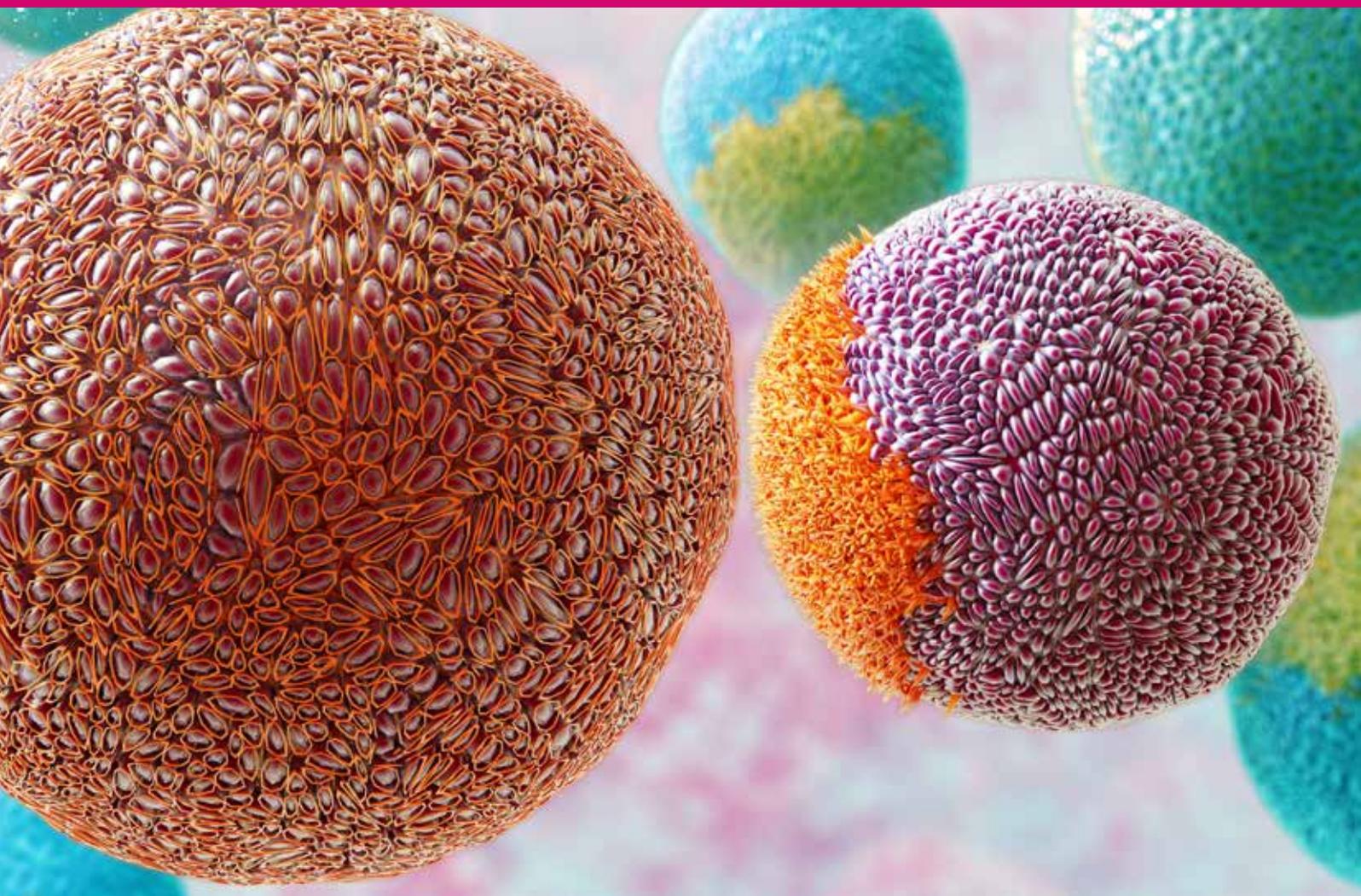


BBSRC EASTBIO

Doctoral Training Partnership

Student Handbook 2020-21



Welcome to EASTBIO

EASTBIO is the East of Scotland Bioscience Doctoral Training Partnership (DTP). It was established in 2012 with funding from the Biotechnology and Biological Sciences Research Council (BBSRC), which is part of UK Research and Innovation (UKRI). Our partnership comprises the institutions along the East coast of Scotland, a key region in the UK for life sciences in terms of both academic excellence and industrial support and investment. The primary aim of EASTBIO is to deliver world-class interdisciplinary training to bioscience PhD students and to build vibrant interactive student cohorts. In addition to providing enhanced training to our students, the partnership offers outstanding opportunities for collaborative research, access to expertise and research facilities across the institutions of the East of Scotland.

The EASTBIO academic partners are:



Our associate partners are:



Studentships:

Our first cohort of 34 students started in autumn 2012, with core funding from UKRI BBSRC, coupled with additional funding from each of the EASTBIO partners. This autumn we welcome our ninth cohort of 62 students.

Research themes:

The EASTBIO student projects are designed to meet key priority areas, outlined in the UKRI BBSRC strategic plan: www.bbsrc.ac.uk/funding/priorities/priorities-index.aspx

Understanding the rules of life

Bioscience for sustainable agriculture and food – Crops and Soil

Bioscience for sustainable agriculture and food – Terrestrial and Aquatic Animals (encompassing Livestock, Production Biology and Health and Aquaculture)

Bioscience for renewable resources and clean growth

Bioscience for an integrated understanding of health



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Welcome from the **EASTBIO Academic Management Group**

Welcome to the EASTBIO Doctoral Training Partnership community. You have beaten off stiff competition to receive one of our prestigious studentships and are at the start of an exciting four-year journey through your PhD. We hope that this Handbook, our Induction Day and the EASTBIO website will help you familiarise yourselves with the aims of the partnership and our training programme.

EASTBIO is a partnership of five universities, Aberdeen, Dundee, Edinburgh, Stirling and St Andrews, plus the Industrial Biotechnology Innovation Centre (IBiolC), Moredun Research Institute, Scotland's Rural College (SRUC), The James Hutton Institute and associate partners Cool Farm Alliance and SULSA. Each of you will be registered in a host school or department within your university. Although you will follow the local training and assessment programme of your host institution, you are an EASTBIO PhD student, funded by UKRI BBSRC and, as such, you will receive additional training including:

- research training through participation in interactive discussion groups run across the partnership, which will provide you with insight into the key questions and challenges in your research area and enable you to build your own collaborations with researchers working in your field across the five universities;
- enhanced training in quantitative and analytical core bioscience skills through our foundation masterclasses programme;
- access to advanced technology and core bioscience training courses across the partnership;
- specific transferable skills training with your peer cohort and PhD students from other doctoral training programmes;
- an exciting opportunity to undertake a Professional Internship for PhD Students (PIPS) training, which will provide you with an opportunity to learn valuable professional skills in the workplace;
- an understanding of science at the interface with industry; this will be cultivated via training linked to industry in order to develop your entrepreneurial spirit alongside students from other industry-linked PhD programmes, by engaging in your collaborative placement and by working alongside industry experts during the multidisciplinary student-led Industry Skills School.
- our annual symposia – a platform for you to share your research with the EASTBIO community and to learn more about the impact of bioscience research on the world around us.

We expect that throughout your PhD each of you will take a proactive approach to your own training and development with the support of your supervisors and EASTBIO. You will be asked to complete and update your 'Professional Development Record' and we will monitor this to help ensure that you complete your PhD within four years and graduate with a set of valuable skills that will enable you to compete successfully with the best in the world in your chosen career.

As a new PhD student, you will be establishing yourselves in an exciting, vibrant research environment - meeting lots of new people, possibly finding your way around in a new city, country or culture and being bombarded with information on just about everything. If any of us can assist you with settling in, please don't hesitate to contact us (contact details are provided at the end of this Handbook and at <http://www.eastscotbiodtp.ac.uk/eastbio-contacts>).

We look forward to meeting you and your supervisors online and welcome you to the EASTBIO programme at our Induction, spread over three mornings, between the 7 and the 9 of October 2020. The two-day Induction event will be followed by a masterclass on 'Statistics and Experimental Design' on the 9 of October 2020. This year, we will deliver our Induction with in-built flexibility to enable increased inclusivity and network building for all our new students and supervisors, no matter what their individual circumstances. There will be opportunities at the Induction programme for informal interactions and students are also invited to join our current student representatives and the EASTBIO Administrator for a casual online meetup the week prior to the Induction event in early October.

Part of the training and related events delivered by DTPs are already moving to online delivery in order to meet the needs of part-time, disabled and students with caring responsibilities, a process that has been rapidly accelerated by the impacts of COVID-19. This hybrid model has proven to be successful during the current restrictions and feedback has been very positive so we do not envisage this being detrimental to the training experience and support we offer PGR students. In October to December 2020, EASTBIO will deliver a subset of workshops online; for 2021 onwards, we are provisionally planning to start to move some provision back to face-to-face but this is dependent on government guidance and access to facilities.

We wish you an excellent start to your studies,

Professor Clare Blackburn

on behalf of the EASTBIO Academic Management Group

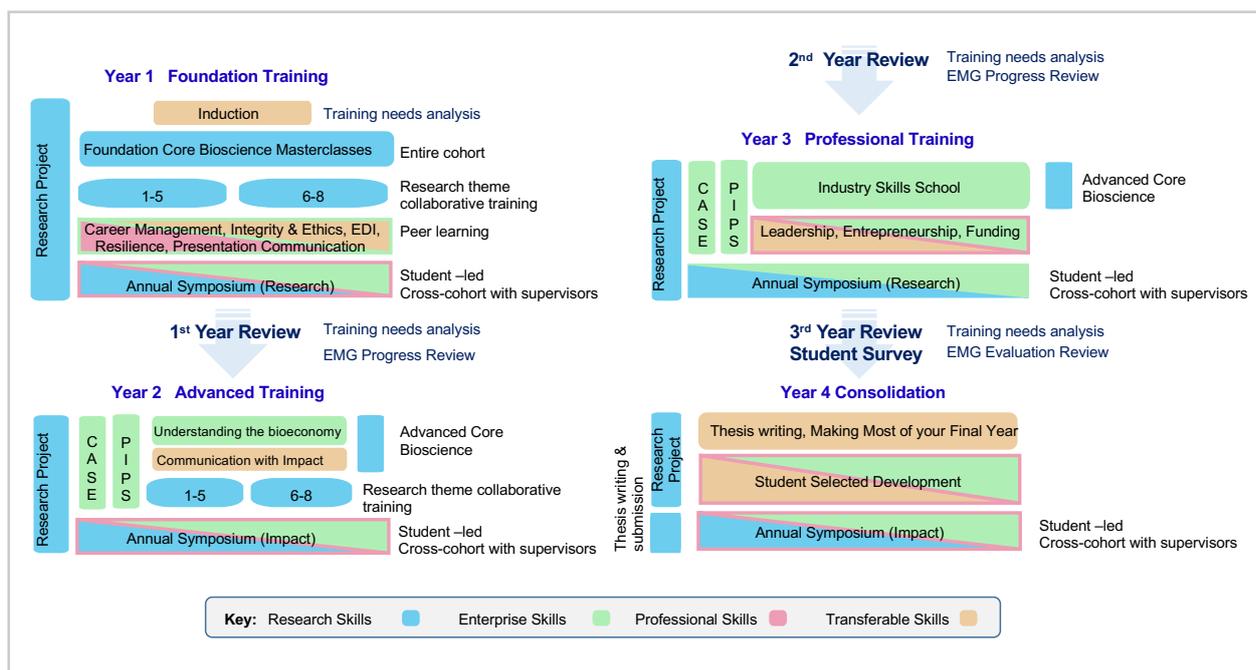
A handwritten signature in black ink that reads "Clare Blackburn" followed by a horizontal line.

EASTBIO Training Programme

Our vision is to help develop doctoral graduates who are each equipped with the high-level contemporary skills and competencies required to tackle major societal challenges through research to advance knowledge and/or through other contributions in wider society; who are aware of these challenges and their potential to impact them and who have the agile critical, creative and networking skills, interdisciplinary awareness, vision and resilience required to do so.

The EASTBIO Training and Development Programme is designed to equip all EASTBIO students with a broad set of skills, encompassing essential core bioscience, research, professional, enterprise and transferable skills.

Figure 1: Summary of the EASTBIO Training Programme



During your EASTBIO PhD we expect that all of our students will develop the **characteristics of a highly skilled and employable bioscience graduate** listed in Appendix 1 and go on to be able to live, work and lead in the complex and diverse world.

1. Introduction

The EASTBIO training programme is a modular Programme containing mandatory and optional elements. This allows each student to acquire mandatory core competences and also to dynamically manage your own development according to ongoing analysis of your training needs, which often change during the course of your doctoral studies.

Our training Programme is aligned with the Vitae Researcher Development Framework and aims to support both your professional and personal development throughout the four years of your PhD. As an EASTBIO PhD student, you will be part of a wider network of postgraduate bioscience research students and we hope that the interactions that you will establish with your fellow EASTBIO students will extend beyond your PhD.

The bioscience careers of the future require individuals equipped with knowledge and cutting-edge skills that combine **quantitative** and **interdisciplinary** approaches to addressing complex biological problems, with expertise in advanced technologies. The EASTBIO training programme in Years 1 and 2 is designed to help you develop these crucial skills.

To be successful in your future career you also have to develop a range of personal skills, such as effective communication, leadership, initiative and resilience. The EASTBIO transferable skills programme from Year 1 to 4 and the EASTBIO Annual Symposia, which you help to organise, both aim to build your personal skills, your confidence and independence.

Finally, the EASTBIO Collaborative placements or Professional Internships for PhD students provide you with the unique opportunity to try something different from your research in the lab. The invaluable experience of working in a non-academic environment will make the transition into your professional bioscience career much easier at the end of your PhD.

The EASTBIO training programme incorporates the above training elements, including the Professional Internships for PhD students (PIPS) or industry-linked placements (for students doing Collaborative Studentships), structured around each year of the doctoral study:

Year 1: Foundational Training

Year 2: Advanced Training

Year 3: Professional Training

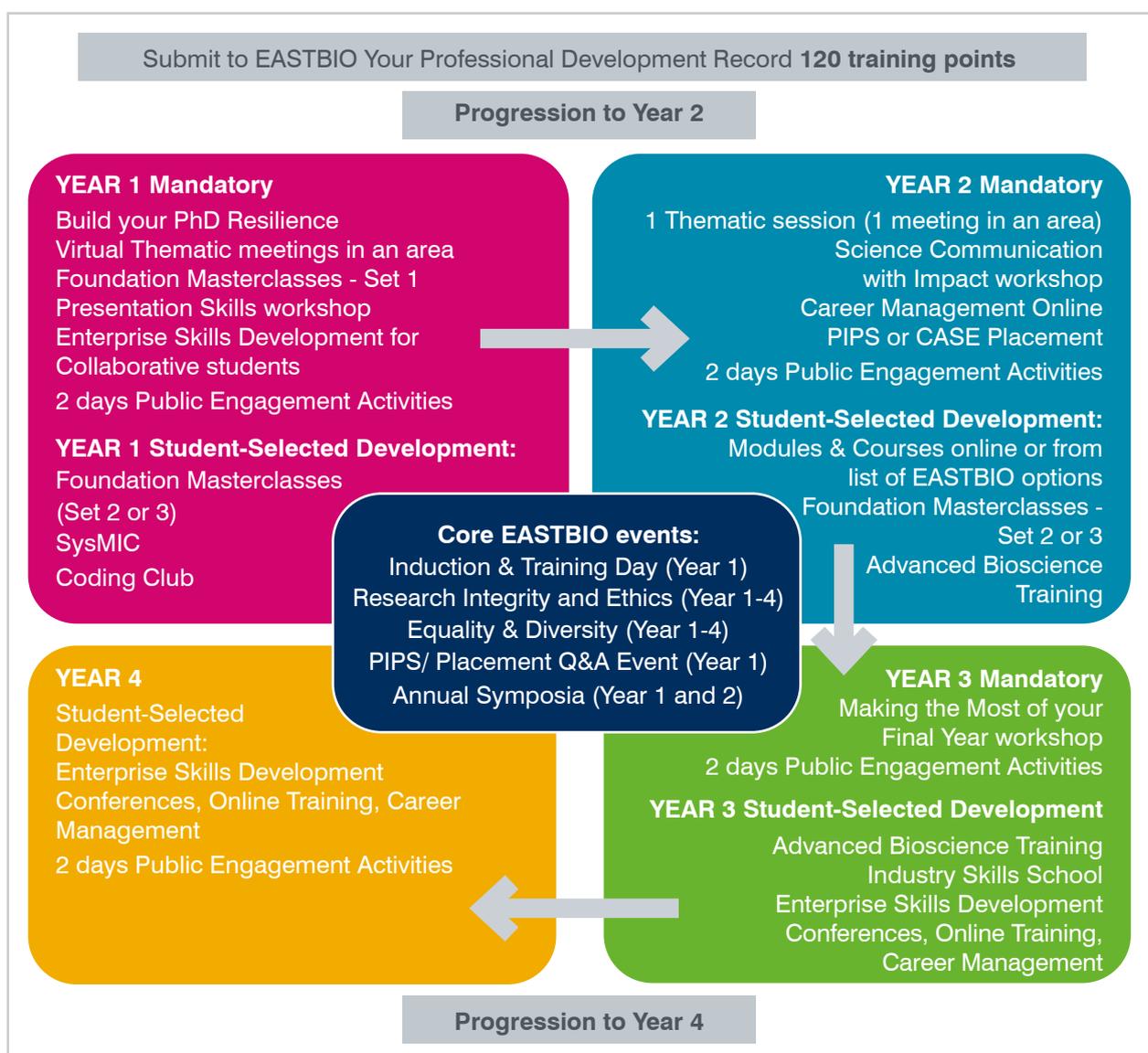
Year 4: Consolidation

As well as the information in this Handbook, you should keep an eye on your email inbox and the EASTBIO website www.eastscotbiodtp.ac.uk for further training updates, news and developments.

2. Overview

We recognise that each of you will start the EASTBIO PhD programme with different abilities, experiences and aspirations. For this reason, we have specific minimum expectations regarding the amount of training we expect you to complete each year during the four years of the programme, including some key events and components that are mandatory for all EASTBIO PhD students.

Figure 2: EASTBIO Training Progression diagram



The training and events delivered by EASTBIO Training Programme are already moving into part online, part face-to-face delivery in order to meet the needs of part-time, disabled and students with caring responsibilities. The following figure and tables summarize the EASTBIO Training Programme in terms of mandatory components, as they run each year.

Table 1: Comprehensive view of requirements of the EASTBIO Training Programme

Year	Location & Dates If unconfirmed at the time of publication, please check the EASTBIO website training pages	Title of EASTBIO training event	Requirements & credits (training points)
1	Virtual, 7-8 October	Induction	Mandatory - 10 training points
1-2	Edinburgh, early June	EASTBIO Research Symposium	Mandatory - 10 training points
3-4	Edinburgh, early June	EASTBIO Impact Symposium (jointly with IBiIC CDT)	Optional - no points
1	Online, student-selected time	Professional training - Foundation Masterclasses: Research Integrity online video-based training	Mandatory - 10 training points
1-4	Online, student-selected time	Professional training: Public Engagement (2 days per year)	Mandatory - no points
1	Details TBA	Professional training - Foundation Masterclasses Set 1: • Statistics and Experimental Design • Introduction to MatLab • Artificial Intelligence & Machine Learning for Bio-scientists	Mandatory - 30 for Set 1
1	Online, student-selected time	Mantra: https://mantra.edina.ac.uk	Mandatory (Set 1 course) – no points
1 & 2	Details TBA	Professional training - Foundation Masterclasses: Options from Set 2 and Set 3	Optional - 10 points each course
1	Online, details TBA	SysMIC - Limited places, by competitive application	Optional - 20 points for module I; 50 points for modules I and II
1 & 2	Virtual meetings starting from December 2020, every other month	Thematic Group Meetings in own research area (20 hours): 4 or more meetings in Y1	Mandatory - 10 training points each
2		1 Thematic meeting in own area in Y2	Mandatory - 10 training points

Year	Location & Dates If unconfirmed at the time of publication, please check the EASTBIO website training pages	Title of EASTBIO training event	Requirements & credits (training points)
2 & 3	Online - various locations, dates, as advised	Advanced Bioscience Training – Core Bioscience and Technology skills (Mathematics & Data Analysis)	Optional - 10 points each in Y2
1-2	TBA	Enterprise Skills Development in (a) or (b): (a) Entrepreneurship & Working with Industry (b) Aquatic Animal Disease and Welfare	Mandatory for Collaborative students only - 10 training points for (a) or (b)
1 1 1-2 2	Details TBA (all EASTBIO delivered, except Presentation Skills)	Professional Skills Development workshops: • PIPS, Collaborative Placement Q&A (Edinburgh) • Presentation Skills Workshop • Build Your PhD Resilience (Edinburgh) • Science Communication with Impact	All Mandatory - 10 training points each
2-3	As per individual plan	PIPS or Collaborative Placement	Mandatory - no points
3 & 4)	Details TBA	Professional Skills Development workshop: Making the Most of your Final Year	Mandatory - no points
3-4	Details TBA	Industry Skills School - Limited places	Optional - no points
1-4	As advised on Handbook, below, and online	Other training (non-EASTBIO). We recommend a range of optional online resources and Bioscience organisations so that you can access development opportunities flexibly.	Optional - no points To be recorded on your Professional Development Record

3. Summary and Requirements

As outlined in the above table, in Years 1 and 2 you are expected to attend a number of EASTBIO (face-to-face and online) training events and activities, some mandatory for your cohort, some optional. In this Handbook, we refer to attendance of EASTBIO events as your *training requirements, in accordance with your contractual obligations as UKRI-funded students*. Attendance of these designated events - a mix of mandatory and optional courses - should provide you with **200 training points in total by the end of your second year of PhD study**. We recommend that you should aim to collect **120 points by the end of your first year of study**. Although there are specific mandatory EASTBIO events in Year 3 and 4, these carry no credit. For an overview, see the following Table.

Table 2: EASTBIO Credit System, 2020 2021

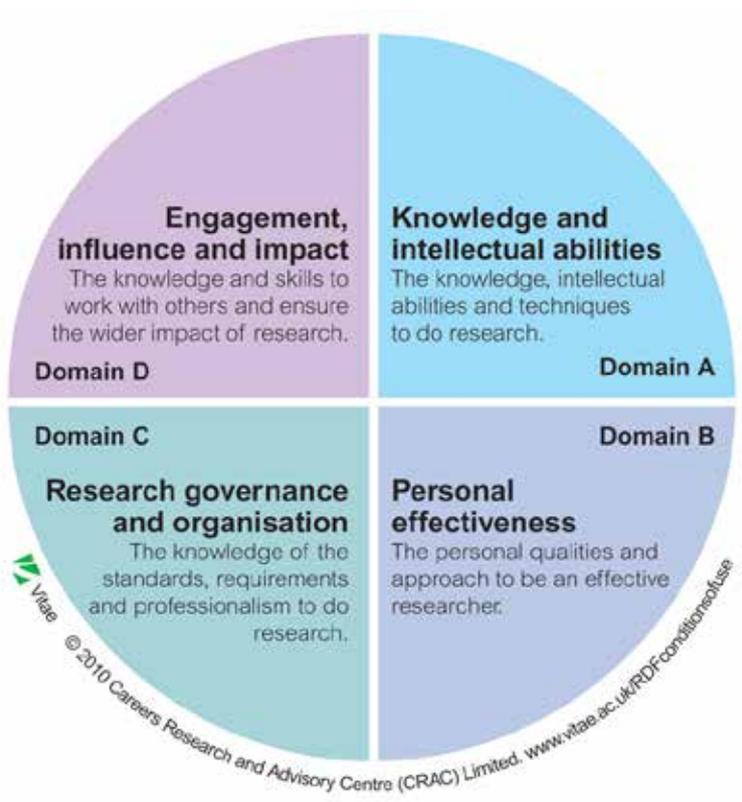
	Mandatory with points	Optional with points	Mandatory with no points	Optional with no points
Year 1	Induction - 10 Research Symposium - 10 Research Integrity - 10 4 Thematic meetings - 40 Masterclasses Set 1 - 30 PIPS/CASE Q&A - 10 Presentation skills - 10 1 out of 2 Enterprise skills training - 10	Masterclasses Set 2, 3 - 10 each course SysMIC course - 20 (1 module) or 50 (2 modules) Coding Club - 10	Public Engagement (2 days/year)	Good enough practices in research computing
Total credits Y1	Actual ~120/ Overall minimum 120			
Year 2	Research Symposium - 10 Build your PhD Resilience - 10 Science Communication - 10 1 Thematic meeting - 10 points	Masterclasses Set 2, 3 - 10 each course Advanced Bioscience Training - 10 each course	PIPS or Collaborative Placement Industry Symposium Public Engagement (2 days/year)	Enterprise skills training
Total credits Y1 & 2	Actual ~160/ Overall minimum 200			
Year 3 Students expected to take optional courses & record these on their Professional Development Record, to be made available upon EASTBIO request.			PIPS or Collaborative Placement Public Engagement (2 days/year) Making the Most of your Final Year	Advanced Bioscience Training Industry Skills School Industry Symposium
Year 4 Students expected to take optional courses & record these on their Professional Development Record, to be made available upon EASTBIO request.			Public Engagement (2 days/year)	Industry Skills School Making the Most of your Final Year

How do I know what training I need?

We recognise that each researcher has a set of unique training needs and recommend that you consider the following:

- Reflect on your current skills to identify your strengths and areas where you feel there are gaps. Figure 3 shows the **Researcher Development Framework** that can be used for this purpose: <https://www.vitae.ac.uk/researchers-professional-development/about-the-vitae-researcher-development-framework>
- Speak to your supervisor about your training needs.
- Speak to other researchers to share advice and recommendations about training.
- Look at the EASTBIO training programme and attend our mandatory programme of events.
- When picking your student-selected options, review what is available within our EASTBIO-recommended options. Also check what your School/College and wider Bioscience community provides in terms of training and support.
- Complete and submit your individual online 'Training Sign-up' form and keep track using the 'PhD Professional Development Record'.

Figure 3: Vitae Researcher Development Framework



To help us deliver our EASTBIO DTP-wide training, we ask all first-year students to complete and return two forms:

- 1. An online 'Training Sign-up' form**, circulated after the Induction (7-8 October 2020) to return to eastbio@eastscotdtp.ac.uk by the end of October. It contains a list of all training options and details (confirmed dates, locations, summaries and whether it is a mandatory or optional event). The form is important as it acts as a provisional registration form and allows the EASTBIO team to confirm, for all face-to-face events, attendees final numbers, venue booking, event catering and necessary arrangements for special requirements and needs and, in general, provides us with information required for the smooth delivery of the training.
- 2. A 'PhD Professional Development Record'** (word document), submitted at two points: first, by the **31 September 2021** and, secondly, by the **31 September 2022** by emailing a signed PDF copy to eastbio@eastscotdtp.ac.uk. You are, in effect, submitting the same 'PhD Professional Development Record' updated to include any additional training you have completed between the start of your PhD and the Year 2 deadline. The Record concerns all EASTBIO-based training, plus any optional self-selected training you attended (provided by EASTBIO, at your local University, with other DTPs or CDTs or by external Bioscience-related organisations). Although you will receive reminders close to the two deadlines, *it is your sole responsibility to ensure that your Records are submitted on time.*

Part-time students are expected to agree, with their supervisor's help and support, an individualised plan with amended deadlines for submitting development forms, attending training, completing PIPS, industry-linked placement, etc. This can be discussed with the EASTBIO academic representative for your local institution (contacts details at the end of the Handbook or on the EASTBIO website).

Please note that progression to the second, third and fourth year of your PhD depends on whether you have fulfilled the EASTBIO training requirements, as explained above. Extensions must be discussed with the EASTBIO academic representative for your local institution (contact details at the end of the Handbook or on the EASTBIO website) after a formal request is submitted by email to eastbio@eastscotdtp.ac.uk.

Cancellation Policy:

You are expected to attend all mandatory EASTBIO training and any student-selected optional EASTBIO training you have registered for. If you have any concerns, or you need to cancel your attendance at specific events or activities, after having first discussed with your supervisor(s), please contact EASTBIO as soon as possible. We will make sure that students who cannot attend mandatory training will be offered alternative options, or, where possible, the opportunity to attend the same training the next time it will run (usually the following year).

4. Recording Professional Development

To make the most of the training offered by EASTBIO partner institutions and by Bioscience-related organisations, we require our students to keep a 'Professional Development Record'. In this documents, you should record any training and development activities carried out. Keep updating it with specific details as you proceed through the first and the second year of your PhD. It contains evidence that will help you to reflect on how this learning supports your personal and professional development.

In particular, your 'Professional Development Record' contains important information that:

- helps you to track evidence of your professional development which you can use to review, evaluate and plan for your future success during your PhD and beyond;
- helps your local Thesis Committee Review to assess your progress at the end of each year of your PhD;
- EASTBIO uses to monitor attendance and your total training credit points, information also used by your Thesis Committee Review to confirm progression into PhD year 2 and 3;
- Provides us with important data needed to fulfil the EASTBIO reporting obligations to our funder UKRI BBSRC (under our BBSRC DTP3 award Terms and Conditions).

Delayed submission of your 'Professional Development Record' may result in late or cancelled stipend payments.

Table 3: The 'EASTBIO Professional Development Record' submitted by students at month 12 and 24 to track progress and necessary for BBSRC reporting

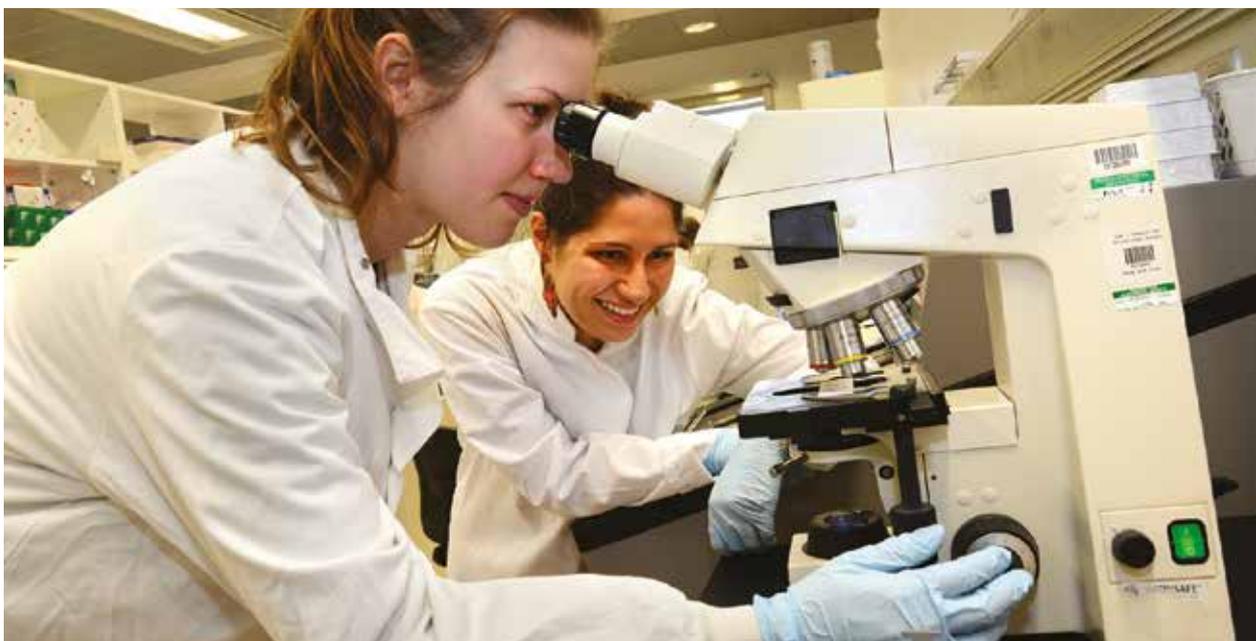
PROFESSIONAL DEVELOPMENT RECORD				
Student Name:		Cohort Year:		Date Updated:
Name of Training Event	Date Completed	Provider details-EASTBIO central, local institution, online, name of science-related organisation	Mandatory / Optional EASTBIO event or other	EASTBIO Points Awarded (as applicable)
Student Signature:		Training points at the end of Year 1 must total 120 points		
Supervisor Signature:		Please submit in PhD month 12 to		
Date:		eastbio@eastscotdtp.ac.uk		
Student Signature:		Training points at the end of Year 2 must total 200 points		
Supervisor Signature:		Please submit in PhD month 24 to		
Date:		eastbio@eastscotdtp.ac.uk		

5. Training costs

We aim to provide all your training free of charge or at a minimal cost. Each of you will have access to the following funds (in addition to fees and stipend paid by your studentship) to support your training:

- **Research Training Grant:** £5,000 per annum (this is reduced to £1,500 in year 4). This grant may be held directly by you or your supervisor, or by your department. It should be used to cover the research costs incurred by your project and may also be used to purchase a laptop at the start of your programme and cover any additional travel and training costs incurred during each year (including EASTBIO training activities). Unspent funds roll over onto the next academic year.
- **Travel and conference allowance:** £230 per year which will cover most of the expenses involved where training is delivered in person rather than online.
- **PIPS Additional Expenses:** Where your PIPS will incur significant additional costs, you can apply to our competitively allocated small bursary competition. Further details can be found in the 'PIPS Guide for Students' which is emailed directly to students.
- **Disabled Students Allowance (DSA):** authorized by the Disability Office of a student's local institution and based on a student Needs Assessment report.

For questions about how to access these funds, we strongly encourage you to contact the EASTBIO Administrator at your local institution in the first instance (see Local Administrative Contacts, below).



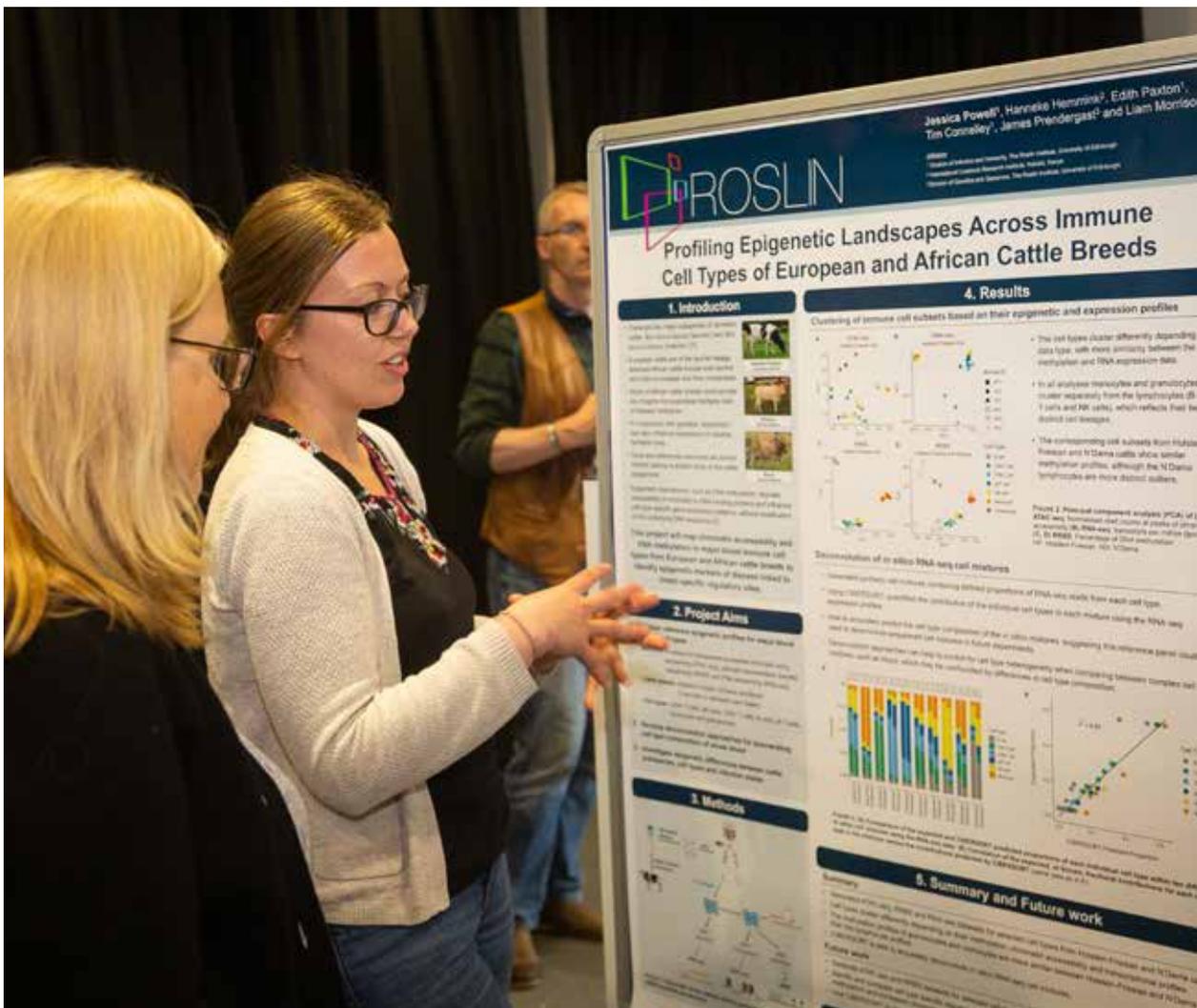
6. Before travelling overseas for fieldwork, internships, placements or research work

Before travelling overseas, it is essential that you and your supervisor do the following:

- Complete all necessary **Risk Assessment Procedures** as defined within the local institution you are registered with.
- Submit a '**Leave of Absence**' form within the local institution you are registered with.

7. Feedback on your training experience

EASTBIO aims to respond to the needs that you, your supervisors and your potential future employers may identify. We will ask you for feedback on existing training and for input on developing our training further. Please respond to these requests; your opinion is very important to us and helps improve the training components of the programme. If you cannot find the training you need, please contact your local EASTBIO administrators or the representative of the EASTBIO academic Management Group at your local institution or enquiries@eastscotbioldtp.ac.uk.



8. Managing your Career

Career management includes being able to research, plan and take informed decisions in relation to your career. This is relevant to all stages of your career, whether you are developing in your current role, preparing for promotion or seeking new career options. To help you with taking the next step in your professional career, the Careers Service in your local institution can advise and support you to explore jobs and future career options. They can also offer help with creating an effective CV, preparing applications and interviews.

There are also many excellent online communities which you can join that are relevant to progress your career interest. For instance, the 'Career Management for Early Career Academic Researchers' online training course runs at least once per year. You can sign up anytime for it in your PhD. The resource is available free of charge via the link: <https://www.futurelearn.com/courses/career-management>.

EQUATE Scotland works across Scotland and across sectors to deliver training and support for women at each stage of their career and provide opportunities for female students to make valuable links with industry via their student's network and Career hub. Information available via the link: <https://equatescotland.org.uk/>.

We encourage you to undertake part of your **continuing professional development virtually** at a time that suits your busy PhD schedule. Additional resources to help with maintaining a healthy work life can be found on LinkedIn Learning.

- **LinkedIn Learning** is an online skills development service offering an extensive library of high quality video courses in business, creative and technical skills. Users have access to 15,000 courses and 250,000 videos. It is also possible to highlight the skills you are interested such as 'Leadership', 'Training and Development', 'Project Management', 'Communication', 'Time Management' and explore topic areas of interest such as 'Supporting your Mental Health' etc. We encourage our students to search topic areas of interest in preparation for PIPS / placement and employment.

To get started you will have to create a free account via the link: www.linkedin.com/learning and use Sign in > enter your email (University) > log in with university credentials when prompted.

Year-by-year Training

I. Year 1 to 4 Training

a. Multidisciplinary Approaches and Quantitative skills

Conducting cutting-edge bioscience research in the twenty-first century requires you to develop a broad understanding of multidisciplinary approaches that are used for addressing complex biological problems, as well as strong quantitative skills to analyse the vast datasets that are the output of contemporary bioscience research. EASTBIO wishes to enable all our students to be curious and think outside the box by promoting interdisciplinary collaboration; our doctoral training environments are conducive to a culture of entrepreneurship.

The EASTBIO training will enable you to build the foundation of your multidisciplinary and quantitative skillset in Year 1 and develop it further in subsequent years. To connect to interdisciplinary approaches students are encouraged to link up with members of the Scottish Graduate School of Social Science DTP (<https://www.sgsss.ac.uk/>) and others to deliver plenary talks at our events.

b. Research Ethics and Integrity

Research Integrity training underpins excellent research, and is at the heart of what constitutes good research practice. All researchers share the responsibility with their institutions to uphold research standards, ethics and integrity and need to be proactive in this respect. It is important to educate yourself on your responsibilities and best practice, and be aware of what constitutes misconduct to avoid pitfalls.

EASTBIO offers an excellent video-based **Research Integrity training course** which includes 6 videos, associated quizzes and resource booklets and Collaborative studies. The videos cover the following topics: Introduction to research integrity and responsible ethical conduct of research; Ethical approval and practice; Plagiarism and recycling of text and research outputs; Authorship; Collaborative research and data management and integrity; Peer review and publication ethics. To arrange registration for this mandatory training please seek details via your local institution.

To learn more, the **Global Research Ethics and Integrity online** optional course is a joint project of members of Universitas 21, which seeks to engage postgraduate students in considerations of ethical issues in a global context. To find out more, visit: <https://greim.iad.ed.ac.uk/>. To arrange registration please email EASTBIO.

II. Year 1 Foundation Training

Starting out is exciting, but can be daunting too as there seems to be so much to do! Here are some things to consider:

- Understand your expectations, those of your supervisor and of the host institution. Look at the Code of Practice for Supervisors and Research Students, read information available through your School and College, speak to your supervisor.
- Understand the milestones – what are you working towards and make a plan. Remember to include time to relax and do activities outside your research.
- Start your networks with peers and other researchers. Find out what is available and attend relevant events.
- Take time to ensure you are confident with the basics, e.g. do you know how to use the library? Do you know about reference managers?
- Breathe! Think of the first stage as a starting point in a much bigger project – you are not expected to have all the answers from day one!

In the first year of the EASTBIO PhD, we expect you to establish the foundation upon which you will build the development of your skills in subsequent years. The EASTBIO Training is normally launched with the Induction Day, where all new students and supervisors come together for an informal day of briefings and introductions to the main elements of our programme (thematic, masterclasses, placements), followed by a Training Day. Due to COVID-19 restrictions, this year's Induction will run as a remote event spanning 3 mornings from the 7th to the 9th of October, involving a variety of activities: team-building and informal Q&A sessions, short introductions by the EASTBIO academic representatives to different aspects of our programme, combined with break-out thematic group discussions. Induction completes with a half-day Foundation Masterclass on 'Statistics & Experimental Design' on the 9th October.

Most training events in Year 1 - i.e. the **Thematic training group meetings** (Research skills), **Masterclasses** (Bioscience skills), plus three separate workshops on '**Presentation Skills**', '**PIPS and Collaborative Placement Q&A Event**' and '**Build Your PhD Resilience**' workshop (Transferable skills) -- are mandatory and attendance at these events carries training points. This may sound like a lot of training, but based on our past experience, we are sure that you will enjoy interacting with experts peers from different universities and research fields, meeting frequently with your fellow EASTBIO students from across the partnership and building your own research and support network.

All EASTBIO Collaborative students are required to complete specific **Enterprise Skills Development** training at key stages of the programme.

a. Thematic (subject-specific) Training

EASTBIO student projects are designed around five key research themes:

1. Understanding the rules of life
2. Bioscience for sustainable agriculture and food – Crops and soil
3. Bioscience for sustainable agriculture and food – Terrestrial and aquatic animals (this encompasses Livestock, Production Biology, and Health and aquaculture)
4. Bioscience for renewable resources and clean growth
5. Bioscience for an integrated understanding of health

Details of which research theme you belong to will be given at Induction. Themes are assigned according to the individual PhD project description and to ensure group sizes robust enough to enable cross-thematic interactions. EASTBIO will provide you with details of all groups' members (students' and supervisors' names and contact emails, project titles and affiliations).

These virtual thematic training meetings are led by students with input from an EASTBIO supervisor. The thematic groups provide a dynamic, often provocative environment for researcher development at many levels. Importantly, they provide a forum for peer-to-peer and peer-to-PI exploration of the broad research area most closely related to each student's interests, and therefore play an important role in promoting rigorous creative and innovative thinking amongst cohort groups. They also offer networking opportunities that foster new collaborative interactions between students and PIs from different partner institutions, with the potential to drive research innovation.

The aim of the thematic training component of your PhD is to introduce challenges, questions and tools that are key in your theme-specific research area and to help you develop your critical reading skills, your collaborative understanding and capacity. The thematic groups will also provide you with an excellent opportunity to meet other EASTBIO students and supervisors working in complementary research areas, to share expertise and establish collaborations. They also provide you with an opportunity to check in, get some support from other EASTBIO researchers in your group, the network of guest speakers and students from other PhD programs working in your area.

During your first year, you will take part in 4 or more virtual thematic meetings (20 hours) and will join at least one of the meetings taking place with the new first-year cohort in your second year. Thematic meetings start from December 2020 and are held every other month. These virtual meetings will be based on critical evaluation of seminal papers; group and panel discussions on key questions for the area (What are the biggest unresolved challenges? What is around the corner in terms of research and transformative technology? Are given research models for a particular question adequate?); talks from invited speakers; review of applied research; visits to industry facilities or sites, etc., as decided collectively by your thematic group.

In the Induction second day, an EASTBIO supervisor will chair a break-out session to explain how the virtual thematic groups will operate and help you plan for them. This session is about introductions and the EASTBIO student reps, who are invited to attend virtually, can be approached to offer insights into planning. Thematic group members collectively agree on the dates the future meetings should be set and on how you will engage, share knowledge, store meeting documents, etc. You will be invited to volunteer to become the meetings' facilitator or scribe for your group's first meeting. When you share out the jobs, check that everyone does something and no one's overloaded!

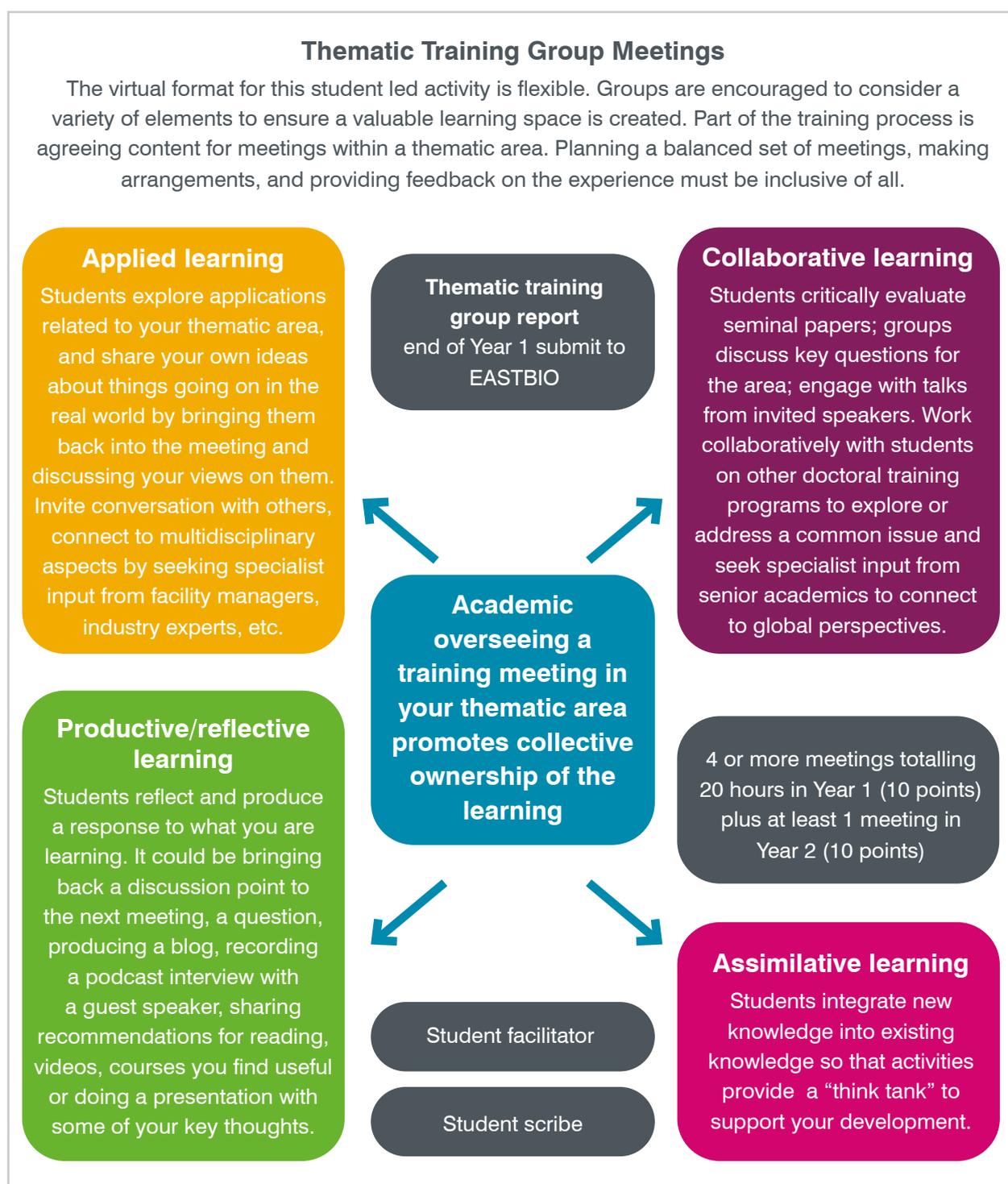
Detailed information about what else is involved in the virtual thematic training meetings is given in **Appendix 2**. This includes: creating a concrete plan for each of the thematic meetings, generating a shared area to upload documents, circulating dates and notes of any other details to members of your

thematic group. At the end of each meeting all group members complete the Thematic Training Student Evaluation Form (Appendix 2). EASTBIO asks groups to make records of thematic meetings available to enable us to gather feedback.

Students are encouraged collectively as a group to talk through and agree topics explored. Please consider the possibility of inviting input from guest speakers to connect to hot research topics, interdisciplinary approaches, areas of applied research and global perspectives.

Students also have the option to arrange to invite facility managers within the EASTBIO partners and industry to learn about areas of interest.

Figure 4: Thematic Training diagram



Please consider the possibility of inviting input from students on other doctoral training programs to join their thematic meetings, e.g. another BBSRC DTP programme to explore additional research themes in the areas of Artificial Intelligence, Machine Learning, 'Omics' Technologies and cultivating an understanding of interdisciplinary approaches (research themes 6 to 8, see figure 1, above). Another possibility could be to arrange to invite cell and molecular biologists from the Wellcome PhD Programme in Integrative Cell Mechanisms who are researching the application of quantitative methods to understand the inner workings of distinct cell types in different settings.

These will include programmes such as

- UKRI Industrial Biotechnology Innovation Centre (IBioIC) CDT (<http://www.ibioic.com/>)
- UKRI CDT in Biomedical AI programme (University of Edinburgh - <http://web.inf.ed.ac.uk/cdt/biomedical-ai>)
- EPSRC CDT in Data Science (University of Edinburgh - <http://datascience.inf.ed.ac.uk/>)
- Wellcome PhD Programme in Integrative Cell Mechanisms (University of Edinburgh - <https://www.wcb.ed.ac.uk/iCMPHD>)

In order for learning to be successful, it is imperative that you put any new-found knowledge and skills to use as soon as possible.

At the end of year one each group of students must generate a one-two page summary report. This is submitted by email to eastbio@eastscotdtp.ac.uk. EASTBIO is looking forward to hearing your feedback on how your thematic meetings have gone (forms shown in Appendix 2 will be emailed directly to students).

b. Foundation Masterclasses

First-year students must complete the **two mandatory foundation masterclasses** as shown below, plus **Set 1**, details on the lists below. All EASTBIO students can also choose to attend any relevant courses offered in **Set 2** and **Set 3 as part of their required optional foundation masterclasses**, either in year 1 or year 2. A list containing the details of all masterclasses will be provided on the online Training Sign-up Sheet. Summaries for all masterclasses can be found on our website, at <http://www.eastscotbiotdp.ac.uk/foundation-masterclasses>.

Mandatory foundation masterclasses, in Year 1

- Statistics and Experimental Design (Training Day, following Induction Day)
- Research Integrity online video-based training, available via the host institution (page 15)

Set 1, Mandatory Quantitative and Computational Skills masterclasses, in Year 1

- Artificial Intelligence and Machine Learning for Bioscientists
- Introduction to MATLAB (online, 13 November 2020)
- MANTRA - a free, online non-assessed course, with guidelines to help you understand and reflect on how to manage the digital data you collect throughout your research <https://mantra.edina.ac.uk>

Set 2 and Set 3 is part of student-selected training options

Set 2, Optional Interdisciplinary Working masterclasses, in Year 1 or 2

- Introduction to Biology for Quantitative Scientists (online, 10 December 2020)
- Primer for Mathematical Modelling for Biologists
- Introduction to Biology for Chemists and Chemical Engineers (online, March or May 2021)
- Introduction to Chemistry for Biologists (online, March 2021)

Set 3, Optional Primers in Transformative Technologies masterclasses, in Year 1 or 2

- Good enough practices in research computing (26 Oct 2020)
- Dynamic Modelling for Systems Biology
- Primer for Synthetic Biology (online, November 2020)
- Primer for Advanced 'Omics' Approaches (online, November 2020)
- Introduction to in vivo Approaches and the 3Rs
- Advanced Approaches to Genome Manipulation and Modification (online, January 2021)
- Advanced Imaging, including Super-resolution microscopy and image analysis (online, 18 November 2020)
- Proteomics and Mass Spectrometry
- Structural Biology and CryoEM
- Coding Club at <http://www.codingclub.co.uk/>
- The Cool Farm Tool (online, 22nd January 2021)

c. SysMIC: Systems training in Maths, Informatics and Computational Biology

SysMIC is an outstanding online course, which provides extensive training in mathematics, statistics and computational methods used in life sciences. It is delivered by scientists from University College London, The Open University and the University of Edinburgh.

In October 2020, EASTBIO will circulate information and invite applications by first-year students for a limited number of funded spaces worth £850 each, awarded on a competitive basis. If you are successful, you are expected to complete module I of SysMIC within your first year of study (by the end of September 2021), gaining 20 points (or, should you wish to also complete module II, a total of 50 points). Failure to complete the course may carry a financial sanction. To get a clear sense of the commitment involved and the personal development benefits obtained, we encourage you to speak to other EASTBIO students who have previously completed the course (details available upon request).

To find out more, visit: http://sysmic.ac.uk/course_details.html and www.eastscotbioldtp.ac.uk/sysmic-course.



d. Transferable Skills

To be competitive in your future career, it is vital that you engage with training beyond the essentials needed for your own research. As the knowledge economy expands, employers expect advanced professional skills in addition to excellent qualifications. Therefore, the acquisition and development of personal transferable, employment-related and research-oriented generic skills is an important part of your postgraduate training.

These skills, which complement your academic research and enhance your employability prospects, will give you a competitive edge both now and in future. You will be undertaking some of this training locally, at your host institution, and we expect you to plan and record this training in your 'Professional Development Record'. As EASTBIO aspires to train the future leaders in bioscience research, to enable you to develop as such, we provide both a specific transferable skills programme in Years 1 to 4 of your PhD and the opportunities to apply these skills by contributing to the organisation of key EASTBIO events, such as the Symposia and the Industry Skills School.

- **EASTBIO Build Your PhD Resilience workshop** (Edinburgh, September 2021)
Doing a PhD is a challenging, yet a worthwhile and rewarding process. EASTBIO helps you to make the most of your PhD by providing a space for reflection, thoughtful engagement and mutual support-building your capacity to manage stress and create success during your PhD and beyond. At the end of your first-year, you are invited to attend this mandatory face-to-face workshop '**Build Your PhD Resilience**', which aims to boost your confidence by helping you to identify your strengths and areas for development.
- **Early Stage recommended workshops to choose from** (available via your local Institution), including, but not limited to the following: Presentation Skills, Prepare for Doctoral Success, How to be an Effective Researcher, Seven Secrets of a Highly Successful Research Student, Practical Project Management, Good Practice in Research Data Management, Time Management and Speed Reading, Working across Disciplines.

e. Enterprise Skills

The UK bioscience industry offers a diverse range of employment opportunities that require researchers to display the necessary skills and experience in order to successfully transition from academia into industry and other bioscience-related non-research careers. To achieve this vision, the EASTBIO enterprise skills training component of our programme supports your development by exposing students wishing to gain knowledge, skills and experience of industry to business, commercial, entrepreneurial and leadership skills.

EASTBIO **students doing Collaborative studentships** are required to register to attend one of the following foundation face-to-face training options below:

- **Entrepreneurship & Working with Industry** (Industrial Biotechnology Innovation Centre <http://www.ibioic.com/>, Edinburgh);
- **Aquatic Animal disease and Welfare;**
 - **Intensive Primer** with an industrial focus (University of Stirling dates throughout 2021);
 - **Aqua Health Control and Welfare** MSc course (University of Stirling, 2 to 3 half-day sessions; due to run from mid-April to mid-May 2021).

Further information will be emailed directly to students.

III. Year 2: Advanced Bioscience Training

In the second year, we expect you to focus on your research and to develop further your core bioscience skills by taking optional advanced training courses. Many courses are available locally, but as an EASTBIO student you have access to all **practical advanced technology training and advanced core bioscience courses** at all and any EASTBIO partner universities. Information of these training opportunities is provided to students after Induction. We strongly encourage you to make the most of these excellent training opportunities that are available to you uniquely as an EASTBIO student.

EASTBIO will not prescribe which specific training courses you should take, but we expect you to undertake at least **20 hours of core bioscience training** in Year 2, plus other optional opportunities; this is to be recorded on your online 'Professional Development Record'.

We also expect second-year students to attend **at least one of the thematic group meetings** in their research area and interact with the first-year student and supervisor cohort. During the second year, we expect Collaborative students to engage with recommended providers of optional industry career-related training.

To progress to Year 3, please ensure that you complete a minimum of 200 training points by the end of Year 2.



a. Advanced Bioscience Skills

The following courses – related to core bioscience and technology skills, including courses related to mathematics/ data analysis and multidisciplinary approaches to biological systems - belong to the student-selected development programme. These options build on the skills developed in Year 1 through the EASTBIO foundation masterclasses and are open to all first-, second- and third-year EASTBIO students. Although we have made every effort to update details of available options in our Handbook and training pages (www.eastscotbiotdp.ac.uk/year-2-advanced-training#advancedbioscience), it is the responsibility of an individual student to seek out further details from the local provider based within our EASTBIO partner institutions. Courses include, but are not limited to these below:

I – Core Bioscience Skills

- **Microscopy and Imaging:**
UoA: <https://www.abdn.ac.uk/ims/facilities/microscopy-histology/index.php>
UoE: <https://www.wcb.ed.ac.uk/iCMPHD> & <https://www.wcb.ed.ac.uk/programme-details>
- **Genetic Engineering and Genome Analysis:**
UoA: <https://www.abdn.ac.uk/ims/facilities/genomics.php>
UoD: For details, please contact Paul Appleton at p.l.appleton@dundee.ac.uk
UoE: <https://genomics.ed.ac.uk/services/training>
- **Bioinformatics:**
UoA: <https://www.abdn.ac.uk/genomics/bioinformatics/training/>
UoD - For details, please contact Jim Procter, Geoff Barton, Suzanne Duce at jprocter@compbio.dundee.ac.uk
UoE: <https://genomics.ed.ac.uk/services/bioinformatics>
- **Proteomics and Protein Purification:**
UoA: <https://www.abdn.ac.uk/ims/facilities/proteomics/training.php>
UoD: For details, please contact Dougie Lamont at d.j.lamont@dundee.ac.uk
UoE: <https://ctcb.bio.ed.ac.uk/CTCB/Training.html>
- **Protein Crystallography:**
UoStA: [https://risweb.st-andrews.ac.uk/portal/en/activities/protein-crystallography-summer-school\(3e6168d9-efd4-4e20-89e5-73172b5ab724\).html](https://risweb.st-andrews.ac.uk/portal/en/activities/protein-crystallography-summer-school(3e6168d9-efd4-4e20-89e5-73172b5ab724).html)
- **Mass Spectrometry:**
UoA: <https://www.abdn.ac.uk/ims/facilities/mass-spectrometry-59.php>
UoE: For details, please contact Dr Natalie Homer at Natalie.Homer@ed.ac.uk
- **Flow Cytometry:**
UoA: <https://www.abdn.ac.uk/ims/facilities/cytometry/main.php>
UoD – For details, please contact Rosie Clarke at r.z.clarke@dundee.ac.uk
UoE: <https://www.ed.ac.uk/igmm/facilities/flow-cytometry-facility/facs-flow-cytometry>

II – Mathematics and data analysis

- **Advanced Statistics and Error Analysis**
UoA: <https://www.abdn.ac.uk/pgrs/training-development/workshops-by-theme-381.php#panel387>
- **Advancing Programming in Python**
UoA: <https://www.abdn.ac.uk/genomics/bioinformatics/training/current-workshops/>

- **R/Bioconductor and Unix**
UoA: <https://www.abdn.ac.uk/genomics/bioinformatics/training/>
- **Next-Generation Sequencing, Data analyses and Mining**
UoA: <https://www.abdn.ac.uk/genomics/>
- **NVivo Qualitative Data Analysis**
UoA: <https://www.abdn.ac.uk/toolkit/systems/nvivo/> and <https://www.abdn.ac.uk/pgrs/training-development/workshops-by-theme-381.php#panel519>

III – Multidisciplinary approaches to understanding biological systems

The EASTBIO partners offer a large number of postgraduate taught MSc courses open to all EASTBIO students, addressing directly the development of multidisciplinary areas of research. These include MSc course modules in:

- Synthetic Biology
- Medicinal Chemistry
- Drug Discovery
- Chemical Biology
- Physical Techniques in Chemistry
- Innovation Driven Entrepreneurship
- Aquaculture

The research training provided by EASTBIO will supplement the training that you will receive in your research group and host department. Do take advantage of any training opportunity available to you, including optional undergraduate and MSc modules, journal clubs, seminars and conferences in your field, as well as training opportunities offered to BBSRC-funded students that you will be notified about by EASTBIO during the course of your studies. We expect all EASTBIO students to be actively involved in the research culture of their host institution and to act as EASTBIO ambassadors by widening the PhD student network across Scotland.



b. Transferable Skills

Continuing to develop a range of personal and professional transferable skills is widely recognised as a key element of the postgraduate research experience. During Year 2, you will be expected to attend the following EASTBIO training:

- **Science Communication with Impact - “Telling Tales: The Importance of Narrative in Science”** workshop (Professor Jonathan Pettitt, University of Aberdeen)

As you are expected to actively participate and help organise the EASTBIO Annual Symposia and the Industry Skills School, EASTBIO will provide you with specific transferable skills training. This workshop focuses on developing the skills you need to communicate your research effectively to scientific and non-scientific audiences.

- The EASTBIO partners offer environments fostering a research culture which support students to consider opportunities for public engagement, science communication and raising the media profile of your research by providing various training and opportunities to promote your work. Students can also explore becoming a STEM Ambassador. More information on can be found on the link: <https://www.stem.org.uk/stem-ambassadors/join-stem-ambassador-programme>. BBSRC expects all PhD students to carry out **two days of Public Engagement per year**. All students will be required to submit information about their activities through UKRI’s nominated online system (currently **Research Fish**).
- Middle-stage PhD workshops available via your local Institution. Indicative list: Presenting Made Easy, Effective Writing, Proof Reading, Personal Effectiveness, Writing and Publishing, Digital and Library Skills, Managing your Digital Footprint.

c. Enterprise Skills

EASTBIO commits to advertising relevant external industry events, aligned with core EASTBIO research/expertise at frequent intervals, such as the opportunities below:

- **University of Edinburgh collaboration with Edinburgh Innovation** offers a new two-part Innovation and Entrepreneurship online training. This training includes topics such as IP and patenting, connecting with industry, case studies from academics with industry collaborations, creating your value proposition, how to network with industry, etc. All interested students are encouraged to consider undertaking this as a self-selected component of their training. Further information will be emailed to students.
- **The Royal Society of Biology Industry Skills Certificate** can support a career move into industry, in addition to existing qualifications. This recognises a set of skills and knowledge gained through the participation in online and in-person training courses. Information available via the link: <https://www.rsb.org.uk/careers-and-cpd/training/industry-skills-certificate>.

IV. Year 3: Professional Training for Student-Selected Development

During the middle stage of your PhD

- Take time to reflect, review your progress and start to look forward to life after your degree. If you are finding this period tough, try not to worry. Speak to others and identify ways to ensure that you have a good work/life balance.
- Review your research plan. Ensure it is still current.
- Focus on writing. Writing is hard work and requires commitment. Identify ways in which you can prioritise writing time. Experiment with different approaches to find ones which suit you.
- Reflect on the achievements you have made and how far you have come. Examine your skills and ask yourself what have you developed and what do you want to develop now?
- Focus on communication skills. Find out about different ways to communicate your research and build on your networking skills.
- Think about what next – do some career planning.

Anytime between month 12 and 36 of your PhD, you will be undertaking your **Professional Internship (PIPS)**, which you will plan and prepare for in the first year of your PhD. Therefore, Year 3 is free from mandatory EASTBIO training events. However, we expect you to share your PIPS experience with your fellow EASTBIO students, when invited to the **PIPS and Collaborative Placement Q&A event** (Edinburgh, February 2021) or the **Annual Symposia on the Societal impact of bioscience research** (Edinburgh, 3-4 June 2021). As PIPS is a unique feature of our programme, past student experiences is a great way of finding out more about it.

a. Transferrable Skills

EASTBIO supports your transition to the final year, when you will be working to complete your PhD research and finish your thesis, by running the following transferable skills workshop for all Year 3 students (attendance mandatory):

- **Making the most of your final year:** (online 11 November 2020) this event (mandatory for third-year students; also open to fourth-year students) provides advice and information on how to balance your work, thesis writing and submission with interviews, grant and job applications.

All EASTBIO students are expected to broaden their horizons during their PhD by actively engaging with organisations external to EASTBIO, which offer diverse Bioscience training opportunities.

- Workshops available via your local Institution include Viva Survivor, GradSchool Plan, The Funding Landscape and Writing Your First Fellowship Applications, Thesis Writing
- BBSRC expects PhD students to carry out some teaching as part of their PhD studies. The EASTBIO Institutions support **tutors and demonstrators teaching and marking** by offering orientation courses

for new or relatively new teachers, enhanced development courses for more experienced teachers, and support for gaining teaching accreditation.

- The **Three Minute Thesis** (3MT) is an annually run research communication competition that requires doctoral researchers to compete to effectively explain their research to a non-specialist audience in three minutes with one slide. The competition enables participants to share their research and develop their presentation skills, as well as competing for a prize fund and the chance to compete in the UK and Universitas 21 competitions. The competition starts with School Level Heats, which normally take place in March. Training entitled '3 Minute Thesis Competition Preparation Workshop' is provided for anyone interested in taking part in the competition, and the University finalists are offered specialist training in presentation and voice coaching, as well as effective slide design. The final is also live web-streamed and recorded and you can view previous competitions on the University's YouTube channel.
- **League of European Research Universities** (LERU) Doctoral Summer School, Information available via the link: <https://www.leru.org/doctoral-summer-school>.

b. Enterprise Skills

Industry-linked bioscience virtual innovation hubs recommended by EASTBIO include those listed below, which offer networking events, conferences, career support, webinars and resources. Events may have a small charge associated with them, which will need to be covered by you from your RTSG. Registration details are available on the websites. Below are some indicative suggestions:

- **Industrial Biotechnology Innovation Centre** (IBioIC) training includes Scale up for Bioprocessing, Bioprocess costing, Pitching to funders. Information available via the link: <http://www.ibioic.com/>.
- **Cool Farm Alliance**, Information available via the link: <https://coolfarmtool.org/>.
- **Scottish Aquaculture Innovation Centre**, Information available via the link: <https://www.scottishaquaculture.com/>.
- **SULSA** offers access to an outstanding broad bioscience conference and events programme. Information available via the link: <https://www.sulsa.ac.uk/>.
- **Knowledge Transfer Network** (KTN) helps businesses get the best out of creativity, ideas and the latest discoveries, to strengthen the UK economy and improve people's lives. Information available via the link: <https://ktn-uk.co.uk/>.

As UKRI BBSRC-funded students, you are also encouraged to engage with BBSRC-initiated training and external professional development opportunities as an important element of your transferable and scientific skills training. These include but are not limited to the following:

- **The Biotechnology Young Entrepreneurs Scheme** (YES), Impact Writing Competition, etc. Information available via the link: <https://bbsrc.ukri.org/innovation/maximising-impact/biotechnology-yes/>.

c. Professional Internships for PhD Students (PIPS)

To be undertaken between months 12 and 36 of your EASTBIO PhD

The Professional Internships for PhD students are unique to BBSRC-funded DTPs and form an essential and mandatory component of the EASTBIO PhD programme. The only exceptions to this requirement are: (a) Tier-4 visa holders will not carry out PIPS due to visa restrictions and (b) Collaborative students must spend a minimum of 3 months placement with their Collaborative partner company instead.

Undertaking a PIPS will expose you to a non-academic professional work environment and provide you with experience and confidence that will make the transition into the next stage of your career easier to achieve. PIPS is an excellent opportunity to explore your aspirations and try something new. Internships can be undertaken in any field or sector of non-academic activity, including biotech industry, business administration, communications, scientific publishing, project management, teaching and outreach. You will receive guidance, advice and support while organising your EASTBIO PIPS.

1. What type of internship is suitable for PIPS?

PIPS is a defined project with tangible outcomes that can be carried out in any non-academic organisation, as long as it gives you a professional experience out with your immediate research-related environment. This is a chance to think creatively about the types of experience you would like to gain so that PIPS will benefit your career in the long term. This is not a stop-gap but a valuable life experience.

The following are just a few examples:

- carrying out an applied research project in industry;
- administering a research project or grant;
- developing policy for a research council or government;
- carrying out a marketing project for a company or organisation;
- communicating science to the public or younger audiences through an outreach programme;
- developing or helping to develop a new product or service for a company.

2. Planning your PIPS

It is important to think of the following possible constraints:

- the timing of your most important experiments;
- field-work seasons you may need to work around;
- resource bottle-necks in your research project;
- conferences, meetings and training you may want to attend;
- family commitments;
- costs associated with your internship such as travel and accommodation.

You may also want to complete some relevant generic skills training in preparation for PIPS, such as:

- CV-writing and interviewing skills; entrepreneurship; time management; communication skills.

3. What is expected from you with regards to PIPS?

We are confident that you will take a proactive approach in organising your placement. The following points summarise what EASTBIO expects from you:

- source a suitable PIPS project with a suitable PIPS provider;
- plan the PIPS into your PhD work in collaboration with your PhD supervisor(s);
- complete all the necessary paperwork (forms, agreements, risk assessment approvals) for your PIPS and communicate them to EASTBIO, host university and/or host organisation, in accordance with milestones and deadlines set out in the 'PIPS Student Guide';

- engage with your PIPS provider in a professional manner, when you are developing your PIPS project;
- carry out and complete a PIPS of suitable length and scope whilst adopting a professional behaviour in the host organisation;
- **BBSRC online reporting on the outcomes of your PIPS** and EASTBIO feedback for the website.

There are four mandatory forms/documents to be filled in and returned to EASTBIO for approval:

- PIPS Student Planning Sheet (FORM 1)
- Bring An Intern On Board (FORM 1B)
- PIPS Internship Agreement (FORM 2A)
- PIPS Host Organisation Feedback (FORM 3)
- PIPS Student Feedback for Website, and optional blog, podcast etc.

If your PIPS require overseas travel or an expenses application, there are two optional forms to be filled in by you only:

- EASTBIO Abroad Pre-departure Checklist (FORM 2B for overseas PIPS)
- PIPS Expenses Application (FORM 2C - optional).

There are additional mandatory documents to be communicated to BBSRC:

- BBSRC PIPS Online Placement Report

Prior to completing the report online, students need to send an email directly to the BBSRC to request a link to the report by month 36 of your PhD. Please email pips@bbsrc.ukri.org.

To prepare you for PIPS and readiness for your employment after you graduate, EASTBIO will hold a specific event which you is mandatory for all first-year students: **PIPS and Collaborative Placements Q&A event** (Edinburgh, February 2021).

There is essential information in the EASTBIO 'PIPS Student Guide' which will be emailed directly to students. All necessary forms and training for your PIPS will be provided by the Doctoral Training and Industry Engagement Manager, Dr Caroline Pope (see list of EASTBIO Contacts).

d. Industry-Linked Collaborative Studentships

The EASTBIO training programme has a number of PhD studentships which are developed as partnerships between academia and industry. These are known as Industrial Collaborative Studentships. This type of studentship includes a placement with a non-academic partner doing high quality Collaborative research work that is directly related to your research project in one of the areas of science relevant to BBSRC's strategic priorities. The non-academic partner will nominate a relevant person independent of your academic PhD supervisor, who will ensure you receive the appropriate level of management, support, direction and training while working at the non-academic partner.

1. What industry training are students doing a Collaborative studentship required to complete?

- All first-year students doing a Collaborative studentship must attend one of the two EASTBIO-specific **Enterprise Foundation Training**, which focuses on different aspects of industry, enterprise and innovation. This foundation training component is mandatory. Collaborative students must select from one of the two options to complete: either (a) '**Entrepreneurship & Working with Industry**' which is delivered by our partner **Industrial Biotechnology Innovation Centre (IBiolC)** or (b) '**Aquatic Animal Disease and Welfare**' orientation module delivered by the **University of Stirling**.
- You must also take part in all components of the EASTBIO training programme and are required to complete training in Years 1, 2, 3 and 4. However, you are not required to carry out a PIPS.
- For the placement at the non-academic partner, you will spend between 3 months and up to a maximum of 18 months with the non-academic partner. This can be taken in one 3-month block at any point during the PhD or a number of shorter blocks giving the flexibility to plan in sync with their business priorities. An integral component of your placement training is that it provides you with a training experience unavailable at your academic institution. This should include, to give some examples, training in project management, business strategy, intellectual property and finance.

2. What are EASTBIO and the BBSRC expecting from students with regards to Industry-Linked Collaborative Studentships?

We are confident that you will take a proactive approach to working in collaboration with your PhD supervisor to engage with the non-academic partner to deliver your placement project.

The following points summarise what EASTBIO expects from you:

- Prior to starting your Industrial Collaborative Studentship, please ensure that you have read and understood any formal agreement signed between the University and the industrial partner. This contains essential details relevant to your Collaborative Studentship in keeping with UKRI terms and conditions and outlining agreed Intellectual Property and publication arrangements.
- Before starting the Placement you must complete a 'Placement Memorandum of Understanding' with details to ensure necessary BBSRC training criteria plus University Health and Safety, insurance etc. are being met.
- Deliver the project work of suitable length and scope of your placement whilst adopting a professional behaviour in the non-academic provider carrying out the agreed training package.
- If you require overseas travel for your placement, you must complete the 'EASTBIO Abroad Pre-departure Checklist' prior to commencing work with your non-academic partner. The form will be emailed directly to students.

Guidance, advice and support are provided to the parties involved in Industrial Collaborative Studentships by the Doctoral Training and Industry Engagement Manager, Dr Caroline Pope (please see details in the contact list).

V. Year 4: Consolidation

In the final year of your PhD, we expect you to focus on finishing your research project and writing up your thesis. We expect you to submit your thesis by the end of **September 2024**.

With the end in sight, make sure that you know what is expected from you in terms of thesis formatting, submission and examination procedures and regulations.

- If you are still finding it difficult to get into a regular writing habit, consider attending a writing retreat.
- Ensure you know the standards required for your thesis. Become an expert proof reader!
- Prepare as best you can for the viva examination.
- Continue to build a plan for your career post-degree.
- Although this can be a stressful time, do still plan for breaks and taking time out for yourself.



VI. Annual Symposium

The EASTBIO Annual Symposia are student-led events that are organised by second-year student representatives from all EASTBIO partners, with help from first-year student representatives, a member of the EASTBIO academic Management Group and the EASTBIO Administrator(s). The Symposia are hosted each year by a different EASTBIO partner and take place in early June in Edinburgh (John McIntyre Conference Centre, central area). Of these, two have a focus on Bioscience Research and one on the Societal Impacts of bioscience research:

- **EASTBIO Research Symposia** – presentations given by EASTBIO students on an academic research topic (Collaborative students do not present their work at this event).
- **EASTBIO Impact Symposia** – Industry-style presentations given by EASTBIO Collaborative students only, alongside IBiolC PhD students, plus invited speakers exploring the broader impacts of science in terms of society, commerce, policy and industry.

The EASTBIO Symposia are an essential part of your training as they provide you with excellent opportunities to present and discuss your research with the wider EASTBIO community, invite the speakers you like to meet, chair sessions, network with a variety of stakeholders and contribute to debates and interactive workshops.

The next EASTBIO Annual Symposium with a focus on the Bioscience Research will be hosted by the academic representative of the University of St Andrews, Dr Rafael da Silva, and held in **Edinburgh** on **3-4 June 2021**. Supervisors are welcome to attend at least one of the two days. Make sure you check regularly the EASTBIO website for updates, at www.eastscotbiodtp.ac.uk/eastbio-symposia.

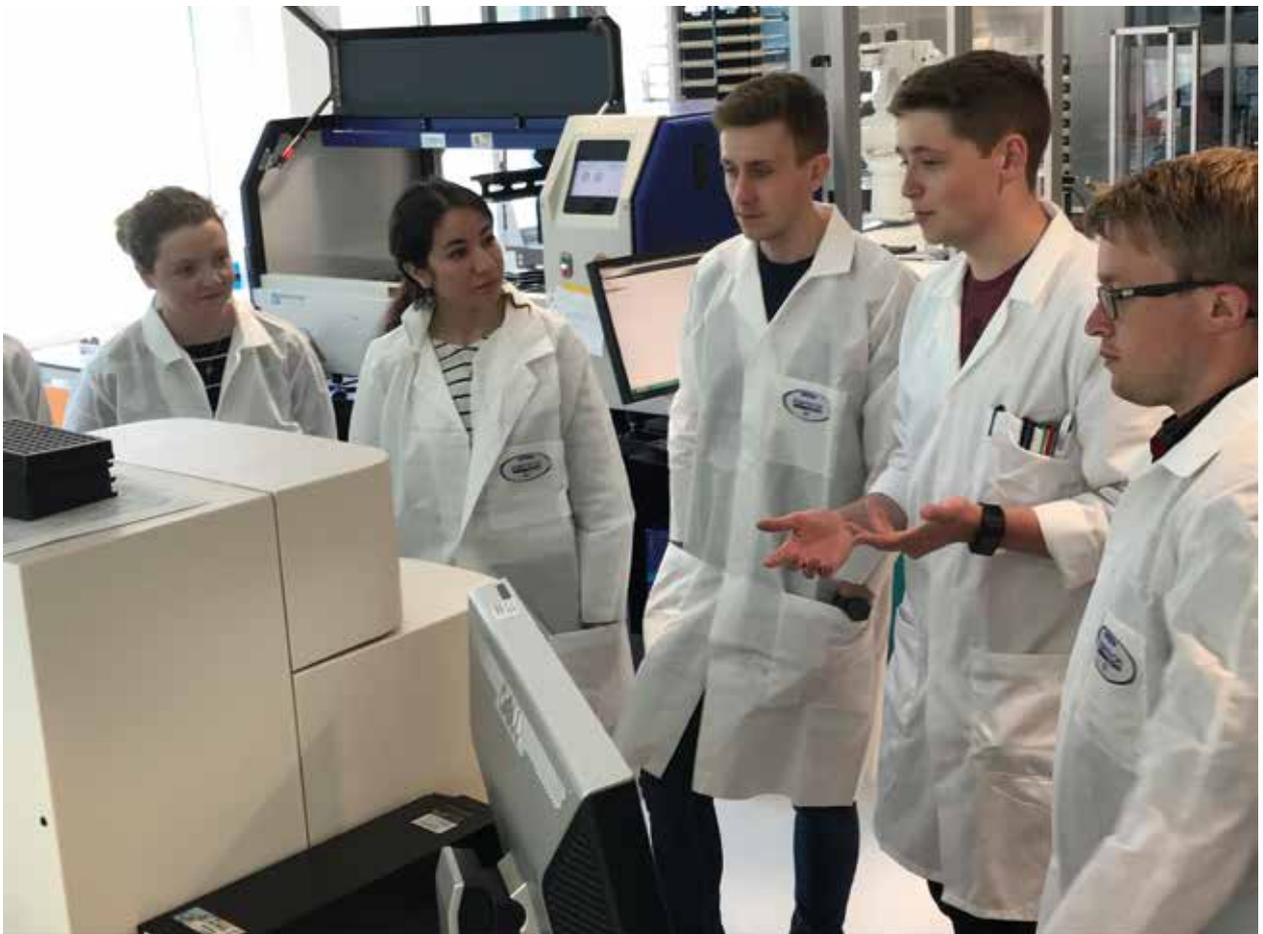


VII. Industry-Linked Skills School

In your third or fourth year, you will be invited to attend the Industry Skills School “Broadening Horizons: Cultivating an Innovative Mindset”. This industry skills school offers theoretical and hands-on training on industry practice in Scottish industry facilities. It is a fantastic chance for PhD students (UK and overseas doctoral training programs) to harness the current industrial challenges and opportunities and avail of hands-on training, generating successful graduates, ready to embrace their diverse future careers.

You can be involved in developing the event programme alongside industry experts. EASTBIO will provide support, guidance and advice should you decide to volunteer to become one of the student industry-linked representatives. Places to attend are available by competitive application via EASTBIO.

For an example of previous Industry Skills School, “*Broadening Horizons: Cultivating an Innovative Mindset*”, please visit the following link: <https://tinyurl.com/y2vtb3bp>.





Supporting you and your well-being

Equality, Diversity and Inclusion

The EASTBIO programme team strongly supports you in *bringing your whole self to work*. We value diversity in all forms and expect all students who join our community to support and promote equality, diversity and inclusion. To find out more about the EASTBIO Equality & Diversity policy and plans, please visit our website at <http://www.eastscotbioldtp.ac.uk/equality-diversity-and-inclusion/>.

- At any time students can complete in person half-day awareness-building courses within any EASTBIO Institution that are aimed to raise their awareness of unconscious bias, to apply that awareness to an HEI setting and to develop ideas for research-led actions to mitigate personal, managerial and organisational bias in key people processes. Online courses are also available.
- Listening to what students have suggested, we aim to embed EDI statements and provision across the EASTBIO life, from recruitment to training. Concrete examples include having EDI sessions in our training, and asking students who help organise or co-organise events to contribute innovative ways of making sure our EDI mandate is met. We are in the process of setting up a sub-committee and prioritising our first actions. If you would like to be involved, please get in touch with the EASTBIO EDI Champion Dr Jo Stevens and Dr Caroline Proctor (for details, please see the contacts list).
- We also encourage individuals to become drivers for change by offering contributions focused on personal or community-based experiences and insights to boost the visibility of various identities, consolidate our inclusive research ethos and help to embed recognition and broad respect for those identities. EASTBIO supports such contributions in our programme and our media, printed or digital.

To discuss our EDI plans and provide us with input and suggestions, please contact the **EASTBIO EDI Champion, Dr Jo Stevens** and **EDI Officer, Dr Caroline Proctor** (details in Contacts, below). We will be calling for **EDI student volunteer(s)** and are keen to encourage students to take on this role.

Student Support Services

The EASTBIO Management Team, our supervisors and EASTBIO administrators support all EASTBIO students in terms of researcher and personal development and endorse the UKRI BBSRC Duty of Care pledge as laid out in the two key documents below.

- UKRI Statement of Expectations for Postgraduate Training
<https://www.ukri.org/files/legacy/skills/statementofexpectation-revisedseptember2016v2-pdf/>
- 2019 Concordat to Support the Career Development of Researchers https://www.vitae.ac.uk/policy/concordat/Download_Concordat_PDF

We recognise that students will face challenges during their PhD programme, whether related to their research or in their personal circumstances. It is the EASTBIO team intention to be here for you and make every effort to be supportive of you in these circumstances as well as assisting you to build resilience during your PhD.

Sources of support for students at any time

Firstly, if you want to discuss concerns, please do contact your local EASTBIO Management Group representative; they will be happy to talk with you and if need be help you identify further local resources. If you feel that there are circumstances which are impacting on your EASTBIO training or you need additional advice and support, please tell us or email any of the EASTBIO team (for details, see the contacts list).

BBSRC stipend support is currently provided for periods of sickness absence of up to 13 weeks within any 12-month period; see the UK Research and Innovation Training Grant Terms and Conditions at www.ukri.org/files/legacy/publications/rcuk-training-grant-guide-pdf/

BBSRC stipulation about Disabled students allowance (DSA):

<https://bbsrc.ukri.org/skills/investing-doctoral-training/disabled-students-allowance/>

We highlight below, useful information with regards to maintaining overall student wellbeing. Local disability and counselling services support can be obtained through relevant services in the institution you are based in, and there are many more services you can identify through these links.

Student wellbeing information can be found online via the following links:

<https://thewellbeingthesis.org.uk/> and <https://group.sagepub.com/wellbeing>

Networks of potential interest to BAME Students and allies:

BBSTEM - <https://bbstem.co.uk/> (@BLACKandSTEM)

Minorities in Stem - <https://minoritiesinstem.wordpress.com/>

Black Women in STEM: <https://www.bwisnetwork.co.uk> (@BWISNetwork)

If you wish to access Counselling Services:

www.abdn.ac.uk/infocenter/support/counselling-service.php (Aberdeen)

www.dundee.ac.uk/student-services/counselling/ (Dundee)

www.ed.ac.uk/counselling-services (Edinburgh)

www.st-andrews.ac.uk/staff/wellbeing/community/health/mental/counselling/ (St Andrews)

<https://www.stir.ac.uk/student-life/support-wellbeing/student-support-services/your-mental-health-and-wellbeing/> (Stirling)

https://www.sruc.ac.uk/info/120176/student_support (SRUC)

If you wish to access Disability services:

www.abdn.ac.uk/infocenter/support/support-for-disabled-students-1901.php (Aberdeen)

www.dundee.ac.uk/disabilityservices/ (Dundee)

www.ed.ac.uk/student-disability-service (Edinburgh)

www.st-andrews.ac.uk/students/advice/disabilities/ (St Andrews)

<https://www.stir.ac.uk/student-life/accommodation/students-with-additional-support-needs/> (Stirling)

https://www.sruc.ac.uk/info/120176/student_support (SRUC)

To report a concern:

If you need to find help with any issue and are unsure where to start, you could

- Approach your PhD supervisor to discuss your concerns.
- Talk to someone within your local Institution's Postgraduate Office as your host institution should have its own advice and procedures about complaints that you should refer to.
- EASTBIO has an alert system for students in crisis to discreetly ask for support so please tell us or email any of the EASTBIO team (please see details in the contacts list).

If you believe you or a colleague has been subjected to inappropriate behaviour, please act promptly to report the issue so that steps can be taken to address the situation immediately.

If unsure, please refer to the UKRI's position statement on bullying and harassment.

Information available via the link:

<https://www.ukri.org/files/about/policy/edi/ukri-position-statement-bullying-and-harassment-pdf/>.



Get involved!

EASTBIO News

If you have any publications, scientific presentations, an interesting knowledge exchange or outreach experience, please email enquiries@eastscotbiodtp.ac.uk or Tweet to [@EastbioDTP](https://twitter.com/EastbioDTP). Examples include Jennifer Wardle's short animation "Genet's new biogas digester" at <http://www.eastscotbiodtp.ac.uk/genets-new-biogas-digester-short-animation-jennifer-wardle> or Eddie Martin's pop-up event Harmonic Function at <http://www.eastscotbiodtp.ac.uk/harmonic-function>. We will be delighted to publicise your news on our website.

PhD Students

There are many ways in which you can engage more closely with EASTBIO and contribute to building a vibrant cross-institutional student network. You can enhance your leadership skills and volunteer as a student representative; you can join the student communication group and collect information for our News web page; you can also tweet about the EASTBIO training events or blog about them on the EASTBIO website.

We are looking for student representatives for the 2020 student cohort from each of the EASTBIO partners. As a student representative you will join our student committee and will have the opportunity to: get first-hand experience in organising the EASTBIO Symposia or Industry Skills School; attend the EASTBIO Management Group meetings and shape training developments; collect the feedback and opinions of your fellow students; organise local social events.

We will ask for volunteers at the Induction and offer 10 (training) points as an incentive-booster! If you would like to represent your institution or contribute in any other way, please send an email to Maria Filippakopoulou at enquiries@eastscotbiodtp.ac.uk.

Student profiles

In the first year, you will be asked to create your personal profile for the EASTBIO website, which provides brief information about your background and your research project. This information helps other EASTBIO students and the wider scientific and non-scientific community to find out who you are and what your research is about. You can include your twitter handle or own website.

You can see all EASTBIO cohorts at: <http://www.eastscotbiodtp.ac.uk/our-community> and 2019 student cohort at <http://www.eastscotbiodtp.ac.uk/eastbio-student-cohort-2019>.

For our Privacy Notice, please visit www.eastscotbiodtp.ac.uk/.

EASTBIO on LinkedIn

With five cohorts of EASTBIO students having now successfully completed their PhDs, we have set up 'EastBio Alumni/ae', a closed LinkedIn group for all our alumnae/-i who wish to keep in touch with us and one another. We ask you to consider joining the group and thus help us keep in touch beyond your graduation.

EASTBIO website

We want our website to be interactive. We will invite your contributions to our soon-to-be launched EASTBIO blog. For login access and further details, please email enquiries@eastscotbiodtp.ac.uk.

PhD supervisors

We expect that your supervisors will not only actively support your research and development throughout your PhD, but also engage with you EASTBIO training by (1) contributing to the thematic groups training; (2) attending the EASTBIO Annual Symposia and providing feedback to students during poster sessions, presentations and talks; (3) hosting EASTBIO students from other institutions in their laboratories if there is a need for these students to acquire specific expertise; (4) being involved in the industry side of our training programme and (5) engaging with the EASTBIO Management Group in reviewing our training programme. We monitor the engagement of supervisors with the EASTBIO programme and those who fail to engage will be discouraged from taking on the supervision of new EASTBIO PhD students.

EASTBIO Contacts

All the people below are very happy to be contacted with any queries you have about EASTBIO, so please do get in touch!

EASTBIO DTP Administrators

Dr Maria Filippakopoulou

Email: enquiries@eastscotbiodtp.ac.uk and Maria.Filippakopoulou@ed.ac.uk

Dr Caroline Pope, EASTBIO Doctoral Training and Industry Engagement Manager

Email: caroline.pope@ed.ac.uk

Dr Caroline Proctor, EASTBIO DTP Administrative Manager & Equality, Diversity & Inclusion Manager

Email: Caroline.Proctor@ed.ac.uk

EASTBIO Academic Management Group

Professor Clare Blackburn, EASTBIO DTP Director, University of Edinburgh

Email: c.blackburn@ed.ac.uk

Dr Ian Archer, EASTBIO co-director, Industrial Biotechnology Innovation Centre for Doctoral Training

Email: ian.archer@ibioic.com

Dr Stewart Burgess, EASTBIO co-director, Moredun Research Institute

Email: stewart.burgess@moredun.ac.uk

Dr Rafael Guimaraes da Silva, EASTBIO co-director, University of St Andrews

Email: rgds@st-andrews.ac.uk

Dr Edgar Huitema, EASTBIO co-director, University of Dundee

Email: e.huitema@dundee.ac.uk

Professor Dave Little, EASTBIO co-director, University of Stirling

Email: d.c.little@stir.ac.uk

Dr Sam Miller, EASTBIO co-director, University of Aberdeen

Email: sam.miller@abdn.ac.uk

Dr Craig Simpson, EASTBIO co-director, The James Hutton Institute

Email: Craig.Simpson@hutton.ac.uk

Dr Jo Stevens, EASTBIO co-director and Equality, Diversity & Inclusion Champion, University of Edinburgh

Email: Jo.Stevens@roslin.ed.ac.uk

Professor Eileen Wall, EASTBIO co-director, SRUC

Email: eileen.wall@sruc.ac.uk

EASTBIO Associate Partners

Dr Richard Profit, Cool Farm Alliance General Manager

Email: richard.profit@coolfarmtool.org

Local Administrative Contacts

Mrs Karen Slessor, University of Aberdeen
Email: k.e.slessor@abdn.ac.uk

Mrs Gail Guild, University of Dundee
Email: sIs-PhDAdmin@dundee.ac.uk

Mrs Elaine McDonald, University of Edinburgh
Email: RDSVS.PGR.Admin@ed.ac.uk

Mrs Helena Sim, University of Edinburgh
Email: Grad.Biol@ed.ac.uk

Ms Jessica Fitzgerald, University of St Andrews
Email: precbiology@st-andrews.ac.uk

Ms Moira Maron, University of Stirling
Email: ias@stir.ac.uk

Mrs Rachel Moir, Industrial Biotechnology Innovation Centre for Doctoral Training
Email: rachel.moir@ibioic.com

Ms Laura Logie, The James Hutton Institute
Email: Laura.Logie@hutton.ac.uk

Ms Shirley Ho, SRUC
Email: pg.research@sruc.ac.uk

2019 Cohort Student Representatives

These students (<http://www.eastscotbiotdp.ac.uk/student-representatives-2019>) will continue representing local student cohorts in 2020-21 and will work together with volunteers from our new student cohort, starting in October 2020 (contacts TBA after our Induction).

Daniel Underwood, University of Aberdeen
Email: d.underwood.19@abdn.ac.uk

Abigail Brewer, University of Dundee/James Hutton Institute
Email: a.brewer@dundee.ac.uk

Dewi Owen, University of Edinburgh/CMVM
Email: d.r.owen@sms.ed.ac.uk

Philip Butlin, University of Edinburgh/CSE
Email: phil.butlin@ed.ac.uk

Tegan Knott, University of St Andrews
Email: tsk1@st-andrews.ac.uk

Appendix

Appendix 1

Characteristics of highly skilled bioscience graduates

Research skills and techniques – to be able to demonstrate:

- ability to recognise and validate problems, original, independent thinking;
- ability to develop theoretical concepts; knowledge of recent advances within one's field and in related areas;
- an understanding of relevant research methodologies and ability to critically analyse and evaluate one's findings and those of others;
- an ability to summarise, document, report and reflect on progress.

Research environment – to be able to:

- show a broad understanding of the context, at national and international level, in which research takes place;
- demonstrate awareness of issues relating to the rights of other researchers, of research subjects, and of others who may be affected by the research, e.g. confidentiality, ethical issues, attribution, copyright, malpractice, ownership of data and the requirements of the General Data Protection Regulation;
- understand the processes for funding and evaluation of research and justify the principles and experimental techniques used in one's own research;
- understand the process of academic or commercial exploitation of research results.

Research environment – Health & Safety – to be able to:

- carry out assigned tasks and duties in a safe manner, in accordance with instructions/ training and to comply with safety rules/procedures;
- bring to the attention of your manager/supervisor any situations or practices that may lead to injuries or work related ill health;
- obtain and use the correct tools/equipment for the work and not to use any that are unsafe or damaged;
- not to operate any plant or equipment unless authorised;
- report all near misses, incidents and accidents to your manager/supervisor and HSQE department;
- undertake Health and Safety training relevant to your work activities;
- maintain good housekeeping in areas in which you are working;
- to avoid improvised arrangements and suggest safe ways of eliminating hazards.

Research management – to be able to:

- apply effective project management through the setting of research goals, intermediate milestones and prioritisation of activities;
- design and execute systems for the acquisition and collation of information through the effective use of appropriate resources and equipment;
- identify and access appropriate bibliographical resources, archives, and other sources of relevant information;

- use information technology appropriately for database management, recording, and presenting information.

Personal effectiveness – to be able to:

- demonstrate a willingness and ability to learn and acquire knowledge;
- be creative, innovative and original in one's approach to research;
- demonstrate flexibility and open-mindedness, self-awareness, and the ability to identify own training needs;
- demonstrate self-discipline, motivation, and thoroughness; also, to show initiative, self-reliance and the ability to work independently;
- recognise boundaries and draw upon/use sources of support as appropriate.

Communication skills – to be able to:

- write clearly and in a style appropriate to purpose, e.g. progress reports, published documents, thesis;
- construct coherent arguments and articulate ideas clearly to a range of audiences, formally and informally through a variety of techniques;
- constructively defend research outcomes at seminars and viva examination and contribute to promoting the public understanding of one's research field;
- effectively support the learning of others when involved in teaching, mentoring or demonstrating activities.

Networking and team working – to be able to:

- develop and maintain co-operative networks and working relationships with supervisors, colleagues and peers, within the institution and the wider research community;
- understand one's behaviours and impact on others when working in and contributing to the success of formal and informal team by listening, giving and receiving feedback and responding perceptively to others.

Career management – to be able to:

- appreciate the need for and show commitment to continued professional development;
- take ownership for and manage one's career progression, set realistic and achievable career goals, and identify and develop ways to improve employability;
- demonstrate an insight into the transferable nature of research skills to other work environments and the range of career opportunities within and outside academia;
- present one's skills, personal attributes and experiences through effective CVs, applications and interviews

Appendix 2

Thematic training guidance

Role of EASTBIO supervisor who will lead a thematic training meeting

- Every thematic meeting is hosted by a student who has volunteered to be the meeting facilitator alongside their PhD supervisor or second supervisor. They are jointly responsible for organising the schedule and facilitating the successful delivery of the individual thematic meeting according to the guidance set out below.
- EASTBIO supervisors who will lead a thematic training meeting are expected to be supportive of their students as planners of thematic meetings, advising and inputting on topics, suggesting guest speakers, exploring the possibility of making arrangements to have joint meeting(s) with other doctoral training programmes and other ways to optimise the benefit of these meetings for all attendees.
- Please note that for each meeting the EASTBIO supervisor will change depending on who the student who has volunteered to host the next meeting will be. This will enable the student group to benefit from contributions from multiple EASTBIO academics in their thematic area.
- There is an open invitation for all PhD supervisors from a topic area to attend any and all of the thematic meetings.

Setting up the first EASTBIO virtual thematic training meeting

- **Send out the link** to join the meeting a week before the agreed date and attach the Thematic Meeting Student Evaluation Form. Invite all students to give a brief presentation about their PhD project in the morning.
- Schedule start/end time with regular breaks away from the screen during the meeting (10am to 4pm with 15-minute coffee break and an hour lunch break). Students who are in the same city could meet “together” for lunch, creating some contact during the day. This helps with creating a network at the local level. Talks should be no more than 30 minutes, with plenty of time for questions, comments, discussion questions, etc.
- Remind participants that “for the panel discussion it will be most useful if prospective participants send questions in advance, and/or indicate if there are any issues you would like addressed, particularly if there are any sensitive issues that you would prefer were dealt with anonymously during the session. Please email any questions or concerns to <insert email> by June 1st.”
- Before the meeting, remember to decide who will be the **meeting scribe** (the main note-taker) who will write notes during the meeting about what has been decided. Once the scribe has written up the report, please open it up for comments and feedback from participants, and their input can then be incorporated into the report before uploading on the shared area, together with the **Thematic Training Student Evaluation Forms** for EASTBIO monitoring purposes.
- Ask each of the student volunteers who agreed at Induction to **facilitate each of the 3 future thematic meetings** to provide email confirmation that their PhD supervisor or second supervisor has agreed to be involved on the dates given.
- If your plans involve the input of others, get started as early as possible. **Guest speakers** have very

busy diaries, so invite them to join your meeting and ensure you have confirmed the dates from the speakers before the meeting facilitator sends out the meeting invitation email.

- Be very clear with the invited speakers/PhD programmes about what you want, what kind of talk or sharing you are interested in. It may be beneficial to add to your invitation the names of any confirmed speakers who will be present at the meeting. This will give the speakers who join on the day an opportunity to speak with one another (doing this could prove quite beneficial when looking for speakers). Send a reminder email to the speaker(s) a week or so before the event to remind them of their commitment (even if people can still drop out late, despite doing this!).
- If you face any **difficulties** related to your thematic meetings, please make contact with the student who has volunteered to be the meeting facilitator, who will help.

Goals for the first EASTBIO virtual thematic training meeting and thinking through future meetings collectively as a group.

- Choose where the **shared documents storage** area will be set up for uploading any follow-up information (slides, the write-up of the notes document containing a record of what was decided in the group meeting to help others, etc.). This can be accessed at any time by all students to help with hosting future meetings and use these documents as a record to build on in future meetings. No sensitive (research) data should be, at any time, part of the shareable content and make sure to be aware of and refer to the EASTBIO Privacy Statement (<http://www.eastscotbiotdp.ac.uk/>).
- Decide who will be the meeting scribe and **take notes and email the link** to this shared area.
- **Think through, explore topics** for the group's future meetings. Be conscious of the wide range of research topics within each thematic area and try to cover a range of different topics so that there will be something for everyone.
- Consider seeking input from experts in the area, other EASTBIO supervisors, etc. and **having joint meeting(s)** with other doctoral training programmes.
- **Agree final details** – i.e. topic, meeting host, scribe, dates, invited speakers, and joint meeting(s) with other PhD Programs, etc. Mixing up speakers and interactive activities is most effective.

Meeting facilitator role needed in thematic training meetings

- **Set up your virtual thematic meeting** - send a clear and concise agenda a few days before the meeting. This lets attendees know what to expect and helps them plan for the meeting. You could also invite attendees to submit their questions in advance and offer an alternative way of contacting you if tech plays up, like your mobile number or direct messaging.
- **Send email invitation** to all attendees with the link to join the meeting, highlighting where the agenda, slides and other documents for discussion can be found. The only thing students, thematic lead and guest speakers need to do is to open the link to join the meeting.
- Open the meeting an hour earlier than the start time to allow students/guest speakers to upload and check their slides.
- Start the meeting off by **introducing the structure of the day and highlighting the ground rules**, about keeping microphone switched off, logging in before the session, etc. And ask all participants to switch on their cameras if possible. To avoid visual noise we suggest you turn your camera is switched off during presentations. Let people know how to submit their questions/comments and read these out during discussions. We recommend the group rules also highlighted in writing, in case a participant is late or needs to check again (virtual session participants may also feel more comfortable logging into when they know what the rules are before they arrive). This can then be re-used at other sessions.
- **Remind the meeting scribe** to take live notes during the meeting, and upload the completed Thematic Meeting Student Evaluation forms documents to shared area.
- If you wish to **record a session** please ensure everyone in the group has given their consent to do this.
- Model behaviours you want to see. Your voice, your appearance, your background.
- To work together effectively, it's important to give people the opportunity to **build rapport**. Ask people to **introduce** themselves at the start of the virtual meeting. If appropriate, ask everyone to

share something interesting they did at the weekend, or what's going on in their local lab area at the moment. This helps you to know who's talking and builds better engagement.

- **Lead the meeting actively.** Your role is to pass the discussion from one speaker to another. Do that and you'll help everyone follow the conversation and signal to the speakers when it's their time to speak. When asking questions, be specific and direct your queries to particular individuals.
- It's also a good idea to **confirm people's understanding** from time to time. If your comments are met with radio silence, this might signal there's a problem with your tech, communication style or message. So, check that your fellow attendees are following what's being said.
- If you're using a 'chat' function to take questions or comments from attendees, the facilitator can monitor incoming messages.
- Check if there is **any other business** and ask "Did the content of this virtual thematic meeting meet your expectations?"
- At the end of every meeting invite all group members to provide feedback on the meeting by completing the **Thematic Meeting Student Evaluation Form**.

Meeting scribe role

- The meeting scribe sets up a **shared documents** storage area and keeps a written **record of what is agreed** during the meeting. This document can be built on in subsequent meetings.
- The meeting scribe **emails the attendance record** and Thematic Training Meeting **Student Evaluation Forms to EASTBIO** and (immediately after the end of each meeting or at your earliest convenience) to assist in confirming the training credit points totals of first- and second-year students.
- After the meeting, the meeting scribe **uploads** the meeting notes in the documents storage area, together with any other relevant information such as slides, other resources/links referred to or recommended by speakers and participants, as well as the meeting attendance register.

Best practice in virtual working - setting it up

- Technology – ensure everyone can access the agreed platform, provide practice opportunity.
- Set the ground rules around participants' mobiles.
- Set up the meeting 15 minutes early to allow time for the platform to be downloaded, and people to arrive.
- Realise that how we show up in the virtual space is different. Invite people to use their names and if invited guest speakers are geographically spread you may need to think about the meeting time to suit all. We recommend the use of both name and pronouns (if individuals feel comfortable sharing these) on videoconference platforms (e.g. "Helen She/Her") as it helps prevent people being misgendered, and creates a more welcoming space for participants of all genders.
- Manage expectations – for example, address background sound and interruptions; advise the use of headphones which help if there are other people in the working environment.
- Ensure necessary adjustments are in place for all participants to join, such as hearing or visual aids, use of a designate note-taker, etc. as required.

Group Interaction

- In virtual meetings, effective communication is key. So, speak slowly and clearly, pause after each key point, and ask attendees to take extra time to listen before adding any comments or questions.
- Start the meeting with introductions to warm people up and talk through today's agenda.
- Be clear in your communications around the agenda and purpose of the thematic meeting.
- Ask open questions.
- Be prepared, e.g. bring along questions submitted in advance / outputs / review updates from the previous meeting.
- Create space for people to think and reflect – silence if useful.
- If brainstorming or doing an exercise or activity such as online polls within your meeting, have absolute clarity around the ground rules. We recommend the use of smaller breakout rooms during virtual meetings. This creates the possibility for more direct dialogue as participants are more likely to engage with an activity this way.

Tips for successful virtual thematic meetings

- You might want to make the meeting facilitator the point of contact for anyone who loses connectivity during the call.
- It's important to avoid relying too heavily on supporting material. While you may need to refer to certain things every so often, attendees shouldn't have to study docs too closely. Finding the right page on a printout can distract and suck away time.
- Talks may be pre-recorded if appropriate and uploaded alongside all other documents from the meeting so the other group members and EASTBIO can access after the meeting.
- To ensure you use your time wisely, it's vital to prepare well in advance. And wherever you are for the meeting, make sure it's a quiet space, free from distractions. Try to avoid dialling in 'on the move' and encourage other attendees to do the same.
- It's a good idea to test your tech and dial in to the meeting ten minutes early to test the connection. This is particularly relevant for speakers: to ensure in advance that speakers can connect/share screen/are ready.
- Observe virtual meeting etiquette. As with any professional encounter, it's important to be polite when interacting with others during virtual meetings. Avoid checking email or other messages during the meeting if possible. You could miss something important and the other attendees will see you're distracted. What's more, avoid the temptation to have side conversations with people during the meeting...unless it's productive to do so!
- Take your time - remember there's sometimes a time lapse between transmissions on long distance or video calls. So, be patient and wait a couple of seconds for people to respond before speaking again.
- It is helpful to avoid interruptions by using a system of hand raising, muting microphones or asking participants to type an * in the chat function to indicate that they want to speak etc. Alternatively, people could ask questions in person if a moderator is chosen to call upon people to speak. If you do inadvertently interrupt someone, apologise and encourage them to continue. Phrases like 'Please carry on', 'You were saying?' and 'Did we miss any important pointers?' diffuse these situations.
- If people outside your organisation join the meeting, avoid using jargon or in-house terms they might not understand.

The comparative pros and cons on digital platforms

- EASTBIO are not recommending the use of any specific technology platform. For clarity, some of the existing University supported collaboration tools are outlined:

Collaboration Tool	Usage
Microsoft Teams	Standard University video conference and collaboration platform. Fully integrated into the University infrastructure and highly secure. Preferred platform for all non-teaching video meetings and collaborations for audiences up to 250 individuals.
Blackboard/LEARN Collaborate	Primary platform for teaching activities. Collaborate should be used in all cases for teaching as it is fully integrated into LEARN, it is secure and contains the updated class lists and other features needed for the effective support and administration of classes.
Skype for Business	Provided by the University as an alternative video conferencing platform for meetings both internal and external, especially in cases where external participants need or are set up for Skype use.
MS Teams Live Events	Enhanced University video conference and collaboration platform. Fully integrated into University infrastructure and highly secure. Preferred platform for very large meetings, webinars and presentation events to audiences up to 10,000 individuals.
Zoom	This has proven valuable for collaboration in specific situations, especially with multiple University partners. Provided as a third alternative for video conferencing and collaboration for non-teaching use for audiences up to 1,000 individuals. Both for internal use and collaboration externally, especially in cases where the external participants need or are set up for Zoom use.

- Although some universities don't allow use of Zoom re security issues for vivas or for other assessments, **the EASTBIO thematic meetings are not assessed** so it will be fine to suggest students could use the Zoom video-conferencing service, or Microsoft Teams or Blackboard Collaborate platforms.
- **Zoom video-conferencing service and Blackboard Collaborate** let smaller groups break off from the meeting to brainstorm, then re-join to share their ideas with the wider group. The meeting facilitator must create a safe virtual space by following guidelines to ensure privacy during meetings: decide if you will lock rooms, enable waiting rooms, have a password upon entry, etc. This should be stated in the meeting invitation and included in the code of conduct.
- We suspect **Microsoft Teams** will be in use at most institutions. Using it for virtual meetings limits the number of people you can see at one time to 4 people. There is sometimes a delay with showing speaker when talking, which can be very tedious. So if you have not spoken recently you are not visible and participants may end up looking at their phones doing other work etc.
- Please use Chrome or Firefox as your browser for **Blackboard Collaborate**. Guidance on how to use Collaborate Ultra can be found at <https://www.ed.ac.uk/information-services/learning-technology/communication/introduction>.
- The University's **Zoom video-conferencing service** can be used for informal, non-confidential meetings, collaboration with external colleagues, and, where required, for facilitating University research. Zoom is definitely a preference for lots of people as it allows for much more active engagement because all of the faces in the group will be visible at the same time and you can easily change to speaker-only view for presentations and there is a very useful chat function. A quick start guide, security and privacy guidelines, guidance for meeting hosts plus help and support information can be found via the following link: <https://www.ed.ac.uk/information-services/computing/comms-and-collab/zoom>

What can go wrong?

- Technology barriers people not having the required software.
- Late starts.
- People doing other things simultaneously.
- People in the room/distractions.
- Not actively listening.
- Those less vocal stay quiet.
- Lack of clarity about what is meant to happen.
- Lack of clarity about what subsequent actions are.

Thematic Meeting Student Evaluation Form

At the end of each meeting individual students must complete this form. This is used to inform plans for future meetings. At the end of year one all forms are submitted as a single PDF by email to **eastbio@eastscotdtp.ac.uk**.

Name

EASTBIO Institution / other (please give details)

Thematic Meeting Area

Date of Year 1 meeting

1. How would you describe this training meeting to a colleague?
2. Mark with X the main benefits you have gained from this training meeting

Improved knowledge and understanding	
Improved skills	
Improved confidence in responding to students	
New ideas	
Refreshment of existing skills and knowledge	
Anything else, please comment:	

3. Please rate the following aspects of the training meeting:

3= Strongly Agree 2=Agree 1=Disagree 0=Strongly Disagree

Statement	3	2	1	0	Any comments
The content of the training meeting was good					
The style of presentation(s) was good					
The technology used worked well					
Quality of the interactive discussions					

4. What did you find the most useful part of the training meeting?
5. What did you find least useful part of the training meeting?
6. How relevant was the training meeting for your PhD role within your school/college?
7. Describe two things that you will do differently as a result of the training meeting?
8. Are there any points you would like to make to improve the training for future participants?
9. Do you have any recommendations for guest speakers / suggestions for future training meetings?

Thematic Training Group Report

At the end of year one each group of students must generate a one-two page report. This is submitted by email to eastbio@eastscotdtp.ac.uk.

Thematic Meeting Area

List Names of Students in Thematic Group

Date

Please list details of any meetings contributors (guest speakers, facility managers, industry representatives or students from other PhD training programs).

Please list details of meeting activities (key resources, useful website etc.).

To keep moving forward decide in your group what the key benefits of your thematic training meetings are. Write a brief summary that includes

- One new idea
- One insight
- One learning
- One action

This publication can be made available in alternative formats on request.

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