The National Research Foundation’s South African Institute for Aquatic Biodiversity (SAIAB) engaged the next generation of marine scientists at its second annual Summer School during December 2018 in Port Alfred, Eastern Cape. To drive the Summer School, SAIAB used two of the African Coelacanth Ecosystem Programme’s (ACEP’s) research platforms – the Marine Remote Imagery Platform (Mar-RIP) and the Acoustic Tracking Array Platform (ATAP) – to ‘action science’ education and to bring Responsible Research and Innovation (RRI) to life at SAIAB.

The Mar-RIP team focused on teaching attendees about the baited remote underwater stereo-video (stereo-BRUV) camera systems. Attendees spent two days in the field, deploying stereo-BRUVs in the rock pools at Kenton on Sea. Camera systems were deployed in various rock pools and left to record for an hour. Once back at the accommodation, attendees calibrated cameras and then viewed the video footage to identify and count various fish species.

The ATAP team familiarised attendees with passive acoustic telemetry. Two days of fieldwork on the Kowie Estuary saw them recovering some of the receivers (which were deployed earlier in the year), and conducting a small range test experiment that involved deploying additional receivers and sentinel tags. In addition, attendees pulled a 30 m seine net in order to catch some fish so that transmitter implantation could be demonstrated. Once back at the accommodation, data was downloaded from the receivers and data analysis was introduced.

Attendees were also acquainted with environmental DNA (eDNA). This is a relatively new, efficient, non-invasive and easy-to-do methodology involving the collection of cells and DNA (including fish DNA) from the water column which can then be used for biodiversity monitoring. They were shown how to extract DNA from fish, algae and invertebrate samples, carry out PCR and visualise their results by agarose gel electrophoresis methodologies.

Finally, attendees got an opportunity to show off their new knowledge by creating presentations of the learnings and results from the stereo-BRUVs and acoustic telemetry research trips.

The next Summer School will be hosted at the end of 2019.