



Session 4.2

Information retrieval – search strategies

Lecture

Alternative search methods to retrieve information on the web

H. Florence Chang

National Library of Medicine, National Institutes of Health, US Department of Health and Human Services, Specialised Information Services, Bethesda, USA

Many new alternatives to conventional search methods have been developed. Some of these have examples potentially applicable to Alternatives and Animal Use in Life Science.

Meta-search and clustering techniques have been developed using natural language processing methodologies. Target databases or Web information resources can be designated for a custom search. The search results are analysed, and concepts of interests are aggregated and clustered. Users may then refine or modify their queries. For example, at the National Library of Medicine, a meta-search and clustering engine has been developed to perform topic specific search in areas of AIDS/HIV, toxicology, and environmental health information.

Information portals are collaborations among organisations in developing cross-organisation websites (portals) to provide the breadth of information and services available about a particular

topic or audience group. An example of this work is a cross-agency portal on environmental health and toxicology for consumers. Several US government agencies collaborated to bring together environmental health information and services.

Another way of approaching information is the use of specialised tools. Among these, the Quantitative Structure Activity Relationship Tool, a new added feature in ChemIDplus, has potential interest. Chemical structures, physicochemical properties, and acute toxicity data have been added to the existing chemical profile database.

These new methods to consolidate information may be helpful to the community of Alternative and Animal Use in Life Science. Traditional and new search engine methodologies and examples will be presented.



Lecture

Search strategies for detecting alternative methods articles: A pilot study

Barbara Grune, Amrei-Christin Riemann, Antje Dörendahl, Susanne Skolik and Horst Spielmann

Federal Institute of Risk Assessment (BfR), Centre for the Documentation and Evaluation of Alternative Methods to Animal Experiments (ZEBET), Berlin, Germany

Background: As a consequence of the increasing regulatory acceptance of the 3Rs concept of Russel and Burch (1959) on using alternative methods to animal experiments, it is essential that scientists, animal welfare officers, public policy-makers be able to retrieve relevant, high-quality alternative methods reports. Efficiently retrieved scientific literature supports decision-making for application of alternative methods. However, the volume of the literature is overwhelming for both scientific and regulators. The literature on alternative methods is spread over a large number of journals and consequently a large number of literature databases. Users of bibliographic databases are faced with retrieving the most important references.

Objectives: In a pilot study we endeavoured to answer the question: “What are effective search strategies for articles on alternative methods to acute oral toxicity testing?”

Free text searches (n=28) were performed in databases offered by DIMDI, the German Institute of Medical Documentation and Information. The retrieval performance of selected search terms (n=14) were evaluated. We determined the relevance of the articles retrieved.

Results: We identified a first ranking of search terms and databases for searching articles on alternative methods to acute oral toxicity testing. More research will be needed to address additional topics.

Conclusion: Recommendations for search strategies to improve the success of searching for articles on alternative methods should include appropriate search terms, phrases and recommendations for databases. Recommendations should be as specific as possible and applicable to any user-defined search conditions.

Lecture

The US Department of Agriculture, Animal Welfare Information Center – a source for meeting information requirements of the 3Rs

Jean Larson

National Agricultural Library, U. S. Department of Agriculture, Beltsville, Maryland, USA

The presentation will include a review of carefully selected information resources such as the following: Understanding with the Searching for Alternatives Worksheet; resources available for a workshop on searching for alternatives; documents on

issues in animal welfare; what you can find in the AGRICOLA database; and the National Agricultural Library Thesaurus subset of terms useful in searching AGRICOLA, other databases or for using as keywords by authors of alternative research.



Lecture

Considering alternatives and welfare via a comprehensive search of the scientific literature

Mary Wood and Lynette Hart

UC Center for Animal Alternatives, School of Veterinary Medicine, University of California, Davis, USA

The search for alternatives appears to be a simple endeavour, yet causes a great deal of resistance and scepticism. The reasoning behind the development of animal welfare and alternatives legislation is usually clear; in the US, the alternatives search requirement was added to the Animal Welfare Act in order to assure the general public that no animal used in research undergoes unnecessary pain or distress. While meeting compliance is not difficult (list databases, dates and search terms), locating relevant information and giving thoughtful consideration to the breadth of alternatives is not the usual result. However, when a comprehensive search is performed by searching all of the scientific literature published in a specific area of study, the information retrieved will be more relevant, and attention to animal welfare assured.

Already familiar with locating scientific material for their research, scientists can readily learn to expand their literature searches to include additional databases. At the same time, the subject of alternatives can be more broadly defined to include the terms replacement, reduction and refinement. Equally important is expanding the search to include new ideas and technologies, as well as aspects of husbandry and care such as housing, blood collection, analgesia, anaesthesia, and humane endpoints. The web-based resources located at http://www.vetmed.ucdavis.edu/Animal_Alternatives/databaseapproach.html are designed to assist with a comprehensive search. Arranged by both animal model and topic, the tables prompt the user to consider additional concepts and additional databases.