MRC Laboratory of Medical Sciences

Science Technology Graduate Programme Handbook

Apply now

Closing date
06.08.25

Medical Research Council

Contents

Message from our Director

Wiebke Arlt, Director of MRC Laboratory of Medical Sciences

“Welcome to the LMS! We are thrilled that you are considering our Graduate Programme as your introduction to scientific research.

The LMS is a vibrant biomedical research institute that values team science and the breadth of expertise required to deliver world-class research. Our state-of-the-art core facilities are the backbone of our research, providing researchers with expert guidance and instruction, as well as driving innovation through the development of new methodologies.

Our core facilities serve as key partners in our quest to push the boundaries of biomedical research, and share these advancements to benefit the wider scientific community. Our Science Technology Graduate Programme offers an exciting opportunity for you to learn cutting-edge research skills, preparing you for a successful career in science. We are committed to supporting you every step of the way as you embark on this transformative journey towards the next phase of your scientific career.

The heartbeat of the LMS is its people, and our cohort of Graduates will help to contribute to our success and make us even better!”

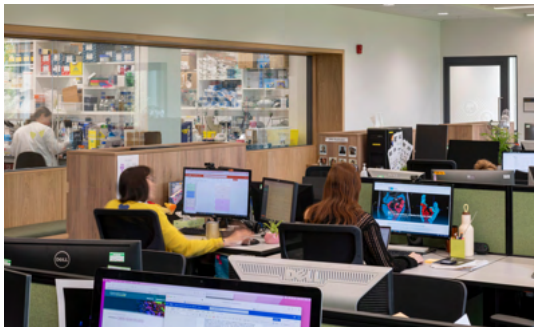
Background Information

The MRC Laboratory of Medical Sciences (LMS) is a biomedical research institute where scientists and clinicians collaborate to advance the understanding of biology and its application to medicine. The LMS is core-funded by the Medical Research Council, which provides funding to support around 35 research groups. This funding also underpins ten cutting-edge research facilities and a communications and engagement support team.

The LMS is located on Imperial College London's Hammersmith Hospital campus, and is a key component of the College's Institute of Clinical Sciences. The LMS is uniquely positioned within a rich multi-disciplinary environment, with Hammersmith Hospital and Imperial's White City Campus, NIHR Biomedical Research Centre and Clinical Research Facility, all in close proximity. The LMS aims to leverage its cross-disciplinary network to deliver transformative team science, tackle major public health challenges and push the boundaries of discovery to unprecedented heights.

About the LMS Science Technology Graduate Programme

In 2024, fewer than 30% of biomedical science Graduates secured jobs in science, with the majority venturing into non-scientific careers (source: www.prospects.ac.uk). Moreover, it is becoming increasingly difficult for Graduates without postgraduate qualifications to secure jobs in scientific research.



The LMS recognises the challenges that new science Graduates face, with the lack of opportunities available to them, and is committed to improving this situation. The LMS Science Technology Graduate Programme (Graduate Programme) has been established to provide UK Graduates with an exciting opportunity to increase their scientific knowledge, develop their technical skills, and inspire the next generation of UK scientists. Graduates will be based within our core research facilities, where they will work to progress scientific outputs, develop facility methodologies, and conduct environmental sustainability-related pilots for the betterment of the Institute.

Graduates enrolling on this programme will receive high-quality training in cutting-edge biomedical research technologies, hands-on laboratory experience and a meaningful job, interacting with some of the best scientists in the UK. Besides offering specialist training and practical experience, you will have access to training courses and opportunities that will further your professional development. This Graduate programme intends to provide a comprehensive package that will develop aspiring scientists into highly sought after technical professionals, equipped to pursue a career in science.

Introduction to the Graduate Programme

The Graduate Programme offers Graduates an opportunity to learn specialist skills in the field of biomedical science, gain significant work experience and further their personal development.

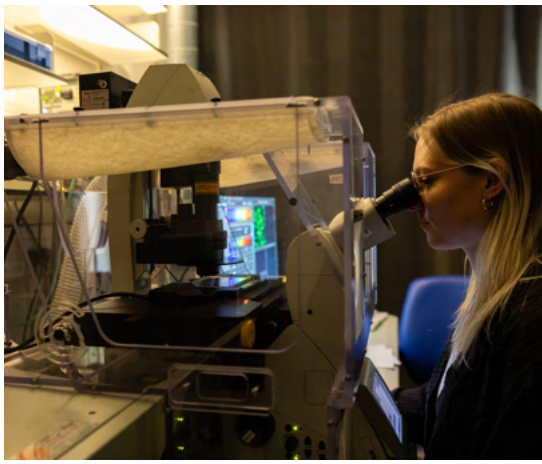
The purpose of the programme is to develop the next generation of promising scientists into technical specialists across the LMS portfolio of research facilities, so that they can progress into academia or industry.

Graduates will be employed on a 2-year fixed-term contract and will receive a salary of £36,296 per annum.

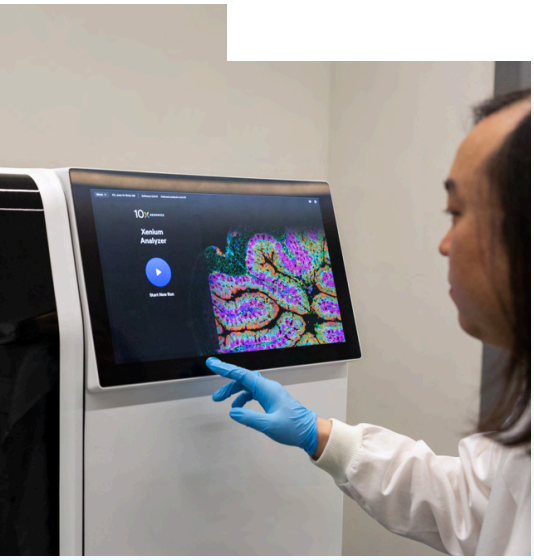
The aims of the Graduate Programme

1 To develop enthusiastic science Graduates into technical professionals with specialist skillsets, primed for successful careers in science.

2 To provide Graduates with high-level scientific and technical training, as well as experience, enabling them to not only contribute to our scientific output but also to sustain and improve the Institute and its core research facilities.



The objectives of the Graduate Programme



To deliver a high-quality, enriching experience for Graduates on the programme, ensuring they feel valued, well supported, and provided with the skills and opportunities needed to thrive, thereby maintaining high retention rates and enabling success in their future careers.

To provide high-level technical training and hands-on experience that enables Graduates to contribute meaningfully to LMS research projects while developing their confidence and competence as emerging scientists.

To teach Graduates how to design and conduct experiments, analyse and interpret data effectively, and resolve experimental issues, thereby building their confidence and competence as emerging scientists.

To promote professional development by nurturing strong communication skills, critical thinking, and emotional intelligence, preparing Graduates for a wide range of scientific and non-scientific careers.

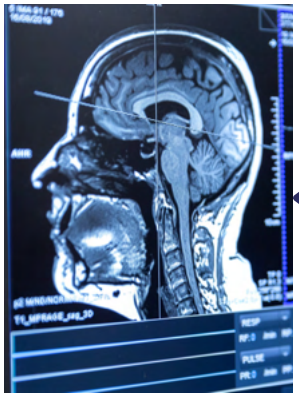
To ensure Graduates gain a well-rounded understanding of the MRC LMS, UKRI, Imperial College London, and the broader UK research landscape, strengthening their awareness of national research priorities and structures.

To support the Institute's environmental sustainability goals by testing innovative products and methods, and improving the efficiency of scientific technologies and practices.

Graduate Programme Overview

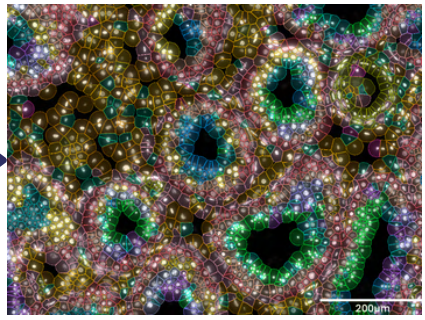
The LMS features ten state-of-the-art research facilities which collectively underpin our ground-breaking scientific outputs. Our research facilities offer researchers access to cutting-edge equipment, expertise on highly specialised technologies and applications, and the ability to develop new methodologies.

An MRI image of a brain scan, detailing the cerebral cortex, cerebellum, and brainstem.



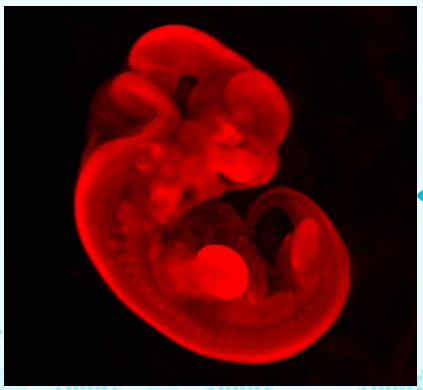
The volcano plot illustrates changes in protein expression, in monocytes from patients with severe alcohol-related hepatitis compared to healthy volunteers.

Spatial transcriptomics view of an adult human testis with DAPI staining, with cell types grouped by colour.

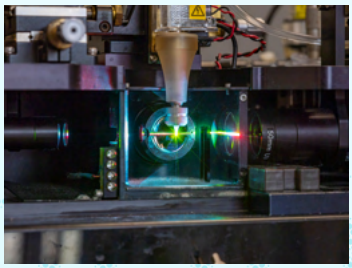


Bioinformatics | Magnetic Resonance Imaging | Proteomics | Genomics | Transgenics & Embryonic Stem Cell

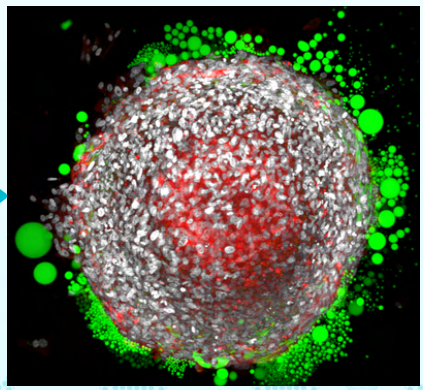
Metabolomics | Whole Animal Physiology & Imaging | Flow Cytometry | Light Microscopy | Electron Microscopy



3D reconstruction of mouse embryo absorbance, acquired via Optical Projection Tomography.



A high-precision flow cytometer using lasers to analyse characteristics of cells in a fluid stream.



Immunofluorescent image of human adipose tissue organoid with fibrotic transformation. Nuclei - white, Fibrotic tissue - red, Lipid droplets - green.

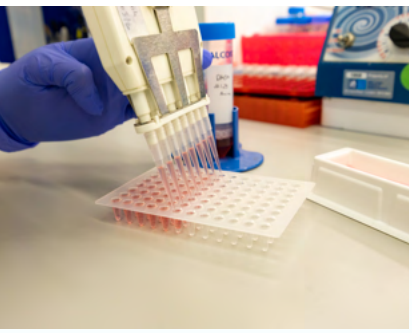
Our Graduate Programme offers Graduates the opportunity to work in and across our portfolio of core facilities.

Graduate Programme Training

Our Graduate Programme offers a comprehensive training package designed to support both the technical and professional development of Graduates.

Cell Inoculation

Single-Channel Pipetting

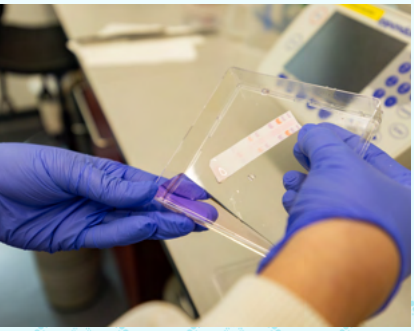


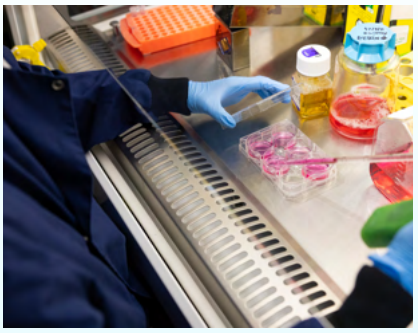
Multi-Channel Pipetting

Scientific and Technical Training	Soft skills Training
Molecular and cellular lab skills	Time, resources and basic management skills
Computational biology, bioinformatics and statistics	Communication skills including presentations and public speaking
Flow cytometry	Decision making and influencing skills
Microscopy and Histology	Teamworking and networking skills
Genomics, Metabolomics and Proteomics	Emotional intelligence, EDI
Professional Registration with the Science Council	Sustainability in science
Outreach and public engagement	

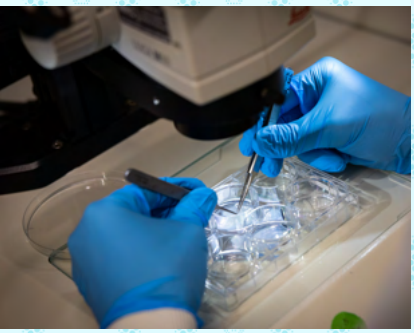
Gel Electrophoresis

Western Blotting





Cell Culture



Coverslip Mounting

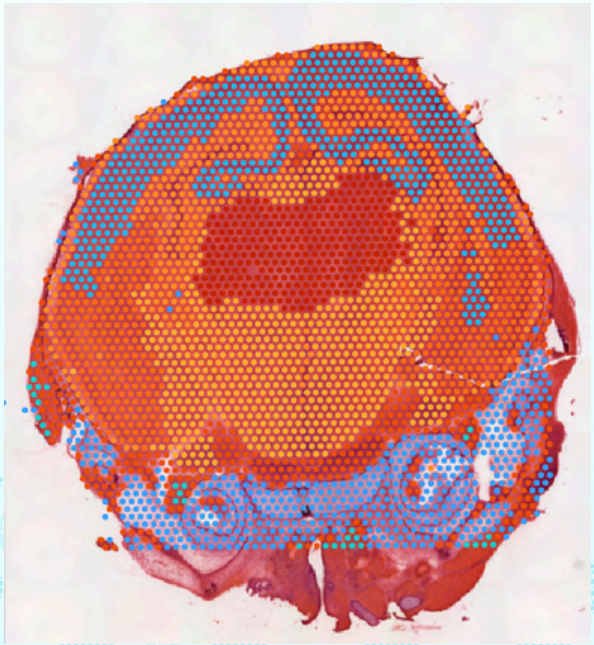
Both lists of training are non-exhaustive. The scientific and technical training lists may vary depending on the projects undertaken by the hosting facility.

Graduate Programme Positions

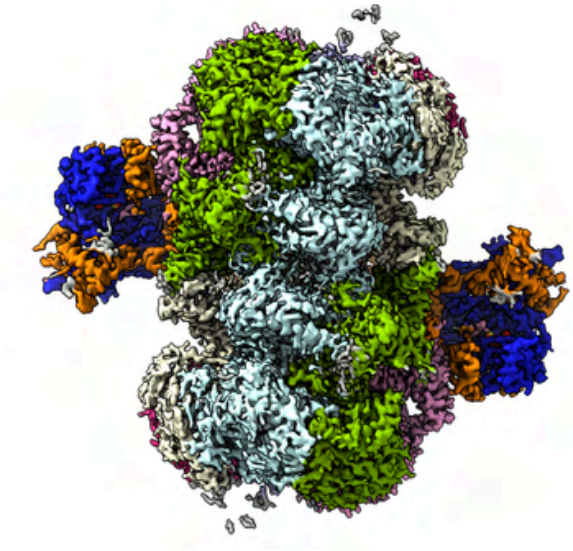
In 2025, we will recruit two Graduates who will be assigned to one of the following research facilities:

Facility 1 – Bioinformatics

This placement will be led by Dr George Young and Hothri Moka. In this facility, Graduates will learn and deepen their understanding of bioinformatics and data handling. Graduates will learn the fundamentals of RNA sequencing analysis, progress into single cell analyses, and advance to cutting-edge spatial transcriptomics. Graduates will gain hands-on experience with the latest technologies and data interpretation techniques that explore gene expression at unprecedented resolution. Bioinformatics is a rapidly expanding field that allows unparalleled insights for those researching tissue architectures and environments, such as in tissue/embryonic-development or cancer. Graduates will have scope to define areas of interest for further development, and we aim to supply exposure to a range of facilities with aligned interests. This will provide a solid foundation for individuals considering careers in bioinformatics or in wider data science.



Spatial transcriptomics view of a mouse brain, with circles coloured by tissue type based on differential gene expression clusters.



Cryo-EM image of the Minichromsome Maintenance proteins and the Dbf4-dependent kinase complex, at 3.4 Å resolution.

Facility 2 – Electron Microscopy

This placement will be led by Dr Ricardo Aramayo. In this facility, Graduates will learn the fundamentals of structural biology and cryo-electron microscopy (cryo-EM), a powerful imaging technique that enables the visualisation of biological molecules at atomic resolution. Building on their scientific background (whether in biology, biochemistry, or physics) Graduates will learn how cryo-EM is used to investigate protein structure and function, both of which are vitally important to medicine, biotechnology and fundamental science. Graduates will also gain hands-on experience with each stage of the cryo-EM workflow: from sample preparation using our Vitrobot Mark IV for cryo-freezing, to capturing high-resolution images with our ThermoFisher Talos F200i electron microscope. Graduates will be trained in image analysis using software such as RELION, building 3D molecular structures from 2D images. During this placement, Graduates will develop a strong understanding of specimen preparation techniques, data collection parameters and the computational aspects of cryo-EM, including map interpretation and model building. This will provide a solid foundation for individuals pursuing careers in structural biology or molecular biophysics.

Graduate Programme Structure

In Year 1

0 – 6 months

Graduates will be assigned to one of the two research facilities and work predominantly in that area. Graduates will be trained on the research facility's equipment, infrastructure, core techniques and technologies, and their applications to research. Also, Graduates will learn how LMS facilities are managed to ensure the provision of effective support to the Institute's researchers. Graduates will embed within the facility structure and network with the previous STGP cohort, technicians and support staff, PhD students, and postdocs.

6 – 12 months

LMS facilities work in close collaboration with one another, and Graduates will have the opportunity to work across them, gaining exposure to a wide range of equipment and technologies to broaden their scientific knowledge and practical experience. Graduates will be encouraged to participate in the LMS technician community activities and public engagement opportunities throughout the programme. Towards the end of this period, Graduates will have gained a good understanding of the day-to-day work practices of their hosting facility.

In Year 2

0 – 6 months

Graduates will begin working on a research project aiming to support and further LMS scientific outputs. Graduates will work predominantly in their hosting facility but also interact with multiple facilities and research groups to conduct this research project. Graduates will also participate in developing new methods, protocols and techniques, especially to improve the Institute's environmental sustainability.

6 – 12 months

Graduates will continue to work on the research project undertaken within their hosting facility and prepare a presentation of their work to present to an audience of LMS scientists. By the end of the programme, Graduates will have a solid understanding of core facility work at the LMS and demonstrable outputs from their research project. Making use of these, the Graduates will receive support and guidance in managing their individual career paths and in preparing for positions after the programme.

Graduate Programme Opportunities

Knowledge Exchange Placements

Graduates will have the opportunity to participate in short exchange programmes (1-5 days) with other MRC institutes and UK partners, to acquire specialised skills not available at the LMS.

Events

Graduates enrolling in this programme will become members of the LMS technician community and will be encouraged to participate in technician-led workshops and networking events. These opportunities will include both LMS-hosted events and events organized by our UK partners, such as the Research Institute Technician Group (RITG), the UK Institute for Technical Skills and Strategy (ITSS), and the SPRINGFEST technician festival. Graduates will also be invited to partake in public engagement initiatives such as community engagement events with local schools and libraries and Imperial's annual Great Exhibition Road Festival.

Technician Commitment

The Technician Commitment is a university/research institute pledge to tackle the challenges affecting technicians and technical staff. The LMS is a signatory of the Technician Commitment, therefore we endeavour to:

- Build a network of technical staff who are experts in a wide range of cutting-edge technologies and methodologies, empowering them to adapt and thrive in a world where technology is ever-changing.
- Develop the careers of all technical staff by providing opportunities to attend training courses and networking events and to undertake placements in other institutions to learn new methodologies.
- Ensure visibility for technical staff by making them identifiable on our website and by showcasing their work through internal open days and inter-MRC technician conferences.
- Recognise the contributions made by technical staff in the delivery of world-class research, by ensuring that they receive appropriate acknowledgment for their facilitative role in a research project.

Key Personnel

Graduate Programme Sponsor
Jamie Meredith

The Head of Operations acts as the sponsor for the Graduate Programme and will work to improve and ensure correct implementation of the programme. In addition, the Head of Operations will ensure that the training, pastoral support and developmental opportunities offered to Graduates are of exceptional quality and support their careers and progression.

Key responsibilities include:

- Contributing to the high-quality pastoral support we intend to deliver to Graduates.
- Ensuring that the Graduate Programme's policies and training programme are established and that key performance indicators and assessment methods are consistently monitored.
- Ensuring that the Graduate Programme is structured and organised in a manner that enables it to run effectively.

Heads of the Graduate Programme
Alex Sardini & Laurence Game

The Heads of the Graduate Programme are responsible for designing and delivering our two-year, comprehensive training programme aimed at developing our Graduates into technical professionals, prepared for careers in science.

Key responsibilities include:

- Acting as role models to transmit the values, ethos and standards of the LMS to the Graduates on the programme.
- Delivering and measuring the key performance indicators of the Graduate Programme.
- Delivering an innovative, high-quality Graduate Programme that transforms new science Graduates into skilled technical professionals and meets the strategic need of the LMS.
- Designing a two-year training programme that will teach their Graduate the core laboratory techniques of their facility, use of facility technologies and equipment.
- Identifying strategies to continually enhance and improve the Graduate Programme to ensure that it remains highly attractive to new Graduates.
- Informing Graduates of opportunities to further their personal and professional development, careers and understanding of the MRC LMS, UKRI and Imperial College London.

Key Personnel

Graduate Programme Line Managers
George Young & Ricardo Aramayo

The Graduate Programme Line Manager is responsible for the day-to-day management of the Graduates on the programme, ensuring that they acquire valuable work experience, further their personal development, and have a rewarding experience overall.

Key responsibilities include:

- Ensuring that Graduates are afforded time to attend core training, personal and professional development opportunities as well as public outreach and engagement events with external stakeholders.
- Ensuring that Graduates are effectively managed, provided with sufficient time to settle in and work on research projects as well as enjoying a healthy work-life balance.
- Informing Graduates of opportunities to further their personal and professional development, careers and understanding of the MRC LMS, UKRI and Imperial College London.
- Providing regular constructive feedback to Graduates, ensuring proactive management of Graduate performance and wellbeing.

Graduate Programme Mentor
Tyrese Williams

The Mentor of the Graduate Programme will serve as a trusted ally, providing Graduates with a safe environment to express their thoughts, feelings and opinions. The Mentor will hold monthly meetings with Graduates to discuss their wellbeing, progress on the programme and offer advice and support. These meetings with Graduates are confidential. The Mentor will only share meeting details with other Graduate Programme key personnel, if the Graduate has agreed for them to do so.

Key responsibilities include:

- Challenging Graduates to identify gaps in their knowledge and development and supporting them to address these, to engender personal growth.
- Helping Graduates to become independent and reflect on their development/learning throughout the process.
- Listening to Graduates non-judgementally and offering Graduates objective, experience-based guidance for their continuous development.
- Providing Graduates with advice on their long-term professional goals and careers after the Graduate Programme.

Science Technology Graduate

The role of our Science Technology Graduates is to engage wholeheartedly in the programme to maximise their experience, take pride in being part of a thriving scientific institute, and be enthusiastic ambassadors of the Institute.

Key responsibilities include:

- Adhering to the standards laid out in the LMS Core Values and UKRI/MRC employee Code of Conduct. This involves conducting work with integrity and creating a working atmosphere based on trust, cooperation and mutual respect.
- Attempting to address any problems or difficulties experienced during the programme and seeking help if need be.
- Attending and actively participating in all that the Graduate programme offers: scientific and soft-skill training, events and all other opportunities.
- Contributing to a culture that has equality embedded at its core and one that promotes fairness, diversity and inclusion at all levels.
- Preparing for and partaking in quarterly reviews with their hosting facility head and the Heads of the Graduate Programme.
- Taking a proactive approach to their learning, personal and professional development by identifying areas of weakness and actively working to improve them.

On-boarding

Prior to the programme start date, Graduates will be provided with a Welcome Week timetable. During Welcome Week, Graduates will:

- Complete new starter administration forms and Health and Safety inductions.
- Complete the UKRI mandatory online training courses.
- Receive a tour of the LMS, Hammersmith Hospital and Imperial's Hammersmith campus.
- Receive an introductory presentation and a Welcome Pack.
- Visit the core research facilities at LMS, meet with facility groups, key personnel from the Graduate programme, and members of the Institute's Senior Leadership team.

All Graduates will be subject to a 6-month probation period. Graduates will have quarterly meetings with their hosting facility head and the Heads of the Graduate Programme to monitor progress and ensure that everything is running smoothly.

Off-boarding

All Graduates are expected to complete the two-year Graduate Programme to receive its full benefits, and acquire the skills and knowledge needed to excel as technical professionals. Upon completion of the two-year programme the Graduates will be awarded a Certificate of Completion from the LMS. This certification will be a valuable addition to the Graduate's CV, enhancing their future career prospects.

In Year 2, Graduates will receive support in managing their individual career paths and in preparing for positions after the programme, such as support on CV/Statement writing, interview preparation and career planning. Towards the end of Year 2, Graduates will give a presentation to the LMS community showcasing the work they have delivered and reflecting on their time at the LMS. Moreover, Graduates will be encouraged and supported to apply for professional registration with the Science Council to become registered scientists.

All Graduates will participate in an exit interview with People and Culture to provide feedback on the LMS, the Graduate Programme, and the support received throughout their time, regardless of when they leave the programme. After completing the programme, Graduates will be encouraged to join the LMS alumni network so that we can stay connected, follow their career progression and offer them career opportunities. Whilst the LMS cannot guarantee employment for our Graduates upon completion of the programme, there is a possibility of job openings due to natural turnover.

Although we expect Graduates to complete the two-year programme, we understand that there may be circumstances that could prompt early departure. Graduates are encouraged to promptly address any concerns and issues they have with the Heads of the Graduate Programme to find a resolution. Should a Graduate wish to terminate their contract, they must submit a resignation letter specifying the resignation date and adhere to a one-month notice period.

Post-Graduate Programme Opportunities

Graduates who complete this Programme will be well-prepared to pursue a variety of career paths. Here are some potential career path trajectories:

Technical Path (University/Research Institute)

a) Science Technology Graduate → Facility Technician → Facility Specialist → Deputy Facility Head → Facility Head

b) Science Technology Graduate → Research Assistant / Scientific Officer / Research Technician → Laboratory Manager

Academia Path (University/Research Institute)

a) Science Technology Graduate → PhD Student → Postdoctoral Researcher → Early-career researcher / Assistant Professor → Mid-career researcher / Associate Professor → Professor / Group Head or Group Leader

Industrial/Pharmaceutical Path (Organisation/Company)

a) Science Technology Graduate → Research & Development / Manufacturing Sciences & Technology

Note: Job titles may vary across Universities and Research Institutes.

Communication and Graduate Programme Profile

The launch, progress and achievements of this Graduate programme will be publicised using standard UKRI tools and opportunities. Graduates and Facility Heads are encouraged to promote the achievements and experience of the Graduate programme through the various communication channels.

Programme Evaluation

The following key performance indicators will be used to assess the programme and be reported to the Heads of the Graduate Programme:

- Successful completion of the 6-month probation period.
- Quarterly Graduate reviews/appraisals.
- Real-time Questionnaire for Graduate Programme key personnel.
- Feedback from attended training courses.
- Individual volunteering and outreach that raise the profile of the LMS.
- Involvement of Graduate in new innovations.
- Job secured at the end of the programme, subject to vacancy availability.
- Retention statistics on programme and post programme.