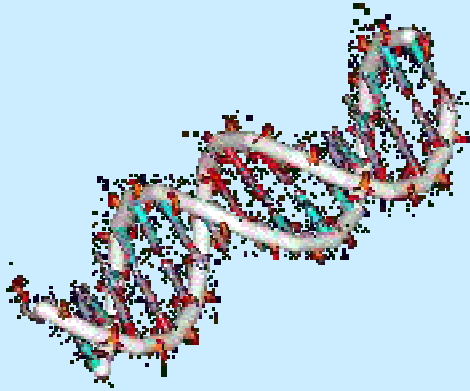


Making Sense of Molecular Medicine



New York Librarians' Involvement with Bioinformatics

NAHSL / NY-NJ Chapter Joint
2001 Annual Meeting

Contributors

- Kristine M. Alpi, M.L.S., AHIP
 - Information Services Librarian, Samuel J. Wood Library, Weill Medical College of Cornell University
- Gail Y. Hendler, M.L.S., AHIP
 - Coordinator of Outreach Services, New York University Medical School
- Janet A. Ohles, M.L.S.
 - *Head, Information Services and Assistant Professor, Medical Sciences Library, New York Medical College
 - * now Associate Director of Library Services, Western Connecticut State University, Danbury, CT

What's happening in Molecular Medicine?

- Mapping of the human genome
- Growth of pharmacogenomics and personalized medicine and gene therapy
- Explosion of free, web-based bioinformatics and clinical databases and resources from the National Center for Biotechnology Information and others
- The future is now...

Librarian Roles in Molecular Medicine

- Teach molecular biology and clinical genetics information workshops to students, researchers, clinicians, and librarians
- Create web-based guides to molecular biology and clinical genetics resources for a variety of audiences, including consumers!
- Provide searching and reference support and partner with clinicians and researchers

Molecular Biology Workshops @ Weill Cornell Medical Library

Two session series of 1.5 hour hands-on workshops offered every semester. Audience from basic science & clinical areas.

- **Molecular Biology
Resources & PubMed**

- Originally Nucleotide, Protein, Structure and Genome links integrated with PubMed
- Now also OMIM, PopSet & ProbeSet

- **Advanced Molecular
Biology Searching Tools**

- BLAST, VecScreen and VAST (Sequence and Structure Similarity) searching
- Public domain clusters, maps, libraries & tools

Bioinformatics Workshops @ Ehrman Medical Library, NYU

Clinical Genetics on the Web

- One hour, hands-on “Lunch and Learn”
- Geared to medical students, clinicians, and allied health professionals
- Developed as “Train the Trainer” sessions to develop teaching skills and subject knowledge.
- Future plans include supplementary online resource guide

Molecular Biology

- Curriculum integrated
- Two sessions
- Protein sequence & nucleotide sequence search instruction with emphasis on NCBI & its relationship to PubMed
- Web-based resources for the molecular biologist

Genetics Training @ New York Medical College

- New NCBI Resources
 - One-hour session featuring Locus Link, the Map Viewer, and BLAST
 - Geared for the basic scientist and basic science students
- Genetics for Oncology/Hematology
 - One-hour session featuring OMIM, Locus Link, Cancer Genome Anatomy Project & GeneCards
 - Geared for the clinician

Web-Based Guides for Researchers

Molecular Biology

- Molecular Biology & Bioinformatics Resources - WMC Library
 - library.med.cornell.edu/Library/HTML/molbiol.html
 - Used to support molecular biology workshops
 - Designed for faculty and student users
 - Refers to in-house (non-library) resources and contacts in addition to library resources and free resources
 - Lists and links to structure visualization software downloads

Clinical Websites @ NYMC

- Genetics for Primary Care
 - library.nymc.edu/informatics/genetics.htm
 - Designed for the clinician
 - Collaborative effort developed by librarian, physician and genetic counselor
 - Established as support for seed grant from Health Resources and Services Administration (HRSA)
 - Created as resource for clinicians to use following all-day HRSA seminar on genetics

Web-Based Guides for Consumers & Patients

- Ask NOAH About: Cancer Genetics
 - www.noah-health.org/english/illness/cancer/cancgen.html
- Ask NOAH About: Genetic Disorders
 - www.noah-health.org/english/illness/genetic_diseases/geneticdis.html
- Pregúntale a NOAH sobre trastornos genéticos
 - www.noah-health.org/spanish/illness/genetic_diseases/spgeneticdis.html
- Created to educate consumers about clinical genetics in order to facilitate the patient decision-making process

Reference and Research Support

- Clinical genetics searches and research support:
 - What is the differential diagnosis of familial adenomatous polyposis (FAP)?
 - Where can I find a list of genetic counselors?
- Molecular biology reference questions:
 - Is there free software to help me design a probe?
 - How do I search for proteins by molecular weight?

Potential Institutional Partners

(Department names will vary)

- Basic Science
 - Biochemistry
 - Cell Biology
 - Computational Genomics
 - Pharmacology
- Clinical Departments
 - Human Genetics
 - Immunology
 - Oncology, Hematology
 - Pediatrics
 - Primary Care

Getting Started - MLA

- Molecular Biology & Genomics SIG/MLA
 - medicine.wustl.edu/~molbio/
 - SIG Discussion List - under Listserv at above URL
- MLA Courses - CE Clearinghouse on MLANET
 - see the Molecular Biology and Genetics categories
 - NCBI's Molecular Biology Information Resources course
 - www.ncbi.nlm.nih.gov/Class/MLACourse/
 - Michele Tennant's courses on genetics basics and molecular biology protocols

Getting Started - A New York Point of View

- Kris: CE courses and genetic presentations; *HMS Beagle* and the NHGRI site; the MLA Molecular Biology and Genomics SIG.
- Gail: Reading: *Genes in Medicine*, *Celera News*; Joining the MLA SIG; Browsing the Web for clinical genetics information!
- Janet: Hawley & Mori. *The Human Genome: A User's Guide*. Academic Press, 1999; the MLA SIG; developing and teaching sessions on genetics information.

Getting the Word Out

“Brave New World”

- Column written for the NY-NJ Chapter Newsletter to explain the “science behind the medicine”
- Authored by librarians, for librarians
- Disseminates information about bioinformatics, clinical genetics, molecular biology, pharmacogenomics and more...
- Send suggestions for topics to Kris Alpi

Learning @ Your Desktop!

- Bioinformatics Journal Club (MLA SIG)
- BioMedNet - HMS Beagle
 - www.bmn.com/
- Medscape Molecular Medicine
 - MolecularMedicine.medscape.com/
- NCBI Coffee Break & News
 - www.ncbi.nlm.nih.gov/About/newsletter.html
- Gene Letter
 - www.geneletter.org/

Current Clinical Genetics Favorites

- Gene Cards
 - bioinformatics.weizmann.ac.il/cards/index.html
- Gene Clinics
 - www.geneclinics.org/
- Medicine and the New Genetics
 - www.ornl.gov/hgmis/medicine/medicine.html
- Clinical Genetics: Self Study Guide for Health Care Professionals
 - www.vh.org/Providers/Textbooks/ClinicalGenetics/Contents.html

Current Molecular Biology Favorites...

- Nucleic Acids Research Database listing
 - www3.oup.co.uk/nar/database/c/
- Molecular Biologist Toolkit (Stu Yarfitz)
 - healthlinks.washington.edu/basic_sciences/molbio/
- NCBI Education page
 - www.ncbi.nlm.nih.gov/Education/index.html
- Genetics Weekly Update - CDC
 - www.cdc.gov/genetics/update/current.htm