

# Introduction to *Bioconductor* for High-Throughput Sequence Analysis

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Introduction to Bioconductor for Sequence Analysis introduces users with some R experience to Bioconductor, especially working with high-throughput sequence data. Day 1 develops core R and Bioconductor concepts for working with large and complicated data. Participants will become familiar with data classes, packages, and scripting and programming concepts that are important for common and integrated work flows in Bioconductor. Day 2 will put these skills to use for the analysis of RNAseq differential expression data, including initial quality assessment, pre-processing, differential representation, annotation, and visualization. The course involves a combination of presentations and hands-on exercises; participants should come prepared with a modern laptop with wireless internet access.

A preliminary schedule is in Table~1.

Table 1: Preliminary schedule, Introduction to Bioconductor for Sequence Analysis

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Day 1: <i>R</i> and <i>Bioconductor</i>	
9:00 - 12:30	Working with <i>R</i> classes, help, programming concepts, and packages. Introduction to high-throughput sequence work flows.
1:30 - 5:00	<i>Bioconductor</i> classes and packages for sequence analysis.
Day 2: RNA-seq Annotation and Visualization	
9:00 - 12:30	RNA-seq work flows. Quality assesement and pre-processing. Differential expression.
1:30 - 5:00	RNA-seq down-stream and alternative analysis. Annotation and visualization.

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