



# AGGREGATION FUNCTIONS: FROM THE ARITHMETIC MEAN TO THE AGGREGATION BASED ON NON-ADDITIVE MEASURES

Doctoral Seminar

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**2 OCTOBER 2025**

TIME 15.00

**LOCATION**

**SALA VIGLIANO  
CASTELLO DEL VALENTINO  
POLITECNICO DI TORINO**

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**SPEAKER:**



**Prof. Matteo Brunelli**  
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**DISCUSSANT:**

**Prof. Marta Bottero**  
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## ABSTRACT

We address the challenge of **combining lists of numerical values** into a single representative figure.

This issue is particularly relevant in **ranking scenarios** where multiple numerical assessments need to be condensed into one final score.

Practical examples include aggregating jury members' votes into a single value **and combining scores of alternatives based on various criteria**.

The measurement of composite indicators for **SDG** (Sustainable Development Goals) and **ESG** (Environmental, Social, and Governance) is a timely and important example of such real-world problems.

An **aggregation function** is designed specifically to perform this task. We will outline its definition and scope. Our approach begins with the simplest method—the average—and demonstrates how its limitations in **real-world applications** have led to various extensions and modifications, which in turn have been applied to model and address practical challenges.