

A Congratulatory Address on Publishing THE UNIST JOURNAL

A Letter from UNIST's President

It is my great pleasure to commemorate publishing the first edition of the "THE UNIST JOURNAL", a student-focused quarterly journal, which will provide a variety of news and information to the UNIST family.

The vision of UNIST is to become a world-leading university in science and technology which can contribute to the improvement of human life in the future, through educating creative global leaders in science and technology, and creating new paradigms in interdisciplinary research.

The specific aim and goal of UNIST is to become one of the top 10 universities in the world by 2030. Recently we have published "UNIST VISION 2030", a master plan for becoming a top 10 universities by 2030. The strong support from central and local governments encourages us to make this goal come true.

Recently the MOEST plan for supporting 4 specialized universities (UNIST, KAIST, GIST, DGIST) to make the world top 20 universities by 2020, has been approved by the National Research Council. Furthermore D.U.P (DGIST, UNIST, POSTECH) have been included in the Science /Business Belt Project, which is the biggest national basic science supporting project.

UNIST began on March 1, 2009, which means we are a little over 2 years old. During this short period of time we have successfully recruited

the top 3% of high school graduates, including almost 20% of science and foreign language high school graduates. Top level faculty, with state-of-the-art facilities, have recruited many national R&D projects, including World Class University (WCU), New Growth Engine, Science Research Center (SRC), and Basic Research Lab (BRL). Through these research projects, they revealed their capability by publishing 6 papers in the world's top 3 journals; Nature, Science, and Cell during the last 2 years.

The name UNIST is now starting to be recognized internationally. Dr. Konstantin Novoselov, 2010 Nobel Laureate in Physics and currently a professor at the University of Manchester, has been invited as a Chair Professor and Honorary Director of the Graphene Research Center at UNIST. Furthermore we have launched a stem cell research center with Dr. Hans Scholer, director of the Max-Planck Institute for Molecular Medicine, in Germany. Thus, UNIST has made steps toward becoming a world-leading university in science and technology.

Finally, I would like to thank and congratulate the students and faculty who have made the starting of THE UNIST JOURNAL possible.

It is my desire to see THE UNIST JOURNAL keep in step with the ongoing development of UNIST.

President Mooje Cho



Nobel Garden

The Nobel Garden is just in front of NSB. There are two beautiful trees, which were planted by two Nobel laureates to commemorate their visit to



UNIST. A new tree has been added each time by visiting Nobel laureates.

The Nobel laureates who visited the university are Tim Hunt('01 Physiology or Medicine), Konstantin Novoselov ('10 Physics). They were very impressed with the excellent education and research facilities and the outstanding students at UNIST.

Dr. Kostya Novoselov, a Russian-British physicist, visited UNIST twice to show his deep interest in and appreciation for this new university.

Reporter Hyuneei Kwon



Director's Remarks



Welcome to the first edition of THE UNIST JOURNAL. A group of dedicated students, who shared a

vision of creating a school newspaper have worked hard to bring this to life. After considerable deliberation, they selected the name "THE UNIST JOURNAL."

THE UNIST JOURNAL is an independent newspaper published by UNIST students. The purpose of this newspaper is to share information about all the events that occur here at UNIST. The Journal will strive to keep the school well informed, to bring the school together and help build a better culture. It will also create articles and stories with internal

and external review and in-depth discussions regarding various issues.

Students reporters are hard at work on this journal while they pursue their academic studies. THE UNIST JOURNAL is not a professional newspaper. However as Social Network Service (SNS) society emerges, communication is even more important. This first edition is a seed of communication among our community members. I cannot wait to watch this seedling of communication grow, succeed and bear fruit. Thanks for reading THE UNIST JOURNAL.

Prof. Jinyoung, Kim
Director of UNIST Media and
Public Relations Center

Eyes and Ears of UNIST

Congratulations on the publication of THE UNIST JOURNAL. I believe the Media Center will be the eyes and ears of UNIST. As the proverb says well begun is half done, I hope THE

UNIST JOURNAL will work strongly towards its goals, which will result in it becoming an



authorized the journal of public opinion for UNIST. Once again I congratulate the publication of THE UNIST JOURNAL.

Sujin Pyo
President of a Student Council

Competition, Passion, Friendship at UNIST

At UNIST, an athletics competition named UNISTADIUM was held May 7th, by the 1st UNIST student council, to bring the best three universities of natural sciences and engineering, UNIST-KAIST-POSTECH together. The aim of this competition was to establish a bond and achieve scholastic unity with the other two schools of natural sciences and engineering. Two hundred participants from the three universities took part in two events, soccer and basketball. Only the soccer club of KAIST did not participate.

At the opening ceremony, the speech "Be Global Leaders and Researchers Together" was given by the president of UNIST, Moo Je Cho, followed by celebrations with the school club, UNICH. Soccer was held at the sports field, and basketball was in the gymnasium at the same time. While the games were being played, the organizers provided lunch, dinner,



▲UNIST · KAIST · POSTECH

and beverages for players.

Kaiser(POSTECH) won the game by the score 3 to 2 to be this year's winners of the trophy against Earth Cops(UNIST). Kaiser also won the first game only took part by classes of ten. Earth Cops just won the second

game only took part by classes of nine.

After all the main events, Il yong Choi, the captain of Kaiser said, "UNIST offered very good conditions to concentrate on playing games and as I hope, with this competition prospering, exchanges between the univer-

sities will be promoted." Gyubo Shin, the captain of Earth Cops said, "I was disappointed to be defeated, but good players will join our clubs year by year, so we will do better next year."

In basketball, all the games were very close, resulted in winning one victory for each team, UNIS(UNIST), POBBA (POSTECH) and DOOLLY(KAIST). But in the end, DOOLLY defeated the other two clubs and won the trophy. When the games were over, Jaehak Cho, the captain of POBBA said, "I was highly contented by the conditions given by UNIST and the three universities were together." Jooho Yoon, the captain of DOOLLY said, "Because the abilities of the three teams were nearly equal, the games heated up. But, in the end, all the guys were nice to each other. I really hope a competition like UNISTADIUM will develop further." Kihoon Im, the captain of UNIST

said, "There is a different kind of fun in UNISTADIUM which I didn't feel when participating in any other game."

After the opening ceremony, the main event was second, followed by the extra round and a wrap-up party. Even if UNIST was defeated in all the games, the students among the three universities of natural sciences and engineering, UNIST-KAIST-POSTECH, came together at UNIST to show their passion, enthusiasm and mettle.

* reporter Sangmyon Lee



Interview with department heads leading to future growth

D.H.E (School of Design & Human Engineering)

S' DESIGN Laboratory (SUSTAINABILITY.SERVICE.STRATEGY)
Based on my product design experience, I'm dealing with sustainability, service, and strategy. Based on human experience design methodology, I'm trying to apply that research into sustainable design, service design, and strategic design.



▲Prof. Seonhee Jung

-Give some advice to college students.
Nowadays, many students are really worried about their future, so they don't attempt adventurous things. Because they're so worried about their future, career, jobs. Of course, I think that is important. But, during your college years I think you have to focus more on what you really want to do or which area you really want to put your energy, and effort into

push your energy in that direction. I hope you guys have a Passion for what you're doing, and study really hard in that direction, then you will find the way.

So you have to focus on the purpose of your life, the meaning of your life, instead of only for the record and jobs.

You have to find out that way and you have to

* reporter Minyoung Son

T.M (School of Technology Management)

My research includes corporate governance. It is important how you manage corporations, including the board of directors, the president, executives, and managers. It is very important how you govern the corporation. There are two big views in corporate governance. One is the stockholder's perspective. The other is the stakeholder's perspective. A new theory says shareholders are the only part of corporations. However, there are customers, and there are many other stakeholders in a corporation in addition to the shareholders. Therefore, there's another theory called the stakeholders perspective. Stakeholders will include shareholders, employees, customers, or environments. I'm studying corporate governance from the perspective of the stakeholders. The corporation has much broader responsibilities to many parties in addition to stockholders. That's the area that I'm focusing on in my research.



▲Prof. Eunsup Shim

-Give some advice to college students
"Without a big dream, no need to do hard work. Without hard work, no need to dream." Every student needs to have a big dream.

But, the dream doesn't necessarily become reality. So, in order to make this big dream become a reality, you have to work hard. What I'm saying is if you don't have any dreams, there is no point in working hard. But, even if you have a huge dream, if you want to be the best teachers, professors, scientist, manager, if you don't work hard, nothing can be achieved. Once you have a big dream, you must work hard to achieve your dream. That's very important to today's college students. There're many people who had a big dream and achieved those dreams. You have to have a big dream. Once you have a big dream, then work hard to achieve the dream.

* reporter Junyoung Seo

Head of Stem Cell Research

Hans Schoeler(58) is head of the molecular bio-medical science institute of Max-Planck. Also he became "named endowed chair profes-

sor" of UNIST since 2011.5. He researches about pluripotent stem cells from embryoid bodies, epigenetic problems of cloning and possible application ranges for iPSC cells.

He answered the question "Why did you decide to study stem cell?"

"I'm a biologist and as a biologist, am interested in molecular process. I would like to understand how things happened, how molecules act and interact and as a scientist I'm also interested at developing things that are useful for humans."

-Give some advice to college students and give the way which students can take a information about you.

Never give up, never give up. Always believe that you can learn more goal. It's important to not think why things are not, why they do not work, think how you can make this work.

Homepage(<http://www.mpg.de/en>), all the literatures, magazines, journals and so on or if you have more questions ask to Prof. Kim. And some interviews which were just published in the international journal of the department of biology, in which they talk about my life, how was when I was a student. You can find more information from that.



▲Prof. Hans Schoeler

* reporter Doyeon Lim

E.C.E (School of Electrical & Computer Engineering)

Bien's Integrated Circuit Design Lab (BICDL pronounced: "Big Deal")

If you want a big deal in life, come to BICDL. Korea is now the number one provider of integrated circuits built on semiconductor technology, providing almost 50% of the world supply. Memory-integrated circuits are only 1/4 of the total number of integrated-circuits produced. In other words, Korea's share of the integrated-circuit industry is only 1/8, or about 12%. The other 80% comes from non-memory integrated circuits. So, what I specialize in is analog and Radio Frequency (RF) circuit design which is the non-memory integrated circuit. My specialty has been working on non-memory analog RF integrated Circuits



▲Prof. Franklin Bien

-Give some advice to college students

I see most of the students who choose their

major not based on their passion, not based on their vision, but based on what adults tell them is going to be popular in the near future. I think it is very sad. So, the message I want to give students is please think seriously about your future career, and don't choose your dream or your goal based on salary, but based on your own passion, your own interest, and your own vision

* reporter Taehye Lee

U.E.E (School of Urban & Environment Engineering)

My research topics are in the area of physical-chemical treatment processes, with a special strength in modern membrane processes (including synthesis, application, fouling, and deterioration). Membrane process is a technology to use selective barriers, which have an ability to transport one component more easily than the others, between two phases. Membrane separation process is a promising advanced technology for water/wastewater/seawater treatment. Nowadays many treatment plants are choosing the membrane process as an alternative to conventional water treatment processes. Currently, I am investigating synthesis of better reverse osmosis and forward osmosis membranes and trying to apply the membranes to the solution of specific



▲Prof. Youngnam Kwon

chemical problems in aqueous solutions.

-Give some advices to college students.
Exploration, challenge and curiosity are limited only by the desires of students. Based on aggressive passion, dash toward your goal. "Students, be ambitious".

* reporter Jeongmin Park

UNISTAR Building Harmony

UNIST has a leadership and cultural program called 'Leadership School'. UNIST's leadership program lets students know their abilities as leaders and improves their leadership in a number of different ways, such as communication, relationship, self-knowledge, and role play. It is hoped to become a tradition at UNIST, helping the leadership & teamwork of undergraduates. UNIST's leadership program was reformed this semester. The previous leadership program depended on the good will system but now it has 3 courses. It is called UNIST HUG Leadership Course. HUG means harmony, understanding and growth. The guide to the whole program is described below.

Course 1 went on for 4 days (4/26, 4/28, 5/3, 5/4) in 4 sections. Each section had 4 teams and each team sang 2 songs '(UMaine) Stein Song' was sung with everyone together and each team had a distinct song. These songs were: 'Nella Fantasia' by Sarah Brightman, 'Oh!' by Yoonjung Jang, 'Young hearts' by Soochool Kim and 'Let's have a trip' by Yong-Feel Joe. After practicing for two hours, each team presented their song to the other teams in the MAB auditorium.

Mr. Beong-Joo Kim, the instructor, explained the meaning of the harmony course. He said that "chorus" has a symbolic significance. It can be explained by the letters, below.

- C**ommunication: communicate based on mutual respect
 - H**armony: be in wonderful harmony
 - O**rganization: in the united organization
 - R**eality: through real performance
 - U**nique: sympathize with audience
 - S**trong: make a strong bond
- He said making relationships with each other through chorus improves



▲UNISTAR showed a great performance with dance routine

our leadership ability. Respecting, not oppressing, each other makes us think 'What a leader should do'. So, he said the most important thing in the chorus is considerate minds for each other.

He selected songs which are unfamiliar to young people because he'd like students to hear beautiful songs which he has heard, not popular songs. Also he selected songs which can be enjoyed by everyone. At first, he worried about passive participation. But he said it hadn't occurred instead, students were full of energy and they enjoyed it. He said UNIST students are full of spirit. After presenting all of the songs, two instruc-

tors sang a song for the students. Everyone applauded.

Mr. X, who participated in the harmony course, said "It was quite good once we actually chorused together because the instructor and some students let people have fun. But actually it was not a great help to become familiar and improve leadership ability. And I hope to continue with leadership programs like this." But actually there are some students who said it was not good. One of them said "Frankly speaking, the chorus was not enjoyable. I just sang along with the chorus. I think it could not be helpful for improving leadership ability."

The next courses, 2 and 3, are

based on team building systems. make UNISTAR into global leaders. UNIST Leadership program aims to

* reporter Bada Kim

Course Name	Course Outline & Expected Effect	Composition & Main Activity
Course 1	Harmony Learn a way of improving teamwork for the harmonious amalgamation of me and members through a chorus.	• Part composition • Chorus as teams • Practice and performance
Course 2	Understanding Learn communication skills that are fundamental in developing relationships.	• Interview game (using interview sheet): build Family trust • Paper tower: build paper tower together
Course 3	Growth Establish family win-win operating strategies in order to grow as an engaged self-leader.	• Team activity by family teams • Gallery walk, make family UCC • Present Family UCC (SMART UNIST FILM FESTIVAL)

▲Guide of whole program

In the news at UNIST : Giyeong Cho

Early this year, on January 12, we interviewed Cho Gi-Yeong(23) who published a paper in the journal 'Langmuir', which is published by the American Chemical Society. 'Langmuir' is popular in the field of surface and interface chemical materials. It is rare to see undergraduate students published in this journal as a lead author, as authors are usually in Master's and Doctoral programs.

This paper proved that conductivity with PEDOT (Poly(3,4-ethylene-dioxythiophene) as conductive polymers in the reduction reaction for increasing the conductivity of oxidizing graphene, is increased more than 1000 times over the existing method. And it also proved that it can be applied in the manufacture of large capacitors or flexible transparent electrodes.



▲School of Electrical and Computer Engineering Junior Giyeong Cho

The interview is below.

1. What caused you to enter Professor Kim's lab?

In the second semester, Professor Kim Byeong-Su, who had taught us general chemistry, made the lab and he suggested entering the lab to undergraduate students. I have enjoyed reading science magazines, and at that time I had deep impression for

graphene made by tape. I found a lab for studying graphene in Kim's lab and I entered into the lab. I have joined in the lab since the second semester of my freshman year.

2. Aren't there any difficulties from being an undergraduate student in the lab?

Clearly speaking, there isn't any

lack of the role as an undergraduate student. Each three undergraduate students accept three projects, we take on a plan of project and progress. And sometimes, we receive help from graduate students. And we discuss one-to-one with the professor. I know most students think undergraduate students have a lacking role in the lab,

but it is not to my experience, at least in UNIST.

3. Is there any trial and error or episode in this research?

I was poor at understanding reference articles at first. Especially, it was hard to understand the data made by unseem analysis instruments. So, I could only understand by asking grad-

uated students and also handling the machine for myself. In the beginning stage, I had difficulties dealing with the instrument by myself. There was a mistake with a vacuum tube that cost 200,000 won. After that, I received help from graduate students for using important instrument.

4. What was your feeling after the notice that your paper would be published in the journal? And what reaction do people around you show?

The day I heard that news was close to my birthday. So, it was a present for my birthday. My parents and relatives were very happy and proud of me. Professor Kim encouraged me to be better with this stimulant. I am always very thankful to professor and graduate students who helped me a lot.

5. What are your future study and career plans?

Relative to the paper, I have studied making a solidified thin film and a catalyst of a secondary battery with carbon materials. I'm interested in various fields so I'll keep studying about elements, and secondary batteries. I'll go to graduate school at UNIST. I think the benefit will continue. If I become a graduate student, I will bring back benefits to younger students. Finally, I want to request participating in the lab actively without fear for my juniors.

※ reporter Hyeri Kwon

Great reasons for studying at UNIST



▲Showing School Spirit

One of the great things about studying in UNIST is that there's no such thing as fixed road map that we're all meant to follow. Our school has interdisciplinary courses that we're free to pick and choose a path that works, to turn away from what doesn't, and sometimes we have a chance to borrow thoughts from mentors and role models who are kind enough to offer their own direction along the way. If something works for a while and then no longer makes sense, you can try something new. If some approach you had turned out to surprise you with happiness, you can go try it again and again.

And we pursue the most advanced and technological facilities for education.

First, it's based on young-talented professors who can lecture us with 100% English, major big names in research areas and new education sys-

tems that other universities hadn't tried. Every lecture and homework is done by English 100%. It helps us students to think diversely because by studying the materials in English. The blackboard system is the main usage for education. This system provides places for discussions, reading assignments, and exams. Second, in everywhere in campus, wireless internet can be used. So walking around in campus, we could use internet at that spot without waiting. Third, on the last floor, an amazing lab for all the students, faculties and researchers awaits them. This 0.25ac lab is called UCRF (UNIST Central Research Facilities) and consist the most advanced facilities that are ever made. Students have a chance to use this helping research.

People believe there's something interesting about anyone and everyone. But they don't actually have

many chances to figure out what that something is. But for students in UNIST, because every student can stay in the dormitory, we have a chance to build interesting and genuine relationships with people who are not always in their own major. And have an opportunity to listen to their unique perspectives and insights. After we students go out in business this will help us accommodate and acknowledge others cultures and environments.

Over the semester, there was a leadership program that is made to increase our ability for leadership. One of our curriculums was to listen to lectures or performances inviting a lecturer from the outside. So many amazing people have taken the time to

answer our questions and share their life experiences with us, and not just known CEO-type names. We students had a chance to see how their minds work and recognize the common traits and the difference both have. It could have been a remarkable experience for some of the students, because it's not a normal chance that everyone can have.

On some level I knew that UNIST could be able to represent the voice of a younger generation and to represent student's interests in the university. But on another, I worried that UNIST might be exposed as a kid in over its head. We may be young and inexperienced. But in a positive thinking, what some people might regard as a negative, others might see as strength. I've

come to realize that one of the greatest assets is an open mind, and we need to nurture and boost that kind of mind if we mean to get and stay ahead. Who knows? Maybe our relative youth and inexperience would end up helping the education world to take a fresh new start.

'Learning is a treasure that will follow its owner everywhere.' - Chinese proverb

※ UNIST Ambassador Jeongyoon Ha



The AHS Lecture Series Part One with Ikjoong Kang

As part of the AHS lecture series, UNIST held a lecture by Ik Joong Kang. His talk was entitled 'Contemporary Art and the World'. He gave UNIST students the tip to be global leaders, and emphasized that 'creativity is the key to success'.

An internationally acclaimed Korean artist, Ik Joong Kang lived in New York City for 25 years. He is renowned for creating massive art walls out of small hand-painted tiles, either self-produced or gathered from around the world. His major works include a gigantic installation artwork set up at the restoration site of Gwanghwamun, "Multiple Dialogue Infinity", a joint installation of his work with Paik,



▲Lecture on Contemporary Art and the World

"Samramansang", Nam June's 18-meter video tower, "The More The Better" and the Korean pavilion at the 2010 Shanghai World Expo.

He was born in 1960 in Cheongju,

received his BFA from Hong Ik University in Seoul, and his MFA from the Pratt Art Institute in Brooklyn, New York.

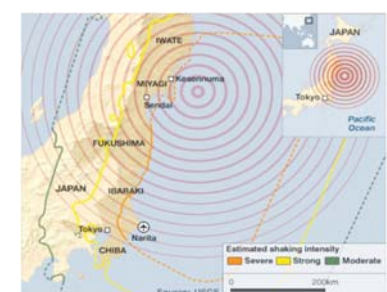
※ reporter Jeongmin Park

Japan devastated by earthquake, Tsunami and Nuclear Crisis

※ reporter Siin Kim / Gwan Shin

Japan Facing Massive Disaster

On March 11, a strong earthquake with the magnitude of 9.0 took place in the sea, 179km east of Sendai, Japan. After the earthquake, a tsunami struck the northern-east coast of Japan. As the tsunami swept the towns and farmland near the sea, everything was washed away. The number of dead and missing persons is about 28,000.



▲Areas affected by the quake

But a more severe disaster happened the next day. Fukushima no.1 and no.2 nuclear power plants exploded as their cooling systems were broken by the earthquake and tsunami. From March 14th, there were explosions in no.2 and no.3 nuclear plants, and fires in no.4 plant. The Japanese government

struggled to stabilize the accidents in the nuclear plants by pumping seawater urgently.

Despite all the efforts of the Japan government, radioactive substances were detected around the nuclear plant, and even all over Japan. In addition, they spread to the west coast of the United States and around world. The government faced an unprecedented state of emergency, because a test of the municipal tap water detected radioactive substances.

To make matters worse, the government started emitting radioactive water into the sea in order to dispose of coolant which it put in the nuclear reactor. However, as Japanese government didn't inform anyone those issues, there was a diplomatic conflict with neighboring countries.

Damage from the earthquake and tsunami, and fears of radioactive contamination from the aftermath of the catastrophe, are not going to be cleaned up any time soon. The triple disaster still hangs over the Japanese archipelago, and has deeply hurt the country.



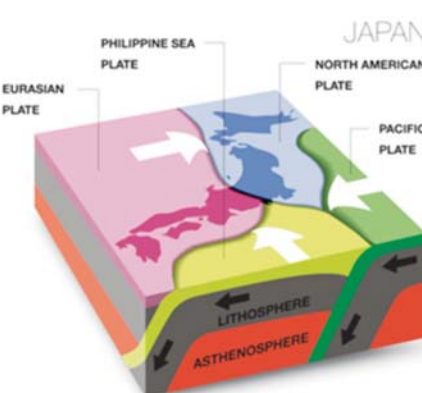
▲The tsunami wave hitting sendai island

Probing into the causes of the earthquake

-Reason for Earthquakes-

The majority of earthquakes that occur on Earth arise from Circum-Pacific orogen rock belt. Japan is a nation of Circum-Pacific orogen.

Most earthquakes occur by movement of the Earth's crust that can be explained in plate tectonics. They occur when the Earth's crust plates are dislocated from each other because of accumulated stress over a long time. At first, the Earth's crust and upper mantle just bend back and forth in their elastic limit. But if the Earth's crust plates exceed the elastic limit, they break. At this moment, a quake of the Earth's crust becomes seismic waves. Because of this, epicenters are



formed due to fault lines. From this, some elastic energy is emitted and changed to wave energy. Seismic waves spread all around. These seismic waves do great damage.

Many earthquakes occur in Japan

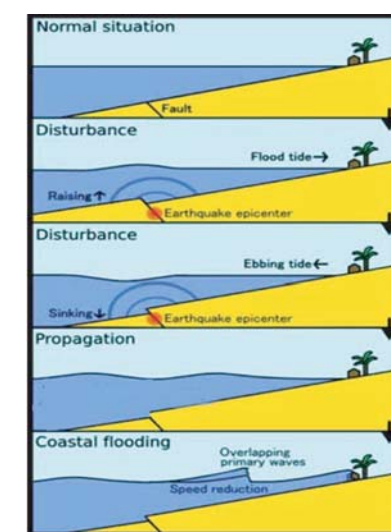
especially, because the country is located on the contact point where the Eurasian, Philippine, Pacific and North American plates meet. Because this is a location where four plates meet, Japan has much heat and pres-

sure energy underground. The Pacific plate is pushed toward the North America plate by 80-90 millimeters. From this movement of plates, energy is accumulated under Japan. A collision of plates created a severe earthquake occurring at the bottom of the

sea. That is the result of an explosion of accumulated energy. In the aftermath, the submarine topography is twisted and the pressure comes up to the sea surface. Ultimately a tidal wave struck the Japanese archipelago.

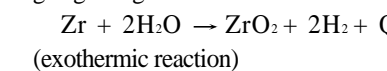
What is a "Tsunami"? & Why did the "Tsunami" occur?

Tsunami is a Japanese term that means seismic sea wave. It is from 'tsu' which means coast plus 'nami' which means waves. When the earthquake occurred, the height of the Earth's crust changed. The height of the sea's surface also changed. Up and down lapping is formed to return it to normal. This lapping is transferred to the side like a wave. It is the reason for the tsunami. The shallower the depth of the sea, the higher the height of the waves. Thus when the tidal waves reach the shore, they cause a lot of damage.



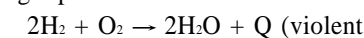
Why did the Fukushima nuclear power plant explode?

The strongest cause of the nuclear power plant explosion at Fukushima, Japan was a "hydrogen explosion". Some media reported that part of the nuclear power reactor core has melted. If fuel cladding material (Zircaloy) melts, or if the reactor core melts, Zirconium and water have a chemical reaction. As a result, hydrogen gas is generated.

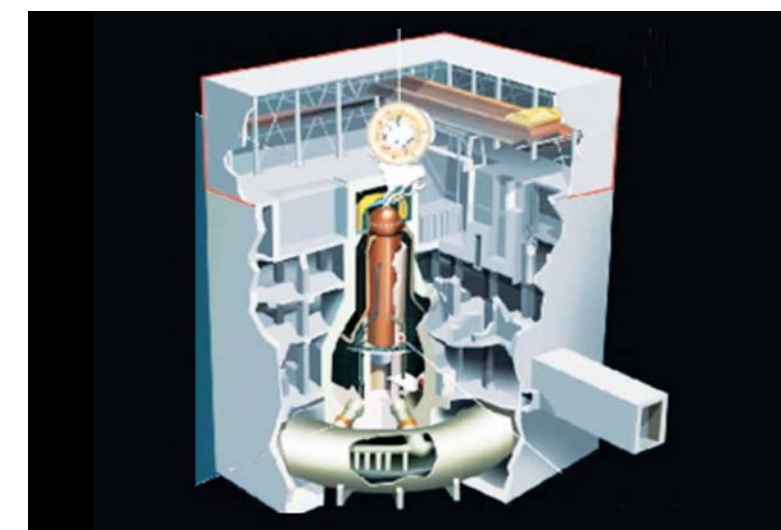


At this time, if the generated hydrogen gas accumulates up to a certain level, they can explode. Hydrogen gas was emitted from the reactor vessel to the reactor container, and it discharged into the reactor building. Hydrogen gas is relatively light, so it would gather at the top.

Maybe this gas reacted with oxygen gas in the air, which would cause a big explosion.



Some experts have pointed out this case is the likely explanation for the explosion at the nuclear power plant.



Korea and Japan's future

▶Korea
Because of this earthquake, Korea has gotten a chance to eliminate the 'theory of sandwich'. Korea has always been sandwiched between Japan and China. But now, if Korea adopts an aggressive attitude to foreign investors, they will flock to our stock market. But negative factors such as rising oil prices, the foot-and-mouth disease crisis, and discord in domestic politics, would be an obstacle to development.

The Korean government should implement a faithful policy to the nation at first, by doing successfully building the UAE nuclear power plant and by making the entire process of

lobbying more transparent and open to public scrutiny.

▶Japan
Compared to the Kobe earthquake which happened in January 1995, some economists have pointed out that this earthquake will have a destructive influence on the Japan economy. Many major production facilities have been destroyed as a result of the earthquake, which damaged buildings, cut off electronic power, and are now exposed to radioactivity. Due to a negative point of view of people worldwide, a setback is expected in the export market. Overcoming this difficulty will be the key to their success.

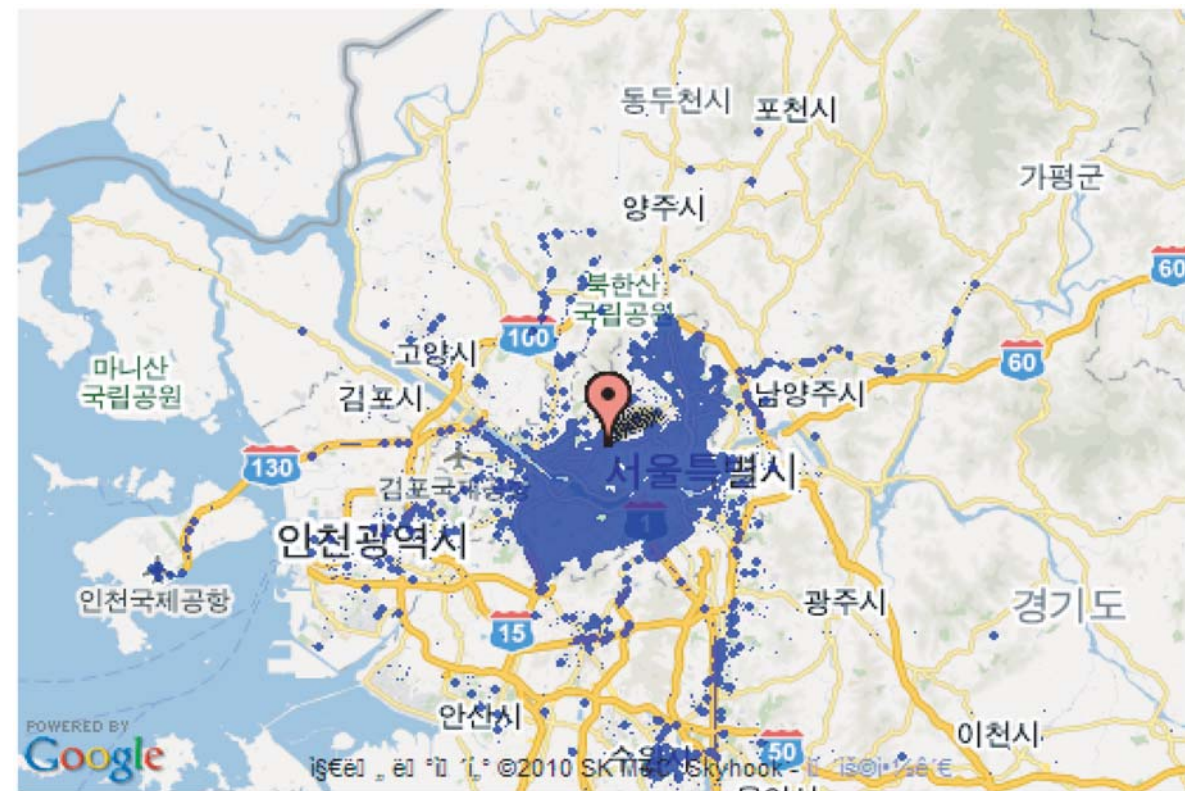
Is Apple Collecting Private Information?

Last month, there was surprising news that Apple was collecting each iPhone user's location information, without notifying their customers. Before long, more news was released that Google was also collecting location information of smartphones which use Google's operating system, "Android". Many smartphone users were angry.

On our campus, most members of the university use iPhones, due to the 'mobile campus' policy. This is not just happening to other people.

Then what is the problem and how critical it is? Many of us are familiar with the term 'tracking location', since there was already a service for finding people's information based on the tracking and collecting of the location information of mobile phone users. The only difference is that it is done by the mobile carrier, like SKT, or KT, and they asked each user about collecting and giving location information.

Also, the goal of using location information was totally different. Google and Apple used people's information for location-based services which includes marketing, or specific applications. The mobile carrier used this information only for finding a person's location in case of emergencies like crime, or natural disaster.



What is location-based service (LBS) and how influential is it? LBS are applications that utilize information about each person's location. Examples of LBS can be finding the closest gas station or ATM or

something like that. These are what we usually think of as LBS, but 'navigation service' or 'HI-pass' also can be an example of LBS, because it utilizes user's location information. Smartphones are the most effective tools for providing LBS. As the number of people using smartphones increases rapidly, the importance and size of the market related to LBS are also increasing rapidly. It is the advertising sector which shows the most rapidly increasing size.

Now, lots of noticeable LBS have been released, and some of them are really useful. For example, some applications can both record speed, and the route the user moved along. It can be quite an effective tool for people eager to record their data of moving, whether by foot, bicycle or car. On the other hand, there're also some 'negative' apps like '오빠뎀지'. Even though this application runs only after getting each user's agreement, we cannot deny that this kind of tool is used for keep watch over each other (this service shows your location to other people). As time goes by, there will be more and more creative and innovative LBS services released. But, we cannot ensure that they will all be positive ones. As with other electronics, or any other types of devices, utilizing it usefully is up to you.

* reporter Kyunghun Jung

Summer Vacation Performance Schedule For UNIST Students

The Charming voices of Maytree



On May 18, special guests visited UNIST. The a cappella group, Maytree, visited UNIST. A cappella is music which is composed of only the most beautiful instrument, the human voice.

In 2000, some people who shared a dream of music made this group. Maytree means the tree of May. Five people are in this group; soprano, alto, base, vocal, and tenor. No instruments are needed. The main mottoes of Maytree are making good music and singing great music for many people. Also, their short mottoes are to be worldwide singers, breathe long and vocalize well.

Maytree was awarded a global prize. They said they can be a famous group if

they always chase better things.

The concert started with the song "Bob", arranged with national singer Jo Youngpil. They sang some famous songs and a few minor songs, which were enjoyed by the public. Also they had some special moments such as introducing the audience to vocal percussion and vocal drummer.

They said "When we arrived here at UNIST, the air was so fresh. The buildings are clean and beautiful. We heard UNIST students are good at studying. We're glad to have a chance to have a performance at UNIST. I hope UNIST students can enhance national prestige."

* reporter Doyeon Lim

New approach to Korean traditional sound wHOOL



▲Rocking with wHOOL

wHOOL, the band which has a variety of meanings, performed a great show in the Main Administration Building on April 13th. wHOOL was invited to the UNIST Culture Program. They are composed of electric guitar, drum, and Korean traditional instruments like 태평소, 피리, 장구, 북 and 박 which are Korean tradition instruments made harmony with western instruments like electric guitar and piano.

The members are 최윤상, who takes vocal, 팽과리, 장고, 북 and drum, 홍도기, for 태평소 and 피리 and drum for 류하림. The guest members were 임은석, 김 엘리샤 and 김선미.

Almost 700 UNISTARs in the Main Administration Building hall gave great applause to wHOOL. For this performance, wHOOL performed 13 songs over 2hours. Above those songs, they showed famous

Korean traditional songs like '군밤타령', '뱃놀이 노래', '밀양 아리랑', '수채천' and also performed arranged version of North Korean songs '여성은 꽃이라네'. Especially, 태평소, 피리, 장구, 북 and 박 which are Korean tradition instruments made harmony with western instruments like electric guitar and piano.

Furthermore, after the performance ended, they came to the seats and took pictures with students. In his short interview, he said "I didn't expect that so many students would come to our performance. Thanks for the passion. I'd like to come to UNIST again." wHOOL also made OST for "불멸의 이순신" and PIFF movie '선택'. They went to the Hindu international music festival as delegates for Korea.

* reporter Hyungcheol Min

Preserving Ulsan whale culture



▲Beauty of the sea [Photo by Ulsanpress]

In 2009, the Ministry of Knowledge Economy gave official designation of "special economic zone" to the town of Jangsaengpo, making it possible for Ulsan's South District (Namgu) to create many different ways for people to experience the city's unique relationship to whales. These include the Whale Ocean Voyage, the Jangsaengpo Whale Museum and the Dolphin Experience Hall

The Jaengsaengpo whaling museum is a great place to learn about Ulsan's

long history of the human relationship with whales. The relationship dates back thousands of years, as evidenced by the Bangudae Petroglyphs that illustrate how ancient people hunted whales with spears and small boats. The modern whaling fleet of Ulsan began hunting whales in 1966, but ended the hunt when the international moratorium on whaling went into effect in 1989.

In Ulsan, many people want to begin hunting whales again, but this is controversial in Korea and abroad. In

response, Ulsan's South District has created the Whale Culture Zone to increase the popularity of Ulsan's unique traditions in Korea and around the world. The Whale Ocean Voyage is a vessel that brings curious tourists to the open seas to view whales directly in their natural environment. It is the only whale-watching tour available in Korea at this time. Adjacent to the whale watching museum, the ship's departure point is convenient for those who wish to visit the museum and the Dolphin Experience Hall

after the voyage.

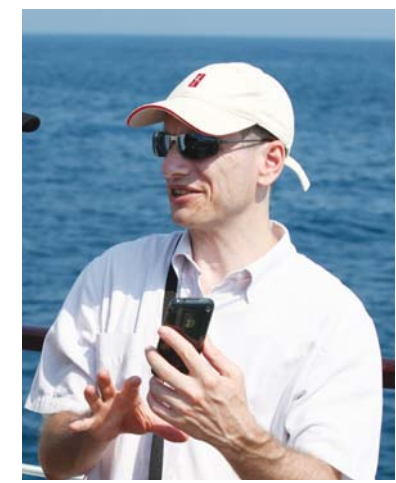
Also located in the Whale Culture Zone of Jangsaengpo, the Korean government's CRI(Cetacean Research Institute) is the headquarters for scientists who study whales. The scientists are making regular evaluations of whale abundance and the health of the populations in Korean waters, and they provide reports to the International Whaling Commission. The Korean scientists are also involved in cooperative research with the Japanese CRI, which makes whale research an important area of international cooperation between Korea and Japan, for the sake of preserving the ocean wildlife.

On August 20, we decided to try the Whale Ocean Voyage, to try to see whales in their natural environment. As our ship steered out of the channel and into the ocean, we were re-tracing the route of the whaling vessels that used to hunt in these waters. As our ship left the dock, we enjoyed an excellent view of large-scale commercial ships and ship-construction facilities.

As the ship entered the open seas, I was eager to try my I-phone to see if I could track the ship's position off the coast. I opened the Google Earth application and sure enough, our position off the coast was tracked by satellite. It was easy to zoom in and zoom out, to examine our surroundings on the I-phone screen.

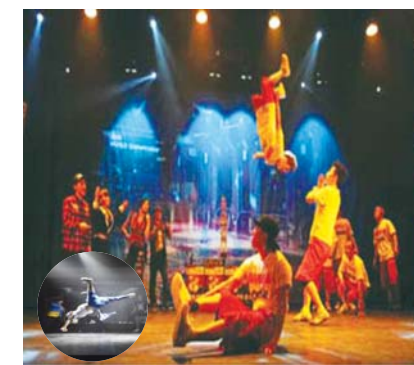
About one hour into the voyage, a crew member shouted that whales had been sighted. All of the people rushed to the side of the vessel. However, as we looked carefully at the waves, it was difficult to detect any dolphin or whale. In the end, there was some disappointment because dolphins had been sighted all summer, but now we could not see even one. Later we learned that the ocean currents had shifted, taking the fish and animals eaten by dolphins away from the Ulsan coast, and this explained their absence.

Nevertheless, it was a breathtaking view of the ocean, and exciting to imagine the ships long ago departing and returning to Jangsaengpo. The voyage takes three hours, but it is a worthwhile way to experience Ulsan's natural heritage



* Prof. Bradley Tatar Division of General Studies

(Return to Street) : ~2011. 7. 30



In this musical, a white-collar worker achieves his dream of a spectacular street dance. Unlike the previous generation who focused on 'only work', this story explores the idea of enjoying dance culture. Minchan works in an office by day, but he likes to dance. His friend is a b-boy, who has a hard life living on the streets, but is always happy. This weaves a story to captivate audiences with the last reversal. In the process, various street dances such as b-boy, poppin, locking, house, keureompeu, and wacking appear onstage to create an energetic opening.

(VR Brake Out) : ~2011. 7. 31

VR Brake Out is a hologram performance that reproduces virtual reality onstage.

After the first performance in England, this performance is sold out at the Edinburgh Festival. This story gives an opportunity to think about dreams and freedom.

VR Brake Out is being performed at Gaya Theater until 2011 7. 31. And this performance is going to be performed abroad.



(Daniel Barenboim concert Beethoven Symphonies) : ~2011. 8. 14

"Daniel Barenboim Beethoven Symphonies Concert" is the hottest August concert in. The visit of concert conductor Daniel Barenboim, is even more significant because he has not been in Korea for nearly 27 years. Time magazine says he "is legendary". Barenboim has been the conductor and pianist for the chamber orchestra, the Paris Orchestra, Chicago Symphony, and the Berlin Staatskapelle Orchestra. Currently, he is active as the music director at the Staatskapelle Berlinand, as conductor for life, and as the principal guest conductor of the orchestra of La Scala. Daniel Barenboim will conduct Beethoven's Symphonies.



(Jekyll and Hyde) : ~2011. 8. 15



The Jekyll and Hyde story is widely known to men and women of all ages. This performance is story about how Jekyll asserts his own beliefs and opinions, and Hyde holds back those beliefs.

In other words, this musical talks about man's duplicity. This performance is thought to be the best Korean musical. Atthistime, this performance has been extended for 3months by popular demand.



(2011 Park Jong Ho s Operaglass) : ~ 2011. 12. 6



In 2011, Seongnam Arts Center presents the *Opera Glass*, by Jongho Park. In this opera, 8 opera masterpieces are shown in detail through opera glasses. Jong ho Park, a top opera commentator, talks frankly with the audience beyond narrating the story of the opera, addressing the dramatic form of man, our psychology and society at the time. This concert, along with the commentary from Jong ho Park and the best opera singers in the country, presents a marvel and shows the various stages of the world's opera houses through video. *The Opera Glasses* is a good opportunity to see again the inner mind of man and to enjoy the inspiring beauty of the opera.

(2011 NANTA) : ~2011. 12. 31

NANTA, which takes place in the kitchen, is the first Korean non-verbal comedy. Its rhythm is Korean traditional percussion rhythm. NANTA is a performance that takes place in a kitchen. NANTA is a masterpiece that consists of rhythm and beat as the only language. This gives it a global appeal, as there is no language barrier with the audience. Thus, it goes beyond the boundaries of nations to bring people together.



POSTECH's Celebration



Hyungcheon Kang
POSTECH Editor-in-Chief

The sweltering heat is coming, I am so glad to hear that the first issue is going to come out. From this publishing, THE UNIST JOURNAL will take on very important roles in a broad area. I want to celebrate the press corps for unifying under their genuine courage and also congratulate THE

UNIST JOURNAL on publishing its first issue. Needless to say, this newspaper is so important for UNIST.

It plays as a history of the university and a leader of opinions leading in the right direction. If there isn't a newspaper, what does a university look like? There are a lot of affairs and numerous views on these affairs. So if there isn't a newspaper, we couldn't make a correct decision because we don't have criterion for judging. I hope THE UNIST JOURNAL will act as a criterion for judging.

It is not easy to publish a new newspaper, especially since UNIST is too much like POSTECH; both are specialized in natural science and engineering so students need to balance this with their heavy studying. However, POSTECH and KAIST have been publishing newspapers relying on the journalist's passion for the news. I look forward to remembering the passion in making the first issue and sharing THE UNIST JOURNAL's life with UNIST's history.

KAIST's Celebration



Seubyong Song
KAIST Editor-in-Chief

"Is there newspaper in KAIST?" It is the frequent interview question I've answered in my 3 years as a reporter and editor-in-chief in KAIST. I think this question is asked because they think writing an article as a reporter does not match with a natural sciences and engineering major. Furthermore, many university students try to do activities which are related to their major in order to get a job. I am majoring in Material

science and engineering. I think I am too far from the press.

Then, why do I keep writing articles even though I lack writing skills, and it is not related to my major? Because a natural sciences and engineering institute like KAIST needs the press by students more than other universities.

Compared to students who major in the social sciences, students who major in natural science and engineering are prone to be unaware of social problems, or problems within the school. Of course, when students face some problems, they complain about

that individually. However, those complaints cannot solve the problems.

At that time, the student press hears students' opinions, and can structuralize the problems more, and raise awareness. By this act, students who didn't recognize the problems before, can think about the seriousness of the problem and handle the problem more productively when discussion proceeds in the future.

I hope THE UNIST JOURNAL, from its first issue, will be the press for natural sciences and engineering students, as a newspaper of a natural science and engineering institute.

What is WISET MENTORING?

The rate of women in the field of science and engineering in UNIST is 28.2%. And in the school of NBC(Nano-bioscience and chemical engineering), the rate of women is 33.0%. The WISET Mentoring Program for female undergraduates in NBC is in effect since this semester. Finally, 20 mentees are selected in the order of receipt. The list of mentors professor Yoonkyoung Cho, Whaseon Lee, Yoonkyung Do, Eunmi Choi and Hoiri Moon.

WISET Mentoring supports mutual holistic growth activity which follows the potentiality, the value of individual development and the change through the social interaction between mentor and mentee with effective communication, encouragement, support and advice. In other words, it is the activity which helps the mentor and mentee improve with each other's competencies, values and the possibilities by receiving coaches, advice, support and encouragement through continued communication based on a relationship of mutual trust and respect.

The three key characteristics are:

1. The formal mentoring with systemed period, goal, manage system.
2. Mentor and mentee are the subject of all the activities and they interact with each other to improve together.
3. Forming of various GRID networks.

For this, WISET provides online network systems and many offline programs to the mentor and mentee. Therefore, they can design their future and develop their career since they exchange expert knowledge about interesting field and specific information.

In addition, for the efficient formation of mentoring relationships, WISET performs the tasks such as continued guidance, instruction, suggestion, providing materials and programs development for mentor and mentee.

* reporter Hyeri Kwon

The direction of THE UNIST JOURNAL

UNIST has had several vehicles for public relations with outside communities. From now on, a student newspaper will be issued. It can be a starting point of recording annals of UNIST from students' viewpoints. That means the newspaper will be archived each time it is published. We are very honored to have this chance, but also worried to take this heavy responsibility.

As representatives of THE UNIST JOURNAL, we will make sure that every article is written with fair and objective views, which is the fundamental rule of journalism, rather than partial perspectives. Also, THE UNIST JOURNAL will try to cover various aspects that are not only the fragmentary issues, but also the vari-

ous opinions from students and faculty members of UNIST. We are taking huge breaths to run everywhere gathering stories from around campus.

To be global leaders like our school's motto, "Global, Creativity, and Fusion", we will provide information about not only the science and engineering fields, but also various social, political, economic, and cultural issues. Although many students here major in science and engineering, students must pay attention to many issues and other fields of study in order to have various knowledge, creativity and global perspectives. THE UNIST JOURNAL will attempt to give students these chances and to help them be global leaders.

* reporter Jeangmin Park

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The photo department : Minyoung Son, Gyoungun Kook, Kyunghun Jung

Understanding the Economy

For UNIST students who have a lot of science and technology knowledge, but have a little less knowledge of economy.

The main, but basic concept of the economy is about supply and demand. This is very important so I'll explain these two concepts. First, "supply" is what the firms want to sell in the markets. So the law of supply is the quantity of something supplied depending on the variety of price. When the price becomes lower and lower, the amount of supplied quantity will decrease more and more. When the price becomes higher and higher, the amount of supplied quantity will grow more and more, on the other hand.

Second, "demand" is what the consumers want to buy in the markets. So the law of demand is the quantity of something demanded depending on the variety of price. When the price

becomes lower and lower, the amount of demanded quantity grows more and more. When the price becomes higher and higher, the amount of demanded quantity will decrease more and more, on the other hand.

As this explains, supply and demand react converse to each other according to the changing of the price. These concepts of supply and demand are important because these are the main reasons for deciding the price of equilibrium.

And the other important economical concept is about one product's scarcity. Scarcity means there is not enough of something for the people who need it or want it. In the real world usually people want more than what we have, so scarcity is the main reason why we have economic problems. If there are plenty of supply to satisfy our demand, there can't be conflict because of the scarcity.

* reporter Gyoungun Kook

Could KAIST's tragedy happen here?

KAIST Suicides

The consecutive suicides of four undergraduate students at KAIST is a hot issue these days. Many people argue that these deaths were caused by the radical innovations of President Nampyo Suh or the extremely overheated competition-based societal structure of Korea. This could happen at UNIST because UNIST adopted many of KAIST's systems.

The important question is the reason

why students chose to commit suicide. Did they feel too much stress from the workload of their assignments, or the burden of the registration fee? In my experience, the KAIST students who I have met are the winners of competitions.

Also, President Nampyo Suh's innovations don't come from malice. The existing system was to pay all registration fees for all students, without any conditions. This caused problems because students didn't study. At one point, there weren't enough dor-

mitories for freshmen because students didn't study and couldn't graduate from the school.

The new system actually worked. However, the sensational affairs occurred and the media used words like 'penalty' which caused a great effect on the general public. The students of UNIST are almost all qualified to get scholarships, but the KAIST affair can be suggestive to our school.

* reporter Hyungcheol Min

Nobel Prize and the History of Science

To win a Nobel Prize in science is a longstanding dream of this country. It is not surprising that UNIST is yearning for the day when a faculty member or graduate student will be announced to be a winner of this prestigious award. In this entry, I will examine an episode in the history of science with a view to shedding some light on how to win the prize.

The episode I will introduce here is related to how the Big Bang theory was confirmed. Penzias and Wilson were developing satellite communication systems in the 1960s when their apparatus unexpectedly detected a microwave. They did not know what it was, so they took the problem via Burke to Dicke and Peebles who were hunting for the cosmic microwave background radiation which the Big Bang theory predicted in 1948. The four scientists concluded that the microwave was due to the cosmic radiation left over from the Big Bang. Note that Penzias and Wilson were not in search of the background radiation when their apparatus detected it. They stumbled upon it fortuitously.



▲Prof. Seungbae Park

Such fortuitous findings were so common in science that a term was coined and reserved for them. It is 'serendipitous.' A serendipitous finding is a chance discovery of something that scientists did not intend to discover. The history of science is rich in such discoveries. They include the discoveries of X-ray by Rntgen, radioactivity by Becquerel, vaccines by Pasteur, and penicillin by Fleming.

What implication do seren-dipitous discoveries have on how to win a Nobel prize in science? Oftentimes,

scientists have to be lucky to win the prize. After all, luck has often played a critical role in many remarkable discoveries.

What can scientists do to increase the probability to make serendipitous findings? The more time scientists spend in their laboratories, the more likely they are to make serendipitous discoveries. Thus, enthusiasm, perseverance, and passion are the virtues necessary for scientists.

I am not saying that all scientific discoveries are serendipitous. Nor do I claim that scientists only need to be lucky to be awarded a Nobel Prize. There are countless other factors, such as, experimentation, research, and collaboration which also play prominent roles in the advancement of knowledge and science. What I am suggesting is that chance discoveries are often the outcome of systematic and planned experimentation. It is beyond the scope of this column to specify those conditions. Therefore, I will leave the task for a future occasion.

Seungbae Park
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