



University of Milano-Bicocca

Department of Statistics and Quantitative Methods

Seminar Series in Biostatistics

## Leveraging observational population-based studies for molecular target identification

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The growing availability of genomic information in population-based studies has made it practical to exploit this type of study design not only for observational purposes, but also to draw causal conclusions. This is possible thanks to the application of a particular type of instrumental variable analysis, known as Mendelian randomization (MR). When supported by appropriate causal reasoning, MR may help disentangle causal molecular pathways and to identify targets for both prevention and intervention. Through illustrative examples in the field of cardiovascular health, the seminar will discuss how MR can help falsify false beliefs, prioritize molecular targets for intervention, and help reducing costs of laboratory experiments, but also how MR can lead to false findings when conducted blindly. We ultimately advocate evidence triangulation as a robust methodology for establishing robust causal patterns.

Cristian Pattaro is group leader of Biostatistics and Genetic Epidemiology at the Institute for Biomedicine at Eurac Research. He is co-principal investigator of the Cooperative Health Research In South Tyrol (CHRIS) study and co-director of the Chronic Kidney Disease Genetics (CKDGen) consortium. His research focus is on the genetic epidemiology of kidney function and cardiovascular health and statistical genetics methods for population-based studies and meta-analysis

# Seminar

**When:** Friday, May 8, 2026 | 14:30-15:30

**Where:** University of Milano-Bicocca, U7, Aula Pagani, Room 3089

**Zoom:** <https://ki-se.zoom.us/j/65583355802>

**Further info:** Dr. Rino Bellocco ([rino.bellocco@unimib.it](mailto:rino.bellocco@unimib.it))

**In collaboration with:**

