



Exploration and  
Integration of  
Omics datasets

## Beginner workshop for microbiome data analysis 15-17 April 2019, Melbourne (AUS)

Hosted by [Melbourne Integrative Genomics](#), University of Melbourne.

Complex microbial networks have a central role in the provision and regulation of ecosystems. Multiple microbial biotechnology applications are contributing to global efforts to achieve sustainability - through purification of wastewater, waste valorisation, bioenergy production, or to understand the role of microbiome in human disease and healthy states.

Statistical analysis of microbiome data is challenging due to the inherent characteristics of the data, such as high sparsity and compositional structure. Our workshop will introduce major concepts including multivariate dimension methods developed in mixOmics. Our methods make no distributional assumptions, are highly flexible for unsupervised (exploratory), supervised (classification) and integration analyses.

This hands-on course will cover basic processing and inherent characteristics of microbiome data (compositionality, batch effects), various analytical frameworks ranging from data exploration, selection of microbial markers, integration with other omics datasets and introduction to time-course analysis. Each methodology introduced in the workshop will be illustrated on real biological studies. The third day is 'bring your own data' day where you can reinforce your learnings on your own data!

Pre-requisite: a **good working knowledge in R programming** (e.g. handling data frame, perform simple calculations and display simple graphical outputs) to fully benefit from the course.

**Instructors:** Dr [Kim-Anh Lê Cao](#) and Dr [Olivier Chapleur](#)

**More information, including registration bursaries for UoM ECR, visit the [website](#). EOI applications close: 11 March 2019. Register your interest [here](#).**