

**EMBO Science & Society  
Programme –  
Bringing the life sciences and  
society closer.**



# What proportion of people are studying science these days?

2000 figures

Proportion of science graduates to total graduates in all subjects:

EU-15: 11.9%

USA: 8.2%

Japan: 2.3%

2003 figures

Proportion of science graduates to total graduates in all subjects:

EU-25: 11.0% (top: Ireland 18.0% ; bottom Hungary 2.9%)

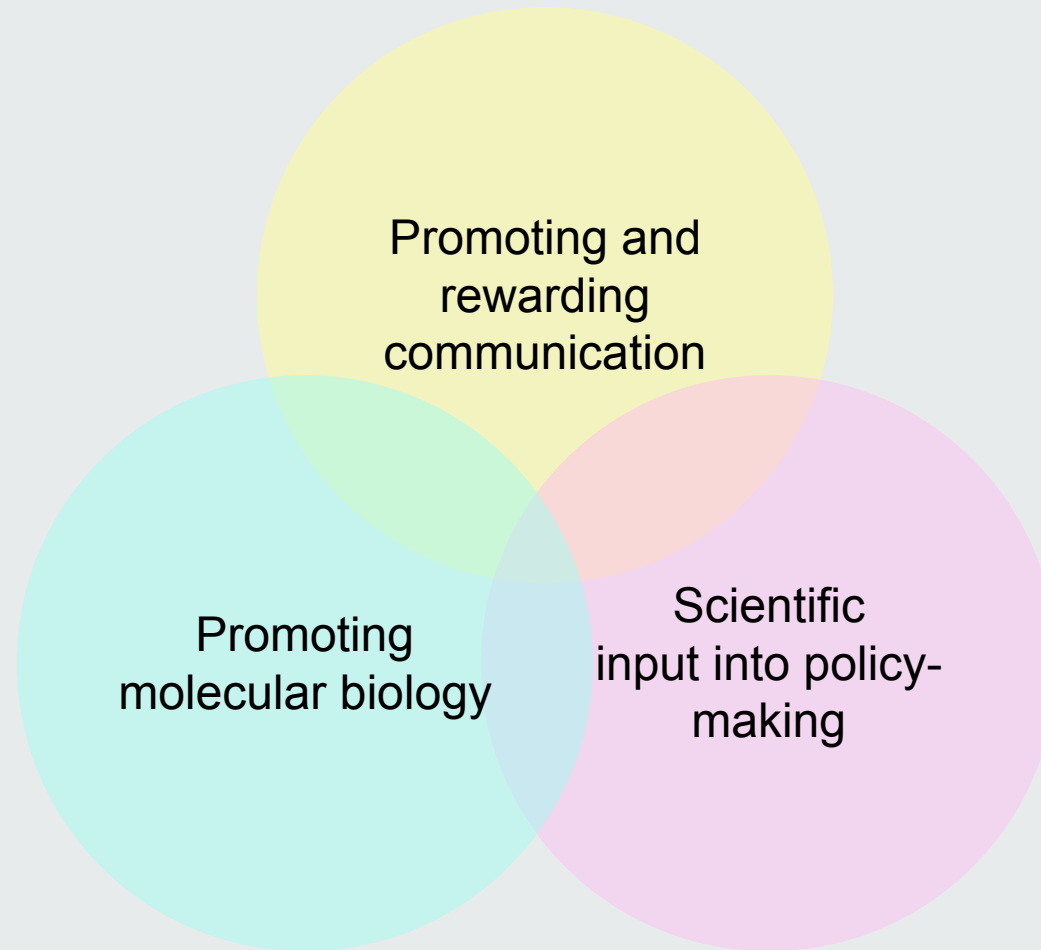
USA: 10.6%

Japan: 3.0%

(Turkey probably around 15%)

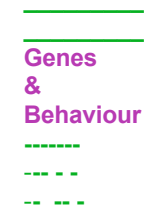
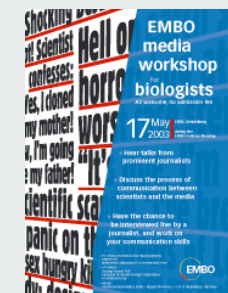


our work covers 3 broad areas...



# Science & Society at EMBO

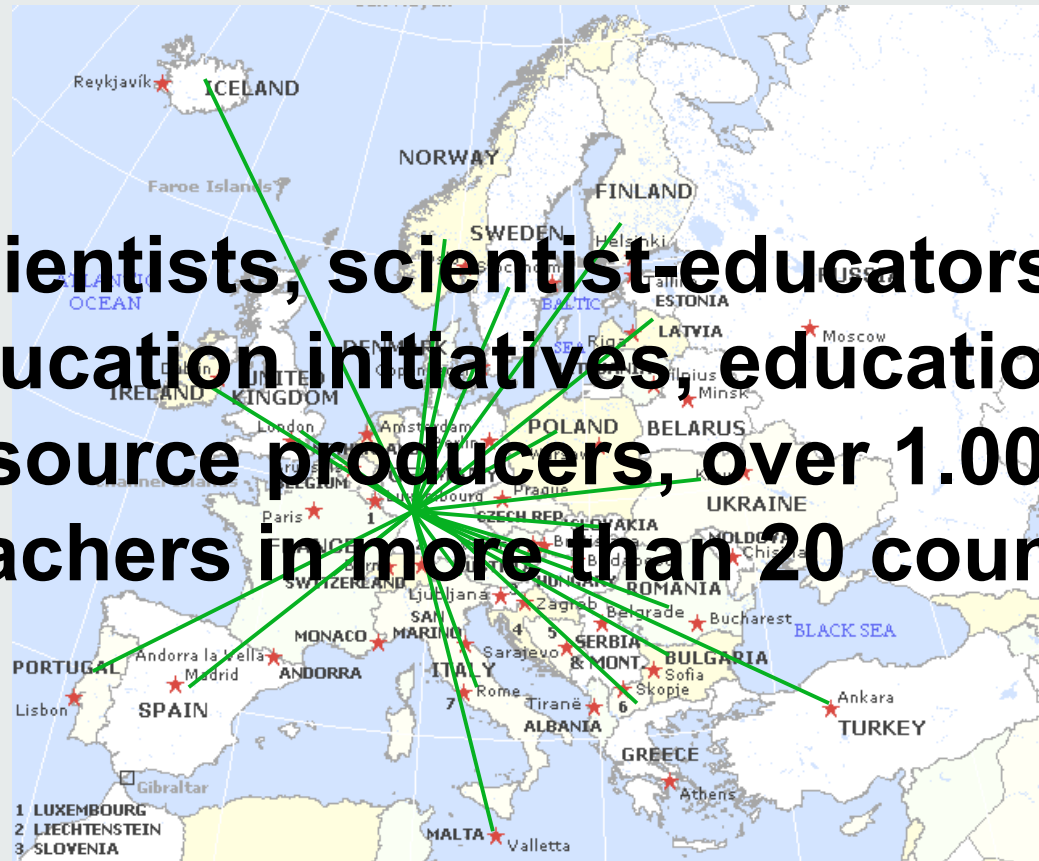
- International conferences (EMBØEMBL)
  - International education workshops
- Award for Communication in the Life Sciences
  - Writing prize for young life scientists
- Media workshops
  - Special sessions on Science & Society
- Focus meetings producing policy advice
  - Small grants scheme





# EMBO's European Network for Biology Education

**Scientists, scientist-educators, education initiatives, educational resource producers, over 1.000 teachers in more than 20 countries**



# Science for policy

Directly reaching over 2.000 scientists and policy makers in the 25 EMBC member states, EC and EP.



## Revision of the EC directive on the welfare of research animals

An advance briefing

**The European Directive 86/609/EEC on the protection of animals used for experimental and other scientific purposes is currently under review.**

Many proposed changes aim to promote the "3Rs" of experimental animal research: replacement, reduction and refinement. These changes also give the animals the benefit of the doubt, by reducing the number of animals used, and the extra administrative and practical burden on researchers and animal breeders that could result.

This document is intended for scientists, policy makers, animal welfare organisations, the industry, and the public. It serves mainly as a briefing for academic researchers, with the aim of encouraging them to become more involved in the political process surrounding the Directive revision.

**Background on the Directive and its revision**

The Directive sets minimum standards for animal housing and care, training of animal handling personnel and supervision of experiments. It also promotes the reduction in numbers of research animals by encouraging the development and validation of alternative methods. However, its wording leaves it open to different interpretations, and it does not explicitly mention the 3Rs and ethical review processes, or require the compulsory authorisation of all experiments.

Many countries in Europe already apply stricter regulations than the current Directive stipulates, but there is much variation. Updating the directive will help to standardise national legislation and harmonise the conditions applying to animal research across the European Union.

The revision is expected to focus strongly on improvements in animal welfare provisions and the promotion of alternative techniques. It will probably specifically address conditions for animal use in new research methods post-dating the original Directive (e.g. transgenics, xenotransplantation and cloning research) and experiments on highly sentient animals, e.g. non-human primates.

**The revision process**

A first draft of the revised Directive is likely to appear early in 2006. It will be based on answers given to a "thought starter" issued to a Technical Expert Working Group in 2003. The process will progress as follows:

1. 2005: Commission publishes its draft
2. Early 2006: Commission publishes its draft
3. 2006: Commission publishes its draft
4. 2nd draft: 2006: Commission publishes its draft
5. 2006: Commission publishes its draft
6. 2006: Commission publishes its draft
7. 2006: Commission publishes its draft

Agreement / Disagreement  
Proposal approved / Proposal dropped

**How the revision should be seen**

The revision presents researchers with opportunities as well as challenges. It provides a fresh stimulus for considering current practices, the superiority of self-regulation over external regulation and the value of communicating research and its methods proactively.

Many aims of the revision are achievable through existing regulations. These require experiments to be done in accordance with the best current scientific knowledge – an area already addressed by independent training and accreditation organisations (e.g. FELASA and AAALAC Int.). Nevertheless, the Directive will be revised, and national laws must implement it. It therefore pays to examine some possible changes that urgently deserve the attention and input of researchers in particular fields.

\*The meeting was held under the auspices of EMBO. This document reflects discussions at that meeting, and is not a policy statement from EMBO or individual participants.





# “Europeanising” Science & Society

- Providing platforms and events for communication, discussion and exchange
- Establishing networks
- Setting models and giving advice
- Producing and disseminating trustworthy materials (guides, information, educational resources, policy advice)
- Co-ordinating diffused actions to generate a unified profile
- Contributing to other events
- Obtaining a picture of Europe as a whole, and of inter-country diversity





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