

CA BD2K COLLABORATIONS

CA BD2K Workshop, Saturday, 10.1.16

Santa Rosa, CA

- Collaborators: CEDAR, Heart BD2K & Mobilize
 - **Proposed Collaboration:** Use NLP & publication mining to automatically populate CEDAR metadata templates
 - Well defined project scope
 - 60-day time frame
 - Uses and enhances existing center resources
 - At next fall's meeting, a report on this project is expected
 - After the meeting, Jen Hicks & Joy Ku of Mobilize expressed interest in participating in this project. They are now in the loop with Brian Bleakley at Heart BD2K/UCLA and Mark Musen at CEDAR/Stanford.
- Collaborators: ENIGMA & BDDS
 - **Proposed Collaboration:** Connecting Gene & Brain Networks
 - Spatial Reasoning
 - Multiple scale interrogation in 3D
 - TReNA – identify regions for function information
 - Tool integration, use existing Working Groups
 - Use PheWAS analysis – Nov 2016
 - Map – summer, 2017
- Collaborators: All CA BD2K Centers
 - **Proposed Collaboration:** Case Study – CA BD2K: a test bed for Brain & Cardio Vascular diseases
 - Translational Genomics center – genomics related to heart disease and brain health
 - CEDAR – meta-data
 - ENIGMA – global gene associations
 - Heart BD2K – cardio data (hypertension, etc.)
 - BDDS – neuro imaging, Statins paper, HPC
 - bioCADDIE – medical data
 - Mobilize – environmental and physical health data
 - Need for storing data and metadata, using BD Bags/minid
 - Illustrate new pipelines through 1-2 tools/services from each center
 - Sharing workflow protocols
 - Discuss the development of new meta-data ontology standards
 - Validating each approach with new data
 - Short-Term outcome: a position paper on the unique role that CA BD2K centers have for such a research project, the special place that the CA population has for such a project, and the novel contributions to national cardiac and brain health through such a project. Perhaps to be completed by next spring and including all CA BD2K investigators as

authors, led by Dr. Toga? Perhaps a JAMIA submission via Dr. Ohno-Machado?

- Long-Term outcome: possible new multi-center grant????
- Collaborators: Cal State Fullerton & Cal State Monterey Bay, BDDS, Mobilize & CEDAR
 - **Proposed Collaboration: Increasing Big Data Tool Utilization & Discovery Through Increasing the Talent Pool**
 - Training Curriculum Needed for New Tools
 - Leveraging Existing Resources
 - Expanding Diverse User Pool
- Collaborators: BDDS & bioCADDIE
 - **Proposed Collaboration: Enhancing meta data using BD Bag & minid**
 - Standardizing, aggregating & searching diverse arrays
- Collaborators: Heart BD2K, bioCADDIE & CEDAR
 - **Proposed Collaboration: SMART API**
 - API discovery
 - API authoring
 - API interoperability
- Collaborators: BDDS & Heart BD2K
 - **Proposed Collaboration: Linking Panther (BDDS) & Gene Wiki**
 - The goal of this collaboration is to expand functional annotation of Gene Wiki page by adding Gene Ontology annotations. Specifically,
 - Enhance GO annotations in Gene Wiki page
 - Expand gene orthologs using the PANTHER phylogenetic tree relationships.
 - An API will be developed to automatically populate GO annotations to Gene Wiki.
 - The API will include filters to show annotations with different confidence level (or evidences), such as experimentally studied versus computationally generated.
 - Gene Wiki curators will also review the GO annotations and provide feedback on both annotations and ontology.
 - Possible long term collaboration could be to improve GO sections related to heart development and functions.
- Collaborators: All CA BD2K Centers
 - **Proposed Collaboration: Best Practices Guide**
 - Data Science Software tailored to the biomedical community
- Collaborators: Mobilize & BDDS
 - **Proposed Collaboration: Link walkability datasets with BDDS' predictive analysis**
 - Outcome measures
 - Multivariate correlations
- Collaborators: All CA BD2K Centers
 - **Proposed Collaboration: Reusable Teaching Module**
 - For undergrads on BD2K applications
- Collaborators: CEDAR & BDDS
 - **Proposed Collaboration: Predictive Analysis**
 - Enabling exploratory, confirmatory predictive analytics with structured & unstructured data