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Continuing Education Credit for Librarians and Learning Cytoscape

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Background

The Medical Library Association (MLA)
Founded in 1898, MLA is a nonprofit, educational organization of more than 1,100 institutions and 3,600 individual members in the health sciences information field, committed to educating health information professionals, supporting health information research, promoting access to the world's health sciences information, and working to ensure that the best health information is available to all.

MLA Continuing Education (CE)

MLA Continuing Education (CE)
MLA offers continuing education courses which are learning experiences designed to augment knowledge, skills and attitudes of individuals working in health sciences libraries. The courses are approved and annually accredited by the credentialing committees within MLA. Criteria by which educational activities are reviewed include:
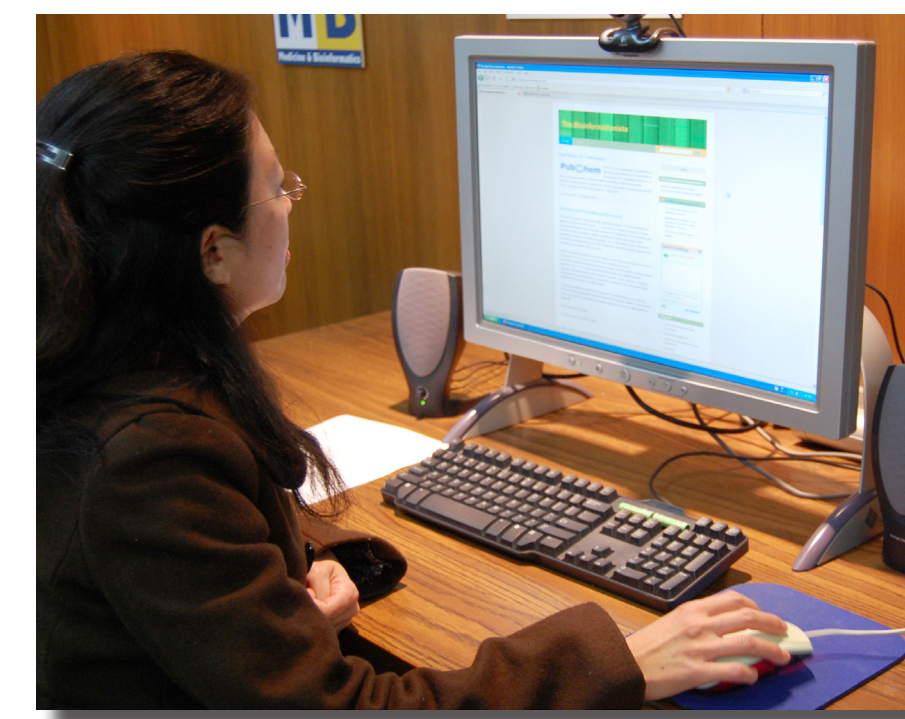
1) Objectives
2) Content
3) Staff
4) Instructional Methods
5) Evaluation
6) Facilities/Educational Support
7) Administrative/Budgetary

Network Visualization Tools CE Application

The educational activity proposal entitled, Network Visualization Tools, was submitted in April 2010 for the 2011 MLA Annual Meeting with the following components:

1) Instructors
2) Course Length
3) Course/CE Activity Description
4) Target Audience
5) Educational Objectives
6) Agenda
7) Method of Delivery
8) Educational Needs
9) Instructional Methods
10) Participant materials
11) Facility Requirements

Course/CE Activity Description

This course will provide an introduction to using network visualization tools using gene interactions as a specific example, focusing on two free resources, Cytoscape and VisANT. An overview of network visualization tools will be provided including what tools are available, their costs, their support structure and usage statistics. Using both Cytoscape and VisANT, the course will cover various existing plugins, how to create and analyze a network, and additional features specific to each tool. Hands-on exercises will allow course participants to explore these resources first-hand. Pros and cons of each tool will be discussed, along with criteria people should consider when selecting or suggesting a network visualization tool. After taking this course, participants will be well versed in interaction visualization tools, making them better able to help their researchers in assessing and selecting specific tools for their work.

Educational Objectives

- Participants will gain knowledge on the criteria needed to evaluate network visualization tools

- Participants will learn about the network visualization tools that are currently available

- Participants will become familiar with two freely available network visualization tools and their potential uses for gene interaction analysis

- Participants will be able to incorporate plugins and additional third party applications with these network visualization tools

Educational Needs

Data visualization tools are increasing in popularity due to their potential for hypothesis generation and concept highlighting. A variety of network visualization tools exist, and the instructors' experiences teaching in two different institutions have shown that there is a lot of interest in these types of resources among researchers, particularly for gene network analysis. Course evaluations and questions from the workshops the instructors have taught in their institutions have indicated that researchers are interested in these types of tools but are not sure how to select which ones to use or how to use them. With an increasing focus by health sciences schools on network, gene, and biological data visualization and analysis, librarians would benefit in knowing about these tools, how to use them, and how to evaluate them for use by their institutions, their patrons, and themselves.
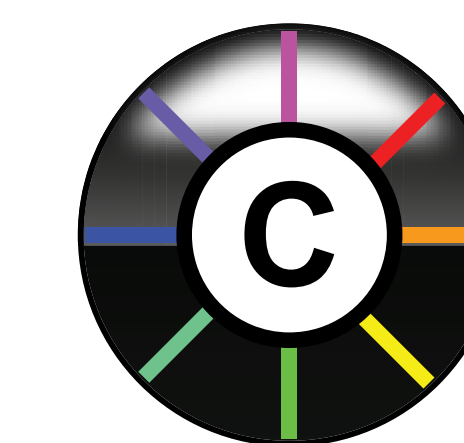
Proposed Agenda

1) Introduction and Learning Objectives (5 minutes)
2) Network Visualization tools overview – what they do, why they are becoming popular, what exists currently (10 minutes)
3) Criteria for comparing visualization tools (10 minutes)
4) Cytoscape (100 minutes)
   a. Lists of plugins discussed today and workshop example
   b. Creating network using MiMI plugin and viewing attribute data
   c. Additional MiMI plugin features for analyzing network (BioNLP, network expansion, SAGA, Gene2MeSH)
   d. Features of core software
      i. Layout options
      ii. Visual styles
      iii. Linkouts
   e. Enhanced Search Plugin
   f. MCODE plugin
   g. Additional plugins as time allows
   h. Hands-on Exercise
5) Break (10 minutes)
6) VisANT (90 minutes)
   a. Creating network
   b. Features of VisANT
   c. Plugins
   d. Hands-on exercise
7) Comparison of Cytoscape and VisANT (5 minutes)
8) Wrap-Up and Evaluation (10 minutes)

Educational Objectives

Action	Status	Date
Proposal Submitted	Accepted as MLA CE Course	April 2010
MLA CE for Annual Meeting Submitted	Accepted for Annual Meeting CE	June 2010
Course to be Delivered	MLA Annual Meeting 2011	May 2011

Acknowledgements