

# Japanese activity for World Climate Research Programme (WCRP)/Stratosphere-troposphere Processes And their Role in Climate (SPARC)

\*Kaoru Sato<sup>1</sup>

1. Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo

The stratosphere and troposphere science field in Japan is thick and the activities are widely recognized internationally. Currently, the activities of WCRP/SPARC in Japan are driven by the SPARC subcommittee under the Joint FE/WCRP subcommittee of the Environmental Studies Committee and Earth and Planetary Science Committee of the Science Council of Japan (SCJ). In the past days, stratospheric science had been studied mainly from a viewpoint of atmospheric dynamics. However, stratospheric science is closely connected with the atmospheric chemistry field dealing with processes of ozone and aerosol, and with the upper atmospheric physics field dealing with the mesosphere thermosphere processes. Thus SPARC is characterized as a highly interdisciplinary project. Therefore, activities in JpGU are important as well as those in the Meteorological Society of Japan, and the committee has regularly organized SPARC sessions the JpGU Assembly. In addition, the 6th International SPARC General Assembly (SPARC GA 2018) will be held in Kyoto in October of this year, and the SPARC Subcommittee will serve as LOC of SPARC GA 2018. The International SPARC General Assembly has been held once every four years, and SPARC GA 2018 is the first GA in East Asia. This GA will be held continuously with Joint 14th iCACGP Quadrennial Symposium/15th IGAC Science Conference to deepen the collaboration with atmospheric chemistry field. Organization and invitation of these domestic/international meetings on SPARC have been planned and implemented mainly by the SPARC subcommittee of SCJ. This scheme is highly appreciated internationally.

The stratosphere/troposphere science handled by SPARC is a field dealing with issues deeply involved in global environmental problems such as ozone hole, global warming, tele-connection of climate. Each member of the SPARC community has been working by moderately collaborated with those of the other WCRP projects. Such collaboration need to be continued and strengthened in the future so as to give solutions of global environmental problems. For this, it is necessary to closely monitor the current state by observations, and to deeply understand the processes and the connection between the processes precisely. This gives fundamentals needed for future prediction by models. It is important to correctly understand the linkage with other environmental factors handled by other projects. However, it is indicated that there are various problems in the way of earth observations by satellites etc. in Japan, and it is necessary to look at the direction from the researcher side. Furthermore, the viewpoint of research tends to concentrate on the global nature of the issue, and the basic understanding of each processes tends to be treated less important than before. However, In order to clarify definite prescriptions for solving the global environmental problem, balanced science should be promoted from both macro and micro viewpoints.

Keywords: World Climate Research Programme (WCRP), Stratosphere-troposphere Processes And their Role in Climate (SPARC)