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Into an Age of Women Spreading their Wings



Nagasaki University Women Researchers Role Models VI

## More freely and true to oneself

It gives me great pleasure to present "Nagasaki University Women Researchers: Role Models VI" to you all.

This is the sixth volume of the collection of role models published by the Nagasaki University Center for Diversity and Inclusion.

Previous volumes have covered an array of themes, and this new one will feature "the careers of women researchers."

Nagasaki University's women researchers are affiliated to 10 schools/faculties, seven graduate schools and a large number of specialist research institutions (centers), at which they are pursuing educational and research activities based on each of their missions. The routes they have taken and their career paths vary greatly. We believe that readers of Role Models VI will be able to gain a real feeling about the fact that

there is no single road to becoming a researcher.

In this volume we have made a specific effort to ask women researchers about what they have had to struggle with thus far, the

Director, Nagasaki University Center for Diversity and Inclusion Prof. Yuri YOSHIDA

turning points in their careers, and advice from senior researchers to their juniors. By gaining a glimpse into the way of life of women researchers we have provided an opportunity for readers to think about to how they would

> like to see themselves in ten years' time, and it is our hope that we can spread these messages in and beyond the university, and together give serious thought to what Nagasaki University should be like and the future of Japan itself.

In 2019 Nagasaki University was selected to participate in the Ministry of Education, Culture, Sports, Science and Technology (MEXT) "The Initiative for the Implementation of the Diverse Research Environment (Advanced Type)", and is providing comprehensive support to women researchers. We hope to continue to walk ahead hand-in-hand with not

only the researchers spoken to in this volume but all of the university's women researchers. We hope that everybody will continue to provide us with their views.

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Women

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How to approach troubled children It's a matter of "unravelling" rather than "questioning"



Women Role Models

## Prof Narumi UCHINO

Institute of Humanities and Social Sciences (Education)

Graduated from the Graduate School of Education, Nagasaki University After serving as a school counsellor for the Nagasaki Prefectural Board of Education, and then a consultant at the Nagasaki University Faculty of Education's General Teaching Practice Center, left for a new post at the Graduate School of Education (Department of Teacher Training and Practice)in 2008. She has held her current position since 2020

# UCHINO

#### Practicing school counselling at the Graduate School of Education where she works.

Prof. Narumi UCHINO, whose field of expertise is clinical psychology is a practitioner faculty member at the Graduate School of Education.

The Graduate School of Education is a place for teachers who have experience of teaching in schools to study again. As a specialist in clinical psychology for children I speak about the methodology theory of school counselling and ways of being there for children.

What's the secret of getting children to talk?

Clinical psychologists undergo training. We are taught that rather than "question" children we should take the approach of "hopefully they will talk," and without putting pressure on them. If they don't come to counselling there is doubtless a significance or some sorts of conflicting feelings behind that. So my work is to decide what to do next and "unravel" matters.

Little by little, speaking in a manner that's not pushy, you're a real professional.

A student asked me: "Professor, is this a 'technique?'" But I've always spoken like this, so I don't really know myself (laughs).

The gravitas of being just the 17th clinical psychologist in Nagasaki Prefecture 20 years devoted to thirstily working

#### Why did you choose this path?

I was studying at Nagasaki University to become an elementary school science teacher, when my teacher at the time recommended that I studied at a psychology-oriented graduate school. So while at the graduate school I started to work as an assistant at a special classroom attended by children who found it difficult to go to school, and ended up being employed there. In those days, there were about 300 such elementary and junior high school children in Nagasaki City, around 30 of whom attended the class. I was



wondering what was happening to all the other children that led me to become a school counsellor. My senior colleagues told me that I was the 17th clinical psychologist in Nagasaki Prefecture; they were all seasoned professionals. Also at that time I was told that "This is a period of transition which will decide whether or not clinical psychologists become established as a professional body, so please just take on work." This is why I worked as if I had an unquenchable thirst.

You still continue with your school counselling work at elementary, junior high and high schools. Do you think that children have change over the past 20 years?

I don't think they have intrinsically changed, but they seem to be busier now. More children go to cram schools, and if they play computer games they don't have enough time. I have a feeling that they have less time to just sit and do nothing in particular. Having enough time to do so, even to the extent of slight boredom, is actually important as it can provide them with hints about how to sort out matters that have become muddled. If they're too busy they rapidly reach the conclusion "Oh, I've had enough!" These are things that I feel at the present moment.

There is something persuasive in the words of a person who has made observations from a fixed point.



Little props that are useful in creating chances to talk with children. Apparently incorporating activities such as throwing a dice to decide what theme to talk about makes it easier to speak, and simple games can help to loosen up the children's feelings.



### Knowing my own strengths and weaknesses, and working with self-set rules



No.

Women Role Models

#### Assoc. Prof. Yuko AKAZAWA Atomic Bomb Disease Institute

Graduated from the School of Medicine, Nagasaki University. M.D., Ph.D. After working at the Nagasaki Municipal Hospital, the Omura Municipal Hospital and the Nagasaki Municipal Chronic Disease Center, she became a research fellow at the Mayo Clinic in the US. Took up a position at Nagasaki University Hospital after returning to Japan in 2010, and has held her current post since 2019.

#### Conducting clinical practice, pathology and basic research to look at diseases from a multilateral perspective

Assoc. Prof. AKAZAWA's field of expertise is nonalcoholic fatty liver disease (NAFLD), which has become a problem in the US and Europe and more recently in Japan.

As a result of lifestyle habits such as eating and obesity, fatty liver similar to that observed in alcohol-related liver disease can occur, and when accompanied by inflammation it can become the causes of liver cirrhosis and cancer. I had been working as a clinician in the Department of Gastroenterology and Hepatology when, for three years from 2006 to 2009, I had the opportunity to take part in basic research into the liver at the Mayo Clinic's laboratories in the US. Bringing the experience to Japan, I have developed my own research project. When fatty acid comes into contact with liver cells the cells start to die, thus triggering inflammation; if the inflammation is prolonged it leads to cirrhosis. My hope is that by investigating this feature at cellular and tissue level. I hope my findings will applicable in medical treatment and diagnosis.

So your work includes not only research but clinical practice?

Yes, my main work is in diagnostic pathology and basic research, but once a week I hold outpatient consultation. From the point of view of the disease it doesn't make any difference whether it is examined from a clinical perspective or a basic research perspective. This is why I want to look at the disease from different angles. I think: "This is where the patient is suffering, so let's find out the cause through cellular level observation." So I'm sort of going back and forth in a borderless state between clinical practice, diagnostic pathology and basic research."

## Do something unrelated to work once a day, and aim to sleep eight hours a night

I'm interested various things and find it difficult to do the same thing all day long. I'm like one of those fishes that dies if it stops moving! (laughs). If I really concentrated on deepening my investigations on one area, I might be more successful. But I feel that making the most of my personality and collaborating with people from other laboratories is more suited to me. I am a forgetful person, so I sometime miss important things when I'm busy. I always tell my junior medical colleagues "I'll probably forget, so keep reminding me!" It's important to show your shortcomings to others from the beginning.

How do you maintain your work-life balance when you are so busy ?

I'm single, and I try to finish work by 8pm and do at least one thing that is unrelated to my job. Last night I raced off in my car to a yoga lesson. In the summer I go swimming and snorkeling; being in the water helps me to reset my mind. I also sleep for at least seven to eight hours. If I don't do so I can't do intensive work like writing academic papers.

Smartly dealing with your own traits is the "key" for working women.



Assoc. Prof. AKAZAWA likes to go down to Isahaya when the weather is good, and race along the embankment on her bicycle. "Unlike in Nagasaki City there's a long single road that goes on and on, and it's really refreshing to cycle along."



#### Life has its ups and downs, but all's well that ends well



Women Role Models

#### Assoc. Prof. Eri SAKUDA Institute of Integrated Science and Technology (Engineering)

Born in Fukuoka Prefecture. Completed the doctoral program, Department

of Chemistry, Graduate School of Science, Hokkaido University. Doctor of Science. After working concurrently as an assistant professor at the Graduate School of Science and Graduate School of Chemical Sciences and Engineering, Hokkaido University, and a PRESTO researcher, joined Nagasaki University in 2015, since when she has held her present post.

SAKUDA

#### For women researchers, balancing research and life events such as marriage and childbirth is always an

Off to study abroad

despite just getting married

anxious task, and they are constantly standing at a crossroad. Assoc. Prof. Eri SAKUDA has packed that rollercoaster ride in the space of three years. Her field of expertise is photochemistry.

My research is into the origins of light in organic electro-luminescence, which is used in the display screens of digital devices. If it is possible to create compounds that give off light with small amounts of electromotive force it will lead to the development of products that save energy and last a long time. It's a case of just how far we can achieve lightness, thinness and high-purity light. I am analyzing the process of light emission at the electronic level.

This work led you to study overseas in Germany in 2018.

Yes, I'd just got married but my overseas study at TU Dortmund University had all been finalized. I had to ask my husband "I've got to go straight after we get married, is that OK?"

Not the sort of question you want to be asked. (laughs)

Age-wise I also wanted to have a child soon, but I went to Germany first. I went under the JSPS program in which several professors go on a shift basis, staying twice for a total of ten months. In the end I was able to perform some really enriching research.

#### Organizing own schedule after suddenly breaking water and suffering labor pains

You came back to Japan in January 2020. I hear that you experienced pregnancy and childbirth in the midst of the dreadful Covid-19 pandemic.

It was a great help that online lessons had just started and I didn't have to stand in the classroom. I just about managed to get over morning sickness, but was thrown into panic as the delivery date was three weeks



earlier than the baby was due – my water broke on the night before the day in which I had three meetings planned before starting my maternity leave, and in between bouts of labor pains I had to hastily send emails to people saying "I can't make the meeting today...."

It must have been like walking a tightrope.

It's not a thing that you can schedule (laughs), but personally it was very interesting. Since then I've put our child in a nursery school and through some mum and dad teamwork I am managing to carry on. Our daughter is nine months old now and quite a handful, so I can't do any work while she's awake. As I basically prioritize the education of students when I am at the university, I take home the writing of research summaries and literature to be made for lectures and do it while she's asleep. Fortunately she's a good sleeper. On days when I'm more exhausted we sometimes just fall asleep together. It's a tough challenge just to do the bare minimum, and for the time being it will be a battle between me and my greed.

Assoc. Prof. SAKUDA's great strength is her ability to laugh off her worries, anxieties and risks with an "all's well that ends well" attitude.



Assoc. Prof. SAKUDA and her nine-month-old daughter. Will she make friend with the other mothers at the on-campus nursery school? "Just like me, all the mothers use their maiden name but their children's surnames are different so I don't know who is who!" (laughs). And that's often the case at a university nursery school.



I don't give up on what I really want to do Talking to students is one part of research



Assoc. Prof. Hee-Jin KIM

Institute of Integrated Science and Technology (Fishery Science)

Born in Busan, South Korea. Graduated from Pukyong National University. Worked as a research intern at the National Institute of Fisheries Science of South Korea, and then graduated from the Department of Marine Science and Technology, Graduate School of Science and Technology, Nagasaki University, receiving her doctorate in fisheries science. After working as a postdoctoral researcher at the Faculty of Fisheries, Nagasaki University she took up her present post at Nagasaki University in 2018.

## KIM

## Fascinated by the plankton that sustain the wide oceans

South Korea-born Assoc. Prof. Hee-Jin KIM came to Japan in 2008 to pursue her doctorate degree at the Graduate School of Nagasaki University. Coming to Japan meant a decision to give up her position at a research institute in South Korea.

I had been studying zooplankton in the undergraduate program at Pukyong National University, but after my supervisor retired, and I shifted my master's specialization to crabs. I was also assigned to be in charge of working on benthos at the National Institute of Fisheries Science. But I really wanted to be involved again in the study of plankton, which was why I knocked on the door of Prof. Atsushi HAGIWARA, a world authority on the subject.

Why were you so fascinated with plankton?

I'd loved the sea since I was a teenager. It is plankton, the food of marine creatures (particularly juveniles) that protect and support the ecosystems of many of these creatures. Plankton support the vast oceans with their tiny bodies. Unlike humans, plankton are complex with some species that repeatedly undergo bisexual reproduction and unisexual reproduction in an effort to survive amidst changes in the environments. They are courageous and charming, and the more one studies them the more one is moved by them. In Nagasaki, where aquaculture is widespread, the questions is just how far plankton can be efficiently increased as fish food. Elucidating the relationships between plankton and multiple marine environmental changes due to global warming, acidification and microplastics are also some of my research themes.

## Munching on some tteokbokki when feeling a little homesick

Culture experiments in which you manage several little bottles and give the plankton food. What's the difficulty in this?

The food has to be given on a regular basis, so I



can't take any time off. But when I'm in the lab the students come and ask me questions. These discussions with students are really enjoyable, and I am made to realize certain new things that I hadn't noticed; for me, my conversation with students is part of my research work. As one would expect on a comprehensive university, I find it very helpful to be able to use an equipment form other faculties through online application. I still use the School of Pharmaceutical Sciences' PCR system on an almost weekly basis, and the expert technicians show me how to use the equipment which is broadening the horizons of my research.

Eleven years in Japan - don't you ever miss Korea?

Yes I sometimes do. I get a desperate craving for spicy food, and make it at home. When I'm stressed out and feel like I can't go on I secretly heat up some tteokbokki in the research lab's microwave (laughs) to relieve my tension. The power of food is amazing.

Assoc. Prof. KIM smiles and says that she is glad of not giving up on her dreams. Having a single-minded approach is the perfect role model for the next generation.



Assoc. Prof. KIM (center) and Prof. HAGIWARA (right) at the World Fisheries Congress that took place in her hometown of Busan. She was awarded the Achievement Award for Young Scientists in Fisheries Science by the Japanese Society for Fisheries Science. "I was surprised to see researchers from around the world gathered at the Congress, talking with such passion on the single theme of rotifers, and I felt as though I wanted to be in the midst of that. Being able to meet a role model like Prof. HAGIWARA makes me think it was worthwhile coming to Japan."



Taking her child to participate in academic meetings Opportunities to show what the job of a researcher is



Women Role Models

Assoc. Prof. Naomi TANOUE Institute of Biomedical Science (Dentistry)

Graduated from the School of Dentistry, Nagasaki University. Joined Nagasaki University in a professional capacity in 1989, since when she served as an assistant and lecturer at the Nagasaki University Hospital of Dentistry, and since 2016 in her current post Development of new and useful instruments for application in treatment with the cooperation of medical doctors and engineers

Affiliated to the Department of Pediatric Dentistry and concurrently working on diagnosis, treatment and education at the Department of Special Care Dentistry, Assoc. Prof. Naomi TANOUE is the holder of two patents.

One is for a holder to depress the tongue towards the larynx, which was completed with the help of the then director of the Center for Industrial Academic Government Cooperation Strategy Headquarters Tomoaki SAKATA, and Hideki HISADA, who is a technical specialist at the School of Engineering. It won the Gold Award in the Instruments Prizes conferred by the Japan Society of Dental Equipment.

It represents a result of cooperation between medical doctors and engineers.

Medical practitioners often think "it would be useful if I had this sort of instrument," but they don't know how to make it. If professionals collaborate well with each other then I think that an array of inventions will be possible in the future.

You pursued the field of prosthodontics for a long time.

Prosthodontics is like carpentry work for the mouth, with the creation of molds and insertion of false teeth or crowns and so on. It's a manufacturing job, so I suppose I had an interest in tool-making. False teeth are an essential part of maintaining the QOL of elderly people in particular. New functions lead to dramatic changes; I feel a sense of having been useful to people when I see them being able to eat things they couldn't eat before. Although cutting-edge techniques are important, treatments that have been around for a long time like false teeth are particularly vital in community medicine. I hope to continue my research based on the focal point of dentistry that will help the sick, disabled and those undergoing treatment at home.





The Articulating Paper Holder Equipped with Tongue Depressor sold as a product by J. Morita Corp. "Before this was invented a dental assistant had to hold down the patient's tongue. Unfortunately the patent isn't making me rich (laughs) but it is an essential instrument, particularly during general anesthesia treatment. At least I have the personal satisfaction of knowing that I needed it so I made it."

#### There is an option to choose You don't need to give up overseas experience nor childrearing

Assoc. Prof. TANOUE says that she had always wanted to study overseas in order to refine her ability in the themes of her work. But she put off the idea as she couldn't find time in the series of the life events of marriage and childbirth and so on.

I couldn't really take that step when my child was little. So I wondered if it would be possible to take him with me and earnestly searched for information about overseas nursery schools, but meeting the conditions was too tough. In the end, I left my four-year-old son with my husband and went to the UK for just one month. It was only a short visit but I experienced enriching research activities. After that, we started to go to overseas academic meetings as a family, and my son was able to see me make a presentation. He's an adult now, but as he appears to be interested in research. I think that he learned through the natural course of things about the fact that the profession of research exists

It's a real case of "like mother, like son."

#### With ideas outside of the box Sincerity to own interests



Women RoleModels

#### Prof Eri OHASHI Center for Language Studies

Born and brought up in Nagasaki Prefecture, not far from Nagasaki University itself. Completed a doctoral course at the Department of Literature, Rennes 2 University in France, earning a Diplôme National de Doctorat (National Doctoral Degree). Took up a position at Nagasaki University in 2011 after gaining positions at Kyushu University and Oita Prefectural College of Arts and Culture, and has held current post since 2013.

#### Dig deep into spas from a multilateral perspective, and culture and literature bubble to the surface

Prof. Eri OHASHI of the Center for Language Studies teaches French, one of the compulsory courses offered to all students at Nagasaki University. Her field of expertise is French literature, but she has also published research papers on the spas of Japan and Europe. What's the connection between French literature and spas?

I actually studied in France because I was doing some research on the drafts of Gustave Flaubert, a 19th century author. Flaubert is probably best known for Madame Bovary. And he left behind numerous drafts so that there's no shortage of research material. Just when I had received my doctorate and felt I had some breathing space, I became interested in the fact that many authors of Flaubert's period gathered at spas. Ever since the days of the ancient Roman Empire hot spring water had been considered as a gift from the Gods to heal sicknesses. Europe's spas also served as the stage for interaction between the nobility and royalty, and places transmitting culture. There are similarities in Japan, with Natsume Soseki setting several novels in spas and Basho composing haiku in such places. This is why I have spent the past few years researching spas and literature. Compared to my specialized research into Flaubert all sorts of countries and authors appear in spas, and it is great fun.

The scope of your research broadened quite naturally.

I would like students to understand more about the culture of linguistic regions other than just English. It will help them appreciate the fact that the "common sense" of Japan is not that of the rest of the world. For example, there are many people in Japan with no interest in politics, but in France even high school students express their political wills and participate in demonstrations. The awareness that "politics is



Starting with studies on Flaubert, Prof. OHASHI's researc room is absolutely packed with books. "I've been a book worm since I was in nursery school. After I retire I want to work somewhere close to books, like a library."

something that you change yourself" has permeated itself as one would expect in the nation of the French Revolution.

There are many students who first encounter French culture through Prof. OHASHI, and she has connections with the students of the School of Medicine wishing to be involved in healthcare in Africa, where the official language of many nations is French.

#### Making a point of tackling themes that feel a little difficult

Do you have a message for the next generation aiming to become researchers?

I just want them to try to go overseas. Even if they are not recognized in Japan, going to international academic meetings leads to personal encounters, and the inspiration of new ideas. Another thing is that you had better set your hurdles slightly higher. In just the same way that world record in sports are broken over a few years the world is changing at a rapid pace, so I'd like students to take on challenges that look as though they may be unattainable; this is something that they can do because they are young. However, be careful with your mental health. I strongly suggest maintaining a network of people with similar sets of values such as senior and junior university friends.

This is an adage you might expect from Prof. OHASHI, who has the experience of immersing herself in overseas research.

OHASHI Eri



## Students are like cute eggs, with enormous potential



Women Role Models

#### Assoc. Prof. Sunhee SUK

Institute of Integrated Science and Technology (Environmental Science)

Born in South Korea. Graduated from the Graduate School of Economics, Kyoto University. Doctor of Economics. After working at the United Nations Economic and Social Commission for Asia and the Pacific and then the Institute for Global Environmental Strategies (IGES), she joined Nagasaki University in 2019, since when she has held her present post.

#### From environmental engineering to environmental economics A person putting into practice the integration of arts and sciences

Assoc. Prof. Sunhee SUK first arrived in Japan from South Korea on an overseas student exchange program in 2005. She subsequently gained her master's degree and doctorate from a Japanese university, and built up her career at a government thinktank.

At the Ministry of the Environment-affiliated IGES, I was involved in climate change policy and collaborative projects between Japan, China and South Korea. My grounding was in environmental engineering, but when I was working for the United Nations I conducted analyses on the impacts of social investments on water infrastructure and economics. I realized that what is important for the environment is not just engineering technologies but also an economic approach, therefore I studied environmental economics. This is why I hold in high regard the integration of arts and sciences at the Faculty of Environmental Science.

Your area of expertise is carbon pricing, a phrase we hear a lot about recently.

The idea is to attach a price to carbon dioxide (a greenhouse gas) and make the people emitting it pay for the emissions; so in a way it's the same as charging customers for plastic bags at cash registers in shops. By introducing this system in Japan, China and South Korea, a market for carbon trading will be created, and I am analyzing its medium-to-long-term impact in this area.

#### Feeling discouraged is an inevitable part of research, but "don't worry, everything will be OK!"

Now in her third year since joining Nagasaki University.

I had previously worked almost entirely with people older than me, so at first I spoke to the students using the formal form of address. This surprised the students, who said "being addressed like that by a teacher makes us feel uncomfortable." (laughs)



I learned a new word the other day – "egui" [meaning "gross" in English]. "I've never heard that word. What's that?" I asked, and the students said "It expresses a situation worse than 'yabai' [meaning "risky" in English] but you shouldn't use it!" (laughs) Talking to students is great fun.

The walls of your research office are covered with posters of students from seminars

I'm currently mentoring four masters and doctoral students, and they are all really exceptional. I'm Korean, they're Chinese, and we're at a Japanese university. That's why I'm looking for joint projects between China, Japan and Korea. I also feel a responsibility towards them as they will one day become my colleagues.

Assoc. Prof. SUK casts a kind gaze over her doctoral students as "cute eggs."

Having research occupation is wonderful as it allows you to specialize in an area in which you can dig as deep as you like. Nonetheless, I did go through a dark period, and I felt I couldn't do anything compared with others, which was discouraging. At that time a friend advised me to stick resolutely to my work and see it through to the end, and that if I did so I would start to see results, objectively. I want to tell my students, who may be going through similar anxieties, that "you'll be fine."

Students who can spend their time in the company of an educator such as Assoc. Prof. SUK are indeed fortunate.



At an international exchange event held by the Faculty of Environmental Science. International students from the US's UC Berkeley and Taiwan, and Japanese students gathered. Assoc. Prof. SUK is surrounded by a line of students with a truly international flavor.



Taking on a new position at full power, an attitude that leads to a fresh awareness



Prof. Mana MIYAKODA

Institute of Biomedical Sciences (Pharmaceutical Sciences)

Born and brought up in Yonago City, Tottori Prefecture. Completed the doctoral course, Graduate School of Pharmaceutical Sciences, Nagasaki University. Doctor of Pharmaceutical Sciences. Studied overseas at the Wistar Institute in the US. From 2004 she served as a postdoctoral researcher and then an assistant professor at Division of Immunology, Infection Research, Graduate School of Biomedical Sciences, Nagasaki University, and since 2018 has been a professor at the Research and Education Center for Drug Fostering and Evolution, School of Pharmaceutical Sciences, and Department of Clinical Research Pharmacy, Nagasaki University.

MIYAKODA

## Scurrying around through each day with a meticulously planned schedule

In the morning Prof. Mana MIYAKODA instructs students in their graduation research at the Bunkyo Campus. Then at the Nagasaki University Hospital she has the boxed lunch she buys on the way to the hospital, and spends the afternoon on training at the hospital or sometimes checking animal experiments at the Sakamoto Campus. She then goes back to the Bunkyo Campus and attends meetings or teaches. This is an "average day" for Prof. MIYAKODA. That's quite a busy schedule!

I'm always rushing about. I sometimes conduct atrial fibrillation screening events with my students at commercial facilities. The pharmacists of the future will be required to enthusiastically involve themselves in preventative medicine in the community.

With the rising demand for masks in the midst of the COVID-19 pandemic, the research results you announced about the masks' prevention capability against droplet infection caused a stir in the media.

We artificially generated aerosols using a nebulizer, and by each type of mask material we measured the number of aerosols by size. We discovered that when polyurethane masks are used both large and small aerosols burst out and diffuse providing hardly any protection, compared to the non-woven fabric masks that provide almost 100% shielding. Around the same time, the university began encouraging the use of non-woven masks.

Knowing about this and that is a strength that makes up for not being able to say "this is my field off expertise"

The career of Prof. MIYAKODA, who devotes herself to rearing the next generation of pharmacists, has had its ups and downs.

I don't really have what could be described as a field of expertise. I majored in radiation biology at Nagasaki University's School of Pharmaceutical Sciences, and then went to study overseas. After marrying and coming back to Nagasaki there were no available posts in



radiation biology. Fourteen years after I switched my specialization to infection immunology I heard the School of Pharmaceutical Sciences was looking for a professor dedicated to pharmacist education and decided to take on that challenge; so my work is now based on the twin pillars of pharmacist education and infection immunology research. When you have a family you can't just choose jobs according to your own circumstances. I thought that abandoning the results I have previously built up and starting again from zero was a waste, but eventually came to realize that being involved in immunology while also having a knowledge of radiation biology was actually my strength. Immunology studies the relationships between cells. Radiology is about what is inside cells, so there is a link between the two fields.

Having several careers is certainly an aspect of your individuality. How do to balance work and home life?

I really, really relegate housework (laughs); I don't do the laundry until there's nothing left to wear and realize "Oh no! I haven't got any socks!" (laughs). Obtaining a balance is an urgent issue but I switch back and forth from periods of "I can't go on" feelings of exhaustion and "Hey, you can really do this if you try." I will shortly be taking charge of new lectures in clinical pharmacy and am up to my eyes with preparing for this. But looking back on my experience so far, I have always exerted every ounce of strength when new positions come along; right now is a period of transformation.

That career is also serving as a mental support for Prof. MIYAKODA.



Prof. MIYAKODA's schedule on her smartphone. The different colored periods show a packed schedule.

Role Models

Women





Women Role Models Prof. Mariko NAITO

Graduated from the School of Dentistry, Nagasaki University. From 1992 served as an assistant professor and later associate professor in the Division of Microbiology and Oral Infection, School of Dentistry, Nagasaki University. Has held her current post since 2019.

## Analyzing at a genetic level the actually scary bad bacteria in the mouth

Strokes and cancer can be cited as causes of death, but in many cases the final decisive factor is pneumonia caused by bacteria. This is the bacteria that is said to be the cause of pyorrhea. If the mouth is kept clean people's life spans are definitely extended.

The field of expertise of Prof. NAITO, who starts off with this chilling fact, is microbiology and oral infection.

The fact that in times of disaster a great many victims at evacuation centers die of pneumonia has become an issue. So in recent years dentists have been promptly visiting evacuation centers and improving the state of evacuee's oral hygiene. My work is research into the basis of this knowledge. By investigating all the genes of oral bad bacteria the special characteristics of it emerge.

The notebooks packed into Prof. NAITO's bookshelves are a database of 30 years' work.

The influence of a researcher's first teachers is huge. In my case, the teachers I worked under as an assistant professor were extremely strict. They would check my notebooks and say "Don't ask again about something you've been taught once." I felt a sense of tension every day, but it's thanks to them that I got to where I am today.

### An unexpected research result leads to more interests in other fields.

Nagasaki University, which has an Institute of Tropical Medicine, holds a special significance to Prof. NAITO

Nagasaki University is unique in Japan in that it has so many infection researchers that their expertise can covers virtually every pathogen. It's a fantastic place. There's always a link forward: "If it's this field, I can ask this professor." In my case, when I make an unusual discovery I want to see what lies beyond it and rapidly knock on the doors of other fields, in an incessantly

Mariko



Prof. NAITO's experimental record notebooks, all written in English. However, at high school English was her weak subject and she still claims to be bad at it even now. "I understand technical terms, but my English conversation skills are non-existent. I'm trying to read the Lord of the Rings, but I never even get outside of Hobbiton." she laughs.

spreading manner. I have received instruction in peptide synthesis from a professor in the School of Engineering. If researchers can properly explain themselves they won't be given the cold shoulder. And of course if I am asked something I comply without any fuss about loss and gain.

Once you become a professor you are inundated with meetings – doesn't this hamper your research efforts?

Research is a habit for me; stopping research is more stressful than continuing. However, microbiological experiments are fairly easy to coordinate. Forgetting to feed microorganisms for one day doesn't make them angry, unlike mice that I have forgotten to feed (laughs). Moreover, meetings have become online as a result of the Covid-19 pandemic, and time losses can be kept to a minimum. I'm a little scared about what will happen if Covid-19 actually dies out (laughs).

As she owes much to many other professors, Prof. NAITO gladly laughs as she describes using her time on students as a way of repaying her former mentors. She is an out and out researcher.

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Dividing work beyond national borders

Prof. Chieko KONDOU's field of expertise is the

CFCs were previously said to be a cause of ozone

chlorofluorocarbons (CFCs) used in air conditioners

laver depletion, and the substances used to replace them

are now said to exert an adverse impact on the

greenhouse effect. This is why I am searching for materials that are planet-friendly and have high safety levels. It looks as though such materials will soon be found but the regulator standards pursuant to COP26

are very stringent and it is proving to be a difficult task.

There is a limit to what one nation can do on its own, so several countries have joined together and the division

of work is progressing on the lines of "we'll do the

measurements so you create the calculations program."

Following this career path resulted from the single

The teacher told me "In terms of economic theory of

probability, there is a statistical tendency for an

economic depression to come when you students will start to work." Surprised and feeling the need to learn a

trade, I decided that I was more suited to machines than

known in Japan as the "employment ice age" Prof.

KONODU found employment at Hitachi. Posted to the

development division, she was hand-picked to serve on

Hitachi, glared at by my senior colleagues as I didn't

answer the phone like new employees are supposed to

I went back and forwards between the university and

Prof. KONDOU then went on to follow the path of a

the joint research staff with Kyushu University.

Chieko

As her teacher had predicted, in the midst of what is

word of a second-grade junior high school teacher.

Doing what nobody else does is enjoyable.

Secures adequate sleeping time

Doesn't build up stress

living organisms.

(laughs).

fully-fledged researcher.

to find that certain substance

and refrigerators

A machine that measures surface tension when pressure is applied to liquids. It reveals the characteristics of liquids. Conducting experiments and making measurements with students is an enjoyable time for Prof. KONDOU. "The students are nearly all mischievous boys. Just because it's mechanical engineering doesn't mean it's hard physical labor (laughs). I really hope that I am joined by more female students."

I'm not married, and suppose I haven't had the time as I've been dedicated to my research. There were times when I spent half the month on business trips and didn't go home. Now I'm leading a more human life (laughs), and make a point of being sure to find enough time to sleep. It could be "dangerous" if I became unable to sleep, so I don't let stress build up (laughs).

At what sort of times do you feel stress?

Mainly due to personal relationships. The world of mechanical engineering is overwhelmingly male so there is some unrealized sexual harassment. For example, when I went to dinner on a business once the topic came up that "Prostitution is a job that's been around since ancient times so it's odd that it's considered bad."

Did you feel too awkward to say "that's sexual harassment?"

I've seen plenty of cases of people being cut off from work for pointing out things like that. But not overseas. I think it's proof of the immaturity of Japanese culture.

Have you undergone any changes since becoming a professor?

Yes, for example I've started to realize that my weapon is the way I try to do research that will be required in the world in 20 years' time, research that definitely has to be done regardless of whether it gets any funding or not. I never thought like that when I was working under other people; it's something that I think has changed since I became a professor.

It's vital to change your perspective and look at the future from a researcher's viewpoint.



Women Role Models



Women Role Models Prof. Chieko KONDOU

that the world will need in 20 years' time

Born and brought up in Osaka. Completed the master's program, Department of Mechanical Engineering, Graduate School of Engineering, Doshisha University. After working at Hitachi Appliances, Inc. (formerly Hitachi Air Conditioning Systems Co., Ltd.) she completed the doctoral program, Department of Energy and Environmental Engineering, the Interdisciplinary Graduate School of Engineering Sciences (IGSES), Kyushu University. Following a spell of overseas study at the University of Illinois in 2009 she worked as a research assistant professor at a graduate school in Kyushu University, and then took up a position at Nagasaki University in 2015. Has held current post since 2019.

KONDOU

Creating chances to perform on the world stage and seeing students' happy faces as a motivation



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## Prof. Xu YANG

Institute of Humanities and Social Sciences (Economics)

Born and brought up in China. Graduated from Kyushu University (Graduate School of Law and Faculty of Law). Doctor of Laws. Joined Nagasaki University in 2012 after spells at a certified public tax accountant office, Shimonoseki City University, and Kyushu Kyoritsu University. Has held her current job title since 2011.

#### Work encompasses overseas exchange projects and corporate environmental problems

The Faculty of Economics concluded an exchange agreement with the Southwestern University of Finance and Economics (SWUFE) in Chengdu, China and has a double degree system in place. It was Prof. Xu YANG whose efforts led to the conclusion of the agreement.

The procedural work was really difficult, but we will reach the tenth year of the agreement in 2022. SWUFE is a famous university in the finance world, and some of its students take up employment at the People's Bank of China and the Ministry of Finance of China. The way that such excellent Chinese students come to study with us in Nagasaki is helpful in creating a future network between China and Japan. In addition, we take short-term exchange students from Japan to Chengdu each year, and they experience university tuition and training at banks and corporations. These opportunities have led the Japanese students to study overseas, spreading their wings and performing on the world stage.

Prof. YANG's fields of expertise are financial accounting and Company Act accounting, and over the past three years she has received a grant and pursued the theme of environmental accounting.

The SDGs are a closely-watched concept, but it is difficult to engage in environmental problems on a company unit basis. The key point in sustaining businesses is efficiency in manufacturing, and I am researching the costs of manufactured goods and recycling from an accounting perspective. If a model applicable to Japanese corporations becomes approved it could serve as the first step in changing the world.

#### Still helps out at a certified public tax accountant office What is the real reason for this?

Prof. YANG was born and brought up in the Chinese city of Shenyang. After coming to Japan, she was employed by a certified public tax accountant office while she attended the Graduate School, and is a hard worker who obtained a doctorate.





During the short-term training in Chengdu. "This is a photo taken when we visited a bank that had introduced AI. We also went to see pandas and eat at the student cafeterias. True-to-life exchanges serve as opportunities to make the students aware of the outside world."

I worked hard to get the course credits I needed in six months, concentrating my classes into one day a week while on the other four days I worked at the tax accountant office and spent my weekends writing research papers. It was hectic but also had a synergistic effect that enabled me to also obtain my tax accountant license. I actually still help out at the tax account office from time to time, obviously without being paid (laughs). I incorporate in my teaching the latest practices resulting from the ever-changing Companies Act, tax acts and other laws. The students would get sleepy if I just went on about theory (laughs). I hope to stir up the interests of students and link it in with volition on their part to obtain qualifications; my connections with the tax accountant office are useful in their job-searching activities.

Apparently some of those who she teaches also come to the "students-first" Prof. YANG to discuss personal matters.

They tell me about anxieties that they can't talk about with their parents, and I sometimes worry over things together with them. When they come to greet me with their parents at the graduation ceremony I feel really happy and glad that I have continued with this job.

What would you like to say to your junior researchers now?

Don't give up on your own targets. If you are ambitious you will overcome difficulties.



### Analyzing and clarifying the associations between medical and drugs



## Prof. Izumi SATO

Institute of Biomedical Sciences (Medicine)

Doctor of Health Sciences, Master of Public Health, pharmacist. After completing her doctoral course at the Graduate School of Medicine, the University of Tokyo, she served as a senior researcher at the National Center for Global Health and Medicine, then from 2015 to 2021 as a program-specific assistant professor and program-specific senior lecturer at the Graduate School of Medicine, Kyoto University. From 2016 to 2020 she simultaneously worked as a researcher at the Keihanshin Consortium for Fostering the Next Generation of Global Leaders in Research (K-CONNEX), then as a visiting scholar at Rutgers University in the US from 2018 to 2019. Joined Nagasaki University in March 2021 since when she has held her current post.

## SATO

## Japan still lagging behind in the use of medical information databases

Prof. Izumi SATO's fields of expertise are clinical epidemiology and pharmacoepidemiology. Do you use the recently topical big data?

Yes, there is a massive amount of data in the medical care field including electronic health records, medical fee receipts (claims data) and examination results, and recently progress is being made in turning these into a database. I use these medical databases (DBs) to examine the state of use of medications, in epidemiology of diseases, and the associations between medications and diseases. One of the targets of my research is clinical epidemiology issues, so the scope is wide and I'm implementing joint research in collaboration with researchers in many fields. I personally put lot of effort into palliative care in cancers and heart failure, and health issues surrounding elderly people, many of whom have comorbidities and use concomitant drugs. Furthermore, since there are problems about whether the names of diseases entered are valid when using DBs, this year I am thinking about returning to my research into the validation study of disease names.

These are all issues that are close to home, but is the situation overseas different to Japan?

Compared to Europe and America, South Korea, Taiwan and so on, the constriction of DBs in Japan is lagging behind and there is a shortage of human resources working in this field. However, in recent years there has been a sharp rise in the construction of DBs and the fostering of human resources, so I feel that their use is accelerating.

## Unidentified infections become visible if you illustrate with numbers¥

Prof. SATO just joined Nagasaki University in the spring of 2021.

I joined the University in the midst of the Covid-19 pandemic, so I'm still not very familiar with the University. I heard that Nagasaki is full of hills and steps so I didn't bring my beloved road bike.





During Prof. SATO's stay on the overseas research program at Rutgers University. "This is a photo of me with students wearing their national costumes to commemorate the University's Charter Day. Rutgers is a famous university, the eight-oldest in the US. I'm told I have a sharp tongue in Japan because I speak my mind, but in the self-assertive US I felt like the archetypal reserved Japanese (laughs).

You must have felt some anxiety about coming to a place you didn't know on top of the Covid-19 pandemic.

When Covid-19 first broke out I experienced the same sense of fear as many people did. Then I remembered that I was an epidemiologist (laughs). I started to check each day for information on Covid-19 not in the news but in the academic papers in top scientific journals, and evaluated it from an academic and objective viewpoint. Thanks to that I was able to regain my calm. What I kept thinking about during that process was, compared to Japan, how vastly different are the capabilities and research environment of European and American researchers. With regard to new infections, in countries that make full use of DBs to rapidly ascertain the situation, identify problems and create and evaluate hypotheses, and in countries where this does not take place, subsequent developments differ.

Prof. SATO hopes in the future to connect with other researchers and doctors and carry out research only possible in Nagasaki.

I hope that by appearing in this publication I will see further opportunities for encountering other academics... Of course! Just wait and see!

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Your road will open up before you if you keep on pursuing action



#### Assoc. Prof. Keiko IWAMOTO

Institute of Humanities and Social Sciences (Global Humanities and Social Sciences)

Born and brought up in Sakai City, Osaka. Completed the master's program, Graduate School of Letters, Kyoto University. Served as a guest researcher in the Faculty of Letters, Istanbul University in Turkey, from 2010 to 2012. Withdrew with research guidance approval from the doctoral program, West-Asian History, Graduate School of Letters, Kyoto University in 2013. Received Doctor of Philosophy in Humanities (Graduate School of Kyoto University) in 2015. After working as a JSPS research fellow (PD), at the Research Institute for Languages and Cultures of Asia and Africa (ILCAA), Tokyo University of Foreign Studies, and as a JSPS overseas research fellow, joined Nagasaki University in 2020 when she had her current post.

IWAMOTO

## Historical investigation of nomadic people in the Ottoman Empire

Here we introduce readers to a typical teacher at the School of Global Humanities and Social Sciences. Assoc. Prof. Keiko IWAMOTO's research field is the lives of the nomadic people in the Ottoman Empire that spread across parts of Europe, Asia and Africa, mainly focusing on contemporary Turkey. She has stayed in Istanbul and Ankara, Turkey, and conducted my research for many years.

I decipher old handwritten Turkish documents, and investigate the societies of the nomadic people in the Ottoman Empire from the 16th to 18th century. I encountered the mysterious Arabic script I had never seen before when I was a high school student, and Middle Eastern cultures and history enchanted me. Because of this experience, I decided to study the history of the Middle East at university. I learned Arabic, Persian, and Turkish at the same time. Of these, I felt more affinity for Turkish. Many archives, libraries, and museums in Turkey have precise numerical records of population, agricultural produce, and livestock used to calculate tax in the Ottoman Empire. As these enable research into nomadic people's lives and societies, whose records are not ordinarily kept in other pre-modern states, I made this my research theme.

The Great East Japan Earthquake occurred while you were staying in Turkey.

All the images I saw in Turkey were of the tsunami, and Turkish people thought that the whole of Japan had been swallowed by the tsunami waves and rendered uninhabitable and radioactive contaminated zone by Fukushima nuclear disaster. My Turkish friends were really worried for me, but I stayed in Turkey and finished my overseas studies as planned.

## There are people who are put at a disadvantage in any system

Can you give us some advice for the next generation of women researchers?

It takes many years to find a stable academic post,





From my research fieldnote, This is a photo of visiting Western Turkey to see the camel wrestling that has been part of the local culture in 2019. "It was fascinating to see as I had only known about it from the historical sources. Encountering cultures on-site is a precious experience. The event has been canceled due to Covid-19 for a few years, so I am glad to get my chance to see it while I could."

which is a harsh reality for academicians or researchers. Today, however, we find a larger variety of support systems and aids than before. You should gather information about them and use whichever you can. An increasing number of universities like Nagasaki University are setting numerical targets and providing all sorts of empowerment treatment for women researchers to increase the number of women researchers. Nonetheless, there are still some men in my generation grumbling to me, "Ms. Iwamoto just got employed through the female quota. We're losing our posts to the women." I know who spoke ill of me behind the back. (laughs). I feel like talking back, "You guys have had a nice time up until now owing to your male quota!"" but it would end as a mud-slinging match (laughs). I'm single, so I lose out on the preferential treatment for parenting and child care support. In other words, new systems always bring someone at a disadvantage, but if you put yourself in other people's shoes, I guess we're all the same. Nothing will change if you don't do anything; the point is not to let things bother you. And it would be best if you were persistent because the doorway to research funding is narrow.

Assoc. Prof. IWAMOTO has managed to get by so far without entering into academic cliques and relying on herself. Her comment, "In overseas activities, having connections with other people gives many chances," was memorable for her sense of having worked in academic fields.

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The pleasure of clinical practice is when I have completed a difficult mission



Assoc. Prof. Yuri HASEGAWA

Nagasaki University Hospital (Department of Obstetrics and Gynecology)

Born and brought up in Tokyo. Graduated from the Department of Medicine, National Defense Medical College. Became a medical officer at the National Defense Medical College Hospital in 2001, and spent a spell on domestic study at the Department of Obstetrics and Gynecology, Nagasaki University in 2010. Joined Nagasaki University Hospital in November 2011, and has held her current post since 2020.

## A free-spirited obstetrician/gynecologist with an unconventional background

A former obstetrician/gynecologist who worked for 11 years as a Ground Self-Defense Force official at the National Defense Medical College. That's the unconventional background of Assoc. Prof. Yuri HASEGAWA.

My field of expertise is perinatal care, and my research focuses on the placenta. I came to Nagasaki having been told by my former boss that there were some amazing professors at Nagasaki University and I should listen to what they had to say. The placenta is an organ that is discarded after birth, but it is also a treasure trove of a research material packed with information on the mother and child. The Department of Obstetrics and Gynecology at Nagasaki University has a long-running history of interaction with the Atomic Bomb Disease Institute, and a special feature of it is the excellent teamwork between clinicians and basic researchers. In addition, it's an open-minded university that gives new participants like me research themes to follow. This is actually quite an extraordinary thing. I work in cooperation with the basic research professors from a clinical standpoint.

Isn't it hard work at a university hospital where there is a concentration of so-called "difficult births?"

The hospital was designated as a comprehensive perinatal medical center two years ago, and the range of patients treated has widened. For me personally clinical practice is a great pleasure. The joy I feel when a difficult pregnancy that could not be dealt with anywhere else ends in successful childbirth, and the saving of mothers' live is a feeling I would not exchange for anything. What's great about maternity is being able to say "Congratulations, please come again." Nonetheless, when there is a pregnancy I'm worried about it sometimes appears to me in dreams I suppose I'm worrying on a subconscious level.

#### Becoming a superwoman is a case of one achievement after another

Please urge on our junior medical practitioners.

I'm single and have no children so I've always gone about my work in a free-spirited way and I don't think I can serve as a role model for anyone. But there are those who have children or are caring for others; each and every one has their own restrictions but I really hope that they carry on working even if they are just scraping along. I often hear from people who are nervous about going back to the clinical practice field after maternity and child-rearing leave. At the Department of Obstetrics and Gynecology there are plenty of splendid female doctors who have both children and careers. The younger doctors may see these people as "superwomen" but they are just building up their experiences. I would like them to think "I can become like that too."

How does the free-spirited Assoc. Prof HASEGAWA spend her time off?

I go mountain climbing. In the summer I go on my own, and in the winter I go up snowbound mountains with a guide. In the huts near the peaks I spread out a map while listening to information from others and think "I'll try climbing this one next." I climb mountains with a sense of being attracted to them.



After traversing the route from Mt. Nishihotaka to the Gendarme and thence to Mt. Okuhotaka in 2017. She's interested in photography now, and takes an SLR camera with her. "I wanted to record the views of the beautiful mountains, and ended up finally buying a camera (laughs), though I ought to be thinking about how to make my luggage lighter."

HASEGAWA

Yuri

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