

International High School Science Conference Report

*Hansung Science
High School*

*Osaka Prefectural
Otemae High School*

*Beijin 101
Middle School*



World Environmental Problems"

*Shanghai Foreign
Language School*

*Shulalongkorn University
Demonstration Secondary School*

Mar, 25th (Thur.), 2010
Dawn Center Large Hall, the 7th Floor & Large Conference room, 4th Floor

Osaka Prefectural Otemae High School

◆巻頭言◆

21世紀の地球を共に考えた高校生国際科学会議

本会議を開催するきっかけとなったのは、平成20年10月にJICE(日本国際協力センター)が実施した21世紀東アジア青少年大交流計画にもとづく、メコン5カ国訪日団第一陣のメンバー、高校生16名、引率4名が本校の生徒宅に3日間ホームステイしたことである。その際、各学校で取り組んできた環境問題に関する研究発表によるシンポジウムを開催したことが生徒に大変良い刺激となった。このことから、SSHの取り組みの一環として、本校で2年生後期から3年生前期にかけて行っているサイエンス探究と関連づけければ、更に深い取り組みが出来るのではないかということから、今回の高校生国際科学会議の開催となった。

本校は、“知・徳・体の調和のとれた、社会に貢献できる人材の育成”を教育方針としている。また、本校はコミュニケーション力を“理解する力”、“思考する力”、“表現する力”と位置づけ全ての学習の土台と考えている。従って、小論文指導、プレゼンテーション指導やディベート指導に力を注ぐと共に、将来国際的に活躍できる人材を育成する観点から、英語教育にも力を注いできた。

コミュニケーション力を活かし、本校の特色ある学校設定科目であるサイエンス探究で取り組んできた研究活動を題材として、また、各国の共通の課題である環境問題をテーマにして、アジア各国の優秀な高校生が一同に会し活発な意見交換をする機会を持つことは、参加した全ての高校生にとって大きな刺激になるものと考えた。

今回、テーマとした環境問題は、21世紀を担う若者が、国境を越えて、共に地球の健康を診断し、将来の子孫に健康な地球を引き継ぐという理念の下で、意見を交わし、共同宣言という形で高校生の思いを外に発信したことは大いに意義深いことであった。

会議開催中の3日間の様々な交流はもとより、会議開催までの数ヶ月間インターネットを介しての各国生徒との情報交換はより深い交流となった。会議の終わりに各国の言葉で共同宣言を発表したが、かけがえのないこの地球への深い思いを高校生の声で温かく織り込まれた宣言となっている。

この3日間を通しての交流の意義は、参加生徒の感想文の一文一文に記されており、今回の高校生国際科学会議は立派に目的を果たせた。今後、このような取り組みを定期的開催出来れば本校の生徒の学習への意欲、探究心をより高めることが出来ると思う。

今回の高校生国際科学会議の開催に当たっては、各国領事館の皆様には、業務多忙な時期にも関わらず各国高校との当初の連絡に関し奔走いただいたことに対し心より感謝申し上げます。また、関西学院大学、大阪大学、東京工業大学、京都大学の先生方にはご講評ならびにスムーズな会議の運営にご支援を賜り心より感謝申し上げます。

最後になりましたが、安橋興二郎会長はじめ、金蘭会(同窓会)の多くの皆様方から多大なご支援を頂き開催することができました。心から感謝申し上げます。

平成22年6月吉日

学校長 原田 哲次

International High School Science Conference

<i>1</i>	<i>Opening Ceremony</i>	<i>13:30 ~</i>
<i>2</i>	<i>Research Presentation</i>	<i>13:50 ~</i>
<i>3</i>	<i>Joint International Communique</i>	<i>15:30 ~</i>
<i>4</i>	<i>Exchange Events</i>	<i>15:40 ~</i>
<i>5</i>	<i>Closing Ceremony</i>	<i>16:00 ~</i>

1.About Participating Schools

No.	School Name
1.	Chulalongkorn University Demonstration Secondary School (Thailand)
2.	Shanghai Foreign Language School (China)
3.	Beijing 101 Middle School (China)
4.	Hansung Science High School (South Korea)
5.	Osaka Prefectural Otemae High School (Japan)



Chulalongkorn University Demonstration Secondary School

Chulalongkorn University Demonstration Secondary School <CUD> or Satit Chula for short, was founded on June 20th, 1958 by Professor Thanpuying Poonsapaya Navawongs na Ayudhya, the first Dean of the Faculty of Education, Chulalongkorn University. In 1969 the school was divided into a primary school which takes charge of pre-elementary and grades 1 to 6, and a secondary school which is responsible for grades 7 to 12.

Vision

We aim to be the hub for high-school educational management and the professional training center of excellence.

Mission

CUD has five missions;

1. To serve as the teaching and research laboratory of the Faculty of Education.
2. To educate and develop the students morally, spiritually, physically, and socially.
3. To improve teachers' teaching techniques.
4. To develop educational innovations.
5. To maintain and promote Thai arts and cultures.



Emblem

Prakiew, the royal emblem of King Chulalongkorn, the founder of the university.

School Colour

Pink-Pink signifies Tuesday, the birthday of King Chulalongkorn.

Education Management

CUD, as the laboratory for the Faculty of Education, has two major roles as follows:

1. The school provides basic education for grades 7th to 12th students, according to the National Curriculum 2001, and encourages teachers to do classroom researches along with teaching on the basis of the student-centered approach to enhance effective learning outcome. Our curriculum aims to provide students with:
 - 1.1. Free elective courses relating to students' interests and skills.
 - 1.2. Specially designed programs to serve the needs of the students:
 - 1.2.1. CU-AP Program for the advanced learners to fulfill and develop their capabilities to the fullest.
 - 1.2.2. Ability grouping to facilitate students' learning pace and style.
 - 1.2.3. Preparation courses for students who join international academic competitions.
 - 1.2.4. Extra courses for fast and slow learners.
 - 1.3. Extra curricular activities such as homeroom, guidance, social service, scout activities, and clubs.
2. The school also provides university level education. Student teachers who come to intern at CUD will have a chance to practice and prepare themselves to become successful teachers in the future.

Shanghai Foreign Language School

Shanghai Foreign Language School affiliated to SISU ('SFLS' for short) was founded in 1963 and is one of the first 7 foreign language schools established after the founding of P.R.China. Directly guided by the national educational department, SFLS has taken up the great responsibility of educating elites in the diplomatic and international grounds. Many of our graduates are now studying abroad in Harvard, Stanford, Oxford, Heidelberg, Moscow and Waseda University.



The campus, embraced by trees, provides full school facilities as well as an experienced team of faculties. Shanghai Foreign Language School consists of grades ranging from 6th to 12th, including 21 classes and more than 1600 students on campus (including international students).

Our school is especially famous for its foreign language education. We offer language classes verifying from English, Japanese, Spanish, German, French and Russian in form of 15 to 20 people small group teaching, in order to raise the effectiveness of our education as well as the students' ability of individual thinking and expressing ideas.

A regular school day starts at 7.20 and ends at 3.55. Each of our class period lasts for about 40 minutes, which means for junior students there are about 7 classes a day and 8 for the seniors. During special activities though, such as the International Week, sports meeting, Cultural Week, Science Week and etc, students are dismissed early and the school takes a Friday off to give the stage to our students for them to shine.

Attending clubs and after class interest courses have long been a tradition among our students. From Chinese folk paper cutting courses to sports classes like basketball and swimming, from school wide psychology clubs to the world known MUN and Roots & Shoots, we have witness our students' growth, not only academically but also mentally, we have seen them grasp every chance to be balanced and improving.

SFLS is connected with many foreign schools, so we have students from different countries coming over all round the year. It has always be our school's honor to hold exchange programs that enable our students to be more communicative, internationalized and have a broader horizon.



Beijing 101 Middle School

Founded in March 20th, 1946, Beijing 101 Middle School was given birth just after the Second World War in the war-torn Zhangjiakou, a town in the nearby Hebei Province. After times of moving, during the Chinese Civil War, the school finally settled down its permanent campus upon the Old Summer Palace in the north-west suburb of Beijing. Our school was once open to children of the country's top-ranking officers. Years past, our school is now respected as the first school built by China Communist Party and it has always kept its fine tradition of giving best effort to help students develop according to their own interests and abilities. During the 2008 Beijing Olympics Games, 101 was chosen to hold the Youth Camp of the 2008 Olympic.



Surrounded by best universities and scenic parks, Beijing 101 Middle School is renowned for its study environment. Its 200,000-squaremeter campus is surrounded by the Old Summer Palace, one of China's most splendid imperial palaces. Grassland covers most of the space between the buildings, dozens of ponds dot the whole campus. 13,000 square meters of 101 are covered by water. At the fine summer dawn, when the lakes reflect the willows beside and nearby West Mountain, the whole campus peacefully and gracefully harmonizes with the Old Summer Palace. Peking University and Tsinghua University, known as the best two universities in mainland China, are both within half a mile. Now, the school has perfect academic facilities. What is special is that in the campus there is a 300 m² greenhouse that provides students with experimental plot. The school also has all sorts of sports court to ensure every student would be able to enjoy playing sports with their schoolmates.

After 64 years of experience, Beijing 101 Middle School is now one of the schools at the summit in China. Both its academic level and cultural activity have high developed. Walking through the campus, one can always see youthful adolescents either reading their favorite works under bloomy trees or discuss science problems encountered in study or social topics. Every day the campus is permeated with a vigorous atmosphere. The celebrity author in modern Chinese Guo Moruo once interpreted our school name as "staying at the top of a 100-foot-long pole and still eager to make further progress." showing the school's characteristic of pursuing perfection.

Like most schools in China. Chinese, math and English are the major courses for every student. Senior high student would be able to choose science, including physics, chemistry and biology or human art, including history, geography and politics as the other three major courses according to their own interests and goals. Junior high student may first take some of these subjects and gradually add others. Besides, students also take subjects such as music, art, general technology and computer. Every day study starts from 8 am and last to 4 pm. The length of each class is 40 minutes and we have a 10-minute break between classes. Moreover, there are also two selective classes for ungraduated grades. Students can choose from more than 40 subjects.

Besides lessons, there are different varieties of school activities, ranging from art festivals, debates and speeches competitions to sport events and chorus matches. The school activities are held to provide every student with a stage to show their abilities, and to build trust and relationships among class members.

Hansung Science High School

Hansung Science High School was founded in 1992 to nurture the development of gifted students in math and science. HSHS selects talented students and provides special programs to help them realize their potential. Since 1992, over 1,600 students have benefited from our education and our school has become a model for the education of gifted students in Korea.

Hansung Science High School encourages students not only to achieve advanced intellectual and academic skills but also to develop their characters as responsible citizens and leaders. HSHS strives to fulfil the following aims as our mission:

To help students grow to be leading scientists in Korea and beyond:

- Students increase their motivation for learning math and science.
- Students promote their creativity and develop advanced research skills.
- Students gain a strong command of English to be global leaders.

To help students build their characters:

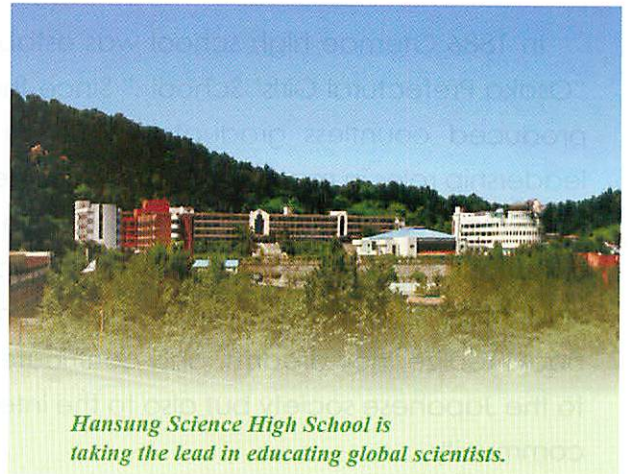
- Students have opportunities to develop their social skills and interests.
- Students contribute to the community by participating in volunteer work.
- Students understand the value of respect and responsibility and develop their ethical and moral awareness.

Hansung Science High School has been designated as a special research school by the Seoul Metropolitan Office of Education and the Ministry of Education, Science and Technology Department. We have carried out various research projects, which help other schools to enhance teaching skills.

Our graduation program allows the students who complete all requirements and finish the evaluation procedure to leave high school and begin college a year ahead of other students. Permission for early graduation is granted by the early graduation board and approved by the school principal.

The purpose of Enhanced Practical English Program is to help students improve their English communication skills, which will support them to become global leaders in science and technology. In addition to the regular English class, the first grade students study three hours per week with native Englishspeaking teachers. Class sizes are kept small in order to enhance opportunities for interaction. Oral and Written tests of English are administered in accordance with the HSHS regular exam schedule. Additionally, students take the English Speaking Proficiency Test(ESPT) three times during the program.

The purpose of the Science Study Tour Program is to increase students' interest in science and technology through visiting prestigious universities, labs and museums, and meeting with notable professors and scientists .



Osaka Prefectural Otemae High School

In 1886 Otemae high school was established as "Osaka Prefectural Girls' School ." Since then, it has produced countless graduates who are to take leadership roles in many fields, and has been widely renowned for it. Making "See yourself, train yourself" our motto, we aim to educate and support our students so that they can grow sound in mind and body, realize their dreams, and contribute not only to the Japanese society but also to the international community.



Otemae High School was originally set up as a girls' school, but after the war, it changed into a coeducational school, as many public school did at that time. Our school has two courses; a full-time one and a part-time (night-time) one. Currently more than 1,000 students study here.

Here, we will give a broad outline of the full-time course.

Our full-time course has a regular stream and a math-science stream. In the math-science, many students show much interest in mathematics or science. In order to develop their scientific talent and personality, we educate them to acquire the ability to find and solve problems by themselves through organized study of natural science. Almost all students hope to go on mainly to national or municipal universities.

School begins at 8:30 and ends at 15:20. Each lesson lasts 65 minutes, and there are five lessons a day. On Saturdays, there is no lesson, but study rooms open. In our school many kinds of events take place, including the cultural festival, the sports competition and school excursions. Especially as the spring chorus competition comes near, students come to the school early in the morning and practice singing eagerly before school.

Like many Japanese schools, our school also has a variety of club activities. For example,



baseball, soccer, judo, kendo (Japanese fencing), tennis, swimming, track and field, rugby, symphonic band, tea ceremony and so on. About 90 % of the whole school join club activities and enjoy their school life to the full.

International exchange

We are in partnership with Penglais High School in Britain as a sister school, and carry out exchange programs every year. Furthermore, Korean high school students visit our school each year, which gives us a good opportunity to deepen the mutual understanding between Japan and Korea.

2. About Research

No. Title

1. The Study of Water Quality Around the Inner Ratanakosin Isle

Thunchanok Thammasanya, Patchanee Srisatit

Chulalongkorn University Demonstration Secondary School, Thailand

2. Health Check for the Huangpu River

Mengyuan Xu, Lingzi Zhuang

Shanghai Foreign Language School, China

3. Examine of River Water Quality in Beijing

Wang Rui, Deng Wengting

Beijing 101 Middle School, China

4. The elimination of Voc's by Using biofilters

Kong So Myung, Lee Jin Min

Hansung Science High School, South Korea

5. The relationship of Nitro-products between soil and soil water

Natsuki Kawamoto, Kazumi Kosaka, Shino Kozuki, Mari Saiga, Zhang Hanlu

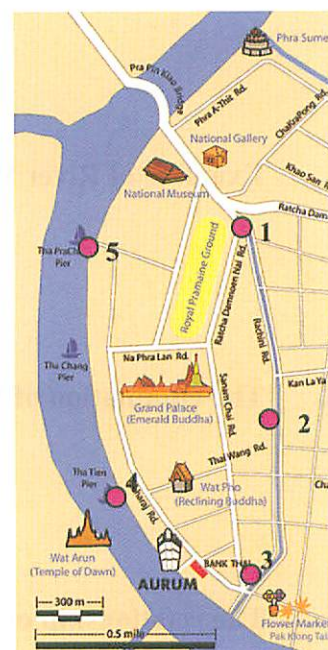
Osaka Prefectural Otemae High School, Japan

The Study of Water Quality Around the Inner Ratanakosin Isle

1. Introduction

Bangkok Metropolitan or Ratanakosin Metropolis was established in 1782 by King Rama I the great, the primary king of Chak Kri Dynasty, on the east bank of Chaophraya River. The precinct of Ratanakosin Isle was set by the Chaophraya River which flow into the moat of the capital on one side and 3 other surrounding moats, dividing the capital into 3 tiers. They are the old moat which was dug in Thonburi Parietal period, around- the-metropolis canal which was dug in the King Rama I period and Phadung teristie of Krungkasem canal which was dug in the Kind Rama II period. Therefore, Ratanakosin Metropolis is char theistic of an isle

Various activities of people in the Ratanakosin Metropolis, ether of building constructions, professional careers or communications had created affects to natural environment and shielded the beautiful panorama of the city. In 1977 the Bangkok Metropolitan had divided the area in Ratanakosin in to 2 parts for restorations.They are inner Ratanakosin Isle which is the area surrounded by Chaophraya River and the old moat (Khlong Lot) and outer Ratanakosin Isle where the area is surround by the old moat up to around the capital canal(Banglumpu). Therefore we decided to study about water quality around the area of inner Ratanakosin Isle. The study was done on 5 spots to obtain the water quality data each spot to compare their differences.



Map of inner Ratanakosin Isle

2. Experimental Procedure

Study of water quality testing methods and select the required method and properties. The required properties are quantity of oxygen, pH, salinity, conductivity, turbidity and quantity of mixtures in the water.

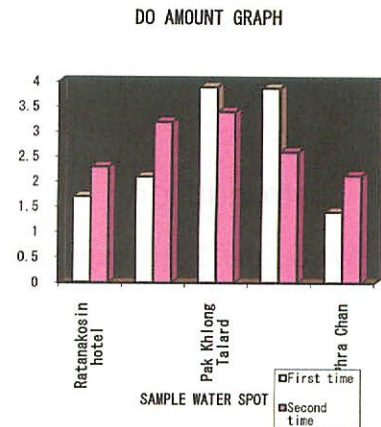
Specify the spots of water for quality testing to cover all the precincts of the study. The spots selected and specified are as followings:

Spot1: Royal Hotel(Ratanakosin hotel);	Latitude 13°45'23.57"N	Longitude100°29'43.19"E
Spot2: Khlong Lot. ;	Latitude 13°44'53.73"N	Longitude100°29'47.12"E
Spot3: Pak Khlong Talard;	Latitude 13°44'34.56"N	Longitude100°29'42.99"E
Spot4: Tha Tian ;	Latitude 13°44'46.92"N	Longitude100°29'23.68"E
Spot5: Tha Phra Chan ;	Latitude 13°45'23.19"N	Longitude100°29'19.65"E

3. Results and discussions

Quantity of Dissolve Oxygen (DO)

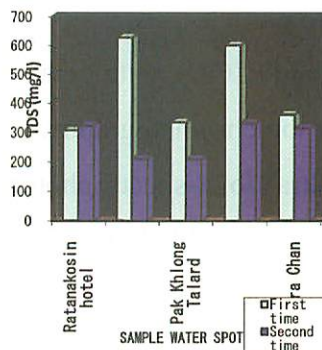
From water sample collection from various spots around inner Ratanakosin Isle we learned that trend of DO amount will increase and decrease respectively. The spots with lowest DO amount are the area around Ratanakosin hotel and Tha Phra Chan. The area at Ratanakosin hotel is the Road Square so, there have a long traffic all day and water in this area flows quite slow. At Tha Phra Chan area is the spot that Bangkok Noi canal flows into Chaophraya River. Besides, before arriving at Tha Phra Chan there is the Phra Pinklao bridge with 6 traffic lanes and it is the bridge connecting Phra Pinklao Road between Phranakorn district (Bangkok side) with Bang Plad and Bangkok Noi district (Thonburi side). These are the causes that make water in this area having lowest DO amount and when taking to compare with standard amount of Soil-surface water quality it was found that most of the DO amount are standard criterion.



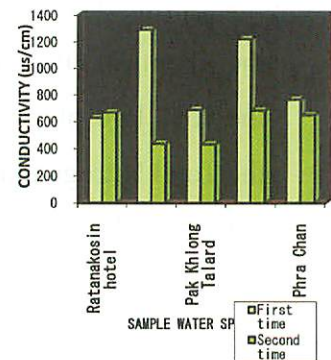
Conductivity and quantity of Dissolve Solids(TDS)

Conductivity of water is the amount that indicates adulterant in this water. Pure water was can not be conductive. The load of adulterant in water such as salt dissolve in water will make water conductive. Water adulterant can be seen by the amount of dissolve solids in the water. Analyzing data from

TOTAL DISSOLVE SOLID GRAPH



CONDUCTIVITY GRAPH



sample water tested found that first collections at Khlong Lot and Tha Tian area there were many adulterants. Second collections at Tha Tian area found most of adulterants, too. That is because there are quite many refuses as seen around under piers or river side. But when compare with standard quality amount of irrigation drainage and water ways linked with irrigation water way in the irrigation project, it was found that every amount of conductivity and dissolved solid is agreed with standard criterion.

4. References

- Pollution Control Department. January 2010: <http://www.pcd.go.th/>

Health Check for the Huangpu River

1. Introduction

While the 2010 expo draws near, the Shanghai government is making continuous effort on promoting the city. As citizens of Shanghai, we are very concerned about the status of Shanghai's mother river, the Huangpu River.

We decide to carry out a research that will help us not only have a clear view of the river's current water quality, but also by analysis the data will enable us to see if certain pollutants were linked with the industrial layout.

2. Experimental procedure

We selected seven (7) sites along the Huangpu River to collect water samples. We then evaluated the water qualities of these samples through measuring

-the pH, using a portable pH meter,

-the Total Suspended Solid Particles (TSSP), by filtering the water, drying the filtering membrane and measuring the mass of solid particles,

-the Chemical Oxygen Demand (COD), with potassium permanganate (KMnO_4) as the oxidant,

-the Total Phosphorus, using ion chromatography, and

-the Total Nitrogen, using UltraViolet-spectrophotometry.

Water samples were stored in recyclable plastic bottles that had been rinsed twice with de-ionized water and twice with the water at the sample sites.

3. Results and discussions

Location	Tested Factors				
	pH	total suspended solid particles(mg/L)	COD(mg/L)	Total phosphorus(mg/L)	total nitrogen(mg/L)
青浦报国寺	7.7	15.6	27	0.52	5.04
顾介哈	7.3	46.8	28	0.21	3.87
得胜村	7.0	30.8	24	0.26	4.36
西渡	7.0	65.2	19	0.28	5.05
龙华	6.9	113	26	0.85	4.82
定海桥	7.3	231	32	0.39	4.28

1. According to the 5 scale rating system of the National Standard of China, all of the researched water can be only rated around 3rd scale, which in other words only fair or average.
2. The daily sewage has the most severe effect on water quality, for it has a negative effect on all

five factored tested, while waste water from other industries only affect a part of them.

4. References, Acknowledgements

1. X.F. Wang et al. *Monitoring and Analysing Water and Waste Water*. China Environmental Science Press. Beijing. 2002
2. *Environmental Quality Standards for Surface Water*. National Standards of China. GB 3838-2002. Ministry of Environmental Protection of the People's Republic of China. 2002.
3. *Hydrology – Shanghai Local Chronicles*. <http://www.shtong.gov.cn/node2/node2247/node4563/node79108/node79119/userobject1ai102192.html>. 2009.

Examine of River Water Quality in Beijing

1. Introduction

It's well-known that the water pollution is more and more serious. And using biology indicators is a good way to judge the water quality and know the condition of it. To make the result more reliable, we take the specimens from three places where the conditions are totally different.

2. Experimental procedure

(1) We take water from three places

The first place is in our school. There are some ponds in our school, where water doesn't run during winters. Some trees are planted around them. And there are some plants in them.

The second river is the Kunyu River, which runs across Beijing from north to south. The riverbed is built artificially by bricks covered with moss and there are trees and grass land surrounding it.

The third river is Nansha River, where is polluted most seriously. There are some garbage which thrown by people along the bank. And at the bottom of the river live some green algae.

(2) we research water from the quantity of germs and the quantity of algae in our water specimens.

We diluted the specimens into different consistencies and then nurture them in cultures. 24 hours later, we count the quantity of colonies.

We put the specimens under microscope to count the quantity of algae.

3. Results and discussions

Here are the results of our experiments.

Quantity Of Algae

	Beijing 101 Middle School	Kunyu River	Nansha River
1	71	175	178
2	109	72	110
3	67	159	271
4	110	324	279
5	41	209	139
Quantity/mL	$79.6 \times 4 \times 10^6$	$187.8 \times 4 \times 10^6$	$195.4 \times 4 \times 10^6$

Quantity of Colonies

water specimen order consistency	Beijing 101 Middle School			Nansha River			Kunyu River			Contrast Group
	1	2	3	1	2	3	1	2	3	
10^{-1}	0	62	Too many	Too many	Too many	Too many	0	230	0	
10^{-2}	76	32	28	Too many	Too many	Too many	0	0	0	
10^{-3}	32	lots	15	19	12	lots	98	0	5	
10^{-4}	0	0	0	88	0	0	0	109	0	
the content /mL	6200			19000			230000			

Here are our analyses according to the upper data

1. Nansha River has been polluted most seriously. The thrown garbage is floating in the river. And both the quantity of algae and the quantity of colonies are the maximum. It is a sewage-received river in Beijing, so a large amount of trade effluent and domestic sewage will be discharged into it. It's easy to notice that many green algae are attaching to the bank. We also find movable chlamydomonas in the water specimen of Nansha River under the microscope.

2. While the quantity of algae in Kunyu River is approximate with the quantity in Nansha River, Kunyu River has fewer colonies. On the one hand, the upper reaches of it is Jingmi diversion canal, where water are use to be the drinkable water. On the other hand, it's hadn't thawed for a long time when we took water, so there are not so many colonies in Kunyu River. Chlamydomonas is also found in it.

3. The water quality in school ponds is the best among these three places. Although water in ponds didn't move all the winter, the quantities of colonies and algae are not many. We think the reason are (1) the temperature of water is very low (most of the ponds are covered by ice when we do the experiments), many colonies and algae can not living in such a bad condition. (2) Almost no polluted water is discharged into ponds.

4. References, Acknowledgements

1. J.L. Wang et al. *Biomedical and Environmental Sciences*. Higher Education Press. 1988
2. J.L. Wang et al. *Experimentations in Biomedical and Environmental Sciences*. Higher Education Press. 1983

The elimination of Voc's by Using biofilters

1. Introduction

I Background Knowledge

VOC(Volatile Organic Compounds)

Volatile organic compounds (VOCs) are organic chemical compounds that have high enough vapor pressures under normal conditions to significantly vaporize and enter the atmosphere.

Volatile organic compounds are numerous and varied. Although ubiquitous in nature and modern industrial society, they may also be harmful or toxic.

Biofilters

Biofiltration is a pollution control technique using living material to capture and biologically degrade process pollutants. Common uses include processing waste water, capturing harmful chemicals or silt from surface runoff, and microbiotic oxidation of contaminants in air.

II Purpose

Voc absorbs the Sun's radiation and makes chemical reactions which causes global warming, destructions of the ozone layer and disadvantages to the growth of plants. Biofiltrations are effective for getting rid of these vocs. In order to find out about ways to make these biofilters more effective, we illustrated these experiments.

We measured the gas absorption of the microorganism under different biomedias and , temperature conditions.

2. Experimental procedure

1. Prepare Biofilter by connecting the glass tube to the concealed container
2. Prepare three kinds of biomedias (cotton, coal, and yellow soil) and nitrosomonas.
3. Put the biofilter with each biomedias in the incubators for 15 minutes at the temperature of 20, 25, 30 Celsius
4. Compare the efficiency of each biofilter in different temperature

3. Results and discussions

Table 1 Using no biomedica

Date	Time	Sample Name	Cell No.	Wavelength /nm	ABS	%T	농도 /ppm
2010-03-06	16:51:46	water	0	630.0	0.0	100.02	0.0
2010-03-06	16:52:02	Filter25	1	630.0	0.266	54.21	12.234
2010-03-06	16:52:03	Filter30	2	630.0	0.302	42.13	13.885
2010-03-06	16:52:04	Filter20	3	630.0	0.327	40.07	15.032

Table 2 Using biomedica

Date	Time	Sample Name	Cell No.	Wavelength /nm	ABS	%T	농도 /ppm
2010-03-05	18:26:42	baseline	0	630.0	0.0	99.94	0.032110092
2010-03-05	18:26:43	media:20	1	630.0	0.236	58.13	10.85779817
2010-03-05	18:26:44	media:25	2	630.0	0.113	62.06	5.21559633
2010-03-05	18:27:03	media:30	3	630.0	0.207	77.13	9.527522936

Table 3 Using coal and nitrosomonas

Date	Time	Sample Name	Cell No.	Wavelength /nm	ABS	%T	농도 /ppm
2010-03-06	14:06:07	baseline	0	630.0	0.0	100.03	0.032110092
2010-03-06	14:06:08	Coal20	1	630.0	0.036	92.01	1.683486239
2010-03-06	14:53:19	Coal30	1	630.0	0.016	96.47	0.766
2010-03-06	15:19:21	Coal25	2	630.0	0.010	97.62	0.491

Coal was found to be the most effective biomedica, and nitrosomonas eliminated almost 97% of the Ammonia gas. The most effective temperature was 25 degrees Celsius.

The relationship of Nitro-products between soil and soil water

1. Introduction

Vegetables live on water. And the relation between vegetables and water is so close that it can hardly be neglected. However, certain harmful substances are found in polluted groundwater used for farming in recent years. Among them, the typically harmful ones are the Nitrate-Nitrogen, Nitrite-Nitrogen, and the Ammonia. Vegetables suck up water, and they absorb these substances--but they may cause diseases. WHO announced the report that over 2,000 cases occurred worldwide leading about 160 children to deaths. Besides, the 'Blue baby incident' may shock every one of us as an infant died in 30 minutes after eating the spinach polluted by Nitrate-Nitrogen. From these examples, it can be clearly seen how much the Nitro-products do harm to us. Because of this, we conduct the experiment as follows.

2. Experimental procedure

As the previous research such as "Blue baby incident" shows, we expected that ground water that is used for farming could contain higher percentage of harmful substances than regular tap water. That way, we tried to compare and see if we can find difference between these two kinds of water.

We researched the quantity of three harmful substances 1) Nitrate nitrogen (NO_2^-), 2) Nitrite nitrogen (NO_3^-), and 3) Ammonia (NH_3), that are contained in two kinds of water and three kinds of soil. We measured the three kinds of substances by chemical testing instrument. The water samples were taken from tap water and the groundwater in Hirano area in Osaka Prefecture. And we compared the difference of the amount of harmful substances in the water.

Contrary to our expectation, the percentage of substances in groundwater turned out similar to that of tap water. In other words, it is possible to say that ground water itself is too clean to cause the pollution for farming. From this point, we assumed that there must be other factor that is causing pollution in farming, besides water. Therefore, we decided to focus on the fertilizer that is used for farming in our next research.

First, we researched on the soil of nature forest as an example of fertilizer-free area. Then, as for the farm soil with fertilizer, we took the sample from a few different locations in the farm. The first farm was fertilized with organic fertilizer, and the other one was fertilized with chemical fertilizer. And we compared if each fertilizer is related to the groundwater that is used in the farm.

	Nitrate Nitrogen (mg/L)	Nitrite Nitrogen (mg/L)	Ammonia (ppm)
groundwater	0.05	0.006	2.0
tap water	1.1	0.006	0.2
Forrest	0.05	0.006	5.0
Farmland with organic fertilizer	0.42	0.047	4.5
Farmland with chemical fertilizer	1.9	0.006	2.6

3. Results and discussions

The soil from the farm with chemical fertilizer showed the highest rate of Nitrate Nitrogen. From our experiments, it's possible to say that the cause of the pollution is not the groundwater itself, but chemical fertilizer.

According to the Ministry of Environment, more than 10mg/L of Nitrate Nitrogen is considered as the dangerous amount to use in tap water. In our research, all the result showed smaller rate of Nitrate Nitrogen than that. However, if we keep on fertilizing the farmland with chemical fertilizer, percentage of the three substances would rise up more and more. Nitrate Nitrogen can even be the cause of cancer in our body, too.

Of course, it is difficult to stop using chemical fertilizer completely. However, we can think of better way of using the fertilized soil in the future, not to abuse the Nitrate Nitrogen. The soil that had been fertilized with chemical fertilizer should not be reused without clarification. We think that it is essential to deal well with the fertilized soil. And also, we suggest even more effective use of organic fertilizer as well as chemical fertilizer.

4. References

1. *Fertilizer and environment- Nitrogen flowing out from farmland*, National Institute for Argo-Environmental Science, <http://www.niaes.affrc.go.jp/magazine/111/mgzn11111.html>
2. *Words*, Miyako Groundwater Conservation Council, <http://www2.miyako-ma.jp/chikasui/sango/words.html>
3. Mitsuru Ando, *Journal of the Faculty of Regional Science, Toyama University of International Studies* 7 pp.1~48 (2007)

高校生国際共同宣言

International High School Science Conference

Finally, We'd like to present this Joint Statement as to summarize this International High School Science Conference 2010. Five presentations from different countries have taught and made us realize a variety of important issues about the world environment. First three presentations mainly discussed the causes of the pollution and made aware of the core reasons of environmental pollution. Two other presentations followed, mainly focused on the possible solutions for environmental pollution.

According to the presentation by Chulalongkorn University Demonstration Secondary School from Thailand, we found out that canals are closely related to water pollution. Also, the presentation by Shanghai Foreign Language School Affiliated to SISU from China, it became clear that industry sewage from households is one of the causes of the water pollution. Lastly, Osaka Prefectural Otemae High School from Japan mentioned about the fertilizer for farming as one of the chief reasons for pollution in the farming context, and as a reason of the pollution on the water and the soil.

On the other hand, Beijing No.101 Middle School from China taught us that human activity has a great influence on the water quality. And Hangsung Science High School from Korea showed us how bio filters can be effectively used through their presentation. In summary, it's quite possible to say that the factors causing pollution tend to be more "man-made" than natural. On the other hand, the functions of natural plants or inhabitants are rather effective in preventing the environment pollution.

We have heard the words from each country. Now is the time to turn our words into actions; hand in hand, and step by step, we have to face our future. If only every one of us can fulfill our own responsibilities, I believe we will make a big step forward. One single action piles up and eventually causes a big environmental pollution. Do you use plastic bags for shopping? Do you use a lot of detergent for laundry? Do you keep water running when you're brushing your teeth? These everyday actions are actually one of the main causes of environmental pollution.

In other words, each person's attention and actions can stop or slow down the rare of pollution. Each of us should stand up, and take action. We can start from what we can do. The chance is right in front of you to save the earth. We can change our future with our own hands. We, high school students, are the next generation and the bridge to hand down our beautiful planet to future generations. For the green forests, for the blue sky, and for the clear water, let's work together! Let's stop the global environmental pollution! Let's restore our precious nature back to its former self, and keep our beautiful earth clean for the future! The future world environment is depending on our everyday action. Do not wait – the future is now. This concludes the Joint Statement of International High School Science Conference 2010. Thank you.

(訳)

高校生国際科学会議

最後にこの高校生科学会議2010のまとめとして、共同宣言を発表したいと思います。
5カ国による発表によって、私たちは世界の環境について重要な問題が様々であることを認識しました。最初の3つの発表は主に汚染をもたらすものについてであり、これらの発表によって、環境汚染の主な原因に気付きました。続く2つは主に環境汚染に対する解決方法に焦点を当てていました。

タイのチェラロンコン大学附属高校によると、運河と水質汚染は密接に結びついています。また、中国の上海外国語大学附属外国語学校の発表により、家庭排水が水質汚染の大きな原因であることが明らかになりました。最後に、日本の大阪府立大手前高校が、農業用化学肥料が農場環境汚染の主原因であり、結果として、水質汚染や土壌汚染の原因であることに言及していました。

また、中国の北京101中学は、豊かな自然に囲まれている河川は汚染されにくいということを教えてくれました。韓国の漢城科学高校の発表で、バイオフィルターがいかに効果的であるかがわかりました。要約すると、汚染要因は自然のものより人工によるものであるということが出来ます。一方、自然の植物や動物は環境汚染を防ぐのにかなり有効であると言えます。

各国からの言葉が聞かれましたが、今、その言葉を行動に起こすときです；手に手を取り、一歩ずつ、私たちは未来に向き合わねばなりません。もし、私たちの一人一人がそれぞれの責任を果たせば、それは大きな前進になると信じます。買い物の際、レジ袋を使っていますか、洗濯の際、洗剤をたくさん使いますか、歯を磨いている間、水を出しっぱなしにしていますか、これらの日々の行為が 実際に環境汚染の主な原因なのです。

言い換えれば、個人個人の注意や行動によって、汚染のスピードを遅らせることができます。一人ひとりが立ち上がって、行動をおこすべきです。自分たちにできることから始めればいいのです。地球を救うチャンスはいま目の前にあるのです。私たちは、未来を自分たちの手で変えることができます。私たち高校生は次の世代であり、この美しい地球を未来の世代に受け継ぐ架け橋なのです。緑の森のために、青い空のために、光り輝く水のために、ともに頑張りましょう。地球の環境汚染をくい止めましょう。未来の世界の環境は日々の行動にかかっています。待っていないで、今こそ未来を変えるときなのです。

これが高校生国際科学会議2010の共同宣言です。

海外参加教員・生徒の感想

〈教員〉

Wan Lan (北京 101)

24th: The first impression that I was given is that the city is very clean, and the teachers here are very nice as well.

What's more, the organizations of the activity are well done.

25th: The conference went smoothly as it's arranged. Each participant gave an excellent presentation. We experienced every student's and teacher's dedication.

26th: A special farewell party left deep impression in me. Before our return to home, we want to show our "welcome" to all the friends here. Welcome to Beijing!

Chen Juan (上海外国語大学附属)

24th: Teachers of Otemae came to the airport and gave us a very warm welcome, and also the students in this high school performed such a wonderful 茶道 for us, that made us very happy.

25th: The conference you held had made us a deep impression. Everything is so.

26th: It's the only cloudy day during our trip in Japan. And the Biwa Museum is so good as I'm a geography teacher. Also my students enjoy this trip very much. Thank you!

Hong Jun Euy (漢城科学)

24th: I concerned about how this conference will be going on, but we came to Osaka late we could not check anything. But I feel it will be successful when we arrived Otemae High School.

25th: It was really big conference. Many audiences came to the hall and practice, presentation, dance, all of them are meaningful and fruitful and good memory. I feel we are friend. Teachers and students are all friends regardless of age.

26th: It's a big party at the first time. Somewhat embarrassed when they asked me for speech on the stage. But it's good to share friendship and environmental issue.

Sarunporn Yindeesug (チュラロンコン大学附属)

24th: So tired, but have fun.

25th: Great conference. I have a good experience, Thank you so much.

26th: A nice trip. I like to go to temple....It's great. Moreover, this party is wonderful. This is a great time.

〈生徒〉

Wang Rui (北京 101)

24th: Today is the first day I arrived in Japan. The first impression of Osaka is that the city is really clean and peaceful. In Beijing there are also many residents, but unlike Beijing Osaka is a peaceful city. Japanese are all really hospitable and friendly. I had a really nice day.

25th: Today, we give our presentation at the hall. What impresses most is Japanese are strongly self-controlled and well-ordered. Everything is arranged well, so the conference makes great success. After the conference I go back to my host family. I greatly appreciate living in a host family. I have the opportunities to experience ordinary Japanese life. I learned a lot about Japanese language and culture. They are very unique and it is

really a unforgettable memory. I especially want to thank my host family. They are very nice and warm-hearted. I had a great experience.

26th: We went to the Kyoto City. It is a traditional city. I learned a lot about the Japanese History. Students in Otemae High School told me about the development of Kyoto City. Biwa Lake is scenic and impressive. I enjoyed the journey very much. It this evening I experienced the warmth of Japanese again. I wish I can keep in touch with students in Japan in the future and I believe the relationship between China and Japan will last forever.

Den Wenting (北京 101)

24th: The city is clean. And my host family is very friendly. They made traditional Japanese food and taught me how to play Japanese game. I really enjoyed it.

25th: The conference was quite successful. I was quite nervous before the presentation. However, after I went on the stage, I became calmer. I learnt a lot from this.

26th: The scenic in Osaka is really beautiful and it is fascinating to me. I enjoy the trip both in the museum and in the temple. I hope I can come to Japan more times in the future.

Xu Mengyuan (上海外国语大学附属)

24th: Very clean, people are nice and hospitable. Tea ceremony rather traditional.

25th: Unique school and culture. Great view of sakura and Japanese style of architecture.

26th: Really, really quiet and suburban scenery. Has a side of business and religious. Former, but sincere people!

Zhuang Lingzi (上海外国语大学附属)

24th: The Japanese Sado Ceremony was very interesting and completely different form the tea ceremonies in China. The tea was nice and I enjoyed myself. I was just unaccustomed to the way Japanese people sit, because I felt a bit of pain in my ankles. The rehearsal was fine (but our presentation was too long, so we had to cut it short. This was an enjoyable process, though.)

25th: We met students from Korea, and their English was so good. In the afternoon we presented our research before hundreds of audiences, performed the Yosakoi dance, and were excited. The joint communiqué brought the conference to a climax. Although we cut our presentation short, I felt that we were just successful, both in the presentation and in the Q&A round.

26th: We went to 琵琶湖 in 滋賀県 and 清水寺 in 京都. The Biwa Lake was like a pearl embedded in the mountains that lie between 中国 and 近畿. We learned about the animals that live in the lake and were particularly impressed by the largest amphibian in the world. 清水寺 was a historical site and the architectural features of the temple were very much similar to those of Chinese temples.

Sophie Kong (漢城科学)

24th: First I would like to apologize for being late. And I want to thank my host for a heartwarming welcome. It was my first time in Osaka and I was very impressed.

25th: We had presentation in the morning, and everyone did great. I enjoyed meeting friends from Japan, China and Thailand. They all did very interesting researches. Also, I enjoyed the dancing. It was very fun and entertaining. Also, after school I went out to eat Okonomiyaki. It was delicious!

26th: I had so much fun touring Japan. The sightseeing was wonderful. I also had so much fun with Japanese friends, I also made friends with Chinese and Thailand friends.

Jin Minlee (漢城科学)

24th: We arrived late on Wed, so we didn't get to do many things. However, my hosts were very nice and gave me wonderful dinner.

25th: We made a speech on Thursday. It was very embarrassing and scary. But it was a great chance for me to speak in front of many people.

26th: It is my first time in Japan.

Patchanee Srisatit (チュラロンコン大学附属)

24th: I came to Japan very early, so I felt tired. But Otemae's students made me happy and fun. I went to Osaka Castle. It's very beautiful. The weather in Japan was very cold. I was very surprised.

25th: I was very nervous on the day, because I had a presentation. But I enjoyed Japanese dance and I was very happy with my host family.

26th: I had a very nice trip to Kyoto. I wanted to go to a science museum and a temple. It was very nice today. In the evening I had a party. The food are delicious and I like them very much. Finally, I want to say thank you to Otemae Senior High School for giving an opportunity to come to Japan to me.

大手前高校 発表生徒の感想

川本夏生・上坂和美・上月志乃・雑賀麻理・張 含露

今回の国際会議では環境がテーマということで私たちはまずテーマを決めるのに苦労しました。そこで野菜に有害物質が残留して人体に悪影響を及ぼすという問題があることを知って興味を持ち、これに関係した調査を試みようと思いました。調べを進めていくうちに、その有害物質は硝酸態窒素であり、私たちの身近なところではどうなっているのかを知りたいと思い、調査を開始しました。

それと同時に海外の生徒とのメールのやり取りも始めました。この会議の目標の一つの四カ国五校による共同声明の作成がありました。各国がそれぞれ環境問題について関心があることを調査していたのでお互いの情報を交換するために英語でメールを交換しました。メールでは会議についてだけではなく、お互いに興味があることや高校生活について意見を交わしたりしました。特にタイの生徒とはとても話が弾み共通点多々あり、国が違っても同じ高校生なんだなあと改めて実感しました。また、メールの回数が増えるにつれて、早く直接話をしたいという気持ちが高まっていきました。

私たちが実験で一番苦労したことは試料集めです。始めはクラスメイトに頼んで近所のある畑の土を持ってきてもらっていたのですが、そこからなかなか良い結果が得られず、JAの方に協力を依頼しました。すると喜連瓜破にあるJAが経営する畑を紹介してもらいそこに行くことになりました。私たちは化学肥料をまく前とまいた後の土に含まれる有害物質の量の差に着目していたので、それについて調べることができる試料を探していました。一回目に訪ねた時にいただいた試料を調査してみたところ、私たちが求めているような結果ではなく、三回目に訪れてやっと私たちが求めている結果が得られました。

そして、プレゼンを英語と構成のサポートを関西学院大学の太西先生にさせていただきました。太西先生には私たちが作った英語をチェックして直していただいたりと、わたしたちのためにたくさん協力していただきました。会

議が近づくにつれて私たちと先生は朝から晩までプレゼンの準備を進めました。そのときに苦労したことは、初めてプレゼンを聞く人にどうやったら分かりやすく研究結果を伝えられるかと、やはり英語でした。日本語で書いてあることをそのまま英語にしても、私たちが伝えようとするのが少し変わってしまうので、翻訳の部分で苦労しました。

3月25日。午前8時から、プレ国際会議を行いました。

緊張はしていましたが、楽しみと興奮の方が大きかったです。韓国・北京によるプレゼンテーションの後、全員で共同声明の確認をして、開会式に向かいました。開会式では多くの先生方、来賓の方々が出席されていて、さらに緊張が高まりました。開会式の後、私達は別室で、それぞれのグループごとにプレゼンの最終確認を行い、その後ソーラン節の練習をしました。外国の生徒さん達は隊形を覚えるのが大変そうで、私達も教える難しさを実感しました。

慌しく昼食を終え、いよいよ本番の国際会議が始まりました。どの国の生徒さんも落ち着いて堂々と発表していて、英語の発音もきれいで感心しました。私達は最後だったので、みな落ち着かずそわそわしていました。舞台裏で控え、それぞれがもう一度内容を確認しました。私達がお互いに声を掛け合っ気を引き締めていると、北京101中学の生徒さんが「Don't be nervous.」と一言励まし声をかけてくれ、本当に嬉しかったです。

本番はみな思っていたよりも落ち着いて、無事プレゼンを終えることができました。私達のプレゼンが終わると、すぐにソーラン節の半被に着替え、記念品贈呈後、ソーラン節を踊りました。みんなでちゃんと踊れるか不安だったが、動作も隊形移動もできて良かったです。ソーラン節を踊り終えた外国の生徒さん達は嬉しそうで、ソーラン節をやってよかったと思いました。

この日は本当に忙しくて、あっという間の1日でしたが、今まで準備してきたプレゼンを無事終えることができ、充実した1日になりました。初めての国際会議で大変だったけれど、外国の方との交流や英語のプレゼン発表などかけがえのない経験ができて本当に良かったと思います。

科学会議の次の日は、外国の生徒さん達とともに琵琶湖と清水寺へ行きました。琵琶湖へ向かうバスの中ではお互いの文化について紹介しあいました。特にタイの生徒さん達からは言葉遊びをいくつか教えてもらい、日本の同じような遊びも紹介したりしました。考えると当たり前のことなのですが、カードゲームの「ばばぬき」「ぶたのしっぽ」がタイでも同じルールであると聞いたときに世界のつながりを感じることができました。

また、外国の生徒さん達は好奇心が強く日本文化について何度か質問を受けました。例えば、漢字とひらがな、カタカナを組み合わせて構成されている日本語は特殊であるらしく、どんなときに使い分けているのかを簡単に説明することもありました。自分の考えを英語で伝えることは難しく、それでも真剣に聞いて納得してくれたので嬉しかったです。私たち日本のグループの中にも琵琶湖の水質博物館、清水寺は初めて訪れるという人がいて、一緒に見て学んで楽しむことができました。外国の生徒さん達と科学会議を通じての交流した事は、英語力の壁、世界観の広がりなど多くの刺激を受けた好機となりました。

■ 高校生国際科学会議の風景



ご来賓の方々



楠野宣孝
府教委教育振興室長



原田哲次 校長



「チュラロンコン大学附属高校」生徒の発表



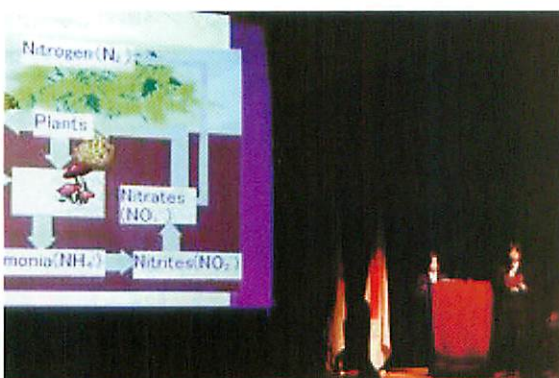
「上海外国語大学附属外国語学校」生徒の発表



「北京101中学」生徒の発表



「漢城科学高校」生徒の発表



「大阪府立大手前高等学校」生徒の発表



「大阪府立大手前高等学校」生徒の発表

■高校生国際共同宣言



共同宣言の発表風景



尾鼻靖子 関西学院大学教授



■交流企画（よさこいソーラン）



発表生徒および有志によるダンス風景



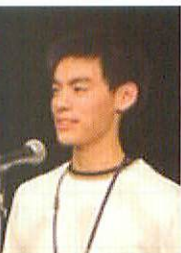
■レセプション



安橋興二郎
金蘭会会長

各校 引率の先生方

大西加奈子 関西学院 戸田 徹 教頭
大学非常勤講師



各校の発表生徒たち

米田 隆 教諭



大手前高校の発表生徒たち

福野勝久 教諭

宮城憲博 首席

●「高校生国際科学会議」担当者

1 担当一覧

	主担	部会	内容	担当
総務	宮城	記録・報告	記録・報告書・カメラ・ビデオ・ ・記念誌	石若・植田・澤井・中川・馬場・藤井
		渉外	招待・来賓・PTA・金蘭会・報道・ ポスター	葛城・野口・橋本・久富
国際会議・ 課題研究 発表	福野	会場	会場関連(機材・看板・掲示物)・ 参加者募集・名簿・座席・受付	網谷・荒井・金・當内・中川・中濱・ 永島・深川
		会議	国際会議進行・プログラム・ 共同宣言・共同研究・ミニ発表会・ ポスターセッション	新井・池田・板口・井上・瀬町・ 高木三・長谷川恵・蜂須賀・文田・ 藤田・安井・柳原
海外 (生徒・教員)	米田	通信	海外との連絡・協議・連絡・ 移動の手配・お迎え・見送り・記念品	池宮・伊藤・岡・岡田・川端・島田・ 喜多村・高木健・田頭・竹林・谷恵・ 佃・筒井・出畑・長谷川幸・早坂
		ホーム ステイ	ホームステイ・レセプション 教員対応(宿泊その他)	垣内・兼崎・川口・竹田・谷悠・ 永田・蜂谷・水山・長野
会計	酒井	会計	予算・決算・費用支払い・基金関連	西浦・嶋地
		食料	昼食、飲み物等の手配	多田・仲尾・黒須・中井
救護	元木	全般		大川

2 準備日程

月	総務	国際会議	海外	会計
	海外招待校・要項決定	共同研究テーマの決定	海外への連絡・協議・依頼	予算
10月		共同研究開始		
11月	案内①		ホームステイ募集①	
12月	来賓依頼	プログラムの詳細決定 ポスター・プログラム作成		
1月	案内②	京都研修の企画	ホームステイ募集②	
2月	参加者確定・報道提供	発表準備	ホームステイ決定・説明会	
3月	報道対応・来賓対応	会議運営	歓迎・レセプション・送迎	
4月	報告書			決算

高校生国際科学会議 企画書
International High School Science Conference

- 日時 2010年3月24日(水曜日) 14:00~17:00 (プレ会議1)
3月25日(木曜日) 10:10~16:00 (午前:プレ会議2, 午後:国際科学会議)
- 3月26日(金曜日) 研修ツアー・レセプション

●集合(3月24日)

国名	学校名	便	関空着
タイ	チュラロンコン大学附属高校	TG622	6:10
中国	上海外国語大学附属高校	MU515	13:00
中国	北京 101 中学	CA927	13:20
韓国	漢城科学高校	OZ114	15:50

各国ともおおむね関空着から2時間後に本校に到着の予定。

●本校到着後の動き

<タイ>

午前中、茶道部のお茶会、その後、カテゴリーAの生徒の引率で大阪城見学、昼食

<上海>

15:00に本校に到着。茶道部のお茶会に参加し、15:30からのプレ高校生国際科学会議に参加。

<北京>

15:20に本校に到着。15:30からのプレ高校生国際科学会議に参加。

<韓国>

関空につき次第、出迎え教員から本校へ連絡。ホストファミリーの来校時刻の確認。17:50に本校到着後、ホストファミリー宅に移動。

●プレ高校生国際科学会議 1日目 (本校視聴覚教室にて) (3月24日午後)

・各国グループによる研究報告とディスカッション

- ① タイ
- ② 上海
- ③ 大手前

・共同宣言の内容調整

・交流企画練習(よさこいツアー)

●プレ高校生国際科学会議 2日目 (本校視聴覚教室・ドーンセンター大会議室1にて) (3月25日午前)

・各国グループによる研究報告とディスカッション

- ① 北京
- ② 韓国

・共同宣言の内容確認

・交流企画練習(よさこいツアー)

高校生国際科学会議（ドーンセンター大ホールにて）（3月25日午後）

13:30 開会式

開会式宣言（戸田 徹 教頭）

開会の辞（原田哲次 校長）

13:38 来賓紹介

13:43 来賓祝辞（大阪府教育委員会 教育振興室長 楠野宣孝 氏）

13:56 各校発表（司会 大手前高校2年生 幸寺健吾 くん）

① チュラロンコン大学附属高校

「ラタナコシン島の水質調査」(チュラロンコン大学附属高校)

② 上海外国語大学附属外国語学校

「フーチュン川の水質調査」

(休憩)

14:41 各校発表

③ 北京 101 中学

「北京を流れる川の水質調査」

④ 漢城科学高校

「バイオフィルターを使った揮発性有機物の除去」

⑤ 大手前高校

「土壌と土壌水に含まれる窒素化合物間の関係」

15:30 国際共同宣言

講評（関西学院大学 尾鼻靖子 教授）

15:42 交流企画

記念品贈呈・よさこいソーラン

15:50 閉会の辞(原田校長)

15:54 閉会宣言(戸田教頭)

京都・滋賀研修ツアー（3月26日）

8:30 学校集合・出発

10:30 琵琶湖博物館見学

14:00 清水寺見学

17:00 ハイアット・リージェンシー



編集後期 <高校生国際科学会議を終えて>

平成22年3月25日、タイ、中国(北京・上海)、韓国から生徒を招き高校生国際科学会議を開催いたしました。会議の様子は、NHKでも放映され、各方面から多くの反響を頂きました。この会議は、本校スーパーサイエンスハイスクール事業の大きな企画の一つでありましたが、大手前高校の今後の取り組みの指針になるものでもありました。そういう意味で、この会議が成功であったことは教職員一同大変嬉しく思っております。

平成20年度に斎藤良昭前校長が各国領事館に開催の趣旨説明に伺い、参加校の紹介の依頼をしました。年度が改まり平成21年4月、原田哲次現校長が赴任し、改めて各領事館に開催の詳細を説明し、学校の紹介をお願いしました。結局、本校が直接、各校と連絡がとれるようになるまでに、約3カ月のタイムラグがありました。ご紹介頂いた4校、タイのチュラロンコン大学附属高校、中国の上海外国語大学附属外国語学校、北京101中学、韓国の漢城科学高校とEメールでやりとりを行い、情報交換や共同研究を進めてきました。時には、連絡が途絶えて焦ることもありましたが、生徒達は互いに興味あることや、高校生活についての意見交換などを行い、友好を深めていったようです。

3月24日、順次、海外から関西空港に到着され、大手前高校で「プレ国際科学会議」を行いました。発表内容の確認や共同宣言の打合せ、交流企画である「よさこいソーラン」の練習を行いました。海外の生徒達は、「よさこいソーラン」の激しさに驚いていたかも知れません。3月25日、いよいよドーンセンターで発表の日を迎えました。午前中に最終の打合せをし、午後の本番に望みました。そして、各校での研究をベースとして、高校生の視点からみた環境問題への提言である共同宣言を行いました。その共同宣言は、「5カ国による発表によって、私たちは世界の環境について重要な問題が様々であることを認識しました。(中略)個人個人の注意や行動によって、汚染のスピードを遅らせることができます。一人ひとりが立ち上がって、行動をおこすべきです。自分たちにできることから始めればいいのです。地球を救うチャンスはいま目の前にあるのです。私たちは、未来を自分たちの手で変えることができます。私たち高校生は次の世代であり、この美しい地球を未来の世代に受け継ぐ架け橋なのです。緑の森のために、青い空のために、光り輝く水のために、ともに頑張りましょう。地球の環境汚染をくい止めましょう。未来の世界の環境は日々の行動にかかっています。待っていないで、今こそ未来を変えるときなのです。」と力強いものになりました。

翌日の3月26日は、琵琶湖博物館・京都へ研修ツアーに出かけ、本校生徒とともに友好関係を深めました。3日間を通して、参加した海外生徒・引率の先生方も大変満足され、「今後とも交流関係ができれば」という言葉も頂きました。

国際会議の進行・ポスター制作・共同宣言・交流企画・ホームステイ・研修ツアーなど、初めてのことも多く、何度となく会議を重ね話し合いをしました。そのような経験も、今はよき財産となりました。多くの人たちとともに協力して素晴らしい企画を作り上げたこと、各国の生徒たちが共同で素晴らしい発表をし、交流を深めることができたことは何よりの喜びです。この生徒たちが将来のリーダーとなり国際社会を引っ張っていつてくれることを切に期待しています。最後に、ご尽力いただきました本校関係者の方々と、関西学院大学 尾鼻靖子氏・大西加奈子氏、大阪大学 深瀬浩二氏・平沢安政氏、ハイアットリージェンシー大阪 豊田勝則氏 他、ご協力頂きました皆様に御礼を申し上げます。

SSH研究主任 宮城憲博

高校生国際科学会議

報告書

*Hansung Science
High School*

*Osaka Prefectural
Oranse High School*

*Beijin 101
Middle School*



*Shanghai Foreign
Language School*

*Chulalongkorn University
Demonstration Secondary School*

