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JAPAN

Western science and Japanese culture

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1. Introduction

Western science and technology (S&T) were brought to Japan from the 16th century via Portugal and the Netherlands. Through the mid-19th century, Japan was a closed country, permitting commerce only with the Dutch. This precedent was broken by the American naval expedition that came to Japan in 1853 from the east and, in one stroke, the country reluctantly opened its doors to Western countries. The Tokugawa shogunate was overturned by the Meiji Restoration in 1868, and that marked the beginning of Japan's modernisation.

It was only after the Meiji Restoration that education in modern Western S&T could formally be offered, though Japan had its own tradition of S&T before then (Nagahama, 1994). As a consequence, the Japanese people have interacted with modern science for only about 150 years. After taking political steps to introduce Western S&T, Japan as a nation hastened along in the spirit of trying to catch up and then surpass it. During that time, most Japanese people believed that S&T would gradually advance if left in the hands of specialists, and Japan would go on to win fame as an advanced country. This chapter presents a short history of science communication in Japan in this context (see also Watanabe, 2017).

2. Promoting public understanding of science and technology (PUST)

As part of its efforts to recast itself as a country of peace following World War II, Japan sought economic recovery centring on emerging S&T. In 1958, the Science and Technology Agency (founded in 1956 and integrated with Ministry of Education in 2000 to become the Ministry of Education, Culture, Sports, Science and Technology) published its first White Paper on Science and Technology.[1] In Chapter 3 of that White Paper, one can find the following pronouncement:

> In recent times, Japanese people have had many opportunities to build familiarity with S&T. The more scientific and technological issues and successes are reported, the more people of all ages will place their dreams on S&T. If we are able to offer educational opportunities to encourage the sound growth of dreams and aspirations relating to S&T, then various self-motivated activities that make use of S&T will effectively develop in the near future.[2]

The Japanese government followed this policy during the latter half of the century.

The Council for Science and Technology was established in 1959 to advise the prime minister on S&T-related policies. In its first policy proposal in 1960, the council opined that while it was vital for Japan to develop a talented workforce to drive its long-term pursuit of the sciences and technologies needed to grow the economy and improve lives, the Japanese people lacked basic knowledge of and education on these subjects. Moreover, there just wasn't the required political will and public sentiment to provide support for such activities. Therefore, the council said, the government must start by raising awareness of S&T among the populace. It can be said that this policy marked the dawn of public administration aimed at boosting the public understanding of science and technology (PUST).

That same year, National Science and Technology Week was established. It is the week around 18 April each year, the day itself having been known as Invention Day since 1954. It might be one of the earliest attempts of its kind in the world, with even countries like the UK not starting a national science week until 1994 (Briggs, 2001). That same year the Japanese government and industry together established the Japan Science Foundation to contribute to

1 This is an authoritative annual report on the Japanese goverment's science and technology policies. It features special themes as the main topics every year.

2 All citation from Japanese documents are translated by authors.

the improvement of S&T by effectively conducting activities to deepen the general public's understanding of, and interest in, fundamental scientific knowledge and industrial technology. The foundation would later open a science museum in Tokyo and launch a local TV company in 1964. Known as Tokyo Channel 12 'Science TV', the channel was given its broadcast licence on the condition that 60 per cent of its air-time would be dedicated to S&T educational programming. Initially, it met this requirement only in a technical sense: the 'programs' were simply broadcasts of distance-learning classes offered by Kagaku Gijutsu Gakuen High School, a S&T high school also established by the Japan Science Foundation. Only three years after its launch did Tokyo Channel 12 finally begin to air regular programs such as news and dramas.

The 1960 policy proposal by the Council for Science and Technology mentioned above also set long-range targets in various S&T fields. These focused on achieving, within 10 years, a general advance in living standards and proposed the necessary strategies for fostering capable human resources. These were presented as being necessary for economic development. It also highlighted the need to promote PUST on the grounds that 'Public knowledge and literacy regarding S&T are very poor and the political and public bases for the support of S&T are very weak' (from the council's recommendation (Council for Science and Technology, 1960)). Such a top-down policy was sustained during the 1960s and 1970s.

The Japanese government continued to tout 'the dream of S&T' until the 1970s. In Japan, a national opinion survey of public attitudes toward S&T—its main question being whether or not people have an interest in science news—has been conducted almost every five years since 1976. Although the significance of such a survey has been controversial (Durant, Evans and Thomas, 1989), we can recognise an interesting trend by analysing differences among generations. From the results of the survey, it was shown that people in their 20s and 30s reported the highest levels of interest in S&T in 1976, and this generation would maintain its interest in S&T throughout the survey period (Watanabe and Imai, 2003). This may be attributable to the PUST Policy implemented by the government during the 1960s and 1970s.

As the 1980s began, while people's lives had become richer to some degree, the negative aspects of cutting-edge S&T had also become apparent, and society on the whole had grown increasingly indifferent to science. The White Paper on Science and Technology: Trajectory and Prospects on the Development of Science and Technology published in 1980, the year following the Three Mile Island accident in the US, contained a section titled 'Requirements for Promoting Science and Technology'. It claimed that 'Public understanding and cooperation are necessary for promoting S&T'. We should note that this usage of 'understanding' references a viewpoint from the government that expects the public to agree with and accept its policies. The White Paper on Science and Technology in 1982 continued the same tone that was ruled by archetypal phrases about the importance of science education. In a section titled 'Promotional Action Plan to Gain *Public Acknowledgement and Support for Science and Technology*' [emphasis added], it claimed:

> We should carry out the proper evaluation at each step of research and development and increase public awareness so as to advance S&T effectively and to raise creativity in S&T. In particular, it is much more important to gain *public acknowledgement and support by means of enlightenment* to foster a scientific mindset and awareness among the younger generation' [emphasis added].

Thus, the government policy emphasised 'enlightenment of the public' and promoted the construction of science museums and science centres across the nation. At the national level, Japan convened the International Science and Technology Exposition in 1985 at the new science city Tsukuba. Since 1992, Youngsters' Science Festival events have been supported. These festivals collectively offer science shows, booth displays and workshops under one roof. Drawing the engagement of many science volunteers, this series of events was at first held in only three cities. Local governments and various industries offered their support, and the festivals have spread to more than 100 cities around the country with some 420,000 people taking part. However, these actions had only a limited effect. It is a part of the reason why the White Paper on Science and Technology: Young People and Science and Technology published in 1993 has a different tone. In Part 1 of the White Paper, 'Young People's Indifference to Science and Technology', it discussed this apathy and espoused 'fostering an atmosphere for making science issues relevant to young people'.

However, even these kinds of events that convey the pleasures of science to the youth would appear to be insufficient for instilling a recognition of the importance of knowing how to make the most out of science in daily life. Evidence of this comes from the Program for International Student Assessment (PISA) survey of 15-year-olds in 2006. It showed that only 8 per cent of Japanese students expected to have a science-related occupation at the age of 30, the lowest proportion in the world (OECD, 2007). Although Japan's children may get good grades in these subjects, it appears that they do not wish to work in S&T-related jobs.

At the same time, it seems important that people appreciate S&T not just as mere tools but also as a great cultural heritage or property that has been built by humankind. The days when it was thought best to leave matters in the hands of specialists tied to narrow specialised fields are gone. The time has come for each and every citizen to think about the ways in which they interact with science. Achieving this calls for a new goal. This was the situation in Japan at the end of the 20th century when the new concept of science communication was born. But despite the new ways of thinking about science communication in international discussions, the Japanese government still focused on education, understanding and interest with regard to science. The government enacted the Science and Technology Basic Law in 1995 with the aim of raising the standards of S&T in Japan and set out the First Science and Technology Basic Plan, a five-year government plan that included the promotion of PUST (Science and Technology Agency, 1996).

In the UK, the Select Committee on Science & Technology of the House of Lords published its *Third Report: Science and Society* (House of Lords, 2000) and the report *Science and the Public* (Office of Science and Technology and Wellcome Trust, 2000) was also published in the wake of the bovine spongiform encephalopathy (BSE) outbreak. This marked a shift in the S&T policy of the UK government toward promoting public engagement with science and technology (PEST).

In response to such world trends, the Japanese Society for Science and Technology Studies was founded in 2001. Japanese researchers in the field of S&T studies have sparked a new wave of PEST in Japan, holding events such as consensus conferences on the topic of gene therapy. Preceding this, two reports championing science communication were published in Japan, one proposing the establishment of 'science communication plazas' (Nakamura, 1991) and the other proposing the founding of 'S&T communication centres' (Nagahama, Kuwahara and Nishimoto, 1991). The former proposal was realised in 1993 in Osaka, Japan, with the JT Biohistory Research Hall, a unique research centre with exhibitions open to the public. The latter proposal was for facilities such as S&T study (STS) centres. These have yet to be realised despite being the focus of a report published by a government think tank, the National Institute of Science and Technology Policy (NISTEP). An informal meeting held by the Minister of Science and Technology ventured that 'Interpreters who can explain cutting-edge science topics to the layperson are essential' (the detail of the informal meeting is discussed in Watanabe and Imai, 2003).[3] Consequently, the early inroads made by the science communication movement in Japan were driven by government promotion

3 National Museum of Emerging Science and Innovation, Miraikan, was founded in 2001. The concept of Miraikan might be based on this declaration. Miraikan introduced an on-the-job training system for science communication professionals. Science Interpreters—this name was changed to Science Communicators a few years later—are appointed on a fixed-term basis for a maximum of five years. About 40 Science Communicators engage in science communication activities during their terms.

based on the 'deficit model' or people in the academic field of STS within their community. This was one reason why science educators and science centre personnel who had been supporting PUST since the 1960s were unfamiliar with the new concept and practice of science communication.

3. Introduction of the term 'science communication' into the government's S&T policy statement

The situation changed dramatically from 2003 onward. The new concepts of 'science communication' and 'interactive two-way communication about science' spread amongst science communication practitioners. Several things coincided in 2003. First of all, two publications appeared. One was a Japanese edition of *Science Communication in Theory and Practice* (Stocklmayer, Gore and Bryant, 2001). The other—which has been most influential—was a report titled *Research on the Promotion of Public Understanding of Science & Technology and Science Communication* (Watanabe and Imai, 2003) published by NISTEP. It served to change government policy and triggered a cascade effect. In 2004, a new term in the Japanese language, namely 'science communication', first appeared in the White Paper on Science and Technology (Ministry of Education, Culture, Sports, Science and Technology, 2004). Furthermore, the Third Science and Technology Basic Plan from 2005 announced the promotion of science communication (Government of Japan, 2006; see also Watanabe and Imai, 2005). Since then, Japanese government policy for promoting PUST has shifted to PEST to some extent.

In 2005, formal training programs in science communication for postgraduate students supported by five-year-limited government subsidies (each worth about US$1 million per institution per year) began at three universities: University of Tokyo, Hokkaido University and Waseda University. The Science Interpreter Training Program was launched at the University of Tokyo with a goal to

> nurture scientists and engineers who are equipped with social and political literacy and treasure the presence of multiple perspectives, as well as scholars in humanities and social sciences who can identify common grounds between their disciplinary standpoint and visions and values in science and technology (University of Tokyo Science Interpreter Training Program, n.d.).

Hokkaido University launched the Communication in Science & Technology Education & Research Program (known as CoSTEP) to produce 'science and technology communicators, who can enhance two-way information transfer between experts and the public in societal issues related to the two subjects' (Hokkaido University CoSTEP, n.d.). These two programs were offered as certificate programs rather than as full degree programs, so that students specialising in any disciplinary subjects for their degree could participate. In contrast, the Master of Arts Program for Journalist Education in Science and Technology (MAJESTy) at Waseda University was set up as a postgraduate degree program in order to 'train students as journalists who can make a balanced assessment of issues surrounding science and technology both today and in the future' (Waseda University, n.d.). These programs were partly modelled on overseas examples.

Another certificate training program in science communication for postgraduate students was started at the National Museum of Nature and Science in 2006 (Ogawa, Kamei and Shimizu, 2006). The program is run in collaboration with universities.

In 2006, Science Agora was started in Tokyo with the support of the Japan Science and Technology Agency. It is an annual forum that aims to be a pivot for a network linking all kinds of science communication activities together. The event is essentially a miniature version of the AAAS Annual Meeting and similar to Europe's EuroScience Open Forum (ESOF), except that Science Agora features free admission and anyone can attend any session. Science Agora is said to be 'like a big salad bowl' (Umehara and Watanabe, 2012): a wide variety of people including families, students, teachers, researchers, administrators, politicians and science communication practitioners are gathered in one place and mixed together. Science Agora 2016 hosted 213 programs, with roughly 6,000 visitors over the course of four days. Science Agora has fostered network-building among key sectors of science communication. In 2009, a new type of science festival based on the modern concept of science communication was launched in two cities: Hakodate in Hokkaido and Mitaka in Tokyo (these two cities have no science centres). This was an additional side effect of Science Agora. These festivals have built up positive reputations and a number of other cities have launched their own new-type science festivals.

A further example of the rise of science engagement opportunities is the emergence of science cafés, with more than 1,000 being held around the country every year since 2009. They were originally convened in response to an appeal from the Science Council of Japan during the 2005 Science and Technology Week, when such café events were held in more than 20 places across the country. Although they may have begun as a somewhat top-down contrivance, they have subsequently put down firm roots throughout Japan.

It is amazing that science cafés have become so popular in Japan because the country does not have the same level of pre-existing 'café culture' that is found in European countries. Science was thought of as a high-threshold topic before science cafés, but these events are now perceived as being open to all-comers thanks to the relaxed, informal environment where people enjoy talking about science over coffee. It can be compared to the *idobata kaigi*—the 'well-side chat', or, in other words, the neighbourhood gossip session. If these science cafés—which are held in all manner of locations and venues—can be linked up as a network, they will eventually fall into sync and turn into a substantial movement. The critical factor explaining why the new concept of science communication has become popular so quickly in Japan can be attributed to the new key phrase and concept of 'science communication' having been introduced first. There is some truth to the old dictum, 'new wine must be put into new wineskins' about this Japanese context (Watanabe, 2010). The situation resembles that which followed the introduction of Western science about 150 years ago.

National Museum of Emerging Science and Innovation, Miraikan, has played a leading role as one of the flagship science museums based on the science communication concept. There are some exhibits that demonstrate cutting-edge science such as androids (human-like robots). Visitors can meet the most advanced androids and reflect on human existence. Miraikan also holds various kinds of two-way communication events.

4. Critical reflection on the early development of science communication in Japan

While the official introduction of the term 'science communication' led to the establishment of related activities including science cafés and training programs, this official launch of Japanese science communication attracted criticism from Japanese researchers in science communication and STS. While admitting that the 2004 White Paper on Science and Technology and the Third Science and Technology Basic Plan (Government of Japan, 2006) had taken into account theoretical and conceptual frameworks of Western science communication after the 'PUS movement', critical voices pointed out that the official promotion of science communication in Japan had failed to shift its emphasis from its older, conventional understanding-centric approach, to a more engagement-oriented approach. In other words, the overall framework of Japanese science communication still focused on promoting public enlightenment and increasing public interest in S&T (Hirakawa, 2010). This tended to accentuate only the positive aspects of doing and learning science, which would distract public attention away from uncertainty in science and thus possibly lead to uncritical trust in science (Kobayashi, 2007). Those critical views on the early development of official science communication in Japan pointed to the imbalance between understanding-oriented programs and engagement-oriented programs, and they called for more systematic attention to be paid to developing other models for the democratic governance of S&T.

Training programs for practitioners of science communication (see Section 3 for details) were also questioned. For example, their inclination towards *promotion* of public understanding, built on the view that science communication was for the purpose of either dealing with the decreasing popularity of science among youngsters or gaining more social support for basic scientific research, was criticised for paying little attention to nurturing science communication practitioners who would be capable of building bi-directional channels to address issues between science and society (Yagi, 2007).

Criticisms of Japanese science communication were also raised with regard to the lack of attention to previous failures and shortcomings in dealing with science-related social issues. The national institutionalisation of the public communication of science and technology under the name of 'science (and technology) communication' had not taken much account of the previous failures in establishing appropriate science–society relations. For example, lessons learnt from industrial pollution and consequent endemic diseases and issues around nuclear power plant construction in the 1970s did not inform policymaking about contemporary science communication (Fujigaki and Hirono, 2008). More recent prominent science-related social issues, including the Great Hanshin-Awaji Earthquake in Hyogo prefecture and the nuclear power plant accident (a sodium leak and a consequent major fire) at Monju in Fukui prefecture, both of which took place in 1995, had a minimum impact on pushing the early development of a national framework of science communication towards democratic engagement (Hirakawa, 2010). In this sense, Japanese official science communication was perceived as disconnected from previous communication disputes at the science–society nexus, and thus was criticised for lacking the 'pain': the pain that science communication in Europe had gone through during its development when controversies and debates about nuclear power, BSE and genetically modified organisms (GMOs) had taken place among interest groups and stakeholders including the public, established scientists and the government (Fujigaki, 2008, 2009).

It should be noted that these critical views of Japanese official science communication, particularly on its orientation towards promotion of PUST and on its tacit adoption of the deficit model, did not necessarily ignore values for the public to acquire scientific information through understanding-oriented science communication. The STS critics of Japanese science communication cited above were aware of the diversity of science communication essential to achieve truly democratic governance of S&T. Therefore, it was with respect to the *balance* rather than the *choice* between understanding-oriented and engagement-oriented models of science communication that the critics called for more reflective discussion and more resources to spend.

5. The Fukushima disaster and resetting science communication policy

A large-scale earthquake hit Japan on 11 March 2011 and caused a sequence of explosions at the Fukushima Daiichi Nuclear Power Plant. It showed that the government had not considered how it should respond to such an unprecedented, large-scale nuclear accident and what information the public would want and need. The government and scientific community experienced a great loss of public trust as a result of this disaster. The government was found to have concealed information about radiation data because they wished to avoid a resultant panic. Failure to release radiation data during the early stages of the crisis is said to have delayed evacuations of communities located near the plant. At first the government was unable to recognise the meaning of the data, and later pursued an official campaign to play down the scope of the accident and the potential health risks in order to prevent panic as mentioned previously. This policy went counter to the science communication policy of openness and transparency. It revealed a fundamental misunderstanding by the government regarding the idea and concept of science communication despite its previous declarations promoting science communication in the Third Science and Technology Basic Plan (Government of Japan, 2006). The Japanese scientific community did not help: most of them kept silent although they knew the implications of the nuclear power plant accident.

The government intended to publish the Fourth Science and Technology Basic Plan and 2011 White Paper on Science and Technology at the end of March 2011. Ironically, the basic plan would declare that science and technology policy should be created together with society, i.e. through democratic participation in science and technology policymaking. The public announcement of the basic plan was delayed by four months. Another irony was that one of the main topics planned for the White Paper was science communication. The result was that the publication was delayed and the content revised. A trustworthy relationship is the most important consideration for establishing science communication.

The Japanese public learned a great deal after the March 11 earthquake and the Fukushima nuclear power plant accident. Since then people have set up their own local networks to exchange information about radiation risks. For example, many regional communities have procured their own Geiger counters and begun monitoring radiation levels in their local areas with experts' advice for peace of mind. Over 30 science cafés about radiation effects or the earthquake were held all over Japan during the two and a half months immediately following March 11. This unfortunate incident has taught us a major lesson and encouraged people to adopt a bottom-up approach.

Toward the end of 2011, the Japanese Association for Science Communication (JASC) was established. The mission of JASC is to construct a network of science communication practitioners and to propagate and share the concept and methods of science communication across all communities nationwide. The association started out with about 200 members and has since increased to roughly 400. It operates self-sufficiently using just membership fees.

6. Beyond the PUST–PEST dichotomy and towards a complementary relationship

While the policy frameworks of science communication in Japan have been making a gradual shift from understanding-orientation to engagement-orientation, we should be aware that a number of empirical studies in Europe have suggested that the actual practice of science communication would often incline towards PUST. The image of knowledge-deficient publics is still commonly found, and a linear causation between the increase of PUST and public support for science would often be assumed. Difficulties in putting thoughts and theories of dialogical, engaging science communication into practice are also much discussed (e.g. Chilvers and Kearnes, 2015). Japan is no exception, and it is faced with numerous difficulties in putting the blueprint of science communication ideals into actual practice (e.g. Ishihara-Shineha, 2017; Nakamura, 2011; Shineha, 2016). At the same time, we should also note that the understanding-oriented and engagement-oriented models of science communication, which tend to be seen as at the opposing sides on the spectrum of science communication, should be seen more as complementary rather than contradictory, both together aiming at democratising science–society relations (e.g. Tanaka, 2013).

The strong orientation of Japanese science communication towards the promotion of PUST should not be flatly dismissed by employing conventional criticisms of the 'PUS movement' or the 'deficit model'. Simple, clear-cut categorisation of science communication practice can be misleading, and it would potentially turn our attention away from visions, thoughts and broader contexts that are behind such seemingly understanding-oriented approaches to science communication. It would also possibly prevent us from exploring what the practice of science communication—hether it be oriented towards understanding or engagement—actually means to science–society relations. What we need in future science communication research, therefore, should be to map out a wide variety of forms of science communication in our society—some are initiated by the government and/or scientific research institutions and others are more or less bottom-up—and to empirically investigate their meanings from the perspectives of people involved in them on the ground. In such empirical, exploratory and interpretive research practice, we need to go beyond the understanding–engagement dichotomy.

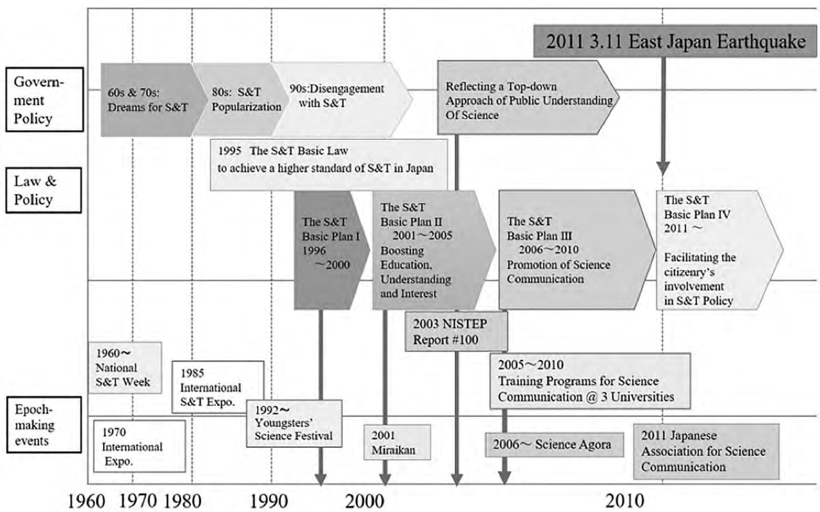

Figure 22.1: A short history of science communication in Japan.

Science communication education, including the training of science communicators, is today offered in various forms. Although there are no full-degree coursework programs in science communication at either undergraduate or postgraduate level in Japan, there are a number of ways to study and learn skills in science communication. Many programs are primarily for students and researchers in the natural sciences (e.g. Mizumachi et al., 2011; Yokoyama, 2009), but there are also courses designed for students studying and researching in the humanities, social sciences and public policy (e.g. Ema, 2015; Yoshisawa and Taniguchi, 2016). It should be mentioned here that these educational activities are not conducted with a specific focus on science communication per se, but they aim to develop learners' skills to work with people from different disciplinary and/or institutional backgrounds to tackle issues about science–society relations that are increasingly trans-disciplinary. Training scientists in such skills—some would refer to as 'transferable skills'—is now becoming an important focus of higher education policy in Japan (Yamanouchi and Nakagawa, 2012) in response to the growing complexity of science–society relations, and education and/or training in science communication is expanding its scope accordingly (e.g. Kamisato and Hosono, 2014; Kudo, Mizumachi and Yagi, 2018; Shineha et al., 2014).

7. Conclusion

Figure 22.1 above represents the development of science communication policy in Japan. Japan's policy of PUST has shifted to PEST since 2003. That year there were a number of simultaneous developments with regard to science communication. The key report that advocated for the promotion of science communication and a textbook on science communication were published. The most important consequence was that the report triggered a change in government policy. Although the shift may have begun as a somewhat top-down contrivance and still PUST-minded, it has gradually put down firm roots across Japan.

Things changed dramatically in the wake of the large-scale earthquake and the Fukushima nuclear power plant accident on 11 March 2011. The Japanese government had to change its science and technology policy, and the public gained the realisation that the government is not necessarily trustworthy and people have to look out for themselves. This would appear to be counter to the principles of science communication. Nevertheless, at a local community level people have shown mutual compassion and established solid links amongst themselves, so a ray of hope can be found there. An updated version of science communication, i.e. 'Science Communication 2.0', must be launched. For this we must look to grassroots science communication.

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Timeline

Event	Name	Date	Comment
First interactive science centre established.	Miraikan – The National Museum of Emerging Science and Innovation	2001	
First national (or large regional) science festival.	Youngsters' Science Festival	1992	A generic name of science festivals and a network. First held in Tokyo, Nagoya and Osaka, and now over 100 cities hold their own festivals. 2006: Science Agora is an annual science communication event in Japan held in Tokyo, and the biggest in Japan
An association of science writers or journalists or communicators established.	Japanese Association of Science and Technology Journalists	1994	2011: Japanese Association for Science Communication
First university courses to train science communicators.	University of Tokyo Hokkaido University Waseda University	2005	Courses for postgraduate students started with support of five-year limited government subsidies
First master's students in science communication graduate.	JT Biohistory Research Hall in affiliation with Graduate School of Science, Osaka University	1995	It was not a training course for science communicators but a research course of science communication

Event	Name	Date	Comment
First PhD students in science communication graduate.	JT Biohistory Research Hall in affiliation with Graduate School of Science, Osaka University	1997	
First national conference in science communication.	Seamless Culture through Science Communication	2005	International colloquium organised by National Institute of Science and Technology Policy (NISTEP) 2006: Science Agora
National government program to support science communication established.	Loving Science and Technology Plan. Ministry of Education, Culture, Sports, Science and Technology (MEXT)	2002	2005: Special Coordination Funds for the Promotion of S&T. MEXT funded a program for training postgraduate students
First significant initiative or report on science communication.	*Research on the Promotion of Public Understanding of Science & Technology and Science Communication*	2003	Watanabe and Imai (2003) wrote a report for NISTEP
National Science Week founded.	The week around 18 April each year.	1960	Known as Invention Day since 1954
A journal completely or substantially devoted to science communication established.	*Japanese Journal of Science Communication* organised by CoSTEP	2007	Online journal run by Communicators in Science and Technology (CoSTEP) Education Unit at Hokkaido University
First awards for scientists or journalists or others for science communication.	Public Understanding Promotion Category of the Commendation for Science and Technology by MEXT	Not known	
Date hosted a PCST conference.	Satellite Symposium of PCST 2006 in Tokyo	2006	Organised by NISTEP
Other significant events.	First science café in Japan	2004	An NPO held it in Kyoto

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