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**Molecular Biology Technician**

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| **Job grade** | Professional Level 2 (Salary Level 4) | **Reports to** | Wildlife Veterinary Pathologist |
| **Directorate** | Zoos and Engagement, Wildlife Health Services | **Function** | To develop and conduct molecular diagnostics |
| **Contract**  | Permanent contract (full-time) | **Location** | Regent’s Park, NW1 4RY |

**Responsibility for resources**

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| **Direct line reports** | **0** | **Responsibility for other resources** | Laboratory protocols, equipment and sample archives |
| **Financial resources** | **-** |

**Our vision and mission**

The Zoological Society of London (ZSL) is an international conservation charity, driven by science, working to restore wildlife in the UK and around the world. Our vision is a world where wildlife thrives and every role, every person in every corner of ZSL has one thing in common – we are all conservationists, and passionate about restoring wildlife.

**Purpose of the role**

The role of the molecular biology technician is to perform molecular and other diagnostic tests dedicated to the diagnosis of diseases within our living collections and for our zoo-based conservation teams. This would involve validating and running in-house diagnostic tests such as qPCR, serum electrophoresis, ELISA, LAMP, and others as required. The role will also include administering databases, managing sample archives, organising the receipt and dispatch of potentially CITES-listed samples locally and internationally and, where required, assisting with postmortem examinations. The role will potentially involve training MSc project students in running assays.

The molecular biology technician will play a critical role in enhancing the diagnostic capabilities of our institution, focusing on both living collections and zoo-based conservation efforts.

This position is strategically designed to significantly bolster WHS's capacity for rapid and reliable disease diagnosis in both living and deceased animals, particularly in the monitoring of elephant endotheliotropic herpesviruses.  By enabling fortnightly testing of all elephants, the role ensures timely detection and intervention in the event of an outbreak.  Furthermore, it will facilitate the in-house development of diagnostic tests, reducing costs and turnaround times, while also enabling the creation of tests for diseases without commercial diagnostic options.  Ultimately, this role will drive both the speed and precision of our diagnostic processes, advancing WHS’s contribution to wildlife health and conservation.

**Key responsibilities**

* To perform molecular and other diagnostic tests for the Wildlife Health Services department; this may include clinical, pathological and microbiological samples for clinical or research purposes.
* To conduct and, in concert with collaborators, develop molecular diagnostic assays on samples collected from animals held in ZSL’s conservation zoos and possibly elsewhere. This will involve DNA and RNA extraction, conventional PCR, real-time PCR, reverse transcriptase PCR, and interpretation of sequence data.
* To be responsible for the safe running of the molecular diagnostic laboratory, ensuring compliance with Health and Safety protocols and procedures.
* To develop and maintain up-to-date standard operating procedures and to ensure compliance with Good Laboratory Practice.
* To keep detailed records to ensure work is authorised, traceable and reproducible.
* To be responsible for sample receipt, and submission of samples to external laboratories for further testing as required. This will principally involve co-ordinating with other laboratories, collaborators and couriers.
* To contribute to collaborations with academic and commercial partners.
* To maintain sample archives and related records, including monitoring the functionality of freezers and other storage facilities used for these archives.
* To undertake general laboratory duties including, for example, stock-taking, ordering of consumables and maintaining clean working conditions and adhering to standard operating procedures.
* To develop and maintain up to date and accurate databases of samples and results, and to record results and collate information for reports in a timely manner
* On occasion (but not anticipated as a regular part of the role), to raise awareness of the work being conducted in the molecular diagnostic laboratory through assisting with the production of public outreach and educational materials (e.g. popular science articles), through social media, and through supporting outreach activities.

**Person Specification**

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| Experience |
| Essential | * Relevant molecular diagnostic laboratory experience (e.g. nucleic acid extraction methods, conventional and real-time PCR, phylogenetic analysis, serological testing)
* Demonstrable enthusiasm for wildlife disease diagnostics
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| Desirable  | * An understanding of the mechanisms underpinning molecular diagnostic techniques (e.g. conventional PCR, real-time reverse transcriptase or quantitative PCR, gel electrophoresis and sequencing).
* Experience in laboratory administration and housekeeping, and in team-working with various stakeholders.
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| Knowledge and skills |
| Essential | * A degree, or equivalent experience, in biological sciences or a related scientific field
* Experience troubleshooting and performing molecular assays.
* Skills in using MS office packages, specifically Word, Excel and PowerPoint, or equivalent software packages
* Strong organisational skills and time management
* Able to work independently and within a team
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| Desirable | * Experience designing molecular assays
* Experience working with animal tissues and biosafety level 3.
* Experience working with NGS and whole genome data
* Experience with statistics and ability to use R or equivalent statistical packages
* Ability to interpret Sanger sequence data and to build phylogenies.
* Experience working within a multidisciplinary team.
* Experience of teaching and/or supervising students
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| Additional requirements |
| Essential | * This position will be based in the Wildlife Health Services Department in both ZSL London Zoo Regent’s Park, London, NW1 4RY and ZSL Whipsnade Zoo, Dunstable, LU6 2LF, on a 100% FTE basis.
* Routine working hours are anticipated, however, there may be need for some flexible working hours during the week, on rare occasion, dependent on urgency of diagnostic requirements.
* The postholder will be expected to comply with and promote Health and Safety policies and procedures for safe laboratory working.
* Strong commitment to creating a culture that lives ZSL values and commitment to safeguarding, equality and diversity (collaborative, inspiring, inclusive, innovative, impactful and ethical).
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