

News from the Bioconductor Project

by *Bioconductor Core Team*

Bioconductor provides tools for the analysis and comprehension of high-throughput genomic data. Bioconductor 3.12 was released on 28 October, 2020. It is compatible with R 4.0.3 and consists of 1974 software packages, 398 experiment data packages, 968 up-to-date annotation packages, and 28 workflows. **Books** are a new addition, built regularly from source and therefore fully reproducible; an example is the community-developed [Orchestrating Single-Cell Analysis with Bioconductor](#).

The [Bioconductor 3.12 release announcement](#) includes descriptions of 125 new software packages, and updates to NEWS files for many additional packages. Start using Bioconductor by installing the most recent version of R and evaluating the commands

```
if (!requireNamespace("BiocManager", quietly = TRUE))
  install.packages("BiocManager")
BiocManager::install()
```

Install additional packages and dependencies, e.g., [SingleCellExperiment](#), with

```
BiocManager::install("SingleCellExperiment")
```

Docker images provides a very effective on-ramp for power users to rapidly obtain access to standardized and scalable computing environments. Key resources include:

- [bioconductor.org](#) to install, learn, use, and develop Bioconductor packages.
- A list of [available software](#), linking to pages describing each package.
- A question-and-answer style [user support site](#) and developer-oriented [mailing list](#).
- A community slack ([sign up](#)) for extended technical discussion.
- The [F1000Research Bioconductor channel](#) for peer-reviewed Bioconductor work flows.
- The Bioconductor [YouTube](#) channel includes recordings of keynote and talks from recent conferences including BioC 2020 and BioC Asia 2020, in addition to video recordings of training courses and developer forums.
- Our [package submission](#) repository for open technical review of new packages.

Recent Bioconductor conferences include [BioC2020](#) (July 27-31), [BioC Asia 2020](#) (October 15-18), and the [European Bioconductor Meeting](#) (December 14-18). Each had invited and contributed talks, as well as workshops and other sessions to enable community participation. Slides, videos, and workshop material for each conference are available on conference web sites as well as the [Courses and Conferences](#) section of the Bioconductor web site. [BioC 2021](#) is planned for August 4-6, with an abstract submission due date of March 9; the virtual conference will be augmented by in-person activities if global health permits.

The Bioconductor project continues to mature as a community. The [Technical](#) and [Community](#) Advisory Boards provide guidance to ensure that the project addresses leading-edge biological problems with advanced technical approaches, and adopts practices (such as a project-wide [Code of Conduct](#)) that encourages all to participate. We look forward to welcoming you!

Bioconductor Core Team
Biostatistics and Bioinformatics
Roswell Park Comprehensive Cancer Center, Buffalo, NY
USA maintainer@bioconductor.org