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# RENKEI April 2015 – March 2016 Annual Report





### Strategic Collaboration between the UK and Japan in Academia and beyond

#### About RENKEI

RENKEI (Japan-UK Research and Education Network for Knowledge Economy Initiatives) is an international platform for UK-Japan collaboration in higher education, run by the following Japanese and UK member universities, with the British Council as the secretariat.

##### UK members

University of Bristol, University of Leeds, University of Liverpool, Newcastle University, University of Southampton, UCL (University College London)

##### Japan members

Kyoto University, Kyushu University, Nagoya University, Osaka University, Ritsumeikan University, Tohoku University

It was launched on 13th March 2012 to meet the challenges of living in a complex, rapidly changing and globalized twenty-first century. Collaboration across sectors is becoming ever more important as the result of economic and societal changes. Through RENKEI projects, member universities in both Japan and the UK are committed to exploring how they can develop fresh and innovative engagement with third-party organisations such as industries, governments and social enterprises to create new levels of professionalism and ambitious strategies that will help define the world of tomorrow.

The UK and Japan have a long history of partnership, and share common interests and concerns in the twenty-first century. The two economically powerful countries are among the world's foremost producers of cutting-edge research. As such, enormous potential exists for the UK and Japan to learn from each other. They face similar demographic, political, social and industrial challenges, and thus are ideal partners in meeting these demands with innovative solutions.

As well as sharing several commonalities, the UK and Japan have various differences which give rise to a range of opportunities. They offer mutual geographical advantages since they are located in contrasting regions of the world, and they have varying areas of relative strength both within academia and beyond. RENKEI is an exciting opportunity to bring these very positive, complementary factors together in a unique form of constructive collaboration.

As this innovative form of knowledge transfer and research collaboration develops, it will result in shared values, agendas and action points among the participating individuals, institutions and organizations. RENKEI programmes and projects will also lead to closer consultation with potential stakeholders, especially the British and Japanese governments. The long-term benefits of RENKEI will be a sustainable dialogue and strategic relationship that transcends academic disciplines, industrial/public sectors and national boundaries.

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#### RENKEI Projects between April 2013 and March 2015

Since its launch in 2013, RENKEI has been actively delivering projects to tackle some of the global challenges we face in society. More than 150 students and researchers have participated in the projects, gained new knowledge and skills, and built new networks through intercultural and interdisciplinary collaboration.

##### April 2013 – March 2014

- RENKEI Researcher Development School

Hosted by: University of Bristol, University of Newcastle, and Kyoto University

##### April 2014 – March 2015

- Japan-UK Joint Workshop on Aerospace Engineering

Hosted by: Nagoya University, University of Southampton, and University of Bristol

- Understanding Global Challenges through Collaborative Research and Fora

Hosted by: Tohoku University and University of Southampton

RENKEI has seen three new projects deliver in 2015-2016 building on these past achievements, and this report provides a brief summary of the overview and outcomes of those projects. For a full picture of RENKEI and its impact, please visit the RENKEI website at [www.britishcouncil.or.jp/renkei](http://www.britishcouncil.or.jp/renkei)





# Renaissance Entrepreneurship

in Higher Education for Social Innovation to Develop Future Leaders

– Dealing with Demographic Change

Intercultural workshop at UCL

*How can entrepreneurs help us achieve harmony between young and old?*

Leading universities University College London (UCL) / Osaka University

## Challenge

Demographic change is affecting every country in the world. In some cases this creates a dynamic opportunity, but in others it presents a difficult economic challenge.

In these circumstances, it is crucial to bring together ideas from different cultures and intellectual disciplines to create collaborative solutions that are more creative than those currently being discussed in the political realm through the perspective of Renaissance Entrepreneurialism. This is a process of developing innovative ways of combining many channels of knowledge – from the arts and sciences, cultures and histories, thoughts and technologies – to create a way of resolving a current challenge.



## Purpose

“To create social enterprises to maximise the potential of demographic change”

This RENKEI project aims to enable a group of students from the RENKEI universities to engage with each other to create working teams which explore the area of social demographic change and its consequences, such as intergenerational equity, or the potential of social enterprise as a means of responding to this challenge and an opening of minds to new ideas and ways of thinking.



# Challenge

# Purpose



# Renaissance Entrepreneurship

in Higher Education for Social Innovation to Develop Future Leaders

– Dealing with Demographic Change

Intercultural workshop at UCL

*How can entrepreneurs help us achieve harmony between young and old?*

Leading universities University College London (UCL) / Osaka University

## Overview



Under the auspices of this RENKEI working group led by UCL and Osaka University, the first workshop was held at UCL in London between the 1st and 14th of August 2015.

The basic structure of the workshop was to spend the first week developing ideas around teamwork, thought, idea creation and creativity. The second week was about the development of ideas into what might become a social enterprise.

The workshop developed exercises around thinking, entrepreneurship, creativity, project building, project planning and development, through group working and interactive activities. We also engaged an actor to create a different way of thinking about age – how different ways of speaking worked (or not) – how to say “No”, “Yes”, or “Yes, but”, and how this changed as the characteristics of older age begin to be introduced. So learning how to act as people in different age groups showed how things like communication really changed.



Within these overarching themes, the workshop was structured around the activities designed to tackle the broad issues of creativity, mind-opening and teamwork, with ‘provocations’ inserted at opportune moments to take advantage of the other activities and spark new thoughts about the substantive issues behind the workshop topics. These interventions were designed not to provide information to the participants – although undoubtedly they did that – but to move away from anything like the conventional learning experiences most of them were used to in the university. The speakers were asked to be provocative – to raise questions rather than provide answers – and to be very concise. The subject matter of the provocations was varied – implications of demographic change (intergenerational fairness), Renaissance then and now, entrepreneurship, education for a multidisciplinary world, big data – and they were inserted into the programme to create a stir amongst the participants and provide them with the opportunity to think about and practice the new thinking in their teamwork and creative activities.



The participants also visited a social enterprise transport company to find out how they responded to the challenge of acting for the community within a commercial and social world, how these interfaced, how the tensions between the different demands arose, and how they dealt with these tensions.

In the second week, the afternoons were used for the participants to create and generate their ideas for their social enterprises, which were pitched on day 10, revised, and presented in the final session on day 11.

The participants experienced the challenges and advantages of working in different-sized groups, with different people, with different challenges, outputs and targets. This set them up to be able to determine how they were going to tackle demographic change by creating a social enterprise to focus on a particular challenge they had identified.

# Overview

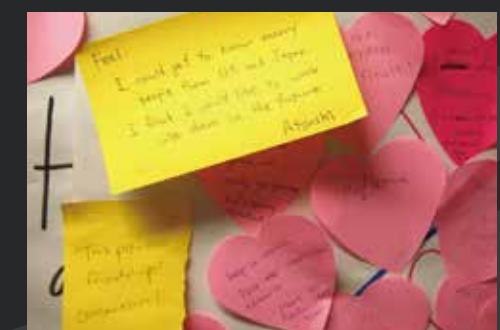


## Outcome

In the end, three teams presented prospective ideas for their social enterprises.

- Vampire – an energy-saving device to reduce energy costs
- Renaissance Homes – an innovative housing scheme to capitalize on vacant properties to create suitable accommodation for old and young people
- 7Es – a social networking platform to share knowledge, create a sharing economy, and share developments to change the world for the better

These teams have set out to continue their relationships in the forthcoming year by setting up communications links, including regular Skype meetings, in order to pursue their ideas in preparation for the next workshop in Osaka, Japan in August 2016.



# Outcome





**Bodhinanda Chandra**

Undergraduate Student  
in Civil Engineering  
Kyushu University

Being a part of the RENKEI Summer Workshop 2015 at University College London for two weeks was truly a fantastic experience for me. As a civil engineering student, I have always believed that our role in developing better infrastructure suitable for the society of the future is vital. Therefore, it is essential for us to obtain fundamental knowledge about the current trends and problems of demographic change. I and 21 other students and researchers from the RENKEI member universities in Japan and the UK gathered to learn and discuss demographic change in both nations, coming up with ideas for possible solutions to overcome those problems and to reach a goal of intergenerational equity.

Through the workshop, I improved my communication and leadership skills in particular, as well as my creativity. Thanks to the valuable opportunities for learning from other participants who came from various backgrounds and disciplines, I could broaden my perspective when solving problems by seeing the issues from various approaches. I am also very grateful that I was able to build and maintain a strong connection with the other participants, creating great networks which I believe will be extremely useful someday.

Most importantly, all the seminars and discussions enabled me to realize that a good technology or invention should not only be useful, solving a problem found in society, but must also be simple and marketable, in order to reach all types of users and perform its function on a large scale. In order to achieve my dream and contribute to modernizing and advancing the world, the knowledge and experience which I gained from this RENKEI workshop will surely be very beneficial assets.

Altogether, the opportunity to join the workshop was truly an overwhelming experience. I look forward to being involved in other RENKEI activities in the future.



**Atsushi Kakogawa**

Assistant Professor  
in Robotics  
Ritsumeikan University

Since I did not initially know any of the other participants, and everyone from Japan was a student apart from me, I felt that it took some time to break the ice between us. However, I tackled the programme tasks together with the other participants every day from morning to evening; we worked in the Dome until late at night, played card games together, and discussed our futures and the current state of society. After a week had passed, and the programme was reaching its midway point, we lost our inhibitions, developing relationships in which we could speak frankly and directly with each other without regard for age, nationality, gender, or area of specialism. At times, I felt intense stress, and I was often unable to hide my irritation, but this opportunity to build relationships of trust within a short time was a very valuable experience for me. However able the individual members of a team, without an open atmosphere in which they can speak their minds to each other, and try to understand each other's viewpoints, giving a cogent counter-argument if they cannot agree, I believe that it will be difficult for the team as a whole to grow. I feel that the way in which all the participants whom I met at this workshop expressed their opinions without hesitation, as well as the continual encouragement to do so from the facilitators, the efforts which Japanese participants made to communicate in English even amongst themselves, and our determination to spend time in the Dome with as many of the other participants as possible, right until we went to bed, were particularly important factors.

What I learned on this programme was the way to proceed with a team in situations where the sparking of ideas is required. With a top-down approach, things move forward more quickly, but it is very difficult to reflect and effectively combine each person's opinions. Regarding this point, something that interested me deeply about this programme is that there was basically no-one in a leadership role for each task during the programme. For this reason, if one person in the group had an idea, the subsequent discussion tended to centre on that person, and at first glance, it might seem as if that person was in a leadership role, taking charge of those around them. However, in the end, it was often the case that the person who had the initial idea did not give the presentation, or that the idea developed in a completely different direction. It was very difficult for us to reach a consensus despite lengthy discussions, and I often ran out of concentration, but I felt that this kind of method was one approach to creating things based on entirely new ways of thinking.



**Brisia Fabiola Aguirre Ponce de Leon**

Master students in  
Education and technology  
University College London

Before the programme started, I was concerned about whether I would be able to understand and work with a team from such different backgrounds. On the other hand, I was very excited because I knew that this would be the kind of experience that changes your viewpoint, in terms not only of research but also of the way in which you perceive your life.

The impact of the workshop was powerful and, indeed, empowering. I am aware that the skills I learned will shape many of my future endeavours. I was privileged to meet people with such a considerate and respectful way of working and socializing. I believe that the key learning points for me were patience and humility: one of the aspects that I found most amazing was that we were working with people who are already making history, and yet they were so open and willing to share their experiences with us. This had a profound impact on me. Finally, I do believe that we created a stronger sense of entrepreneurship.

I gained the confidence and understanding to network with people with different philosophies and experiences in life, and also learned how to work in an interdisciplinary group. My social and leadership skills were also enriched on so many levels. I am aware that a project of such magnitude can be hard, but I believe that I must also highlight the resilience of the Japanese culture as one of the richest values that I obtained from RENKEI.

Looking to my future, I see the project that we started with RENKEI, working and helping people in the UK and Japan. I decided to apply to RENKEI because I believed that we could create something really valuable to return to society. I hope to continue working with many of my friends and to create a strong network to share with future RENKEI colleagues. I am a dreamer but I am also a go-getter. I am aware of the amount of work required, but have faith that we will succeed.

Thank you once more for such an amazing experience, which will remain with me always.



**Nozomi Sakata**

PhD student in Education and  
International Development  
University College London,  
Institute of Education

RENKEI gave me opportunities to network with researchers and to be involved in a new world of social entrepreneurship. I have been interested in poverty and ways to minimise the gap between the rich and the poor, to which my PhD research is related. Through RENKEI, I could gain new insights and encouragement to take tangible actions to address the issue.

One valuable aspect which I gained through RENKEI was personal and professional networks. The participants included undergraduate and graduate students as well as professional researchers, and they came from a wide variety of academic disciplines. Talking with other researchers and professors, who had been involved in planning the workshop, gave me a chance to hear about their career development and to get advice for my own future.

Engaging with researchers with distinctive backgrounds also enabled us to come up with solutions and proposals that nobody could have imagined. But this was not without its challenges. Working as a team, especially as a big team of 22 students, was a difficult task. It was hard to involve everyone fully and make them cooperate with each other. Each of us had different opinions, and different people headed towards different directions. However, we assigned each member various roles, and in the end, we were able to come to a consensus and made a fruitful presentation.

Looking towards my future, I would like to continue to build and expand the network I have built through RENKEI. I also hope to get our social entrepreneurship project going sufficiently well to make a social impact. By the time of the next RENKEI project in Osaka, we want to make our plan realistic with solid objective(s) and a feasible schedule.



**Yasuo Kanematsu**

e-square, Science & Technology  
Entrepreneurship Laboratory  
Office for University-Industry  
Collaboration  
Osaka University

Thanks to impressive facilitation, the workshop held at UCL in the UK achieved team-building at a level which I have never previously witnessed. It was an eye-opening experience for me. In team entrepreneurship to tackle social issues, an initiative particularly suited to universities, the degree to which group members can get to know each other and build a team is indeed key.

All aspects of the workshop left a deep impression on me, but I would like to single out a few examples. During a workshop in which teams aimed to put together the tallest structure using only what was in the venue plus some designated items, each team created a work which expressed the excitement felt by its creators: a waterfall using a structure which almost touched the ceiling, a work sparkling with ideas, or a work in the shape of a boat which told a story.

In the activity in which participants had to find their way to a given destination in the city without using electronic devices or other maps, they interviewed people along the way, creating their own maps. Through observations such as “This change in level would be hard to negotiate in a wheelchair” or “I didn’t think that a recreation venue for elderly people would be in a place like this”, the teams were able to experience and empathise with the generation gap caused by demographic change, the theme of the exercise.

In other exercises, they did their best to become animals or elderly people. The performances which came out of the story creation workshop were enough to move the audience to tears.

These workshops used a variety of methods, experimenting with all kinds of group sizes and combinations, from pairs to groups of three, a handful of people, and all the participants together. All the exercises were carefully designed in such a way as to permit each person's individuality to shine.

The climax of the learning process was a study visit to a social enterprise which delivers bus services. Having experienced this, each team decided upon the final targets for their social enterprises.

I still have doubts about the degree to which the key concept of social enterprise was shared through this workshop. In addition, how to create as much continuity as possible between this workshop and the one to be held in the summer of 2016 is also an issue. At present, each team is still in the midst of ongoing efforts and conflicts, but in the process of these struggles, overlaps with the actual battles taking place on the ground here in Japanese society will arise, providing long-range motivations. I hope that these will give birth to a new model, entrepreneurship in higher education.



**Nick Tyler**

Chadwick Professor  
of Civil Engineering  
Director, Renaissance  
Entrepreneurship  
UCL workshop  
University College London

We need a new breed of entrepreneurs to cater for the rapidly changing needs of the 21st century. We need to find creative ways of thinking about and acting to meet the needs of marginalised groups so that they can be more embedded in mainstream society. The complexity of this challenge, especially when it involves issues such as demographic change and longevity, requires thinking in a new way and bringing that thought to life in a business-like manner. Renaissance is important because it reflects the bringing together of creativity, new ideas, new technologies, intercultural understanding, that flourished in the 14th and 15th centuries in northern Europe. Social enterprise is a great way to develop such businesses with strong involvement with the local community, hence having a workshop to generate renaissance entrepreneurs within the social enterprise model. We realised that this would involve a lot of new thinking for the participants, hence having the workshop split over two years.

The programme was designed to disrupt comfortable thinking about business, entrepreneurship, society, ageing, demographics, and intercultural understanding, and it made a good start at achieving all of these. This meant that the workshop was more conceptual than the participants were expecting, but it was important that they took in the new ideas before embarking on the creation of any substantive activity.

Outcomes from the programme are interesting. Some of the groups have been maintaining regular contact between the UK and Japanese members during the past year, and they will continue their work in Osaka in August 2016. This is a great achievement, as it is very hard to maintain that sort of continuity over such a distance for that amount of time. On Day 1, I told them that they should expect to change during the workshop and that they would leave as a different person compared with the one who arrived. All participants came away from the workshop with a different set of ideas than those with which they arrived, in terms of concepts and thought, but also about what might be achievable and how to make it achievable.

In combination with the 2nd Renaissance Entrepreneurship workshop to be held in Osaka in August 2016, this workshop is a disruptive, innovative, formative, transformational moment in the life of the participants. We expect that, as a result of this workshop, some – maybe all – of the participants will change their career path in some way because of their experiences there. Some will do this earlier than others, but it will influence them all.

The workshop in Osaka will strengthen what was learnt in 2015, firming up the conceptual base and developing the ideas that emerged then and have been developed since.

# Living with an Ageing Society

## Interdisciplinary workshop in Osaka

*How can we make a rapidly ageing society a better place in which to live by working together across generations?*

Leading universities Osaka University/ University of Liverpool

### Challenge

In both the UK and Japan, the average age is increasing, and the proportion of seniors is rising. In both countries, the number of people over 65 years of age exceeds those under 16, and the number of people over 85 is set to at least double over the next 12 years. Japan now has a low birth rate, resulting in a large number of elderly people needing to be supported by a small economically active population. The birth rate in the UK has been rising in recent years, but due to the combination of this growth and of increased longevity, by 2050 50% of its population will be economically non-active – either too young or too old. The social and health implications of these changes are well known, and the way that we live with this situation is one of the great challenges for our generation.

Society at large holds a generally negative view of ageing, but we would also wish to stress the positive potential of ageing to achieve a balanced society comprising of several generations, from newborn babies to ‘active’ great-grandparents. We are, therefore, interested in exploring ways to sustain good health among older adults in an increasingly heterogeneous population, as well as ways to prevent disease in these and other individuals. This requires a transnational cross-disciplinary effort from the research communities spanning medical, biomechanics, biological, and social science disciplines.

Against this background, the University of Liverpool and Osaka University have developed a programme – Living with an ageing society – where participants from different disciplines can collaborate to develop unique solutions to key challenges in this area.



# Challenge



### Purpose

1. Through lectures and institutional visits, participants will deepen their understanding of the current state of, and issues facing, an ageing society and learn about the latest Japanese initiatives concerning the ageing society.
2. Through a visit to Tajima Longevity Village, participants will interact with older people in the Tajima area and learn about the various activities carried out by the local authority and community residents to support an ageing society.
3. Each group will choose a specific issue related to an ageing society and design a solution for it.
4. Through discussions with postgraduates and young researchers from other universities in Japan and the UK, participants will develop their critical and communicative abilities.
5. During the course of the workshop, participants from the member universities will develop interpersonal networks and lay the foundations for future research collaborations and personnel exchange.
6. Participants will be exposed to Japanese historical and cultural assets.



# Purpose



# Living with an Ageing Society

## Interdisciplinary workshop in Osaka

*How can we make a rapidly ageing society a better place in which to live by working together across generations?*

Leading universities Osaka University/ University of Liverpool

### Overview

There were a wide range of lectures on ageing: “An overview of gerontology research”, “Demography of ageing”, “Universal design and usability for elderly people”, “Ageing-related businesses in Japan”, “The latest robotic technology for an ageing society”, “Differences between and similarities in Japanese and UK approaches to an ageing society”, “Biology of ageing”, “Physiology of ageing”, “Dental and oral dimensions of ageing”, “Social dimensions of ageing”, “Emotional dimensions of ageing”, “Cognitive ageing”. Besides academic lectures, there were also presentations from companies.

The programme included three site visits. The first was an overnight stay in Tajima Longevity Village, located in an ageing community in a rural area. Members of the Silver Human Resources Center of Yabu City introduced various activities carried out by the community to support an ageing society. The participants interacted with the elderly residents through cultural activities such as drama, exercises, rice-cake making, and singing Japanese children’s songs.

The second visit was to the ATC Ageless Center, one of the largest permanent exhibitions of health, welfare, and care-related items in Japan.

Finally, participants had the opportunity to visit Comfort Hills Rokko, SECOM’s care service apartments located in Kobe.

In order to learn about Japanese history and culture, the participants visited Ikuno in Asago City, where they explored Ikuno Silver Mine, one of the three oldest such mines in Japan. They walked around Ikuno Town, where the workers of Ikuno Silver Mine and their families once lived, and visited Izutsu-ya, Ikuno’s Town Development Workshop.

Each group selected some specific issues related to an ageing society and discussed solutions to these problems. They presented their ideas on the final day.



### Outcome

Through the workshop, postgraduates and young researchers with an interest in gerontology could understand the cultural differences in perceptions of old age and could discuss and exchange ideas on shared issues, leading to the design of future projects.

They were divided into small groups and each group presented their ideas on the final day of the workshop.

Group 1 Three Y Zetto “Elderly Children”

Group 2 LEAC “Examining Companion Robot”

Group 3 Ulysses “Exploring the Acceptability of High-tech Tools for Enabling Social Interaction in a Cross-Cultural Context: Methodological Considerations”

Group 4 IDC “Intelligent Design for Communities”

Group 5 Team Godzilla chan “Ichijyu-sansai versus The Sunday Roast”



# Overview

# Outcome





**Zsombor Koszegi**  
Postdoctoral Research  
Associate in Neuroscience  
University of Bristol

Participating in the RENKEI Interdisciplinary Workshop in 2015 was truly an insightful experience. The programme was well-balanced, consisting of quality presentations, site visits, and social activities. The workshop accurately lived up to its “interdisciplinary” theme, as I had the opportunity to interact with people coming from very diverse fields. Despite the small number of participants, the organizers invited leading experts from numerous fields to share their experience and to engage us in lively discussions. The workshop also provided several site visits (for example, to the Ageless Center, Longevity Village, and SECOM Service Apartments), which complemented the presentations by allowing us to gain personal experience, ensuring that we were learning from both academic and practical viewpoints. These visits also provided opportunities to get a brief glimpse of the traditional Japanese culture and lifestyle.

I particularly enjoyed the visit to the Longevity Village, where we had the opportunity to spend time with a large group of older adults, sharing their daily activities. It was a profound experience to observe the respect accorded to the elderly in Japanese culture and the importance of keeping ourselves mentally and physically active to achieve healthy ageing.

One of the key take-aways from this workshop was the opportunity to develop our communication skills during discussions and daily interactions. I believe that participants from both the UK and Japan learned a lot about how to communicate effectively with people from different cultures and disciplines.

In academia, I am constantly surrounded with people whose skills, thinking, and research are very similar to mine. The RENKEI workshop highlighted the importance of interdisciplinary research. As my own research is based on laboratory experiments using animal models, the workshop did not have immediate relevance to my field. However, the knowledge I obtained during the various programmes provided an opportunity for me to review my research from a broader perspective, which perhaps will define my future research and career goals. I am looking forward to keeping in touch with workshop participants and being involved in future RENKEI activities.



**Kiyoaki Matsumoto**  
PhD student in  
Public Health  
Osaka University

Before participating in the RENKEI programme, my expectations were simple: I hoped to be stimulated as a result of making connections with researchers from other backgrounds.

However, as soon as the programme began, this simplistic desire was blown right away. Living together with and discussing ideas with researchers from different cultural backgrounds, different research fields, and different careers (ages) was more difficult than I had imagined. This was not simply due to my inability to use English as fully as I would have liked. I realized that communication with researchers from different fields is hard not only because of the language barrier, but even more so because they use different specialist vocabularies and terms. In the midst of these difficulties, while working out how to strike an appropriate balance between what we did and did not understand, we searched for solutions and gave them shape. As a result, I felt a sense of achievement such as I had never previously experienced.

After participating in the RENKEI programme, I remembered the following words of a philosopher, which I read when I was in my teens: “When there is a problem to be solved, or something which we want to understand, ‘learning’ is set in motion, mediated by words.” Recalling this, I felt invigorated, as though I had rediscovered my original motivation as a researcher.

“What is your question?” “What is my question?”

During the RENKEI programme, every time I explained something to participants from different research fields, I thought hard about the meaning of these words. The truly important questions for society cannot be answered if they are addressed only by researchers in my field. Whether we like it or not, researchers in my field of medicine and public health need to collaborate with those from other fields. From now on, as I carry out my research and give the results back to society, when I come into contact with those from different fields and careers, I hope to boldly say to them “Let’s RENKEI!” [“Let’s collaborate!”], and to put this collaboration into practice.



**Caroline Olcott**  
PhD student in  
Gerontology  
University of Southampton

I was excited to attend the workshop in Osaka as the theme fitted very closely with my own interests. I am studying long distance and so the opportunity to spend time amongst fellow students and academics for a week was also very welcome. Another factor was that I have spent considerable time living in Japan and was interested to see how the Japanese academics would present ageing issues for a foreign audience and also listen to the feedback from the foreign participants.

The course was a good opportunity to forge relationships with the other participants and to engage with the Japanese academics from Osaka and those who gave up their time to present to us, as well as with the visiting academics from Liverpool. Despite the varied backgrounds of the participants, with regards both to the stage of their academic careers and to their field of study, there was plenty of opportunity for collaborative work. Many of the Japanese participants were at an earlier stage in their academic careers and this, as well as the fact that the group presentations were conducted in English, could have been a potential problem, but by the end of the week, relationships had been built and the mixed group presentations showed good teamwork.

For me, the highlight of the week was the chance to see ageing society as it is happening in Japan. We had a great day with the Yabu City Silver Human Resource Centre folks who showcased just how well many Japanese elders are ageing and confirmed my interest in cross-cultural issues.



**Yukiko Tateyama**  
PhD student in  
Global Health and  
Socio-epidemiology  
Kyoto University

I participated in the RENKEI workshop hoping to grasp the current situation of, and issues raised by, the ageing of the population in Japan and the UK, and to learn about concrete intervention approaches from both academic and industrial standpoints.

Most people have the impression that it goes without saying that the residents of Japan live long lives and are healthy; but in fact, the gap between “average life expectancy” and “healthy life expectancy” is becoming a problem. The degree to which we can prolong this healthy life expectancy is becoming a vital key in thinking about an ageing society. The factors which damage elderly people’s health include not merely the deterioration of bodily and cognitive functions due to ageing; psychological aspects and the societal environment are also highly relevant. For this reason, I feel that the opportunity to discuss the topic of an “ageing society” with researchers and students engaged in diverse fields, from various angles, was extremely useful in order to gain a deep and comprehensive understanding of this issue.

I felt that there were three particularly valuable elements of this workshop. Firstly, I was able to learn about the ageing process from the angles of physiology and cognitive functioning. Next, through the lectures and site visits, I could learn about the current situation in an ageing society, the issues, and the concrete initiatives being taken by each community and local government to address these. Moreover, through discussions during group work, we were able to understand the different initiatives for, and perceptions of, care of the elderly in the UK and Japan.

Some other important learning points were the great contributions which the fields of psychology and robotics are making to support an ageing society, and the fact that elderly people themselves are becoming human resources for the solution of problems caused by ageing.

My own research is into risk factors for non-communicable diseases in developing countries, taking into account societal, cultural, and economic conditions. As well as being a risk factor for non-communicable diseases, the problems caused by ageing are ones which developing countries, too, will soon be unable to ignore. From now on, I hope to continue my research from a broad perspective, keeping in mind what I learned at this workshop, in order to discover a radical solution to address ageing, which is progressing on a global scale.



**Yasuyuki Gondo**  
Associate Professor in  
Clinical Thanatology and  
Geriatric Behavioral Science  
Graduate School of  
Human Sciences  
Osaka University

In our societies in Japan and the UK, we are living with the ageing of the population, combined with a decline in the number of young people. Given such a shift in demographics, it is very important for our generation to think how to design a better and more liveable future society.

For young researchers, it is also important to have a mindset which allows them to relate their own knowledge and experiences to the actual situation in society, instead of carrying out research simply for its own sake. They need to think in terms of the social contribution which their research has the potential to make, rather than solely considering its impact on their careers as individuals.

In the course of sharing a week during the workshop with young researchers from different cultural backgrounds, I understood that issues which appear “obvious” to one person do not necessarily appear that way to another. I realised the importance of approaching a given issue from diverse backgrounds and perspectives.

Organizing the workshop was a valuable experience for me. It enabled me to become aware of and consider what society truly requires, as well as our role as researchers in meeting those needs.

Overcoming the barriers of language and culture is a big challenge. However, it is also surely a necessary skill for global citizens of a future society in which many diverse peoples coexist together. It is important for us to cultivate young students, graduates, and future workers who possess such skills.



# Aerospace Engineering Workshop: Engaging with Industry

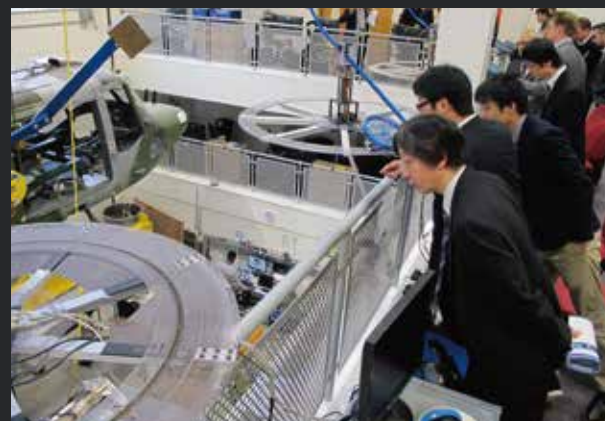
*What are the current modes of collaboration with the aerospace industry - where are the areas of best practice and what can we do to build upon this work?*

Leading universities University of Southampton / University of Bristol / Nagoya University

## Challenge

Working with industrial partners takes many shapes and forms, with a number of modes of collaboration possible. The catalyst behind successful partnership would seem to hinge upon identifying the key technology drivers within the aerospace industry and working collaboratively towards a common goal with the industrial partner.

On a UK national level, models of collaboration and best practice are well known; internationally, those models and practices are potentially vastly different, with learning to be exchanged with colleagues from Japan.



## Purpose

The aim of the Aerospace Engineering Workshop was to bring academics, scholars and research managers together in order to provide a platform to:

1. Connect research managers and academics between the RENKEI universities, specifically the organising institutions of Bristol, Nagoya and Southampton
2. Develop and grow relations established in 2014 at the first RENKEI aerospace workshop
3. Facilitate future project collaborations and joint industry-facing academic research
4. Steer academic research to be relevant to the needs of aerospace manufacturers
5. Support skills development to better understand modes of collaboration with the aerospace industry within the UK and Japan. Understand examples of best practice, models of approach and methods of funding to support collaborative activity.
6. Provide an overview of the key technology drivers of the UK Aerospace industry and the related research activities in the organising institutions (Nagoya, Bristol and Southampton) seeking to address those key drivers.



# Challenge

# Purpose



# Aerospace Engineering Workshop: Engaging with Industry

*What are the current modes of collaboration with the aerospace industry - where are the areas of best practice and what can we do to build upon this work?*

Leading universities University of Southampton / University of Bristol / Nagoya University

## Overview

In alignment with specific individual expertise, the University of Southampton focused its programme of activities around aerodynamics and aircraft noise, while the University of Bristol focused its programme of activities on structures and composites.

The key themes of the activities consisted of:

1. An overview of the UK context and framework for industrial collaborations in aerospace
2. Technology drivers and models of engagement

Appropriate site visits were arranged for the participants, including visits to Southampton's University Technology Centres and Bristol's National Composite Centre, as well as relevant manufacturing companies in the region (Agusta Westland).

Guest speakers both internal and external to Southampton and Bristol were invited to provide presentations on specific areas related to the theme of the workshop. The presentations aimed to provide background, as well as provoking discussion and opening opportunities for further collaboration. Guest speakers included representatives from the UK government's Department for Business, Innovation and Skills, the Daiwa Anglo-Japanese Foundation, the Great Britain Sasakawa Foundation, and the Aerospace Technology Institute.

Invitations to participate were also extended to JETRO (Japan External Trade Organization) and UK Aerospace companies already actively working in Japan (Nasmyth Metallics, Silcoms Limited), as well as Southampton colleagues who participated in the 2014 aerospace workshop in Nagoya and the President of the Southampton University Japanese Society.



## Outcome

Cross fertilisation of ideas and thoughts relative to industrial collaboration were evident as an outcome of the workshop, as was the development of closer working relationships between the participating RENKEI universities.

The programme afforded a greater and better understanding of research expertise offered by the host institutions (Nagoya, Southampton and Bristol) as well as by participating RENKEI colleagues. Attendees met with academics in Southampton from the Aero-astro and Computational Engineering as well as the Aerodynamics and Flight Mechanics Groups, some of whom are already actively seeking closer relations with Japan.

Attendees were provided with privileged exposure to cutting edge technologies and research taking place in both Southampton and Bristol, as well as gaining insight into current industrial partnerships with Airbus and Rolls Royce.

Links to UK organisations supporting work with Japanese colleagues were strengthened. Links made to those organisations able to fund this work (Daiwa) will be particularly useful going forward.

Emphasis on a two way flow (dialogue and discussion) was important through the course of the programme and attendees were enthusiastic about collaborative and interdisciplinary work, as well as having a keen interest in developing links with industry.

Key actions and areas of collaboration going forward were discussed, and collaboration appears possible in the following areas:

- Computer Code Sharing
- Pantographs
- Space Microwave Transmission



# Overview

# Outcome





**Kristian Bering**

URA, Specially Appointed  
Researcher  
Osaka University

The programme was very useful for learning more about science and research support in the UK and provided informative introductions to the University of Southampton's and the University of Bristol's activities within the overall theme of Aerospace Engineering. Personally, I found it very rewarding to learn about the UK's knowledge transfer practices and patterns of collaboration with industry partners. Furthermore, there was an agreeable balance between stimuli for the participating researchers and a continued discussion of approaches to promote specific collaboration in this and related areas, expressly addressing managerial and administrative aspects of establishing new collaborations.

There were two key learning points for me. Firstly, with respect to finding solutions to funding issues and a foothold for establishing new collaborations, the workshop highlighted a fundamental need for support of researcher matchmaking and it significantly pointed towards considerable benefits that research support staff and their departments and universities may obtain from greater coordination and communication in this area at research manager and administrative levels. Secondly, the UK's eco systems for knowledge transfer and innovation is much older and more developed than is the case in Japan, and although a comparison may be difficult, it should be clear that when collaborating with UK partners, the UK system offers attractive opportunities for designing strategic collaboration that utilize the unique situation in the UK with win-win outcomes at multiple levels. The UK's Knowledge Transfer Partner system and the Industrial Doctorate (e.g. EngD) systems were particularly inspiring, and may serve as a valuable source of ideas, when seeking new ways of combining research collaboration with doctoral training and industry involvement.

In the aftermath of this workshop, I intend to work with our newly acquired contacts at Bristol and Southampton to search for researcher matches, funding for research collaborations, and opportunities for Osaka University to participate in multilateral consortia. I am keen on continuing our dialogue on what actions to take in order to jointly participate in H2020 funded projects (if all fares well). As a first step, I intend to approach appropriate researchers in materials and fluids sciences in order to enter into a dialogue about desirable support measures for establishing collaborations with the UK in general and Southampton and Bristol in particular. Simultaneously, I hope to help move ahead with internal discussions on how to use and develop the RENKEI platform proactively to the greatest effect and mutual benefit.



**Akira Iwakawa**

Assistant Professor  
Department of Aerospace  
Engineering  
Graduate School of  
Engineering  
Nagoya University

This programme gave me a good understanding of the actual conditions surrounding university-industry collaboration, an area in which UK universities are working actively. In particular, it appeared to me that each university is endeavouring to develop fields in which it has a unique expertise, to bring together exceptional talent, and to create incentives to keep these talented personnel at the university.

In the course of visiting the UK universities, hearing from our hosts, and comparing the differences between Japan and the UK, I felt that Japanese universities are positioned at some distance from industrial circles. It will probably be difficult for us to build such close connections with industry as the ones that exist in the UK in the near future, but I believe that we need to adopt a longer-term perspective, producing graduates of the kind required to work in industry, and moving closer to our industrial partners.

It would have been impossible to come to many of these realisations from within Japan, and so the opportunity to learn the actual UK situation through this scheme was extremely valuable. Through strengthening our collaborations with the UK, our ultimate goals are joint research and other projects. From here on, I hope that we can develop the network set up during this visit and enhance the exchange of personnel, in particular of early career academics and researchers, between the RENKEI member institutions, as well as moving ahead with initiatives which will lead to joint research.

Moreover, since the institutions which participated in this visit each have expertise in different fields, I think that another method could be to set up a project with a concrete goal, in which team members from each university would take responsibility for different aspects. For example, such a goal could be the development of 3rd generation technology to measure noise pollution around airfields where small unmanned aircraft are in use.



**Takashi Matsuura**

Professor  
Director of the European  
Centre, London Office  
Kyoto University

Since I represent my institution for the promotion of technology transfer and innovation in Europe (and globally through the EU), it was a very effective opportunity to learn about the core activities of the host institutions in this subject area. It was also a great chance to promote relevant research at my own institution and to create a strong network with attendees and their contacts in turn. I was able to do so because I was fortunate to have the latest information on several available technologies and activities from Kyoto that might match the interests of the attendees. For future and wider reference, these technologies included wireless power transmission via radio waves and microwaves, SiC high temperature composites, cellulose nanofibre composites, X-ray CT image analysis to suppress metal and movement artefacts, seamless mechanical power transmission with non-circular gears, voice recognition in noisy environments, silicon nano-devices, doctoral training in emerging innovation, Kyoto's Center-Of-Innovation Project, and so on.

During the 5-day programme, I learned a lot about the research areas in which each participating UK university is active and the ways in which they engage with each stakeholder, including industrial partners, students, regional society, the media (in order to obtain positive exposure), etc. I hope that they were also able to understand more about our research activities and industrialisation efforts. I am delighted to keep working to find suitable partners for mutual collaboration between the UK and Japan, and welcome further communication from anyone who is interested in collaborating, particularly to promote technology transfer and innovation, areas in which my institution is strong.

As many people are aware, there is a deep valley between the development of new technologies and their transfer to commercial implementation, and the prospects for success are quite tough. However, challenges make people strong and give them a vision for the future, which is key to keeping any society healthy, I believe.

I would like to express my appreciation for the huge efforts made by the creators, organisers, and supporters of this RENKEI programme, who made it available to us and enabled such positive outcomes. Building on this valuable experience, I suggest establishing a programme whereby university research administrators and facilitators focus on exchanging details of the research strengths of each institution, thus generating more opportunities to identify suitable partners.



**Yasuhiro Tani**

Associate Professor  
Department of Aeronautics  
and Astronautics  
Faculty of Engineering  
Kyushu University

I visited two UK universities, Southampton and Bristol, over the course of the week's workshop, and was able to learn about the modes of collaboration between universities and industry in the UK. In addition, at the AgustaWestland factory, I was able to observe and study the extremely interesting manufacturing process of helicopter blades, which was very useful. I am very grateful to everyone who worked so hard to make this workshop happen.

The aspect of the workshop which interested me most was the opportunity to see the ample provision of support for students and researchers at the host universities and the wide range of facilities and equipment available, including through relationships with industry. All of these factors enable the development of excellent students and researchers and the pursuit of research. Through this experience, I was able to learn about the modes of collaboration with industry in the UK. In addition, each individual researcher was highly knowledgeable and passionate about their research, which I felt was a result of this well-developed collaborative framework.

Since there are differences in scale and so on between the aerospace industries in Europe and Japan, it is not yet completely clear whether it would be possible to do exactly the same at a Japanese university, but there were many learning points regarding the ways to carry out joint research with industry. I felt that henceforth, while bearing in mind the current organisational structure of Japanese universities, we need to consider the possibility of introducing the UK method, and to change the mentality of our academic staff regarding university education, basic research, applied research, and technology development.

As a result of the workshop, I was able to make contact with researchers who are investigating topics related to those being pursued at my own university, so I hope to begin by promoting exchanges between these researchers. Through such exchanges, I believe that researchers on both sides will be able to carry out higher-level research and produce more advanced technology, making it possible for them to deepen collaboration with aerospace industry partners in both countries in the future.



**Roger Gardner**

Aerospace Sector Adviser  
University of Southampton

Aerospace is a global industry that connects countries and continents in different ways. Aerospace primes operate supply chains in different countries based upon established competence, multi-national companies have operations in different regions, and the sector will naturally connect with universities that have established reputations in particular fields of technology. The UK and Japan have strong reputations in aerospace and play into the same markets of primes and purchasers. Expertise, such as in aircraft design, composites, aerodynamics and noise, provides fertile ground for a common dialogue that can enable new understandings and open doors to productive collaborations on the academic and industrial levels.

With strong engagements with Airbus and its predecessor companies, Bombardier, the Boeing supply chain and the Rolls-Royce engine link, the United Kingdom has gained manufacturing and research capabilities in aerodynamics and noise control. These are fundamental to future product success and to maintaining the UK status as No 2 in world aerospace. UK capability feeds in to most platforms under production by the leading aero primes. Significant supply chain success also rides up the strength of the research machine and the ability of universities to develop ideas, proven technologies, and talent to ensure that fuel efficiency and environmental standards can be met.

Despite restrictions on the export of technologies key to the aerospace industry and numerous historical challenges to the Japanese aerospace industry, the Japanese aerospace sector has continued to grow its skills and expertise to enable it to reassert its position as a global leader.

Japan's materials industry has played a major role developing parts and components for Boeing's 767, 777, and 787 programmes and Mitsubishi Heavy Industries have rolled out Japan's first commercial aircraft in nearly 50 years. The Japanese aerospace industry has seen a number of successes, with its capabilities including rockets, satellites, exploration, transfer vehicles, and development of parts of the International Space Station.

In light of industry developments, we felt it timely to develop a programme which would allow RENKEI institutions to share expertise and technology advancements in the aerospace arena and to look at how the ultimate commercialization of technologies by the private sector could be supported and embraced through sharing and discussion of the modes of collaboration with industry in which the Universities of Southampton and Bristol are already involved.

Key outcomes from the programme have included:

- 1) Connection between academic experts with an interest in aerodynamics, composite structures and noise control, including early career academics upon whom future collaboration may depend;
- 2) Exposure to new technologies and the key technology drivers for the industry which in turn we hope would facilitate future project collaborations and joint industry-facing academic research between RENKEI partners;
- 3) Awareness of capability, facilities, and industry connections and thus, provision of a platform to bring together academics and scholars who, working collaboratively, could better shape our technological and research offer to industrial partners;
- 4) A number of specific research interest areas where both academic communities saw scope for collaboration.

Our next steps will be to ensure that momentum is maintained and that discussions can continue to grow into viable propositions for collaborative working. Key to this will be identifying suitable funding streams that will allow for cross-fertilisation of expertise and the development of programmes. Initial 'next steps' are likely to be via supporting early career researchers to cross academic boundaries and thus connect their academic goals and endeavours. A network in the area of the workshop theme would help to build connectivity and allow for the sharing of ideas.



**Dr Hamish McAlpine**

Project Manager  
Faculty of Engineering  
University of Bristol



# Preparatory activities for workshops in 2016

Between April 2015 and March 2016, three working groups completed the following activities in preparation for the workshops in 2016.

Project Name:

## **RENKEI Interdisciplinary Workshop: Living with an Ageing Society at the University of Liverpool**

Led by:

University of Liverpool, Osaka University

“Living with an Ageing Society” at the University of Liverpool, the second year of a two-year project following on from the Osaka workshop in 2015, was formally approved in the RENKEI Annual meeting on 9th October 2015.

The workshop which will be held in Liverpool in June-July 2016 will be primarily aimed at early career researchers engaged in the broad area of ageing. Throughout 2015, the workshop organisers at the University of Liverpool worked to develop the themes of the Osaka workshop. In October 2015, a team from Liverpool visited Osaka to join the first workshop and spent the whole duration with the participants and organisers in order to better understand the aim and structure of the first workshop, as well as the expectations of those who were involved. Since then, the Liverpool organisers have stayed in touch with the participants, the majority of whom are expected to attend the second workshop too.

While the Osaka workshop aimed to promote understanding of the current problems of ageing societies and to introduce the latest approaches for dealing with issues arising from an ageing society in Japan, the Liverpool workshop has complementary aims to develop future research leaders and facilitate active collaborations and develop a sustainable network of researchers across Japan and the UK.

In order to achieve these aims, the Liverpool workshop will include activities to provide:

- opportunities for engaging with intercultural activities enabling participants to experience UK attitudes, politics and economic approaches toward an ageing society
- a series of research related provocations designed to stimulate participants toward designing, creating and producing presentations on ageing society issues, problems and solutions
- opportunities for the transfer of knowledge between participants and others, including external organisations, researchers and stakeholders in the local community

Project Name:

## **RENKEI Intercultural Workshop at Osaka University, Japan**

[Renaissance Entrepreneurship: Shaping the future of demographic change]

Led by:

Osaka University, UCL

Based on the success of “RENKEI Intercultural workshop at UCL in London [Renaissance Entrepreneurship: Shaping the future of demographic change]”, Osaka University will host the next workshop on the same theme in August 2016. Some of the participants of the UCL workshop will take part in the Osaka workshop and will continue to work together via Skype and SNS over the year to further develop their projects. Osaka University staff and academics held meetings with UCL and the workshop facilitator several times to discuss the best possible programme content for the Osaka workshop which will build on the outcomes of the UCL workshop and add new dimensions to the programme.

The Osaka workshop will aim to provide participants with opportunities to gain new knowledge regarding demographic change in the Japanese context through lectures and seminars by academics at Osaka University and other external figures. It will also allow participants to visit social enterprises and other related organisations to learn how they have been tackling challenges in their local areas. Based on the learning and experiences gained through the programme, participants will be expected to work in groups (a mixture of new and existing groups established at the UCL workshop) to develop a social business plan for their projects. The programme will end with an open symposium on creating social innovation through collaboration across sectors. During the symposium the participants will be asked to pitch their respective projects to and receive advice from audience members who will include representatives from business, government and academic sectors. It is hoped that through this symposium participants will find supporters to help them realise their social enterprises.

Project Name:

## **RENKEI PAX School**

Led by:

Ritsumeikan University, The University of Liverpool

Ritsumeikan University, together with the University of Liverpool, presented a workshop proposal for the development of early-career researchers, to be held in 2016 in Japan and in 2017 in the UK. The workshop, titled ‘the PAX School’, will be a two-week intensive programme focussing on the abolition of war and the building of peace in our times, drawing on the experiences of the past and presenting ideas to shape the future. Inspirational speakers are to be identified from the international community and the support of societal institutions are to be mobilized. The participants, who will be from a variety of disciplines, are expected to acquire transferable skills through the workshop.

The 2016 PAX School workshop will have the theme “Enslaving the Mind”, and will be hosted by the Kyoto Museum of World Peace and the Office of Global Planning and Partnerships at Ritsumeikan University. The 2017 programme will have the theme “Emancipating the Mind” and will be hosted by the University of Liverpool in partnership with the International Slavery Museum.

First presented at the annual RENKEI Steering Committee Meeting 2014 in Liverpool, the PAX School workshop was discussed in 2015 at subsequent sessions of the RENKEI Steering Committee and by all RENKEI members. It was ratified at the annual RENKEI Steering Committee Meeting 2015 in Tokyo. 6,000 GBP was allocated from the RENKEI Budget for FY2016 (April 2016 to March 2017) for part of the preparatory work costs.

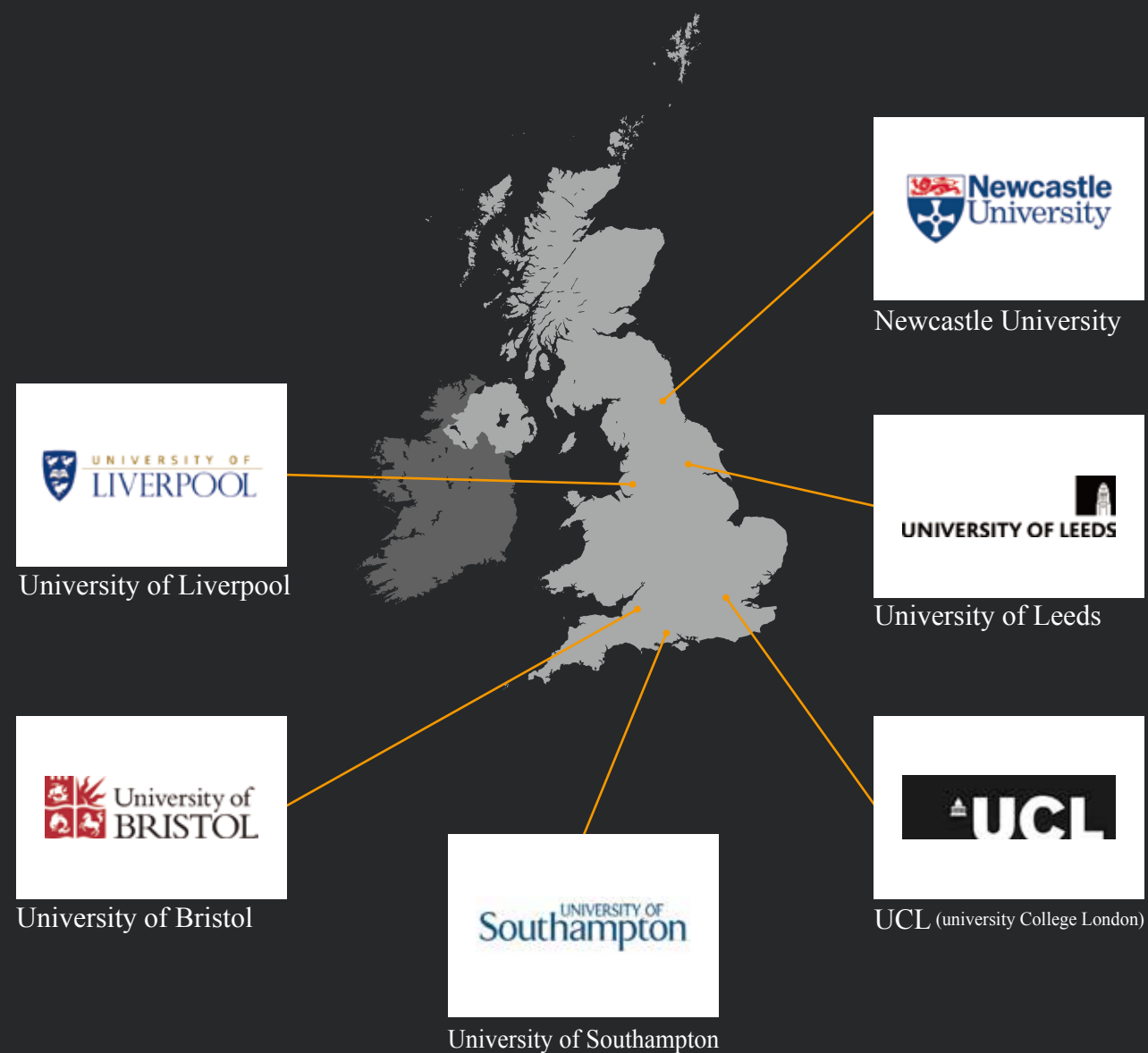
Preparatory activities (March 2015 to April 2016), financed by the host institutions, included: (1) Contacting potential funding institutions: (a) Japan Foundation, (b) Daiwa Anglo-Japan Foundation; (c) Sasakawa Peace Foundation; (2) Developing project content: (a) Cosmo Oil and the Japan Oil, Gas and Energy Corporation (JOGMEC) regarding safety/security in the Middle East; (b) the Prime Minister’s Office, GoJ, and the Sri Lankan Navy Headquarters in Colombo regarding freedom of navigation in the Indian Ocean; (3) Communicating with prospective speakers: (a) Award winning writer Keiichiro Hirano in Tokyo and Rajah Shehadeh in Ramallah, (b) prospective speakers from the Nagasaki University Research Centre for Nuclear Abolition (RECNA) and Nagasaki City; (4) Monthly programme development meetings at Ritsumeikan University from June 2015.



# RENKEI

## *Member Universities*

### UK



RENKEI is the Japanese word for 'Collaboration', and is an acronym for Research and Education Network for Knowledge Economy Initiatives.

### Japan

