



■ The 3rd SPARC Japan Seminar 2014

Open Access Summit 2014 Part 1 “Science for ‘Generation Open’”

Tuesday, October 21, 2014: National Center of Sciences,
2F Lecture Hall (Attendees: 76)

The 3rd SPARC Japan Seminar of the fiscal year, held during Open Access Week, adopted “Science for ‘Generation Open’” as its theme. The presentations and discussions dealt with project concepts that go beyond the narrow sense of open access to focus on the actions of open access users. Thanks to the spread of open access and the advance of the web, we are already starting to see people conducting research by following their own interests, outside the auspices of a university, research institution, or other organization. Some of these so-called hobbyist researchers have produced higher quality results than even those of scientists working at organizations. The existence of these “researchers in the wild” raises some important questions about the role and significance of existing academic institutions.

The seminar featured presentations by five persons whose research work or support activities go beyond the framework of existing research institutions and of professional scientists, furthering discussions on these issues. It was clearly evident that research is changing today, and the seminar saw intense debate on the ideal framework for research in the future.

A summary of the seminar is given below. See the SPARC Japan website

(<http://www.nii.ac.jp/sparc/en/event/2014/20141021en.html>) for handouts and other details.

Presentations

Opening greeting and outline

Ikuko Tsuchide (Osaka University Library)

For the past 10 years or so, discussions of open access have tended to focus on philosophical and policy matters. Meanwhile, in the web-based culture that is the everyday world of young researchers, students, and other young people, open content, engagement with the general public, and sharing of resources in a cloud environment have become a regular part of life. These kinds of behaviors have naturally made their way also to the world of academic research. Not only research output but also the processes leading to it are increasingly spreading outside the traditional boundaries of scholarly communication or academic disciplines. This is where the true concept of open access is being realized.

But what is it that the institutions (universities), their libraries, and academic societies, responsible for traditional scholarly communication, can do about this part that has extended beyond their boundaries? The answer is not yet forthcoming. We ourselves will need to look carefully to find out what is necessary. One purpose of this seminar is to introduce what is happening. I hope today’s meeting will prove to be exciting and energizing to all present.

Biomedica art, an alternative approach to biological science

Hideo Iwasaki (Faculty of Science and Engineering, Waseda University)

The question “What is life?” has long been a theme of the various fields of art. In his work *Butterfly Landscape* of 1957–58, Dali incorporated as a motif the double helical structure of DNA that had just been discovered around that time. In addition to being a biologist, I am also a paper-cutout artist, and I launched metaPhorest¹ at Waseda University as a bioaesthetics platform in 2007. Artists take up long-term residence at metaPhorest and produce art on life themes. This metaPhorest is also a place for life science experiments, productions, and research, sharing an experimental environment and seminars with scientists and students in life sciences. A variety of works come into being as a result.

The artists at metaPhorest do not simply make use of biological knowledge and materials but also conduct research based on their own natural motivation. This leads in turn to new light being directed on life sciences by artists. The processes by which works are



¹ metaPhorest: <http://metaphorest.net/?lang=en>

created also become works of art. Research is a part of artistic expression. Laboratories are ateliers, and ateliers are laboratories. From this, one can get a sense of how science and art are each nested in the other. Art, which is an activity of human beings, who are part of nature, can be subjects of science, targeting nature; but science is also a part of art. Science and art, while mutually critical of and cross-referencing each other, are like opposite sides of a Möbius strip.

Transcending the boundaries between art and science, and the distinction between artists and scientists, bioaesthetics, which is expanding from DIY (do it yourself) to DIWO (do it with others), is very much in the spirit of open access.

Niconico Gakkai β and the open sharing of research information on the web

Toshiyuki Yamada (Yoshihiro Yonezawa Memorial Library, Meiji University)

Academic papers and research presentations are of interest to ordinary people, not just to scientists. In fact, research and academic papers can be seen as one kind of interesting content.

I used to be a librarian, and I discovered, in my work of cataloging journals received at the library, that the world is full of interesting academic papers. Using Twitter and the CiNii Articles API, I launched Ronbunter² as a service that introduces papers on topics showing up as trending keywords in Twitter. What I found interesting is that even papers that might seem somewhat removed from the interests of ordinary people become more familiar when they are on topical themes. Ronbunter currently has more than 6,000 followers, most of whom are probably not researchers. Academic papers have an appeal even for ordinary people.

One of my side-interests is analyzing and studying data from the Niconico video service [similar to YouTube], which has led me to take part in operating the web collective Niconico Gakkai β. Among the videos uploaded to the Niconico site, nearly 30,000, contributed by more than 8,000 users, are related to technology and research, including homemade electronics devices and programming. Even more than the technical novelty, people find the manner of description and presentation of interest.

In Niconico Gakkai β sessions, held for the first time in 2007, there are two methods of presentation. One is the “100 rapid-fire



researches” by researchers at the forefront of their profession, and the other is “Casual research madness” which is solicited from the public. In the first method, for one hour five researchers each introduce 20 of their own studies, for a total of 100. This has high entertainment value, as the results of the past 10 or 20 years of research are presented in a few minutes, during which the researchers themselves come into view as people. In “Casual research madness,” 10 to 20 persons give presentations of around three minutes each, from which selections are made by a panel and by viewers of Niconico live broadcasts. There were even cases of presenters being invited to appear at a public event of the AKB48 “girls group” or of research being used in overseas events.

Around 40 percent of the presenters are students, another 8 percent are educators, including university professors, and the remaining half are not scientists but people in other professions and those who conduct research for personal enjoyment. Many of the presenters have been conducting research or similar activities, but until now those other than professional researchers have been largely invisible. They have been made visible by social media. Now that there are ready means for conducting research and making the results public, so that research is something that can be conducted casually, the age where “every person in Japan is a scientist” may one day come.

Science Postprint, an open access scholarly journal in Japan: originating from SPARC and coming back to SPARC

Shinichiro Takezawa (General Healthcare Inc.)

After I obtained a doctorate in life sciences, I worked at venture companies and in other positions, and then founded General Healthcare Inc. in 2007. Inspired by a SPARC Japan seminar in 2012, I



launched *Science Postprint*³ at my company as an open access journal. Behind this project was the lack of a general academic journal in Asia that could become an academic research infrastructure, like *Nature* or *Science*.

It is estimated that by 2050 the number of academic papers produced in Asia will grow to half of the world’s total, with a market scale of around 500 billion yen. In Japan, however, there is still a fixed notion that academic journals should be published by academic societies; moreover, the

² Ronbunter (@ronbunter)

Twitter: <https://twitter.com/ronbunter>

³ *Science Postprint*: <http://www.spp-j.com/>

brand of existing journals like *Nature* is so strong that until now no one thought of publishing this kind of general academic journal. This is why Japan has had no general academic journal. By means of the open access journal *Science Postprint*, I hope to create an academic infrastructure for Japan and for all of Asia.

Due to a lack of funds and personnel, *Science Postprint* is currently suffering difficulties, and was even nominated for Beall's List,⁴ but it is seeking to get past these challenges by becoming indexed in the PubMed database of life science papers and gaining impact factor. Future plans include introducing post-publication peer review, recognition, and a payment system of peer review cooperation fees, as earnest efforts are being made to expand the service toward realization of its objectives.

Young Academy as an open platform for imagination and creation

Shoji Komai (Nara Institute of Science and Technology [NAIST])

After giving an overview of the changing situation for research, the talk looked at the three M's of research activities: management, mentorship, and motivation. Across the board, researchers complain about not having time to pursue the various things they are interested in. With the strong demand for results in research funding, it has become difficult to provide the education and human resources development (including sharing the joy of intellectual exploration) that used to take place in university laboratories, for such reasons as the tenure system for young researchers. Having various routes and opportunities for becoming a researcher ought to be a good thing; moreover, research misconduct will not go away simply by tightening the screws. In this situation, networking among researchers is becoming all the more necessary.

I served as chair of the Young Academy of Japan⁵ from its founding in November 2011 to the end of September 2014. The Young Academy, which is



within the Science Council of Japan, is a network of early-career researchers in Japan. Our Young Academy was set up as we saw young researchers from countries

throughout the world joining together to create such organizations as the Global Young Academy (GYA) of which I am a member. Inviting the participation of young members of other Japanese academic societies as well, our Young Academy takes up such themes as those in general science and cross-disciplinary areas that do not fall readily in the realm of any one academic society. We also hold workshops where we think together with high school and university students about the future of research. Based on the knowledge gained from these initiatives, the Young Academy provides comments to senior academic unions.

At this time when the environment for academic research is undergoing great change, I believe it is necessary to understand the world situation. By creating interfaces that connect young researchers with conventional research and other scientists, I hope it will give rise to various activities and create a world in which science is not walled off as a special activity but is seen as everyday and familiar. I call this "making science into culture."

Future Prospects from outside of academia

Daiki Horikawa (Keio Research Institute at SFC)

Focusing on movements outside academia and taking the standpoint of researchers and other players, the talk looked at how things will develop as information is made more open.



I am a freelance researcher, and so I do not receive a salary from a university. I provide academic information on my blog and other online means for free, and I receive income from an e-zine and the sale of goods.

Open access empowers researchers outside of academia, too. It becomes easier to increase the number of "fans" and "fellows" and to gather information. Contributions and other funds can be attracted readily, as a result of which your activities become even more energized. The people who are putting this into practice are called biohackers. Engaged in biology research outside academia, they are proposing and carrying out research projects in an open biospace. There is a very strong desire to share information. BioCurious,⁶ for example, is a service in Silicon Valley where information and members gather and make use of crowdfunding to finance projects, such as creating artificial cheese for vegetarians.

⁴ Beall's List: <http://scholarlyvoa.com/publishers/>. A list created by Jeffrey Beall, a librarian at the University of Colorado Denver. The list is known for identifying publishers suspected of predatory practices, namely, posing as publishers of open access academic journals but exploiting this position to obtain article processing charges (APC).

⁵ Young Academy of Japan: <http://www.youngacademy-japan.org/>

⁶ BioCurious: <http://biocurious.org/>

There are similar movements in Japan. One example is a project where several remote presenters and I collected travel expenses by means of crowdfunding so that we could pay for the travel expenses of invited speakers to a conference on insects which was streamed online at Niconico Gakkai β. Among the funders were housewives and NEET (young people who are “Not in Education, Employment, or Training”). The reason we were able to attract funding is that the presenters were people who made their own information open through blogs and the like. Otherwise we would not have been able to gather the necessary funds.

When researchers use blogs or SNS to disseminate information, they too are putting the open access concept into practice. They can issue information at zero cost, gather evaluations, and feed these back to their research. By means of Mushiblo,⁷ a blog about insects, and the Twitter account Kumamushisan,⁸ I aim to write articles and somewhat playful but useful tweets that draw wide interest in my research. I use these outlets also to sell stuffed animals (*kumamushi* = tardigrades or “water bears”), get subscriptions to my e-zine, and publish books.

Providing knowledge for free attracts feedback as well as human and financial resources, supporting independent research activities. By involving more people in the world of research, this kind of movement is helping to shrink the knowledge gap and further accelerate open access, which is sure to increase the sum total of human research activities.

Panel Discussion

Moderator: Sho Sato (Doshisha University)

Panel members: Hideo Iwasaki (Faculty of Science and Engineering, Waseda University) / Toshiyuki Yamada (Yoshihiro Yonezawa Memorial Library, Meiji University) / Shinichiro Takezawa (General Healthcare Inc.) / Shoji Komai (Nara Institute of Science and Technology [NAIST]) / Daiki Horikawa (Keio Research Institute at SFC) / Eisuke Enoki (Faculty of Medicine, Kinki University)

The panel discussion covered a variety of topics, from research funding, grant frameworks, as well as journal articles and peer review to biohackers (DIY biology researchers), academic expression, as well as open access and academics. Highlights are given below.

SATO: Before starting the discussions, let me give a self-introduction. In the field of library and information science, I study open access. As a student, I analyzed the usage of open access articles deposited in institutional repositories, as a

result of which I discovered they were widely used by the ordinary public. I conducted graduate research in 2007. I check Twitter, Facebook, Niconico, and other social network services daily. When I find something interesting, my default impulse is to share it with others. I’m 29 this year, and I believe I myself can be called part of “Generation Open.”

We have asked for questions from the floor, so let’s start with this one. Do you think your own activities require support from the national government?

HORIKAWA: If that’s an offer, I’ll take it. (*laughs*)

YAMADA: My own research is like a hobby. Niconico Gakkai β, where I am a member of the executive committee, participates in research that is supported by the government as joint research with universities and companies. When I was still working at the university, I had the opportunity to be involved in handling budgets for research expenses and so on in my work. The impression I received was that the conditions for government funding are generally so demanding as to make them difficult to use.

TAKEZAWA: Given the importance of funding for running an open access journal, I would welcome financial support. In the case of Kakenhi [Grants-in-Aid for Scientific Research], for example, there are grants that academic societies can receive that cover their costs of publishing e-journals, but corporations aren’t eligible for the grants. I would like to see a wide range of support methods considered.

SATO: A question for Mr. Iwasaki. I realize this is something I should know, but what are the secrets for obtaining ordinary legacy research funding for the kind of research that you really want to do?

IWASAKI: If I write what I really want to do and fail to obtain funding, I give up. (*laughs*) In the past I was able to get funding because of the originality in combining life sciences and art, but this is becoming increasingly difficult. On the art side, I have applied also for overseas funding. I would like to try crowdfunding. It seems to me there should be government support for research that cannot be described with catchy copy.

SATO: Regarding crowdfunding, *SPP (Science Postprint)* has a donation button with articles, but in reality how much is being collected?

TAKEZAWA: First of all, the request for a donation button comes from the people submitting



⁷ Mushiblo: <http://horikawad.hatenadiary.com/>

⁸ Kumamushisan: (@kumamushisan)

Twitter: <https://twitter.com/kumamushisan>

papers. It's displayed for around half the papers. Actual donations are still quite rare.

YAMADA: Niconico has a scheme where the company providing the service pays small amounts of reward money based on the number of accesses and other factors. The key is whether the content becomes popular.

IWASAKI: Research funding projects in Japan are divided vertically among different walled-off government agencies, and there are no funding agencies that link different ministries. As for research fields, general universities lack art faculties, and there is no simple way of bringing together art and science. As a result, I feel the issue is the top-down manner in which connections are made.

SATO: Now a question for Mr. Komai. How do you think these kinds of activities can be connected in the Science Council?

KOMAI: Japan has not yet reached the level where these can be taken up at the policy or Science Council level, but for now I want to get a clear picture of what kinds of activities are currently taking place.

SATO: Next I would like to ask today's presenters to offer questions or comments on presentations other than your own.

IWASAKI: As someone in academia, I have a comment for Mr. Takezawa. In general with peer review, the text of the actual peer review is not made available anywhere, and there is no compensation for it (even though it takes up a large amount of time as part of academic activities). I would very much like to see *SPP* address this issue. You are thinking of paying back part of the proceeds to reviewers in the future. How much are you considering paying?

TAKEZAWA: First, we are going to implement peer review of articles after they have been published. Then we are thinking of ranking the content of the peer reviews and making payments on that basis.

IWASAKI: Even better would be for the reviews to be made public so that scientists can read them and see which reviews are good.

HORIKAWA: I have a question for Mr. Takezawa. I think it's great that you not only decided a general journal would be a good thing but actually went ahead and launched one. In what way is the journal being managed? How are you handling the processes of editing, assembling peer reviewers, and ensuring quality within the limited budget?

TAKEZAWA: Peer reviewers are experts in their field, and this is not something that you would expect to differ with the journal brand (so quality is guaranteed). As for the journal branding, we intend to gradually build up the peer review mechanism and achieve what other academic

societies cannot accomplish. I believe if we proceed carefully, the recognition of these efforts will come eventually.

YAMADA: Regarding biohackers, I would assume with life sciences there are all kinds of difficulties from a bioethics standpoint. In the case of DIY biomedical experiments and research activities, I'm curious as to whether trouble arises and what kind of care is being taken.

IWASAKI: We are always worried about things like the risk of bioterrorism. Right now, however, at the stage of practical experiments where we are thinking about what new things might be possible if we make a certain thing, we are keenly aware in our laboratory that even if we try to make, for example, something outrageous, it's surprisingly difficult. At the same time, if we share the results of various experiments and methods for dealing with failures, they should also be useful as measures against risks. This is not possible when research is monopolized by universities or corporations.

TAKEZAWA: If someone wants to be a biohacker while holding down a regular job, how should they go about this?

HORIKAWA: The key is to create a venue by some means or other. Bring together like-minded people or make an appeal to the public about what you'd like to do. There are people doing weekend biology; then there is also the approach of earning piles of money (there are actually people outside Japan doing just that).

KOMAI: As someone doing conventional research, I'm thinking that I would like many different people to know about that research. I want it to be a means by which people find out ordinarily, not something like a science cafe where it won't be known unless it finds its way to some other place by outreach. I like what Mr. Iwasaki is doing, mixing in the fine arts as a familiar theme, and am proceeding by trial and error; but it's proving difficult to obtain broad participation. I would like to ask Mr. Iwasaki how he goes about awakening the interest of researchers in other fields and ordinary people.

IWASAKI: I think it's necessary to approach this from the stance of peer researchers. By default, scientists tend to start with a specific topic or to have a research question that will lead easily to a paper. Artists, on the other hand, start from a blank canvas and have to do something with the canvas. On that basis they are involved in showing a process, dealing with philosophical questions or with matters for which there is no answer. In that sense, artists may be more practiced at posing questions. One would expect both science and art to be alike, however, in starting out from curiosity. And academic papers are not the only means of

expression.

SATO: While we are still in the middle of some highly interesting discussions, I would like to turn our attention to the future. Let us hear your ideas about the future of research platforms and how to support young researchers. I'll first ask Mr. Enoki, who moderated the first half of the program, to comment.

ENOKI: I myself after doing embryology in the science faculty entered the faculty of medicine, and am currently a pathologist. I'm keenly interested in the status of bio-research and issues for young researchers. In my latest book, *Uso to zetsubo no seimei-kagaku* [Lies and despair in life sciences], I take up a recent Japanese slang term *piped*, referring to someone who is forced to spend all day with a pipette in hand performing experiments. It is emblematic of the situation in which young researchers in the biology field find themselves. As for what this word has to do with open access, young researchers cling to positions in academia and are under pressure in the workplace. I too suffered from the strong notion that if I left academia I would not be able to conduct research. Compared, however, to the 1990s when I was in that situation, I feel the walls around academia today have become considerably lower. I believe it is open access that has made this possible. Open access, in other words, has given young researchers the hope of being able to continue with their research regardless of whether they are inside or outside of academia.

SATO: I wonder if the lower walls mean that the winds of change are also blowing in academia.

KOMAI: We young scientists established the Young Academy of Japan because of the encouragement we were given by senior members of the Science Council based on international trends. There is movement in academia as well.

SATO: As a freelance researcher, what kinds of improvements would you like to see?

HORIKAWA: *Nature Communications* appears to have gone fully open access, and I would like to see journals adopt open access policies in that same way.

SATO: The article processing charges (APC) are rather high, though.

HORIKAWA: Still, when a branded journal goes open access, branding of the authors appearing in it becomes possible as well. I think it's fine to make an appeal on that basis.

SATO: Don't freelance researchers publish in journals?

HORIKAWA: I don't think the output necessarily has to be in the form of an academic paper. There is no obligation to compile a list of academic accomplishments.

SATO: In terms of research output, how are the

results of funded art projects announced?

IWASAKI: With art, there are cases where artistic works are released; but outside Japan there are also looser forms such as discussions.

TAKEZAWA: It would be nice if journals allowed free participation by many kinds of people. Wouldn't it be interesting if high school science clubs could submit papers?

SATO: What kind of commitment can libraries make in response to these trends?

YAMADA: We need to stay attuned to what is going on so we can fulfill our role of collecting research output. It would be difficult to make specific commitments right away, while there are probably researchers out there who are still feeling their way along.

SATO: How about providing environments for knowledge production? Shared laboratories, for example.

YAMADA: That might be possible, if we can clear the political issues within the university, including whether such a task is the proper domain of a library.

SATO: We are running out of time, so I'll ask each presenter for a final comment.

IWASAKI: My hope is that people will come to appreciate that there are many forms of expression. I believe that is the gist of "making science into culture" (*on Mr. Komai's slide*).

YAMADA: In my previous work as a university librarian, I was interested in making knowledge open, and since moving on I have been able to remain involved in such activities. I have the feeling the world as a whole is heading in interesting directions.

TAKEZAWA: While running a scholarly journal, I have also pursued an interest in research misconduct. I believe making laboratory notes public can be effective for preventing such misconduct. Putting lab notes in the library and having them managed there might also be an interesting approach.

KOMAI: Traditionally libraries have a central role to play, and I believe that includes being a place that promotes knowledge creation also from a community standpoint. It would be interesting for them to act as a public place where various researchers can gather, or as a kind of collaboration office.

HORIKAWA: I think libraries should be able to function as one kind of community venue.

SATO: Thanks to all of you for today's discussion.

-----Afterword-----

😊 This time we had Eisuke Enoki take part in our planning WG and were able to hold a seminar with a sterling cast of young researchers. And under the facile moderation of Sho Sato, the panel discussion took up one vital issue after another regarding research and science. We even had two water bears present, watching over the proceedings. All in all, it was a highly interesting session in which we heard that research is supposed to be enjoyable, that there are many ways of expressing the results, and that even “freelance” (amateur) researchers would announce their results if there were a platform for doing so.

My own interest, coming from my experience working in a medical library, is in a situation where one venue comes to be shared by people with different interests and viewpoints. Thanks to open access, such venues are increasing. If you see both libraries and the web as a kind of venue, I feel that this seminar has provided us with major hints about what we can do next.

Ikuko Tsuchide

(Osaka University Library)

😊 I took part in planning this event without having ever participated in a SPARC Japan seminar before and without knowing what kinds of seminars had been held in the past. Learning that it would be a “festival” on the theme of open access, I decided it would be nice to invite people I wanted to hear talk and people I wanted to meet, and made suggestions about whom to select as speakers.

Mr. Iwasaki was someone I knew from my graduate school days, who has long been active outside the narrow framework of researchers. Of course, his research is top class, and he even has a laboratory in his home, as he carries on activities that easily cross the barrier between science and art. Mr. Takezawa, while holding a doctorate in life sciences, has not let his work be limited by the confines of academia. And then there is “Professor Water Bear” Horikawa, who by now has become famous in his own right. He is putting into practice the concept of doing research work in society. Listening to Mr. Yamada talk about Niconico Gakkai β, I felt that we may have come to the point where doctoral and other degrees are

no longer meaningful. I felt a little sorry for Mr. Komai, asking him to represent academia at an event like this, but he convinced us that conventional science is also being stimulated by these trends.

I believe open access is empowering people like these and is providing a foundation on which the world will undergo change. It was a time to embrace hope for the future of research. I would like to continue keeping the flame alive into the future.

Eisuke Enoki

(Faculty of Medicine, Kinki University)

😊 I knew the seminar would be held during the once-annual Open Access Week, and what’s more, on the theme of “Generation Open,” so I wanted to make it an enjoyable “festival” that would create ties between young researchers who are engaged in impressive activities in Japan and people who take part in SPARC Japan seminars. I hope everyone enjoyed it. For me personally, it was of the greatest pleasure.

That research is enjoyable and interesting, and becomes even more enjoyable when it is carried out while sharing with many people, I believe, is a feeling held by many researchers of my own generation. Today there is often the risk that that enjoyment will be crushed by feelings of irritation and entrapment from the pressure to produce results and by the virtually unchangeable structure of established academia; but I believe this seminar included some hints as to how to break out of that trap.

Sho Sato

(Doshisha University)

😊 Today’s participants have left comments on Twitter and on their blogs. Thank you very much.

<<http://togetter.com/li/737570>>

<<http://cheb.hatenablog.com/entry/2014/11/09/225850>>

<<http://medister.info/doctorsblog/?p=1663>>

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