



Single cell RNAseq analysis in R

Monday 22 and Tuesday 23 August 2022

1:30 - 5pm AEST/ 1 - 4:30pm ACST / 11:30am - 3pm AWST

Trainers and Facilitators

Sarah Williams, QCIF
Ahmed Mehdi, QCIF
Nick Matigan, QCIF
Adele Barugahare, Monash Bioinformatics Platform
Paul Harrison, Monash Bioinformatics Platform
Steven Morgan, Melbourne Bioinformatics
Holly Whitfield, University of Melbourne

Host: Dr Melissa Burke, Australian BioCommons

*Timings are approximate and subject to change. [Check the start time in your location](#)

Useful links

This document: <https://tinyurl.com/scRNAseq2022-schedule>

Training materials: https://swbioinf.github.io/scRNAseqInR_Doco/index.html

Monday 22 August 2022

| Time | | | Length (mins) | Topic | Who |
|-------|-------|-------|---------------|--|---------|
| AEST | ACST | AWST | | | |
| 13:20 | 12:50 | 11:20 | - | Zoom opened for participants | |
| 13:30 | 13:00 | 11:30 | 20 | Welcome and Housekeeping | Melissa |
| 13:50 | 13:20 | 11:50 | 10 | <i>Breakout activity: Meet your facilitators</i> | All |
| 14:00 | 13:30 | 12:00 | 15 | Background on scRNAseq + R tools | Sarah |
| 14:15 | 13:45 | 12:15 | 20 | The Seurat Object | Sarah |
| 14:35 | 14:05 | 12:35 | 10 | <i>Breakout activity: Exploring a plot in Seurat</i> | All |
| 14:45 | 14:15 | 12:45 | 15 | Loading data | |
| 15:00 | 14:30 | 13:00 | 30 | QC filtering | Sarah |
| 15:30 | 15:00 | 13:30 | 10 | Break | |
| 15:40 | 15:10 | 13:40 | 10 | <i>Breakout activity: Loading check + metadata slot.</i> | All |
| 15:50 | 15:20 | 13:50 | 15 | QC filtering | Sarah |
| 16:05 | 15:35 | 14:05 | 10 | <i>Breakout activity: Filter the cells</i> | All |
| 16:15 | 15:45 | 14:15 | 10 | Normalisation | Sarah |
| 16:25 | 15:55 | 14:25 | 10 | Save data | Sarah |
| 16:35 | 16:05 | 14:35 | 10 | Questions | All |
| 16:45 | 16:15 | 14:45 | 15 | Wrap up and reminders | Melissa |
| 17:00 | 16:30 | 15:00 | - | End of session | |

Tuesday 23 August 2022

| Time | | | Length (mins) | Topic | Who |
|-------|-------|-------|---------------|---|---------|
| AEST | ACST | AWST | | | |
| 13:30 | 13:00 | 11:30 | 10 | Welcome and housekeeping | Melissa |
| 13:40 | 13:10 | 11:40 | 5 | Recap of session 1 | Sarah |
| 13:45 | 13:15 | 11:45 | 30 | PCAs and UMAPs | Sarah |
| 14:15 | 13:45 | 12:15 | 20 | <i>Breakout activity: PC genes plot</i> | All |
| 14:35 | 14:05 | 12:35 | 15 | PCAs and UMAPs | Sarah |
| 14:50 | 14:20 | 12:50 | 10 | <i>Breakout activity: UMAPs</i> | All |
| 15:00 | 14:30 | 13:00 | 15 | Clustering | Sarah |
| 15:15 | 14:45 | 13:15 | 10 | <i>Breakout activity: Clustering settings</i> | All |
| 15:25 | 14:55 | 13:25 | 15 | Break | |
| 15:40 | 15:10 | 13:40 | 10 | Cluster markers | Sarah |
| 15:50 | 15:20 | 13:50 | 30 | SingleR | Ahmed |
| 16:20 | 15:50 | 14:20 | 25 | Next steps | Sarah |
| 16:45 | 16:15 | 14:45 | 10 | Questions | All |
| 16:55 | 16:25 | 14:55 | 5 | Wrap up and feedback | Melissa |
| 17:00 | 16:30 | 15:00 | | End of workshop | |