



# Cancer Genomics Workshop – Draft Timetable

The University of Sydney, NSW

25<sup>th</sup> July -27<sup>th</sup> July 2017

Time	Subject
<b>Day 1</b>	
9:00 - 9:15	Welcome
9:15 - 10:15	Introduction to cancer genomics and NGS techniques – focus on DNA
10:15 - 10:30	Break
10:30 - 11:30	Experimental design (interactive/ice breaker/group activity) and caveats; considerations on processing capacities, etc. 10 ways to ruin your experiment
11:30 - 12:30	Command line intro (Unix, R) – L (15') / P (30')
12:30 - 13:30	Lunch
13:30 - 14:00	Raw data - FASTQ format and QC
14:00 - 14:30	Alignment (L)
14:30 - 15:00	Manipulation of BAM files (pre-computed?) and QC (P)
15:00 - 15:15	Coffee break
15:15 - 17:00	Manipulation of BAM files (pre-computed?) and QC (P) (cont.)
17:00 - 17:30	Q&A

Time	Subject
<b>Day 2</b>	
9:00 - 9:45	SNV detection (review, germline vs somatic, tools, pitfalls, data visualization) – L/P Indels – cover in SNV lecture + bonus exercises (P), specific challenges of indels analysis, tools
9:45 - 10:30	SNV detection (P)

<b>10:30 - 10:45</b>	Coffee break
<b>10:45 - 11:00</b>	Variants annotation and filtration (L) – tools landscape
<b>11:00 - 12:30</b>	Variants visualization (IGV), annotation and filtration (P)
<b>12:30 - 13:30</b>	Lunch + coffee
<b>13:30 - 14:15</b>	CNV analysis using NGS data (L)
<b>14:15 - 15:00</b>	CNV analysis (P) – deletion/amplification, calling CNVs, visualization, interpretation
<b>15:00 - 15:15</b>	Break
<b>15:15 - 17:00</b>	CNV analysis (P) – deletion/amplification, calling CNVs, visualization, interpretation (cont.)
<b>17:00 - 17:30</b>	Q&A

<b>Time</b>	<b>Subject</b>
<b>Day 3</b>	
<b>9:00 - 9:45</b>	SV analysis – breakpoints/fusion (L), tools
<b>9:45 - 10:30</b>	SV analysis – breakpoints/fusion (P)
<b>10:30 - 10:45</b>	Coffee break
<b>10:45 - 13:00</b>	SV analysis – breakpoints/fusion (P) (cont.)
<b>13:00 - 13:30</b>	Lunch
<b>13:30 - 14:15</b>	Downstream analysis and interpretation (L) – Exploration of resources that can be used for this. E.g. databases (COSMIC, TCGA, etc.), integration with clinical information
<b>14:15 - 15:00</b>	Downstream analysis and interpretation (P)
<b>15:00 - 15:15</b>	Coffee break
<b>15:15 - 16:00</b>	Downstream analysis and interpretation (P) (cont.)
<b>16:00 - 16:45</b>	How does it all link together? Integration of different data types (L)
<b>16:45 - 17:30</b>	Q&A, wrap up (how to access course's VM) & survey