## "Crowd science" with citizen supporters through Kyoto Open Science Activities

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The open science is an umbrella term spanning various concepts of open data, open access, and collaborative work as coined by OECD. In 2016, we launched "Kyoto Open Science (KOS) Meetup" as a forum to share and discuss open science activities in Japan covering both researchers and citizen supporters. The KOS Meetup is aiming to exploring the collaborative work between researchers and citizen supporters. We called "crowd science", as one of the collaborative research styles where the recent advancement of information and communication technology becomes essential to connect them. For a previous well-known example, volunteer citizens classified many galaxy images on the Internet in Galaxy Zoo (Raddick et al., Physical Review Physics Education Research, 2007). Main activities of our KOS Meetups consist of monthly meetings (already 18 events) and annual workshops (three workshops so far since 2016). We have invited various guests who has been involved in crowd science projects, such as researchers, crowd science project organizers and university administrators, covering a wide range of topics (e.g. weather observation, environmental radiation monitoring, transcription of old documents, and slug hunting). They provided ideas for good collaborative activities between researchers and citizen supporters. The meeting also serves as a place for establishing lateral connections among active practitioners in the open science field. Our annual workshops, which consisted of talks and hand-on activities, aims to enhance participation of wide range of citizen supporters in crowd science projects. Based on our activities, we found that "location", "content" and "method" are key factors to make citizens motivated (Ono, Ikkatai, and Enoto, IIAI-AAI, 2017) and their motivations to participate in the crowd science varied depending on ages. At our poster presentation, we will introduce the various open science activities in Japan presented at the KOS Meetups.

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