



## Workshop 1.4

# Multi-media exhibition of alternatives in education

---

## The NORINA & TextBase Website: New Design and Possibilities

Karina Smith<sup>1</sup>, Adrian Smith<sup>1</sup>, Baard Johannessen<sup>2</sup> and Arne Lie-Johannessen<sup>2</sup>

<sup>1</sup>Norwegian School of Veterinary Science, Laboratory Animal Unit, Oslo, Norway

<sup>2</sup>Nettforsk, Arendal, Norway

### Summary

The Norwegian Reference Centre for Laboratory Animal Science & Alternatives has maintained a website since 1996, featuring the NORINA database (<http://oslovet.veths.no>). NORINA contains information on nearly 4,000 products that can be used as animal alternatives or supplements in teaching and training. The website includes TextBase, a database with information on over 1,000 textbooks of relevance to the three R's. The website has been totally rebuilt in 2005. The databases are now part of one relational database, including information on guidelines for animal research, current legislation, course material, other databases and a Virtual Tour of the Centre.

*Keywords:* NORINA, TextBase, website, alternatives, teaching

### Introduction

The interest in alternatives to the use of animals in research and education created a need for specialist information sources addressing the Three Rs of replacement, reduction, and refinement (Russell and Burch, 1959). In many parts of the world there are mandatory requirements for the use of alternatives where practicably possible, as exemplified by the EU Directive 86/609 (EEC, 1986) and the Council of Europe Convention ETS 123 (Council of Europe, 1986).

### Description of the website

The website of the Laboratory Animal Unit at the Norwegian School of Veterinary Science was created to meet these demands, by presenting free of charge on the Internet a database of audiovisual aids and other materials that can be used as pure alternatives, or supplements, to animals or animal materials in teaching and training, at all levels from junior school to University (<http://oslovet.veths.no>). This database, known as NORINA (A

Norwegian Inventory of Alternatives) was subsequently followed up by a satellite database (TextBase) containing information on textbooks and other written resources that may also be used in teaching and training, but that also have a role to play in the general refinement of laboratory animal science at any facility. NORINA currently contains information on nearly 4,000 products, while TextBase covers over 1,000 textbooks and other publications.

The development of the website coincided with a workshop organised by ECVAM in 1996 (Janusch et al., 1997) which concluded that information on existing databases addressing the three Rs should be systematised and made readily available. These recommendations were further developed within the field of education by another ECVAM workshop, in 1998 (van der Walk, 1999). Therefore, the Oslovet site was expanded to include information on other databases around the world, together with links to websites and textual resources within this field (fig. 1).

The Oslovet website has been totally rebuilt in 2005. All the information in NORINA and TextBase, together with the other materials on the website (webpages, documents and images) has been incorporated into one large relational database using state-of-



the-art asp.net technology. This allows users, among other things, to search the whole website simultaneously, and then to access search results from NORINA, TextBase or the other material, depending upon their needs. It also enables the database compilers, and other authorised editors, to update any section of the website instantaneously via the Internet from any location in the world.

A number of new features have been added, to take advantage of the new technology. These include:

- direct links to suppliers, publishers, Internet bookstores and Google, so that searches can be repeated there with no further typing required
- lists of new products, reviewed items, materials held at the Centre, items which the Centre considers to be “key products”, and materials that are available free of charge or on loan from international loans programs
- “Tip a Friend”, “Help”, “Feedback”, “News” and “Newsletter” functions
- a comprehensive statistics package giving a detailed breakdown of all activity at the site

In addition to the NORINA and TextBase, the website contains a comprehensive collection of resources and information material within laboratory animal science in general, and the three R's in particular. These include:

- Guidelines on the care and use of fish in research, including material from an international consensus meeting held in Oslo in May 2005 (Smith et al., 2005)
- Links to other Guidelines on the care and use of animals in research and teaching (e.g. Smith and Smith, 2004; Smith and Allen, 2005)
- An overview of databases worldwide that address the three Rs
- Teaching material for use in laboratory animal science
- A Guided Tour of the Centre in three languages
- General information and links for students conducting projects on animal experimentation



Fig. 1: An overall view of the website of the Norwegian Reference Centre for Laboratory Animal Science and Alternatives.

The authors hope that this website will prove to be a valuable resource for further implementation of the concepts of Russell and Burch, and we welcome suggestions for improvement from users.

### Acknowledgements

The financial support given by many organisations to the work of maintaining the NORINA and TextBase databases is gratefully acknowledged (<http://oslovet.veths.no/sponsors.html>). We wish also to thank Tim Morris, Paul Flecknell and Peter Nowlan for their valuable comments during the development of this website.

### References

- EEC (1986). Council Directive 86/609/EEC of 24 November 1986 on the approximation of laws, regulations and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes. *Official Journal of the European Communities L358*, 1-29. [http://europa.eu.int/smartapi/cgi/sga\\_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=31986L0609&model=guichett](http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=31986L0609&model=guichett) Accessed 23.09.2005.
- Council of Europe (1986). European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Purposes, ETS No. 123. Strasbourg, France. <http://conventions.coe.int/Treaty/en/Treaties/Html/123.htm> Accessed 23.09.2005.
- Janusch, A., van der Kamp, M., Bottrill, K. et al. (1997). Current status and future developments of databases on alternative methods. The Report and Recommendations of ECVAM Workshop 25. *ATLA* 25, 411-422.
- Russell, W. M. S. and Burch, R. L. (1959). *The Principles of Humane Experimental Technique*, 238pp. London: Methuen.
- Smith, A. J. and Allen, T. (2005). The use of databases, information centres and guidelines when planning research that may involve animals. *Animal Welfare* 14, in press.
- Smith, A. J. and Smith, K. (2004). Guidelines for humane education: Alternatives to the use of animals in teaching and training. Proceedings of the Fourth World Congress on Alternatives and Animal Use in the Life Sciences, New Orleans, 11-15 August 2002. *ATLA* 32, Supplement 1A, 29-39. <http://www.world-congress.net/2002/proceedings/SP4%20Smith.pdf> Accessed 23.09.2005.
- Smith, A. J., Johansen, R. and Knudsen, G. (eds.) (2005). Harmonisation of the Care and Use of Fish in Research, a consensus meeting held at Gardermoen, Norway, 23rd-26th May 2005. <http://oslovet.veths.no/fish> Accessed 23.09.2005.
- Van der Valk, J., Dewhurst, D., Hughes, I. et al. (1999). Alternatives to the Use of Animals in Higher Education. The Report and Recommendations of ECVAM Workshop 33. *ATLA* 27, 39-52.
- Correspondence to**  
 Karina Smith  
 Norwegian School of Veterinary Science  
 Laboratory Animal Unit  
 P.O. Box 8146 Dep.  
 N-0033 Oslo, Norway  
 e-mail: karina.smith@veths.no