

§28. Promotion of Cooperation among Plasma-related Interdisciplinary Sciences

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Plasma is ubiquitous in the universe, and its nonlinearity and non-equilibrium properties provide attractive topics in research of basic science including physics, astrophysics, and mathematics. In addition, plasma science is also a fundamental science of wide variety of application including development of nuclear fusion reactors and material process technology. Recently, the application of plasma is also expanding to area of medical science and agricultural science. Close linkages among the related research fields are desirable for breakthrough of the plasma science and for creation of new scientific fields.

The Region 2 (Division of Plasma Physics: DPP) of the Physical Society of Japan (JPS) is one of the most active society in the field of plasma physics in Japan. The committee of JPS-DPP sets a goal to promote scientific collaboration among related scientific communities, and has been managing domestic meetings of JPS twice a year as opportunities to communicate among researchers distributed to wide variety of study fields. In this fiscal year, Fall meeting was held in Kansai University in 16 – 19 September, and 130 oral talks including one invited talk and one symposium were presented. Annual meeting was held in Tohoku Gakuin University in 19 – 22 March. 142 talks including one invited talk, four symposium, and two talks by winners of JPS Young Scientist Award were presented. Topics of meetings covered wide variety of study of plasma including basic plasma physics, plasma sciences (including plasma applications), fusion plasmas, and plasma astrophysics. In order to discuss dynamics of plasmas from viewpoint of non-equilibrium and extreme state of matters, “Non-Equilibrium and Extreme State Plasmas” session was held as a special session two years ago, and the program committee of JPS-DPP continued to hold this special session in this fiscal year. The session covered the linear device experiments, torus plasmas, laser plasmas, high pressure plasmas (warm dense matter), and industrial application, and it would help participants to exchange their knowledge among different fields of study.

In order to intensify the activities further in the future, it is important to support and encourage young scientists and students. Two programs are individually operated in JPS-DPP. One is selection of JPS Young Scientist Award in the field of DPP. Two young scientists got this award from JPS in the fiscal year 2015. The other is the Best Presentation Award for Students, which is an original program by JPS-DPP and carried out every JPS meeting. Four students got the Best Presentation Award in both the Fall and Annual

meetings in this fiscal year. The award encourages young scientists and students to present their good results in JPS meetings (see Fig.1).

In this fiscal year, JPS-DPP has decided to join Division of Plasma Physics, Association of Asia Pacific Physical Societies (AAPPS-DPP) as a group member. The decision will promote scientific collaboration not only among domestic community but also among international relevant communities. JPS-DPP has been maintaining a web site [1] and a mailing list [2] to share information relevant to plasma science, including announcement of JPS meetings and awards, and international information, among members of DPP-JPS. Information on AAPPS-DPP can be also obtained through the mailing list of JPS-DPP as well as a web site of AAPPS-DPP[3].

Activities described above were partly supported by a collaborative research of National Institute for Fusion Science, and the support contributed to successful management of JPS meeting. Areas of plasma science and application are expanding, but they are being subdivided at the same time. For further development and breakthrough in this area, the promotion of communication and collaboration among relevant researchers is becoming more important. Further continuous support is expected to establish future strategic promotion by JPS-DPP.

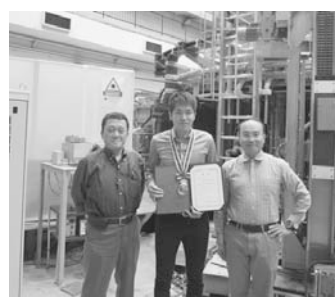


Fig.1 A photograph of a winner of the Best Presentation Award 2016 (Spring). With laboratory members.

- [1] <http://www.r2.div.jps.or.jp/>
- [2] PlasmaML@nifs.ac.jp
- [3] <http://aappsdp.org/AAPPSDPPF/>