

# INTENSIVE SHORT COURSE

# RNA sequencing-based approaches in drug discovery

**Caterina Carraro, PhD**

Institute for Stroke and Dementia (ISD) LMU, München

Center for Neurodegenerative Diseases (DZNE) Systems Medicine, Bonn

7-9 JANUARY 2026

The Short Course structure will include both interactive multidisciplinary seminars and hands-on bioinformatics sessions.

Students will gain knowledge on the basics of sequencing-based omics, on how to approach a single-cell transcriptomic analysis and their diverse applications in the drug pipeline, enlarging their knowledge on the use of sophisticated multi-omics techniques in drug discovery.

**LECTURE 1** : Wed, January 7, 2026, 14:00-16:00 @Aula 2 DSF

Free admission until full capacity

## Fundamentals of Transcriptomics

- Sequencing-based omics in a nutshell: definition and complementarity with reductionist approaches
- Transcriptomics and Epigenomics: overview of the major bulk and single-cell technologies
- Examples and rationale for the selection of the most suited omics approach in your research

**LECTURE 2** : Thu, January 8, 2026, 14:00-16:00 @Aula 2 DSF

Free admission until full capacity

## Omics-driven experimental and computational approaches in Drug Discovery

- Experimental platforms for the omics-based screening of drug candidates and MoA characterization
- Bioinformatic tools and pipelines to support omics-based drug discovery and repurposing

**WORKSHOP** : Fri, January 9, 2026, 9:00-13:00 @AID - Aula Informatica

Mandatory registration  
limited to 24 students

## Introduction to single-cell data analysis

- Bioinformatics tutorial: tackling single-cell transcriptomics data with the open-source processing pipeline Seurat

## INFO & CFU:

The SC is organized by prof. Barbara Gatto and Alice Sosic, Dipartimento di Scienze del Farmaco, Università di Padova.  
Info: [barbara.gatto@unipd.it](mailto:barbara.gatto@unipd.it) | [alice.sosic@unipd.it](mailto:alice.sosic@unipd.it)

2 CFU can be obtained by Pharmaceutical Biotechnologies students upon PASSED score at the FINAL TEST. Students of other Degree courses may obtained credits only after written authorization by their Degree Course.

NOTE: in presence attendance to all lectures and workshop is required to access the final test and to obtain the credits.

## MANDATORY REGISTRATION - BEFORE 25 NOV 2025

Required only for the complete Short Course (including Lectures, Workshop and Test)

<https://bit.ly/RNACOURSE-CARRARO-JAN26>

LECTURES @ AULA2

WORKSHOP @ AULA INFORMATICA (AID)

dsf

Dipartimento  
di Scienze  
del Farmaco