

**COMMUNITY EDUCATION TO FOSTER FACILITY ENGAGEMENT: THE EXAMPLE OF THE DKIST DATA TRAINING WORKSHOPS.** G. Cauzzi<sup>1</sup>, H. Uitenbroek<sup>1</sup>, C. Raftery<sup>1</sup> and V. Martinez Pillet<sup>1</sup>, <sup>1</sup>National Solar Observatory, Boulder, CO; [gcauzzi@nso.edu](mailto:gcauzzi@nso.edu), [huitenbroek@nso.edu](mailto:huitenbroek@nso.edu), [craftery@nso.edu](mailto:craftery@nso.edu), [vpillet@nso.edu](mailto:vpillet@nso.edu).

**Abstract:** Over the last years, the National Solar Observatory has organized and conducted five “DKIST Data Training Workshops” (with two more in the pipeline), with the goal of preparing the US solar community for the wide variety of data expected from DKIST. These workshops addressed a variety of topics, including the nature of ground-based solar observations, the analysis of high-cadence imaging data, spectro-polarimetric observations in various regimes, and common data reduction and interpretation techniques. Emphasis has been given to the theoretical foundations of polarimetry and radiative transfer, as well as the advantages and limitations offered by different diagnostics. Many of these topics are still relatively unfamiliar to a large fraction of the US community, traditionally more focused on high-energy, space-based observations of the optically thin coronal plasma.

While open to everyone, the DKIST Data Training Workshops have been tailored to an early-career audience of PhD students and recent postdocs, aiming at cultivating a new cadre of researchers that can take full advantage of the unprecedented volume of diverse observations expected from DKIST. To date, the experience of the attendees has been overwhelmingly positive. On average, about 40 young US researchers have participated in each Workshop, with many of them participating in multiple schools. Post-attendance surveys have confirmed that the students were very appreciative of the format and contents, and several of them have partially steered their research towards topics and methods presented during the workshops. The DKIST project plans to continue this experience in the coming years, revisiting previous themes or offering new topics, all adapted to the evolving situation at the telescope. This will help broaden the quantity and quality of community participation in planning and analyzing observations with the telescope.

This experience has given us the view that this type of community-engagement activity will be increasingly necessary in the future, in order to best exploit the scientific potential of the advanced but complex facilities the community plans to operate. This contribution aims at soliciting a discussion on how to convince funding agencies to provide support for the dedicated efforts of scientists and educators, as well as possible participant costs.

In this respect, we note that during the COVID pandemic, the format of the DKIST workshops evolved to a fully virtual experience, which still has drawn mostly positive remarks from the participants. While the virtual setting has been certainly detrimental to forming strong personal relationships among the students, it has also opened up more possibilities, including allowing the participation of “non-traditional” attendees (such as more international students, experienced researchers, etc.) and facilitating the workshops’ organization, freeing it from most logistical problems and much reducing the associated costs. This will also allow organizers to better reach out to, and promote involvement of, underrepresented groups in the field. A judicious mixture of in-person and remote workshops balancing these needs will represent the best way forward.