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Department of Cardio-  
Thoracic-Vascular Sciences  
and Public Health



Biostatistics, Epidemiology  
and Public Health Unit

## 2023 Biostatistics, Epidemiology and Public Health School

**JOURNAL CLUB - 1:30 P.M - 2:30 P.M**  
**23th May, 2023**

**A recycling framework for the construction  
of Bonferroni-based multiple tests**

### Speaker

**Dr. Jacopo Gallocchio**

Fellowship at UBEP

### Moderator

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### Abstract

This article proposes a new framework for constructing Bonferroni-based multiple tests, called the "recycling framework". The framework is designed to increase the power of multiple tests while controlling the familywise error rate (FWER). The recycling framework achieves this by reusing previously computed p-values to construct more powerful tests. The authors demonstrate the effectiveness of the recycling framework in simulations and real data examples, showing that it can improve power while maintaining control over the FWER. The framework has potential applications in fields such as genomics and neuroscience, where large-scale multiple testing is common.

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