

ASSA Instrumentation Section Report – July 2019

Activities of the Instrumentation Section continue to largely revolve around communication, outreach, guidance and education, plus the important aspect of encouraging people in the pursuit of their personal instrumentation projects. There is no drive to formally induct members into the Section. Rather, the approach has been to address ASSA members' ad-hoc needs for information on a case by case basis.

In support of the Society's general communication efforts, which equally support the instrumentation Section's goals, the following activities are ongoing:

- Moderate the ASSA FaceBook page
- Moderate the Yahoo! Group mail lists
- Moderate the Telescope Making SA FaceBook page

The Section directly supports the needs of both ASSA members and the general public regarding selection, construction, purchase, maintenance and use of instrumentation. This is mostly done via the Amateur Telescope Making (ATM) class, the Telescope Making SA FaceBook page, e-mail correspondence, telephonic discussion, WhatsApp/SMS, and ScopeX.

The distinctly South African "Telescope Making SA" Facebook group attracts members from around the world. International involvement produces an energetic flow of ideas, information, technical assistance and encouragement. Some of the (at times unusual) approaches to instrumentation developed locally have, after being highlighted in this medium, been favorably received and copied abroad. Prospective members are vetted prior to admitting them to the group and appropriate behaviour is gently but firmly enforced. The Telescope Making SA FaceBook page currently has **760** members. Of the 486 active members from 100 towns/cities in 37 countries who have been active participants during the last year, 11.5% overall are female. A total of 163 Posts were contributed during this time.

The ATM class has been continuously active since mid-1991, with expertise, materials and useful components freely shared for individuals' projects. It attracts a steady stream of newcomers to the art, with a good success rate of people finishing their first instruments. In addition, after completion of their first telescope, a fair number of participants stay on or return in order to tackle more advanced projects. Members come and go according to their needs and available time, work at their own pace on individual projects, and sometimes return after a long hiatus dictated by personal circumstances. The class is run informally in a flexible manner to accommodate the vagaries of members' lives. Consequently, there is no way to ascertain the actual numbers of people or projects engaged in at any one time. Membership of ASSA, whilst encouraged, is not a prerequisite for participation in the ATM class. A class register is kept as an indication of activity levels, but signing it is not enforced. Recorded attendance over the past 2 years averages at 8 people per week. Since 2005, participants are required to sign an ATM class Manifesto, which set out ground rules and expectations for all parties and includes an indemnity statement. As of July 2019, **291** participants have been recorded (which excludes casual visitors). Additional people unable to attend the class, mostly due to travel restrictions, are helped through the process by e-mail and WhatsApp communications

Two advanced projects are currently well underway. Etsuo Takayanagi, our experienced telescope maker from Japan, is approaching completion of the f/3 primary for an 8" classic Cassegrain, whilst Chris Curry is refiguring the primary mirror for his f/3 Newtonian. The tolerances on these mirrors are extremely tight, requiring accurate measurements during figuring. To this end, the Director has recently introduced the Wire Test, which is already paying dividends by reducing measurement errors by an order of magnitude. As a communal project, a highly portable but rugged telescope for educational purposes was completed and handed over to SciBono by Johan Smit. Percy Jacob's spectrograph is calibrated and performing well, enabling him to submit quality spectra to the AAVSO spectroscopic database, a valuable contribution to science – especially as the southern hemisphere sky is chronically underrepresented.

ScopeX, which grew out of the ATM class, has had **17** successful annual events since its inauguration in 2002. In addition to the primary goals of general astronomy outreach and publicizing the Society, ScopeX provides a platform for the telescope making community to exhibit their work and thereby encourage newcomers to engage in this fascinating hobby. Having a plethora of instruments at one place enables visitors and members alike to see, touch, compare and even use a variety of instruments - both commercial and amateur-built or modified. This sparks discussion of ideas, approaches and relative merits, enabling people

to make informed choices. ScopeX reports are published separately. The 2018 event was similarly attended as the year before, with the visitor engagement still indicating that most visitors had a true interest in astronomy/science. Two youth-oriented organisations, Brainwaves and the Girl Guides Association of South Africa were successful applicants for the two refractors donated by SSVI in Belgium; they have been supported in learning how to use their new instruments via several interactive sessions. ScopeX 2019 is scheduled for 14 September, with the theme of "Apollo 11 – 50th anniversary".

Overall, the foregoing indicates a continuing healthy level of activity and interest.

--- *Chris Stewart*