

**RESOURCES**

## WWW GUIDE

**Toxicology resources on the Internet***Michael Francisco*

The growth of the biopharmaceutical field has also led to a rise in the need for qualified toxicologists. In addition to traditional expertise in environmental and chemical toxicology, employers are now looking for scientists with experience in reproductive toxicology, pharmacokinetics, and drug metabolism in order to penetrate the biopharmaceutical market.

According to the Society of Toxicology, academic institutions are still the number one employer of toxicologists, with expanding programs fostering a need for researchers and teachers with doctoral-level training.

Industry—including chemical, pharmaceutical, and contract research companies—is the next biggest employer, followed by government agencies, consulting firms, and research foundations.

For working toxicologists and those in training, the expansion of the Internet could not have come at a better time. It has meant a major change in how they do their jobs. The availability of on-line databases and scientific journals has made the process of information-gathering and sharing easier. In addition, professional toxicology societies exist in

almost every country, both individually as well as in consortia such as EUROTOX, providing a network of far-flung contacts and a wide variety of instantly accessible information for toxicologists.

The challenge toxicologists now face is wading through the vast amounts of data an Internet search on *toxicology* can return. The websites below include government and toxicological society home pages, databases, and a few of the many academic, primarily educational, sites. The list also puts a premium on searchability and breadth of content.

**A sampler of websites in the field of toxicology****Government and professional societies***National Toxicology Program*

<http://ntp-server.niehs.nih.gov/>

The NTP coordinates toxicology research and testing activities within the US Department of Health and Human Services and provides information about potentially toxic chemicals to regulatory and research agencies and the public. Its site provides study results, abstracts, and technical reports for current and past NTP projects, downloadable in PDF, HTML, and archive formats.

*The Society of Toxicology*

<http://www.toxicology.org/>

The SOT's searchable website includes comprehensive information on the society's activities, publications, specialty sections, and regional chapters. Of special interest are the excellent resource guide to careers in toxicology and Watching Washington, a current update of scientific issues before the government.

*EUROTOX*

<http://www.uta.fi/eurotox/>

The homepage of the Association of European Toxicologists and European Societies of Toxicology, containing member information, upcoming meetings and congresses, and related links.

**Databases***Cambridge Scientific Abstracts*

<http://www.csa.com/>

Publishers of abstracts and indexes to scientific research literature in the life sciences, environmental and aquatic sciences, computer sciences, and materials science and engineering. CSA provides access to more than 80 databases, including Toxicology Abstracts.

*INVITTOX*

<http://embryo.ib.amwaw.edu.pl/invittox/>

The primary European database containing searchable, peer-reviewed protocols of in vitro techniques currently in use and under development, their applications, advantages, and drawbacks. Each protocol includes detailed methodology, experimental data, rationale for choice of technique and end point, and comments from the author.

**Academic sites***AltWeb*

<http://www.sph.jhu.edu/~altweb/>

The homepage of Johns Hopkins University's Center for Alternatives to Animal Testing, sponsor of the In Vitro Toxicology Program to foster the development of new cell-based systems for use in toxicity testing, the development of strategies for the detection of toxicity, the development of new tests for quantifying cellular toxicity, and the development of in vitro parameters for risk extrapolation.

*The Toxikon Multimedia Project*

<http://toxikon.er.uic.edu/>

Toxikon is a medical toxicology fellowship program of the University of Illinois, Cook County Hospital, and Rush-Presbyterian St. Luke's Medical Center. The multimedia project site includes discussion groups and educational modules.

*EXTOXNET*

<http://ace.orst.edu/info/extoxnet/>

The EXTension TOXicology NETwork site has various types of pesticide toxicology and environmental chemistry information, including discussions of toxicological issues of concern, newsletters, lists of resources, fact sheets, pesticide information profiles, and toxicology information briefs.