

The School STEM Technician



Contents

Editorial	2
STAC update	
Who is your STAC member?	3
Professional Learning	
SSERC Accredited Centres	6
Technician Professional Learning	7
Professional Learning Under Development	8
What is an RPS?	9
Scientific Glass Blowing	10
Technicians' Corner	
The Bug Guy	12
Girvan Academy Science Fayre	13
Health and Safety Update	
Dissections & Abattoirs	15
Working With Radioactive Sources	17

Supporting the professional development of
the school technician community in Scotland



The School STEM Technician bulletin is published by SSERC 1-3 Pitreavie Court South Pitreavie Business Park Dunfermline KY11 8UU Managing Editor: Alastair MacGregor Telephone 01383 626070 enquiries@sserc.scot www.sserc.scot

Copyright is held to be waived only for bona-fide educational uses within current Scottish member EAs, schools & colleges.

CEO Introduction

Alastair MacGregor, CEO, SSERC



So the teachers' strikes have ended (in Scotland), and the soon-to-be disbanded (or should I say re-branded) SQA has indicated that practical assignments will be reintroduced as of the next academic session. There are mixed views emanating from the teacher profession regarding this latest announcement. Some, like me, see the benefits of the practical assignment as an assessment component as it reinforces the idea that practical work is a key component of a STEM-based curriculum. Others question the value of the practical assignment as a means of supporting assessment differentiation, and whilst this is a valid observation – I don't think anyone would question the importance of ensuring that practical work is at the centre of STEM-based curricular activity – irrespective of age and stage: would they?

The reintroduction of the practical assignment provides an opportunity to restate, yet again, the critical role that STEM technicians play in supporting practical-based STEM education in schools and colleges in Scotland. Is it not time that school and college STEM technicians gain the recognition that they deserve? I wonder what media support the school and college technician professionals would have got if they had gone on strike, not just in terms of pay, but also for other associated terms and conditions issues such as lack of career progression opportunities and forced changes to contract terms.

SSERC's vision for 2030 is that it is **internationally recognised as a centre of excellence for STEM learning and support**. This vision is supported by eight workstreams, one specific to technicians.

At the last STAC meeting, I shared the information provided on the next page, which restates



the SSERC commitment to supporting the professional development of school and college STEM technicians not just now – but into the future.

The STAC group also discussed the opportunities available to raise further the profile of school and college technicians in Scotland. I have agreed to write to all Local Authorities in Scotland, ADES and SLS to further promote recognition for the role and contribution that school and college technicians make to supporting STEM education and training in Scotland. The minutes from the most recent STAC meeting can be found via the [Techné site](#).

Of course, what brings to life the role and remit of school and college technicians are the contributions made to the Technicians' Corner section of our digital publication, *The School STEM Technician*. If you have something that you want to share that promotes the work of schools and college technicians – then let us know, and we can include it in a future issue.

Alastair MacGregor
Chief Executive Officer, SSERC

Medium-term to March 2027	
Review the current technician professional learning portfolio and develop new programmes as required,	On Track
Deliver a range of twilight Tech Meet professional learning sessions.	On Track
Continue to promote Techne as the professional collaborative network for schools and college technicians	Started
Continue to support the Scottish Technicians' Advisory Council	On Track
Continue to publish the School STEM Technician digital publication	On Track
Develop a school technician leadership development programme	Started
Seek to engage with partner organisations that can support school and college technician professional learning	Started
Develop new guidance, procedures and protocols to support technician activity.	Started
Promote the work and achievements of Scottish school technicians in the rest of the UK	Started
Long Term to March 2031	
Develop a National School Technician Diploma with SCQF Credit and Levelled provision.	Not started

STAC update



We are pleased that **Neill Sproull** was unanimously elected as the Chair of STAC.

The SSERC team look forward to working with Neil as he drives forward the STAC agenda in partnership with SSERC.

The minutes of the last STAC meeting can be located [here](#)..

Who is your STAC member?

Aberdeen City

Greg Davidson
gredavidson@aberdeencity.gov.uk

Aberdeenshire

N/A

Angus

Ronnie Graham
gw07grahamronald@angus-ed.org

Argyll and Bute

N/A

Clackmannanshire

William Miller
clwmiller@glow.sch.uk

Comhairle nan Eilean Siar

Kathleen McDonald
kathleen@gnes.net

Dumfries and Galloway

Ghislaine Duncan
gw09duncanghislaine@ea.dumgal.sch.uk

Dundee City

Laura Francis
Laura.francis@dundeecity.gov.uk

East Ayrshire

Douglas Dick
Douglas.Dick2@east-ayrshire.gov.uk

East Dunbartonshire

Tom Maguire
tmaguire@turnbull.e-dunbarton.sch.uk

East Lothian

Fiona-Grant MacDonald
fgrantmacdonald@prestonlodge.elcschool.org.uk

East Renfrewshire

Kathleen Wallace
WallaceK2@mearnscastle.e-renfrew.sch.uk

Edinburgh City

Margaret Manson
margaret.manson@queensferry.sch.uk

Falkirk

David Boles
david.boles@falkirk.gov.uk

Fife

Pete Evans
pete.evans@fife.gov.uk

Glasgow City

Neill Sproull
nsproull@tss.ea.glasgow.sch.uk
Amanda Rodger
arodger@tss.ea.glasgow.sch.uk

Inverclyde

Greg Cooper
ingrc979@glow.sch.uk

Midlothian

N/A

North Ayrshire

Shona Stuart
gw09stuartshona@ea.n-ayrshire.sch.uk

North Lanarkshire

Simon Blackwood
nblackwoods@northlan.org.uk

Orkney Islands

John Moodie
gw09moodiejohn@glow.sch.uk

Perth and Kinross

Penny Lockwood
plockwood@pkc.gov.uk

Renfrewshire

Kirsty McNish
kirsty.mcnish@renfrewshire.gov.uk

Scottish Borders

John Peffers
jpeffers@scotborders.gov.uk
Caroline Butler
CButler@scotborders.gov.uk

Shetland Islands

Sara Leith
Sara.Leith@shetland.gov.uk

South Ayrshire

Lynn Morrison
lynn.morrison@south-ayrshire.gov.uk

South Lanarkshire

Andy Scott
andrew.scott2@southlanarkshire.gov.uk

Stirling

N/A

The Highland Council

Andrew MacKinnon
andrew.mackinnon@highland.gov.uk

The Moray Council

Louise Mair
louise.mair@moray-edunet.gov.uk

West Dunbartonshire

Frances Walsh
Frances.Walsh@west-dunbarton.gov.uk

West Lothian

TBC

Educational Establishments**Kelvinside Academy**

Penny McArthur
penny.macarthur@kelvinside.org

George Watson College

Annette Crombie
a.crombie@gwc.org.uk

Jordanhill

Jo Evans
jo_evanse@jordanhill.glasgow.sch.uk

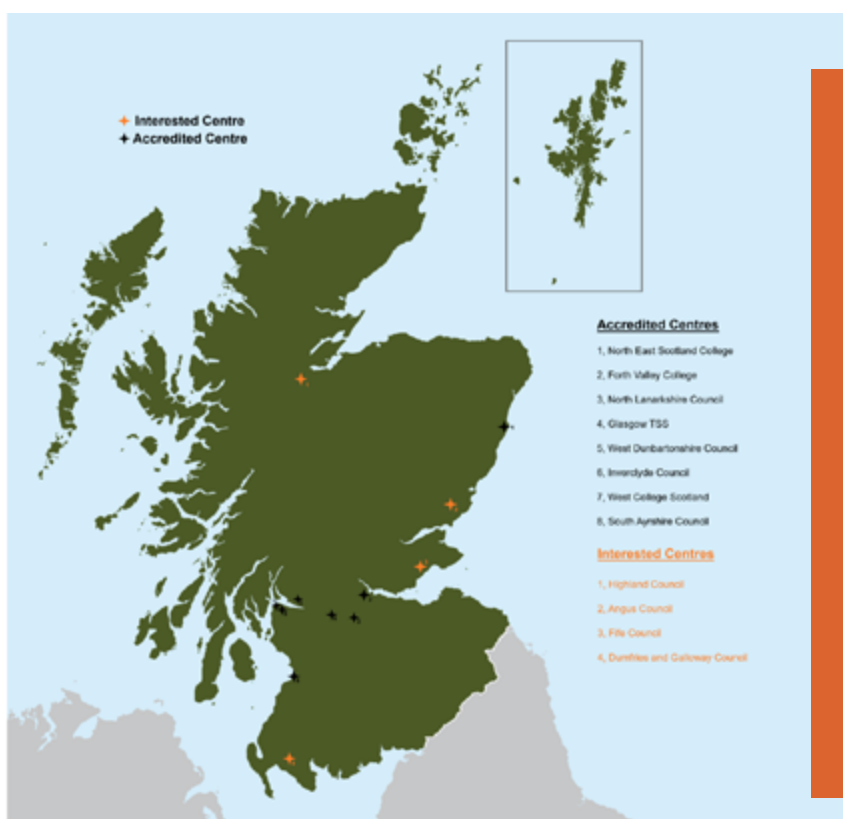
If your Local Authority does not have a STAC member and you are interested in joining the committee, then send your details to alan.purves@ssec.org.uk.

A man and a woman in white lab coats and safety glasses are smiling and looking upwards in a server room. The man is on the left, wearing blue gloves and holding a small object. The woman is on the right, also wearing gloves. The background shows rows of server racks with blue cables. The entire image has a blue tint.

Professional Learning

SSERC Accredited Centres

If you find it difficult to travel to Dunfermline to attend SSERC professional learning courses, we may have the program for you. Over the last few years, we have been developing and expanding the SSERC Accredited Centre program to allow educational bodies outside SSERC to run the SCQF Credit and Levelled courses we offer technicians. These will be the same courses, run in the exact same manner as if you had attended the course at SSERC HQ. This ensures the same high quality and course content that you have come to expect from SSERC technician courses.



We have a selection of centres across the middle of the country, with a couple up North and the potential for two new centres in the south. The diet of SSERC SCQF Credit and Levelled technician courses is ever-growing, with more being offered all the time.

Any time a SSERC Accredited Centre offers a course, it is advertised on the SSERC website with posts going out on social media to ensure everyone knows what's running.

West College Scotland is running an enthused **Safety in Microbiology for Schools** course in June. [Click here](#) for more information.

Technician Professional Learning

April - November 2023

See below for the up-and-coming professional learning events here at SSERC.

< APRIL – NOVEMBER 2023 >	
APR 25 Tue	Safety in Microbiology for Schools April 23 Apr 25 – Apr 27 <small>all-day</small>
MAY 16 Tue	Safe Use of Fixed Workshop Machinery 16th – 17th May 2023 May 16 – May 17 <small>all-day</small>
MAY 31 Wed	Introductory Physics 31st May 1st June May 31 – Jun 1 <small>all-day</small>
JUN 15 Thu	Microscale Chemistry Summer School (NEW) @ sserc Jun 15 – Jun 16 <small>all-day</small>
SEP 5 Tue	Chemical Handling 5th and 6th September Sep 5 – Sep 6 <small>all-day</small>
	Safe Use of Fixed Workshop Machinery 15th – 16th March 2023 Sep 5 – Sep 6 <small>all-day</small>
SEP 7 Thu	Electrical Safety and PAT 7th and 8th September Sep 7 – Sep 8 <small>all-day</small>
SEP 27 Wed	Safe Use of Fixed Workshop Machinery 27th – 28th September 2023 Sep 27 – Sep 28 <small>all-day</small>
OCT 4 Wed	Safe Use of Fixed Workshop Machinery 4th – 5th October 2023 Oct 4 – Oct 5 <small>all-day</small>
NOV 21 Tue	Safe Use of Fixed Workshop Machinery 21st – 22nd November 2023 Nov 21 – Nov 22 <small>all-day</small>
NOV 22 Wed	Intermediate Physics 22nd 23rd November 2023 Nov 22 – Nov 23 <small>all-day</small>

[Click here](#) for more information.

Professional Learning Under Development

We are constantly adding to our pool of professional learning for technicians, and this year is no exception. A new technician's skills course is under development which will include glasswork and soldering, two skills that can be extremely useful for any technician. Soldering can be used for building bespoke pieces of equipment, small circuits and leads at a fraction of the cost of buying them. Changing some lead connectors and producing component holders for the science department can also be beneficial. You will then test the finished piece to ensure correct operation.



Having the ability to produce things from glass is a very difficult skill to master. Scientific glassblowing is an area that is in decline within the British Scientific Community. The basic glasswork course we will produce will have you identify different types of glass, manipulate glass into different bits of equipment such as delivery tubes, or even make your own pipettes,

and allow you to do some basic repairs to chipped and chipped and damaged preexisting glassware.

As with all our courses, we will concentrate on the relevant health and safety issues for each subject so that processes are done in a safe and effective manner.

Senior Phase Chemistry for Technicians is the third course currently being developed, which is intended to give technicians experience in some of the chemistry techniques used in schools that are not covered in our other courses, most of which are only encountered at Higher or Advanced Higher. This course is planned for October 2023.

Example of delivery tubes



SSERC is developing a Leadership for Technical Support Professional Learning course in partnership with STAC. Aimed at existing and aspiring technician leaders, this course is being designed to be at SCQF Level 9 with 4 Credit points. The SSERC team has already met with a small team of technicians to design the course specification and outline, which will be provided to the STAC group in June for validation. This will then allow us to move into the development and support material writing phase.

[Click here](#) to find out about other technician-relevant courses.

What is an RPS? (and can a technician be one?)

RPS stands for **Radiation Protection Supervisor**. This is a formal role defined by the Ionising Radiation Regulations and isn't legally required in schools. Having said that, someone within each school has to be responsible for ensuring that SSERC's guidance on safe working with radioactive materials is in place, and there's no issue with this person being described as RPS.



Usually, the senior physics teacher is responsible for taking on the role of RPS. This is because anyone qualified to teach physics or chemistry will have the background to understand and implement our documentation without additional training. Having said that, we strongly recommend that at least one person in the school undergo formal training every 3-5 years (HSE's recommendation regarding the frequency). (It is worth noting that even self-study training can be recorded as formal training).

This bulletin also has an article about radiation protection training. SSERC training includes:

- A day course that involves both "talkie" parts on working safely and staying legal, and practical sessions.
- A two-part online course on working safely and staying legal (free).
- A self-study course is under development (free).

The ideal scenario is to do the day course and then refresh with the online one every 3 - 5 years.

This formally trained person can then provide in-house training to others in the school using sources, though there's nothing to stop more than one person from coming on a course.

The employer decides who is a competent person to be RPS, though we supply the above guidance. The employer's duty under H&S law is to ensure everyone has adequate training. Some local authorities are happy to have a suitably trained technician as RPS. We at SSERC have no problem with this if the person taking on the role is comfortable with it.



Scientific Glass Blowing

A cracking time

Back at the end of 2022, whilst looking into the development of a glasswork course, I was fortunate to be invited to the International Scientific Glassblowing Conference in France. The invitation came from a gentleman called Jean Francois Boutry who is a Scientific Glassblowing teacher from the Lycee Dorian school in Paris. This was quite the chance encounter that arose from the fact that he had married a former Dunfermline resident and was over visiting the city when we happened to arrange a meeting with the BSSG, the British Society of Scientific Glassblowers. I am so glad the encounter happened.

Pack the suitcase and off to Paris.

The morning started with some presentations from various Scientific Glassblowers and Glassblowing companies, which all had the same theme. The number of fully qualified glassblowers across Europe is dwindling and in some places the profession is at threat of disappearing completely. Given the important role this profession plays, particularly at university level, losing it will have a huge negative impact.

A brief break, with enough time for a coffee and a warm croissant, and we were ready to move to the exhibition hall. Lots of glassware vendors from around Europe had set up stalls with examples of the types of glassware they produce, and it was nothing short of astonishing. To think that

someone could make these pieces by hand was very humbling and gave me a greater appreciation for the skill.

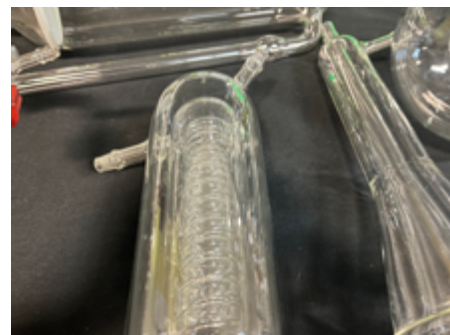
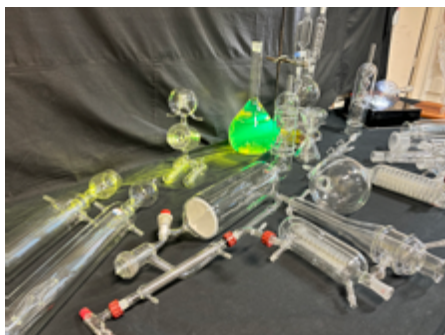
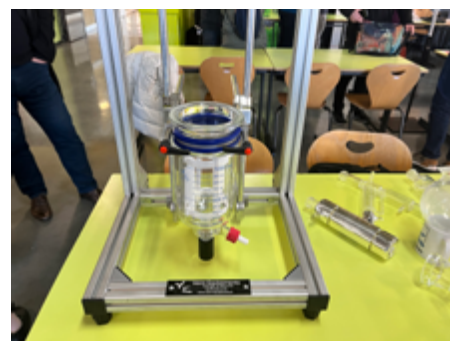
Time for lunch. A selection of charcuterie with a glass of vino to wash it all down. The things I have to endure for science.

It was then time for the practical demonstrations.

We were led downstairs to the glass lab where pupils were already at work, and I do mean school pupils. This was the other surprising part of the trip. I was under the impression that the school was a specific scientific glassblowing school however it turns out to be a standard state-run school. The schooling system in France is completely different from here in the UK. After the equivalent of standard grades, school pupils get to choose if they want to follow an academic or vocational path, and one such vocational path that the Lycée Dorian offers is Scientific Glassblowing. Watching the pupils complete some glass project was fascinating and you could tell they loved what they are doing.

I've talked enough and will finish off with some pictures of what the pupils produced.

Alan Purves,
Education Officer - Technicians, SSERC





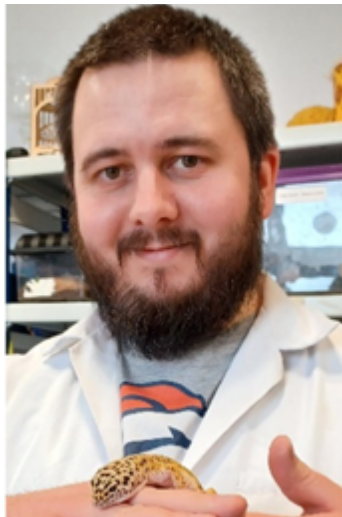
Technicians' Corner

The Bug Guy

A technician going above and beyond

There is a science department in the deepest, darkest West Dunbartonshire where many fear to tread.

On entering the technician base, you are met with a wall display of tarantula exoskeletons which keeps your average arachnophobic at a safe distance; indeed, there are lines marked on the floor to show how far into the room some brave individuals have ventured on their path to overcoming their fears.



This is the domain of Graeme Anderson, the science technician who unwittingly inherited the care of DAZL – Dumbarton Academy Zoology Learners – a lunchtime club for all-year groups when he joined the service in 2021.

DAZL has been run by the technician team and a science teacher (currently Steph Weir) for ten years. It evolved from an enthusiastic amateur entomologist and a forward-thinking Curriculum leader coming across the ASE article “**you wouldn’t teach football without a ball**”. There was a lot of initial work; a “keeping animals in schools” policy had to be produced with risk assessments for all specimens, care guides and contingency plans should the club need to fold – these really came into play during covid lockdown with all the animals being cared for at home by their assigned keepers.

With the level of devotion and knowledge needed to keep it running, there were concerns when staff movement meant the founding technician moved on. Luckily Graeme (an astrophysicist with no Biology background) came to the team with great enthusiasm, existing amateur knowledge and a commitment to the value of the club to so many areas of the curriculum, and not least, the value to the learners involved in the club. The club’s resurgence on the return from Covid lockdown has been a complete success.



So what does it involve and who benefits?

On a daily basis, Graeme will check the stock, making sure everyone has food and water and that the enclosures are clean. Sounds simple enough until you are trudging through 6 inches of snow in January to try to find some bramble for your stick insects! Keeping the enclosures clean and waste-free sets a good example for club members.

He also maintains a breeding programme of hissing cockroaches, various leaf insects and sun beetles to avoid replacement costs, so optimum conditions need to be held for this to be successful and nurseries maintained. You may even see him during the winter holidays, convincing a willing janitor to open the school just to do a check-in or taking batches of eggs home to incubate in a warm space when the school is unoccupied. By now, you may have some idea of the level of work and why such commitment is essential to the club’s success.

So what do they have? It’s quite a list!

- 6 assorted tarantulas
- 1 corn snake
- 2 axolotls – wild type and golden
- sun beetles
- 1 leopard gecko
- 1 Asian Forest Scorpion
- Giant African Land Snails
- Madagascan Hissing Cockroaches
- Stick insects and Spiny Leaf insects
- 2 guinea pigs
- An African clawed frog

As well as providing a safe space for learners at lunch time, where they learn about all aspects of the animals and how to care for them, the collection has great educational value, being used across many aspects of the curriculum



Add all of this care and devotion to the existing, ever-increasing daily workload of a science technician, and you will understand why Graeme deserves recognition for this outstanding Club!

If you would like information or advice on starting your own zoology club, including the “keeping animals in school” policy, please contact frances.walsh@west-dunbarton.gov.uk

Girvan Academy Science Fayre

At Girvan Academy, we have started to organise our annual Science Fayre to enthuse our learners about STEM subjects and boost the level of uptake within the school. The fayre is aimed at 3rd year and is held during Science Week in March, lasting from 8.50 am until lunch at 1:10 pm with a tea/coffee break at 10.25 am. It consists of 5 x 45-minute sessions where learners visit five labs.



On the day, we have a Biology laboratory where learners get to prepare a hanging drop slide to view protozoa and algae, dissect a chicken wing, view their internal organs using the virtual reality t-shirt and snack on some chocolate-coated insects.

The Chemistry laboratory has exothermic, endothermic and colour-changing experiments for learners to try, methane bubbles, elephant's toothpaste and the whoosh bottle demonstration.

The Physics laboratory has the motion chair, Van de Graaff generator, and other hair-raising demonstrations. There is a 'Career within STEM' room where local companies have generously provided staff to discuss and bring their careers within science to life. We have been fortunate enough to have had a paramedic, vet, biomedical scientist, beautician, Timstar sales executive, technical and development officer, and a Culzean Park Ranger participate in and support our previous events.



Our 5th Lab is an External Lab. We have been fortunate with this in previous years and have had support from the Strathclyde Science Scouts programme delivering their Genetics workshop. Our learners really enjoyed interacting with the students and asking about university life. We have also been fortunate to have the Galloway Forest Astronomical Society (GFAS) with its amazing 'dome' where the learners

are taken on a journey through space. This year due to Covid 19, the GFAS volunteers are not feeling confident at present to attend our event, so we have been emailing our local companies and universities, hoping to get support for this External lab event. If this doesn't come to fruition, we have a backup STEM lab idea.

As the sole Technician here at Girvan Academy, you can imagine just how much work and preparation this takes. Starting in January, I contact local companies asking if they could attend and support our event again, giving them an outline of what we do and what they can expect when they attend. The response from local companies is always tremendous, as they love to see what schools are doing to highlight STEM careers and want to lend their support.

The Senior Management Team at Girvan Academy support our event and contributes as much to the success as possible, ensuring timetables are amended. It is fully funded, and they take the opportunity to speak with the attending representatives to thank them for their ongoing support.

Closer to the date, after conversations with each department, I write up orders to ensure we have everything we require



for the event and start to prepare the trays needed for each laboratory. For the event to run smoothly, I have to prepare five separate setups for each subject and wheel one in as I take the previous away. This prevents any mistakes or crossover between sessions.

I use SSERC guidance for all of our Chemistry experiments on the day, weighing out everything I need on the days before. Any solutions that can be made up prior to the day are also prepared. I then write a step-by-step guide to what has to be completed on the morning of the fayre to ensure I don't forget anything. I have been fortunate in previous years to have support from other South Ayrshire Technicians and Science Staff members to help me prepare for the day. This is another good reason to have everything down on paper to ensure the sustainability of this highly valued event.

The feedback from the learners, staff and visitors is always very positive, and our learners see and do a lot in a short space of time. It is a lot of hard work for everyone involved, but it's the highlight of my school year at Girvan Academy, and I look forward to being involved in the planning of many more.

Lynn Morrison
Senior Science Technician, Girvan Academy



Health and Safety Update

Dissections & Abattoirs

Recently, SSERC received an enquiry from a teacher who had visited their local abattoir to collect hearts and lungs for dissection back in the classroom. The abattoir requested that a form from Food Standard Scotland was completed prior to dispatching any materials. Having researched this, SSERC can now provide updated guidance to schools who wish to obtain animal by-products (ABPs) from abattoirs/slaughterhouses in Scotland. The guidance does not extend to materials obtained from butchers or other commercial premises, e.g. supermarkets.

Legislation

This guidance reflects legislation outlined by the EU Animal By-Product Regulation (2009), which is implemented in Scotland by the Animal By-Products (Enforcement) (Scotland) Regulations 2013. The Animal and Plant Health Agency (APHA) is responsible for inspecting animal by-product operators in Scotland, which includes abattoirs/slaughterhouses.

Category of Animal By-Products

Animal by-products are defined as the entire bodies or parts of animals which are not intended for human consumption. ABPs can be one of three categories based on the risks they pose. Category 3 ABPs, which includes carcasses or body parts from a slaughterhouse, passed fit for humans to eat, but have been withdrawn, are classed as low risk. These will be the materials provided for dissection purposes in schools.

You do not need to register with the APHA to use Category 3 ABP samples for education, e.g. at a school, college or university. However, Food Standards Scotland (FSS) require completion of a specific form (see link in the references section). This allows

abattoirs to track disposal of ABPs; schools, following dispatch from the abattoir, take responsibility for the appropriate disposal of the ABPs.

Disposal of Category 3 ABPs

Providing the school is disposing of less than 20kg of ABPs per week, the material can be double-bagged and put out to landfill bins to prevent environmental contamination risks. There is no need to register with APHA; however, a record of the type and approximate mass of ABP sent to landfill each week should be kept. This is a weekly limit; not an average limit over a number of weeks.

Completion of the Food Standard Scotland Form

The form can be downloaded from the SSERC website (or see references section) and Part 1 of the form (see Figure 1) should be completed by an appropriate member of staff. A "project" must be described, outlining the quantity of material required, the frequency of collection and the duration of the project. Once completed, the form must be emailed to Approvals@fss.scot (or posted to FSS, 4th Floor, Pilgrim House, Old Ford Road, Aberdeen, AB11 5RL).

Part 1
To be completed by the person responsible for the handling and disposal of SRM or other ABP

Name and address of research establishment Postcode:

Reason for application

Type of material

Quantity of material required Frequency of collection

Duration of project From: To:

Name and address of abattoir Postcode:

Declaration
I, the undersigned, declare that the material collected from the above abattoir will be handled, transported and disposed of in accordance with the Animal By-Products (Enforcement) (Scotland) Regulations 2013.

Name in BLOCK letters: Position:

Signature: Date:

Email Address:

Figure 1: Part 1 of the FSS form must be completed by the person responsible for handling and disposing of the ABPs received from the abattoir.

Once the form is received by FSS, the technical lead at FSS Aberdeen will complete Part 2 of the form (see Figure 2), return a completed copy to yourself, and retain a copy for one year.

Part 2
To be completed by the **FSS Technical Lead at FSS Aberdeen.**

I, the undersigned, have approved the application stated above. The OV at the named establishment may release the above mentioned material to the applicant in accordance with the ABP and TSE Regulations.

Name in BLOCK letters Designation

Signature Date

Figure 2: Part 2 of the FSS form will be completed by the FSS Technical Lead at FSS Aberdeen and then returned to the school.

The completed form should be taken to the abattoir when collecting ABPs. A member of FSS staff at the abattoir will complete Part 3 of the form (see Figure 3), detailing the date of dispatch, type of material and ABP category, number/mass of material, recipient's name and signature and their own name as the authorising officer.

Part 3
To be completed by **FSS Staff** at the establishment from which the material is dispatched

Date of dispatch of material	Type of material (and ABP category)	Number / Weight of material	Recipient's name & signature	Authorised Officer name & signature
/ /				
/ /				
/ /				
/ /				
/ /				
/ /				
/ /				
/ /				
/ /				

Figure 3: Part 3 of the FSS form will be completed by a member of staff at the abattoir.

References

Food Standard Scotland, "Dispatch of SRM or any other ABP for exhibition, teaching, scientific research, special studies or analysis" form, Available [here](#) for download.

Working With Radioactive Sources - Training

In [bulletin 275](#) we looked at the importance of radiation risk assessments and the support available from SSERC for putting these in place. We also touched on the fact that risk assessments are only effective if the control measures identified within them are communicated clearly to users.

One way of doing this is through providing operating procedures which accompany the radioactive sources and there are examples of these on our website available by logging in and visiting the ionising radiation pages (Figure 1) of our health and safety section¹.

Another vitally important way of doing this is of course through training. It is a legal requirement that anyone working with radioactive sources receives training first and that the training is recorded and also that the training is refreshed at appropriate intervals.

Training needs to cover safe handling, record keeping, leak testing, storage and security, dose minimisation, risk assessment, incident and contingency plans, PPE (where appropriate), and working with sources whilst pregnant/breastfeeding.

Training could be:

- Attending a SSERC course (Figure 2) - up and coming courses are advertised on the health and safety professional learning page of our website².
- Inhouse training provided by a competent member of staff.
- Study of the SSERC safety poster and relevant parts of the SSERC document "Working with radioactive materials in schools"¹.

Your employer decides what format of training they require so please also check what their policy is over and above this.

This training must be refreshed/updated at appropriate intervals. Your employer should specify the interval. During recent school inspections, HSE have been recommending refresher training after 3 - 5 years. As a minimum, we suggest at least one person from a school which holds radioactive sources attends a SSERC training course (either the face to face or online version) every 5 years, after this they can then provide inhouse training/refresher training to other staff members. Also, every member of staff who works with the radioactive sources should familiarise themselves with SSERC guidance on an annual basis. It should be noted that whilst it is desirable to attend a SSERC course if possible, anyone with a physics or chemistry degree should have had sufficient training during their degree to be able to self-study SSERC guidance and be the person who then delivers in house training. This is an option (depending on your employer's policy) if attending a SSERC course is difficult.

Both initial and refresher training needs to be documented. It may be that your employer already has a system in place for recording employee training. If this is the case, ensure it is kept updated (including inhouse training) and store a copy along with your other records for your radioactive sources. Otherwise, we have produced a very simple template (Figure 3) you can use to create your own record documenting staff training. An editable version of this can be downloaded from the ionising radiation pages (Figure 4) of our website¹. Only staff who have recorded, up to date training should work with a school's radioactive sources.



Figure 1: Ionising Radiation web page



Figure 2: A delegate getting practical experience of working with sources on a recent SSERC training course.

Staff Training Record

Any staff who work with radioactive sources within the school must be given suitable training prior to using the sources. The training needs to cover safe handling, record keeping, leak testing (where appropriate), storage and security, dose minimisation, risk assessment, incident and contingency plans, PPE and working with sources whilst pregnant/breastfeeding.

Training could be:

- Attending a SSERC course
- Inhouse training by a competent member of staff.
- Study of the SSERC safety poster and relevant parts of the SSERC document "Working with radioactive materials in schools".

Your employer decides what format of training they require so please also check what their policy is over and above this.

This training must be refreshed/updated at appropriate intervals. Your employer should specify the interval. As a minimum, we suggest somebody from the school attends a SSERC training course (either the face to face or online version) every 5 years, after this they can then provide inhouse refresher training to other staff members. Also, every member of staff who works with the radioactive sources re/familiarises themselves with SSERC guidance on an annual basis.

This form should be used to document training. Only staff listed below who have up to date training should work with the school's radioactive sources.

Member of Staff	Details of Training	Date of Training
Jane Smith	Attended SSERC's "Working with Radioactive Sources" day course.	15/08/2022
Neil Jones	Provided inhouse training by Jane Smith.	22/08/2022

Note this document is for recording staff training only, any student training required should be recorded on our "Student use checklist".

Figure 3: Staff training record template

The requirement to provide and record training applies not only to members of staff but also to learners, in the very restricted cases where learners can work directly with radioactive sources. We have produced a checklist (Figure 5) to work through when considering having a learner use radioactive sources. All the criteria on this checklist must be met before the learner use can commence. In order for a learner to work with radioactive sources they must be aged 16 years or over and all those in the same room as the learner working with the radioactive sources must be aged 16 years or over. The learner must also be supervised, they must have received appropriate training and a separate risk assessment specific to this needs to be carried out. Again, an editable version of this checklist can be downloaded from the ionising radiation pages of our website¹.



Figure 4: Where to look on our Ionising Radiation web page

By completing a checklist for each learner who works with radioactive sources, this will also provide a record of their training.

Student Use Checklist

Work with radioactive sources should be restricted to teacher demonstration only when there are any under 16s in the same room. For a student to work with radioactive sources the following criteria must all have been satisfied. A checklist should be completed for each student who works with radioactive sources.

Checklist Item	Comments	Tick
Student is aged 16 years or over.		
All those in the same room as the student working with the radioactive sources are aged 16 years or over.	Details of how this will be achieved/monitored should be documented here.	
The student has received appropriate training prior to using the radioactive sources.	Details of the training provided and by which member of staff should be documented here.	
A risk assessment specific to student use has been carried out prior to the student using the radioactive sources.	The risk assessment should accompany this checklist.	
The student is directly supervised by an appropriately trained member of staff at all times whilst using the radioactive sources.	Details of the staff providing supervision should be documented here.	

Figure 5: Student use checklist

[1] <https://www.sserc.org.uk/health-safety/physics-health-safety/ionising-radiation>

[2] <https://www.sserc.org.uk/professional-learning/secondary-clpl/health-safety-clpl/>

