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A library-based approach to translational informatics education

Kristi L. Holmes

Ellen Dubinsky

Lili Wang

A Library-Based Approach to Translational Informatics Education

Kristi L. Holmes, PhD; Ellen Dubinsky, MLIS; Lili Wang, MD, MS; and Rakesh Nagarajan, MD, PhD
Becker Medical Library - Washington University in St. Louis School of Medicine

BERNARD BECKER Medical Library

Washington University in St. Louis School of Medicine

ABSTRACT

Advancements in translational medicine have prompted a critical need for educational approaches which support information dissemination and facilitate a fluid exchange of data in a clinical research environment. Medical libraries provide information resources and technology in support of educational, research, and patient care objectives and are therefore particularly well-poised to offer instructional resources which will enhance the flow of information.

INTRODUCTION

Bernard Becker Medical Library at Washington University School of Medicine has established itself as a biomedical informatics training facility(1). Becker Library currently has two bioinformatics resource specialists on staff: a medical doctor with a master's degree in biostatistics and a research scientist with a PhD in biochemistry. These bioinformatics resource specialists currently provide support through training opportunities and consultation services. The resource specialists offer workshop-style courses for a wide variety of biomedical topics. Consultation services for specific research questions and approaches are also available and widely used. These consultations cover diverse topics and offer the bioinformatics resource support staff at Becker Library an important link to research efforts on campus.

The Clinical and Translational Science Awards (CTSAs) offer an exceptional opportunity for awarded institutions to transform clinical and translational research by facilitating discovery and rapid clinical implementation. The importance of this effort and its effect on modern medicine underscores the need for effective instructional resources for participants. The bioinformatics resource specialists at Becker Medical Library will assist in the development and implementation of an extensive range of training resources in a variety of topics. New courses will be developed which reflect themes ranging from general topics to more specific topics which focus on specialized software analysis tools and databases.

CONCLUSIONS

Library-based bioinformatics programs offer a novel approach to translational informatics education. The bioinformatics resource specialists have training in biomedical research approaches as well as access to information resources which enhance the instructional process. They are able to effectively promote opportunities in the basic science research environment and serve an important role in translational informatics instruction. In cooperation with researchers, the Library-based bioinformatics resource specialists serve a unique role in the support of the educational and research goals of translational science research centers.

FUTURE PLANS

A number of goals have been set for the upcoming months:

- Function Express and caTissueSuite
  - Training sessions completed
  - Online instructional resources developed and functional
- Research FAQ Wiki
- Complete course offerings in web-based just-in-time format
- DBBS course development and delivery
- User group establishment and support

REFERENCE

1. Osterbur DL, Alpi K, Canevari C, et al. Vignettes: Diverse library staff offering diverse bioinformatics services. J Med Libr Assoc. 2006 Jul;94(3):306,

TRANSLATIONAL INFORMATICS EDUCATION & SUPPORT

Partnerships and Collaboration

Bioinformatics Advisory Group
Faculty members who serve an advisory role toward the outreach, education, and resource procurement objectives of the library-based translational informatics support program

This partnership continues to facilitate positive outreach efforts among the research community and has resulted in enhanced collection development, generation of effective instructional materials, and establishment of a web-based portal for delivery of information and support services to meet the requirements of investigators in a translational research environment.

Biomedical Informatics Core
Function Express - application for the analysis and visualization of microarray data
caTissue Suite - unified biospecimen repository

training resources for other specialized software analysis tools and databases

Division of Biology & Biomedical Sciences
Bioinformatics Bootcamp - intensive introductory applied bioinformatics training
Special Topics in Bioinformatics - Subject-driven bioinformatics instruction

consultation and support for research community

Genome Sequencing Center
Resource procurement - Partek, IPA, GeneGo
Outreach and Collaboration
Community Building - User Groups

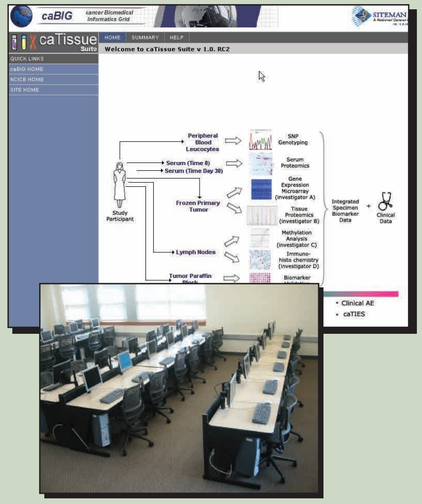
consultation and support for research community

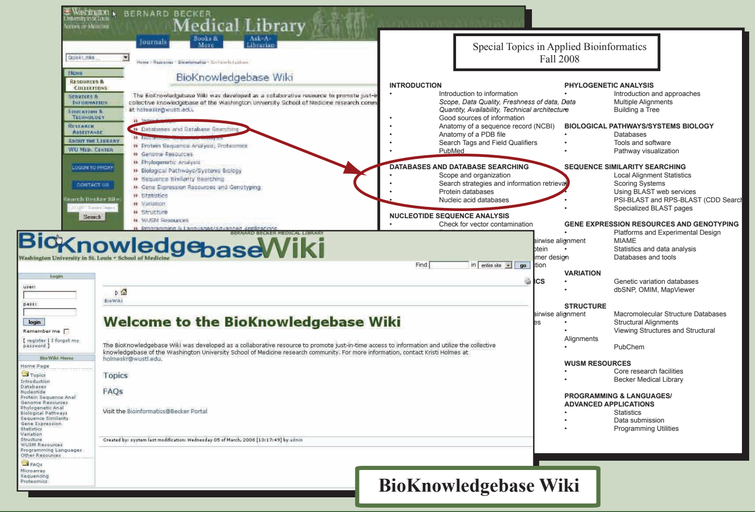
Teaching and Instructional Initiatives

HIGHLIGHTS

Course Development:
Function Express & ca Tissue Suite
Bioinformatics Bootcamp
Comprehensive special topics course

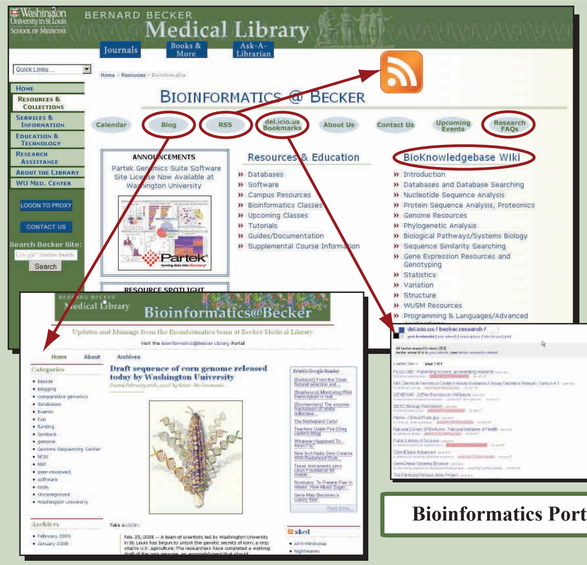
In response to the evolving information needs of the clinical and biomedical research communities, especially in the age of translational medicine, advanced web-based communication tools and information dissemination approaches are being incorporated into the library's traditional bioinformatics support services. This will be accomplished through a collaboration between the library's Translational Research Support Division and the Digital Initiatives Division. Content will be delivered virtually via podcasts and voice-over PowerPoint presentations. Webconferencing tools will be utilized, too. These content delivery methods compliment traditional course strategies and embrace diverse learning styles. Users gain flexibility and an opportunity to interact with rich audio, video, and web-based content in a manner which is meaningful to them. Ultimately, these innovative approaches provide seamless access to a wide variety of information and instruction resources and enable users an opportunity to make meaningful connections with their data and the world around them, anytime and anywhere!



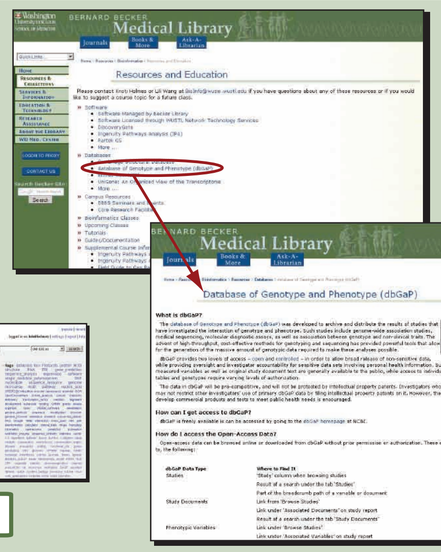


BioKnowledgebase Wiki

Resource Development



Bioinformatics Portal



Integrated, in-depth information

Research Pod
Statistical software packages
Adobe CS3
Research databases and tools
EndNote
other hardware and software