

The Communication of Scientific Research to the Public at APCTP

SANG WOOK KIM
KYUNG HEE UNIVERSITY

The Asia Pacific Center for Theoretical Physics (APCTP)'s work in promoting the intersection of science and culture began in 2005. At that time, APCTP Director Robert Laughlin suggested the launch of a webzine in Korea that would produce distinctive and unique scientific and cultural content. Thus, a monthly webzine, entitled *Crossroads* (<http://Crossroads.apctp.org>), was published; an editor in chief is Professor Jae-Seung Jeong of KAIST, Professor Sang-Joon Park of POSTECH, Professor Hyung-Tae Kook of Kachon University, and Professor Sang Wook Kim of Pusan National University. The webzine's title, *Crossroads*, refers to the hope that this webzine will continue to be at the intersection between science, humanities and the arts. It sets adults and advanced readers as its main target audience, as well as middle and high school students. Now, consensus among different disciplines or convergence has become fashionable, but Laughlin's idea was an extraordinary and experimental concept at that time.

make up the framework for *Crossroads*. *Crossroads*'s columns have covered "The Physics of an Ordinary Day" by Professor Kiejin Lee, "The Physics of World Water" by Beom-Jun Kim, "The immortal Atom" by Professor Kang-Young Lee, and "Sang Wook Kim's Science Study" by Sang Wook Kim; most of these columns have been further developed and published as books. It also has had sections such as "Science Talk", where three panelists hold in-depth discussions on a topic with a specialist, and "Book Battles", where several people debate and discuss with confronting two science books, both of which were later published as the books Science Talk 1 & 2 and Book Battle, respectively. In addition, we also published books such as The Theory of Relativity: 100 Years; People with Happiness doing Science; Science Calls Me; and What is Science?



Fig.1: Webzine *Crossroads*.

Crossroads has tried various types of sections and, presently, regular columns, essays, and timely special features



Fig.2: Books published by APCTP.

In particular, *Crossroad*'s Sci-Fi section was almost the only science-fiction platform in Korea at that time, which was operated by paying appropriately. By doing this, we are proud to have become a part of the history of Korean literature. Many new science fiction (SF) writers were discovered through this corner. We also have published many SF books, including *Alternative Dream*



Fig.3: Science Communication School.

(Golden Branch), Absolute Body (Hato), Tell the Dead (Hato) (Scientica), and Artificial Intelligence Crisics-66 (KePoi Books). In 2015, a special commemorative forum of Korean SF experts was held to celebrate the 10th anniversary of the APCTP SF section, and the results were published in monographs.

Combining scientific and cultural projects through the webzine *Crossroads* was the initial scope of APCTP's work in this field, but APCTP's activities in this area are gradually becoming broader. The Science Communication School, which began in 2006, has been held 18 times this year with the goal of providing science and engineering graduate students with opportunities to be educated in logical writing and presentations. Students stay together for two nights and three days, discussing topics, writing, and presenting topics as a team. It is the only program in Korea that has been done for this purpose, and some participants have jobs related to scientific communication.

Scientific lectures are the basis of science and culture business. The APTCP has held regular scientific lectures since its inception. In particular, we planned lectures where scientists directly visited small and medium-sized urban areas where scientific lectures are often not avail-



able. The lecture often took place at the local library, as it is a hub for the community. From October 2005 to April 2013, the "Science Lecture in the Library" was conducted successfully 78 times. In 2010, a similar event, October Sky, started through the voluntary participation of scientists, so we ended the "Science Lecture in the Library" program.

Scientific lectures are a way for scientists to meet the general public and communicate science. This opportunity is important because scientists often do not interact with ordinary members of the public regarding their work. However, since there are not enough scientists to communicate directly with the public, there are obvious limits in scheduling direct contact with the public. While discussing the different ways of communication, we came up with the idea of communicating with the public through artists in different fields, such as writers, graphic artists, producers, and singers. This idea also allowed us to have a channel of communication between scientists and artists. So, from 2012 until the present, we have been conducting the "Science and Culture: Creative Art Workshop" twice a year. The event, consisting of lectures, debates, hiking and socializing, is held at the Sobaeksan Observatory for three days. Now it has become a well-known event in the artistic and cultural communities.



Fig.4: Science Lecture in the Library.





Fig.5: Science and Culture: Creative Art Workshop.



We thought that communications with the humanities should be different from culture and the arts. Since 2014, we have conducted six “Super-Academic Meetings”. Scientists and researchers in the humanities have gathered together to discuss specific topics, organize their results, post them on a *Crossroads*, or publish those results in books. Topics have included the complexity of big history, cloning, creative science in Korea, science communication, robotics, and science writing. Books such as *Duplicate in Five Paths*, *Almost Everything in Korean Creative Science*, and *Robot* were published.



Fig.6: 2015 Science Books of the Year selected by APCTP.

One of the best ways to have access to science, from the greater public’s point of view, is to read books about science. For this reason, the science and culture team of APCTP has had from the beginning great interest in publishing scientific books. Since 2005, we have selected and published 10 titles in a series entitled “Science Books of the Year selected by APCTP” approximately every year.

at Seodaemun Natural History Museum in Seoul the following year. In 2015, celebrating the 10th anniversary of APCTP, we selected 50 of the best classic scientific books, and in 2016, reviews for the respective books were posted weekly in the Internet Media Preview. The reviews were bundled and published with the title, *Science Classic 50*.

The authors or translators, and in certain situations, experts related to the 10 selected books, present lectures

Science needs the support of society. Therefore, scientists have an obligation to inform citizens of their research. Science is essential in cultivating the rights of citizenship, which is one of the reasons why citizens should be

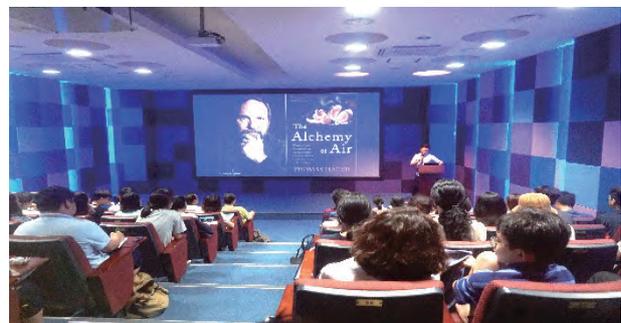


Fig.7: Lecture on the Science Books of the Year at Seodaemun Natural History Museum APCTP is located in Pohang, so it hosts or actively participates in science-related cultural events in Pohang. The Pohang Family Science Festival, which has been held annually since 2004, has become a prominent event for the city of Pohang. Another program, Science at City Hall, has been held twice every year since 2008, and it is the first program in Korea to benchmark the scientific and cultural events that have been held in order to introduce the results of modern science to the general public at the Max Planck Institute for the Physics of Complex Systems. It is a new type of scientific and cultural event that combines science, education, art and experience.



Fig.8: Pohang Family Science Festival.



interested in science. Science is also one of the most valuable systems of knowledge that human beings have ever achieved. As APCTP strives for the advancement of theoretical physics, it must also strive to share the knowledge of science that has been learned through research with the public. In this article we have summarized 13 years of

the fusion of scientific and cultural activities at APCTP. In relation to the size of the organization and the budget, it can be said that the joint scientific and cultural activities at APCTP have been more actively carried out here than anywhere else in Korea.



Sang Wook Kim is the Editor-in-Chief of the Science Culture committee of APCTP, and a professor at Department of Physics, Kyung Hee University. After receiving a Ph.D from KAIST, he worked at POSTECH, KAIST, Max-Planck Institute of Physics of Complex Systems, Seoul National University, and Pusan National University before joining Kyung Hee University in 2018. His research field is quantum science. He is also active at communicating science with public.