

# eVISION

## Lake Toya

Scenic beauty at the active  
**Volcanic** caldera lake

## Meet this year's e<sup>3</sup> chairs

Find out what makes them leaders  
from their **Inspirational** stories

## Salvatore & SAMA

Great tasting food close to campus

## Professor Akira Suzuki Hokkaido University's Nobel Prize Winner

Exclusive interview with the creator of **Palladium Catalyzed Reactions**

## Letter From the Editor

I would like to welcome you to the all-new eVision magazine for the e3 Program. Compared to past issues, many things have changed, enough so to confidently say this is an entirely different eVision. Along with a new name, we also have a new goal. Gone are the days where articles were written by independent writers based on only their interests, hoping someone would also be just as interested. Our new focus is you, the readers. From the ground up, this magazine was designed with our readers in mind, from article choice to the colors used.

You will see that we now have a few categories for the articles. While in this issue we have four categories for your enjoyment, not all of the sections will be in the next issue, or may change in length. Some other categories may take their places, or be added on top of the existing ones. Why is this important you may ask. Well, that is first step in our transition into shorter publication cycles, adding more issues per year than ever before.

I would personally like to thank a few people for their hard work in making this magazine possible. First off, the former and current e3 chairs, without their support there would be a few less pages. I would also like to thank Cheng See Yuan for his photos of Nobel Prize winner Dr. Suzuki. Also indispensable is a non-e3 member, Yurie, who helped with research on more than half of the articles. Finally, Dr. Werawan, Professor Ueda, and Yuki Tsuji, without whom there would be no e3 program, much less this magazine.

It has been a busy time these last few weeks, but the efforts have been well worth it. The first issue of the new eVision magazine features twelve articles in four categories across 22 pages. This is certainly not the largest issue, but it may be the most diverse in terms of content. Hopefully the next issue will feature many more articles, and more photos and graphics as well.

While we have made many changes, or maybe because of it, the eVision magazine will continue to evolve for some time to come. There is still a lot of work to do, from improving designs to writing different articles with an e3 focus. It's not just what you see that's changing; the way we work is becoming increasingly streamline and uniform, allowing more and better articles that fit together as one eVision. But there are two things that will never change, our commitment to all of you, and the quality magazine you deserve.

If you are ever interested in working for us here at eVision, don't hesitate to ask. We are always looking for more contributors, and whatever skills you can offer.

I hope you enjoy this new eVision magazine.

Lionel Sobehart  
Editor in Chief

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eVision Magazine

This magazine is made for e<sup>3</sup> members by e<sup>3</sup> members.  
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## Noboribetsu:

### The Valley of Hell and the Resting Place of the Oni

Tucked in the mountains between Lake Toya and Muroran is the small onsen village of Noboribetsu and the seismically active Jigokudani. Fed by underground water, there are a large number of natural and manmade springs, as well as hot spring rivers that run above the town. While technically a village separate from Noboribetsu, Noboribetsu-onsen is generally called just Noboribetsu even by the locals.

Like most onsen villages, you have a great selection of onsen hotels, for as little as 10000 yen a night with dinner and breakfast included. Rooms are usually available in both western and Japanese style, with dinner menus matching the room type. In true onsen style, bath waters are directly from hot spring vents, avoiding the reheat cycle that imitation onsen provide. Most hotels in Noboribetsu also offer outdoor baths, which are especially relaxing in the winter months.



The local specialty food is Jigoku Ramen, or Hell Ramen. Using treated spring water and an assortment of spices, this ramen truly has the taste of hell. The pepper spices in the dish set your mouth on fire, while the Chinese spices keep it simmering all the way down. The sulfur content of the spring water adds an egg like taste, and the overall sensation of hell is completed with the toppings and noodles. While not as visually pleasing as other local delicacies, Jigoku Ramen is a unique treat to any pallet.

A bus station with buses running to and from the major cities, including Sapporo, is conveniently located in the middle of the town, and is in walking distance from most onsen hotels. Bus services are limited, often only a few each day, but it's possible to make a day trip if you are interested in only visiting the steam vents and hot

springs. Hotel parking is often free, but parking at the Jigokudani lots is 500 yen per day, and there is no public parking within the town.

The spectacular reason why Noboribetsu stands above the rest is the natural hot spring waters from Jigoku Dani, the Hell Valley. Created by superheated ground water, Hell Valley is a set of interconnected hot springs and steam vents, which have released enough toxic chemicals to remove trees and most plant life in a very large section of the valley. This beautiful scenery is reminiscent of the world renowned Yellowstone Geyser Basin, and is very accessible from the onsen hotel area. The main steam vent site is a five minute walk from downtown Noboribetsu, and the main hot spring basin is a ten minute drive.

Local legend has it that oni, a type of demon, made their homes in the hills surrounding Noboribetsu. Throughout the town are reminders of these legends, from gigantic clubs and other weapons, to monstrous statues of the oni themselves. One of the more popular statues stands at the entrance from the Lake Toya, and features a father oni with his son. If you are lucky, you may catch a glimpse of the oni king Enma himself. A nearly two story animatronic statue of Enma in downtown Noboribetsu transforms into an angry oni every hour.

Once a year on the last weekend of September, Noboribetsu holds an Oni Matsuri. Both nights feature a parade with oni floats

As with most onsen towns, Noboribetsu has a distinct odor of sulfur. When getting off the expressway, you can easily tell that you are close to the town. At the same time, this smell reminds you that you are within an onsen resort. Fortunately for those who can't accustom themselves to the smell, the rooms usually have filtered air conditioning which greatly improves the air purity. For a busy student, taking time to relax in the provided yukata and strolling around the hotel resort may be just what the doctor ordered.





## Lake Toya:

### A Beautiful View from Every Angle

As one of the largest caldera lakes in Japan, the natural beauty of the Lake Toya Park is outstanding. Located a hundred kilometers south of Sapporo, the Lake Toya hosts several active volcanos including Mount Usu, which overlooks the lake. As the second largest lake in the Shikotsuko-Toyako National Park, it is quite a sight to behold. Due to the caldera that surrounds the lake, it is almost circular, providing great views from any side.

A must see spot at the Lake Toya Park is the Showa Shinzan, a mountain formed only seventy years ago. It is one of the fastest growing volcanoes, as well as one of the most important for geologists due to its sudden appearance. Many of the records drawn by local post-master Masao Mimatsu are still on display in the base station.

While the top of Showa Shinzan is inaccessible, the best views are from the top of Mount Usu. A ropeway service is available from the foot of Showa Shinzan to the observation station on top of Mount Usu for 1450 yen. The views from Mount Usu are spectacular, as the mountain overlook Lake Toya, Showa Shinzan, and the nearby Uchiura Bay. The mountain is seismically active, featuring steam vents and craters that are remnants of the most recent eruption in 2000.

The southern shore is home to the small town of Toyako-onsen, where there are several small shops and restaurants to visit. One of the top choices for lunch is popular “Sobakura”, which offers tempura soba and tempura don. English menus are regularly given to foreigners, and vegetarian dishes are available for those who cannot eat tempura. The soba ingredients are locally grown, and made entirely by hand, producing unique textures and tastes not found in mass produced ones. For those that enjoy nato, nato soba is available as well. Prices range from 850 yen for a simple soba dish to 1300 yen for both tempura don and soba.

Transportation into the Lake Toya region is limited, with travel by car ultimately being the cheapest option for most people. Parking is readily available for free in the Toyako-onsen area, and for 500 yen in the Mount Usu lot. Train transportation requires a transfer at Muroran towards Hakodate, followed by a bus from the Toya station to the Toyako-onsen area. The usual path for cars and busses is route 230, running from Sapporo straight to Lake Toya. Travel by car is significantly easier and faster, as many of the lake’s best attractions are quite far from Toyako-onsen.

For those wishing to spend the night, Toyako-onsen is home to several onsen hotels that overlook Lake Toya. Prices for onsen hotels in this area is relatively low,

however, the onsen have a more processed feel. For those who want a more traditional onsen other options may be better. High end resort hotels are also available outside the Toyako-onsen area, with one of the more famous being the Windsor Hotel Toya Resort & Spa, which was the site of the 2008 G8 summit. It is located on the ridge just west of Toyako-onsen, providing spectacular views of the lake and town.

Within the caldera lake is a small island nature preserve where Ezo deer can be seen and fed. Access to the nature preserve is restricted, although groups may enter with prior reservations. Reservations are 5400 yen, which includes the fifteen minute boat ride to the center



island. The local seagulls that roam the lake following boats are quite accustomed to being fed, and may put on a spectacle in search of food. Those without reservations can also visit the island to feed the deer that occasionally venture to the fenced in areas.

Since it is within day-trip distance from Sapporo, it is a highly suggested place to visit on the weekend. There are mountain trails available for the more adventurous travelers, with the ones in the lake island being the most remote. Most of the trails are fairly long, and may take up the better portion of the day. Lake side streets and parks are an option for the less nature loving travelers. The beautiful scenery and peaceful town make wonderful backdrops for a leisurely stroll. There is certainly something for everyone in the Lake Toya area.

# Salvatore

## Top Italian/Yakitori Around

There are few stores that can claim crown to two entirely different dishes, but Salvatore somehow manages to do that. Located in the remodeled Bridge complex, Salvatore is a fairly popular store due to its great location and top notch taste. The unique mixture of Italian dishes and yakitori is refreshing, if a bit odd to imagine.

This is one of the few places in Japan that can offer an authentic tasting Italian pizza. Hand shaped and oven baked, the taste is unmatched in Sapporo. In true Italian style, the pizza is more than a pile of cheese above a slathering of sauce, with actual mozzarella balls sprinkled on a thin layer of sauce.

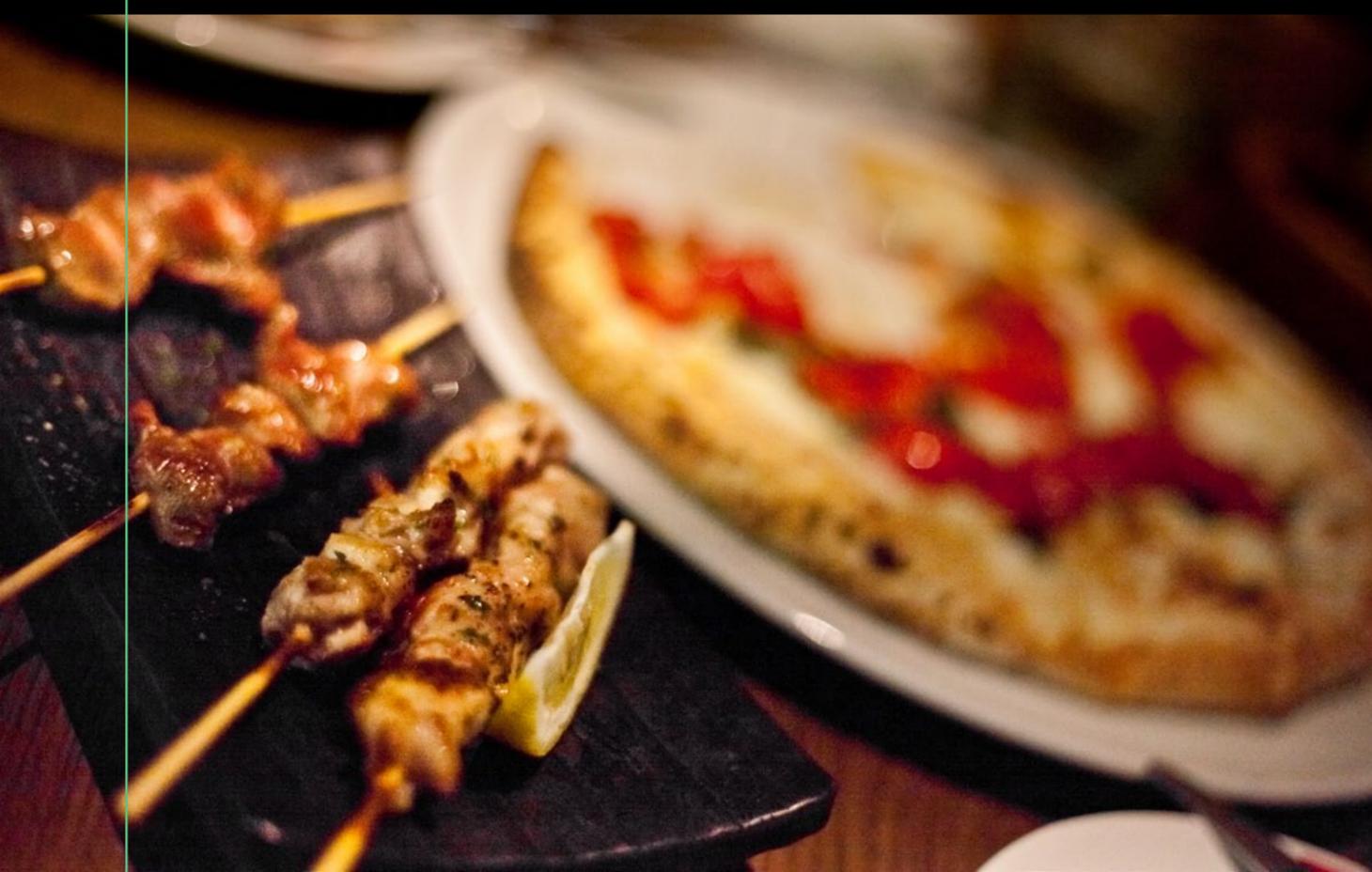
In addition to pizza, several other authentic tasting Italian foods are available. The two dishes that would be most recommended are the prosciutto dish and gnocchi with sausage. While the dry-cured ham served at Salvatore is actually Spanish jamón serrano rather than actual Italian prosciutto, the ham is of the imported variety. It is a bit more savory than a traditional Prosciutto di Parma, and also a bit more salty. For the average customer, the difference will likely not be noticed.

The gnocchi is a baked variety with a large amount of herbs and spices added for flavor. The outside is crisp while the inside is still soft, a perfect blend. Within the same dish, sausage links cut into small bite sized portions are intermixed. While the inside is slightly dry, the spices and gnocchi provide the needed balance.

In sharp contrast to the Italian food and atmosphere, Salvatore also offers a large selection of yakitori. In similar perfectionist style, the pieces are fire grilled and perfectly salted and marinated. These go great with pizza, especially margarita or vegetarian pizzas.

As with any other restaurant, there are a few caveats to consider. As a popular store in a very accessible location, wait times for a table will likely be well over half an hour, and the time between ordering and getting the food is equally as long. But as a new restaurant, staff management is not fully laid down, and orders may be lost. Both of these issues will probably recede as the restaurant ages.

Dinner	Taste	★★★★★
	Price	★★
	Store	★★★★
	Location	North 5 West 5



# SAMA

## The Best Soup Curry in Sapporo

As one of the Sapporo specialty foods, more than a dozen soup curry in the Kita block alone. Each restaurant is unique, and most have dishes you could not confuse for another store's. Even so, SAMA stands well above all the rest.

The key ingredient in any soup curry is of course, the soup base. While many restaurants use a thin, soup like broth, SAMA uses a thicker base with a consistency closer to pasta sauce. This makes dipping the rice into the soup much easier, and adds flavors to the other ingredients in the dish. SAMA currently offers three soup bases at several spice levels.

Those who prefer spicier dishes should choose the tomato base, as the other spices included help give it flavor even when choosing a very spicy dish. If you can't tolerate spicy foods, the coconut base at 0 or 1 levels for spice will give you a sweeter taste without much of an aftertaste.

SAMA takes the soup curry philosophy of personalized dishes to another level. There are half a dozen primary ingredients, from pork to nankotsu, and twice as many optional secondary topping choices. All dishes come with an assortment of vegetables, and a vegetarian

option is available. The rice portion size is also selectable, especially useful for people with larger appetites. Every once in a while, as limited time flavor is released, and each store location has its own specialties.

The Hokudai-mae branch offers an extra selection of dishes in its menu not offered at other locations, both meat and vegetable dishes. These are the most popular choices at SAMA, and among the best tasting. Another great benefit is that they offer much more food for only a small premium, making them one of the more economical choices too. The only thing lacking is the typical Japanese nomihodai service, and the drink menu is very limited.

The store itself is a small, Caribbean themed floor with seating for roughly thirty or forty customers. The music choice matches the decor quite well, though the inclusion of Japanese style seating does detract from the overall feel. Reservations are not required, but the store may be crowded during weekend nights. Unfortunately, the location is quite difficult to find, since the SAMA lacks large signs that can be seen from a distance. Delivery is available in the vicinity of the restaurant, with over the phone ordering or by fax.

Lunch Dinner	Taste	★★★★★
	Price	★★★★☆
	Store	★★★★
	Location	North 16 West 3

## Visiting Home

### A Guide to Make Visits Easier

Many e3 members need to or want to return to their home countries for vacation, yet finding out what to do can be difficult when you don't know the language.

Booking flights is easier than ever before, with most airlines offering online booking. Your best resource when searching online are travel sites and the airline pages. Both are usually offered in English, and occasional promotional pricing can save you tens of thousands of yen. With the exception of nearby countries such as South Korea and Russia, most flights will be routed internally through Tokyo or Kansai. When your flight has a domestic component, booking 45 days in advance will give you access to highly reduced fares, often cheaper than including the domestic component in your international itinerary. All airlines that service the New Chitose Airport offer this service, and many also have a 30 day version with slightly less discount.

If you have basic Japanese skills, the travel booking section of the COOP store is able to provide flight information to any destination. If hotel accommodations are also needed, the travel agents may be able to find discounted rates when reserving flights and hotels together. When booking through COOP, some of the prices may not be the same as on the internet, so care should be taken to find the best option.

Aside from airline and hotel accommodations, a few other considerations should be taken into account. These steps might be more important than the tickets themselves. Without them, it would be better to not even buy the tickets.

The first thing that must be done after airline accommodations is informing your sensei about your travel plans and completing required paperwork. If your trip will affect your research schedule, the sensei may be able to give some tips or help you reschedule experiments. Additionally, the engineering office requires a temporary travel form be filled out and signed by the sensei.

For students that have not traveled back to their home country before, a re-entry visa must be obtained from the Sapporo Regional Immigration Bureau. If you plan on leaving Japan more than once, a multiple-entry permit should be purchased, which is valid until the expiration date on the visa. Without this re-entry permit, you will not be allowed back into the country until a new visa is issued.

A few extra steps can help prevent issues when returning back to your room after a long stay. All electronic devices should be turned off, and ones that do not need to be plugged in should be unplugged. Chargers, computers, televisions, etc, even when turned off, draw a few watts of electricity, which can cost you several hundred yen over the course of a few weeks.

Many items, like rice cookers, microwaves, and water heaters, can also be fire hazards, and are better left unplugged. However, electric water boilers and heating should remain on, especially in winter, and set to at least 10C to prevent damage to pipes and ensure you have heating upon your return. Since smells in a locked room can intensify, make sure to keep the room clean and all trash discarded before returning home. On the day of departure, remember to lock up all windows and doors to prevent unwanted pests from entering.

## Joining clubs

### A Guide to Trying New Things

Joining a Japanese club, or circle as they are known here, is one of the best decisions you can make while at Hokkaido University. Joining a club is easy, simply search the circle.iic.hokudai website for one that interests you, and email the listed contact. Just about anything imaginable is available, from videogames and farming, to fine arts and car racing. Occasionally, new circles will be formed throughout the year, and these can be found on the poster boards in the North Cafeteria.

While it can be a great experience, there are some cautions you should take to make sure you can make the most of it. As with many aspects of living in Japan, the language barrier is ever present. The members will usually know a bit of English, but unless you are able to hold simple conversations in Japanese, it will be very

difficult to join in group discussions or properly discuss your ideas. Taking classes at the ISC or even studying with friends is highly recommended.

The cultural system in Japan also has a few quirks that must be kept in mind. Japanese society is very hierarchical, and this is not lost in Japanese circles. Care should be taken to understand your role in the circle and how to properly address the other members. As a general rule, follow the examples set by other new members to the club, though the use of polite speech may not be required in some cases.

As a foreign student though, never forget that you are not Japanese. Occasionally, acting too much like a Japanese student may result in certain actions being considered an insult, even when it is an honest mistake.

## Finding the Perfect Job

### A Guide to Finding One and Keeping It

Occasionally, members of the e3 community need to find a part-time job to help cover expenses, or to put a little extra cash into their pockets. Luckily for students, there are provisions in the student visa laws that allow part time work.

The first step for any student on a visa that wishes to find a part time job is the application for a "Permission to Engage in Activity Other than Permitted by the Status of Residence Previously Granted" permit. In contrast to its very long name, this is a simple form that can be filled out at the regional immigration office. This allows you to perform any job you are qualified for, aside from working in adult businesses even pachinko parlor work. An exception for this is work within the university as a teaching assistant or similar, which generally requires only the professor's signature.

Searching for a job may be difficult, as most notices are entirely in Japanese. One solution for this is to visit the International Student Center helpdesk, where you can find help for all aspects of life in Japan, including job hunting. The ISC generally has jobs where foreigners are welcome or even preferred, with lower emphasis on the ability to speak Japanese. Talking with lab members is a great way to find out about which jobs are good, as well as a great opportunity to get to know the lab better. Other options include work related websites, campus notice boards, and job magazines.

When deciding on a job, there are several factors to keep in mind. Under Hokkaido law, the minimum hourly rate is 705yen/hr and jobs with salaries lower than this should be ignored. Certain fields offer higher wages, but even with the work hour limit, this minimum wage allows for an extra 76000yen/month, enough for housing and food costs. Some employers will also cover some of the transportation costs or provide overtime pay for late night work.

Income alone does not make a job a good one, and a few other factors are very important. Long commuting times may increase the effective number of work hours, as well as decreasing the effective salary. Finding lower waged jobs close to campus or close to home are usually

The number one issue is a lack of respect when talking or writing to certain, older members, or the use of keigo when it is not needed. In the first case, it can be seen as an attack on their authority, especially if you are a new member or they were recently elected, while the second case can be confused with sarcasm. Other problems can also arise, but all can be prevented by simply keeping a bit of your foreign flare.

preferable to slightly better jobs very far away. The work environment itself is also very important, as it can mean the difference between a worthwhile job and a few hours of hell that pay you. While Japanese employers are more open to non-Japanese than they were in the past, some are still reluctant to allow foreigners to have the same duties as their Japanese counterparts. Working for an employer that is accepting of your role is crucial, and will make the job vastly more enjoyable. Some issues will be present regardless of the employer, as customers, especially older ones, may not be accustomed to foreigners and may make things difficult.

There are a few useful skills that may improve your chances for a well-paying job. Japanese language proficiency is among the top, as most jobs will involve speaking with clients and Japanese coworkers. While college level proficiency is not required, being able to properly understand clients and instructions is a must. Proper greetings and business Japanese varies by profession and even store, so the employers will teach you the proper code of conduct, which you will be expected to follow to the letter. In most cases, English language proficiency is also a must, as most employers will assume all foreigners will speak English, and may have you in charge of foreign customers.

Keeping your job can sometimes be just as difficult as finding it, especially if you are accustomed to working in another culture. One of the most important parts of working in Japan is timeliness, especially on the first day. In addition, time management will often be required, with busy restaurants being the most difficult. Unlike most European countries, there is no break requirement, and breaks should not be taken unless permitted by the employer. While long shifts may have built in breaks, shorter ones are not likely to have any rest periods. Occasionally, employers will have rules which may seem strange, outdated, or inefficient, but these rules should be followed without fail.

Overall, part-time jobs in Japan can be a rewarding experience, and not just in the financial sense. If you plan on working in Japan after graduation, it can be a great first experience in the Japanese workforce.

As long as others understand you are different, they will generally be accepting of those differences. As long as others understand your enthusiasm and commitment to the group, they will welcome you in. As long as you join a group to have fun, you will enjoy your time more than you ever imagined.

## Fifteen Minute Cooking

### Three Japanese Recipes for the Busy Engineer

Few engineers are expert cooks, so dinner for busy engineers often means sacrificing either taste or healthy eating. Instant foods are usually unhealthy. Dining at restaurants daily is expensive, and convenience store food is significantly more costly than the ingredients. But there are better ways.



#### Inarizushi

Makes 8 servings, approximately 5 minutes work time.

- 1 Cup of white rice
- 8 Inarizushi shells
- 30ml Rice vinegar
- 20ml Plain white sugar
- 5ml Salt

1. Cook one cup of rice, using sushi level.
2. Mix rice vinegar with sugar and salt in a small bowl until dissolved.
3. Hand mix the vinegar solution into the cooked rice until thoroughly mixed.
4. Let the rice cool until near body temperature.
5. Prepare the inarizushi shells by draining any liquid and opening the pocket.
6. After splitting the rice into eight equal sections, compact one section and carefully insert it into the shell. Take care not to rip the shell.
7. Close the shell by folding one flap over the other; place onto a plate with the flap side down.
8. Repeat the last two steps until all are finished.

For a great tasting healthy meal in less than 15 minutes, the three recipes below are perfect. They can be cooked individually, or for a more balanced dinner, all three at the same time. Add in a bowl of miso soup to complete the meal.

All the ingredients are readily available in your local grocery store, and most can be used for multiple servings. As with most Japanese meals, you should make sure to cook the rice ahead of time to minimize waiting times. Eating with hashi is recommended, but a fork works just fine as well.

#### Japanese Style Salmon Meunière

Makes two servings, approximately 10 minutes work time.

- 2 Pieces unsalted salmon
- 2 Slices of butter
- Wheat Flour
- Salt and peppers

1. Season the salmon slices with salt and pepper on both sides. Be careful not to overpower the taste of the salmon.
2. Prepare a pan by melting butter at medium heat.
3. Fry both sides thoroughly until the outside is crisp.
4. Serve hot with soy sauce and sesame seed spinach.

#### Sesame Seed Spinach

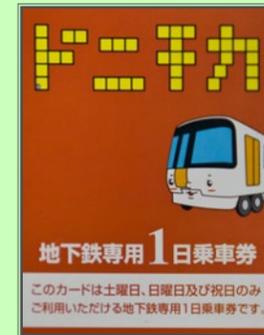
Makes 2 servings, approximately 3 minutes work time.

- 200g Fresh spinach
- 2 Tablespoons ground sesame seed
- 2 Teaspoons soy sauce
- ½ Teaspoon Mirin cooking sake
- Salt

1. Boil spinach for about 1 minute in a sauce pan halfway filled with salted water, placing the stem first.
2. Prepare the sauce by mixing the sesame, soy sauce, and sake in a small bowl.
3. Cool the spinach in a cold water rinse.
4. Shake off excess water in a strainer.
5. Cut the spinach into 3cm long pieces.
6. Mix with the sauce in a small bowl, even coating is not needed.

## Transportation Made Easy

The fastest transportation systems available in Sapporo are the public train and subway. The hour and a half bicycle ride from Asabu to Makomanai can be done in less than thirty minutes using the Nanboku line. In winter, it is the only way to travel long distances. While individual tickets can be fairly expensive, there are many ways to reduce the costs to more affordable levels. Even better, these methods also speed up your travel time by reducing the need for buying tickets.



#### Donichi Card

The best solution for weekend travel

This weekend-only card is now available in any ticket machine for just 500 yen, making it the most cost effective solution for those traveling on the weekends. Travel to and from any station in the subway system are covered until the last trains at midnight. The card is especially useful if you plan on multiple trips or if a one-way trip costs more than 250 yen. You can also purchase similar tickets on weekdays for 800 yen from any ticket machine.

#### Prepaid "With You" Card

Affordable solution for the infrequent traveler

Also available from any ticket machine, prepaid cards offer 10% discounts on ticket prices. They can be purchased in multiples of 1000 yen, and can be adjusted at the ticket adjustment machine if the amount comes up short. Using the card also saves time, since it only needs to be purchased once.



#### IC cards

For the frequent traveler



JR lines and subway lines have two separate rechargeable cards for transportation. The SAPICA cards are a newer, easier to use version of the prepaid cards, with a 10% point back system that automatically uses points when possible. Unregistered and registered versions can be obtained from the SAPICA labeled ticket machines, or from ticket booths in several major stations. Registered cards can be reissued if lost, though a card fee will be assessed. The KATICA/SUICA card system is available for JR line trains in the Sapporo area and to the New Chitose Airport. While there is no point back system available for this card system, it can

be used and recharged at most convenience stores nationwide. It can also be used for transportation throughout most of Honshu, as well as parts of Kyushu and Shikoku. Both card systems are available for 2000 yen with a 500 yen deposit included.

#### SAPICA monthly pass

Highest savings for the daily commuter

In addition to IC cards, SAPICA system offers a monthly pass for heavy commuters. For about 13000 yen, you have unlimited subway access. This card makes sense if, over the course of thirty days, you plan on taking two or more trips a day. In general, this is not recommended over the simple IC card, unless you are a very frequent traveler.

# Remembering and Rebuilding

## A Brief Update on the Efforts After the Tohoku Earthquake

Just a year ago, Japan was a very different place, cautious about the destructive power of earthquakes, but confident in the ability to mitigate casualties. At 2:46PM on March 11th, Japan, and the rest of the world, learned that careful planning is not always enough. The six minute long, Magnitude 9.0 earthquake had a human and economic toll that will not be forgotten. After six months, the casualties stand at 16000 dead, another 4000 unaccounted for, and over 100000 buildings destroyed and almost 200000 damaged. Thousands of factories were damaged or left inoperable due to destroyed infrastructure, and many others.

In some areas, entire villages were wiped off the map from the earthquake generated tsunami. With waves in excess of 10m in certain areas, the tsunami was several times larger than initially anticipated, and the tsunami defenses were unable to cope with the larger waves. While many people promptly evacuated to higher ground, a significant number were unable to reach designated areas in time. As the waters began to recede, the debris from damaged buildings further damaged the few buildings standing. As many of the areas hit used petroleum or gas heating, the ruptured tanks and pipes fed large fires which spread to the wooden debris. Even areas previously thought to be safe from such disasters, including the Sendai Airport were overrun with water. For hours on end the world watched in horror as the waters just kept moving, flooding everything in its path.

Aside from the immediate issues, the looming threat of total meltdown at the Fukushima Dai-ichi nuclear power plant had both immediate and long term consequences. Not long after the quake set off emergency SCRAM procedures at most reactors in the Tohoku region, waves from the earthquake generated tsunami knocked out backup generators at the Fukushima plant. With the plant isolated due to damaged power lines, the plant could not be properly cooled, and the internal temperature rose due to decay heat. Along with the temperature rise, hydrogen gas was formed from the fuel cladding and accumulated in the containment buildings, causing small explosions outside the containment area. As an end result, hundreds of thousands of terabecquerels of radioactive isotopes, mainly in the form of radio-iodine, were released into the atmosphere and oceans. While there was no core excursion, the radiation released will have a lasting effect on the local environment.

The resulting images of the hydrogen explosion and damaged coverings set the media on fire over concerns a second Chernobyl was happening in slow motion. Reactor building after reactor building was damaged, and radiation levels jumped drastically. Almost immediately after the first series of explosions, the central government enacted a 20km exclusion zone where forced evacuation was carried out. In reaction, many countries expanded the zone several fold, with some including France and, ironically, many parts of Eastern Europe, which did not force evacuations when the Chernobyl incident sent many more hazardous particles into the atmosphere, recalling foreign nationals and moving operations out of Tokyo.



The Sendai Airport just five days after the earthquake, with the runway and some gates cleared of debris. (Image courtesy of USAF)

Even as the worldwide media focused on the direct impact of the problems at Fukushima, the indirect effects of the combined earthquake, tsunami, and nuclear plant issues continued to plague Japan long after March. Soon after the events at Fukushima, the Japanese government forced a mandatory inspection of nuclear reactors, effectively cutting capacity by 25%. Factories across Tohoku were unable to meet demand due to long lasting power shortages, and those that could were hampered by over reactive governments across the world barring shipments. Major cities including Tokyo were forced to implement rotational blackouts, and transportation routes throughout the area were hampered long after the infrastructure was repaired. The tourism sector, both internal and international, plummeted in March, and the travel recall of foreign nationals in the area further

escalated the decline. While the immediate financial losses from the quake were in the trillions of yen, the side effects will eventually be in the tens of trillions of yen.

But after six months, Japan is also starting to see life slowly return to some form of normalcy. Even as early as three months after the disaster, the cleanup and rebuilding phase was already well underway. The Tohoku Shinkansen, which had started service less than a week before the earthquake, was running at full service within two months, with the main issue in operation being the lack of power during spring and early summer. The Sendai airport, which the world watched be swept under a river of debris, was operational for aid flights within a week, and to commercial flights just one month after that. Even in the hard hit town of Kesennuma, buildings that were lightly damaged have been repaired, and cleanup for the remaining areas is nearly completed. The town of Rikuzentakata, largely leveled by waters more than three times higher than the barriers were built for, became the first to close the doors to its emergency shelters after the completion of a massive temporary housing project. Most of the infrastructure to the town has been restored, and a few stores are open for business.

In the case of the Fukushima nuclear plant, many of the warnings about radiation contamination were overplayed, as recent findings show. As much as 80% of the radioactive isotopes were carried away from Japan into the Pacific Ocean, where it dispersed and concentrations were greatly decreased. After six months, the radio-iodine released has been mostly converted into stable, harmless xenon gas. While many are still concerned about the effects of cesium radio-isotopes, the concentrations are under the detectable levels, with the highest concentration being only 5.3 MBq/km<sup>2</sup> in Fukushima. For comparison, the amount of radiation an average body gives off from just from natural potassium is 4.4kBq, and in a city like Sapporo, you would have a staggering 7.2MBq/km<sup>2</sup> from people alone. As a result, many governments have begun to ease restrictions for nationals.

Factory production in all but the hardest hit areas are finally at or nearing pre-quake levels. Car and electronics manufacturers have resumed peak production, with some of them recovering as quickly as July. The petrochemical industry, which produces a wide range of products including plastics, has actually seen a large increase due to the rebuilding needs. The power situation also is slowly improving, with TEPCO announcing that it will likely be able to meet peak power demand this winter, preventing blackouts, which can be more harmful in winter than

summer months. Even the coverings on the damaged nuclear plants have been completed, and long-term decommissioning plans are being established.

But even as the situation improves in leaps and bounds, there are areas where progress has still eluded those desperate for a better life. In Rikuzentakata, which was devastated by the tsunami has seen little rebuilding, and a large portion of the town may never be rebuilt. While the fisheries of the town are mostly operational, the ports and residential areas still rest in ruins, and the few temporary residences are far too small for an average household. Many of the younger people displaced have permanently relocated to other areas, accelerating the collapse of many of the older, more traditional towns.

In the financial sector, external forces are prolonging recovery. The recent turmoil in Europe's banking industry has driven up the price of the yen, greatly cutting into Japanese exports and profits overseas. Efforts by Chinese monopolies to raise the price of rare-earth metals and lithium have forced many Japanese companies to spend billions of yen on research to replace these metals with cheaper alternatives, a tough path for companies that are



Work crews place the last piece of covering in the damaged Unit 4 Reactor of the Fukushima Dai-ichi Plant. (Image courtesy of TEPCO)

still recovering from financial damage of the quake. The tourism industry, devastated by the travel restrictions over the fears of radiation, has not recovered at all even as the situation at most major cities is indistinguishable from a year ago.

As we remember the past, we keep those lost in our hearts. As we live today, we help each other and make a difference in whatever way we can. As we look to tomorrow, we hold great hope for the future. There are still hurdles to clear, paths to rebuild, and tomorrows to plan, but the people living here in Japan are strong.

# Interview with Professor Suzuki Akira

## Discoverer of Palladium Catalyzed Boronic Acid Reactions



Cheng Seeyuan

In April, a team of e3 members lead by Alvin Hernandez were able to interview Professor Dr. Akira Suzuki, the recipient of the 2010 Nobel Prize in chemistry. Prof. Suzuki, along with Dr. Negishi and Dr. Heck, were awarded Nobel Prizes for their work in palladium catalyzed organic reactions. These reactions allow the creation of carbon bonds where it would otherwise be impractical or even impossible. It has been used extensively in the pharmaceuticals industry and is even making its way into the production of electronics components.

The Suzuki reaction has lately been receiving more attention, as researchers find ways to generalize it and optimize it. The reaction allows a more efficient way to create naproxen, a pain killer used in many over the counter medications, as well as synthetic morphine for use in hospitals. In some cases, it is used to modify existing drugs, like anti-viral and anti-bacterial drugs to combat drug resistant strains. What could take years with classical methods can now be done in a fraction of the time. One of the more interesting applications

is in the bonding of graphene for the creation of ultra-fast, ultra-efficient computer processors. This amazing technique Professor Suzuki discovered has helped change the frontiers of chemistry, while improving our lives at the same time. In the short time allowed for the interview, Professor Suzuki enlightened us with his views on life, education, and progress.

**Q** In what ways can a Nobel prize winner influence society?

Of course you know Nobel prize is so big award. So big name, honors. So I think that is you know one of highest honor for all of scientist like chemist, the physicist and the medicinal science and the other people also. I don't know exactly but the people said our coupling reaction that is this time I give a Nobel prize.

Our Suzuki coupling reaction makes a lot of important chemicals, important products including pharmaceutical products, medicines, drugs and also very useful agro-chemicals. My doctor told me to take a hypertensive blood pressure medicine, so my home doctor wrote me the prescription. So I give the prescription to the pharmacist and pharmacist understood organic chemistry. "Oh Professor Suzuki this medicine made by your reaction!"; you know I felt very happy.

**Q** How do you deal with failure?

Generally speaking, we usually never obtained a nice result. That is a usual case. But in such a case, I tell you, never give up. Never give up. So, if today, you get a very bad result in your study, visit a coffee shop to drink a nice coffee. Then next you come to your lab, you start again with a different feeling. That is important.

My case you know, I like beer or Japanese sake. In such a case, I came home. I ask my wife. I drink it. Then I eat food and I go to the bed. I think that is an important thing. You know, if you continue with such a pessimistic feeling, that is not productive. So I recommend that you never continue with such a pessimistic feeling.

**Q** What is your take on William Clark's famous phrase, "Boys, be ambitious"?

Prof. Suzuki: Ambition is you know, is having a very high hope, high-level hope. And the students become the very excellent people with hope. In such a meaning, "Boys be ambitious" is very nice word. But one of my American friends said, "ambition is sometimes to take something, you know". Kind of not so nice meaning. But my British friend say 'Oh

that is ambitious is very nice. So maybe it depends, it depends on their feelings. But I don't know exactly. Japanese people feel ambition in nice meaning.

**Q** What is your take on education internationalization?

I think that is very nice. Generally speaking, when I was a student, most of the Japanese students could read books in written in English, and also write in English. Even though they can write what they want to show, but most of the students, cannot understand spoken English. But that was our situation when I was a student.

But now, in Hokkaido University, there are how many foreign students? How are the Japanese students in Hokkaido University? They understand much more, their situation is a little bit different. But I think communication between people is very important. So the most important thing is we use the same language, like English. I always say to students, Japanese students, you have to learn English. Of course, not only the English, German, French, other, Spanish, all other languages are ok.

**Q** Do you think the administration of Hokudai should do more to promote English language education?

That is the most hopeful situation. If possible, and there are some people emphasize in such a case, bilingual education is very nice. That is ideal. So I ask you, a foreign student, to make time to talk many with Japanese students in English. I always say Japanese students have to learn English.

**Q** What would you say your philosophy on life is?

Well I think you know... that is very difficult question. But one thing love. Love is not only between, you know, boy and girl. But we also have love in our families, my wife and myself, myself and my kids. Not only that. Myself and other people including you. That kind of love, that is my love. Love is also very important. If we have love, maybe there will be no fighting, we will have peace. Also, we should help each other. I don't know. That is very difficult question.

Every year, e<sup>3</sup> members elect a new group of chairs to represent e<sup>3</sup> and make sure everything goes smoothly. The academics vice-chair helps facilitate discussions with professors and other university members. The social vice-chair help plan events, as well as bridging the gap between e<sup>3</sup> and the regular students. The finance vice-chair makes sure the e<sup>3</sup> budget doesn't run dry, and funds events. The main chair oversees the rest and helps manage everything. There is usually one person per spot, but in this coming year there will be two social vice-chairs, thanks to an unprecedented even vote at the annual election.

## e<sup>3</sup> Chair

### Niti Pitakteeratham



My house is located on the riverside, so that river had a huge influence to my childhood life. Unfortunately, the river was polluted and became dirty because of wastewater from industry. I have a strong intention to treat water and wastewater in order to recover that river. As my inspiration is to treat the river next to my house, and fortunately that E3 offers a course which relates to wastewater treatment and technologies, I decided to join this program.

From my experience in e3 family, most of us do not know each other. We might know only those in the same division or from the same country. I would like to contribute my knowledge and strength to develop and reinforce our association by bonding us together as a real family. Besides experimenting, snowboarding with the dazzling snow of Hokkaido is one of my favorite activities, so if there is a chance I wish I could do these activities with you guys.



## VC Academics

### Marco Armando

Engineers study various fundamental scientific concepts. By learning engineering, we could understand almost all kinds of industries. I completed my bachelor from the Chemical Engineering Program of Bandung Institute of Technology (ITB) in Indonesia. My specialty before focused on process simulation and optimization. Although my educational background is not IT, I like computer networking and programming very much.

Since I do not have my own family here in Japan and also do not speak Japanese well, I would like to be in an English-speaking community. This is also one way to find a suitable community which can increase my limited social activities because of academic tasks. It is simply because no man is an island. With my computer programming ability, I would like to help e3 make more efficient ways of dealing with academic matters.



## Matteo Porta

## VC Social

### So Ishizaki



I had the lucky chance of spending one year in UK, at the University of York: place in which I made my first experience abroad, and met people that became key elements in my life. Since then I started informing myself about continuing my studies abroad, with a particular attention for Japan, attracted by Japanese aesthetics and culture. I wanted to move to Japan to learn about the language and the culture and at the same time continue my studies. Then came e3.

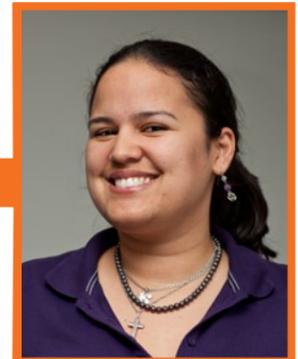
I'm receiving a lot from Japan and from Hokkaido University, and it's not for studying only; I'm sure that in Japan there are many students as worth as I am of this scholarship. This program was born to create exchanges between different cultures and a network of people from all around the world. Being part of e3, I will try to transmit my culture, and at the same time learn from others.

When I was high school student, I hoped to engage in work involving environmental improvement. I chose Environmental Engineering as my major 5 years ago, hoping to protect my hometown, my home city, including the earth. Now, I am interested in environmental policy, hoping to approach and consider legislation on environmental improvement. After I graduate Hokkaido University, I want to work at environment ministry, working on environmental improvement legislation. I am also interested in studying about policy or economy and work towards a Ph. D. at a foreign University.

I want to relate to and communicate with diverse people, including students from other countries. And then, I want to practice English through e3 program, please talk with me!

## VC Finance

### Kira Aguilar



I didn't become an engineer; I always feel like one because, since forever, I've listened that engineers are the kind of people that solves problem and help others. And that's what I like to do: solving problems and helping people in whatever they need. We are supposed to be the ones who are constantly improving our lifestyle and being part of that is almost an honor for me. Also, I love airplanes so I think I have everything I need to be happy in my career.

Because I wanted to study in Japan but I didn't have enough Japanese skills to attend classes in Japanese, I think e3 was kind of a dream come true for me: going to a great University, interesting laboratory and attend classes in English with Japanese teachers. And so far I think is a really good program since the teachers speak really good English and the program is really concerning about international students as well. Initially I just wanted to be part of the e3 SO in order to offer some help and be able to build a friendship with other international students. Then, I realized that they were really well organized with well defined positions so I nominated myself for the Finance Vice Chair because I think I have the skills when it comes to managing budgets. I feel really committed to do my best.

## Werawan Manakul

Coordinator for the English Engineering Education Program



Everybody makes decisions. In fact we have to make decisions almost every minute that we are awake. From the very moment we open our eyes in the morning we have to decide whether to get up now or continue to sleep a bit more. Decisions that we have to make can be simple ones and have a short-term impact like getting up in the morning or may be more complex and have a longer-term impact like continuing to the PhD program or getting a job after obtaining a master's degree.

We make decisions based on our experience, available options or predicted consequences.

A woman decides to marry a man who loves her but her heart is with another man who does not love her. Does the woman make a right decision?

A professor allows his failed student to graduate because the student has already got a job promise from a company. He knows that if he does not allow his student to graduate, his student

would lose the job and the company would in the future be cautious in offering jobs to students from his laboratory. Does the professor make a wrong decision?

There are no right or wrong decisions. A right decision now may turn to be a wrong one as time passes. What is important is how we feel after making decision which is entirely up to ourselves. We often care too much about the reactions and opinions of those around us and forget paying attention to our own feeling. Just remember that all decisions contribute to and are an integral part of our development.

## Yuki Tsuji

Academic Affairs Office

On the brilliantly sunny morning of my first day at Hokkaido University, I thought it was really nice to join Hokudai, surrounded by beautiful nature as I walked through calm Gingko Avenue fully covered by fresh snow.

My life at Hokudai was filled with a series of surprises for me from the very beginning. First time I joined an e3 event, I felt like I was outside of Japan and somewhere abroad, since I could hardly find Japanese students and the only language I heard was English. Before I came to Hokudai, I knew that there were many international students in Hokudai, but I really came to know how that looked when I took part in the event. I was also amazed that the event was so well organized by SO representatives and the task group.

I am proud of working with Dr. Werawan and Professor Ueda here as a member of e3, in this beautiful campus with lots of international students from all over the world.



## Mission Statement of the e<sup>3</sup> Program

Engineering education is an investment in a nation's future. When Japan re-opened its door to the world during the Meiji restoration, the government made a significant investment to modernize engineering education. Since then Japan has emerged to become one of the forerunners in various engineering fields.

Engineering education at Hokkaido University started in 1876 with a clear objective namely to develop human resources who could take a lead in the development of the newly reclaimed island of Hokkaido. At present it is tasked with a new objective, to ensure that engineering students are educated in a way that prepares them to meet challenges brought about by globalization.

Thanks to the government policy to reform the university research role, the number of Japanese students particularly those in engineering fields who proceeded to the master program increased sharply during the 1990s. However the number of doctoral students remained low due to limited job opportunities preferring postgraduate degrees.

Though it is crucial for the university to have excellent doctoral students, equally important is the University's responsibility to disseminate research findings and produce competent human resources for the society. What is the best way to share advanced knowledge in engineering that Japan has with other countries when most of its publications is in Japanese? What is the best way to introduce diversity to the university so that Japanese students can experience differences in cultures, languages and learning environment? What is the best way to make our engineering education accessible to all? The answer is to introduce a program with English, a widely used language, as a medium of instruction.

That was the concept behind the founding of the e3 program in 2000. Since then e3 has been bringing in excellent English speaking students with diverse educational and cultural backgrounds, a sharp departure from the past when international student population consisted largely of Japanese speaking students from East Asia. This can be seen in the number of countries from all over the world our students come from.

Following its establishment, the University's lack of readiness and seriousness to embrace internalization became evident. e3 has been able to bring about a number of changes including lecturing in English to Japanese students. Several professors have already merged their Japanese classes with the e3 classes, while others are in the process. Progress towards a truly internationalized education is occurring at a greater pace than ever before.

It would be wrong to describe e3 as an engineering program for international students when it is in fact a program for everyone to learn and benefit from.

Werawan Manaku  
Coordinator for the English Engineering Education Program

