



Contribution ID: 154

Type: **Symposium**

## Mathematical Reasoning in University Physics

*Tuesday 27 August 2024 11:30 (1h 30m)*

Physics and mathematics are deeply connected. However, there is ample research that mathematical reasoning in physics is not at all trivial for students. We present four contributions that discuss different aspects of mathematics and mathematical representations in university physics. The first contribution discusses student understanding of the Laplacian in the heat equation. In the second contribution, we report on students' interpretation of graphs representing non-constant acceleration motions. Study three deals with students' reasoning processes while constructing graphs. The last contribution reports on the translation and administration across different institutions in Europe and the U.S. of two instruments measuring quantitative reasoning.

### How would you like to present your contribution?

Live in Kraków (time slot to be allotted based on the programme)

### Target education level

University

### Category

Formal Education

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**Session Classification:** Symposium

**Track Classification:** Evaluation and Assessment of Student Learning and Development