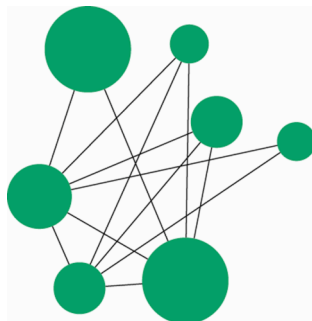
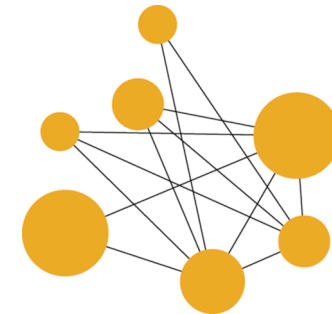


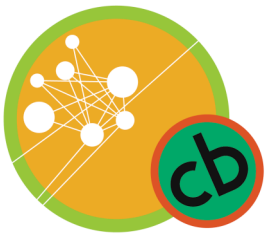
Helping Biologists Understand their Data

An update on the Hanalyzer System

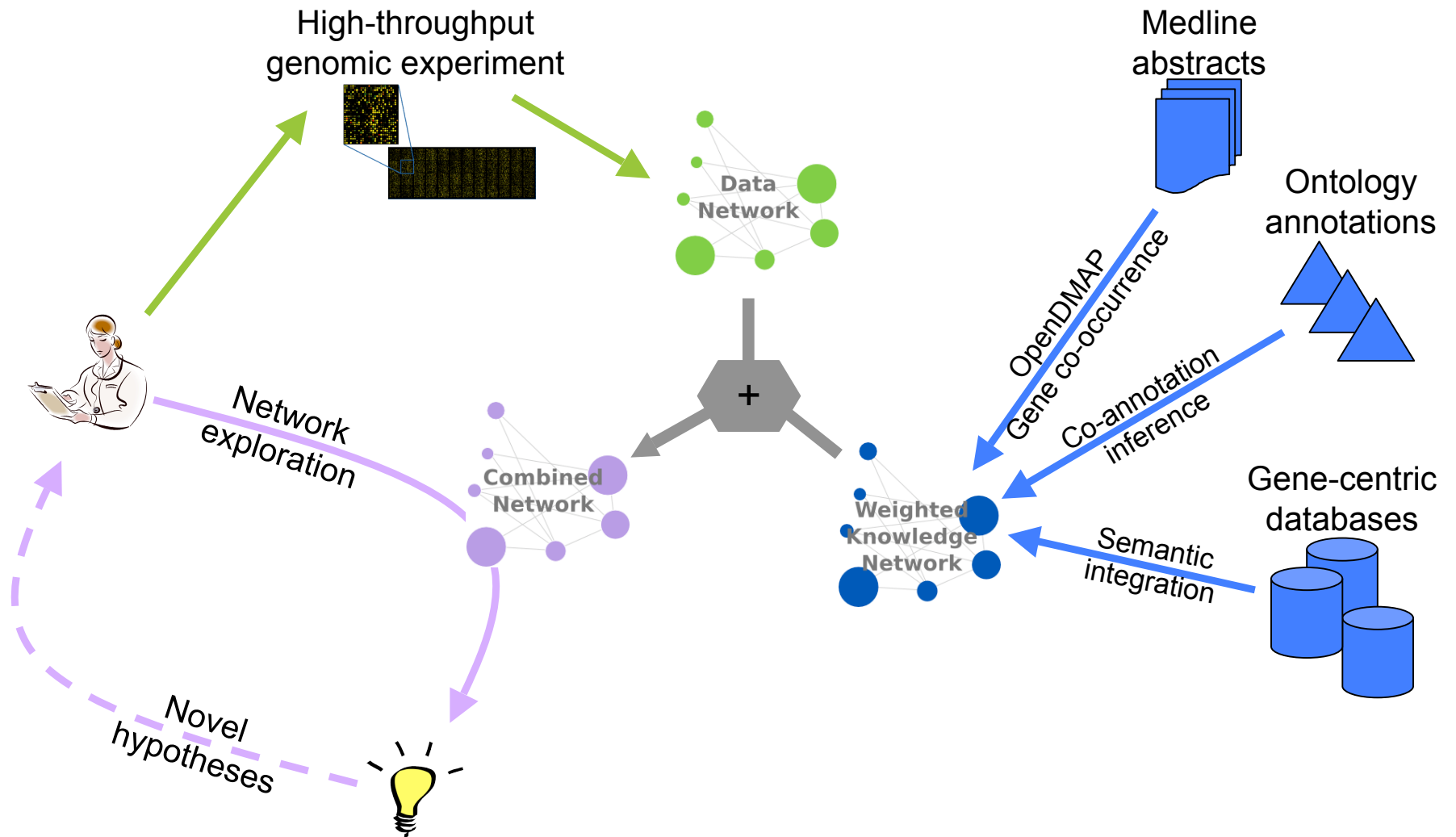
William Baumgartner Jr
Hannah Tipney
Lawrence Hunter



William.Baumgartner@ucdenver.edu
http://compbio.ucdenver.edu/Hunter_lab/Baumgartner



A data-integration approach





Advances in Network Construction

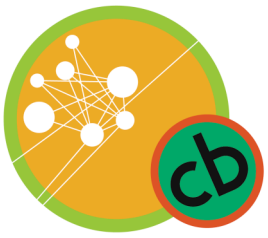
Implemented

- Species independence
- Additional data sources
- Improved documentation
- Enhanced file structure

Under development

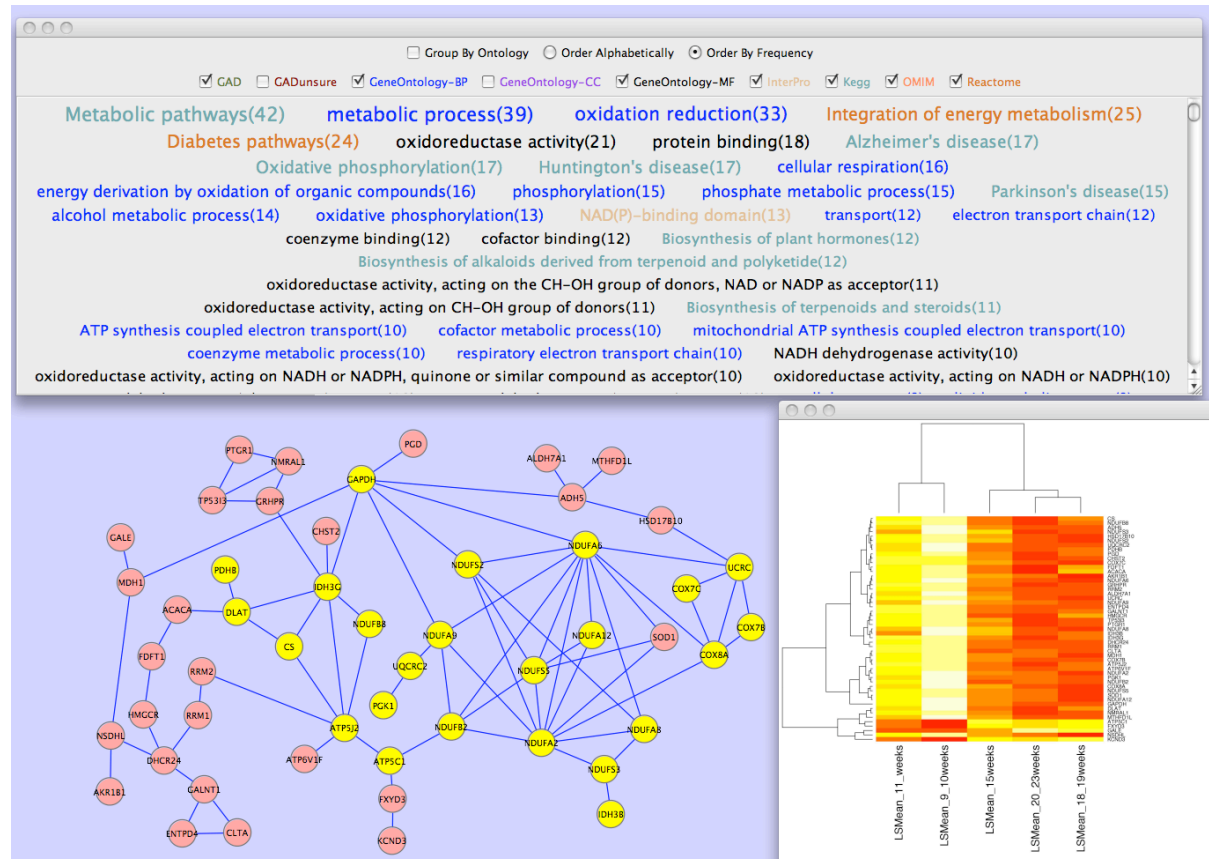
- Use of homology
- Text mining full articles

Explicit Sources	Implicit Sources
DIP	Gene Ontology (BP, MF, CC)
PreMod	GO cross products (GO-ChEBI)
TRANSFAC	Genetic Association Database
IRefWeb	InterPro
- BIND	KEGG
- BioGRID	Mammalian Phenotype Annotations (MGI)
- IntAct	OMIM
- MINT	Reactome
- MPPI	Text Mining
- OPHID	- OpenDMAP
	- Gene Cooccurrence

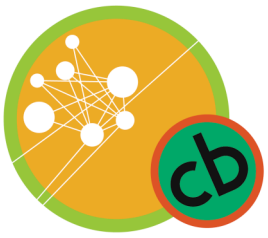


Advances in Network Exploration

- Cytoscape plugins
 - CommonAttributes*
 - HiderSlider*
 - ReOrient*
 - TagCloud
 - HeatMap

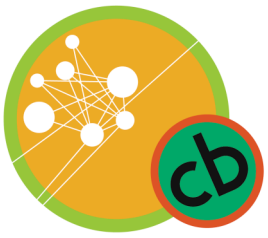


* Developed by Ron Schuyler



Towards the Biologist's Desktop

- Getting there...
 - Adoption of Cytoscape as a front end
 - Automatic download of data sources
- But not there yet...
 - Knowledge network construction is time consuming and memory intensive
 - Resulting networks are highly connected



Availability/More Info

- Open Source License (GPL v2.0)
 - <http://hanalyzer.sourceforge.net>
- YouTube Demo: <http://www.youtube.com/watch?v=jAegU3aZbWI>
- Leach S*, Tipney H*, Feng W, Baumgartner, WA Jr., Kasliwal, P, Schuyler, R, Williams T, Spritz R, Hunter L (2009) **3R Systems for biomedical discovery acceleration, with applications to craniofacial development.** *PLoS Computational Biology*. 5(3): e1000215. doi:10.1371/journal.pcbi.1000215 (*authors contributed equally)
- Tipney H, Schuyler R, Hunter, L (2009) **Consistent visualizations of changing knowledge.** *Proceedings AMIA Summit on Translational Bioinformatics*. San Francisco, USA.
- Tipney H, Hunter, L (2009) **Three R's of Computer Assisted Biomedical Discovery: Reading, Reasoning and Reporting.** *MAGNet Newsletter* (Issue 2). National Center for the Multiscale Analysis of Genomic and Cellular Networks, Columbia University, USA.