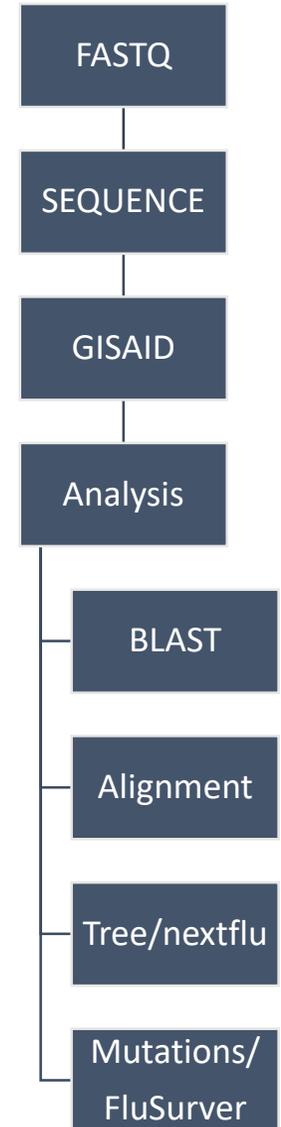# Summary of tutorial hands-on tasks

- Day 1 session 1: NGS I
  - Introduction to using Terminals and Programs (Sebastian)
  - FASTQ to Consensus Sequence (Vithia)
    - 2 Illumina Paired End examples
    - 1 IonTorrent Single End example
- Day 1 session 2: GISAID
  - GISAID Introduction, Searching, Downloading (Naomi)
  - GISAID Applications: Worksets, BLAST, Alignment, FluSurver (Catherine)
  - GISAID Upload: Single and Batch (Becky)
- Day 1 session 3: nextflu
  - Phylogenetic trees, visualization in nextflu (Richard)
- Day 2 session 1: FluSurver
  - Antiviral resistance: Finding Tamiflu and new Baloxavir susceptibility mutations (Sebastian)
  - Antigenic drift and passage adaptation (Sebastian)
- Day 2 session 2: NGS II
  - Co-infection A/B example (Vithia)
  - Quality checks (Dimitar)
  - Q&A

http://mendel.bii.a-star.edu.sg/METHODS/flusurver/GISAIDtalksandtutorials/

FASTQ

SEQUENCE

GISAID

Analysis

BLAST

Alignment

Tree/nextflu

Mutations/ FluSurver