. Anthony Stockwell, president of the Royal Asiatic Society (JSPS London office's new landlord), offered his congratulations. He explained how Stephenson Way, the street on which the office is located, is named after George Stephenson, a pioneer of the

steam locomotive.

In the evening, a dinner party was held in the wine cellar of Café Royal, at which a toast was offered by His Excellency Mr. Yoshiji Nogami, Ambassador of the Embassy of Japan in the UK. Winding up the day's activities, the participants enjoyed pleasant conversation with each other about the day's program and other topics of interest.

— JSPS London Office

Joint Meeting for RONPAKU Fellows and Alumni Meeting Held in Bangkok

On 13 March, the JSPS Bangkok Office jointly held the 6th JSPS-NRCT-ARAT Meeting for RONPAKU Fellows with the National Research Council of Thailand (NRCT) and the Association of RONPAKU Alumni of Thailand (ARAT).

This joint meeting has been held every year since 2003. Originally called the JSPS-NRCT-RONPAKU Fellows Meeting, its title was changed to the JSPS-NRCT-ARAT Meeting along with the establishment of ARAT in 2005. It provides opportunities to share knowledge and information on various research fields and to expand and strengthen ties among JSPS staffs and Thai fellows. At the meetings, the RONPAKU Medal is presented to new ARAT members to commemorate their successful acquisition of PhD degrees from Japanese universities.

This year's meeting started with re-



marks by Dr. Kou Ikejima, director, JSPS Bangkok Office, followed by Ms. Choosri Keedumrongkool, director, Office of International Affairs, NRCT, who expressed appreciation for the remarkable contributions to human resource development made by the RONPAKU program. Both of them offered warm words of congratulations to the RONPAKU fellows for their achievements, and encouraged them to contribute further to the nation's sustainable development. Following their remarks, RONPAKU Medals were presented by Dr. Ikejima to six Thai RONPAKU fellows who had obtained their PhDs in FY 2006. These new ARAT members gave presentations on

their thesis research in the following seminar session.

Prior to the Joint Meeting, an ARAT meeting was held in which Dr. Busaba Yongsmith, professor, Kasetsart University, was re-elected as the chair of the association. Together with an elected vice chair and three executive board members, she will serve for the term of 2008-2009. The members confirmed their commitment to strengthen ARAT's activities particularly in the following areas: 1) To be a center for RONPAKU alumni in Thailand, 2) to strengthen the relationship between Thai and Japanese institutions, and 3) to work for the country's benefit. Most immediately, ARAT is planning to hold an academic exhibition, research presentations, and special talks by outstanding ARAT members at the upcoming NRCT 2008 Annual Meeting in October.

— JSPS Bangkok Office

Events

Bonn Office

JSPS Abend
Bonn, Mid-August 2008

Stockholm Office

JSPS Colloquium
"Sustainability of Water Environment" (tentative title)
Stockholm School of Economics, Stockholm, 5 September 2008

Recruitments

For FY 2008

JSPS Postdoctoral Fellowship (Short-term) for North American and European Researchers
Application deadline from host institution to JSPS: 4-8 August 2008

For FY 2009

JSPS Postdoctoral Fellowship for Foreign Researchers (Standard)
JSPS Invitation Fellowship for Research in Japan (Short/Long-term)
Application deadline from host institution to JSPS: 1-5 September 2008

For details, ask a prospective host researcher or visit our website.

Aomori Prefectural Hachinohe Kita Senior High School

Date: 24 March

Dr. Pradeep Sharma (India)
Host institution: Tohoku University
Title: "An Introduction on Phytoviruses and Their Global Impact on Sustainable Agriculture"



Mie Prefectural Matsusaka High School

Date: 26 March

Dr. Parali V. Bhaskar (India)
Host institution: Nagoya University
Title: "Earth, Oceans and Elemental Cycles"



Chiba Prefectural Kashiwa High School

Date: 22 February

Dr. Marwan M. Dhamrin (Yemen)
Host institution: Tokyo University of Agriculture and Technology
Title: "Solar Cells"



Miyazaki Prefectural Miyazaki Kita High School

Date: 12 March

Dr. Ruiqian Guo (China)
Host institution: Kyushu University
Title: "ZnO-Based Nanoscience and Nanotechnology"



Ehime Prefectural Matsuyama Central Senior High School

Date: 14 March

Dr. Steeve Greaux (France)
Host institution: Ehime University
Title: "Introduction to the Mineralogy of Deep Earth"



Ritsumeikan Senior High School (Kyoto)

Date: 26 February

Dr. Dimitar P. Zankov (Bulgaria)
Host institution: Shiga University of Medical Science
Title: "Cardiac Electrophysiology and Genetical Diseases"



Fukuoka Prefectural Kokura High School

Date: 4-5 February

Dr. Zhenyu Yao (China)
Host institution: The University of Tokyo
Title: "Nanotechnology and Nuclear Energy in the Future"



Dr. Jacques Fattaccioli

(France)
Host institution: The University of Tokyo
Title: "Introduction to Microtechnologies"



Saitama Prefectural Warabi High School

Date: 19 February

Dr. Iskhak Iskandar (Indonesia)
Host institution: Japan Agency for Marine-Earth Science and Technology
Title: "Global Warming and Its Dramatic Impacts"



Kumamoto Prefectural Daini High School

Date: 5 February

Dr. Kim R. Larsen (Denmark)
Host institution: Kitakyushu Museum of Natural History and Human History
Title: "Biological Science: The Work, the Wonders, and the Relevance"



Date: 22 February

Dr. Yessy Arvelyna (Indonesia)
Host institution: Tokyo University of Marine Science and Technology
Title: "The Application of Satellite Images for Monitoring Oceanic Phenomena"



Shizuoka Prefectural Kakegawa Nishi Senior High School

Date: 10 March

Dr. Dennis B. M. Dickerscheid (The Netherlands)
Host institution: The University of Tokyo
Title: "The Coldest Atoms in the Universe"



Yamanashi Prefectural Tsuru High School

Date: 22 February

Dr. Luca Baiotti (Italy)
Host institution: The University of Tokyo
Title: "New Windows on the Universe"



Message from Former JSPS Fellow (11)

The Japan-Sweden Connection: From Thunberg to the 21st Century

Holding a postdoctoral position is an interesting experience; you are in a different culture, in a country where your native language is not spoken, but at the same time you feel completely at home at your host university. My colleagues in Japan had read the same literature, they were using more or less the same technical equipment, and the topical questions were roughly the same. Although I had never been in Japan before arriving at Narita Airport in April 1994, I immediately felt at home at the National Museum of Nature and Science in Tsukuba, Ibaraki. The warm welcome and help extended by my host Dr. Hiroyuki Kashiwadani and his colleagues also contributed to this feeling. JSPS's financial support to take Japanese lessons was also very much appreciated as it gave me the ability to discover Japan on my own.

My research field during my stay in Japan was lichen taxonomy. A lichen is a symbiosis involving a fungus and at least one species of algae or cyanobacteria. Lichens are therefore defined by their biology, i.e. the relationship between the photosynthetic green alga and/or cyanobacterium and the fungus. Taxonomy deals with how to classify living organisms, i.e. with elucidating what names they should have and with describing how different species may be recognized. My stay in Tsukuba has so far resulted in publications in which 12 species from Japan have been reported as new to science and 101 species as new to Japan.

The botany connection between Japan and Sweden has a very long tradition. The first and certainly most well-known visitor to Japan was Carl Peter Thunberg, a student of the Swedish botanist Carolus Linnaeus. In 1879, the first Swedish lichenologist, Eric Almquist, visited Japan and collected lichens in Yokohama,

Hakone and Hiroshima, and he also climbed Mount Fuji. His collections were published in the book "Lichenes Japoniae," which was the first comprehensive work on the lichen flora of Japan. In Almquist's footsteps, several Swedish lichenologists have made visits to Japan.

Thanks to Dr. Kashiwadani, I got the opportunity to perform several field trips, e.g. to northern Hokkaido, Aomori and Toyama Prefectures as well as to the islands Miya-jima, Shikoku, Amami-Oshima, Ishigaki-jima and Iriomote-jima. I also had the unique experience of participating in a lichen inventory on the grounds of the Imperial Palace in downtown Tokyo. We found a total of 57 lichen species, five of which were new to Japan, revealing a remarkably rich lichen flora despite the palace being located in the middle of the Tokyo metropolis. We were given free access and collecting permission throughout the entire palace area, also around the private house of the Emperor. Among the botanists and zoologists conducting the fieldwork, I was the only non-Japanese, which was a great honour.

After returning to Sweden in March 1996, I have visited Japan several times to conduct research at the National Museum of Nature and Science and to make private visits, as I



Korean-Japanese-Swedish lichen expedition to northern South Korea in 2006



Dr. Göran Thor

Professor, Department of Ecology, Swedish University of Agricultural Sciences

JSPS Postdoctoral Fellow, 1994-1995

married a Japanese with whom I now have two children. During my stay in Tsukuba, one of my colleagues was Ms. Kwang Hee Moon, a Ph.D. student from Korea. After returning home, she arranged joint Korean-Japanese-Swedish lichen expeditions in Korea in 2001 and 2006. These field trips yielded a highly interesting material, which has already resulted in some joint papers and will continue to do so in the future. Dr. Kashiwadani has recently retired. In 2008, he was replaced by Dr. Yoshihito Ohmura, who was a Ph.D. student during my postdoctoral stay in Tsukuba. I therefore feel confident that the close cooperation between Japanese and Swedish lichenologists will continue.

I was lucky enough to obtain a university position when I came back to Sweden after my tenure in Japan. Not everybody in my field is so fortunate. I encourage young colleagues to apply for postdoctoral positions abroad, as I believe that this valuable experience will improve their prospects when returning home.

JSPS Alumni Associations

At present, alumni associations with homepages have been established in Germany, the UK, Sweden, France, the US and India.

• **JSPS Club (German alumni association)**
<http://www.jsps-club.de/>

• **UK JSPS Alumni Association**
<http://www.jsps.org/alumniassociation/aboutus/index.html>

• **JSPS Alumni Club in Sweden**
<http://www.jsps-sto.com/site.aspx?id=548>

• **French Alumni Association**
<http://assoc-jsps.u-strasbg.fr/>

• **US JSPS Fellows Alumni Association**
http://www.jspsusa.org/Alumni_association/alumni.htm

• **Indian JSPS Alumni Club**
<http://www.indianjspsalumni.org/>

JSPS Fellows Plaza's Alumni Association homepage:
http://www.jsps.go.jp/english/e-plaza/20_alumni.html

Hailing from Lodz, Poland, Dr. Aneta Aniela Kowalska has been conducting research with her host Prof. Kyuya Yakushi at the Institute for Molecular Science, National Institutes of Natural Sciences under a JSPS postdoctoral fellowship since October 2006. Dr. Kowalska did her doctoral work under the supervision of Prof. Jacek Ulanski at the Technical University of Lodz in Poland. Prof. Ulanski had earlier been a visiting professor at the Institute for Molecular Science, where he conducted joint research with Prof. Yakushi. The two have continued their research collaboration, under which Prof. Yakushi has invited postdocs from Prof. Ulanski's team to his laboratory. Dr. Kowalska is the second to be so invited.

During her doctoral course days, Dr. Kowalska lived for periods in France (under a Marie Curie Fellowship) and in Spain. She is a very active, curiosity-driven person. Even when it comes to Japanese culture, her interests transcend science and extend all the way to *manga* (Japanese comics).

Could you explain the nature of the research you are conducting under the JSPS fellowship?

Today's information technologies, including telecommunication, data processing and their storage, depend strongly upon the aid of a laser beam—a single light wave with a given frequency. When applying the beam as a channel of information, one has to modulate the frequency and the phase of the light wave. This is realized by using a special optical medium, *ferroelectrics*.

As is widely known, this feature of ferroelectrics is associated with non-centrosymmetric crystal structure. In my study, however, I am exploring new ferroelectrics based on an unconventional concept: a compound that appears to have a

centrosymmetric crystal structure, but behaves as a ferroelectric substance because of non-centrosymmetry in the distribution of its electrons.

So far, we have little knowledge on the physical properties of such ferroelectrics. This is because there is only one known compound compatible with this concept. The aim of my study is, thus, to discover other examples from existing materials or to synthesize new ferroelectrics (our target is organic material) to break the bottleneck.

Because electron-associated ferroelectrics enable optical control of laser lights in a very fast timescale, our compounds can be applied to fast-driving optoelectric devices. One may be able to find our compounds in advanced mobiles or sophisticated computers in the future.

Your research field sounds leading-edge. How did you become interested in it?

The starting point was quite prosaic—I just wanted to study more, so I decided to go for a PhD. Then, I met my first supervisor, whose research field was quite wide in scope and very interesting as it was connected to applications, such as electronic devices, for new materials. I was really lucky. What I started with was a rather basic study, in the course of which some new ideas signaled a turn in my research. As you know, always during a learning process we discover unfilled gaps in the science, or come up with a brilliant idea, or just simply change our way of thinking through interaction with other researchers. I cannot say I was interested in my current field from an early age, as I was interested in too many things back then.

Why did you decide to pursue your research in Japan?

I really didn't have to decide. In my field of science, Japan is one of the most attractive places to do research. When you go to international conferences related to molecular organic crystals, most of the researchers you meet are Japanese.

Are there special merits to doing research in Japan?

Among the many well-known laboratories involved in research on molecular



Dr. Aneta Aniela Kowalska

Ph.D. (Chemistry), Technical University of Lodz, Poland, 2006

M.Sc. (Chemistry), University of Lodz, Poland, 2001

crystals, IMS, especially Prof. Yakushi's group, is one of the best. In this research field, it is very important to find ways of applying the new materials one creates. From that point of view, I was very interested in joining their project with a JSPS postdoctoral fellowship.

What are your plans after the fellowship?

Well, I'll need to look for a job. Then again, besides being a researcher, I am also a simple woman, so I have to consider family and my personal future. I hope to find a good position that will allow me to play both roles—one that can possibly extend into a permanent job in the future.

What do you do when you're not working, and how have you adapted to Japan?

I am a very curious person, so I have a lot of hobbies. Depending on my mood, I may spend my free time either actively or passively. As examples of the latter, I love watching movies and reading books. I also like astronomy, and can admire the beautiful night sky for hours. When feeling more active, I love trekking in the mountains or swimming in the sea. If I don't have enough time for those things, I go to the gym as a good alternative.

I very much like Japan and the culture of the people, especially in the countryside. I think I am correct in saying that Japan is very much like Poland. The people of Poland are mainly shy and hard working. Like Japan, we have four distinct seasons during the year: a cold, snowy and sunshiny winter,



Dr. Kowalska with her colleague Dr. Kaoru Yamamoto

a rainy but nice spring, and a rather hot yet very beautiful summer. And autumn—yes, the season we call the “Golden Polish Autumn.” So I feel almost as if at home in Japan.

What advice would you give to new JSPS fellows?

Do not come to Japan with special expectations. Just enjoy it and take life here as it is. Simply, I would quote from a Latin

poem by Horace: “Carpe diem.” (Seize the day!) If you try to be more outgoing, you can make some real nice friends in Japan.

Introducing Japan: Okazaki

The Institute for Molecular Science, where Dr. Aneta Kowalska is doing her research, is located in Okazaki city, Aichi Prefecture.

Okazaki is well known among the Japanese as the town that gave birth to the great *shogun* Tokugawa Ieyasu. Born in the Okazaki Castle, even as a child he had to deal with many difficult issues of nationwide consequence. After bringing peace to Japan’s “Warring States” period, Ieyasu established the shogunate (military government) in Edo (today’s Tokyo). In so doing, he laid the foundation for the 265-year long Edo Period.

The people of Okazaki take great pride in the fact that Ieyasu was one of their own. Every spring, they hold the Ieyasu Gyoretsu (parade), featuring some 1,000 participants dressed in the clothes of *samurai* warriors and cavalry men. One, of course, playing the role of Ieyasu as the central figure. Dr. Kowalska has enjoyed participating in this parade, dressed in a Japanese *kimono*. Within the park that envelops the castle grounds, there is an historical museum called the Ieyasu and Mikawa Bushi Museum. Its displays tell the story of the *shogun* and local Mikawa warrior clan.

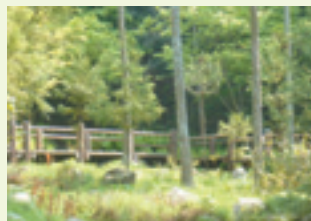
Not far from the hub of this deeply historical and cultural city are vast areas of natural landscape and scenery. This is the natural environment that Dr. Kowalska so enjoys exploring. During her year-and-a-half stay in Okazaki, she has visited such places as the Kuragari Canyon, exquisite in the fall with its river cascading through literal tunnels of bright red and yellow foliage. Located just a half hour from town by bus, the Okazaki Chuo Sogo Park has several walking and

hiking paths that go over hills, through forests and past waterfalls.

Okazaki has its own special local cuisine, the most famous of which is *hatcho miso*. Boasting a 600-year history, it was eaten by the *samurai* warriors all the way back in the Warring States period. Still very popular, boxes of *hatcho miso* adorn the shelves of souvenir shops around town.



Dr. Kowalska with her husband at the Ieyasu Parade



Inside Okazaki Chuo Sogo Park



JSPS Fellows Plaza Website

JSPS Fellows Plaza is continually in the process of updating its website, which provides information for present, past and prospective JSPS fellows. Please give us a visit at:

<http://www.jsps.go.jp/english/e-plaza/>

You’ll find pages on “How to Apply,” “Experiences and Messages from JSPS Fellows,” “Program Guidelines,” “e-Orientations,” “Find Nearby Fellows,” “Science Dialogue,” and “Alumni Associations.” The site also carries current and back copies of our newsletter “JSPS Quarterly” and the booklet *Life in Japan for Foreign Researchers*.

If you have any opinions or impressions you wish to share regarding our website, please contact us at the JSPS Fellows Plaza.

— JSPS Fellows Plaza





Cover photo:

Summer sunbeams filtering through sylvan foliage onto the thatched gate of Honen-in Temple in Kyoto.

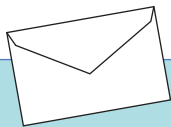
About JSPS

The Japan Society for the Promotion of Science (JSPS) was established as an independent administrative institution to perform the following main functions: fund scientific research, foster researchers, and promote international scientific exchange.



Crowing Rooster, Emblem of the Japan Society for the Promotion of Science

From days of old in Japan, it has been the belief that the vigorous cry of the rooster in the gray of the morning augurs the coming of a new and bright day. As the crowing rooster can therefore be thought of as a harbinger of the kind of new knowledge that promises a brilliant future for humankind, it was chosen as the emblem of the Japan Society for the Promotion of Science. This emblem was designed in 1938 by Professor Sanzo Wada of Tokyo Fine Arts School to depict the rooster that symbolizes the breaking dawn in a verse composed by Emperor Showa.



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