Clinical Genomicist Workstation (CGW)

Integrating Analysis, Interpretation, Visualization and Reporting of Clinical Next Generation Sequencing Data

Mukesh Sharma, Ph.D.
Catherine Cottrell, Ph.D.
CGW Introduction

• CGW a ‘soup-to-nuts’ solution to track, analyze, interpret, and report clinical genomic diagnostic tests.

• Used by Washington University Genomic and Pathology Services (WU@GPS) for clinical genomic testing of multiple diseases including many cancers.

• CGW has been used to accession, analyze and sign out over 1500 cases since November, 2011.

• There are 166 ordering oncologists and 8 Clinical Genomicists that use the CGW.
GPS Workflow

Patient’s Sample + Order → Sequencing

Physician → Base calling, Alignment, Variant calling

CoPath

Clinical Genomicist Workstation

Annotation, Interpretation, Reporting

Washington University in St. Louis
School of Medicine
• Use Firefox or Safari browser
• Go to https://cgwtest-washu.wustl.edu/cgw/
• Login using your WUSTL key
• Navigate to: Cases> Cases for review
• Search for accession number “G3-00002-mks”
• Click on ▼ besides ▼ and select “View Case”
Book Icon on Report

- **Red book icon**
  - Variants with Published/Approved/Draft Interpretation that are non-specific i.e. they are applied to disease other than the disease of the patient or the procedure for the case.
  - Available publication annotation

- **Green book icon**
  - Variant with Published/Approved interpretations that are disease specific and panel specific.

- **Yellow book icon**
  - Variant with draft interpretation that are disease specific and panel specific
Assignment Instructions

• One Cancer and one Cardiac disease case is assigned to each student
• The data is identical for all student cases of each type
• Individually analyze the case and record your findings in the report
• Work together with your group to present collective findings and interpretations on October 13, 2014
  • There will be 3 groups of 3 students each and 1 group of 2 students
  • Two groups will be present Cardio case and 2 groups will present Cancer case
  • Presentations will be 15 min each
  • After both cardio cases are presented there will be a 5 min discussion/Q&A session. Similarly after the two cancer presentations there will be a 5 min discussion/Q&A session
# Case Assignments

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Comprehensive Cancer Gene Set</th>
<th>Hypertrophic Cardiomyopathy Gene Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben Ainscough</td>
<td>Train_1001</td>
<td>Train_2001</td>
</tr>
<tr>
<td>Christina Mikulka</td>
<td>Train_1002</td>
<td>Train_2002</td>
</tr>
<tr>
<td>Drew Hagan</td>
<td>Train_1003</td>
<td>Train_2003</td>
</tr>
<tr>
<td>Emily Olfson</td>
<td>Train_1004</td>
<td>Train_2004</td>
</tr>
<tr>
<td>Jennifer Heeley</td>
<td>Train_1005</td>
<td>Train_2005</td>
</tr>
<tr>
<td>Ji Woong Park</td>
<td>Train_1006</td>
<td>Train_2006</td>
</tr>
<tr>
<td>Kirsten Brenner</td>
<td>Train_1007</td>
<td>Train_2007</td>
</tr>
<tr>
<td>Manish Pandey</td>
<td>Train_1008</td>
<td>Train_2008</td>
</tr>
<tr>
<td>Matt Bailey</td>
<td>Train_1009</td>
<td>Train_2009</td>
</tr>
<tr>
<td>Nicole Rockweiler</td>
<td>Train_1010</td>
<td>Train_2010</td>
</tr>
<tr>
<td>Sarah Pyfrom</td>
<td>Train_1011</td>
<td>Train_2011</td>
</tr>
</tbody>
</table>
Need Help!

- Email: Mukesh Sharma (sharmam@wustl.edu)