

## Internet: A major resource for toxicologists\*

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Use of the Internet in developing countries is now growing faster. Internet has created a new conduit not only for communication but also in the access, sharing and exchange of information among scientists. The Internet is now viewed as the world's biggest library where retrieval of scientific literature and other information resources are possible within seconds. Large volumes of toxicological information resources are available on the Internet. This review outlines some sites that may be of great importance and useful to the toxicologist.

The Internet is a huge network of computers that span the globe<sup>1</sup>. More popularly known as the "information superhighway" the Internet has become a very pervasive influence in everyday life. Its power is more strongly seen among scientists, as more and more information is made available through "the net" whether they are gene sequences, experimental data or whole journal articles<sup>2</sup>. The Internet is also an expanding body of information and now it is perceived as the world's largest library. The Internet is a powerful instrument for the exchange of scientific information for practitioners and researchers of pharmaceutical and toxicological science<sup>3</sup>. The Internet originated in 1969 when an American Defence Advance Research Project Agency developed a computer network (ARPANET), specially designed to survive foreign attack.

### *What is Internet*

The Internet is a large, worldwide network of interconnected computers. It consists of several communication media, the best known of which is the world wide web. The principal communication protocol of the Internet is TCP/IP (Transmission control protocol/Internet protocol), developed in the 1970s by the US Department of Defence. It was designed to connect networks of different vendors into a "network of networks" (the Internet).

### *Getting Connected to Internet*

For getting connected to the Internet a powerful computer and a modem (machine that enables digital

information transfer over a telephone line) are indispensable. There are several ways to gain access to the Internet backbone. For private use, one has to look for an Internet Access Provider (IAP). This is a commercial company that provides access to its Internet backbone network; connection with the customer is usually established via a modem and communication line. Apart from the necessary software, the subscriber is given a password and an e-mail address; most providers also offer the opportunity to install web page on their server.

### *The World Wide Web*

The World Wide Web (often referred to as www) is one of the most recent interesting and popular developments<sup>1</sup>. It offers user-friendly access to millions of pages of information on computer all over the world.

The information on a World Wide Web is accessed via client program or 'browser'. Browsers are now available for most operating systems. The most commonly used are Netscape Navigator and Microsoft Internet Explorer. Recent version of these programs allows moving images, video clippings and sound to be integrated in a web page<sup>4</sup>.

### *Navigating the Internet*

In search for scientific information, it is now possible to link your computer to computer/s all around the world through Internet<sup>5</sup>. The World Wide Web is a new resource for toxicologist. It is now possible to sit at a computer terminal and search for information of interest from all over the world. However, because of the enormous content of the World Wide Web, it is important to know how to search the web effectively to avoid wasting of time

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and obtaining hardly useful information. The easiest way is, of course, trying to obtain the exact Uniform Resource Locator (URL). If one knows the address for a particular web site, the same can be typed into the location box of the browser and the user will automatically be connected to the correct site. Most of the time, however, the exact address will be unknown. In this case, a 'search engine' can be used.

Because the Internet is so large it is important to have an efficient way of finding the information that one needs. Search engine is a software program that trawls the web, to index the contents of web servers for a particular query. The name and addresses of few popular search engines are given in Table 1.

### ***Electronic Mail***

Postal delivery at the speed of light is possible with electronic mail (e-mail or email). The Internet access provider (IAP) really functions as a post office, receiving and forwarding electronic mail. The IAP also provides the e-mail address, which is in the general form sanjoypal@yahoo.com, denotes the name and mail server of the addressee separated by the @ ('at') sign. Not only text, but also photographs, images, sound and video clippings can be attached to an e-mail message.

### ***Electronic Publication***

Starting in 1991, Paul Ginsparg and colleagues at the Los Alamos National Laboratory set up an automated

Table 1—List of some popular search engines

<b>Search Engines:</b>	
Yahoo	<a href="http://www.yahoo.com">http://www.yahoo.com</a>
Excite	<a href="http://www.excite.com">http://www.excite.com</a>
MSN	<a href="http://www.msn.com">http://www.msn.com</a>
Infoseek	<a href="http://www.infoseek.com">http://www.infoseek.com</a>
Alta Vista	<a href="http://www.altavista.digital.com">http://www.altavista.digital.com</a>
Looksmart	<a href="http://www.looksmart.com">http://www.looksmart.com</a>
Hot Bot	<a href="http://www.hotbot.com">http://www.hotbot.com</a>
Lycos	<a href="http://www.lycos.com">http://www.lycos.com</a>
Northern Light	<a href="http://www.nlsearch.com">http://www.nlsearch.com</a>
<b>Meta Search Engines :</b>	
Dogpile	<a href="http://www.dogpile.com">http://www.dogpile.com</a>
Eliter.com	<a href="http://www.eliter.com">http://www.eliter.com</a>
The BigHub.com	<a href="http://www.thebighub.com">http://www.thebighub.com</a>
JUGALUG MP3	<a href="http://www.jugalug.com/">http://www.jugalug.com/</a>
CurryGuide	<a href="http://services.currguide.com/">http://services.currguide.com/</a>
PopularSites.com	<a href="http://www.popularsites.com">http://www.popularsites.com</a>
Megasources	<a href="http://www.acr.ryerson.ca/~journal/megasources.html">http://www.acr.ryerson.ca/~journal/megasources.html</a>
Profusion	<a href="http://www.profusion.com">http://www.profusion.com</a>
<b>Indian Search Engines:</b>	
123 India	<a href="http://www.123india.com">http://www.123india.com</a>
Agni	<a href="http://www.indiawatch.org.in/agni/">http://www.indiawatch.org.in/agni/</a>
India Search	<a href="http://www.indialinks.com/links/links.htm">http://www.indialinks.com/links/links.htm</a>
Khoj	<a href="http://www.khoj.com">http://www.khoj.com</a>
Yadoo	<a href="http://www.yadoo.com">http://www.yadoo.com</a>
Indian Homepage Search	<a href="http://indiatime.com/urls/indiaurls.htm">http://indiatime.com/urls/indiaurls.htm</a>
Search Engine for India related websites	<a href="http://search.keralanuada.com/internet-services/">http://search.keralanuada.com/internet-services/</a>

Table 2—Electronic Journals in the Net

International Journal of Toxicology	<a href="http://landaus.com/toxicology/journal.htm">http://landaus.com/toxicology/journal.htm</a>
Journal of Analytical Toxicology	<a href="http://www.taylorandfrancis.com/JNLS/TOC/tocito.htm">http://www.taylorandfrancis.com/JNLS/TOC/tocito.htm</a>
Links to pharmacology and toxicology journals	<a href="http://www.jatox.com/">http://www.jatox.com/</a>
Environmental Toxicology and Chemistry	<a href="http://www.sciencekomm.at/journals/medicine/toxic.html">http://www.sciencekomm.at/journals/medicine/toxic.html</a>
Toxicology and Environmental Health	<a href="http://www.ruf.rice.edu/~etcj/">http://www.ruf.rice.edu/~etcj/</a>
Toxicology and Applied Pharmacology	<a href="http://www.tandfcd.com/JNLS/teh.htm">http://www.tandfcd.com/JNLS/teh.htm</a>
E- Journal - Journal of Applied Toxicology	<a href="http://www.apnet.com/www/journal/to.htm">http://www.apnet.com/www/journal/to.htm</a>
E - Journal - Environmental Toxicology and Water Quality	<a href="http://library.usask.ca/ejournals/02/6/0260-437X.html">http://library.usask.ca/ejournals/02/6/0260-437X.html</a>
E- Journal - Archives of Toxicology	<a href="http://library.usask.ca/ejournals/10/5/1053-4725.html">http://library.usask.ca/ejournals/10/5/1053-4725.html</a>
E - Journal - Chemical Research in Toxicology	<a href="http://library.usask.ca/ejournals/03/4/0340-5761.html">http://library.usask.ca/ejournals/03/4/0340-5761.html</a>
Electronic Journal - Inhalation Toxicology	<a href="http://library.usask.ca/ejournals/08/9/0893-228X.html">http://library.usask.ca/ejournals/08/9/0893-228X.html</a>
E- Journal – Human and Experimental Toxicology	<a href="http://library.usask.ca/ejournals/08/9/0895-8378.html">http://library.usask.ca/ejournals/08/9/0895-8378.html</a>
E- Journal - Toxicology and Applied Pharmacology	<a href="http://library.usask.ca/ejournals/09/6/0960-3271.html">http://library.usask.ca/ejournals/09/6/0960-3271.html</a>
Electronic Journal - Environmental Epidemiology and Toxicology	<a href="http://library.usask.ca/ejournals/00/4/0041-008X.html">http://library.usask.ca/ejournals/00/4/0041-008X.html</a>
E - Journal - Toxicology and Industrial Health	<a href="http://library.usask.ca/ejournals/15/2/1522-7987.html">http://library.usask.ca/ejournals/15/2/1522-7987.html</a>
Regulatory Toxicology and Pharmacology	<a href="http://library.usask.ca/ejournals/07/4/0748-2337.html">http://library.usask.ca/ejournals/07/4/0748-2337.html</a>
E- Journal - Regulatory Toxicology and Pharmacology	<a href="http://www.apnet.com/www/journal/rt.htm">http://www.apnet.com/www/journal/rt.htm</a>
E- Journal - Pharmacology & Toxicology	<a href="http://library.usask.ca/ejournals/02/7/0273-2300.html">http://library.usask.ca/ejournals/02/7/0273-2300.html</a>
Cell Biology and Toxicology	<a href="http://library.usask.ca/ejournals/09/0/0901-9928.html">http://library.usask.ca/ejournals/09/0/0901-9928.html</a>
Human and Experimental Toxicology	<a href="http://www.wkap.nl/journalhome.htm/0742-2091">http://www.wkap.nl/journalhome.htm/0742-2091</a>
American College of Medical Toxicology	<a href="http://www.stockton-press.co.uk/het/">http://www.stockton-press.co.uk/het/</a>
Journals of Biomacromolecules Biotechnolog Pharmacology and toxicology	<a href="http://www.acmt.net/">http://www.acmt.net/</a>
EHIS Publications : Environmental Health Perspectives	<a href="http://www.sciencekomm.at/journals/medicine/toxic.html">http://www.sciencekomm.at/journals/medicine/toxic.html</a>
TOXUPS Medical journals med-bio.html	<a href="http://ehpnet1.niehs.nih.gov/docs/journals.html">http://ehpnet1.niehs.nih.gov/docs/journals.html</a>
Bioline International – Toxicology and Ecotoxicology News	<a href="http://www.sciencekomm.at/journals/medicine/">http://www.sciencekomm.at/journals/medicine/</a>
E-Journals: Toxicology Vet	<a href="http://www.bdt.org.br/bioline/te">http://www.bdt.org.br/bioline/te</a>
Environmental Toxicology and Ecotoxicology	<a href="http://library.usask.ca/ejournals/vtox.html">http://library.usask.ca/ejournals/vtox.html</a>
Academic Press Journals	<a href="http://www.med.ed.ac.uk/HEW/tox/toxjrn.html">http://www.med.ed.ac.uk/HEW/tox/toxjrn.html</a>
ACS Journals-Chemical Research in Toxicology	<a href="http://www.apnet.com/journals">http://www.apnet.com/journals</a>
Toxicology Environment, conservation and ecology Journals	<a href="http://pubs.acs.org/journals/crt.html">http://pubs.acs.org/journals/crt.html</a>
Environmental Journals on the Internet	<a href="http://www.sciencekomm.at/journals/environ.html">http://www.sciencekomm.at/journals/environ.html</a>
Pharmacology Journals	<a href="http://www.cnie.org/Journals.htm">http://www.cnie.org/Journals.htm</a>
Environmental Epidemiology and Toxicology	<a href="http://ptworldmag.com/pharmaco.htm">http://ptworldmag.com/pharmaco.htm</a>
Online Journals--Ecology and the Environment	<a href="http://www.stockton-press.co.uk/eet">http://www.stockton-press.co.uk/eet</a>
Advances in Environmental HealthLinks: Public Health Journals	<a href="http://www.tnstate.edu/library/journal/onjnecolo.htm">http://www.tnstate.edu/library/journal/onjnecolo.htm</a>
Begell House, Inc. - Journal of Environmental Pathology, Toxicology and Oncology	<a href="http://www.hslib.washington.edu/public_health/journals.html">http://www.hslib.washington.edu/public_health/journals.html</a>
	<a href="http://www.begellhouse.com/jepto/jepto.html">http://www.begellhouse.com/jepto/jepto.html</a>

archive allowing the electronic communication of research information. Articles could be submitted electronically directly to the archive and accessed by any one interested in the topic.

An article on the Internet reaches the readers instantaneously compared to those with the delays of weeks or months for publication in conventional journals. In recent years, many journals are now available online. List of some online journals related to toxicology are given in Table 2.

Beginning in 1995 the content of Toxicology Abstract<sup>6</sup> was brought directly to the user's personal computer. Toxicology Abstract can now be assessed electronically on the Internet via. 'Cambridge

Scientific Abstract' Internet journal service. For further information about Cambridge Scientific Abstract and its web resources, one can contact the marketing department ([market@csa.com](mailto:market@csa.com)) or visit the web site (<http://www.csa.com>).

### ***Toxicology on the Internet***

A large and rapidly growing volume of toxicology related information could be now found on the web. A selection of Internet resources relevant to the toxicologist is given below. Care has been taken to check the accuracy of the information given. Because of the volatile nature of the Internet, no absolute guarantee can be given for the URLs provided.

**I. Toxicology Databases**

Poisons Information Database :	<a href="http://vhp.nus.sg/PID">http://vhp.nus.sg/PID</a>
Poisons Information Database:(Alternative Site)	<a href="http://medweb.nus.sg/PID/PID.html">http://medweb.nus.sg/PID/PID.html</a>
Developmental and Reproductive Toxicology Database	<a href="http://www.nlm.nih.gov/pubs/factsheets/dartfs.html">http://www.nlm.nih.gov/pubs/factsheets/dartfs.html</a>
Pollution and Toxicology Database	<a href="http://www.library.yale.edu/scilib/help/poltox.html">http://www.library.yale.edu/scilib/help/poltox.html</a>
Toxic Plant Database -	<a href="http://www.library.uiuc.edu/vex/toxic/comlist.htm">http://www.library.uiuc.edu/vex/toxic/comlist.htm</a>
Poisonous Plant Database :	<a href="http://www.wam.umd.edu/~mct/Plants/poisonous.html">http://www.wam.umd.edu/~mct/Plants/poisonous.html</a>
FDA/CFSAN Poisonous Plant Database:	<a href="http://vm.cfsan.fda.gov/~djw/readme.html">http://vm.cfsan.fda.gov/~djw/readme.html</a>
	<a href="http://vm.cfsan.fda.gov/djw/readme.html">http://vm.cfsan.fda.gov/djw/readme.html</a>
OSHA database	<a href="http://www.infoventures.com/e-hlth/">http://www.infoventures.com/e-hlth/</a>
TOXNET Home :	<a href="http://toxnet.nlm.nih.gov/">http://toxnet.nlm.nih.gov/</a>
Toxicology Data NETWORK :	<a href="http://www.nlm.nih.gov/pubs/factsheets/toxnetfs.html">http://www.nlm.nih.gov/pubs/factsheets/toxnetfs.html</a>
Reprotox:	<a href="http://www.reprotox.org/">http://www.reprotox.org/</a>
NLM's Databases & Electronic Information Sources :	<a href="http://www.nlm.nih.gov/databases/databases.html">http://www.nlm.nih.gov/databases/databases.html</a>
PoITox I - Pollution and Toxicology :	<a href="http://www.silverplatter.com/catalog/ptxa.htm">http://www.silverplatter.com/catalog/ptxa.htm</a>
TOXLINE® Database	<a href="http://www.ccohs.ca/products/databases/toxline.html">http://www.ccohs.ca/products/databases/toxline.html</a>
Toxicology and Poisoning Databases, Search engines	<a href="http://www.internets.com/mednets/stoxicology.htm">http://www.internets.com/mednets/stoxicology.htm</a>
Poison Database :	<a href="http://www.alert-pest.net/poison.html">http://www.alert-pest.net/poison.html</a>
Toxicology Home	<a href="http://www.medfarm.unito.it/toxicol/toxicol1.html">http://www.medfarm.unito.it/toxicol/toxicol1.html</a>
Pharmacology & Toxicology	<a href="http://www.mic.ki.se/PharmTox.html">http://www.mic.ki.se/PharmTox.html</a>

**II Professional Organization**

Society of Toxicology :	<a href="http://www.toxicology.org/">http://www.toxicology.org/</a>
American College of Toxicology :	<a href="http://actox.org/">http://actox.org/</a>
British Toxicology Society :	<a href="http://www.bts.org/toxicology/">http://www.bts.org/toxicology/</a>
Environmental Organization WebDirectory - Pollution:Toxicology	<a href="http://www.webdirectory.com/Pollution/Toxicology">http://www.webdirectory.com/Pollution/Toxicology</a>
American College of Medical Toxicology	<a href="http://www.acmt.net/">http://www.acmt.net/</a>
Professional Societies	<a href="http://www.envirocomp.org/html/otherwebs/bowers/profsoci.htm">http://www.envirocomp.org/html/otherwebs/bowers/profsoci.htm</a>
List of Toxicology Professional Groups :	<a href="http://www.pitt.edu/martint/pages/motoxorg.htm">http://www.pitt.edu/martint/pages/motoxorg.htm</a>
Society of Environmental Toxicology and Chemistry Europe	<a href="http://www.setac.org/europe.html">http://www.setac.org/europe.html</a>
Society of Environmental Toxicology and Chemistry	<a href="http://www.setac.org/">http://www.setac.org/</a>
Environmental Mutagen Society EMS Home Page	<a href="http://www.ems-us.org/">http://www.ems-us.org/</a>
Society of Forensic Toxicologists	<a href="http://www.soft-tox.org/">http://www.soft-tox.org/</a>

**III Specialty Related Sites:****A) Pesticide Toxicology**

Pesticide Information:	<a href="http://aggie-horticulture.tamu.edu/plantanswers/misc/pesticideinfo.html">http://aggie-horticulture.tamu.edu/plantanswers/misc/pesticideinfo.html</a>
Pesticide Fact Sheets	<a href="http://www.mda.state.mn.us/DOCS/AGRON/Agronomy/Factshts/PESTIC~1.HTM">http://www.mda.state.mn.us/DOCS/AGRON/Agronomy/Factshts/PESTIC~1.HTM</a>
LINKS - Pesticide Section:	<a href="http://www.isco.purdue.edu/links_pest.htm">http://www.isco.purdue.edu/links_pest.htm</a>
UC DAVIS: Environmental Toxicology	<a href="http://www.envtox.ucdavis.edu/ETX/Faculty.htm">http://www.envtox.ucdavis.edu/ETX/Faculty.htm</a>
Caldwell Country Extension Centre Pesticide Information	<a href="http://caldwell.ces.state.nc.us/ag/pesticide.html">http://caldwell.ces.state.nc.us/ag/pesticide.html</a>
healthfinder® - National Pesticide Telecommunications Network	<a href="http://www.healthfinder.gov/text/orgs/hr2115.htm">http://www.healthfinder.gov/text/orgs/hr2115.htm</a>

**B) Environmental Toxicology**

Environmental Toxicology Newsletter	<a href="http://ace.orst.edu/info/extoxnet">http://ace.orst.edu/info/extoxnet</a>
Univ. of Nebraska - Center for Environmental Toxicology	<a href="http://www.unmc.edu/Eppley/ToxCenter/news.htm">http://www.unmc.edu/Eppley/ToxCenter/news.htm</a>
Clemson University - Dept. of Environmental Toxicology	<a href="http://cufp.clemson.edu/entox/">http://cufp.clemson.edu/entox/</a>

Food & Env'tl. Toxicology Laboratory	<a href="http://gnv.ifas.ufl.edu/~foodweb/ir4.htm">http://gnv.ifas.ufl.edu/~foodweb/ir4.htm</a>
Univ. of Florida	<a href="http://gnv.ifas.ufl.edu/foodweb/ir4.htm">http://gnv.ifas.ufl.edu/foodweb/ir4.htm</a>
Cell & Molecular Toxicology Cornell University	<a href="http://www.cfe.cornell.edu/icet/">http://www.cfe.cornell.edu/icet/</a>
Environmental Biosciences	<a href="http://www.ehap.musc.edu/">http://www.ehap.musc.edu/</a>
Environmental State Univ. of New York, Albany	<a href="http://www.wadsworth.org/EHT/">http://www.wadsworth.org/EHT/</a>
PBR Laboratories	<a href="http://www.ispex.ca/PBR/toxicology/">http://www.ispex.ca/PBR/toxicology/</a>
Massachusetts Institute of Technology Environmental Health	<a href="http://web.mit.edu/toxms/www/">http://web.mit.edu/toxms/www/</a>
MIT Environmental Health Sciences	<a href="http://web.mit.edu/afs/athena.mit.edu/org/c/cehs/www/">http://web.mit.edu/afs/athena.mit.edu/org/c/cehs/www/</a>
Specialized Information Services	<a href="http://sis.nlm.nih.gov">http://sis.nlm.nih.gov</a>
Environmental Health Information Service Publications	<a href="http://ehpnet1.niehs.nih.gov/docs/publications.html">http://ehpnet1.niehs.nih.gov/docs/publications.html</a>
Environmental Health Information Service	<a href="http://ehis.niehs.nih.gov/">http://ehis.niehs.nih.gov/</a>
Institute for Environmental Toxicology	<a href="http://www.iet.msu.edu/">http://www.iet.msu.edu/</a>
Duke Occupational & Environmental Medicine	<a href="http://dmi-www.mc.duke.edu/oem">http://dmi-www.mc.duke.edu/oem</a>
University of Washington Department of Environmental Health	<a href="http://www.depts.washington.edu/envhlth">http://www.depts.washington.edu/envhlth</a>
Madison Environmental Toxicology Center	<a href="http://www.wisc.edu/etc">http://www.wisc.edu/etc</a>
Environmental Contaminants Encyclopedia	<a href="http://www.aqd.nps.gov/toxic">http://www.aqd.nps.gov/toxic</a>
Toxicology and Environmental Health Information Program	<a href="http://www.nlm.nih.gov/pubs/factsheets/tehipfs.html">http://www.nlm.nih.gov/pubs/factsheets/tehipfs.html</a>
Environmental Toxicology and Statistics,	<a href="http://www.muohio.edu/~zoocwis/cets">http://www.muohio.edu/~zoocwis/cets</a>
Miami University	<a href="http://www.muohio.edu/zoocwis/cets">http://www.muohio.edu/zoocwis/cets</a>
Environmental Toxicology Resources	<a href="http://www.wiz.uni-kassel.de/dain/ddb/x224.html">http://www.wiz.uni-kassel.de/dain/ddb/x224.html</a>
Davis Department of Environmental Toxicology	<a href="http://www.envtox.ucdavis.edu/ptx/Nihtrgt.htm">http://www.envtox.ucdavis.edu/ptx/Nihtrgt.htm</a>
Developmental pharmacology and environmental toxicology, University of Zürich	<a href="http://www.unizh.ch/phar/devtox/etox.htm">http://www.unizh.ch/phar/devtox/etox.htm</a>
Molecular Toxicology and Environmental Medicine	<a href="http://www.urmc.rochester.edu/GEBS/mtem">http://www.urmc.rochester.edu/GEBS/mtem</a>
Environmental Toxicology Home	<a href="http://www.alert-pest.net/etox.htm">http://www.alert-pest.net/etox.htm</a>
Environmental toxicology - today and tomorrow	<a href="http://www.geocities.com/0080/RainForest/Andes/3804">http://www.geocities.com/0080/RainForest/Andes/3804</a>
ESR - Environmental Toxicology	<a href="http://www.esr.co.nz/services/environmental-toxicology">http://www.esr.co.nz/services/environmental-toxicology</a>
Toxicology Tutor and children's environmental health	<a href="http://www.cehn.org/cehn/resourceguide/tt.html">http://www.cehn.org/cehn/resourceguide/tt.html</a>
<b>C) Poison Centers</b>	
American Association of Poison Control Centers	<a href="http://www.aapcc.org/">http://www.aapcc.org/</a>
West Virginia Poison Center	<a href="http://www.hsc.wvu.edu/charleston/wvpc/wvpchomepage">http://www.hsc.wvu.edu/charleston/wvpc/wvpchomepage</a>
Palmetto Poison Center	<a href="http://www.pharm.sc.edu/pps/pps.htm">http://www.pharm.sc.edu/pps/pps.htm</a>
Maryland Poison Center	<a href="http://www.pharmacy.umab.edu/mpc/plant.htm">http://www.pharmacy.umab.edu/mpc/plant.htm</a>
Puerto Rico Poison Center	<a href="http://home.coqui.net/toxicos/">http://home.coqui.net/toxicos/</a>
Middle Tennessee Poison Center	<a href="http://www.toxicology.mc.vanderbilt.edu/Poison">http://www.toxicology.mc.vanderbilt.edu/Poison</a>
National Capital Poison Center	<a href="http://www.poison.org/">http://www.poison.org/</a>
Southeast Texas State Poison Center	<a href="http://www.utmb.edu/setpc/">http://www.utmb.edu/setpc/</a>
Georgia Poison Center	<a href="http://www.georgiapoisoncenter.org/">http://www.georgiapoisoncenter.org/</a>
North Texas Poison Center	<a href="http://www.swmed.edu/home_pages/parkland/poison.html">http://www.swmed.edu/home_pages/parkland/poison.html</a>
Pittsburgh Poison Center	<a href="http://www.chp.edu/05mryuk/05frameset.htm">http://www.chp.edu/05mryuk/05frameset.htm</a>
West Virginia Poison Center	<a href="http://www.hsc.wvu.edu/charleston/wvpc/">http://www.hsc.wvu.edu/charleston/wvpc/</a>
Alabama Poison Center	<a href="http://www.alapoisoncenter.org/">http://www.alapoisoncenter.org/</a>
Hudson Valley Regional Poison Center	<a href="http://members.aol.com/hvrpc/">http://members.aol.com/hvrpc/</a>
Illinois Poison Center	<a href="http://www.mchc.org/ipc/">http://www.mchc.org/ipc/</a>
Central Pennsylvania Poison Center	<a href="http://www.collmed.psu.edu/ems/cppc/cppc.htm">http://www.collmed.psu.edu/ems/cppc/cppc.htm</a>
Texas Poison Center Network	<a href="http://www.tdh.state.tx.us/epidemiology/tpcnet.htm">http://www.tdh.state.tx.us/epidemiology/tpcnet.htm</a>
National Animal Poison Control Center	<a href="http://www.napcc.aspc.org/">http://www.napcc.aspc.org/</a>
MedWebPlus: Poison Control Centers	<a href="http://www.medwebplus.com/subject/Poison_Control_Centers.html">http://www.medwebplus.com/subject/Poison_Control_Centers.html</a>
Rocky Mountain Poison and Drug Center	<a href="http://www.RMPDC.org/">http://www.RMPDC.org/</a>
Brown Spiders - Arizona Poison Information Center	<a href="http://www.pharm.arizona.edu/centers/poison_center/critters/bugs/brown_spider.html">http://www.pharm.arizona.edu/centers/poison_center/critters/bugs/brown_spider.html</a>

Poison Ivy, Oak and Sumac Information Center  
 Arizona Poison & Drug Information Center  
 National Animal Poison Control Center  
 NYC Department of Health - Poison Control Center  
 Arizona Poison Page

<http://poisonivy.aesir.com/>  
[http://www.pharm.arizona.edu/centers/poison\\_center/](http://www.pharm.arizona.edu/centers/poison_center/)  
<http://workingdogs.com/doc0002.htm>  
<http://www.ci.nyc.ny.us/html/doh/html/poison/poison.html>  
<http://educ.ahsl.arizona.edu/poison.html>

#### D) Medical Toxicology

American College of Medical Toxicology  
 SIU Medical Library  
 Medical Management Guidelines for  
 Acute Chemical Exposure  
 Toxikon: Medical Toxicology On-Line  
 The American Academy of Clinical Toxicology  
 Australasian Society of Oral Medicine And  
 Toxicology - ASOMAT  
 Welcome MedPharm  
 Northup Regulatory Toxicology Services  
 Medical Toxicology Service  
 Medical Library: Medical Specialties  
 Medical Toxicology - Local Version

<http://www.acmt.net/>  
<http://www.siumed.edu/lib/currentj.html>  
<http://aepo-xdv-www.epo.cdc.gov/wonder/prevguid/p0000>  
<http://toxikon.er.uic.edu/>  
<http://www.clintox.org/>  
<http://www.asomat.com/>  
 Email : [asomat@asomat.com](mailto:asomat@asomat.com)  
<http://www.medfarm.unito.it/Welcome.html>  
<http://devicelink.com/consult/n/n007.html>  
<http://www.mc.vanderbilt.edu/clintox/p3a1.html>  
<http://www.nmmc.com/nmhc/library/htm/emergmed.htm>  
<http://www.ovcnet.uoguelph.ca/BioMed/Courses/Public/94-400>

#### E) Forensic Toxicology

American Medical Forensics Specialists, Inc.  
 American Institute of Toxicology  
 Anil Aggrawal's Articles on Forensic Toxicology  
 Useful information on poisons and their various  
 medical-legal aspect).  
 Department of Forensic Medicine & Science  
 University of Glasgow  
 American Board of Forensic Toxicology Home Page  
 International Association of Forensic Toxicologists  
 Centre of Behavioral and Forensic Toxicology  
 Forensic Toxicology Center  
 Forensic Toxicology Laboratories

<http://www.amfs.com/>  
<http://www.aitlabs.com/>  
[http://members.tripod.com/~Prof\\_Anil\\_Aggrawal/](http://members.tripod.com/~Prof_Anil_Aggrawal/)  
  
<http://www.gla.ac.uk/Acad/ForMed/>  
<http://users.aol.com/lctox/lfshome.htm>  
<http://www.abft.org/>  
<http://www.cbft.unipd.it/tiaft>  
<http://www.cbft.unipd.it/>  
<http://www.toxicology.lsumc.edu/Forensic.htm>  
<http://userzweb.light-speed.net/~abarbour/labs.htm>

#### F) Drug and Food Toxicology

U.S. Food and Drug Administration (FDA)  
  
 Korea Food and Drug Administration  
 United States Food and Drug Administration  
 Center for Food Safety and Applied Nutrition  
 FDA / National Center for Toxicological Research  
 Food and Drug Administration Home Page,  
 Listing of Newly Approved Drug Therapies (2000)  
 FDA Advisors & Regulatory Consultants food additives  
 FOOD Virtual Reference Desk  
 Therapeutic Drug Monitoring Laboratory Home Page  
 FDA Consultants and Regulatory Consultants  
 Internet Resources: Food & Nutrition  
  
 Veterinary Toxicology - toxins, animal poisoning  
  
 Tips for Browsing Drug Information Books

<http://cwis.usc.edu/hsc/nml/e-resources/info/usfda.html>  
<http://www.library.ucsf.edu/biosites/data/203.html>  
[http://www.kfda.go.kr/english/left\\_fr.html](http://www.kfda.go.kr/english/left_fr.html)  
<http://www.virtualref.com/abs/352.htm>  
<http://vm.cfsan.fda.gov/list.html>  
<http://www.fda.gov/nctr>  
<http://www.fda.gov/hometext.html>  
<http://www.centerwatch.com/drugs/DRUGLIST.HTM>  
[http://phoenixrising.l4.net/pharmaceuticals\\_food.html](http://phoenixrising.l4.net/pharmaceuticals_food.html)  
<http://www.virtualref.com/subj/49.htm>  
<http://www.toxicology.lsumc.edu/tmindex.htm>  
[http://phoenixrising.l4.net/Fda\\_consultants](http://phoenixrising.l4.net/Fda_consultants)  
<http://www.familyhaven.com/InternetReferenceDesk/food.html>  
<http://vetmedicine.about.com/health/vetmedicine/msubtox.htm>  
<http://library.kumc.edu/omrs/diseases/drugbks.html>

**IV. Miscellaneous**

Virtual Pharmacy - Martindale's  
 Toxicology Fellowship description  
 ACS Directory of Graduate Research 1999  
 The American Board of Veterinary Toxicology  
 Pharmacology and Toxicology Links  
 Toxikon Medical Toxicology Fellowship  
 Developmental Toxicology Working Group

<http://www-sci.lib.uci.edu/~martindale/Pharmacy.html>  
[http://www.swmed.edu/home\\_pages/toxicology/toxdescrip](http://www.swmed.edu/home_pages/toxicology/toxdescrip)  
<http://pubs.acs.org/dgrweb/index.html>  
<http://www.abvt.org/links.htm>  
<http://www-farmaco.unimaas.nl/PharmToxLinks.htm>  
<http://toxikon.er.uic.edu/fellows.htm>  
<http://iccvam.niehs.nih.gov/dtwg.htm>

**Conclusion**

The growth in the biopharmaceuticals field has also led to a rise in the need for qualified toxicologist. In addition, to traditional expertise in environmental and chemical toxicologist, employers are looking for scientists with experience in reproductive toxicology, pharmacokinetics, and drug metabolism in order to penetrate the biopharmaceutical market. For working toxicologist 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<sup>7</sup>

**Acknowledgement**

The authors are grateful to the Director ITRC for his constant encouragement and keen interest. The authors also like to thank Mr. Mahendra Singh for helping in down loading of information. The fellowship provided by Department of Biotechnology,

Govt. of India, New Delhi to SKP, AN, IM is duly acknowledged.

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- 2 Baxevannis A D & Ouellette B F F. Internet basic for biologist. In : Dracopoli N C Haines J L, Korf B R, Moir D T, Morton C C, Seidman C E, Seidman J G, Smith D R, eds. *Current Protocols in Human Genetics.* ( John Wiley & Sons, Inc., New York) 1998, 11.1.1.
- 3 Marra C A, Carleton B C, Lynd L D, Marra F, McDougal A R, Chow D & McKerrow R. Drug and poison information resources on the Internet, Part 2: Identification and evaluation. *Pharmacotherapy*, 16 (1996) 806.
- 4 Ceelen W P & Waele J D. Surgeons and the Internet. *Eur J Sur*, 165 (1999) 83.
- 5 Gardner R & Spangler F. Overcoming the pitfalls of web search engines - Toxicology abstract. *Toxicology*, 43(2000) 209.
- 6 Gardner R. A. Toxicology abstract- an electronic journal on the Internet. *Toxicology*, 99 (1995) 219.
- 7 Francisco M. Toxicology resources on the Internet. *Nature Biotech*, 16 (1998) 302.