VJSE 2005



PROCEEDINGS

2nd Vietnamese-Japanese Students' Scientific Exchange Meeting

> November 5-6, 2005 Sigma Hall, Osaka University Osaka, Japan

Vietnamese Student Association, Osaka University

PROCEEDINGS

2nd Vietnamese-Japanese Students' Scientific Exchange Meeting

November 5-6, 2005 Sigma Hall, Osaka University Osaka, Japan



Vietnamese Student Association, Osaka University

2nd Vietnamese-Japanese Students' Scientific Exchange Meeting

Proceedings of the Second Vietnamese-Japanese Students' Scientific Exchange Meeting in Japan November 5-6, 2005 Sigma Hall, Osaka University Osaka, Japan

© The Organizing Committee of the 2nd Vietnamese-Japanese Students' Scientific Exchange Meeting in Japan (VJSE), 2005

Printed in Japan



2nd Vietnamese-Japanese Students' Scientific Exchange Meeting November 5-6, 2005 Sigma Hall, Osaka University Osaka, Japan

Organized by

- Vietnamese Student Association, Osaka University
- ✤ International Student Association, Graduate School of Engineering Science, Osaka University

Principal Supporters

- Embassy of Vietnam in Japan and General Consulate of Vietnam in Osaka
- ✤ Graduate School of Engineering Science, Osaka University, Japan

Financial and Facility Supporters

- Embassy of Vietnam in Japan
- ✤ General Consulate of Vietnam in Osaka
- ✤ Graduate School of Engineering Science, Osaka University
- ✤ MIRAI Laboratory System, Graduate School of Engineering Science, Osaka University
- ✤ Graduate School of Engineering, Osaka University
- ✤ Graduate School of Science, Osaka University
- ✤ Graduate School of Letters, Osaka University
- ✤ Graduate School of Economics, Osaka University
- Vietnamese Youths and Students Association in Japan (VYSA)
- Vietnam Development Forum (VDF)
- JICA Expert NARA
- Japan Vietnam Friendship Association, Osaka, Japan
- Toyonaka International Friendship Association (TIFA)
- ✤ Sigma International Student Association, Osaka University

Committees

Advisors

Prof. Shogo Nishida, Dean of Graduate School of Engineering Science, Osaka University
Prof. Tadashi Itoh, Graduate School of Engineering Science, Osaka University
Prof. Takao Kashiwagi, Dean of Graduate School of Letters, Osaka University.
Prof. Shinichi Kotani, Dean of Graduate School of Science, Osaka University
Prof. Masao Toyoda, Dean of Graduate School of Engineering, Osaka University
Prof. Yoshichika Onuki, Head of 21st Century COE Program, Graduate School of Science, Osaka University
Prof. Ryoichi Kuboi, Graduate School of Engineering Science, Osaka University
Prof. Shiro Momoki, Graduate School of Letters, Osaka University
Prof. Shiro Momoki, Graduate School of Letters, Osaka University
Prof. Pham Si Tien, Ministry of Education and Training, Vietnam
Dr. Etsuo Kumagai, Graduate School of Engineering Science, Osaka University

Program Advisors

Dr. Dinh Van An, ISIR, Osaka University
Dr. Pham Duy Long, Graduate School of Engineering Science, Osaka University
Dr. Nguyen Huu Phuc, Graduate School of Economics, Kobe University
Dr. Phan Huu Duy Quoc, ICSUR, Tokyo University
Dr. Nguyen Van Thuan, RIKEN Center for Developmental Biology.
Dr. Hiroshi Umakoshi, Graduate School of Engineering Science, Osaka University

Local Representatives

Hoang Hai – SvHandai Nguyen Hiep – Kobe Viet Tran Ngoc Hao - Tohoku University Pham Truong Hoang – VYSA Cao Le Thanh Man - Osaka University Ha Minh – VYSA Kanto Vu Khanh Tuong – Nagyoya University Doan Ha Thang – Kyushu University Bui Thanh Huyen – Kyoto University Tran Dang Xuan – The University of Ryukyus

Organizing Committee

Chairman: Le Quoc Tuan	Osaka University
Vice-chairman: Nguyen Viet Nguyen	Osaka University
Program Chair: Nguyen Van Hieu	Osaka University
- Nguyen Truc Anh	The University of Tokyo
- Nguyen Hoang Chi	Osaka University of Foreign Studies
- Truong Cong Duan	Osaka University
- Le Huy Chuan	Osaka University
- Le Van Hai	Osaka University
- Vu Hai	Osaka University
- To Thi Hien	Osaka Prefecture University

- Dang Minh Hieu
- Pham Manh Hoai
- Pham Truong Hoang
- Giang Thanh Long
- Pham Vu Thang Long
- Vo Duc Khanh
- Nguyen Hoang Nam
- Raymond Woo Weng Pong
- Vijitha Ranatunga
- Hisatomi Sayaka
- Nguyen Manh Toan
- Dinh Nho Thai
- Nguyen Viet Thang
- Nguyen Duc Thanh
- Nguyen Manh Toan
- Niu Tong
- Le Thi Thanh Thuy

Secretariat: Vo Thi Phuong Thuy

- Phan Lan AnhDao Quynh Anh
- Pakatip Aksharanandana
- Le Xuan Dinh
- Truong Cong Duan
- Nguyen Duc Dung
- Ly Lam Ngoc Bich
- Phan Thi Hai Ha
- Nguyen Hong Ha
- Luong Hong Hai
- Sano Hitomi
- Bui Thi Huong
- Kang Dong Hyuk
- Kieu Phuc Khanh
- Nguyen Quoc Khanh
- Nguyen Hoang Long
- Le Kieu Nhu
- Nguyen Viet Nguyen
- Daisuke Nishimura
- Naka Tadashi
- Nguyen Viet Phuong
- Nguyen Nhu Sang
- Phan Thu Thao
- Nguyen Thi Huong Thom
- Phan Thi Thanh Thuy
- Bui Manh Tri
- Ngo Thi Tu Trung
- Tran Quoc Tuan
- Emiko Tasaka
- Uraoka Shigenobu
- Dao Xuan Viet

Osaka University Osaka University Yokohama National University VDF, Vietnam Osaka University Tokyo Institute of Technology Osaka University Osaka University **Osaka** University Osaka University Kobe University Osaka University Kyoto Institute of Technology National Graduate Institute for Policy Studies, Tokyo Kobe University Osaka University

> Osaka University Kobe University Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

Osaka University

V

Finance: Pham Viet Nga

-

- Le Hong Hai
- Cao Le Thanh Man
- Le Quoc Tuan

Publicity: Hoang Hai

- Nguyen Minh Anh
- Nguyen Duc Dung
- Nguyen Viet Ha
- Nguyen Hiep
- Bui Quang Hung
- Nguyen Bao Ngoc
- Huynh Van Nhat
- Huxing Hao
- Nguyen Quoc Khanh
- Lee Ji Kuk
- Nguyen Hoang Long
- Yu Jiani

Osaka University

Osaka University Kobe University Osaka University Osaka University

Osaka University Osaka University Osaka University Yokohama National University Kobe University Osaka University

Management: Vietnamese Student Association at Osaka University

Acknowledgements

The Organizing Committee wishes to acknowledge the following organizations for providing financial and facility supports to make the 2nd Vietnamese-Japanese Students' Scientific Exchange Meeting a success:

- Embassy of Vietnam in Japan
- ✤ General Consulate of Vietnam in Osaka
- ✤ Graduate School of Engineering Science, Osaka University
- * MIRAI Laboratory System, Graduate School of Engineering Science, Osaka University
- Graduate School of Engineering, Osaka University
- ✤ Graduate School of Science, Osaka University
- ✤ Graduate School of Letters, Osaka University
- ✤ Graduate School of Economics , Osaka University
- ✤ Vietnamese Youths and Students Association in Japan (VYSA)
- ✤ Vietnam Development Forum (VDF)
- ✤ JICA Expert NARA
- ✤ Japan Vietnam Friendship Association, Osaka, Japan
- ✤ Toyonaka International Friendship Association (TIFA)
- Sigma International Student Association, Osaka University

80 (3

Program

Saturday, November 5th, 2005

- 10:00-10:30 Registration
- 10:30-11:30 Keynote Addresses from Invited Guests
 - 1. Acknowledgement from Organizing Committee (Le Quoc Tuan, Chairperson)
 - 2. Prof. Hideo Miyahara, President of Osaka University
 - 3. **Mr. Luong Thanh Nghi**, Deputy Consul General, The Consulate General of Vietnam in Osaka
 - 4. Prof. Pham Sy Tien, Leader of Delegation from MOET, Vietnam
 - 5. Prof. Hideo Hashimoto, Head of International Affairs Board, Osaka University
 - 6. **Prof. Shogo Nishida**, Dean of Graduate School of Engineering Science, Osaka University
 - 7. Prof. Takao Kashiwagi, Dean of Graduate School of Letters, Osaka University.
 - 8. **Prof. Nguyen Van Hieu**, College of Technology, Vietnam National University, Hanoi.
 - 9. Prof. Shinichi Kotani, Dean of Graduate School of Science, Osaka University
 - 10. Prof. Masao Toyoda, Dean of Graduate School of Engineering, Osaka University
 - 11. **Prof. Yoshichika Onuki**, Head of 21st Century COE Program, Graduate School of Science, Osaka University.
 - 12. Prof. Goto Fumio, Faculty of Foreign Studies, Osaka University of Foreign Studies.
 - 13. Mr. Pham Truong Hoang, Vietnamese Youths and Students Association in Japan (VYSA)
 - 14. Prof. Seiichi Fujita, Graduate School of Economics, Kobe University

11:30-12:00 Plenary Lectures

Prof. Tadashi Itoh, Head of MIRAI Labo, Osaka University **Prof. Taisei Nomura**, Graduate Schools of Medicine and Engineering, Osaka University

12:00-14:00 Opening Ceremony Party (Friendship Party)
 Prof. Yoshito Tobe, Consultant of Graduate School of Engineering Science, Osaka University
 Prof. Neuroparty Phys. Director of Institute of Materials Science, Victorea

Prof. Nguyen Xuan Phuc, Director of Institute of Materials Science, Vietnam

Speeches of sponsors

- Vietnam Development Forum
- Vietnamese Japanese Friendship Association, Osaka, Japan
- TIFA
- Vietnamese songs
- Folklore Dancing of Trong Com (Rice Drum)
- Con Duyen (Still Charming)
- 14:00-15:30 Invited Talks

Introductions of scientific and educational activities

- Prof. Keiichi Kato, Dept. of Applied Chemistry, Ehime Univ.
- Prof. Peter Walde, Dept. of Materials, ETH Zurich, Switzerland
- **Prof. Pham Hung Viet**, Director of the Research Center for Environmental Technology and Sustainable Development (CETASD), Hanoi University of Science, Vietnam National University.

15:30-15:45	Tea – break
15:45-16:45	Posters
16:45-19:00	Parallel Sessions: Presentations of Research Themes
Sunday, Novemb	er 6 th , 2005
10:00-12:00	 Invited talks and discussion Situation of Educational Development in Vietnam (Prof. Pham Sy Tien) Science Development in Vietnam (Prof. Pham Hong Khoi)
12:00-13:00	Luncheon
13:00-16:00	 Vietnamese – Japanese Cultural Exchange Osaka student Chorus Vietnam, my homeland (Kobe Univ.) My honey, Down the Red River (Nara Univ.) Think of Uncle Ho in a night at Truong Son (Kobe Univ.) Drama – Temple on the Sea (Osaka Gaidai) Floating life (Kobe Univ.) Lullaby (Nam Bo folk-song, Monochord, Osaka Univ.) Traditional Folklore (Nara) My mother (Osaka Univ.) Bamboo pole dance (Osaka Univ.) For the world of tomorrow (Osaka Univ.)

16:00-16:30 Establish the "Kansai Fund"

+ Opening Messages

Acknowledgement from the Organizing Committee

Le Quoc Tuan, Chairperson Student of Graduate School of Engineering Science, Osaka University

Dear distinguished guests, professors and my friends in Osaka as well as those from distant areas of Japan.

Following the success of the first VJSE meeting held at Osaka University in November 2004, the 2nd Vietnamese-Japanese Students' Scientific Exchange Meeting (VJSE-2005) is being held again at Osaka University. This event serves as a forum for Vietnamese and Japanese students to present their research topics and results and share their experiences. The meeting will feature current issues in the fields of science, technology and education in both Vietnam and Japan. This meeting also offers an opportunity for Vietnamese students in the Kansai area, and Vietnamese students in Japan as a whole, to strengthen solidarity, cooperation and development with Japanese students, as well as with international students.

The VJSE2005 has hundreds of participants from 22 Universities and Institutes throughout Japan and overseas. There are 60 scientific reports that will be presented in disciplines relating to **Natural, technological, economic, social and human sciences.** On the second day, we have organized a special Vietnamese - Japanese Cultural Exchange. The aim of this event is to establish a "**Kansai fund**" to support talented Vietnamese students who could not afford this opportunity otherwise.

We would like to express our deepest thanks to all of the professors and advisors who supported us in organizing this meeting. We are extremely grateful to the MIRAI Labo from the Graduate School of Engineering Science, Osaka University for their official support. We would like to especially express our gratitude for all of our Japanese and Vietnamese friends who have always helped us reach our goals of **solidarity** and **friendship**.

Finally, we would like to express our appreciation for presenters since your contributions are vital to the success of this meeting. We hope you find this meeting to be profitable both culturally and scientifically. We sincerely hope you enjoy yourself and have a pleasurable time.

Thank you for your kind attention.

80 03

Key Note Lecture by the President of Osaka University at the Second Vietnamese-Japanese Students' Scientific Exchange Meeting on November 5, 2005

Prof. Hideo Miyahara

 \mathcal{D} ear distinguished guests, professors, students and all other attendees!

First of all, I would like to express my great pleasure to join the opening ceremony of the second Vietnamese-Japanese Students' Scientific Exchange Meeting together with all of you.

Osaka University is located at the center of Japan and distinguished in research and education. It is a very desirable place for scientists and researchers to come and share their experiences. We have built a multidisciplinary network that opened exciting possibilities for human relations and organized research activities. This year, the theme of the second Vietnamese-Japanese Students' Scientific Exchange Meeting is 'Solidarity – Cooperation – Development.' Its final goal is to strengthen a durable friendship in integrated world. It surely coincides with the effort of our Osaka University to develop "network and interface" for internationalization.

Here, I would like to express my sincere thanks to all of you: distinguished guests, professors, sponsors, and international students, especially Vietnamese and Japanese students, for their contribution to this meeting. I sincerely thank Vietnamese students who worked through obstacles and put in hard work to organize this successful meeting. This meeting also gives a good chance for young scientists and students to meet each other and share their educational and personal experiences. I feel strongly the happiness from all of your Vietnamese students, regardless of what area of Vietnam you come from. This is because you have the determination, good goals, and the desire to contribute to your home country.

Let me briefly introduce Osaka University's history

Since its establishment as an Imperial University was in 1931, spanning its nearly 75-year history, Osaka University has conducted education and research with the aim of establishing itself as a world-leading institution contributing to advancement in the level of human knowledge. Osaka University has come to encompass 10 Faculties/Schools, 15 Graduate Schools, 5 Research Institutes, and 2 National Facilities for Joint Use, in addition to a number of other facilities, under its development as one of Japan's most distinguished universities. Aiming to further develop in the 21st century, Osaka University will welcome various kinds of new attempt under a system of national university corporation from April 2004. While maintaining focus on the continuation of education and research, Osaka University will undergo a reformation in order to better realize its philosophy of "Live Locally, Grow Globally." Osaka University, as an institution that fosters the creation of wisdom, should consistently function as a base for a culture of thought.

Dear my beloved students from Vietnam and from all over the world! When you encounter any problem in your academic life, remember that we will always stand behind you and will help you overcome any obstacles. Your success is just our desire and we will share your happiness. Therefore, you should try your best to obtain good results, and apply your hard-earned expertise to help your country. You can contribute your expertise to the future of the world. I know your homeland is awaiting your contributions.

The attendees coming to Osaka! I am certain that Osaka University students will ensure that you enjoy your stay in hospitable Osaka City. Once again, I wish you all the best and the success of this meeting in order to establish the basis for its future development.

Thank you for your attention!

80 03

Message from the Consulate General of Viet Nam in Osaka "Talents are life sustaining element of the nation"

Mr. Luong Thanh Nghi

Deputy Consul General

It is my great pleasure to attend the 2nd Vietnamese – Japanese Student's Scientific Exchange Meeting held in Osaka University. First of all, I would like to congratulate and highly appreciate the initiative and efforts made by Vietnamese Students Association at Handai to convene this meeting which is of important significance as it poses not only a forum for our students and researchers presenting research works, sharing experiences in the daily life and study in Japan, but also a manifestation of solidarity and enhancement of mutual understandings and friendship between Vietnamese, Japanese and other international students. On this occasion, I would also like, on behalf of the Consulate General of Vietnam in Osaka, to express our sincere thanks to Osaka University, School of Engineering Science and other institutions for their active supports granted to Vietnamese students in recent years, especially in making this Scientific Exchange Meeting possible.

Today, I am very glad to meet with hundreds of young Vietnamese intellectuals who have been living far away from home and looking forward to returning so as to contribute their talents to the nation. Taking this opportunity, I would like to share with you some of my views that would be in your interests.

As you are fully aware that human resources always play a vital role in the economic and social development of every country, especially when we are living in a time that the current globalization process has brought about great challenges and opportunities. In such circumstances, every country has to attach great importance to the development of the human factor. For developing countries, it is ever more important and become an imperative need of the national development. Vietnam, in particular, has been under doimoi process and over the past 20 years has recorded significant achievements. However, we are still facing the risk of being left behind and disadvantaged due to the weaknesses remained in our economy such as low efficiency and poor competitiveness. In a clear sense of such situation, Vietnam always attaches importance to the development of its human resources, especially highly educated one. Education and development of science & technology have become most and foremost national strategy.

Our forefather once has said that "**Hiền tài là nguyên khí quốc gia**", roughly translated as " talents are life sustaining element of the nation ". The issue of how to turn this saying into life depends on responsibilities of both the Government, offices concerned and each individual. As far as Government concerned, in recent years, it has created, as much as possible, favorable conditions for our scientists by issuing number of policies and incentives. However, those incentives might have not met all requirements due to subjective and objective difficulties that we are facing. In their turn, it is widely acknowledged that our scientists, in such a situation, could have still brought into full play their creativeness and enthusiasm for contributing their talents to the national building and development. This really poses a great encouragement for our young intellectuals, both of whom are being trained abroad or domestically. Chances are waiting ahead and I am sure that all of you will do your best in devoting yourself for the country. I am much self-assured with a famous saying "ask not what your country can do for you—ask what you can do for your country" and I do believe so you are.

Finally, may I wish all of you in good health, happiness and our meeting a great success!



Speech of the Leader of the Delegation from the Ministry of Education and Training, Vietnam

Prof. Pham Sy Tien

 \mathbf{F} ollowing on from the success of the 1st Vietnam - Japan Student Scientific Exchange Meeting held in 2004 in Osaka, Vietnamese students in Japan came up with the idea of organizing this event annually. This is an opportunity for students to exchange experience in study and research. Vietnamese Ministry of Education and Training (MOET) is always very interested in the results of students studying abroad and highly appreciates this suggestion from Vietnamese students studying in Japan, and has therefore organized a delegation to come to the Second exchange meeting. First of all, we would like to send to all students and delegates warmest greetings from the Vietnamese Ministry of Education and Training.

As you will be aware, Vietnam is now on the path of national modernization and industrialization as well as international integration. It is therefore essential for us to develop a highly qualified human resource. To reach this goal, we must improve the quality of national education and at the same time encourage students to undertake studies abroad, particularly in countries advanced in technology and science. To the present date, about 40.000 Vietnamese students have studied in over 30 countries throughout the world. Most of them study at their own expense. Some of them receive scholarships from governments or international organizations. In order to give more students the opportunity for overseas study, the Vietnamese Government, in 2000, instituted a program of scholarships for students to study abroad. To date, over 2,000 students have been sent abroad to study under Vietnamese government scholarships.

Many people in Vietnam are interested about how Vietnamese students study abroad. Charged with the management of the overseas study program, we are able to make the following observations:

Whether our students study abroad with financial support or independently they apply themselves to attaining the highest achievements. At some overseas universities, the number of Vietnamese students attaining first or second ranking among international student continues to rise. More importantly, many Vietnamese students have been offered scholarships for further research at a higher level and also assistance with living expenses. Some universities have offered scholarship to Vietnamese students to show their interest in these students but these scholarships are primarily based on student achievement.

Among Vietnamese students studying abroad, we recognize that those studying in Japan clearly demonstrate their ability to overcome all hurdles to succeed in their studies. So far 61 students have studied in Japan under Vietnamese government scholarships (including 31 Ph.Ds, 13 MScs, 14 undertaking short-course training and 3 undergraduate students). From reports from students themselves and the assessment of their universities, it is clear that these Vietnamese scholarship students have done very well and have received high praise from their universities. At Osaka University 15 students have studied under Vietnamese government scholarships. The first international MSc course taught in English at Osaka University had 6 students selected by MOET and sent to Osaka in 2003. This year, all of these six have graduated with excellent results and are seeking scholarships to undertake PhDs. The Management Committee of the Vietnamese overseas scholarship program supports these scholarship applications; however, they are waiting for a final decision from MOET. Based on the results of these 6 students, MOET has approved a Proposal for the establishment of a joint Ph.D Program between Osaka University and Hanoi Material Science Institute (Vietnam Science and Technology Institute) and University of Technology - VNU).

MOET is also considering a proposal to establish a joint MSc degree in material science between these three institutions which will include the application of Nano technology.

These are some of the observations of the Management Committee of the Vietnamese overseas scholarship program. We hope that by attending the Second Student Exchange Meeting in Osaka we can learn more about Vietnamese students' studying in Japan.

On behalf of MOET, we would like to offer our deep thanks for the support and assistance of Osaka University, and to wish the second Vietnamese-Japanese Students' Scientific Exchange Meeting great success.

8003

Message from Dean of Graduate School of Engineering Science, Osaka University

Prof. Shogo Nishida

I would like to express my congratulations on the opening of the 2nd Vietnamese-Japanese Students' Scientific Exchange Meeting, which is held here at the Sigma Hall, today and tomorrow. And let me extend my warmest congratulations to the organizers for the excellent preparations, and welcome all the participants to the meeting.

This meeting is followed by the 1st Vietnamese-Japanese Students' Scientific Exchange Meeting held here last year, and it is our great honor to support this Vietnamese-Japanese Meeting again this year.

Here I would like to introduce short history of School and Graduate School of Engineering Science. School of Engineering Science was established in 1961, 44 years ago, in Osaka University by Doctor Kenjiro Shouda. Doctor Kenjiro Shouda was a famous researcher in the field of mathematics, and he was the president of Osaka University before he started School of Engineering Science as the first dean. The concept of foundation of our school is "Fusion of Science and Technology". Doctor Shouda believed the importance of feedback between Science and Technology, that is, Science is a basis for progress in Technology and Technology drives progress in Science. This concept was very unique, and the catch phrase "Fusion of Science and Technology" to realize this principle by creating interdisciplinary research fields based on the social needs.

Graduate School of Engineering Science in Osaka University started the MCE, Master Course given in English, two years ago. 7 students, with scholarships from mother countries, entered this course and all of them finished the MCE and got Master Degrees of Osaka University this September. In starting the English Course in our school, much support was given from the MOET, Ministry of Education and Training in Vietnam. I would like to thank Prof. Tien and other relatives for their warm support. Furthermore, we are now planning the extended education program between Vietnam and Graduate School of Engineering Science, including sandwich program for Ph.D. students. I wish the new education program will be realized very soon.

The theme of this meeting is "Solidarity-Cooperation-Development". I hope this meeting will extend the human network between Vietnamese and Japanese Students and Researchers, and as a result, enhance the collaboration between Vietnam and Japan.

Thank you.

80CB

Celebrating the Opening of the Second Vietnamese-Japanese Students' Scientific Exchange Meeting, 2005

Prof. Takao KASHIWAGI

School of Humanities, Dean and Professor of French Literature

Chancellor, and Deans of Osaka University, and students from Vietnam and Japan who gathered together today, I would like to congratulate you on the opening of the Second Vietnamese-Japanese Students' Scientific Exchange Meeting. I remember having made a congratulatory address last year for the first VJSE, and it seems like only yesterday. Time flies like an arrow, and one whole year has passed. Today, as I did last year, I would like to share with you some of my experiences in relation to Vietnam. My first visit to Vietnam was in 2002, from February the 25th to the 28th. I was with a group of Osaka University faculty members who conducted fieldwork on the intangible cultural assets of the minority races in Hanoi, accompanied by the audio-visual staff who documented the research results. When I was a small child, I used to listen to a serialized radio drama for children, which was called "The Adventures of the Kuroshio-Maru" written by KITAMURA Sumio. Every time, the same theme song was played: "Luzon, Annam (or Vietnam), Cambodia, and far in the distance Holland and Hispania." I was very fond of this radio-drama, as well as the refrain of the song, and amused myself by singing it repeatedly. The story was about the 15th C. Japanese merchants who ventured into the Southeast Asia in the ship called "Kuroshio-Maru," and was thrilling and exciting enough to make a small child imagine distant Southeast Asian countries vividly.

What made Vietnam real and immediate to me as an adult was, of course, the Vietnam War. Newspaper photographs and television pictures from Vietnam at the time were truly heartbreaking. Years passed, and when I was teaching at a private college, I had a chance to study at the University of Paris and write my dissertation there. One of my classmates was from Vietnam. She and her husband kindly came to the open oral examination in which I defended my dissertation. Years passed, and it was not until I was sixty that I finally had a chance to set foot on the land of Vietnam.

It was winter and the sky was overcast, but my visit to Hanoi turned out to be an impressive one: I listened to traditional music at Hanoi Music School, and observed the restoration of old musical instruments. The interpreter I had spoke excellent French, and told me that at one time French, being the language of their colonizer was forbidden, and that she had to study it secretly. Her story somehow touched me. I then took a walk around the city and went into a big bookstore. I was surprised to find a number of translations of French novels, including Honoré de Balzac, who I specialize in. I picked up some of these books and found that the translator was my aforementioned Vietnamese classmate who came to audit my oral defense in Paris.

In the following year, from the end of August to the beginning of September, I was given a chance to visit Hanoi for the second time. My objective was to attend the forum, "The Power of the Image: for the Comparison and Interchange of Japanese and Vietnamese Cultures," hosted by the 21st C. COE Program, "Interface and the Humanities Studies". As is described in our published proceedings, specialists from both Vietnam and Japan discussed various issues at this forum. The most notable was the symposium by the graduate students in which the Japanese participants gave their papers in Vietnamese and in turn the Vietnamese participants in Japanese. I was moved by the way that these young people made efforts to exchange their research results in each other's language.

Last year, the forum hosted by Osaka University was held at Strasbourg, France, but this year, I hear that our faculty from the School of Science will be organizing one in Vietnam. I imagine that the participants this year will have a wonderful experience of a sort that I had had three years ago.

I am sure that the Second VJSE will be a successful one. I would like to conclude my address with my heartfelt homage to Vietnam and its culture. Thank you very much.

8003

Message from Dean of Graduate School of Science

Prof. Shinichi Kotani

On behalf of the graduate school of science, I would like to mention few words for the 2nd Vietnamese-Japanese Students' Scientific Exchange Meeting.

I understand that recently various activities between Vietnam and Osaka University become rapidly intensive. As a matter of fact, the 5th Osaka University Forum under the title of the frontiers of basic sciences was held at Hanoi this September and 120 participants including 80 PhD students joined this forum from Osaka University. We had totally 300 scientists from Vietnam as well as Japan and the Pacific Rim countries. The forum was organized by the physicists and mathematicians working as members of the COE in the graduate school of science. I would be very happy if this opportunity would be a cornerstone and trigger for further development of the exchange between the two countries.

Our graduate school has now approximately 10 Vietnamese students and I am very happy because I myself could accept one PhD student this October from Vietnam. Although basic sciences are curiosity based sciences, they are crucial for true innovation of technology. I hope Vietnamese students understand this situation and pay much attention also to the basic sciences.

Shinichi KOTANI Dean of the Graduate School of Science OSAKA University





Message from Dean of Graduate School of Engineering, Osaka University

Prof. Masao TOYODA

I feel highly honored to give a speech as a representative of Graduate School of Engineering for the opening of the 2nd Vietnamese – Japanese Students' Scientific Exchange Meeting in Japan here today. I would like to express my deep respect to Mr.Tuan, the chairperson, to those exchange students from Vietnam who are studying at Osaka University and worked hard to organize the meeting, and to the professors from Graduate School of Engineering Science and the staff from Vietnam Embassy for their full support. The theme for this event, as all of you may already be aware of, are friendship, solidarity, and cooperation. These three are the very purpose in the international activity, and the role this meeting plays, therefore, is very important.

At the Graduate School of Engineering, many international exchange activities are under way. More than 300 exchange students are currently studying at Osaka University, out of which 30% of them belong to this faculty. I am gland to say that 23 students are from Vietnam, and the number has been increasing each year. We have two English courses in practice and it is our cornerstone to make a contribution to foreign countries in education field through enrichment of education in English. Building up bonds with Asian countries through joint education research project is particularly important, and we are enthusiastic about developing international partnerships with those countries.

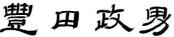
Vietnam and Osaka University are currently working closely on the Core University Program, and Graduate School of Engineering is taking lead in the activity with Associate professor, Ike. Its performance for the last five years has been highly appreciated by the mid-term assessment by JSPS and we are now into the latter 5 years. This project has a great significance in the sense that there are academic tasks ahead to establish sustainable 21st century, and that it becomes necessary to cultivate the human resource who will take on those tasks in the future. For those bearers of our planet, I believe, there is a great worth in exerting effort to create a safe and sound living conditions with universities in Vietnam.

Realizing fruitful international exchanges is an important mission imposed on university, and we aim for the high quality as Graduate School of Engineering at Osaka University. I am convinced that academic exchanges between the students through this excellent project will be rewarding to students from both countries. This is the second time around for this meeting, and I look forward to its further development and to the establishment of the new academic network.

I hope that mutual understanding and trust between the two countries will deepen the substantive exchanges as well as mutual friendship through this spontaneous and well-organized project.

Thank you for your kind attention.

Prof. Masao TOYODA,



Dean of Graduate School of Engineering, Osaka University



Message from Professor Goto Fumio

Faculty of Foreign Studies, Osaka University of Foreign Studies

Dear distinguished Guests, Professors and Students

I would like to express my thankfulness to VJSE2005 Committee inviting me to attend this Meeting. I am very glad to meet you, Vietnamese and Japanese students in memorizing days.

May I have some briefly introduction about our University. Osaka University of Foreigner Studies has its more 80-year history. Nowadays, students in our School can choose 24 official foreign languages in the world. The Faculty of Vietnamese was founded 28 years ago also based on this basic. Students have been studying not only Vietnamese but also Politics, Economics, Societies, Culture and Vietnamese Literature. There have been about 250 students graduated from this Faculty working now in various fields such as Administration, Education, Foreign Trading, Banks, and Companies.

We are proud of Vietnamese student with their hard-working to overcome obstacles. We always wish Vietnamese students get much success in their future life.

You are all here, Vietnamese, Japanese students as well as international student to tie solidarity, improve cooperation for world of tomorrow.

I wish this Meeting gives much fruitfulness for every student.

Thank you very much for your kind attention.



Message of the President of Vietnamese Youths and Students Association in Japan

Mr. Pham Truong Hoang

Student of Graduate School of Information and Environment Sciences Yokohama National University

 \mathcal{D} istinguished guests, invited speakers, organizers and participants,

It is a great pleasure and honor for me to be with you today in the 2nd Vietnamese-Japanese Students Scientific Exchange Meeting and say a few words, on behalf of the Vietnamese Youths and Students Association in Japan.

First, I would like, to express our appreciation to the organizers from the Vietnamese Student Association, International Student Association of Graduate School of Engineering Science, Osaka University for the successful organization of this Meeting. I would also like to extend our deep impression to the faithful support and to the hospitality of Osaka University by accommodating this annual event. On this occasion, also I would like to thank to the distinguished representatives of Ministry of Education and Training of Vietnam and Embassy of Vietnam in Japan for their presence and for showing their distinctive attention for scientific activities of Vietnamese students in Japan.

The Vietnamese Youths and Students Association in Japan is delighted that the Vietnamese Student Association in Osaka University, one of our members, had the initiative of organizing scientific events. Also, we are particularly pleased to support the present annual Meeting, which creates favorable conditions for sharing and exchanging our interested research topics among all students and researchers. Events like this meaningful scientific Meeting, give the chance to the Vietnamese Youths and Students Association to continuously facilitate and support various scientific events among Vietnamese and Japanese students in Japan. May I take this opportunity to announce you the development of Vietnamese student's network all over Japan which has an increasing number of diversified cultural and scientific exchanging activities.

It is my belief that this Meeting, following the First successful Meeting, which took place last year, is an important initiative to build the networks of cooperation among Vietnamese and Japanese young scientific researchers. I trust that all of us will benefit substantially from presentations and discussions during the 2-day program.

Finally, on behalf of the Vietnamese Youths and Students Association in Japan, I would like to express our sincere thankfulness to the Organizing Committee for their effort in accomplishing this remarkable event. I offer my best wishes for a successful Meeting, for health, happiness of distinguished participants.

80 03

Abstracts

Plenary Lectures

"Lesson to Our Future Generations by Wars in Japan and Vietnam: Concern for Transgenerational Risk of Radiation and Dioxin"	2
Prof. Taisei Nomura, Graduate Schools of Medicine and Engineering, Osaka	
University	
Invited Lectures	
"Vesicle-membrane formation by self-assembly of ester molecules of Non-ionic surfactant" Keiichi Kato, Peter Walde, Norio Koine, Yoshiyuki Imai, Koichi Akiyama, Takuya Sugahara	6
"Origin of Life and The Aggregation Behavior of Chemically Simple Surfactants" Peter Walde	8
Session 1. Environment & Chemistry	
"Resistant starch: health aspect, production and prospect" Pham Van Hung	10
"Phase Separation of Polymer Blends by Using a Reversible Photochemical Reaction" Trinh Xuan Anh	12
"Methanolysis of triolein by ultrasonic irradiation" Hoang Duc Hanh, Nguyen The Dong, Trinh Van Tuyen, To Thi Hai Yen, Yasuaki Maeda, Rokuro Nishimura	14
"Development of Combi-Catalyst System Using Layered Clay Minerals for Sequential	16
Acid/Base Reactions" Ken Motokura, Noriaki Fujita, Kohsuke Mori, Tomoo Mizugaki, Kohki Ebitani, Kiyotomi Kaneda	
"Polycyclic Aromatic Hydrocarbons in the Atmospheric Particulate Matters in Ho Chi Minh City, Viet Nam" Hien Thi To, Takayuki Kameda, Norimichi Takenaka , Hiroshi Bandow	17
"Photosensitized Oxygenation of Sulfides within Amphiphilic Dendrimer Containing Benzophenone Core" Hisao Koizumi, Yasuhiro Shiraishi, Takayuki Hirai	19
"Different Modes of Interaction between Liposome and Chitosanase from Streptomyces griseus under Heat and Oxidative Stress Conditions" Kien Xuan Ngo, Hiroshi Umakoshi, Toshinori Shimanouchi, Ryoichi Kuboi	21

"Evaluation of the domain formation of N-acyl-tryptophane on the lipid bilayer by fluorescence technique" K.Yasuhara, T.Shimanouchi, H.Umakoshi, R.Kuboi	23
"Evaluation of interaction between lipid bilayer and proteins" Daisuke Nishimura	25
"Preparation of silicalite-1 membranes on Pt/TiO ₂ particles and their use in reaction- selective hydrogenation" Norikazu Nishiyama, Manabu Miyamoto, Yasuyuki Egashira, Korekazu Ueyama, Leszek Gora, Manabu Miyamoto, Weidong Zhu, Freek Kapteijn, Jacob A. Moulijn	26
"Oxidation of Cholesterol catalyzed by Aβ-Cu complex on liposome membrane" Makoto Tasaki	28
"Biodegradation of old landfill leachate using oxic/anoxic lab-scale unit" Sang Nguyen Nhu	29
"Separation of Intracellular Organelles by Using Aqueous Two-phase Systems and Recovery of Phospholipids" Le Quoc Tuan, Hiroshi Umakoshi, Toshinori Shimanouchi, Ryoichi Kuboi	31
"Polymerization of amyloid β -peptide by transglutaminase on liposome under heat stress condition" Yasuki Hirai	33
"Bis-azamacrocyclic Anthracene as a Fluorescent Chemosensor for Detection of Cations in Aqueous Solution" Yoshiko Kohno, Yasuhiro Shiraishi, Takayuki Hirai	34
Session 2. Physics & Material Sciences	
"New Printed Circuit Heat Exchanger with S-Shaped Fins for Hot Water Supplier" Tri Lam Ngo, Yasuyoshi Kato, Konstantin Nikitin And Nobuyoshi Tsuzuki	37
"Fabrication and Photoluminescence of ZnS nanoribbons" N.H. Nam, N.X. Dai , N.T.T. Hien, N.N. Long, P.T. Kien, D.H. Chi, Koichi Higashimine,	39

"Magnetic Properties of Cs Clusters Incorporated into Aluminosilicate Zeolite LTA" **T. C. Duan,** T. Nakano and Y. Nozue

41

43

"Zeolite Composites for Shape Selective Reactions" Vu Van Dung

Tadaoki Mitani, and D.M. Ha

"Study Of Energy Resolution Of Plastic Scintillators"
Vo Hong Hai, Hidehito Nakamura, Hiroyasu Ishii, Masaharu Nomachi, Takeo Ogama, Takuya Sakiuchi, Yorihihito Sugaya, Sei Yoshida

"Single Crystal Growth and the Magnetic Properties of RRhIn5 (R: Rare Earth)" Nguyen Van Hieu, Hiroaki Shishido, Hiroshi Nakashima, Kiyohiro Sugiyama, Rikio Settai, Shingo Araki, Yasuo Nozue, Tatsuma D. Matsuda, Yoshinori Haga, Tetsuya Takeuchi, Masayuki, Hagiwara, Koichi Kindo, Yoshichika Onuki	
"Magnetism of Potassium cluster Incorporated in Zeolite LTA under High pressure" N.H. Nam, H. Shiraga, S. Kawasaki, S. Arimura, S. Araki and Y. Nozue	49
"Modeling of the MEMS Based Accelerometer's Characteristics" Tran Duc Tan	51
Session 3. Informatics Technologies	
"Real-Time Hand Tracking and Gesture Recognition Using a Statistical Computer Vision Approach" Nguyen Dang Binh, Toshiaki Ejima	54
"Improvement in Memory Retention of the Metal–Ferroelectric–Insulator– Semiconductor (MFIS) with Nitrogen Irradiator" Le Van Hai	56
"バイオ文献活用基盤としての XML 検索技術" 仲尾由雄(なかお よしお) , 井形伸之(いがた のぶゆき), 小櫻文彦(こざくら ふみひこ)	58
"Adaptive Deadbeat Congestion Control Algorithm for ABR Traffic in ATM Networks" T. V. Nguyen, T. Mori and Y. Mori	59
"An Accumulative Approach for Frequent Pattern Mining" Tran Minh Quang, Shigeru OYANAGI, Katsuhiro YAMAZAKI	61
"A Flexible Network Topology Discovery Mechanism for Ubiquitous Chips" Yasue Kishino, Tsutomu Terada, Shojiro Nishio, Masahiko Tsukamoto, Tomoki Yoshihisa	63
Session 4. Earth & Global Sciences	
"Experimental Study on Behavior of Beams Prestressed with External Tendons" Bui Khac Diep, Junichiro Niwa	66
"Present Day Stress Fields in the Cuu Long and Nam Con Son Basins, offshore Vietnam" Nguyen Thi Thanh Binh, Tomochika Tokunaga, Hoang Phuoc Son, Mai Van Binh	68
"Responses of Geotechnical Engineering Structures to Earthquakes" Binh Xuan Luong, Meiketsu Enoki	72
"Possibility and Limitations of Long-Span Cable-Stayed Bridges based on Static and Buckling Instability Analyses" Pham Hoang Kien, Hitoshi Yamada, Hiroshi Katsuchi	74

XXV

"Importance of Public Perception of Catastrophic Flood Risk in the Riverside Urban Areas of Hanoi, Vietnam" Hoang Vinh Hung, Rajib Shaw, Masami Kobayashi	76
"Tectonic Evolution and its application to Petroleum Engineering of the Song Hong basin offshore area in Vietnam" Bui Thi Thanh Huyen, Yasuhiro Yamada, Toshifumi Matsuoka	78
"The Simulation of Three-Dimensional Wave Breaking Motions in front of a Breakwater" Nguyen Danh Thao, Tomoya Shibayama	83
"Modeling of Waves in front of Vertical Walls based on 2-D Navier-Stokes Equations" Nguyen Danh Thao, Nguyen The Duy	85
"Simple procedure to determine the post-tensioning forces in cables to reduce displacements of the stiffening girder and towers of the cable-stayed bridge" N. Danh Thang et al.	
Session 5. Medicine & Biologics	
"Selecting Immunohistochemical Markers to Predict the Survival of Clear Cell Renal Carcinoma Patients" Nguyen Ba Phuoc, Hidetoshi Ehara, Takashi Deguchi.	88
"Characterization of the Bacterial Population of Ralstonia solanacearum Causing Bacterial Wilt and Its Antagonistic Microorganisms in the North of Vietnam" Vu Thi Bich Hau, Nguyen Linh Chi, Hoang Hoa Long, Nguyen Thi Hong Hai, Dao Thu Hang	90
"Specific cleavage of ribosomal RNA and mRNA during victorin-induced apoptotic cell death in oats" Trinh Xuan Hoat, Hitoshi Nakayashiki, Yukio Tosa, Shigeyuki Mayama	92
"Isolation of Corynebacterium glutamicum strains and cloning of met A, a methionine biosynthetic gene encoding Homoserin Acetyltransferase from soil in Vietnam" Bui Thi Huong , Vu Thi Huong, Dinh Duy Khang, Nguyen Thuy Chau	94
"Antitumor effect against human colon cancer in vivo by the administration of lectin- immobilized surfactant vesicle" Yousuke Omokawa, Koichi Akiyama, Takuya Sugahara, Akihiro Kawakubo, Seizo Masuda, Masato Nose, Keiichi Kato	98
"RNA Silencing And Its Applicability For Functional Genome-Wide Screens In The Rice Blast Fungus, Magnaporthe oryzae" Nguyen Bao Quoc	100
"Genotype and Subtype Distribution of the Surface Gene of Hepatitis B Virus Circulating in Hanoi, Vietnam"	101

Le Thi Thanh Thuy, Haruko Ryo, Le Van Phung, Katsumi Furitsu, and Taisei Nomura

Session 6. Economics & Development

"Designing a Non-contributory Pension Scheme in Vietnam" Giang Thanh Long	
"ベトナムの航空業と民営化展望" Nguyen Thi Thanh An	105
"The Determinants of Vietnam's Export Growth: An Empirical Study" Nguyen Van Ba	107
"Exchange Rates and the Prices of Manufacturing Goods Imported into Vietnam" Mai Ngoc Lan	109
"On the Validity of Fama and French Model: Evidence from Tokyo Stock Exchange First Section" Pham Vu Thang Long	111
"Heterogeneity, Networks and International Trade under Monopolistic Competition" Nguyen Hiep	113
"From Traditional to Modern Market: The Transition in Vietnamese Traditional Bazaar System" Le Viet Trung	115
"Structural Change and Economic Performance of Vietnam, 1976-2000" Pham Quang Ngoc, Nguyen Duc Thanh	117
"Proposals of the Suitable Solvency Regulation for the Vietnamese Life Insurance Industry – Based on the Experience from the US and Japan" Nguyen Van Thanh	119