FIELD TRIP REPORT: BEIJING

RRI & PUBLIC ENGAGEMENT

Deliverable 4.3

NUCLEUS

DELIVERABLE DESCRIPTION

This report summarises the sixth and final Field Trip in the NUCLEUS project which took place in September 2016 to the city of Beijing. The NUCLEUS cell under focus was Public Engagement. A group of 18 NUCLEUS project members engaged in 18 interview sessions, involving representatives from various Chinese universities, science popularization organisations and the third sector. The trip also coincided with the Beijing International Science Festival and its Roundtable Event, at which the NUCLEUS team hosted a sharing practice session, bringing in international perspectives on RRI from invited presenters to the festival.

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PROJECT

NUCLEUS is a four-year, Horizon 2020 project bringing Responsible Research and Innovation (RRI) to life in universities and research institutions. The project is coordinated by Rhine-Waal University of Applied Sciences. For more information, please visit the NUCLEUS website, follow our social media, or contact the project management team at info@nucleus-project.eu.

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EXECUTIVE SUMMARY

On 15th – 18th September 2016, 18 NUCLEUS consortium members participated in the sixth and final field trip in Beijing, China. This field trip focused on the topics of public engagement in the practice of Responsible Research and Innovation (RRI). Public Engagement is one of the six 'cells' in the NUCLEUS network. This field trip enabled the consortium partners to understand and reflect on the interactions between RRI and public engagement as well as the socio-cultural differences present between China and Europe. The key insights and lessons from the trip are outlined in this report along with recommendations for consideration for the next phase of the project, the development of the RRI Roadmap and the 30 RRI test beds, or Nuclei.

Eighteen interviews took place over the two-day period. Consortium partners also participated in the Beijing Association of Science and Technology (BAST) Round Table Conference and as well as the Beijing Science Festival. These opportunities for engagement provided the consortium partners with an opportunity to understand and reflect on the socio-cultural differences as well as the barriers and opportunities for embedding Responsible Research and Innovation (RRI) in universities and research institutions in China.

Beijing Field Trip coordinators Caitríona Mordan (Dublin City University) and Kenneth Skeldon (University of Aberdeen) at the start of the Beijing Field Trip

This field trip was led by the University of Aberdeen and Dublin City University in partnership with the host organisations, CRISP (China Research Institute for Science Popularisation) and BAST (Beijing Association for Science and Technology). It was also supported by a number of consortium partners, including European Science Events Association (EUSEA), Psiquadro, University of Malta, Wissenschaft im Dialog, City of Bochum, SAASTA and Rhine-Waal University.

Interviews were conducted in two parallel sessions over a two-day period with individuals representing Science Museums, Science Festivals, academia, publications, and public engagement in media. The consortium members also visited the Beijing Science Festival, managed by Consortium partners BAST (Beijing Association for Science and Technology). The following insights in relation to RRI and public engagement emerged from the interviews and keynote presentations and are put forward for consideration during the next phase of the NUCLEUS project, the RRI Implementation Roadmap. Key insights include:

- There is a high level of interest and trust in science, but changes are emerging.
- Social media platforms are an innovative channel to create two-way dialogic engagement.
- There is a gap between understanding what RRI is and its practice.
- Researchers lack time, motivation, confidence and skills to engage in public engagement.
- Government funding structures do not require researchers to participate in public engagement activities, so it not considered essential by many researchers.
- Monetary compensation is often rewarded to scientists and researchers that engage. Despite this, levels of engagement at research level are relatively low.

From these insights, data was isolated into overarching themes which supported the partners to identify barriers and suggested solutions to the issued which emerged. The following recommendations and local schemes were suggested. These include:

- Draw on expertise from NUCLEUS partners to develop RRI and public engagement tools that facilitate and support two-way dialogic engagement.
- Develop and deliver public engagement/RRI training for researchers and Government Officials.
- Develop a document clarifying and outlining the key terminologies associated with public engagement and RRI.
- Introduce incentives to embed RRI into institutions.
- Use a measurement tool to assess current level of support for public engagement.
- Develop consensus conference model, so it embraces ‘‘live’ debates.
- Adapt and expand the remit of BAST public engagement activities for researchers.
- Introduce ‘Science Nights’ for Media professionals and Researchers.

These recommendations will be reflected upon during the next phase of the project, the development of the Implementation Roadmap. Reference in this document does not mean they form consortium recommendations.

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1 INTRODUCTION

The Beijing field trip focused on the topics of public engagement in the practice of Responsible Research and Innovation (RRI). Public Engagement is one of the six 'cells' in the NUCLEUS network. This field trip enabled the consortium partners to understand and reflect on the interactions between RRI and public engagement as well as the socio-cultural differences present between China and Europe. Eighteen interviews took place over a two-day period (15th – 18th September 2016). The key insights and lessons from the trip are outlined in this report along with recommendations for consideration for the next phase of the project, the development of the RRI Roadmap and the 30 RRI test beds, or Nuclei.

As the field trip took place in Beijing, China there are a number of factors that should be contextualised and considered in advance of presenting the findings.

1.1 CHINA'S INVESTMENT IN RESEARCH AND DEVELOPMENT

In a bid to become the global innovative leader, China has invested heavily in science and technology. Gross domestic expenditure has risen steadily year-on-year and now surpasses the average expenditure of EU-member states. China's investment in R&D rose from 1.23% in 2004 to 2.08% by 2013. In 2015, Chinese Government expenditure on scientific development totalled 1.42 trillion yuan or $213.4 billion (The Chinese Government 2015). This accelerated growth in research and development intensity indicates China's ambition to become a key leader in global innovations development.

By 2020, China is predicted to outpace Japan to become the second largest R&D producer in the world. To support this goal, the Chinese government have not only increased direct investment in R&D but have also increased investment on development activities to support technological advancement. Initiatives on the development of a highly skilled workforce and the recent Government Innovation Strategy are central in delivering this vision (Euro-monitor 2015).

The Innovation Strategy 2020 is a ten-year blueprint outlining the main goals to make China an innovation powerhouse. This plan sets out the vision to create and deliver an environment which fosters systematic innovation. The plan sets out measures aimed at enhancing applied industrial and basic research in critical areas such as the environment, energy, biotechnology food and agriculture and fisheries as well as new science parks and research centres (Xinhua.net 2016).

The Innovation Strategy 2020 was supported by The National Medium and Long-Term plan for Human Resource Development (2010-2020) which focused on the development

of an educated and highly skilled workforce as a means of sustaining, improving and eventually increasing China's capacity to deliver R&D services and products in the future (Chinese Government 2012).

In support of the aforementioned innovation strategy, the state launched a national scientific and technological innovation plan in 2016. This government driven plan outlines the key goals and objectives aimed at substantially improving China's technology and innovation capabilities until 2020. The plan aimed its focus on supporting China to move from its current 18th ranking of innovation capabilities in the world to into the top 15th over the four-year period (The Chinese Government 2015).

The measures emanating from these plans have been credited with positively impacting China's economic growth, which has seen a sharp rise from 20.9% in 2010 to 55.3% in 2015. China has also become the second largest producer of published international science and technology papers in the world (The Chinese Government 2015).

Successive innovation plans aimed at further accelerating the implementation of major national scientific and technological projects to the year 2030 are currently being developed (The Chinese Government 2015).

1.2 DEMOGRAPHICS

Many countries across Europe and beyond face demographic challenges as their populations age. China, also faces similar demographic challenges.

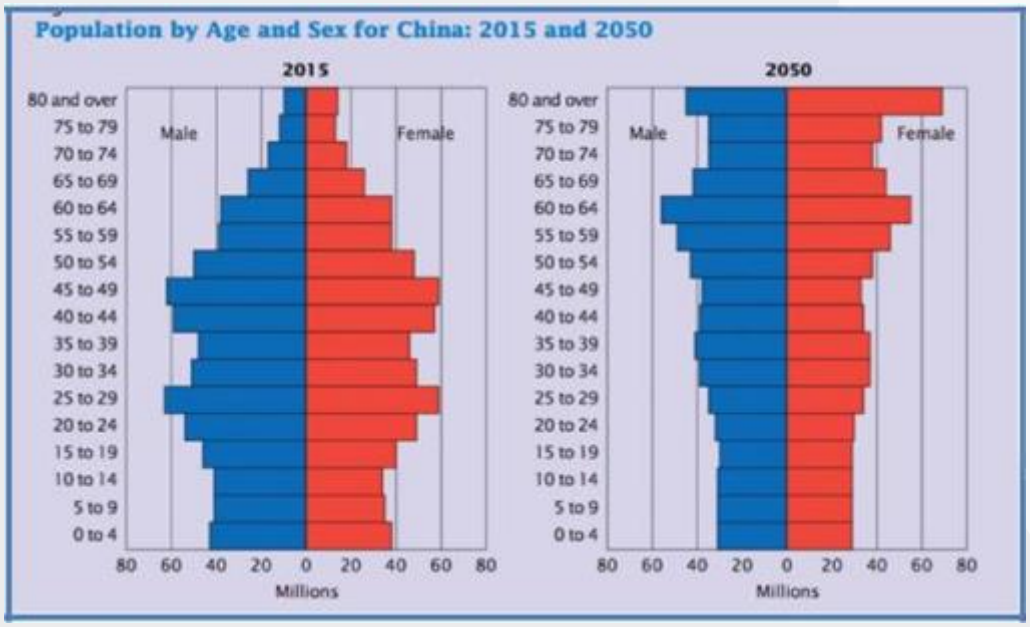

Figure 1: Population by age and sex for China; 2015-2050

The US Census Bureau report (2015) includes population pyramids for China forecasting the demographic trends from 2015-2050. From this graph, two key insights are highlighted. Firstly, China will face a huge growth in the over 65-year-old category and have a relatively small population of younger adults. A contributory factor to the reduced number of younger people in China can be linked to the one-child family policy, which was introduced in 1970 (Zhang and Goza 2006). While this policy was retired in 2015, it will take a long time for its impact to result in measurable change.

In the coming decades therefore, China is inevitably going to face a situation where there will be more retired citizens than fewer working-age citizens to support them (Zhang and Goza 2006). This issue is prevalent in developed countries.

This demographic change will present new challenges for China as, unlike other developed countries which experience this problem of increased aging populations and shrinking younger population, China is an emerging economy.

1.3 SCIENCE POPULATION IN CHINA

1.3.1 THE ESTABLISHMENT OF SCIENCE POPULARISATION IN CHINA

On the first of October 1949 the People's Republic of China was born. This coincided with a meeting where a number of the nation's leading scientific and technological organisations gathered and called upon the country's scientific community to collectively dedicate their efforts into creating a New China. This meeting resulted in the emergence of two national organisations, All-China Federation of Natural Science Societies and All-China Association for Science Popularisation in 1950. These organisation later merged in 1958 to form The China Association for Science and Technology (CAST)[1]. a non-profit, non-governmental professional organisation which is dedicated to advancing scientific knowledge and continues to exist today.

CAST holds a major significance not only because it consolidated and formalised the concept of science popularisation but it legalises the activity of bringing science to everyday people (Shi and Zhang 2012).

1.3.2 DEFINING SCIENCE POPULARISATION: A CHINESE PERSPECTIVE

Science popularisation is the term commonly used to describe the notion of public understanding of science or the public communication of science and technology in China. It describes the collective and mobilised efforts of bringing science to non-experts (Shi and Zhang 2012). Science Popularisation is known *as Kepu* in China*. Kepu* is referred

[1] http://english.cast.org.cn/n1181872/n1257426/16297382.html

to as an acronym with *KE* representing *kexue* (science) and *PU* standing for *puji (*popularisation).

In China, this term denotes what is often referred to as the public understanding of science and science communication in other jurisdictions (Shi and Zhang 2012).

1.3.3 SCIENCE POPULARISATION IN CHINA – GOALS AND POLICIES

Since the 1980's many countries across the world began to see the connection between the increased understanding and support for science and the economic development of the state.

China's distinctive Science Popularisation (SP) efforts are aimed at achieving the following three goals:

- To improve scientific literacy levels amongst Chinese citizens.
- To close the gap between rate of scientific and technological development and public scientific literacy.
- To counteract pseudoscience and superstition associated with scientific developments (Shi and Zhang 2012).

As a means of achieving these goals, the Chinese Government has introduced several policies which harness, guide and embed science popularisation activities into the working agendas of the scientific government sectors, private and non-profit organisations.

The subsequent sections in this passage outline the key milestone policies documents supporting Science Popularisation in China in recent years. These policies are not necessarily deemed important because of their content, but because they have garnered an unrivalled importance because they were issued at the highest state level (Shi and Zhang 2012).

THE INSTRUCTIONS ON STRENGTHENING ENGAGEMENT IN SCIENCE AND TECHNOLOGY POPULARISATION

The *Instructions on Strengthening engagement in science and technology popularisation*, or what are more commonly known as the *'instructions',* were promulgated in 1994 with the goal of refocusing and re-energising the science popularisation movement and curbing the heightened level of pseudoscience focused activity, such as fortune telling, and 'magic' medical therapies. The *instructions* were the first Science Popularisation (SP) polices at state level in China (Shi and Zhang 2012).

The *Instructions* consisted of a series of short documents containing bylaws governing Science Popularisation practice. These documents outlined the requirements for developing an effective science popularisation infrastructure. The *instructions* contained policy actions aimed at creating an environment that fostered SP. These actions resulted in SP being integrated into the working agendas of state organisations in relevant government sectors. Support staff were hired and tasked with creating and disseminating SP to publics at all targeted levels of society. The key audiences included young people, farmers and mass media. A key goal was to condemn sensationalist scientific new stories.

Several suggestions emerged from the *instructions* in support of further embedding SP practices into Chinese culture at all levels. Suggestions included the design and development of specific SP laws and bylaws aimed at regulating SP practices, a system to integrate and leverage SP resources, and policies aimed at encouraging social and private organisations to engage in SP (Shi and Zhang 2012).

1.3.3.1 Science Popularisation Law

The Science Popularisation Law was a direct outcome from the Instructions and was enacted in 2002 (Shi and Zhang 2012; Jia and Liu 2014). It is structured into six chapters and a total of 34 articles (Shi and Zhang 2012). These chapters contain policies which represent the following support for SP in China:

- **Science Popularisation is a public welfare undertaking** and organisations, whether government or non-governmental, are therefore required to engage in SP and citizens have the right to participate in activities.
- **Legitimisation of social sectors' accountabilities and involvement in SP activities.** This includes representatives from rural grassroots organisations, science centres and parks.
- **Stipulates that safeguarding public funding** should be secured at each level of government.
- **Favourable taxation** on science popularisation activities and **science popularisation grants (refer to section 1.3.3.3).**
- It outlines **fines and punishment** that will be enacted if an organisation/individual commits misdemeanours related to SP.

1.3.3.2 Taxation Policy and Grants

In June 2003, the state introduced a preferential tax incentive policy that supports the development of science and technology, education and culture initiatives.

Taxation policy:

- Science books, journals and newspapers can avail of the "paying tax before drawback" policy for the value-added tax (VAT).
- All the revenues from copies of films can be exempt from business tax. (Only for movie studios whose establishment was approved by State Council.)
- All the revenues from release of films can be exempt from business tax.
- Imported scientific research and teaching facilities (instruments or models) can be exempt from import tariffs and import value-added tax and consumption tax. (If unable to be produced domestically and within the scope of reasonable number).
- Non-profit organisations which are financially supported by the government (such as BAST, BDCPS), the land, real estate, vehicles and vessels for their own use are exempt from urban land use tax, real estate tax, and vehicle and vessel use tax (This policy also applies to universities, non-profit research institutions).
- Donations from private sectors such as enterprise, individual and social groups, shall be deducted before calculation of their income tax in accordance with taxation laws (Xinhua News 2003).

Science popularisation grants:

In accordance with the law on Science Popularisation (Article 25), organisations working to support science popularisation are eligible to receive a grant from the government, or personal and social donations. This donation can be used towards organising popular science propaganda activities, constructing science popularisation facilities and/or setting up a non-profit science popularisation foundation.

1.3.3.3 The Outline of the National Scheme for Scientific Literacy (2006-2010-2012)

The Outline of the National Scheme for Scientific Literacy (2006-2010-2020) was issued in 2006. The Scientific Literacy Outline is aimed at increasing the basic Scientific Literacy levels in China through education and the dissemination of popular science and technology information.

In China, scientific literacy is officially defined as the capacity to know necessary scientific and technological knowledge, master basic scientific methods, develop scientific thoughts and advocate scientific spirit and apply them in practice (State Council 2006).

The Scientific Literacy Outline was formulated in a bid to counteract the issues underlying the survey on public scientific literacy levels, which was firstly conducted by CAST in 1990. The survey was subsequently carried out every two years, on average. The results revealed that most citizens in China have a poor understanding of basic scientific knowledge and methods, and are often more reliant on superstitious philosophies. The low levels of functional scientific literacy in China has been considered a factor stifling the nation's economic and social development (Chen et al 2009).

The *Outline for National Scheme on Scientific Literacy* resulted in a systematic drive to advance the functional scientific literacy levels of Chinese citizens. Literacy action schemes were devised and targets and milestone dates for literacy improvements were set. Action programmes were aimed at improving the literacy levels amongst minors, farmers, urban workforce and leading cadres and public servants (Shi and Zhang 2012). Investment in science popularisation soared from 2.4 million yuan in 2004 to 8.4 million in 2010 in a bid to deliver these action schemes. Government, ministries and organisations were required to embed science popularisation tasks into their science and technology projects. Science popularisation became an obligatory requirement in applications for the national grant scheme for science and technology projects. This directly mobilised research teams, private sector companies and universities to actively get involved in science popularisation. The number of science museums increased from 250 to 581 between 2006 and 2010 (The Annual Report 2010, cited in Jia and Liu 2014). This investment also included increased support for science media coverage with newspapers developed to engage specific cohorts of citizens, such as those based in rural parts of China (Shen 2002).

In 2015, CRISP led the 9th Civic Scientific Literacy Survey between March and August. This research aimed to further promote the implementation of the Outline of the National Scheme for Scientific Literacy by identifying the progress made to date. The survey was issued across 31 provinces with targeted citizens aged between 18 and 69 (69832 citizens completed the survey). The survey indicated that the levels of scientific literacy amongst Chinese Citizens reached 6.20% and therefore surpassed the target of 5% set for the 12th Five Year Plan (CRISP 2015). When these statistics are compared with international developed nations, scientific literacy levels in China compare favourably. The level of reported scientific literacy in the European Union, in 1992, was 5% and therefore suggests that the gap is closing between the emerging Chinese economy and the more developed states of the European Union.

1.3.4 CHINA – A CHANGING WORLD

In China, science has enjoyed decades where it was relatively unquestioned by local citizens.

In the last decade, it is reported that science and technology developments, as well as the appropriateness of scientific research funding, is facing increased scrutiny from the public. One of the first instances which highlighted this occurred in late 2004 following the release of an article which revealed that scientists tried to commercialise GM rice for personal commercial interests. This resulted in a nationwide protest. Since then, new concepts and beliefs about science, science popularisation and communication are emerging. A question has been raised as to whether the deficit model of science communication is able to address such situations (Jia and Liu 2014).

The increased questioning of scientific developments in China coincides with increased efforts from the Chinese Government to strongly encourage scientists to become actively involved in public engagement activities as part of their social responsibility (Yin 2016).

The results of an explorative survey of 380 scientists, conducted by Liu et al (2011), revealed that while more than 94% of those surveyed agreed that science popularisation is their social responsibility, the majority of them did not take any action. 67.1% did not write any articles, 80.3% did not participate in any interviews with mass media while 70.3% did not participate in a science popularisation event. While appealing for more science popularisation, more official science communicators in China remain reluctant to get involved in an open debate on scientific controversies.

The predominant forms of science popularisation events in China are large-scale youth education campaigns and exhibitions held during Science and Technology Week and Science Popularisation Day. These initiatives account for more than half the nation's expenditure on science popularisation (CRISP 2015).

1.4 HOSTING PARTNERS - CHINA

The field trip on RRI & Public Engagement in Beijing was hosted by two local partner organisations: CRISP (China Research Institute for Science Popularisation) and BAST (Beijing Association for Science and Technology)[2].

1.4.1 CHINA RESEARCH INSTITUTE FOR SCIENCE POPULARISATION (CRISP)

CRISP is affiliated with the China Association for Science and Technology (CAST). CRISP is focused on being a 'think tank' for science communication and science popularisation.

[2] http://www.crsp.org.cn/index_en.html

It provides theoretical support for strategic activities in these fields. At present, CRISP's research focus includes: the investigation of targeted audiences, resources, channels and mechanisms, in terms of science communication and popularisation; popularisation effects on mass media science communication; investigation and theoretical research on youth creativity cultivation; science and technology popularisation education theories; science communication around the world; science writings; and writers at home and abroad.

CRISP supports researchers who are interested in developing science popularisation theory and practice by providing platforms to contribute, share and engage. The organisation provides this support through the establishment of partnerships and collaborations with universities and research institutions, both at home and abroad. CRISP also sponsors a bi-monthly journal called Studies on Science Popularisation, runs a website on China Research for Science Popularisation, manages Science Communication WeChat accounts and holds an annual conference on science popularisation theories.

1.4.2 BEIJING ASSOCIATION FOR SCIENCE AND TECHNOLOGY (BAST)

The Beijing Association for Science and Technology (BAST)[3] was established in 1963, consisting of municipal societies, foundations, district and county Associations for Science and Technology (AST's) and primary-level organisations in the Beijing Area. At present, BAST represents 191 municipal societies and foundations, 16 district and county AST's, and 303 primary-level organisations including primary-level AST's of enterprises, public institutions, economic and technological development zones as well as science parks. Its membership reaches over 400,000. Over the past years, BAST has been devoting itself to serving the capital's economic and social development and improving public scientific literacy. BAST also serves scientific and technological staff. The BAST Department Beijing Development Center of Popular Science (BDCPS) is responsible for the development of science popularization resources to achieve a familiarization of citizens with science within the urban community. In order to achieve this goal, BDCPS organises and conducts science exhibitions and science popularisation events and provides science popularisation services (BAST 2013).

The official launch of China's participation in the NUCLEUS project at the BAST International Science Festivals Roundtable Conference in Sept 2015

[3] http://www.ebast.net.cn/col/col8079/index.html

1.5 RATIONALE FOR BEIJING FIELD TRIP ON PUBLIC ENGAGEMENT

Hosting the final field trip on 'RRI & Public Engagement' in Beijing provided the NUCLEUS consortium partners with a unique platform to understand, engage and learn about the cultural perspectives in relation to this concept. BAST has vast experience in public engagement, including the development and sharing of popular scientific resources. The interviewees organised by these host partners provided the consortium with an insight into the connection between academic institutes and the public. Importantly, this field trip highlights the barriers and opportunities for embedding RRI and the transferability of those insights, into other cultural contexts.

1.6 SCHEDULE AND DETAILS

The interview sessions for this field trip took place over two days on the 15th and 16th September 2016. The group was divided into two and interviews took place in parallel sessions.

On the 17th September 2016, the project partners also attended the Beijing Science Festival Round Table Conference (refer to section 2.10) and they also attended the Beijing Science Festival on 18th September (refer to section 2.11).

To view the full programme schedule, please refer to Appendix B.

1.7 FIELD TRIP INTERVIEWS

Most interviews took place in the Beijing Convention Centre, with the exception of one session, which was held in China Research Institute for Popular Science (CRISP).

This format was implemented in an effort to create an environment conducive for discussions and to gather as much information as possible over the two-day period. The final session involved all the group gathering together to reflect on the main points arising from the trip. Each participant also submitted a document following the trip which captured reflections on the barriers, opportunities and other key points arising from the trip.

Two parallel interview strands allowed for good information gathering. Sessions usually lasted about 90 minutes and each involving 3 to 4 Chinese guests.

Following the recommendation from previous field trips, an interview lead and a note-taker were appointed by each group in advance of the interview session. These roles were rotated for each interview. A translator also supported both parties to translate the questions and answers into the relevant language. Due to the reliance on transaltion during interviews, the sessions took considerably more time during this Field Trip compared to others. For this reason the number of interviewees was slightly less.

1.7.1 INTERVIEW PROMPTS

The questions below were used as prompts for each interview session. As some interviews opened with a presentation from the interviewees, some of the answers were captured during this element of the interview. For this reason, the questions below act as a generic guide and many questions became more diverse and wide-ranging. The questions and answers were translated into English and Chinese, as required.

Interview prompts:

1) Can you tell us a little more about your role and experience?
2) Do you have any involvement or links to active research and innovation (e.g. to universities, companies and/or scientists)
3) Before today, had you heard of the term Responsible Research and Innovation (RRI).
4) How is Responsible Research and Innovation (RRI), or any other relevant concept, looked at in your organisation?
5) In general, are people in China interested in science?
6) How are researchers involved in engagement or communication activities? What is the responsibility of researchers?
7) What barriers do you think exist in China for good public engagement with science and research?
8) If a member of the public wants to express an opinion about a scientific topic, how do they express this? [Can you give any examples?]
9) Is there anything else you would like to say that has an influence on the above issues?

1.8 INTERVIEWEES

The names of the consortium partners that participated in the field trip and the programme schedule can be found in Appendix B.

1.9 BEIJING SCIENCE FESTIVAL ROUND TABLE CONFERENCE

Field trip participants were invited to attend and participate in the Beijing Science Festival Round Table Conference. The conference provides a unique opportunity to unite science festival organisers from across the globe to share best practice in STEM (Science, Technology, Engineering and Maths) communication.

The international tent at the Beijing Science Festival brings together outreach activities from across the globe.

1.10 BEIJING SCIENCE FESTIVAL

On the 18th September 2016, The Beijing Science Festival entered its fourth successive year. Each year audience participation has increased and this year, participation levels exceeded 100,000.

The festival provided a unique platform for local popular science organisations and 21 institutions from 12 countries to engage local people of all ages, students mainly, in science activities. 351 science stands and exhibits covered a range of themes including energy, environment, food, health, natural sciences, telecommunications technology, space and lunar exploration.

2 RRI AND FIELD TRIP INSIGHTS

The Beijing Field Trip participants provided written summaries of their observations and reflections and the note taker from each session provided the notes to the report writer. Statements were extracted from these documents and were populated onto a Microsoft Excel Sheet. Following this process, the report writer underwent a process of coding and grouping thematic concepts together. This section outlines the key concepts and insights that emerged from this data. The barriers as well as opportunities to develop an environment which can further support the embedment of RRI principles for each of these insights are also discussed.

2.1 PUBLIC PERCEPTION OF SCIENCE

2.1.1 STRONG PUBLIC INTEREST AND TRUST IN SCIENCE, BUT CHANGE EMERGING

The data which emerged from the sixteen interviews was divided in opinion in relation to the interest levels in science amongst Chinese citizens. For example, one interviewee claimed ‘generally speaking, public interest in science is growing’, while another said

'people are much more interested in movie stars than science'. Another interviewee purported that it seems that more people are becoming interested in science, but given the number of people living in China, only a small percentage of the population in reality are.

There was a notable recognition amongst interviewees, that many Chinese citizens, particularly those in the middle classes, had a growing interest in fields of science. During one interview, it was mentioned that 'different social groups have different concerns'. In this vein, one interviewee commented that '80% of people, especially seniors, care about medical research. I see this when I hold public lectures regarding these related topics'.

Environmental science and technologies that impacted the local environment were subject to larger scale interest. According to the interviewees this is mainly due to the high levels of pollution in Beijing. In line with this, an interviewee remarked 'when natural disasters happen or when topics are hot, people are interested. People are not interested in fundamental science but more practical topics'.

For most interviewees, there was an awareness, shared in some cases with concern, of the growing scepticism amongst Chinese publics in relation to scientific developments. One interviewee commented, 'for years, in contrast to Europe, the Chinese population were very friendly towards science. They believed in everything scientists said. But now concerning pollution and weather catastrophes, the public trend is towards moving towards not believing anymore. There is more and more scepticism'. Another interviewee stated the following in relation to Genetically Modified Organism (GMO) food substances: 'people are worried about the resistance to the technology'. One interviewee also commented that 'positioning in relation to issues is important. It is becoming more difficult to persuade people of the benefits of emerging technologies'. It was highlighted that some topics e.g. health and food security are raised at a public level, to some extent, because of a possible conflict between health research and traditional Chinese medicine.

2.1.2 BARRIERS: PUBLIC INTEREST AND TRUST IN SCIENCE

- The series of interviews revealed that some scientists in China are interested in engaging in public engagement initiatives as a means of building awareness and trust with publics, particularly in relation to emerging technologies. Despite science popularisation being enacted into local law, it was apparent during the interviews that many scientists do not see the need to engage with publics during the research process. Popularisation activities that do take place are primarily dissemination focused.
- Interviewees expressed a concern that many of the more contentious areas of research, such as GMO's had received scientific funding for decades. Government

has recently started to communicate a positive GMO message, but questions were raised as to whether this was too little, too late on this matter.

- If the science topics are subject to public upset and, more recently, public questioning, scientists felt they did not have the confidence or skills to participate in a two-way dialogic engagement.

2.2 SOCIAL MEDIA: AN INNOVATIVE CHANNEL FOR TWO-WAY DIALOGIC ENGAGEMENT

During the course of the interviews, it was emphasised that China is one of the biggest mobile phone users in the world, with over 600 million handsets forecasted to be actively used by 2020 (GSMA Intelligence 2015).

The social media application WeChat is used by over 93% of those in Tier 1 cities in China and in 69% of people in Tier 2 cities across China with reported growth in the number of daily logged in users in 2015-2016 at 35%. With reach spanning from urbanised areas to rural communities, WeChat is a primary source of news data for many citizens (DMR 2017). One interviewee stated, 'sheep farmers might even use a smartphone while keeping their sheep'.

One professor mentioned that these forums provide unique opportunities to share science content with publics on an ongoing basis, as users can 'follow' a public account and receive a 'sci-pop message'. One interviewee said 'new media is changing the communication of science. The audience can give feedback. For example, this interviewee was aware of a discussion with two scientists communicated via social media which received 1,600 comments'. Interviewees highlighted that younger scientists have their own social media engagement based on their own initiative and it is often not looked upon favourably by senior peers to share scientific messages in this way.

A participating journalist highlighted the importance of researchers in engaging with online science communication as a means of supporting publics to make informed decisions about scientific developments. It was also remarked that these platforms can be subject to unscrupulous scientific content. This interviewee believed that, because of the nature of social media platforms, researchers had the scope and the responsibility to rectify the information. If this measure was taken, as opposed to criticising social media as a dissemination and engagement channel, it would provide further scope to build positive relationships with publics

2.2.1 OPPORTUNITIES FOR SOCIAL MEDIA TO SUPPORT PUBLIC ENGAGEMENT

- Relative to Western Societies, the current diversity of communications channels in China for researchers to freely engage with publics is more restricted. The emergence of social media platforms therefore provides researchers with a new

medium with which to engage with the public and get immediate feedback on a scientific issue.

- As mentioned in section 3.3.3, students often have little time to engage in science education activities outside of formal education settings. The interviews revealed that some scientists have engaged in developing short videos to support students' career development choices.
- During the interviews, The Beijing Science Communication Media Creation Competition was referred to as an example of a competition which actively supports the development of creative scientific media content. This competition involves younger students who are encouraged to use their imagination and creativity to communicate a scientific concept to win a prize.
- There were opportunities for researchers highlighted through the interviews. These included the creation of videos profiling the careers of researchers. The Beijing Science Communication Media Creation Competition is an example of an initiative which actively supports this type of engagement.

2.2.2 BARRIERS FOR SOCIAL MEDIA TO SUPPORT PUBLIC ENGAGEMENT

- Unless necessary support is in place aimed at providing researchers with skills and confidence to engage in social media platforms, there is a potential risk of further entrenching a division amongst the science and researcher communities into those that engage online and those that don't, with the former not being held in high regard by the latter group for doing so.
- Social media provides an opportunity to bring the researchers closer to the public. If the institution is not supportive of this engagement however, there is potential that the feedback may not be incorporated into the research carried out, which does not support the overall vision of RRI.

2.3 RRI: GAPS IN UNDERSTANDING, THEORY AND PRACTICE

The discussions with local representatives highlighted that a small minority of those interviewed were familiar with the term RRI. For those that were familiar with the term, the concept was a theoretical one as opposed to one that embraced the practical approaches of RRI. In many cases there was evidence that RRI was simply a new term used to describe science literacy and science communication and on occasions the rhetoric on RRI was used as a lynchpin driving China 'into a new way of innovation' as it seeks to find solutions for the development of science and society intertwined with economic development.

One interviewee mentioned, 'I haven't heard of the term RRI before but I am familiar with scientific literacy and media ethics', while another representative explained 'I don't think we have the same term in China but I think what we have is similar. We promote science and convey positive messages around it'.

In one case, an interviewee described RRI as having two dimensions, ethical and philosophical. This interviewee also claimed doctors already upheld these dimensions of RRI as it was inherent in standards they were trained in and signed up to through the medical staff association.

Conversely, many interviewees acknowledged that institutes and universities are focused on researching the concept of RRI, referred to frequently as 'social responsibility of research, but the 'practice is not yet in place'. In a separate session however an interviewee revealed that research on the impact of scientific development has been carried out. As part of this, social responsibility was discussed amongst researchers. This research however did not focus on new innovations but on old discoveries and relied on survey results as opposed to face-to-face engagement with publics.

One interviewee believed that in order to move RRI from a theory to a practice, Government, Media and NGO's needed to consolidate and coordinate efforts, which will take a considerable amount of time.

2.3.1 BARRIERS: GAPS IN UNDERSTANDING, THEORY AND PRACTICE

This field trip raised the following concerns amongst participants in relation to the disparate levels of understanding amongst the representatives with the term RRI.

- If the goals and vision for RRI are not shared amongst the key stakeholders in Beijing, then the impact for this project or beyond it may not be fully realised.
- If NUCLEUS aims to create, inclusive, sustainable, collaborative relationships that actively engages all key stakeholders not only in Europe but in China and South Aricia also, then it will be important to speak a language and use terminology that is common to all those involved in the process.

2.3.2 LOCAL SUPPORT AND STRUCTURES: GAPS IN UNDERSTANING, THEORY AND PRACTICE

- The local hosting partners, CRISP and BAST, are in a unique position to further engage with the NUCLEUS management team and the Beijing Mentoring University (The Sanger Institute) to develop a simple, effective document outlining key RRI terminology along with practical examples for implementation.

2.4 MOTIVATIONS, SUPPORTS AND INCENTIVES FOR RESEARCHERS TO ENGAGE

The eighteen interviews were held with a diverse range of representatives from science and the science communication community in Beijing. Throughout the sessions, it was noted that stakeholders in Beijing, including the hosting partner organisations, BAST and CRISP, showed a willingness to positively develop the public engagement landscape in Beijing. While it was evident that many scientists were willing to participate in public activities, there were several factors raised over the course of the two days which influence the public engagement and RRI environment in China, and in Beijing in particular.

These include:

- Government research funding structure
- Lack of time and career progression incentive
- Lack of researcher motivation and confidence to engage
- Monetised incentive to engage

These four items will be discussed in below in greater detail. Barriers to RRI as well as opportunities to embed RRI approaches are outlined following the discussion on these items.

2.4.1 GOVERNMENT RESEARCH FUNDING STRUCTURE

In China, the Government is the major funder of scientific research and development. Unlike Europe, funding is granted to the researchers without the built-in requirement to communicate or even publish research. One interviewee said, 'culture in China is like a big family, so government is a father'. As a result, most scientists feel the responsibility is towards the government as opposed to the citizens in society. Although some changes are evident, due to the nature of the Government's research funding structure combined with the cultural notion that scientists serve the state through the government decisions, scientists do not feel obligated to engage with society to develop their research.

2.4.2 LACK OF TIME AND CAREER PROGRESSION INCENTIVE

Similar to field trip insights undertaken in the NUCLEUS project to-date, the lack of time from researchers to commit to public engagement activities was raised as an inhibiting factor. Students from school going age to research level are under immense pressure to perform and deliver academic results. In turn, this creates an environment whereby researchers have less scope to deliver engage opportunities and younger students cannot participate in extracurricular activities, despite the great importance attached to science education in schools.

Scientists and researchers that do engage are not respected for doing so. It is not considered an important way of disseminating expertise and, in some cases, as an interviewee mentioned, it can actually dampen a researchers' career prospects as if not looked upon favourably by senior researchers. This viewpoint also emerged in previous field trip studies conducted in European NUCLEUS partner cities.

2.4.3 LACK OF RESEARCHER MOTIVATION, CONFIDENCE AND SKILLS TO ENGAGE

Other factors which were deemed to contribute towards researchers not engaging in science communication and popularisation activities included the lack of motivation from researchers to participate and lack of confidence to engage.

When asked 'why do scientists not interact with the media'? The following response was given by an interviewee: 'they don't have the motivation, they don't want to, or they are afraid'. In another conversation, it was mentioned that scientists are afraid of being misrepresented by the media and that their counterparts might 'laugh at them'. Another interviewee claimed that 'scientists are more introverted and they simply don't know how to talk to the media'. One interviewee's response to tackling these issues was to 'train them [researchers/scientists] how to interact with the media, let them be the online stars'.

While encouragement for researchers and scientists was not as prominent, initiatives, such as The Beijing Science Communication Media Creation Competition, is an example of a competition which actively fosters participatory public engagement. This competition, aimed at younger students, encourages young people to use their imagination and creativity to communicate a scientific concept to win a prize. This initiative, as well as the Beijing Science Festival amongst many others, are key to supporting the next generation of scientists and researchers develop the key skills required to develop and deliver two-way dialogic engagement opportunities.

2.4.4 MONETISED INCENTIVE TO ENGAGE

Interviewees involved in running science popularisation activities believed providing researchers with compensation or grants for participating in such activities (refer to section 1.3.3.3) was just reward for giving their time and expertise to support in developing and disseminating scientific messages. One interviewee said researchers 'get paid for writing articles, for reviewing articles, or when they show the results to the public, we put money on the questions, scientists who answer, get it'.

2.4.5 BARRIERS: MOTIVATIONS, SUPPORTS AND INCENTIVES FOR RESEARCHERS TO ENGAGE

- The current research funding structure does not require researchers to communicate their research with publics and as a result it is not valued by many researchers.

2.4.6 OPPORTUNITIES: MOTIVATIONS, SUPPORTS AND INCENTIVES FOR RESEARCHERS TO ENGAGE

- Interviewees did state that scientific institutions are slowly beginning to change and open up and to recognise new ways of communicating science.
- Initiatives such as The Beijing Science Communication Media Creation Competition and the Beijing Science Festival offer great opportunity for developing critical communication skills as well as key scientific knowledge in young Chinese citizens.

2.5 DOWNSTREAM ENGAGEMENT, BUT CHANGES EVIDENT

There was agreement amongst many interviewees that there are an unprecedented number of channels to disseminate scientific information.

Despite these positive developments, there was a strong need expressed by many of the interviewees to create more channels which facilitate dialogic engagement with publics. One interviewee summed it up as 'channels to disseminate we have, channels for dialogue, we do not have' while another interviewee claimed that 'for debates, there are no effective communication channels established'. For those who are willing to communicate, they often prefer lectures in front of the public.

During the interview sessions, several organisations showed encouraging signs of adopting elements of participatory engagement. One interviewee mentioned that while there are 'obstacles to public engagement, things are beginning to change and institutions are slowly changing too'. For example, The Chinese Academia of Sciences (CAS) held a consensus conference in 2009 with the goal of discussing emerging technologies with lay publics. This initiative involved a selected audience listening to, and meeting with, experts in relation to emerging technologies. The group later discussed their concerns together, wrote them down and they were issued back to the organisation for consideration. Although this was a variant of the consensus conference approach adopted in Westerns Cultures, it marked a step change towards a more participatory engagement approach in China.

One interviewee, whose role involved the popularisation of medical health, mentioned that opinions are gathered at a grassroots level. These opinions are then shared with leaders of scientific institutions and some events have been developed based on this

feedback. Other examples include the engagement of scientists and publics in two-way conversations on social media platforms, as referred to in section 2.2.

2.5.1 BARRIERS: DOWNSTREAM ENGAGEMENT, CHANGES EVIDENT

During the field trip several barriers were shared by interviewees, and observed by the field trip participants, which restrict a move towards an RRI approach, in relation to the public engagement initiatives. These observations and notes are shared below:

- There are currently no effective and nationally supported channels established to debate scientific research and science policy in China.
- Interviewees mentioned that there was a lack of support, including training on developing channels two-way engagement and for researchers that can participate in these forums.
- Young people are often full of ideas and opinions in relation to scientific developments, but given the hierarchical and cultural protocols, it is not polite to express an opinion when in the presence of older more senior colleagues.
- The interviews highlighted that scientists and researchers often lack the skills, experience and confidence to engage with publics, particularly if it involves public debates on open platforms or media. If the gap between this attributes and skills cannot be closed, it will prove challenging to embed RRI into the culture of the Beijing for some time to come.
- There is a lack of Government and institutional support for organisations and individuals to engage in more innovative methods of engagement.

2.5.2 OPPORTUNITIES: DOWNSTREAM ENGAGEMENT, CHANGES EVIDENT

The following opportunities were identified by interviewees and by field trip participants as a means of creating an environment which would help overcome the barriers mentioned in 2.5.1 and to deliver more impactful public engagement opportunities.

- Young people were identified during the trip as triggers of change in Beijing. To support this cohort of students and junior researchers effectively, it is essential that they have a forum in which they can engage with scientific experts, express and relay opinion openly.
- The interview panel suggested developing a communications agency which would support and train researchers in a diverse range of public engagement approaches, including media, outreach and debating. It was also raised that Government Officials should also receive this training so they were enabled to communicate scientific evidence.

3 RECOMMENDATION FOR NUCLEUS IMPLEMENTATION ROADMAP

The barriers and the solutions categorised and outlined below emerged largely from the detailed notes collected during the Field Trip interviews. The solutions provided were raised through a combination of topics discussed during the interviews and data from own research. This data includes information on context and landscape in China as well as further research on suggested examples raised. The recommendations will be reflected upon by the consortium for inclusion in the Implementation Roadmap. Reference to the following recommendations in this document, does not necessarily mean they will form the final consortium recommendations.

Barrier: Introducing participatory forms of public engagement and RRI in China will require a culture change, which can take significant time.

- **Suggested Solution:** Many of the NUCLEUS partners have high-level expertise in the fields of public engagement, governance and cultural change. Drawing from the lessons learned and best practice approaches will enable the Chinese partners to identify and overcome obstacles more effectively and efficiently.

Barrier: There is a lack of science communication training supports which provide researchers, scientists and government officials with the knowledge, skills and expertise to develop and deliver effective forms of initiatives that effectively engage publics.

- **Suggested Solution:** This training could be delivered by the Communications Agency, suggested in 2.5.2.
- This training, as noted in section 2.5.2, should also be extended to Government Officials so public engagement can be endorsed from the top levels through to the administrative supports.

Barrier: RRI is at risk of becoming another phrase used to describe science communication or public engagement.

- **Suggested solution:** It is advised that local Chinese NUCLEUS partners engage with the NUCLEUS management team to develop a short document outlining the key definitions and comparisons for terms such as science popularisation, public engagement, scientific literacy and RRI.

Barrier: Senior leaders in scientific institutions and Government Officials do not endorse or incentivise researcher's engagement in science popularisation activities.

- **Suggested Solution:** Introducing incentives that encourage leaders to support public engagement is recommended.

- Establishing what incentives are valued by these key influencers could be determined by issuing a survey or by conducting a focus group.

Barrier: There is no sustained assessment of support for public engagement in Beijing,

- **Suggested Solution:** It is advised that both partners, BAST and CRISP, use a variation of the EDGE Tool (NCPPE 2016) to support them with this process. This will then enable the consortium partners and the mentoring university for the next phase of the project to deliver the most beneficial support.

Barrier: Researchers lack channels to engage with the public.

- **Suggested Solution:** As mentioned in section 2.5, the consensus conference model is an innovative way of engaging publics in meaningful debate on scientific issues. It is advised that the current format of the conference is further developed so experts and publics engage and discuss the issues in a 'live' setting.
- BAST has considerable expertise in developing and delivering initiatives to develop the creativity, imagination and science communication skill set of young people. In partnership with the NUCLEUS mentoring university, it is advised that some of these initiatives are adapted to suit the needs of the researchers.

Barrier: Researchers and scientists mistrust the media.

- **Suggested Solution:** To foster a relationship of trust amongst the scientific and media communities, it is recommended to hold Science Nights for media representatives and researchers.

Barrier: Researchers and scientists fear the public are replacing or supplementing their researcher expertise.

- **Suggested Solution:** The idea of beneficiary and stakeholder engagement, in order to influence research pathways, requires a change of thinking and is perhaps taken for granted by those who embrace this idea more routinely – for instance in social sciences or health research. The concept of societal actors being 'involved' in the research process needs elucidation perhaps using case studies from those who have experience of it.

4 CONCLUSIONS FOR THE CHINA-BEIJING FIELD TRIP

4.1 FIELD TRIP PROCEEDINGS

Overall the field trip provided sufficient insight into the opportunities and challenges that face the consortium partners and other relevant RRI stakeholders. The host organisations, BAST and CRISP, supported by University of Aberdeen organised a two day programme of interviews which included a range of experts linked with the diverse field of public engagement in science and technology.

BAST and CRISP also supported the travelling NUCLEUS partners with various travel arrangements to and from meeting locations. The translators also ably supported all parties overcome any existing language barriers. The interviews took place during a national public holiday. As a result, traffic issues were lessened. The NUCLEUS consortium was also hugely appreciative of the fact that so many people waived their holiday time to participate in the interviews

Travel organised by BAST efficiently transported the group between different interview locations.

During this field trip, translators interpreted the questions or answers and relayed information to the other party. In many interviews, there were three local representatives. As a result, it took longer than previous locations to conduct the standardised questions. On occasion, the interviewers were restricted in the depth of conversation they could engage in.

4.2 CONCLUDING REMARKS

The aim of the China field trip was to explore the interactions between RRI and public engagement, one of six 'cells' in the NUCLEUS network. This report outlined the cultural context of holding the field trip in China and the concepts that emerged from the interviews held in Beijing. Opportunities for supporting local partners further develop RRI processes and programmes that could support and inform the subsequent stages of the NUCLEUS project were presented.

Data was gathered through eighteen interviews which took place on 15th and 16th September 2016 in Beijing, China. These interviews were organised by local host and NUCLEUS partners BAST (Beijing Association for Science and Technology) and CRISP (Chinese Research Institute for Science Popularisation). During these interviews field trip

participants asked the standardised interview questions and probed with further questions when appropriate. Particular focus was placed on understanding the barriers for public engagement and RRI as well as identifying some opportunities which can be further supported. This gave the field trip interviewees insight into the current state of RRI and public engagement in China. This information will be particularly relevant as Beijing will also become an embedded Nuclei or a 'test site' for embedding RRI approaches during phase 2 of the project.

Overall, it was evident that the stakeholders in China are determined to learn from partners in the NUCLEUS consortium and to begin an RRI 'journey'. Based on this and from the information shared during the trip, the following learning outcomes were formulated into key recommendations for consideration during the next phase of the NUCLEUS project, the RRI Implementation Roadmap. These recommendations include:

- Draw on expertise from NUCLEUS partners to develop public engagement initiatives.
- Develop and deliver public engagement training for researchers and Government officials.
- Develop a short document to clearly define the key RRI and public engagement terminologies.
- Introduce incentives to embed RRI into academic institutions.
- Use a measurement tool to assess the current support for public engagement.
- Develop the consensus conference model so it embraces 'live' debate.
- Expand remit of BAST public engagement activities to researchers.
- Introduce 'Science Nights' for Media and Researchers as a means of sharing knowledge and building trust.

APPENDIX A: FIELD TRIP PARTICIPANTS

18 NUCLEUS Consortium members travelled to Beijing, representing the institutions listed below:

Affiliation	Participant(s)	Role/Function
Aberdeen University	Kenneth Skeldon	Head of Public Engagement with Research
Dublin City University	Caitríona Mordan	Project Officer, RRI
Rhine-Waal University	Alexander Gerber	Project Lead, Head of Science Communication Department
Rhine-Waal University	Annette Klinkert	Project Coordinator, NUCLEUS Administrative Project Manager
Rhine-Waal University	Robin Yee	NUCLEUS Dissemination Officer
City of Bochum	Lars Tata	Head of Science, City of Bochum
City of Bochum	Johanna Loewen	Project Officer UniverCity Bochum
Wissenschaft im Dialog	Ricarda Ziegler	Executive Assistant
Science City, Hannover	Theda Minthe	Head of Initiative Science City Hannover
University of Twente	Anne Dijkstra	Assistant Professor in Science Communication
University of Malta	Edward Duca	Science Communication Lecturer, Science in the City Project Manager
Science City Hannover	Theda Minthe	Head of Science, City Hannover
Université de Lyon	Florence Belaen	Manager Science et Société - CCSTI du Rhône
Ruhr-University Bochum	Annika Döring	Department Corporate Communications
Nottingham City Council	John Edward Rea	Youth Engagement Officer
SAASTA	Jabu Nukeri	Director
EUSEA	Enrico M. Balli	
Local Representatives		
CRISP	Yin Lin	Deputy Director (President)
BAST	Fulin Zeng	Deputy Director of International Affairs Department

APPENDIX B: FIELD TRIP INTERVIEW SCHEDULE – DRAFT

NUCLEUS Field-trip Beijing

Agenda and Chinese Experts List

(Subject to Change)

Wednesday September 14 – Arrivals and informal meetings with our Chinese hosts, including to plan the Beijing International Science Festivals Roundtable Conference – **Location, Schonbrunn Hotel**

Note: All breakfast and dinners are at the Schonbrunn Hotel unless otherwise indicated.

Thursday September 15 – Location, Beijing Convention Centre (BCC)

10:00 - 12:00	Introduction and scene setting – BCC 1st Floor, Room No.5 Suggested schedule here:- 10:00 Welcome from China 10:15 Introduction to NUCLEUS Project, Alex Gerber 10:30 Ice-breaker and INTRODUCTION to the FIELD TRIPs, Kenneth Skeldon & Caitriona Mordan 11:00 Introduction from BAST 11:25 Introduction from CRISP 11:50 Closing Discussion / Logistics	
12:00 - 13:00	Lunch Break – BCC Dining Hall, No.6 Building	
13:00 - 14:30	Project Interview Session (1A)	NUCLEUS GROUP 1 Representatives from public engagement at the Beijing Science Festival (x3 people) 1) Mr. Jingdong Yan, Director of Chinese Association for the Advancement of Science 2) Ms. Jun Yan, Deputy Director of BDCPS (Beijing Development Center of Popular Science) 3) Mr. Shuxi Wang, Deputy Director of Popular Science Alliance, BDCPS NUCLEUS GROUP 2 Beijing Youth Science Creation Competition (BYSCC) Project (x1 people) 4) Mr. Xiaopeng Lu, Deputy Director of Beijing Youth Science and Technology Center

		Beijing Science Communication New Media Creation Competition (x2 people) 5) Ms. Mengmeng Fu, Director of Information Platform Department, BDCPS 6) Ms. Yue Shi, Project Manager of Information Platform Department, BDCPS
14:30 - 15:00	Gift exchange and photographs	
15:00 - 16:30	Project Interview Session (1B)	NUCLEUS GROUP 1 Science Museum representatives (x4 people) 1) Dr. Jing Zhu, Curator, Beijing Planetarium (http://www.bjp.org.cn/) 2) Dr. Yongchun Zheng, Planetary scientist, The National Astronomical Observatories of the Chinese Academy of Sciences (http://www.bao.ac.cn/) 3) Mr. Qingjin Meng, Curator, Beijing Museum of Natural History (http://www.bmnh.org.cn/) 4) Dr. Yuan Wang, Curator, Paleozoological Museum of China (PMC) (http://www.paleozoo.cn) and Researcher, Institute of Vertebrate Paleontology and Paleoanthropology (http://www.ivpp.cas.cn/) NUCLEUS GROUP 2 BAST Decision making consultation project (x3 people) Confirmed, but list yet to be received
16:30-17:00	Gift exchange and photographs	
Friday September 16 – CRISP Building (morning and lunch) / Beijing Convention Centre (afternoon)		
09:00-10:30	Project Interview Session (2A)	NUCLEUS GROUP 1 Interviews organized by CRISP – the Chinese Research Institute for Science Popularization 1) Wang Qiang, Professor, Elementary Education College, Capital Normal University 2) Feng Meisheng, Associate Professor, Elementary Education College, Capital Normal University 3) Fei Xinbei, Professor, College of New Media Art and Design, Beihang University

NUCLEUS Field-trip Beijing Roundtable, Science Festival and Social Programme (Subject to Change)		
Saturday September 17 – Beijing Convention Centre (lunch and afternoon)		
12:00-13:30	Lunch Break	Dining Hall, No.6 Building Beijing Convention Centre
13:30-17:00	Beijing International Science Festival Roundtable Conference	Conference Building 1st Floor, No. 3 Room Beijing Convention Centre
18:00-19:30	Evening Dinner	Schonbrunn Hotel
Sunday September 18 – Beijing Science Festival (morning) / Tourism (afternoon)		
06:00-08:00	Breakfast	Schonbrunn Hotel
10:00-12:00	Visit Beijing Science Festival	Beijing Science Festival
12:00-13:00	Lunch	Dining Hall 1st Floor Beijing Science & Technology Activity Centre
13:00	Summer Palace/Tourist Visit	
18:00-19:30	Evening Dinner	Schonbrunn Hotel
Monday September 19 – Departures and airport drop-offs		

The interviewees representing BAST decision making consultation project and participated in NUCLEUS session 2 on Thursday 15th September from 15:00-16:30 were as follows:

- Ou Wu – Policy Making division, BAST
- Jun Yan – Deputy Director of Beijing Development Center of Popular Science
- Fang Liu – Science Popularisation Department, BAST.

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