

Synergies among the IAU Offices

Kevin Govender¹, Sze-Leung Cheung², Itziar Aretxaga³ and
Oddbjørn Engvold⁴

¹IAU Office of Astronomy for Development, c/o South African Astronomical Observatory,
PO Box 9, Observatory, 7935, South Africa. Email: kg@astro4dev.org

²IAU Office for Astronomy Outreach, c/o National Astronomical Observatory of Japan
Email: cheungszeleung@gmail.com

³Instituto Nacional de Astrofísica, Óptica y Electrónica, Luis Enrique Erro 1, Sta. María
Tonantzintla, 72840 Puebla, Mexico. Email: itziar@inaoep.mx

⁴Roseland Centre for Solar Physics, Institute of Theoretical Astrophysics, University of Oslo,
Oslo, Norway. Email: oddbjorn.engvold@astro.uio.no

The IAU Strategic Plan 2020-2030 envisages four offices (Office of Astronomy for Development; Office for Astronomy Outreach; Office for Young Astronomers; Office for Astronomy Education). The IAU's three current offices (OAD, OAO, OYA) have distinct mandates but need to work in synergy to ensure maximum effectiveness.

The IAU established the Office of Astronomy for Development (OAD) in 2011 in partnership with the National Research Foundation (NRF) of South Africa, with strong support from the South African Department of Science and Technology. The OAD is hosted at the South African Astronomical Observatory (SAAO) in Cape Town, South Africa, and aims to use astronomy to impact on the United Nations Sustainable Development Goals (SDGs). Its activities revolve largely around an annual open call for proposals, the establishment and oversight of regional structures, and the building of collaborations and networks between astronomy and development fields. As of 2018 the OAD has supported 122 "astronomy-for-development" projects reaching over 85 countries; established 10 regional offices around the world; and registered over 600 volunteers.

The IAU Office for Astronomy Outreach (OAO) is the IAU's hub for coordinating its public outreach activities around the world. It is based at the National Astronomical Observatory of Japan (NAOJ) with funding contributions from several astronomical institutes. The OAO coordinates and supports worldwide efforts to enhance public knowledge, appreciation and education of astronomy and related sciences. The OAO promotes public awareness of the IAU activities and coordinates the IAU international outreach campaigns. The OAO maintains and coordinates the IAU network of National Outreach Coordinators (NOC), who are responsible for the implementation of IAU outreach initiatives at national level and for maintaining the relationship with the national communities of amateur astronomers. The OAO also works with the IAU's Commission C2 to support the astronomy communication communities through the CAP Journal (Communicating Astronomy with the Public) and CAP conference.

The three-week International Schools for Young Astronomers (ISYA) program of Office for Young Astronomers (OYA) are intensive postgraduate schools in regions where students have limited opportunity to be exposed to full extent, up-to-date lectures in astronomy. They provide basic introductory courses led by an international panel of ~10 – 12 professors, that cover theoretical and observational lectures and lab work with local observing facilities (when available), data reduction labs, virtual observatory and/or

data mining labs. The selection of topics for each school is tailored to regional needs. The schools accommodate $\sim 30 - 50$ students, ensuring a lively interaction with the lecturers throughout the school, where professional longer-term interactions often develop. In recent years, collaboration of ISYA and regional OAD offices and OAO NOCs has given some fruitful examples of a path to reinforce in the future. In the Ethiopia 2017 ISYA, for instance, the Square Kilometre Array South African Office offered a communication workshop supported by the regional OAD, where students designed development projects that could be submitted to the OAD calls for proposals. The Colombia 2018 ISYA was co-organized by an alliance of Colombian universities and the regional OAD, and additional curriculum modules for high performance computing, machine learning, and big data handling were included into the program. Additionally, many schools include science communication workshops led by prominent local outreach agents, with links to OAO. Activities such as how to design a good outreach talk/paper/science activity or use social media are part of these workshops.

These complementary activities strengthen the notion that the schools have to be flexible in their curricula and adapt to local needs, opportunities and conditions, and that collaboration on development (OAD), outreach (OAO) and education (OAE) have a natural fit into the young astronomers (OYA) ISYA curricula. One of the major partnerships among the offices is the sharing of networks, for example the OAD regional offices have the know-how at regional levels that advise the OAO to identify the key person to serve as the OAO network of National Outreach Coordinators (NOCs). This is also true in reverse, since the OAO NOCs network covers regions that do not have a regional OAD office. The OAO NOC network was a useful tool to reach out to people beyond the OAD reach. In the same way, the OAO can also support OYA and ISYA needs of identifying potential future hosts. Given the fact that in many cases those who are conducting activities related to development, outreach, education and professional development are the same group of people, the sharing of human networks and cross-advertisement of activities are particularly useful among the offices.