

Pathology Training Initiative: from EUMORPHIA to PRIME

Priorities for mouse functional genomic research across Europe

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Introduction

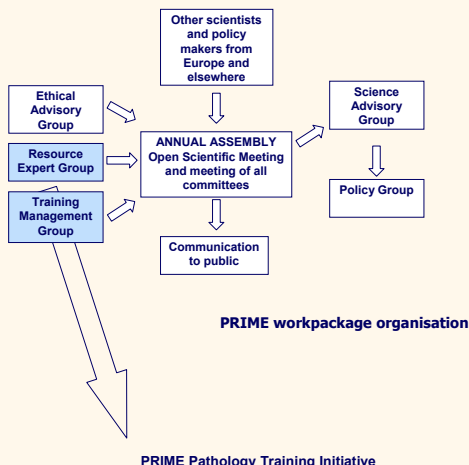
During the execution of the **EUMORPHIA** project it became apparent that provision of expertise in mouse pathology in Europe was deeply problematical, and that it would be useful to more formally assess the number of pathologists working in mouse functional genomics, the predicted need for mouse diagnostic pathology, and current and future training provision. Amongst the objectives of **PRIME** is the assessment of research infrastructure and expertise in Europe and so, as part of this programme, the Pathology training initiative was set up under workpackage 5 of PRIME. The aim is to specifically investigate the existing provision and future availability of histopathology expertise to the mouse functional genomics community.

The analysis of mouse models of human disease requires detailed molecular and histopathological investigation. The skills required for this are of a very high level and anecdotally the experience across Europe is that it is difficult either to find the appropriate expertise on a consultative basis or to readily recruit pathologists to assist in major research programs. The aim of this project is to establish the current availability of pathologists with expertise in the analysis of laboratory mice, the prevalence of in-house and external training programs, the existing and future demand for diagnostic pathology, and to carry out an analysis of how training and recruitment might be improved and funded.

The Problem

There are currently a broad range of individuals engaged in the analysis of mutant and genetically engineered mice who range from those with a basic science training (PhD or equivalent) and accumulated hand-on expertise, to those with a formal training in veterinary pathology and additional laboratory animal pathology specialist training. Many have commonly undertaken residencies and/or PhD programmes in veterinary pathology. Further specific training usually takes place 'on the job'. In the UK Membership/Fellowship of the Royal College of Pathologists (M/FRCPath) is the predominant professional qualification, but significant others across Europe include Diplomate of the American or European College of Veterinary Pathology (DACVP, DECVP).

There is a current and anticipated shortfall in the number of pathologists available to examine mutant mice both in the Europe and USA. However, precise data on these numbers is thin. In the UK a recent British Society for Toxicopathology (BSTP) demographic survey and a telephone survey of numbers in training indicates a likely shortfall in trained individuals of 18 in the next 5 years. In the USA, in particular, there is a projected deficit of individuals suitable to take up positions of 347 by the year 2007. Recruitment frequently takes a significant amount of time with relatively little competition. The high demand from industry also strains the supply for academic and government positions. No figures are currently available for Europe as a whole. Current funding opportunities for training in veterinary pathology are sparse and somewhat random, with the pharmaceutical industry being a major source of funding. However, individuals trained in an industry context rarely migrate into research institutes and Universities. In the USA the ACVP has formed a Coalition for the training of veterinary pathology Fellows to set up a multifaceted approach to the problem including recruitment, training courses and residencies. In the UK the BSTP and the Wellcome Trust are both considering schemes for funding additional training of pathologists, but such schemes are few and far between and a systematic European wide approach is difficult to take without gathering of the key information on availability, training and recruitment of pathologists with mouse expertise throughout Europe.



Information needed

In order to assess the need and provision of mouse pathology expertise we need to find the answers to the following questions

- What is the level of need for pathological diagnosis and advice in Industry, Universities and Research Institutes?
- How is this currently being fulfilled?
- Is the workload estimated to rise?
- What kind of qualifications do those making diagnoses have at the moment, and what is their main activity as pathologists?
- What kind of training provision is being provided both in-house and more generally?

We need to work out from this information the current and predicted shortfall in expertise, who might be trained to provide the required services, and how it should be done.



Methodology

An on-line questionnaire has been produced for Principal Investigators and for Pathologists in order to elicit the information we need. This will be the first survey ever conducted of the provision of pathology expertise for the mouse in Europe.

Respondents have been identified through a variety of means:

- European Commission databases of Principal Investigators
- Membership and circulation lists of appropriate European regulatory and training bodies and Pathology Societies
- Direct contacts through meetings and publicity
- Referrals from the PIs to their pathologists

Analysis will be carried out by specialists in the field of market research (*Innervate UK*) and reported back directly and through publication to funding agencies and policy makers in the Commission and the Member States

Questionnaire for Pathologists

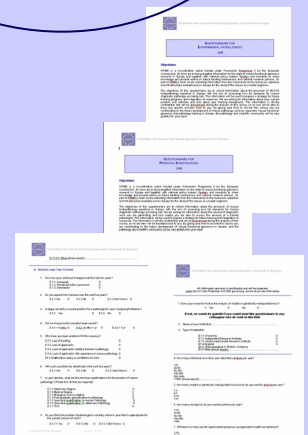
Aims:

- To establish the experience and qualifications of those currently engaged in diagnostic pathology of mutant mice
- Estimate the workload and patterns of work
- Find out where the mice are coming from, how many and what kind of analysis is required
- Establishment of existing patterns of training, schemes and courses
- Availability of jobs and ability to recruit
- Desirability of more training
- Feedback on problems experienced

Questionnaire for Principal Investigators

Aims:

- To find out how many mice are being examined per year and of those how many new strains
- How diagnostic pathology and advice are being carried out currently
- Estimate of future workload
- Vacant positions
- Contact information for those who carry out pathology work in or for the host institution



We would be very grateful for the input of the whole Community into this research and ask anyone with any views concerning the provision of pathology expertise to contact us, fill in the questionnaire and let us know your views. Any suggestions as to how we might identify a wider range of PIs or pathologists in laboratories working on mutant mice would be very gratefully received. Contact us through the PRIME Secretariat: Prime@har.mrc.ac.uk