

SEFARI: Science education resources

The SSERC Biology Team have been collaborating with several scientists working within the new collective of Scottish Research Institutes, known as SEFARI (Scottish Environment Food and Agriculture Research Institutes) to help develop and promote their excellent educational resources available to support the delivery of the biology curriculum.

The world-renowned Research Institutes within SEFARI have helped to develop educational resources in collaboration with teachers and SSERC in a variety of areas including: animal behaviour and animal welfare, food security, immunology, parasitology, environment, conservation, crops and soils, classification, phylogeny, nutrition and diet.

Useful and up-to-date educational materials including video clips, animations, data sets, fact sheets, practical classroom activities, ideas for outdoor field work and projects along with support information for teachers have been developed. The new SEFARI national education project [1] is looking to create a resources catalogue covering early years, primary and secondary aspects of the curriculum to promote the resources more widely and enable easier access for teachers and schools across Scotland [2].



To help introduce the project and get valuable feedback from teachers, SSERC in collaboration with SEFARI researchers, and funded by Research Councils UK (RCUK), organised a CLPL event focussing on support for Higher Biology. The event was held at Moredun Research Institute, Edinburgh [3] on 16th Nov 2017 and teachers of biology from all over Scotland took part. The day comprised a mixture of short presentations and discussions on food security, soils, animal behaviour and tackling infectious diseases. The teachers also participated in laboratory sessions on parasitology and immunology.

The hands-on laboratory activities involved looking at techniques for extraction and identification of worm eggs from diagnostic samples and working out from

the data sets a treatment plan and whether drugs used to help treat livestock have been successful or not. These techniques are used to diagnose parasitic disease, the effect on livestock health and welfare, treatments for parasites and the extent of drug resistance in micro-organisms and how this can be managed to help reduce drug resistance and increase the life span and efficacy of antimicrobials and anthelmintics. There was discussion of the complicated lifecycles of parasites such as liver fluke, which involves small mud snails as intermediate hosts, and how the environment and climate, in particular, can have significant effects on the survival and transmission of these parasites.

The immunology practical focussed on antibody technology applied >>



to the ELISA diagnostic test which is used widely in medical and veterinary laboratories to help diagnose a range of different infectious diseases by identifying the quantities of specific antibodies in serum or blood samples. The teachers and researchers discussed how this practical could be used in the classroom with easy-to-obtain materials. The teachers then produced some disease outbreak scenarios that would help pupils engage with the activity.

The teachers' feedback indicates that they enjoyed the day and found it useful.

"All sessions were very useful giving information on current research and techniques and resources that can be used."

"I had very little prior knowledge of ELISA tests so it was brilliant to gain some insight into the technologies."

The SEFARI consortium comprises: The Moredun Institute, James Hutton Institute, Scottish Agriculture College, Royal Botanic Garden Edinburgh, Rowett Institute of Nutrition and Health, and Biomathematics and Statistics Scotland.



References

- [1] For further information on the SEFARI Education project please contact Professor Lee Innes, lee.innes@moredun.ac.uk, www.moredun.org.uk, <https://sefari.scot/>.
- [2] For further information on the SEFARI educational resources, please contact Professor Lee Innes, lee.innes@moredun.ac.uk.
- [3] The Moredun Institute at www.moredun.org.uk.

Recognition for SSERC



We are delighted to be able to report that, at a recent meeting of a GTCS Accreditation Panel, SSERC was formally awarded with the 'GTCS Quality Mark as a Professional Learning Organisation'.

General Teaching Council Scotland offers a suite of Professional Learning Awards [1] which celebrate, promote, and encourage teacher professionalism and professional learning at all stages of a teacher's

career. The Awards recognise and celebrate the impact of teacher professional learning along with the leadership of learning cultures in which teacher professionalism can thrive and bring about real impact.

Recently GTCS has introduced the Professional Learning Award for Organisations. The award celebrates organisations which support and promote teacher professional learning and identifies those which aim through their work:

'to develop and enhance teachers' knowledge, expertise and skill; develop their professionalism,

and to impact positively on learning experiences and outcomes of children and young people'

Whilst we have always believed that the professional learning which we offer is of high quality, this formal recognition by GTCS is important as we seek to further enhance our reputation for quality.

Reference

- [1] <http://www.gtcs.org.uk/News/news/gtcs-professional-learning-awards.aspx> (accessed April 18th 2018).