National Library of Medicine: Update

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ICCVAM Public Forum

NLM overview:

Collects, organizes, preserves, & disseminates information

Databases & other resources available to global users for free

Some resources are also available as downloads, smartphone & tablet apps, & as Web pages optimized for mobile devices

Challenges & opportunities Include keeping up with the current & emerging:

a) Substances & materials,
b) Methods & approaches,
c) Databases, &
d) Ways to present data (visualization)

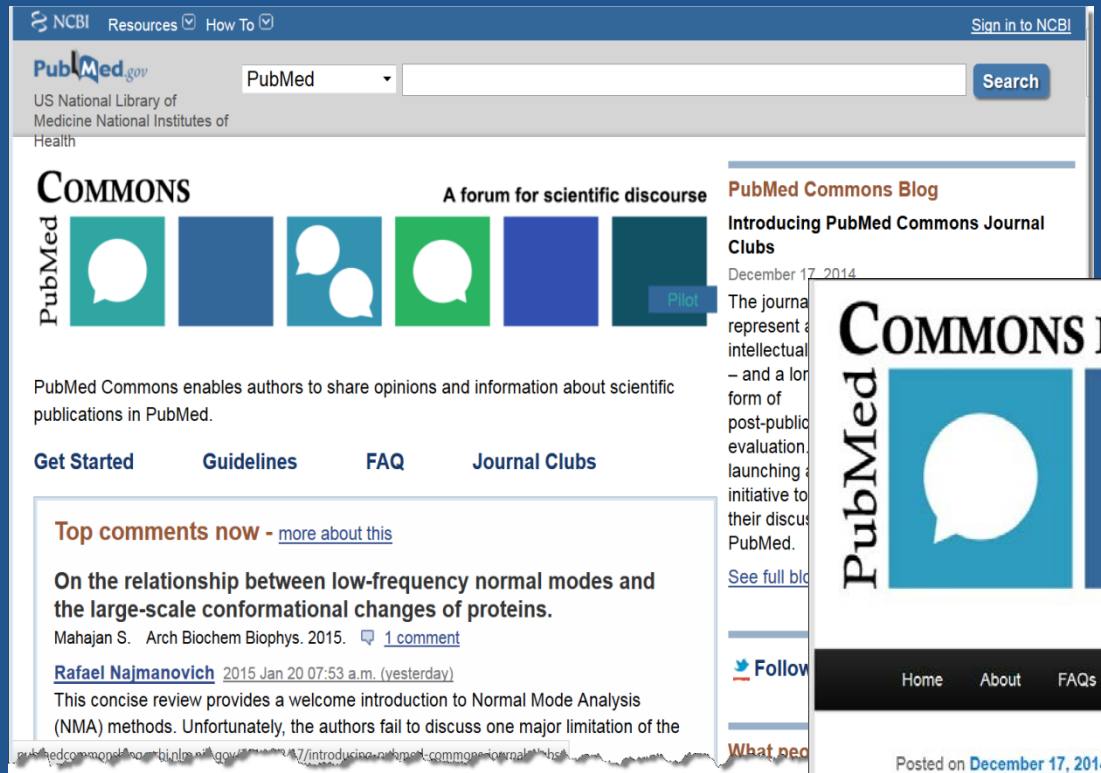
PubMed

http://pubmed.gov

- PubMed includes over 24 million citations from MEDLINE, life science journals, and online books.
- Citations may include links to full-text articles from PubMed Central or publisher web sites.
- Not every science journal is in PubMed. Let publisher/us know.
- PubReader
- PubMed Commons (next slide)

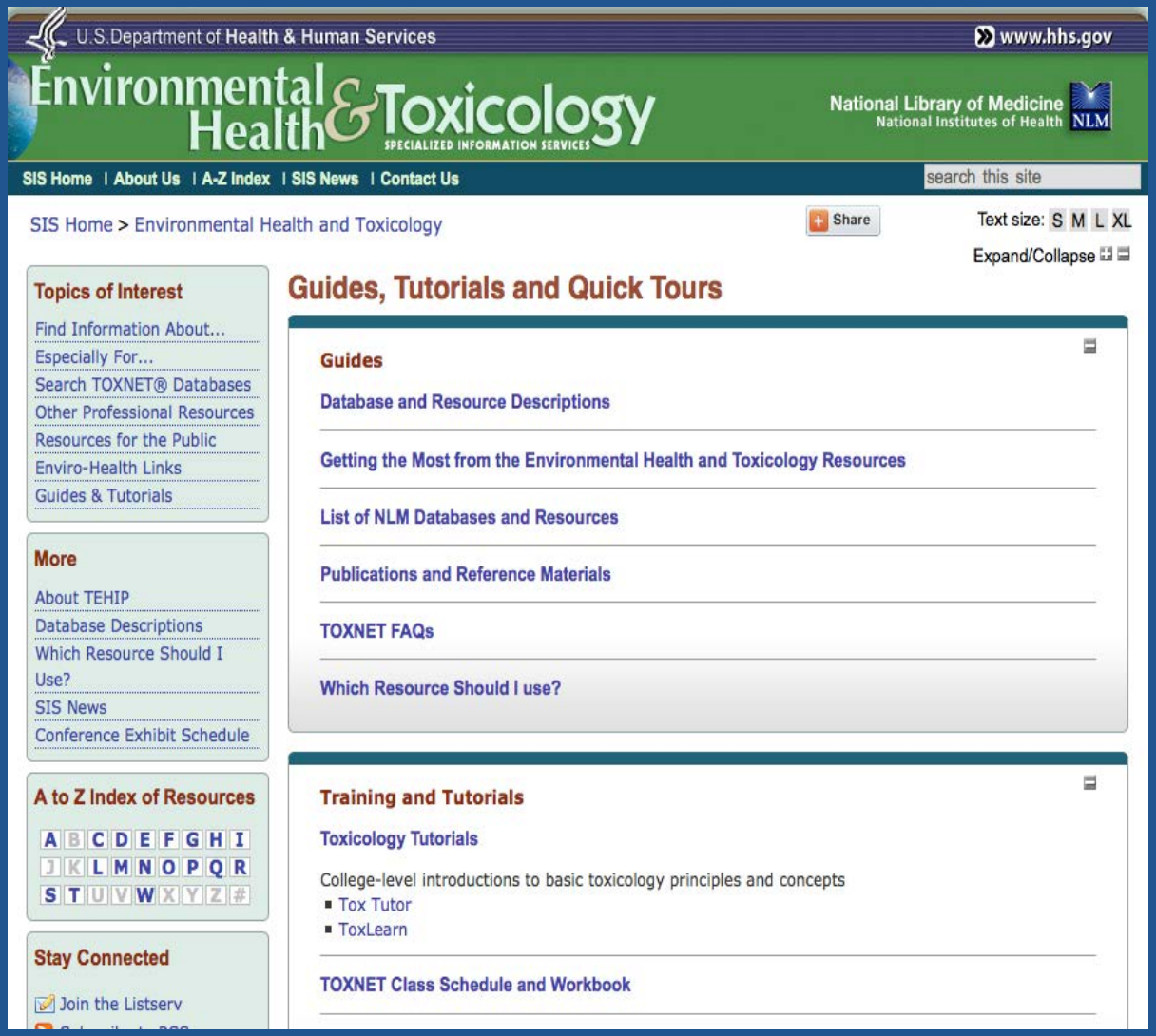
My NCBI – store searches; automatic updates

If you use PubMed, do you know about these new features?



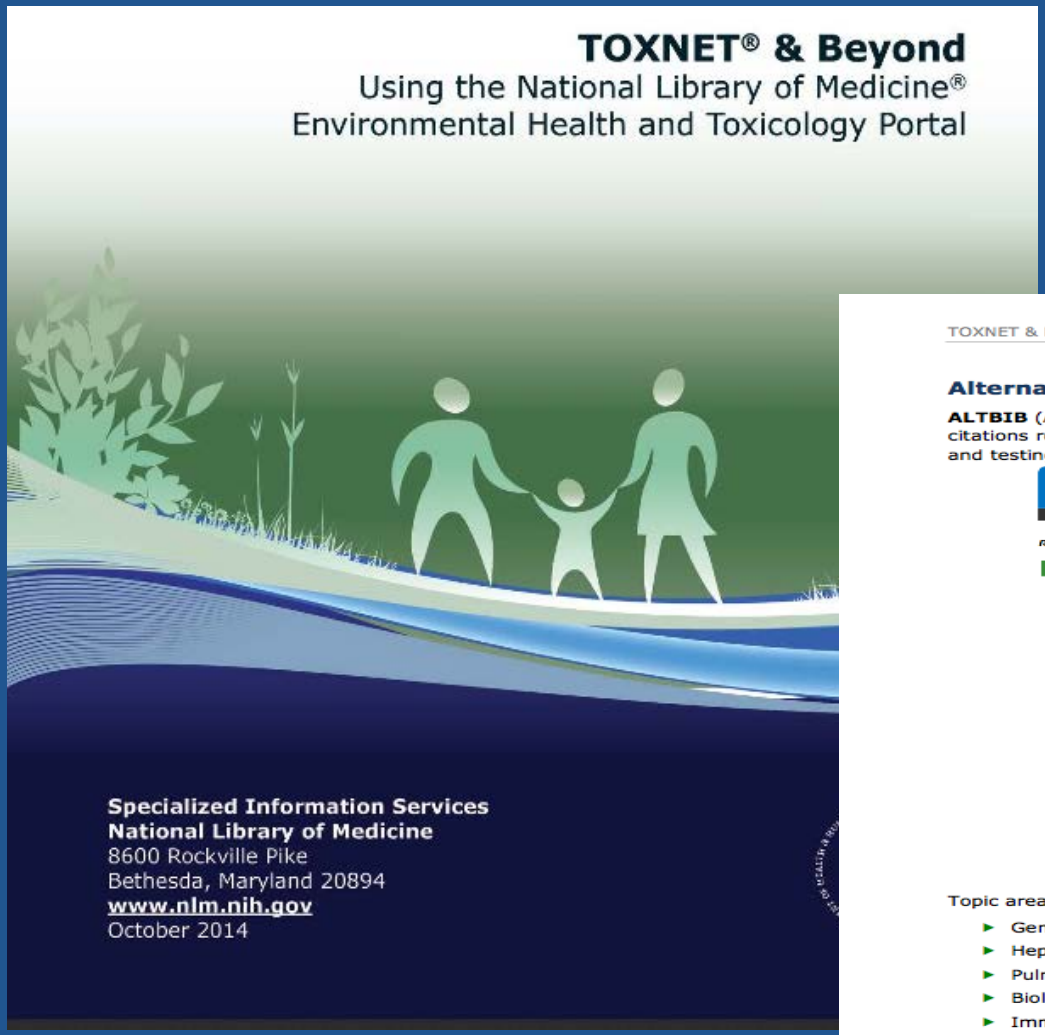
www.ncbi.nlm.nih.gov/pubmedcommons/

http://pubmedcommonsblog.ncbi.nlm.nih.gov/2014/12/17/introducing-pubmed-commons-journal-clubs/

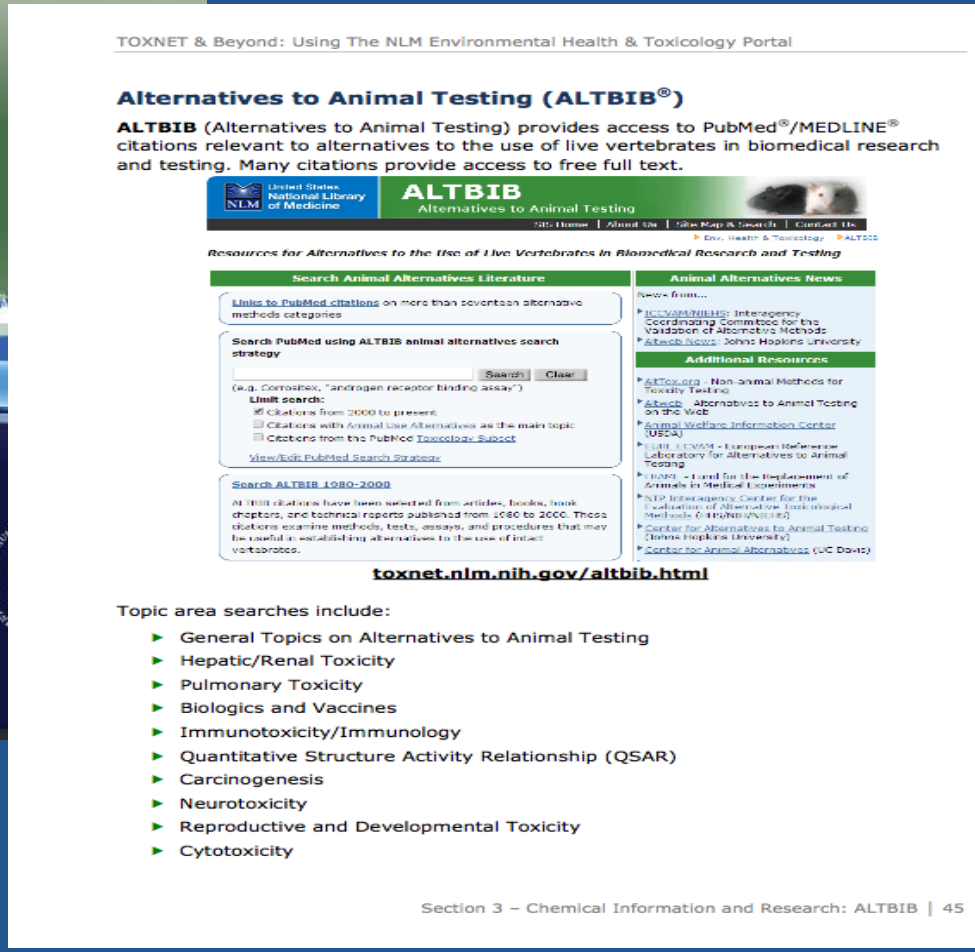


http://sis.nlm.nih.gov/enviro/guides.html

http://sis.nlm.nih.gov/enviro/manuals.htm



http://sis.nlm.nih.gov/enviro/toxnet_manual.pdf



TOXNET & Beyond: Using The NLM Environmental Health & Toxicology Portal

Alternatives to Animal Testing (ALTBIB®)

ALTBIB (Alternatives to Animal Testing) provides access to PubMed®/MEDLINE® citations relevant to alternatives to the use of live vertebrates in biomedical research and testing. Many citations provide access to free full text.

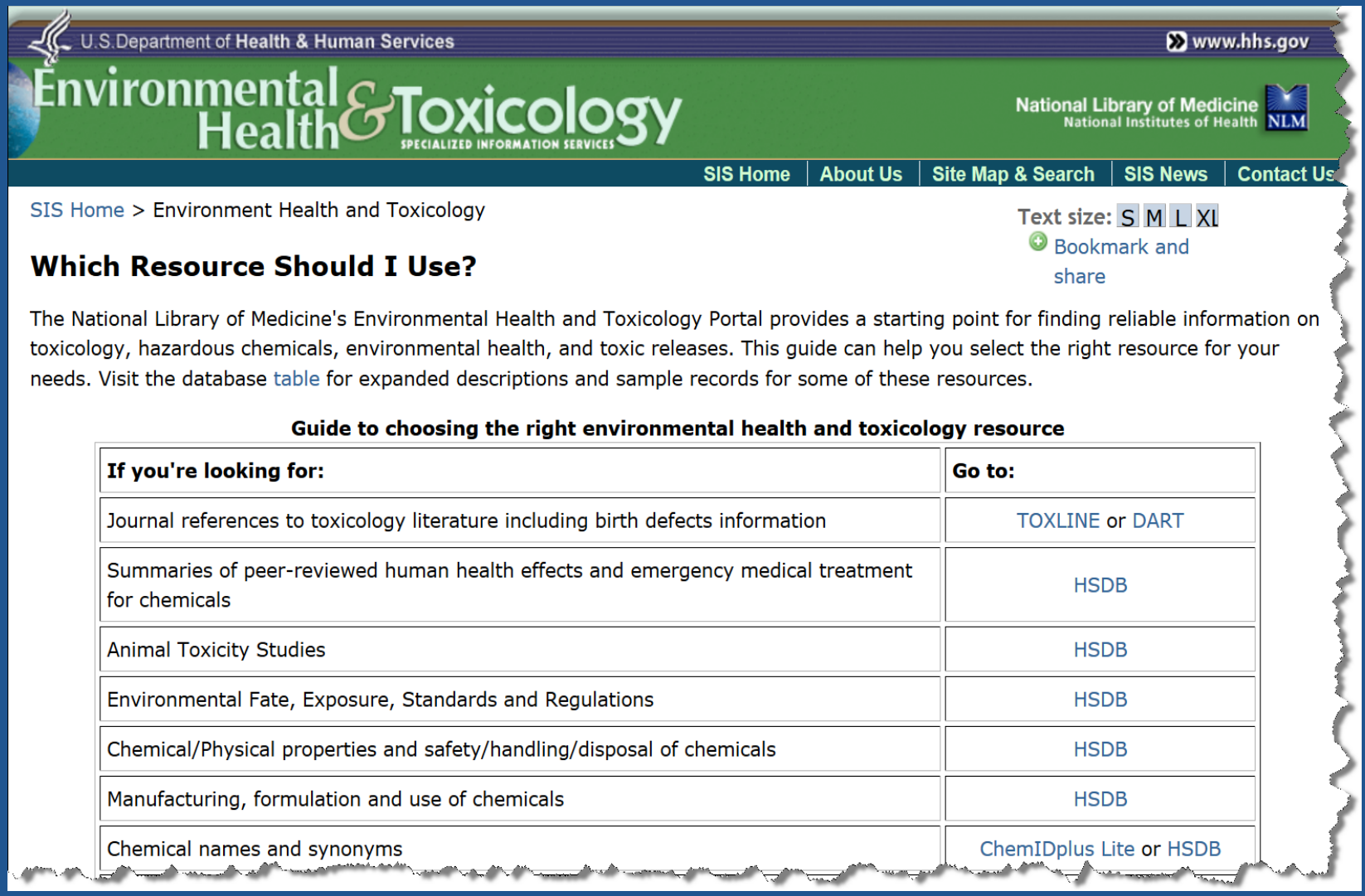
toxnet.nlm.nih.gov/altbib.html

Topic area searches include:

- General Topics on Alternatives to Animal Testing
- Hepatic/Renal Toxicity
- Pulmonary Toxicity
- Biologics and Vaccines
- Immunotoxicity/Immunology
- Quantitative Structure Activity Relationship (QSAR)
- Carcinogenesis
- Neurotoxicity
- Reproductive and Developmental Toxicity
- Cytotoxicity

Section 3 – Chemical Information and Research: ALTBIB | 45

http://sis.nlm.nih.gov/enviro/decisionguide.html



U.S.Department of Health & Human Services www.hhs.gov

Environmental Health & Toxicology SPECIALIZED INFORMATION SERVICES

National Library of Medicine National Institutes of Health NLM

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SIS Home > Environment Health and Toxicology

Text size: S M L XL

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Which Resource Should I Use?

The National Library of Medicine's Environmental Health and Toxicology Portal provides a starting point for finding reliable information on toxicology, hazardous chemicals, environmental health, and toxic releases. This guide can help you select the right resource for your needs. Visit the database table for expanded descriptions and sample records for some of these resources.

Guide to choosing the right environmental health and toxicology resource

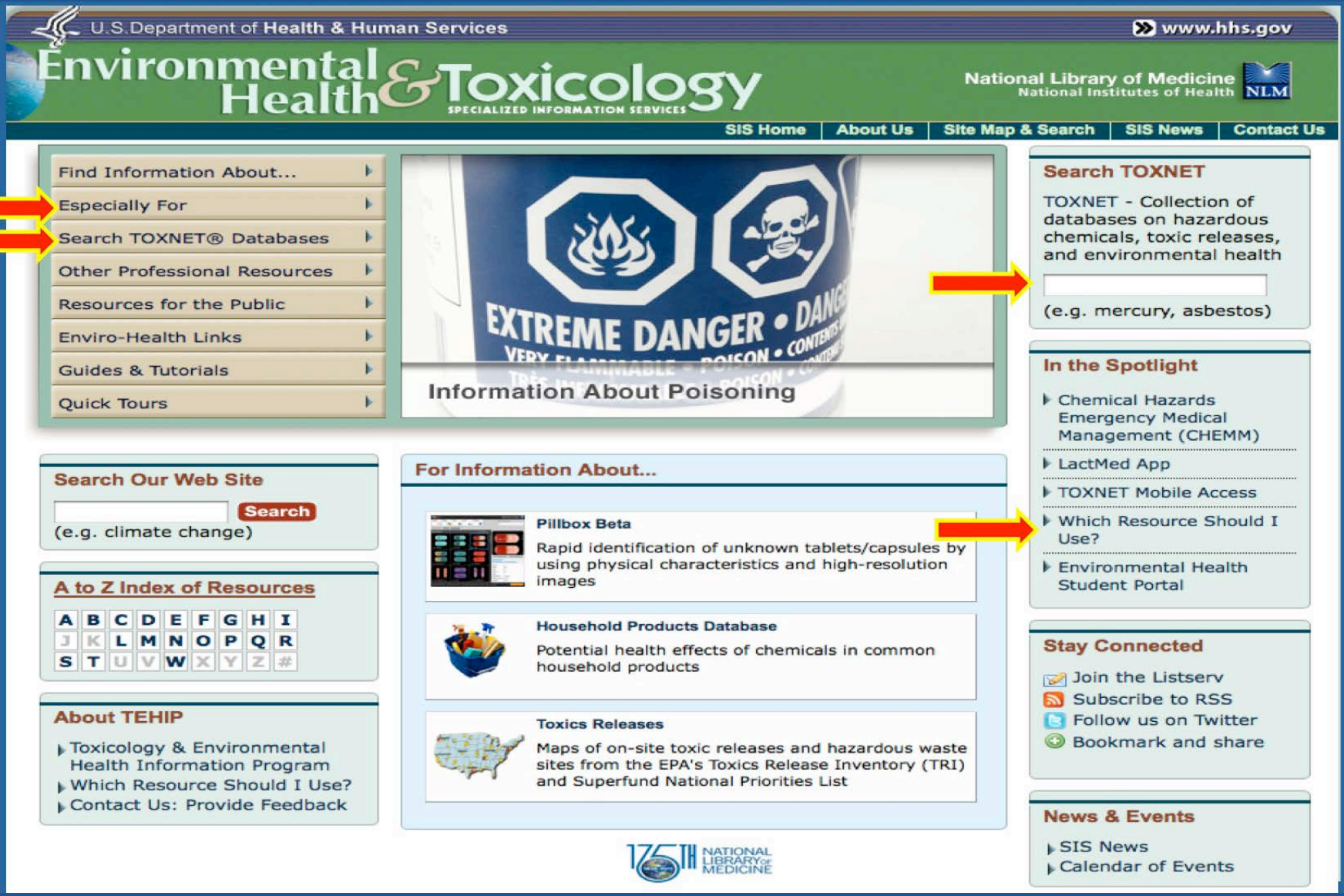
If you're looking for:	Go to:
Journal references to toxicology literature including birth defects information	TOXLINE or DART
Summaries of peer-reviewed human health effects and emergency medical treatment for chemicals	HSDB
Animal Toxicity Studies	HSDB
Environmental Fate, Exposure, Standards and Regulations	HSDB
Chemical/Physical properties and safety/handling/disposal of chemicals	HSDB
Manufacturing, formulation and use of chemicals	HSDB
Chemical names and synonyms	ChemIDplus Lite or HSDB

Especially for Toxicologists Page

- Guide to NLM resources on environmental health, toxicology, and chemical information for toxicologists.
- http://sis.nlm.nih.gov/enviro/especiallytoxicologists.html

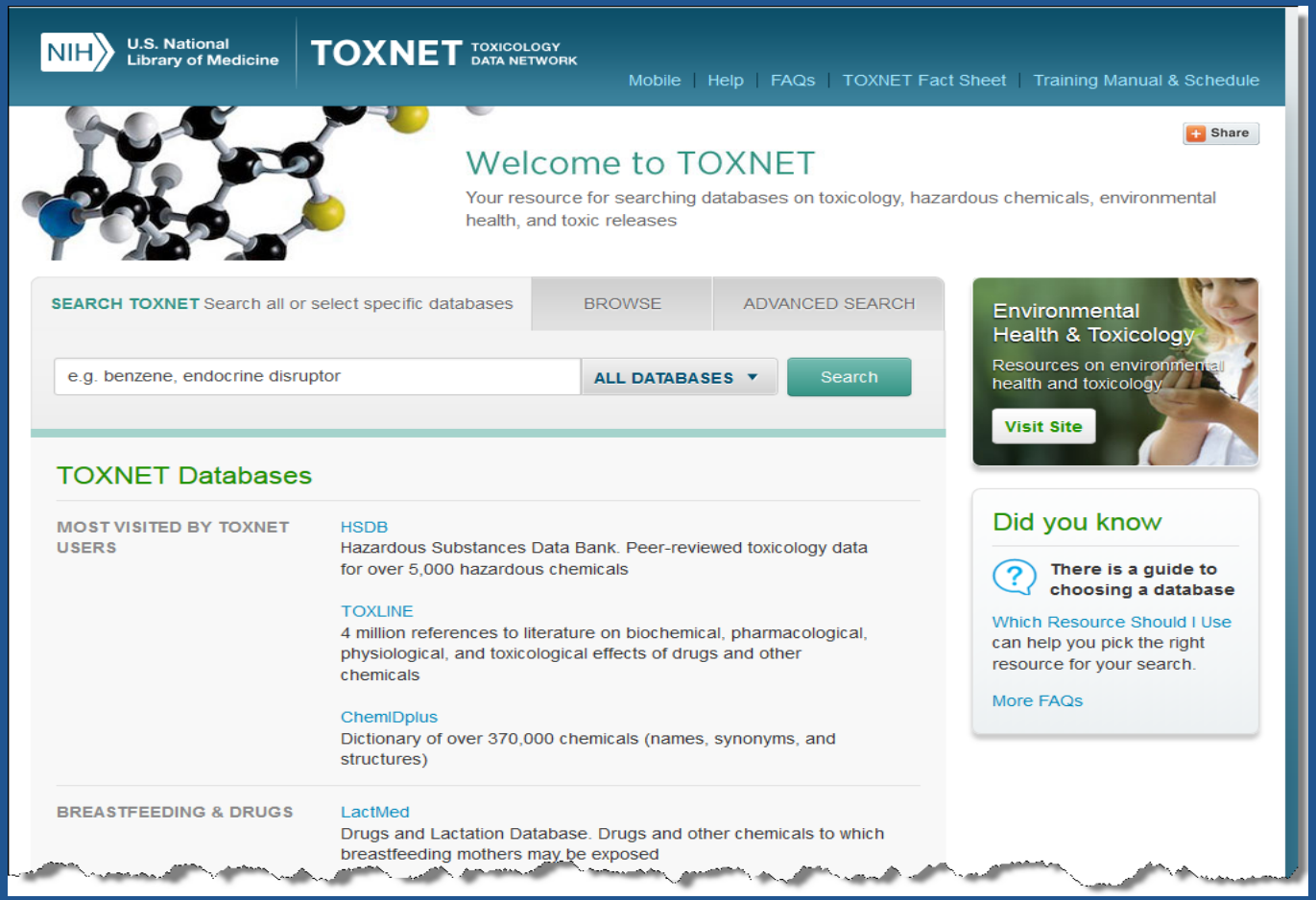
http://www.nlm.nih.gov/

Suggested starting points to http://sis.nlm.nih.gov/enviro.html



TOXNET ® (TOXicology Data NETwork) is:

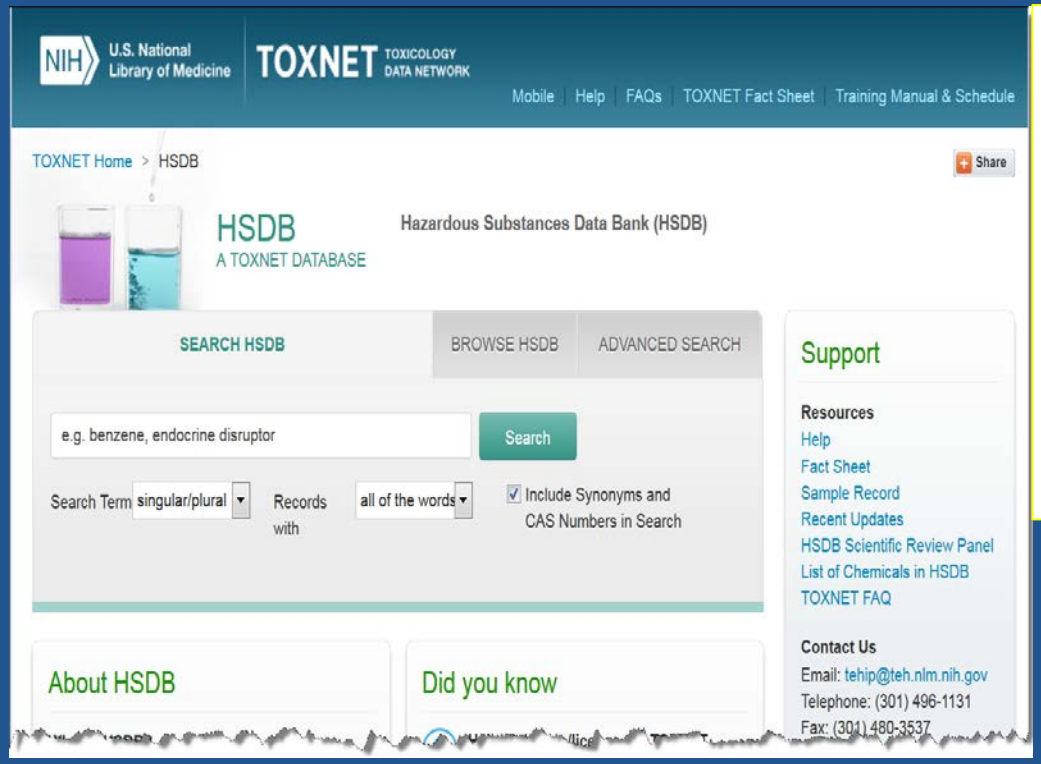
- A cluster of databases covering toxicology, hazardous chemicals, environmental health and related areas.
- Accessible free of charge at http://toxnet.nlm.nih.gov
- Linked to PubMed®



Toxicology Data Network (TOXNET): An Example

Hazardous Substances Data Bank

Comprehensive toxicological information on almost 6,000 substances (human and animal toxicity, safety and handling, environmental fate, and more). Scientifically peer-reviewed.



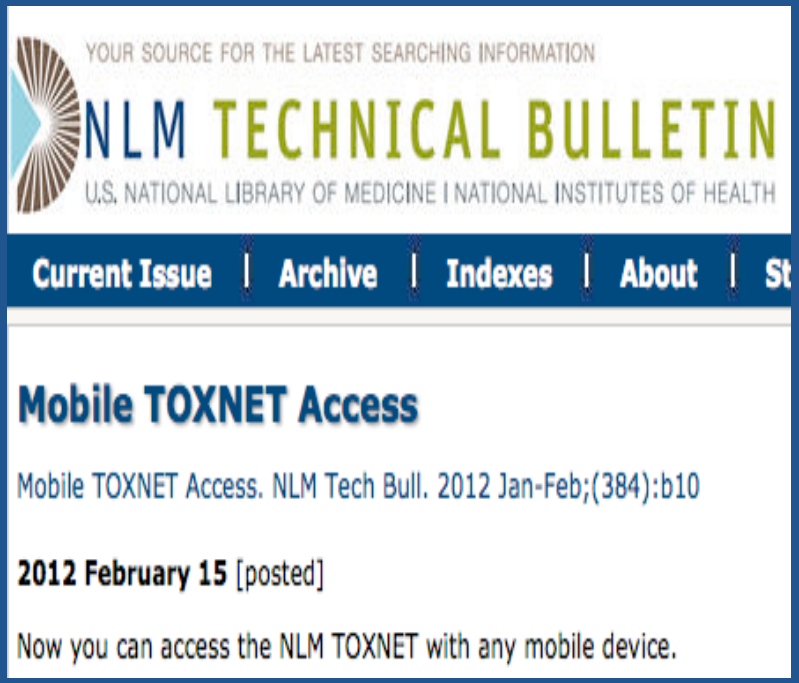
http://www.ncbi.nlm.nih.gov/pubmed/25223694

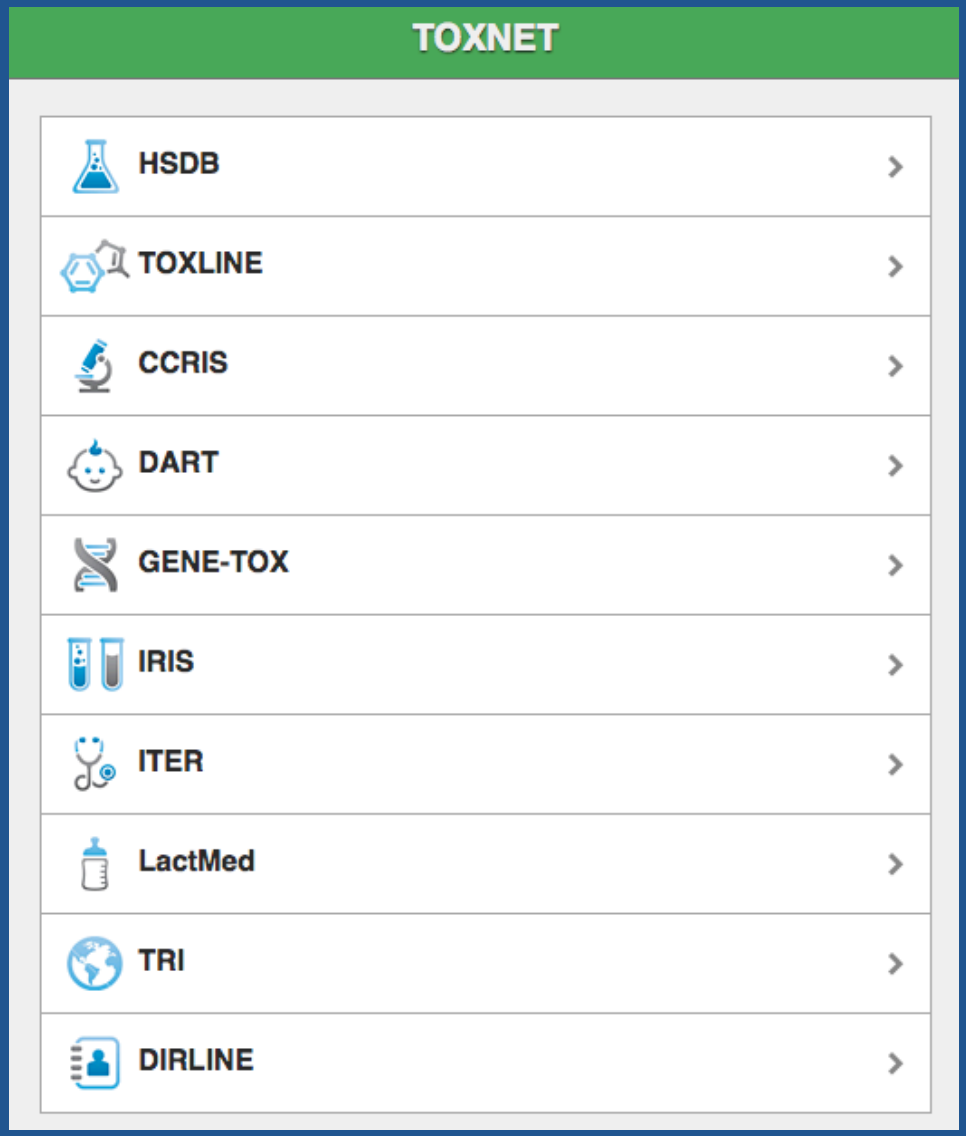
- *Alternative and In Vitro Tests* – studies of interest that are not covered under genotoxicity or endocrine modulation. For example, studies conducted using a human cell line.
- *Genotoxicity* – studies that use in vitro and in vivo methods involving human tissues/cells to determine a genotoxic response (includes positive and negative studies).

Toxicology "Enviro-Health Links" Page

http://sis.nlm.nih.gov/pathway.html

Mobile-optimized Web interface

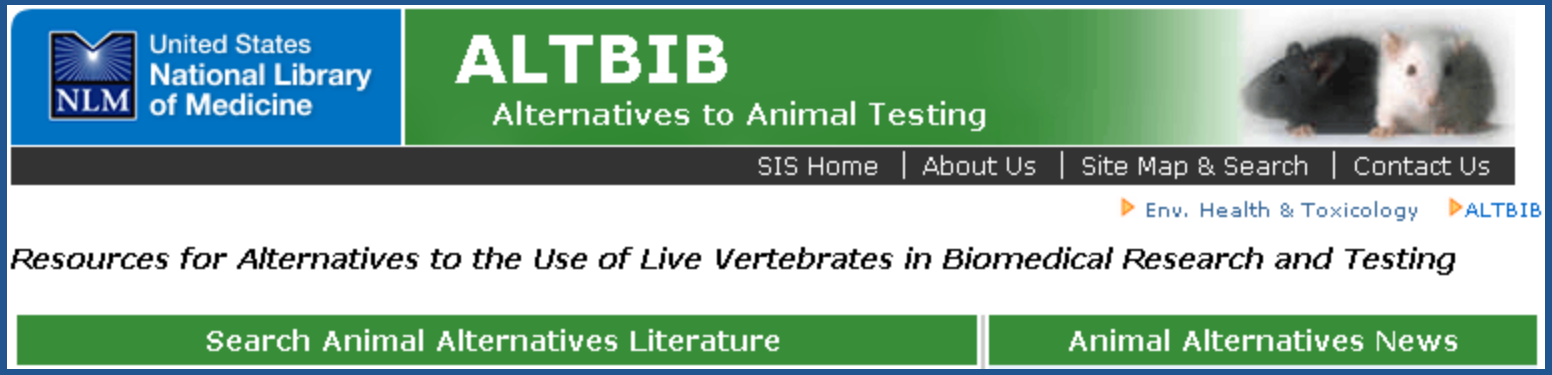


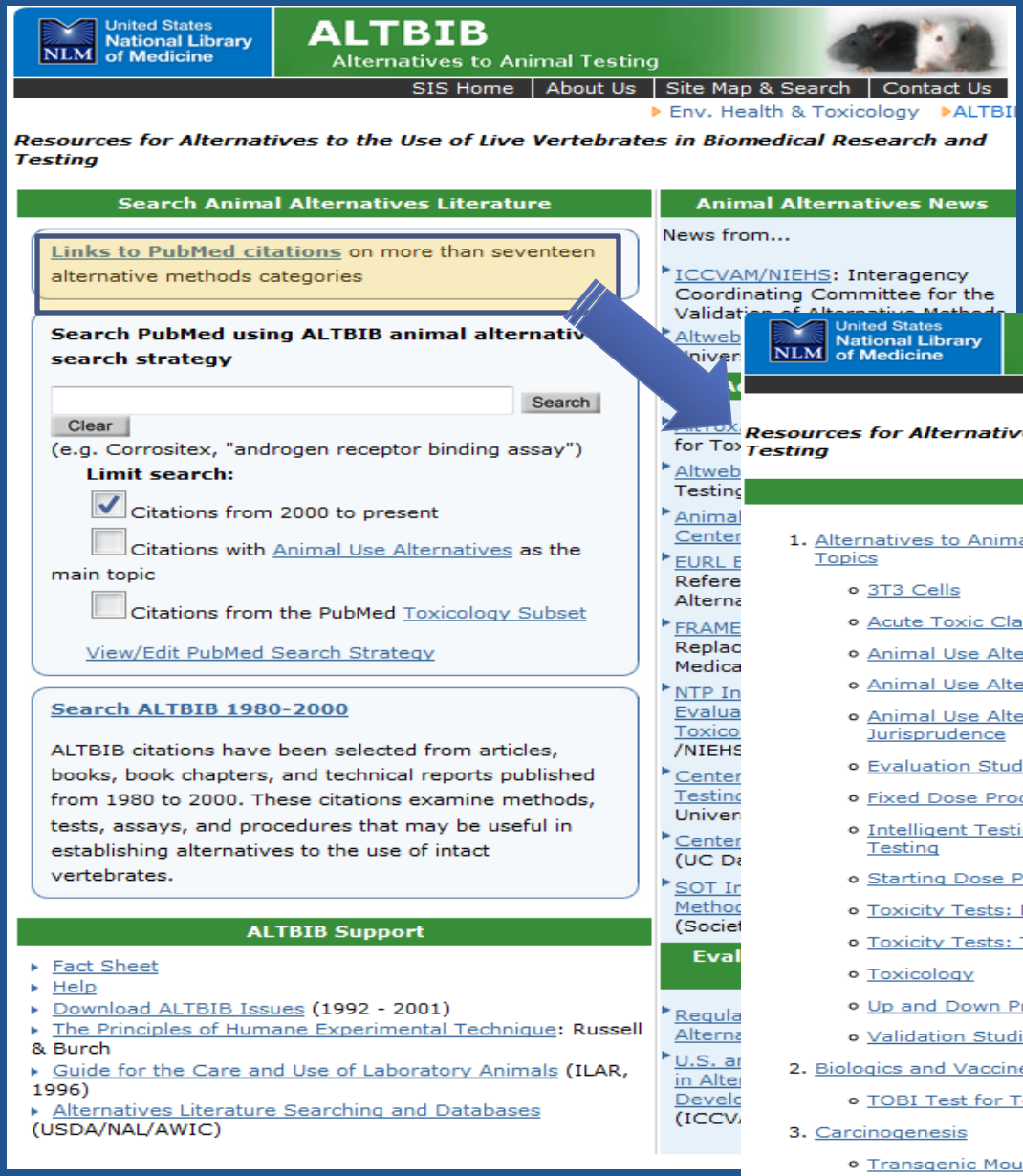


http://toxnet.nlm.nih.gov/pda/

In 2012: An updated enhanced version of the ALTBIB® Web portal

- Provides better and broader access to information on *in silico*, *in vitro*, and improved (refined) animal testing methods
- Also, information on the testing strategies incorporating these methods and other approaches.
- http://toxnet.nlm.nih.gov/altbib.html

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Env. Health & Toxicology | ALTBI
Resources for Alternatives to the Use of Live Vertebrates in Biomedical Research and Testing
Search Animal Alternatives Literature
Links to PubMed citations on more than seventeen alternative methods categories
Search PubMed using ALTBIB animal alternativ search strategy
Search
Clear
(e.g. Corrositex, "androgen receptor binding assay")
Limit search:
Citations from 2000 to present
Citations with Animal Use Alternatives as the main topic
Citations from the PubMed Toxicology Subset
View/Edit PubMed Search Strategy
Search ALTBIB 1980-2000
ALTBIB citations have been selected from articles, books, book chapters, and technical reports published from 1980 to 2000. These citations examine methods, tests, assays, and procedures that may be useful in establishing alternatives to the use of intact vertebrates.
ALTBIB Support
Fact Sheet
Help
Download ALTBIB Issues (1992 - 2001)
The Principles of Humane Experimental Technique: Russell & Burch
Guide for the Care and Use of Laboratory Animals (ILAR, 1996)
Alternatives Literature Searching and Databases (USDA/NAL/AWIC)
Animal Alternatives News
News from...
ICCVAM/NIEHS: Interagency Coordinating Committee for the Validation
Altweb
for To
Altweb
Testing
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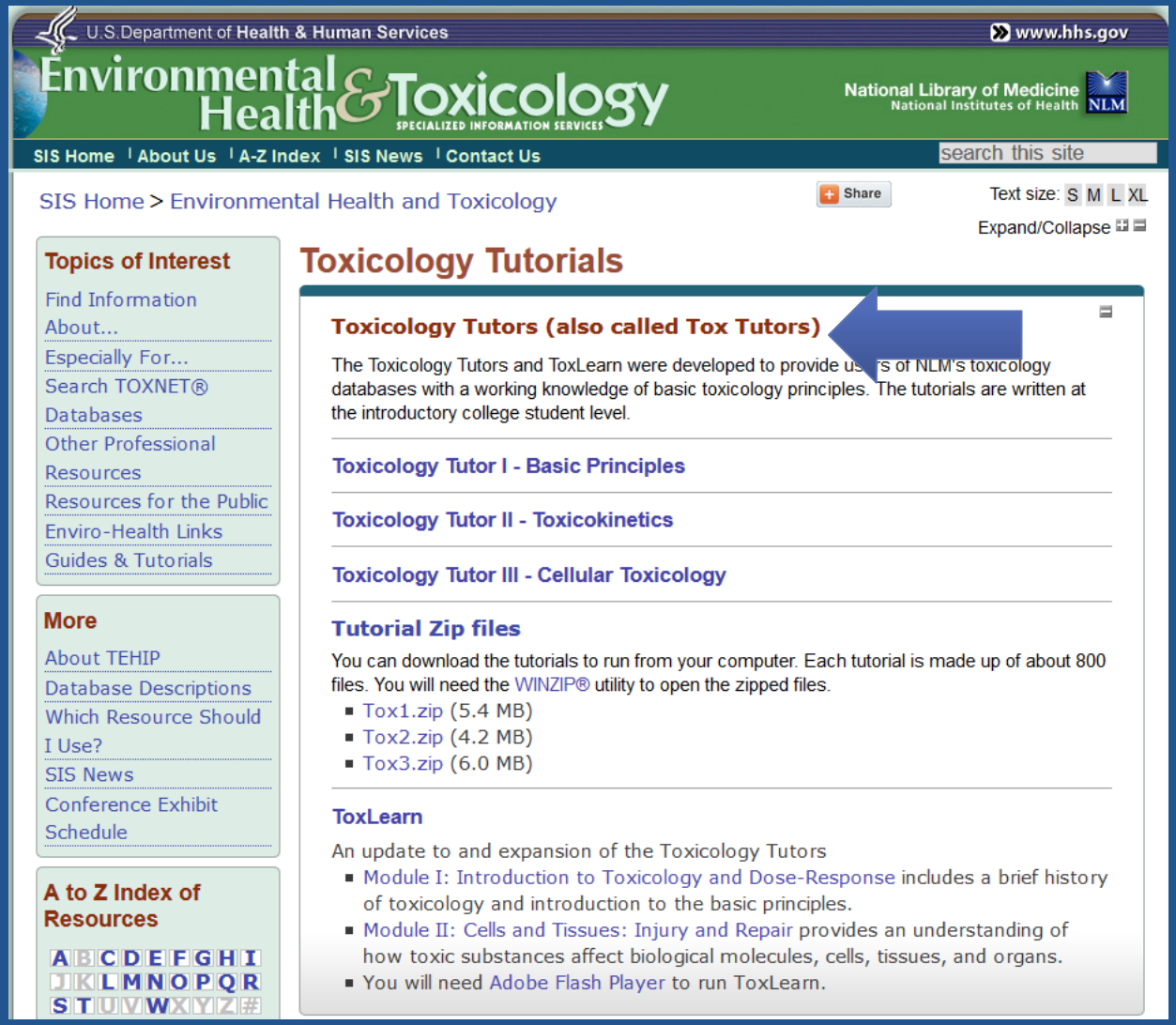
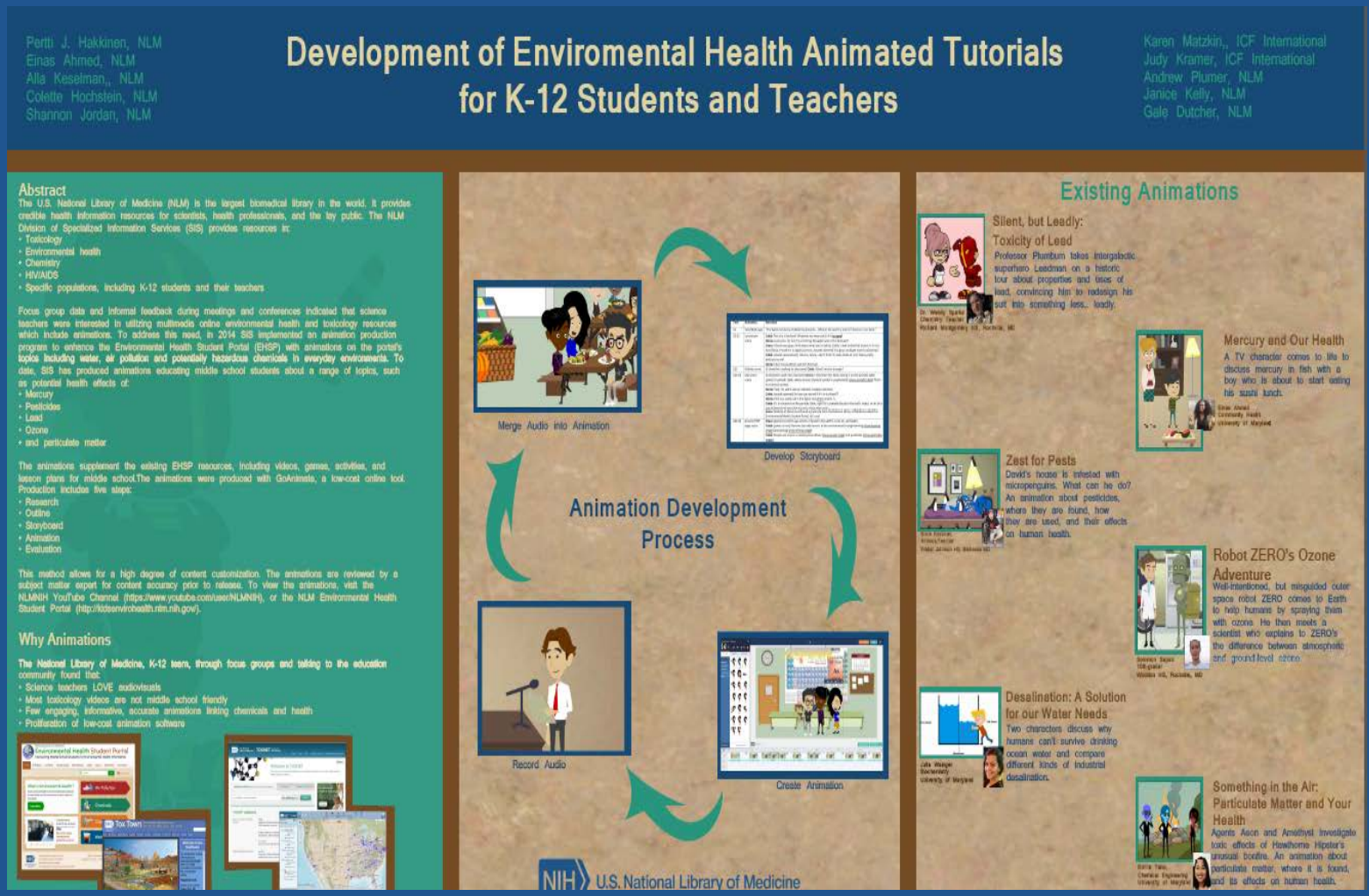
Resources for Alternatives to the Use of Live Vertebrates in Biomedical Research and Testing
Search Selected Topics
1. Alternatives to Animal Testing: General Topics
3T3 Cells
Acute Toxic Class
Animal Use Alternatives: Ethics
Animal Use Alternatives: History
Animal Use Alternatives: Jurisprudence
Evaluation Studies
Fixed Dose Procedure
Intelligent Testing and/or Integrated Testing
Starting Dose Procedure
Toxicity Tests: Methods
Toxicity Tests: Trends
Toxicology
Up and Down Procedure
Validation Studies
2. Biologics and Vaccines
TOBI Test for Tetanus
3. Carcinogenesis
Transgenic Mouse Model
10. Ocular Toxicity
Bovine Corneal Opacity and Permeability (BCOP)
Chicken Embryo Retina
Chicken Enucleated Eye Test (CEET)
Cytosensor
EpiOcular
Hen's Egg Test-Chorioallantoic Membrane (HET-CAM)
Isolated Rabbit Eye (IRE)
Low Volume (Draize) Eye Test (LVET)
PREDISAFE
Recombinant Human Tissue Models
11. Pharmacokinetic/Mechanistic Studies
12. Pyrogenicity
Human Whole Blood Interleukin Pyrogen Test
13. Pulmonary Toxicity
14. Quantitative Structure Activity Relationship (QSAR)
Artificial Intelligence and Toxicity
Computational Toxicology

Teaching Tools: ToxTutor and ToxLearn

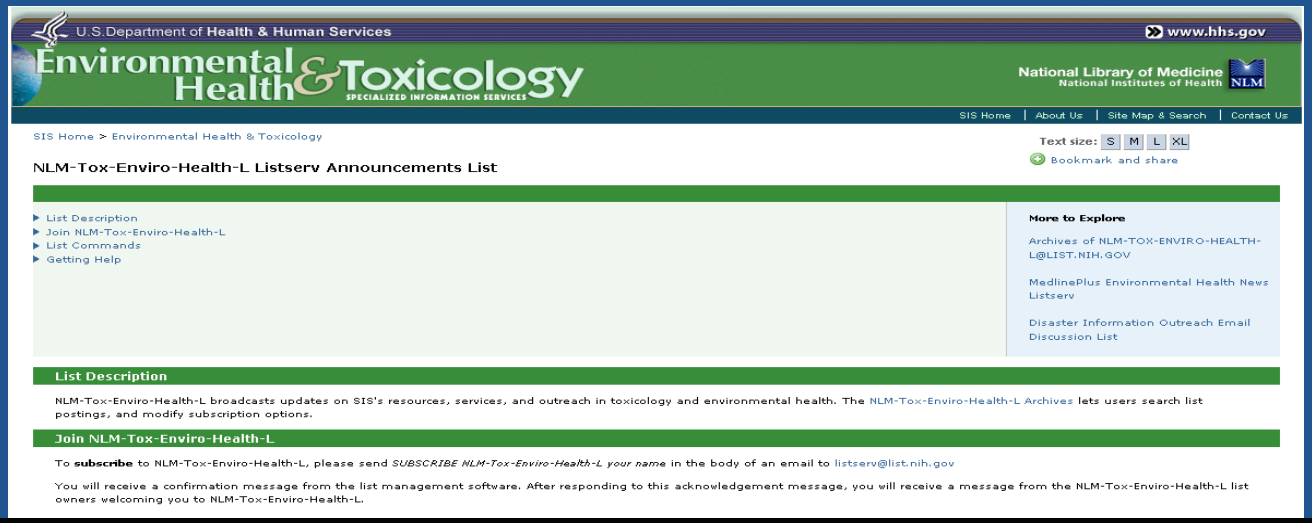


Content is being updated

New Approach Presented at the 2015 Annual Meeting of the Society of Toxicology



How to stay informed



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