

THE UNIST JOURNAL



Volume. 10 | June 2014

FIRST IN CHANGE

<http://www.unist.ac.kr>

Publisher: Moo Je Cho | Tel: +82-52-217-0114 | Faculty Adviser: Jin Sook Choi

UNIST-gil 50 (100 Banyeon-ri), Eonyang-eup, Ulju-gun, Ulsan Metropolitan City, Republic of Korea, 689-798

From 'it may' To 'it could'

Cure for Alzheimer's
disease no longer a
mere possibility

By Do-Yeon Lee
dy1238@unist.ac.kr

Over 15 million people are suffering from it. It decreases and destroys your memory, which can mean a world to you. It separates you from the people you love and the things you enjoy doing. Alzheimer's disease can dismantle the pieces of your memory as well as your life.

Alzheimer's disease is a well-known disease that induces decrease of memory, failure of language ability, judgment of time and space. It is mainly caused by the accumulation of abnormal protein in brain but the exact cause has not been discovered yet. This is now only the story of the past. Professor Lim Mi-Hee (School of Natural Science) from UNIST has discovered chemical substances that could be used to figure out the cause of Alzheimer's disease.

UNIST Journal had the opportunity to interview professor Lim. She was selected as 2014 Emerging Investigators by Chemical Communications. Unlike her reputation, she was easy going and very welcoming. She was very happy to talk to us about her lab and her research.



Professor Lim Mi-Hee

Q. What was your motivation to be interested in researching the Alzheimer's disease?

Well, as a scientist I liked changing my field of study. I kept changing during my master, doctor and post-doctoral degrees. I studied spectroscopy, chemical biology, living cells and cancer. When I became an assistance professor I was most interested in brain. Since I was a biochemist, I wanted to graft chemical perspective into the biology perspective. I chose Alzheimer's disease because it was well known and there were a lot of biological research done.

Q. You discovered a new chemical substance that establishes the cause of Alzheimer's disease; can you explain what it is and how it works?

There are five hypothesis for the cause: enzyme, metal, amyloid protein, tau protein and oxidative stress. Normally, scientists focus on only one factor at a time, but my team and myself thought five of them to be all connected. There is a common factor that is related to all five of them. This is possible

because the brain is all related. We found evidence that a common factor exists and could find the network among them. With the common factor, we found out that the five of them can be controlled.

Q. How will this discovery be used?

It could be used for therapy and diagnosis. It would become easier to target the cause and control the other causes. With multi targets, memory ability goes up. Patients of Alzheimer's could live much longer than now.

Q. What is your future plan for your research?

Until now, we only focused on finding cause of Alzheimer's disease. Now we are in some degree of confidence that the causes are connected. We will now combine research of finding therapy and research of finding the cause. Rate of success will be high because we are simultaneously doing two researches. It will be our first step to find the therapy.

Q. When are the happiest and the saddest moment in your research?

The saddest moment is when the research is not going well and when team doesn't fit with me. Luckily our team is perfect and we have great teamwork. The happiest moment for a scientist is when they discover a scientific finding. Now is that moment. I am pleased because what I was thinking for a long time has now been proved. The hypothesis that five causes "may" be related became 5 causes "could" be related after 6 years of research with my team. It is not "can" yet, but this progress is really something.

Lastly, she added that eating healthy food, getting a good sleep and exercising regularly are good ways to prevent Alzheimer's disease. She recommended drinking green tea and eating India curry often. With her effort, there can be a big progress and discovery in Alzheimer's disease. Maybe in the future, patients will be able to get early diagnosis and get therapy that could prolong their life.

Toxic Gases! In Sight for Insects

Wearable Electronic Circuits on Insects to Detect Toxic Gases

By Ha-Il Jung
hail95@unist.ac.kr

Do you know the famous Marvel Comics' hero "Antman"? He can transform himself into the size of ant and detect danger. Not to end there, he has control over insects. It seems like there soon will be "Antmans" in the world; using insects to detect dangers. Power of advanced technology is shocking the society every day.

A group of researchers at the UNIST have found an electronic circuit that could be attached to the live insects or leaves. This insect then can be used to detect toxic gases at a dangerous place

where humans are not available to go into. Also, since it is made out of carbon allotrope, it is expected to someday lead to the wearable electronic circuit. Their result was posted on the Nano Letters on the 8th of May with the name of: In-situ Synthesis of Carbon Nano-tube-Graphite Electronic Devices and Their Integrations onto Surfaces of Live Plants and Insects.

According to the Jang Woong Park, professor from UNIST, along with other researchers at this laboratory, "Once this scientific result is applicable, this would be used to detect toxic gases at the war places or dangerous places. Also, it would someday be developed so that we could use it on smart-phones."

The thesis of the team's research says "Here we report an unconventional approach for the single-step synthesis of monolithically integrated electronic devices based on multidimensional carbon structures. Integrated arrays of field-effect transistors and sensors composed of carbon nano-tube channels and graphitic electrodes and interconnects were formed directly from the synthesis. These fully integrated, all-carbon devices are highly flexible and can be transferred onto both planar and non-planar substrates, including papers, clothes, and fingernails. Furthermore, the sensor network can be interfaced with inherent life forms in nature for monitoring environmental conditions. Exam-

ples of significant applications are the integration of the devices to live plants or insects for real-time, wireless sensing of toxic gases."

As the technology develops, numerous numbers of researches are introduced to the society. While some concerns of the negatively used technological findings such as TNT, many argue that the society is going to the better world as the technology develops. It is highly recommended that the government keep allocating and funding on science and technology to invent or find out new researches just as the one explained above.

Hydro-fuel Battery Catalyst by Professor Sang-Hoon Joo

By Jong-Keun Kim
jkk7391@unist.ac.kr

Hydro-fuel battery implies a device which receives energy through reaction between hydrogen and oxygen. Unlike previous oil-based internal combustion engine, it doesn't create any noise or polluted materials. Professor of Unist, Sang-Hoon Joo, recently developed high-efficiency catalyst that can be used in this battery. This research was posted as 'hot paper' on 'Angewandte Chemie'; world's most prestigious paper in the field of chemistry.

Professor Sang-Hoon Joo de-

veloped highly efficient catalyst by utilizing carbon-nano tube. Through coating porous carbon layer with heterodyad, this layer changes pure carbon's electron distribution. This change in turn, alters reaction more actively.

This newly developed catalyst is known to be 10 times cheaper than previously used catalyst. Not only that, system to produce this catalyst has already been developed up to commercialization level.

Professor Sang-Hoon Joo asserts that this research was only made possible because many people from various fields worked hard. Great teamwork between this so-called various researchers was the key to this great result.



(Above) Professor Sang-Hoon Joo



Professor Kyoung-Taek Kim

Developing 3-dimensionally Ordered Porous Structures

By Public Relations Team

Professor Kyoung-Taek Kim (School of Natural Science) and his coworkers discovered a new way of twisting the polymer bilayer (equivalent to cell membrane) into 3-dimensionally ordered porous structures.

Based on direct self-assembly of dendritic-linear block copolymers in aqueous solution, the resulting micron-sized colloidal particles (polymer cubosomes) have well-defined internal pore networks, which could be used for protein separation and biochemical transformation. His work was published in the June issue of Nature Chemistry.

One Dream, One Direction

UNIST Journal Talks to the New President of UISO, Islam Talapbayev



(Above) Islam Talapbayev

By **Zhonibek Khalilov**
zhonibek@unist.ac.kr

Unist International Student Organization (UISO) is a student government body which works for the welfare of international students at UNIST. UISO seeks to ensure a diverse global campus, facilitate cross cultural awareness and encourage community welfare. The mission of UISO is to bring a sense of community among the international students of UNIST and to work voluntarily for the welfare of UNIST's international students.

From the time UISO was founded, its members have accomplished a lot. Some of the major achievements are that the UISO raised voices to help freshman international students. As a result UNIST lowered the GPA requirement for scholarship from 3.3 to 2.0 for the first year international students. UISO also pushed for consideration of religious and cultural recognition of the UISO community, which resulted in opening kitchens for international students in dormitories and introducing international menus in two major cafeterias. Moreover, UISO provided platforms for students to communicate better within the community and platforms for Korean students to communicate with international students. Also, there are regular events held by UISO every semester or every year.

Some of the main events include a 'welcome party' held every spring and fall semesters, International Day and Busan Firework Festival.

Ahmed Mukhtar, the first presi-

dent, had been in his position until the second president, Erdenekhuu Unurjargal, was elected on April 23rd, 2013. A short interview was held with the second president of UISO Erdenekhuu Unurjargal.

Q. What are the new things you brought to the UISO?

I believe I contributed a lot for the improved cultural awareness between domestic and international students and even among internationals by starting a tradition of diverse cabinet members. Basically apart from new, it might be better to say I made the old traditions more reliable and stronger.

Q. What is your advice to the future presidents of the UISO?

There is a lot to say. Let me emphasize only two of them though. Planning is 88% of the work (smile). Also, I just want to say that having a true heart for your own duties is the most invaluable self-motivation to get ahead and lead the community.

Q. Is there anything I didn't ask that you'd like readers to know?

Well, you just asked me questions out of thousands. I've always wanted to talk about the importance of UISO. Personally, I really appreciate and respect what former members of UISO have done to this organization from the establishment to today's big organization. Specifically, we must never forget Ahmed's contributions to UISO. Therefore, I just want every internationals and domestic students to understand how UISO works hard to make this campus

an inch happier.

The third election was held April 30th. The results of voting were announced in May 1st. Islam Talapbayev, the new president of UISO gave us an opportunity to talk to him about his new plans with UISO.

Q. Can you describe yourself briefly? Your major and your grade or any information about yourself you would like to share with students?

Sure (smile). Now I am at the stage of suffering more which is sophomore (smile). I am majoring in Computer Engineering and Management. Hmm what can I say, I am passionate about sports be it soccer, basketball, rowing or whatever makes us move forward. I like reading books which motivates us to become better.

Q. What difference or new thing would you like to bring to UISO?

We have many plans for this year. Firstly, we are separating all the international clubs from the Club Union and moving them to UISO, which will make the club registration process much easier and more understandable for international students. Secondly, the Event Management team will bring many new events that can help us become more united. We made the Student Welfare Affairs Team which will take care of the student's complaints.

We also made the Graduate Team, which will make a special society for graduate students where they

can communicate with each other. Also our Leadership Team is now focusing on expanding the leadership program types, where we can get volunteering hours without getting any problems related to language. Our Cooperation Team is focusing on making better relationships between International and Korean students.

One of the most important issues will be handled by our Supporting Team, which focuses on making students life easier, by making Global ATM in campus, online pizza delivery and online call-taxi systems.

Q. What are the most important things you would like to be accomplished by the end of your presidential position?

By the end of this year, I would like to see UISO as an independent organization.

Q. Are there any changes being made in UISO already?

We already made projects called "U-Post" and "U-Survey", we are in cooperation with the Student Union, and the first event will be the Farming Leadership Program. We are at the stage of making an International Cafeteria menu.

Q. Is there anything I didn't ask that you'd like readers to know?

I'd like to thank all the students for choosing me as a president. I and our Cabinet members will do everything that is in our power to improve UISO, and make our students' lives brighter and more memorable.

More Spaces for UNIST



Bird's eye view of UNIST after the BTL construction

By Da-Som Seong
ektha0012@unist.ac.kr

UNIST is facing a new phase. It has been recently changing a lot to satisfy the needs of the students and faculty members in several ways which include launching a new cafeteria, an extension of the Student Union Building, and a 2nd

BTL construction (Build Transfer Lease).

According to a Student Supporting Team manager, Seon-il Kim, there have been many demands from students for decent food and fruit, so the school decided to offer spaces in the dormitory building 309 for a restaurant and a convenience store that sells fruit and discounts 10 percent off for all products. The restaurant,

named Foodist, which has recently opened, aims to have good quality with a reasonable price.

The Student Union building extension work which is planned to be constructed from 20th of February to 30th of June is to allow more rooms for students to fulfill the needs of club activities. From this extension, 18 spaces will be offered to students. Among these, 16 rooms are for the clubs and 2 are for students who need room for group meetings.

“A lack of space is a serious problem because the goal of UNIST is growing to the extent of having 500 professors and 5000 students.” This was the first response of the manager when he was asked the future plan of UNIST. Under the present conditions, it is impossible to employ professors and graduates for research.

“There is no room for new research teams and faculty in this current situation,” he said. The

2nd BTL construction is a part of an expansion plan for solving this space deficiency. The construction is an 200 billion won scale and includes 3 new buildings for research beside the engineering building, a community center for allowing people to interact and take a rest, and a new apartment for faculty and researchers at the place of the outdoor theater, which will be cleared up because of poor construction.

The construction is expected to increase efficiency of research and administrative work among the schools. As spaces increase, research of each schools can be done more actively, and the use of buildings will be more flexible for the students. Administrative workers can avoid confusion by separating their offices, which are temporarily all in one room.

Bridge to the Future on Taehwa River

By UNIST's Design Club 'I:hope'



(Above) Designers from I:hope

By Won-Suk Lee
sammysosa2@unist.ac.kr

Have you ever seen somehow odd sculptures or some sort of unidentifiable object lying around in the grass of a national park, or in front of a museum, or in front of some kind of public building? These artistic works are called 'Installation Art'. Installation art, by definition describes an artistic genre of three-dimensional works that are often site-specific and designed to transform the perception of space. They are designed to represent a certain idea or motif in any way possible, either visually or auditory. Installation art can take place in both exterior and interior places, and it has a history starting from the 1950s.

In Ulsan, an installation art festival is being prepared, named '2014 Taehwa River Eco Art Festival', abbreviated TEAF for short.

Starting from the 16th of June, the installation art festival continues until the 23rd of June. It is funded by Ulsan City itself, and is an international art festival, inviting many foreign artists from all over the world. The theme of this year's TEAF is 'Bridge, to the Future'. Besides from professional artists, there are also participants from the nearby universities, including Ulsan National University and UNIST.

In UNIST, Professor Yun-Woo Jeong from the Industrial Design School got an invitation to participate in TEAF from the Ulsan City, and thus formed a team with the designers from 'I:hope', UNIST's one and only design club. Club

members who were willing to participate in this project formed a team with Professor Jeong as an advisor and collaborator, and got weekly feedbacks from him. Corresponding to the theme of this year's TEAF: 'Bridge, to the Future', the design team had to come up with an installation art piece that could describe the abstract definition. After continuous brainstorming discussions about installation art and preparing the designs, the team came up with a 'Pincer', which had optical illusion effects that showed an engraving in the installation art piece, and they also replicated the phenomenon of an infinite area created by placing two mirrors facing each other to their art piece. By using this method, they have created an art piece which shows the abstract expression of a 'Bridge to the Future', expanding infinitely across time and space.

During the interview with a team member who was working on this project, details of the project's progress was known. In fact, the

actual final installation art piece itself is not yet made, since the art festival itself is still a long way off, and it would consume too much time and effort if there were errors while working on the actual piece using the metal materials. Thus, a prototype using hardboard paper and plastic was made first in miniature size, and then made in 1:1 actual size. The full size of the art piece is nearly 5 to 6 meters wide. After final completion of the prototype, the team would then send the 3D blueprints to a factory, which will then make the final artwork using the desired materials. Most of the costs of this project was funded by Ulsan City, and the art piece will be displayed early on 8th of June, with 12th of June as the official release date at the start of the 'Taehwa River Eco Art Festival'.



I:hope's design 'Pincer'

Your Safety Assured! Your Insurance Ensures!

By **Go-Eun Choi**
gochoi@unist.ac.kr

UNIST has taken a ‘School Operator’s Liability Insurance’ against unexpected injuries. The school operator’s liability insurance is liability insurance paying undergraduates and graduates for losses or injuries caused by some contingent accidents which occur when students use school facilities, or participate in lectures, experiments, or practicals related to campus activities. Many students,

however, don’t even know that the school has an insurance covering injuries. The school operator’s liability insurance covers off-campus activities, MT, OT and graduation trips which the president approved and the school faculty follows. Students can get coverage when the cost of treatment exceeds 10 thousand won which is the amount that students are responsible to pay on their own. The limit of coverages are as shown on the table below.

To be compensated for losses or injuries, students firstly go to the hospital and get treated. Then, they are required to prepare some doc-

uments; an insurance claim form, treatment receipt, a consent form for processing the personal information, a copy of their bankbook, a certificate of school registration, a medical certificate, and any other insurance documents which insurance company requests. Students should claim insurance within a year after an accident and the coverage is limited to a maximum

of 180 days of treatment.

This academic year, starting from March, 5 students have been compensated for injuries. A person from the center of healthcare and counseling stated “Some students know about the school operator’s liability insurance and received insurance. I hope more students know about the campus insurance and get coverage from it.”

Section	Insured Amount	
	Per capita	Per accident
During enrollment (fatal injury, permanent disability)	10 million won	-
School operator's liability	Person	200 million won
	Possessions	10 million won
Medical expenses for injury during on-off campus activities	2 million won	2 million won

Worldwide Student Competitions



Professor Beomseok Nam, Taehoon Kim, Inwan Yoo, Jaewon Kwak, Seunghoe Kim, Vicente Adolfo Bolea Sánchez, Mingyu Kim

By **Adina Kaiymova**
adina@unist.ac.kr

On the 23rd of April of this year 6 students from our university who majored Computer Science track, participated in the largest Student Supercomputer Challenge ASC14.

In the beginning there were universities all over the world, but after two months of intense preliminary contest, only sixteen finalists were selected with tough evaluation, including UNIST. There are two major characteristics to be chosen as finalists: first, the registrants must be world class and second, high knowledge and

ability of students.

The competition took place at Sun Yat-sen University in Guangzhou, China, home of the world’s fastest supercomputer Tianhe-2 – which the 16 student teams get to utilize. It is the first time that Tianhe-2, or any other giant supercomputer, is used in a supercomputer competition.

UNIST is the only one and the first participant University from Korea from 2013. Students were invited to participate in this competition by Professor Beomseok Nam. This year with the help of Professor Nam, Woongki Baek and other many professors from ECE department, Super Computing Team and students prepared for ACS14 and took part with the full financial support of UNIST. Students have showed good efforts, however due to lack of experience, they did not make it to top three,

but compared to ACS13, it was a big progress.

Besides the competition, there were other activities like a campus tour to build the strong communication with other university students.

The same students are going to participate in HPCAC-ISC 2014 Student Cluster Competition during the ISC’14 (International Supercomputing Congress) Conference and Exhibition which will be held from June 22 to 26 in Germany.

UNIST is the first participant from Korea in this competition too, so there will be a sense of responsibility on our students. We support and hope for the best results.

Beat Me If You Can

Meeting the Master: Prince of ‘Limbo’ from Mechanical Engineering

By **Seung-Ryul Lee**
nicklapin@unist.ac.kr

The first time I met him, he was very kind and modest, and he treated me, a junior, very politely. He was proud when he talked about ‘limbo’. His name is Ju-Young Park, so called the ‘Prince of limbo’.

Limbo is a game in which game participants pass under a horizontal stick, which is held up high enough so participants can comfortably walk beneath at the beginning of the game. When

participants walk under the limbo stick, they should not bend over forwards.

“It was just by chance that I found my talent in the game,” he says. “It was a party that promoted friendship between Mechanical Engineering and Advanced Materials Engineering departments. Staffs held a limbo contest, and I participated just for fun. I did not expect I would be a champion”

I asked about the key to become a master. “Well, there’s nothing special, since I had not known I have a talent in limbo.” He said, “Many people are surprised I’m very good at limbo, because my body looks so stiff. But there’s a

know-how. When I fold my body, I stretch my hands forward to balance the body. Also I lace my fingers. My friends say that the prince of limbo is now ‘praying’ to the god of limbo.”

Actually, as a mechanic engineering staff member now, he has a goal of making limbo contest a tradition in his department. “End of this May, another limbo contest will be held, and it is my goal to retain the champion position.” In addition, he revealed his other goal. “It was proved that I’m the champion of Mechanical Engineering, but I’m not a champion of UNIST yet because there is no limbo contest for all the students.



I want a limbo contest for all students so that they can get a chance to challenge the champion of UNIST. That’s my hope.”

HUMANS of UNIST

‘Humans of UNIST’ literally saying it’s about humans of our HOME. Here are pictures of random, but amazing people I’ve met in UNIST. The main thing which makes it different is -all the interviews (with random questions) were taken from random people on unexpected moments. All these works, efforts just for you UNISTARS!

Aim of this project is to make you more familiar with each other and draw some great memories in your student life.

Interviewed and Photographed by Adina Kaiymova



“Which major would you choose, if you didn’t need a job or money?”

“I don’t know, I’d have to think.”

“Rapping probably, I like rapping from the depth of my heart.”

“For engineering you have to learn... but for singing I have a voice already, so singing.”

“Engineering. I have a dream to become a CEO.”

“Take our picture differently, maybe from the mirror. Because we are “Epidemic”, we are cool.”



“Tomorrow, I have my first presentation. I heard that watching Steve Jobs’ speech before presenting helps a lot. So I’m watching his videos now. I started to respect him even more. ”



“We are going to KTX to go back to the military. I like her because she is cute.”

“I like him because he is cool.”



“Design is everything, so we are important people.”



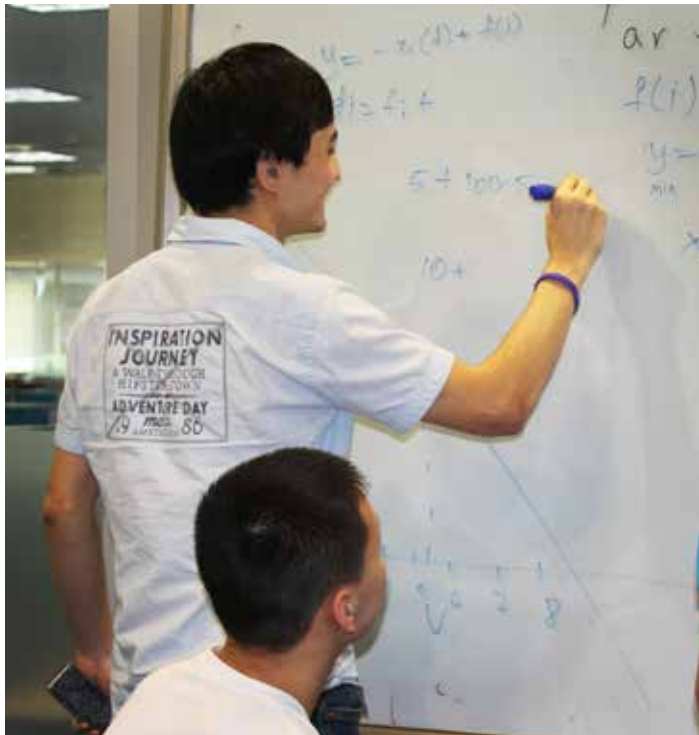
“Even my hair is not stylish; some people say that I look like Will Smith”



"I traveled around 15 countries, when people see me first in foreign countries they think I'm Chilean, because of my skin color. The change of my skin color from white to dark is a result of my traveling, and it is a memory. I mostly liked Egypt from all those countries. This summer I'm going to Nepal."



"If I care about other people, everyday morning I would have to think what I have to wear. So I care about people, but I don't care about what would think of me. I like my hair. In high school I could do some jokes to my friends by hiding their pens in my hair."



"I'm teaching high school students from Kazakhstan who are going on the world olympiad for Informatics. If they win, I will be happy three times more than they will. Now I can understand why my teachers were happier than me for my achievements."



"If you are doing similar a project to 'Humans of New York', then I'm lucky. I love that blog. I colored my hair purple; because our professor said that design students should have their own character. So I tried this color. Before now I felt uncomfortable when people looked at me, but now I enjoy the attention."



"You have to know the generation of thinking if you want to be a really creative scientist. So I'm reading a book about Leonardo da Vinci's thoughts. I mostly prefer to read paper based books, because while reading them you can capture some ideas. If I read e-books I cannot remember them for a long time. I even like the smell of books too. To make a great career you have to follow your professor, so I'm here because of my professor from POSTECH."



"Smiling is the way to make people closer to me."

Once I smile they cannot get away from me."

Pounding Life of an Author



By Hae-Min Lee
hmeeni@unist.ac.kr

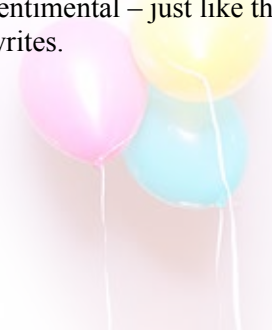
Reading Kim Ae-Ran's book makes you feel as if you are read-

ing the words of your own mind. She picks words, and concocts sentences that touches you physically, like cold drops of rain on your bare skin. The author of the best seller 'My Pounding Life', Kim writes about places, families, and how people live their lives. On a breezy afternoon in May, the sentimental writer visited UNIST to tell us her story.

Looking a bit shy, also a bit nervous, the shorthaired author walked in the lecture theatre at the library. She gently grabbed the microphone and started talking about her life - as a child, as a girl, as a woman and as a writer; how she grew up in Seosan-si,

Chungcheongnam-do surrounded by green mountains, green trees and verdant air. She ended her story with a gentle suggestion. "I read in an interview that when people are in deep pain they do not say things. They make noises." There are times in life where you can barely make noises. I sometimes hope that even though not all literature can provide you with a shelter in those hard times, I hope that something you rely on would be literature. I want to live as one of the people who writes things that make you feel better about life, about every day little things." "Unlike playing games, literature makes losses and failures

something to earn, something to ravish." Kim shared her experiences, thoughts and feelings about writing, literature, love and humans. The lecture was not really a lecture. It was like I was talking to her over a cup of tea. She shared the little things of her life with us, and let us feel very calm, safe and sentimental – just like the way she writes.



10 THINGS TO DO BEFORE SUMMER ENDS

By Zhonibek Khalilov
zhonibek@unist.ac.kr

It's already summer outside, and the summer vacation is coming very soon. Maybe some UNISTARs are already planning how to spend time in summer, while others are not. There are many things that can be done in summer thanks to the beautiful weather.

However, if it's hard to decide or come up with activities or things to do, here is a list of 10 possible things to do before the heat disappears. Hopefully, the places in this list will be interesting to visit and the activities will help to make summer vacation much more meaningful and exciting.

1 Haeundae Beach

When one thinks about summer, the first thing to come to mind is the beach. That's why the first thing on this list is a beach. Haeundae beach, located in Busan, is one of the most famous beaches in South Korea. It's very crowded in summer when all people take their summer vacations. This place will put you in a complete summer atmosphere and will be perfect choice to make on a hot summer day.

2 Castle

In order not to make a banal visit to Haeundae beach this time, you need to build a castle from sand. This will leave you with a feeling of having done "something cool".

3 World Cup

Watch the World Cup 2014. It will be held in Brazil, and starts in early June. If you don't like football, well at least watch the final match, because you just have to know the result of one of the most important events of 2014.

4 Oegosan Onggi Village

Here is the place where you can experience making onggi yourself.

Oegosan Onggi Village, which is also located in Ulsan, is the largest producer of traditional onggi in Korea. A range of facilities are located inside the village for visitors to explore the culture of onggi. You can observe the crafting of onggi products, while making your own.

5 Learn to say Hello

Learn the phrases "Hello", "How are you" in 20 different languages. It may be useful if you meet people from different countries. You'll just make them happy.

6 Paraeso Falls

Paraeso Falls is located in Ulsan. Being 15 meters high and fresh with mountain water, Paraeso Waterfall is one of Ulsan's twelve scenic sights. The surrounding scenery is stunning. It's a well maintained attraction during the summer for people eager to escape from the summer heat and enjoy the nearby natural forest.

7 Learn a new language

Summer is quite long time even to learn a new language. Learn the language you like and want to learn the most. Give one hour a day to the studies of that language.

Haeundae Beach.
Pretty nice place to visit in summer right?



In two months you'll learn a lot of it.

8 Keep your day organized

Try to keep your day organized and planned for some period of time, it can be either one week, 10 days or any time interval you want. Wake up early every day and do some exercises in the morning. This kind of habit may help you when you come back to university.

9 Ganjeolgot

One more place to visit is Ganjeolgot. It's also located in Ulsan. Ganjeolgot is a cape where the sun rises first on the Korean peninsula. Many people go there to see the first sunrise of the New Year and make a wish. It is also a great place to visit during the summer vacation.

10 Write an article for us

You can write a short article about how you spent your summer vacation if you want to share your experiences from traveling or things you did. You can send us your articles and your pictures from vacation as well which can be posted in the next series of the UNIST Journal.

Rowing Now Available at Taehwa River

By Ha-Il Jung
hail95@unist.ac.kr

In June, a brand new water leisure mooring is opening at the Taehwa River. This place, supported by the government since last year, will definitely be an attractive 'go to' place, not only for Ulsan citizens but for everyone in the nation.

Lots of eye catching places will welcome people. Rowing boats, surfing boats, canoe boats, dinghy yachts, and more marvelous sites will be available at a very low price. Also, this area will be used as a stop-over spot for small boats and barge boats. During the stay at the mooring, they will provide repair and cleaning if needed.

The officer from Nam-gu office said "Once the surrounding environment and accommodation are nicely organized, lots of leisure sports club members will come visit this marina thus changing the mooring to the Ulsan's must visit place. Also, we welcome UNIS-

TARS at any time to come visit this area. We will always be ready for your visit."

UNIST rowing club, of course, is desperately waiting for its opening more than any other people in Ulsan. Since the practicing area was very decrepit due to its age, they are looking forward to boast their rowing skills at a brand new place.

Kim Geon-Ha, a member of UNIST Rowing club, said "The opening of the new rowing arena at the Taehwa River will foster the development of UNIST Rowing club. Moreover, it will help rowing, which many still consider to be an activity for elites, to be a sport for everyone."

Ulsan citizens and UNISTARS hope to see this place as another project of "the miracle of the Taehwa River." The only thing left is to fill in the needs of citizens by showing that this place actually is a miracle. To make it happen, not only the government should cooperate but also citizens should show enthusiasm towards it treating the site with respect.



(Above) Taehwa River

The Korean Titanic

Is Our Society Safe?

By Jong-Keun Kim
jkk7391@unist.ac.kr

Probably for us Koreans, April 16th will be remembered as a tragic day.

I myself went to 'Group Memorial Altar' located in Ansan. Atmosphere surrounding the memorial altar was very heavy. Countless people were waiting their turn to put flowers and write names on guest book. I could see many people sob and some kept saying 'sorry' again and again. Many people were thinking that they should apologize for not being able to form safe society as responsible adults. So many people were sad and I could realize this easily when I saw tissues on table near entrances. People sobbed so much that organizer of Memorial Altar had to put tissues on tables.

This tragic accident began in April 16th when ship 'Sewol' sunk due to many reasons that could have been prevented. The rescuing process after the sinking of the ship was even more pitiful sight. As Sewol accident was handled, many related problems arose. Ocean police's organization problem,

government's delayed actions, and many others were brought up to the surface. The media criticized such realized problems.

Although I agree with many presses argument, I couldn't help but notice that many presses left Korean society's problem out of the issue. In my point of view, basic problems that lie under Korean society itself were as serious as governmental or any other problems.

Within the recent 30 years, so many accidents took place in Korea. 'Sam-Poong store accident', 'Dae-Gu subway accident' and 'Sung-Su bridge collapse accident' are some which majority of Korean people had witnessed. Of course, the reasons for these accidents vary. However, we can easily understand that Korean society experienced so many of these big scale accidents frequently. So my question was simple: Why does Korean society experience so many accidents compared to others in the world? What is the difference between our society and the others?

Having such curiosity, I tried hard to find the difference. The result of my searching and inquiring to others was surprising. Kore-

an society's respect for seniors, tendency to avoid hurting other's feelings and tendency to obey the superior were the underlying problem. I used to think these were the unique aspects of our culture but I was wrong.

I found out this result after meeting one person who was a safety inspector working for Hyundai. We had a little chat at the gym regarding Sewol news and he asserted some interesting points. Now we all know that our society traditionally respect the elderlies and extremely hate to hurt others' feelings especially if it's one's boss. According to this former inspector, the safety department is usually given authority to stop the project if they come to realize there is a problem regarding safety. Thanks to this authority, safety department can do their work properly. In Korea though, safety department's members are afraid to stop the project even if they knew project had safety problems. This was because they thought that if they stop the project, they would hurt other department's feelings and raise conflicts. This kind of situation gets even worse if head of safety department is younger than other department's head. In

order to help understanding, former inspector told me an interesting story. Some time ago, Korean Air faced troubles because they experienced an unusual amounts of accidents compared to other flight companies. Korean Air, of course, investigated and discovered a shocking fact. The majority of captains or co-pilots knew there were problems in their airplanes before the accidents took place. They decided not to tell such problems to the control tower nor to each other. They would be embarrassed. Even if the captain didn't realize the problem, in most cases co-pilots did. The co-pilots refused to report this because captain, the boss, is usually older.

Though this fact is very shocking, I hope as time goes on, younger generation will be the main leading force in our society and hopefully the younger generation has less aspects of Korean society mentioned above. Change does not require a great deal amount of work. With small movements, change can occur.

Innovative Meeting ‘Marketing with Brain Science’



By Hye-In Jeong
junghi2167@unist.ac.kr

When studying for English tests such as TOEIC, some English words are easy to memorize and others are hard, even though you make the same effort. Have you ever wondered why?

There is research about this strange situation. The test subject group was given the task to remember words that appear on a screen. Amazingly, whether they remember the words or not is predictable by looking at the hippocampus (the Korean pronunciation : haema, the component of a brain which takes an important part in remembering) activity. In other words, the step of staring at

a screen in order to remember has already determined whether they will remember the words or not. This situation tells us the brain distinguishes things to remember from things not needed to remember, subconsciously.

This subconscious action of the brain is useful for neuro marketing. Neuro marketing is a term for neurons which transfer information into the brain, plus a term for marketing, so it is the attempt to understand consumer's mentality and activity, and to apply marketing by analyzing subconscious properties of the brain.

Neuro marketing is derived from Pepsi blind taste test (hiding the trademark and guessing what brand it is) which targeted to consumers all over the world. In a blind test, Pepsi preceded Coca-Cola. However, in the market Pepsi is preceded by Coca-Cola. They wondered why this situation happens. By using brain science, they found the answer. When the test subject doesn't know what brand of cola they are drinking (in a blind test), both brands activate the brain's reward center. (Here, the reward center of the brain means the sweet taste) However, after they know the brand and drink both colas (it is not a blind

test but it is like choosing cola at a market), Coca-Cola activates the emotional and affinity regions of the brain for most consumers, but Pepsi does not.

Like this, neuro marketing has a strong point in the way that producers can expect what consumers want. Especially, neuro marketing contributes to 'emotional marketing scientization' which means that marketing like design and advertisements is advanced by measuring the effect on a consumer's subconscious. 'Amore-pacific (a cosmetics company)' is an example of success by using neuro marketing. They found how regions react and this finding helps this company decide what marketing strategy will be suitable. They analyzed a reaction of the consumers' brain by showing their product picture and advertisements and other overseas cosmetic products. As a result, they found that their brand is short of affinity because consumers' brain regions in charge of feeling reacts weaker compared with the other company's product. Based on these results, they established a strategy toward being more "friendly" like changing their advertisement model image, the design of their product, the mood of their shop, and achieved

success.

Because there is trouble to understand what consumers want using conventional methods like questionnaires and interviews, the interest in neuro marketing grows bigger and more active and becomes a hot issue. However, is it always good to compare with the conventional method? There also exists limiting points while there are lots of advantages. First, it is impossible to know what people think concretely even though it is possible to know what brain region reacts. Also, some people points out ethical problems in terms of trying to peep inside heads and manipulate consumers' psychology.

Nevertheless, it is very innovative and awesome in the way that analyzing brains can raise marketing effects. If neuro marketing tries to advance with aiming to 'enhancement precious consumers' value' not unethically, it must be wonderful marketing that will make both consumers and producers happy. We may look forward to innovative marketing meeting with brain science which can work towards a win-win situation.

Can We Explain Love Scientifically?

By Jong-Keun Kim
jkk7391@unist.ac.kr

Mary has been facing some trouble lately. Her boyfriend, John seems to not love her anymore. He doesn't show as much affection as he did when she first met him. This is really bothering her. What could Mary do?

This kind of problem comes to most couples on earth. What we have to consider is the fact that this problem doesn't come instantly, but comes after countless fights and tiredness toward each other. Although many of you may think that this is just due to emotional factors, actually it is not.

Historically, scientists have been trying to explain many things that happen between couples scientifically. A book named 'Dating Is Science' by Sukita Toshiro advises both men and women what to do in specific situations and supports its recommendations with scientific explanation. According to this book, love is just a psychological reaction that goes on within the

body as a result of brain activity and hormone secretions.

Many scientists assert that men and women fall in love because of the sexual hormones, testosterone and estrogen. At that moment of falling in love, dopamine-serotonin is secreted and makes men and women feel extreme affection toward each other. Dopamine is a nerve transmitter which brings excitement within the brain itself. When scientists scan the brain of couples who just fell in love, they can easily see actively working caudate nucleus, located deep in the cerebrum. Serotonin is one of the most important hormones regarding love. This hormone makes you fall in love with others. When this hormone is secreted, you see your girlfriend's pimple as a flower. No matter what she does, you think of her as an attractive human being. When love develops into a sexual relationship, this is due to oxytocin and vasotocin. These hormones push couples to have physical sexual relationships.

According to scientists, these hormones last approximately 2 years. After this time, couples may



no longer feel their heart fluttering. They may begin to see each other's flaws and have conflicts. The number of phone calls decline and the L-word no longer comes out of each other's mouths. This ultimately leads to a period of lassitude.

You may feel a sense of futility as now you know that love is just a hormonal reaction. Thankfully, experts say that hormones are not everything in love. After the phase of active hormonal reaction which implies that the strong fire of love

is dying, every couple enters a calm psychological state. During this period couples develop 'attachment' toward each other and as a result they earn more than just a fluttering heart

One psychologist says that in order to recover from a period of lassitude, effort from both the man and the woman is crucial. Though there exists no more hormone reactions, scientist can still see many people loving each other. In these couples, scientists noticed care and understanding.

The Most Innovative Invention In the 1400's



By **Sung-Jin Bae**
nicola95@unist.ac.kr

Before the Jagyeokru (water clock) was invented, there existed clocks with no automatic alarm and which had lots of weaknesses.

Therefore King Sejong ordered Yeong-Sil Jang to make brand-new clocks. He made the solar-clock "angbuilgu". However, the solar-clock and star-clock also have weaknesses in that they were very sensitive to weather. King Sejong considered what kind of clock could be possible regardless of weather. He directed Mr. Jang to make something new. In 1434, "Jagyeokru" which is not sensitive to weather and had an automatic ring alarm was invented by Yeong-Sil Jang. Thanks to Jagyeokru, Joseon could measure time 24 hours a day, 365 days a year.

Then, how did Jagyeokru work? Although most people know what

Jagyeokru is, nobody knows exactly how it worked. First, Jagyeokru had two sections. One includes six water jars and floating rods. The other is an automatic time signal device. Water is poured into a large water jar at the top. It then flows into the smaller ones below before reaching the long, high water containers at the bottom. When the water in these containers rises to a certain level, a floating rod reaches the pre-set gradation. The rod touches the lever device which causes an iron ball to roll into a hole which moves a wooden figure to trigger the bell, drum, and gong. Upon the sounding of the wooden figure's alert, a drum and bell

were sounded at Gwanhwamun and Jongnu, after which the gates of the palace and those of the city of Seoul were opened and closed accordingly.

If you want to see the actual feature, you can visit the National Palace Museum of Korea in Seoul. Or Gwacheon National Science Museum. Maybe you will be impressed by the ancestors' innovativeness and creativity.

If you scan the QR code, you can see the video of the Jagyeokru, in operation.



Saving the World with Games

By **Talha Ilhan**
mtilhan@unist.ac.kr

Three billion hours; the time we spend for online games.

Twenty one billion hours; the time we should spend for online games to make a better world.

A few weeks ago I watched a TED video and those two sentences, which were the opening remarks of that speech, which is made me curious. Why do we need to play games while everyone, tells us that playing games are just wasting our lives? I kept watching Jane McGonigal, a game designer who spent the last decade researching how gaming affects people. McGonigal acquired some interesting aspects of gaming.

I, myself am a gamer - I have played video games, board games, card games, chess, etc. since I was three years old. I remember my parents opening the Aladdin game on a DOS operating system when I was three.

Ten thousands hours. It is the average time that a teenager from a country that has a game culture spend on games. Ten thousand eighty hours. This is an exact time that an US citizen has spent time from fifth grade to high school graduation. If gamers spend time on games as much as a complete education, the logical assumption would be that they should be excel at something. In this moment of the speech, the speaker tells us that she found five thing that a gamer excels at; urgent optimism, social fabric, blissful productivity, epic meaning, or epic winning.

Gamers excel at urgent optimism

because in games we get better feedback than real life, we know how much progress we made, and we know that any problem in games designed to be solved. Social fabric becomes stronger, because research show us that peo-



ple trust a person that they have played games with. They trust that person they will spend their time with, they will follow the same rules as them and not cheat on them. Blissful productivity comes from the human hate or laziness. However, as we see progress, and make epic wins in games we gain productivity. An average World of Warcraft player plays 22 hours per week, which is like a part time job. Gamers love epic meaning, a quest that will force us to use all our power. That's why all hardcore games get huge attention from gamers. Flappy Bird is one of the examples of a really hardcore game.

However, that is not all. As you know, the world's biggest wiki is Wikipedia. The second biggest

wiki is belongs to World of Warcraft with 80,000 entries, and it is used by five million people every month. These five million people are making an epic source that belongs to Azeroth, where the World of Warcraft takes place.

Those research, studies and statistics show us that gamers have outstanding abilities in online games that most people try to gain in real life; optimism, productivity, sociality, and an epic meaning of life. A person that has those abilities in games can adapt those abilities to real life. All great leaders show those abilities. Social networks to connect people will give you huge advantages, optimism or hope for success is one of the core things of success, productivity is necessary thing for success and epic meaning is the thing that drives us to our goals. Jain McGonigal believes that 500 million people who play games can achieve good things with using those abilities. 500 million people that can have a chance to become

great leaders. All of those 500 million people believe that they can change the world. Only problem she says, they believe they can change virtual worlds, but not the real world.

Moreover, research shows us those are not the only things that games provide us. When we play role playing games, we learn to experience things with the character. When we play strategic and adventure games, we learn to think in a detailed way. We have to think of every consequence of our actions and how those consequences can affect our situation. When we play action or fight games we learn to think, decide, and act quickly. Aren't the great leaders the ones who decide quickly in bad situations?

Information, science, mathematics, physics and history and more. Are they the only things we need to save the world? When a person has mastered mathematics, is that enough? Can that person now save the world? Can that person connect with other persons and co-operate with them on this quest? Does he have a hope to save the world or just looks to the problem and decide not to do anything? We have a huge amount of people who has everything for saving the world including information and character.

Now we have to ask ourselves, is playing games really a waste of time and a bad thing or are we actually kidding ourselves?



Let's Wait for Our Souls

By Seung-Guk Park

koued17890@unist.ac.kr

I had a strong sense of déjà vu when I heard of the behavior of the Sewol ferry's captain. It's about a different man, who ran away leaving his people at the outbreak of a devastating war. He told his people "Seoul is safe. Stay still." He was the president of Korea. He was supposed to be the leader of his people. His name is Rhee Syngman, the very first president of our people.

The leader who abandoned his people – this story is repeated in the 21st century. On a cold day of April 17th, the captain of the Sewol ferry escaped alone, leaving the passengers behind. I was very surprised because the captain was old enough to have experienced the devastation of the Korean War. He would have been a young boy at that time. A generation grew up seeing how Rhee Syngman deserted his people have acted the same way. I then realized the true meaning of the phrase 'a child is a mirror of a man'

There is an adage in Park Min-gyu's novel 'Pavane for a Dead Princess'.

'Native Americans sometimes stop riding and get off their horses. They stare at the direction they came from for a long time. They go back on the road again only when they know their fellow souls are catching up.'

The age of the Republic of Korea is less than 100 years. Just 60 years have passed from the cease-fire of the 1954 Korean War. Just two generations have grown up. Korea advanced dramatically in a short period of time. Our parents rushed themselves for success very quickly. They didn't have time to wait for their fellow souls. They didn't want to. They just ran without any rest. We are no different. All we want is 'bbali bbali' (hurry hurry).

The cost of not saving our souls has manifested in the Sewol ferry disasters in various ways. The most noticeable manifestation was the people who lacked empathy. They spat out unmentionable words to the victims. They treated the bereaved as savages, who tried to go the Blue House. Some of

them only cared for themselves, when hundreds of lives relied upon them. A professor in UNIST said, "The scariest thing is when you imagine that people like the captain could exist anywhere in our society. How can we know our family members are safe in a bus, train or on an airplane if people like the captain are there too?"

I watched a 15 minute video taken by a student passenger on the Sewol ferry. I was almost in tears watching the students who did not escape earlier because the announcement told them to 'stay still'. It is a history not to be repeated. It is now time to wait for our souls. Sometimes, we need to learn to stop rushing and take a break. We should think about our next generation.

We are very proud that we have advanced this much. Does this mean that we have matured as a country? A mature society means mature citizens, which establishes the culture of the country. The phrase 'a child is a mirror of a man' proves the power of culture. A country nurtures caring children inside a culture where caring about other people is naturally done. We

should teach people how to have empathy. From empathy, citizens with right perspectives are nurtured, a responsible captain saving people is born, and a journalist asking 'Do you know whether your friend is dead?' to a survivor will no longer exist.

You could say 'If something like this was easy, it would have been done already.' Some don't even know what is wrong. I know for sure that leading a foundational change in our deep Korean culture is almost impossible. There is hope though. Thousands of people are sharing the pain, the sorrow and the disappointment together. It's all about the people and the amount of the people who has the will to see the changes happening.

UNIST
JOURNAL

Editor-in-Chief
Vice Editor-in-Chief

Hae-Min Lee
Ji-Won Lee
Go-Eun Choi
Do-Yeon Lee
Won-Suk Lee
Joon-Hee Lee
Seok-Hwan Kim
Jong-Keun Kim
Seung-Guk Park
Da-Som Seong

hmeeni@unist.ac.kr
wldnjs919@unist.ac.kr
gochoi@unist.ac.kr
dy1238@unist.ac.kr
sammysosa2@unist.ac.kr
joonhs9310@unist.ac.kr
kaiigelbio@unist.ac.kr
jkk7391@unist.ac.kr
koued17890@unist.ac.kr
ektha0012@unist.ac.kr

Seung-Ryul Lee
Woo-Jin Lee
Ha-Il Jung
Hye-In Jeong
Moon-Kyung Cho
Soo-Hyun Han
Talha Ilhan
Adina Kaiymova
Zhonibek Khalilov

nicklapin@unist.ac.kr
leewj924@unist.ac.kr
hail95@unist.ac.kr
junghi2167@unist.ac.kr
tachimimi@unist.ac.kr
hsh940716@unist.ac.kr
mtilhan@unist.ac.kr
adina@unist.ac.kr
zhonibek@unist.ac.kr