BIG12	Bioinformatics for Integrative Genomics
Mon, May 7th	**Day #1**
09:30 - 10:30	**Introduction to Integrative Genomics** Introduction of instructors Introduction of students (who are they, what do they expect from this course…) Lecture introduction Genomics applied to medicine. Analysis methods for integrative genomics. Visualization of genomics data. Combining genomics and clinical data.
10:30 - 11:00	Coffee Break
11:00 - 12:30	**Integrative Cancer Genomics, IntOGen** A short introduction to IntOGen with a follow-up hands-on
12:30 - 14:00	Lunch Break
14:00 - 16:00	**Introduction to Gitools** A short introduction to Gitools / interactive heatmap browsing and data formats. A hands-on session will follow including the installation of Gitools.
16:00 - 16:30	Tea Break

16:30 - 18:00	**Introduction to Enrichment Analysis** What is Enrichment Analysis? What is it useful for? A lecture about how it is used followed by a practical session with online tools.
Tue, May 8th	**Day #2**
09:30 - 10:30	**Enrichments in Gitools: Time Lapse and Sample Level Enrichment Analysis (SLEA)** We will use Gitools to perform a time-lapse experiment first, and also SLEA to identify tumor subtypes and to correlate molecular features with clinical features.
10:30 - 11:00	Coffee Break
11:00 - 12:30	**Exploring multi-dimensional genomics data with Gitools** Using Gitools to explore and analyze multi-value matrices in the form of interactive heatmaps. Sort by mutually exclusivity. Compare groups (CNA and expression).
12:30 - 14:00	Lunch Break
14:00 - 16:00	**Identifying functional non-synonymous SNVs using Condel** From a long list of variants identify the ones that are more likely to affect the function of the protein affected using bioinformatic methods. - short lecture about condel - hands on condel
16:00 - 16:30	Tea Break
16:30 - 18:00	**IntOGen, ICGC and TCGA**

	Public cancer projects and the integration of them.
Wed, May 9th	**Day #3**
09:30 - 10:30	**Identifying cancer driver genes and pathways** Lecture Oncodrive and Oncodrive-fm Hands on Oncodrive with Gitools Hands on Oncodrive-fm (command line + browse results in Gitools)
10:30 - 11:00	Coffee Break
11:00 - 12:30	**Biomart** Hands on with Biomart: How does Biomart work? - How can we use Gitools get annotation data from Biomart and use ensembl Biomart to convert Gene Ids
12:30 - 14:00	Lunch Break
14:00 - 16:00	**Reserve (Cytoscape)** An introduction to networks with cytoscape (depending on how the course advances)
16:00 - 16:30	Tea Break
16:30 - 18:00	**Final wrap-up session** Reflections on Integrative methods and their applications