

ABOUT THE SECTION

In 2018, the Astronomical Society of South Africa held its symposium on the theme of “Astronomy in the Digital Age”. Many of the speakers, most notably Dr Stella Kafka of the American Association of Variable Star Observers (AAVSO), spoke at length on citizen science. In response, the ASSA council established the Citizen Science Section, and appointed Allen Versfeld as its director.

The Citizen Science section has two mandates: To encourage and support ASSA members participating in citizen science projects, and to provide technical assistance to South African researchers who wish to set up their own citizen science projects.

STATE OF CITIZEN SCIENCE

It can be argued that citizen science has a history going back centuries, considering how many pioneering scientists of the age of enlightenment were amateurs, funded by their own wealth and directed by their own curiosity, but the term seems to have only become popular in the age of distributed computing projects like Seti@home, in which enormous data sets were divided into millions of relatively small chunks, for processing by “civilian” computer owners. Starting in the late 1990’s, participants would download a screensaver which, when active, would download a chunk of data and run various algorithms to search for possible signs of alien intelligence (so far unsuccessfully!)

Over time, the number of such projects has ballooned, with many falling under the shared architecture of BOINC (Berkeley Open Infrastructure for Network Computing). These projects are all compute-intensive, and cover fields from mathematics to biochemistry to cosmology. In 2020, projects like Folding@Home have become well-known to the general public and attracted many volunteers, for their work in searching for a cure for the novel Coronavirus.

On a similar track, many other widely-distributed citizen science projects follow a crowdsourcing model – rather than consume the idle CPU cycles of millions of home PC’s, they use the brainpower of human volunteers. Galaxy Zoo, for example, proved that relatively unskilled volunteers with no academic background and only several minutes training on galactic morphology can still accurately classify images of extremely distant galaxies. Galaxy Zoo used these amateur reports directly to conduct scientific research, but other projects use the reports differently. CosmoQuest, used Moon Mapper (and similar projects for other planets and minor planets) to train AI software to count and measure craters on Solar System bodies.

INTEREST FROM OUTSIDE ASSA

We have been approached twice by researchers studying the field of citizen science. The first happened last year, by Dr Corlia Meyer of Stellenbosch University, and was detailed in the previous annual report. The second was by Nonsikelelo Sackey, also of Stellenbosch University. Nonsikelelo is a master's student, and would like to interview anybody involved with the running of a citizen science project. Anybody reading this report who would like to assist is encouraged to contact her – a note has been placed on the section page of the ASSA website with more details.

ASTRONOMY STARTER KIT

ASSA has very recently begun a new project to collect and present educational astronomical material. The exact scope of this project is still under discussion, but a consensus is beginning to emerge that it should serve both as a resource for teachers working through the astronomy curriculum with their learners, and enthusiastic amateur astronomers looking for a deeper understanding of their hobby. Since custodianship of the project has been taken by the director of this section, it is currently being run under the Citizen Science umbrella.

We would like to thank all who have volunteered their existing materials to the collection, and especially Douglas Bullis for his valuable insights on how this project should manifest and how it should be run. We look forward to developing it into something concrete which benefits the community at large.

CONCLUSION

While the number of citizen science projects around the world continues to grow, and while researchers continue to find new ways to benefit from the pool of citizen scientists, this section has been relatively quiet. We have thus far served primarily as a central contact and information repository for those wishing to know more about citizen science, volunteer their time or equipment for citizen science projects, or run such a project for their own research. We hope to expand in this role, to the point of officially endorsing locally run citizen science projects.

Until that time though, we would like to invite any ASSA members with an interest in citizen science to contact the director at the official email address: citizenscience@assa.saa.ac.za

In conclusion, the director of the section would like to thank the ASSA council for creating the section and giving him the opportunity to serve as director. We have high hopes for what we can build on the foundations we've built this far.

Thank you.