

The Bioinformaticista: New Roles and Responsibilities for a Bioinformaticist

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Overview

The Health Sciences Libraries (HSL) collaborated with the National Center for Integrative Biomedical Informatics (NCIBI) to create an informationist position in 2007. Early responsibilities for the bioinformaticist included many traditional library liaison services including expert searching and citation analysis. As the relationship has matured, new roles and responsibilities have developed outside of this traditional partnership. These new roles and responsibilities include but are not limited to copyright and intellectual property advisor, licensing contact, open access/public access consultant, documentation expert, and research partner. With the ever increasing number of informationists supporting researchers and organizations such as the Clinical Translational Science Award recipients, it is likely that these roles and responsibilities will become more commonplace across many health sciences disciplines.

History

The growth of molecular information in the biomedical, clinical, and public health disciplines to discover novel scientific research is well illustrated by the exponential increase in the number of databases, data sets, tools and software being used to store, retrieve and analyze proteomic, genomic, and metabolomic data. In early 2007, a collaboration between the National Center for Integrative Biomedical Informatics (NCIBI) and the Health Sciences Libraries (HSL) at the University of Michigan resulted in a four month pilot position, the Informationist or informally the Bioinformaticista. Many of the outcomes produced by this pilot position included traditional library service support such as:

Citation Analysis

Ongoing citation analysis on traditional, published literature and non-traditional publications such as programming libraries crediting the NCIBI grant numbers

Literature Searching

Focused literature searches to be delivered as an RSS feed to the NCIBI portal and talks delivered on searching techniques.

Library Resource Consultation

Provided information on library resources such as full-text article acquisition through MGetIt button, journal impact factor analysis using Thomson Scientific's Journal Citation Reports, and facilitating deposits of research materials into the library's Deep Blue institutional repository

The positive relationships between HSL and NCIBI through the efforts of the bioinformaticist resulted in the continued funding for the bioinformaticist by NCIBI. The continuation of this role has allowed the bioinformaticist to grow the responsibilities of the position and explore new methods of supporting research activity for the center.

New Roles and Responsibilities

The bioinformaticist has supported the center for two calendar years and in that time has been able to provide more in-depth service and take on additional responsibilities. Some of the newer roles and responsibilities include:

Intellectual Property Advisor

Because NCIBI looks constantly to additional sources of data for integration into its tools and methods as well as the increasing demand for the use of these tools and methods, the bioinformaticist has become a resource for the center's developers for licensing and terms of use requests. These requests include both those items that the center is seeking to gain access to as well as items that external users are requesting of the center. The bioinformaticist seeks to facilitate Material Transfer Agreements, Terms of Use or Material Transfer Agreements, and makes appropriate referrals to the Office of Technology Transfer and the Copyright Office.

Open Access/Public Access Advisor

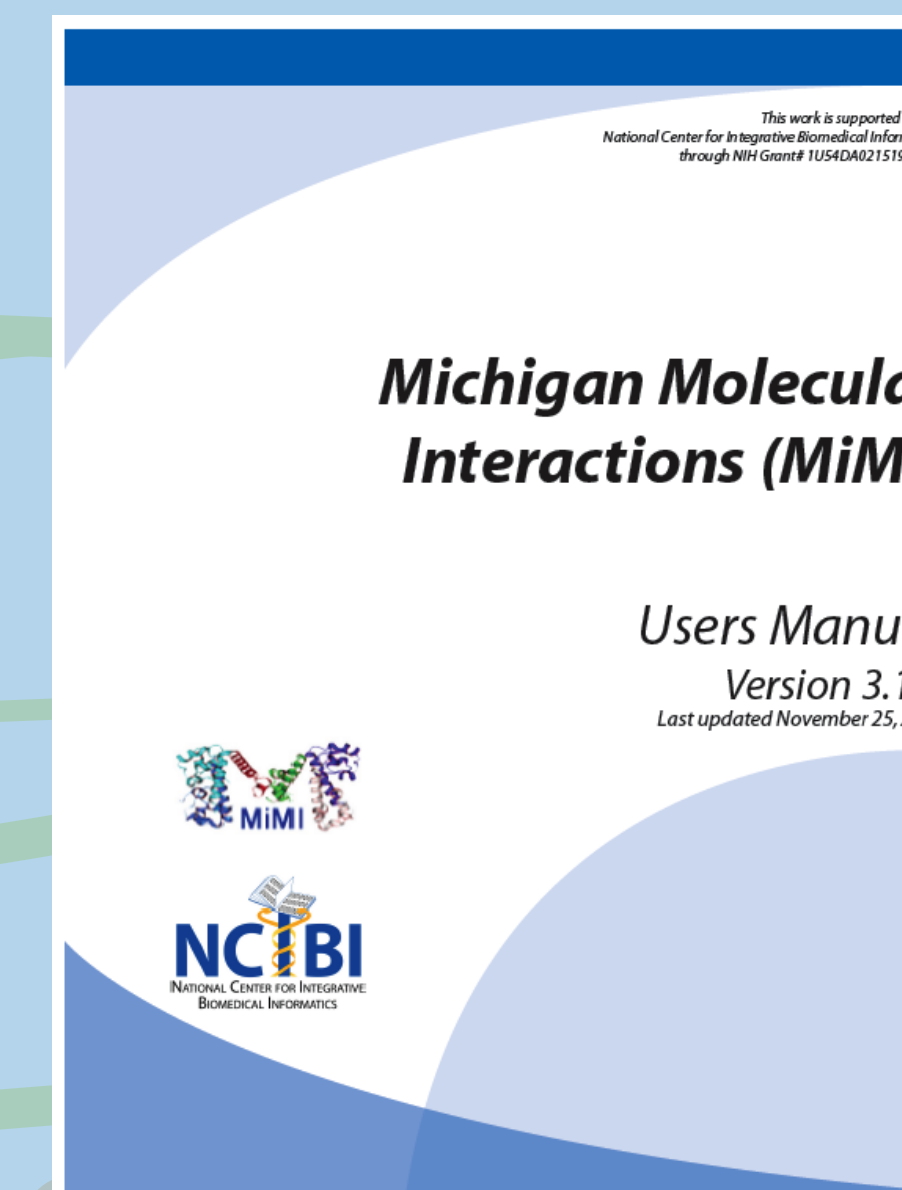
NIH Public Access Policy has also created opportunities for engagement. The University Library offers a pilot submission assistance program through which researchers can receive assistance with their submission to PubMed Central in order to comply with the public access policy. The bioinformaticist also provides assistance with open access journal policies to help authors affiliated with the center to understand journal open access policies and article placement fees. The bioinformaticist also coordinated a Health Informatics Grand Round series that discussed the role of open access, copyright and natural language processing and the associated legal challenges.

Documentation Writer

Because tool development is labor intensive, often overlooked is quality documentation for tool usage. The center is working aggressively to provide good documentation for the tools it develops. The bioinformaticist contributes to the creation, development and editing of tools documentation for the center. An example of the center's help documentation is for the Michigan Molecular Interactions (MiMI) web tool, available at:

<http://mimi.ncibi.org> (tool)

http://mimi.ncibi.org/MimiWeb/MiMI_User_Manual.pdf (documentation)



Usability Analysis

The bioinformaticist participates in heuristic evaluations of the center's tools. These heuristic evaluations provide a systematic assessment that basic design principles are being met by each of the tools that the center produces. The bioinformaticist is also participating in a usability study to compare a tool in development with PubMed using case studies presented to undergraduates pursuing careers in the research sciences. The bioinformaticist also participates in team analysis of website design for the center, evaluating content, basic functionality and organization.

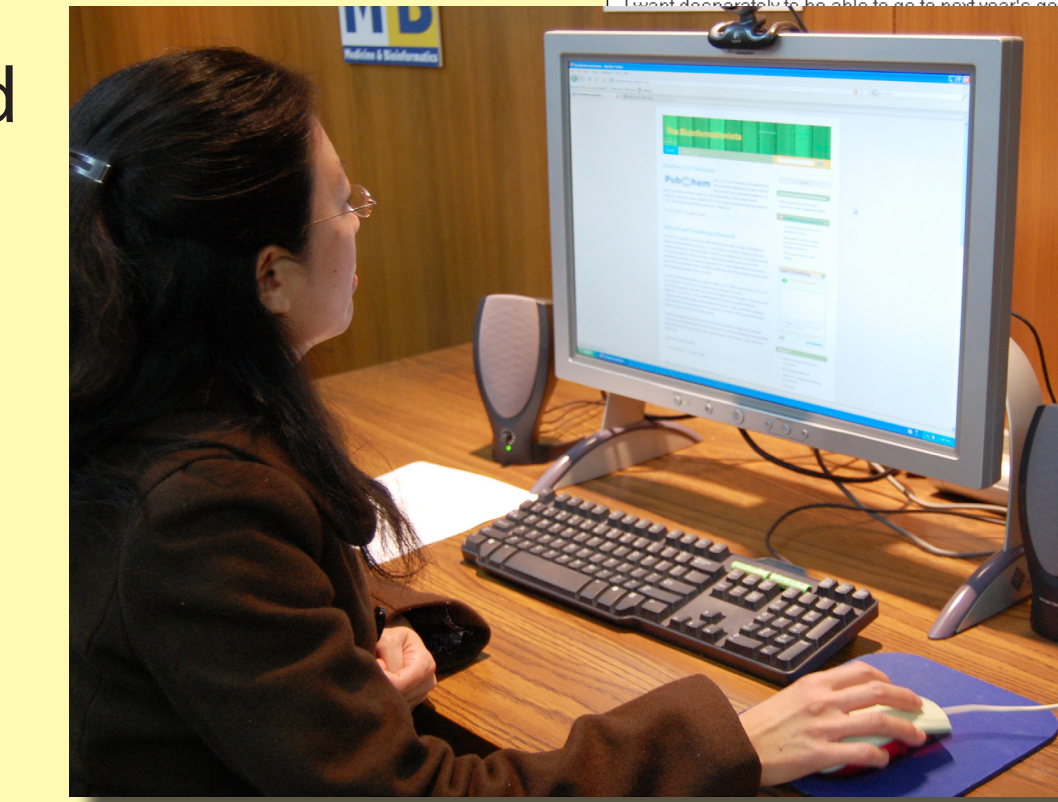
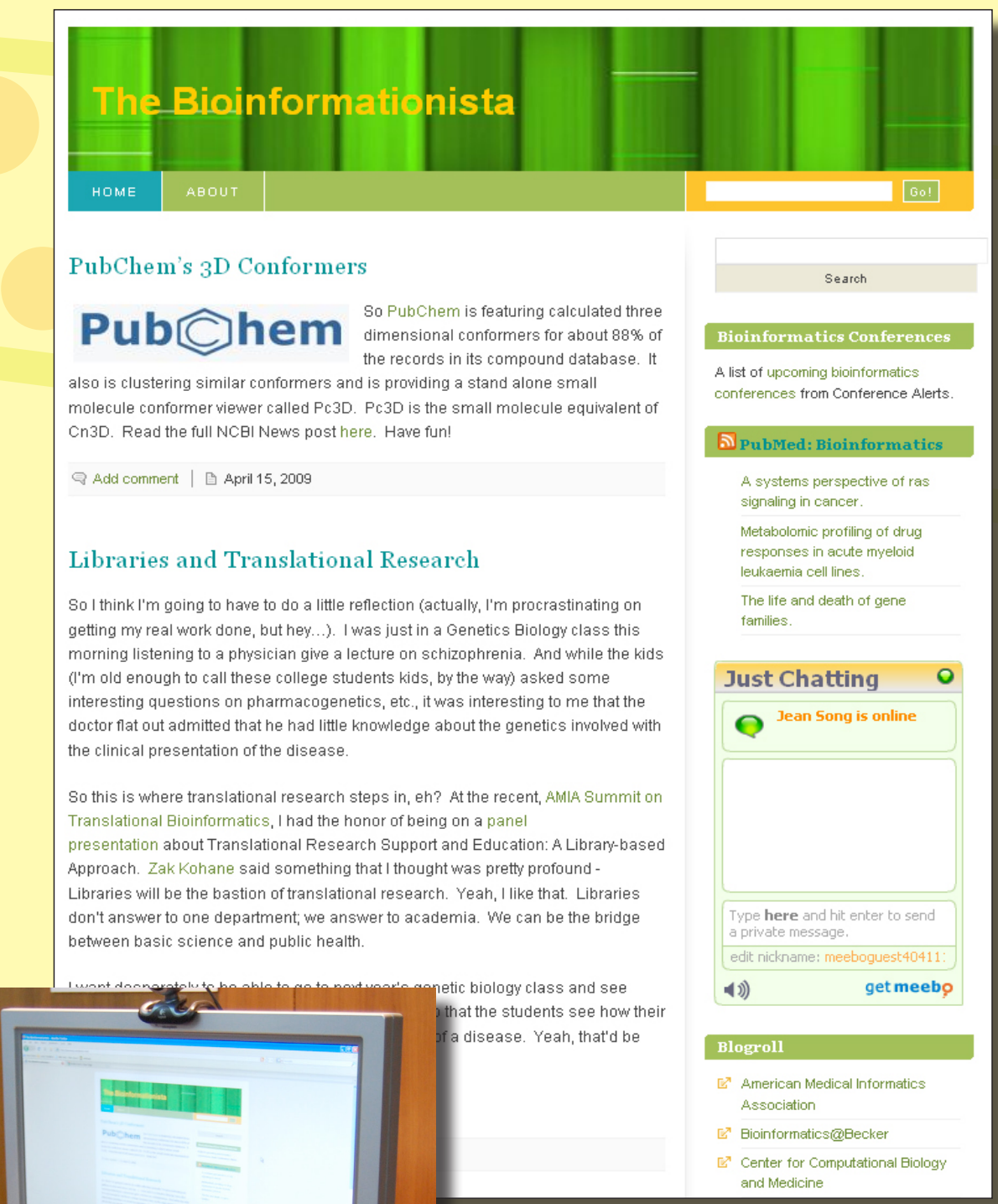
Research Assistant

The bioinformaticist has also contributed to and edited content for grant proposals and scientific papers. The bioinformaticist has participated in usability tests to evaluate the center's MiSearch adaptive literature search tool by soliciting the participation of librarians and their experience as expert searchers. Additionally, the bioinformaticist has been active in acquiring appropriate access to digital text through the University Library's extensive resources for natural language processing by the center.

Future Work

The bioinformaticist continues to explore new opportunities to contribute to the center's work and increase the Health Sciences Libraries involvement in the research process at the university. She has been looking to incorporate Web 2.0 technologies into her everyday activities to increase interactive possibilities with researchers locally and beyond. She created a blog called, The Bioinformaticista (<http://jeansong.wordpress.com>) to post items and provide a chat service (meebo) that may be useful for the researchers she supports and hopes to see it used actively.

With an increasing effort toward interdisciplinary research and increasing demand on stagnant budgets, research entities such as national centers and Clinical Translational Science Award recipients should look more toward collaborating with health sciences libraries to leverage resources in data and personnel. Bioinformaticists can take advantage of the opportunities that are becoming available due to these unique circumstances in science and the economy and create novel partnerships with researchers and libraries.



Acknowledgements

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