



15th International Congress on Mathematical Education

7-14 July 2024 • ICC Sydney, Australia
Come and be counted

Topic Study Group 1.8: Teaching and learning of calculus

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Team details

Co-Chair

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Guershon Harel (University of California, United States)

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Jianpan Wang (East China Normal University, China)

Overview

This Topic Study Group seeks contributions on research and development in the teaching and learning of Calculus, both at upper secondary and tertiary level. Submissions of papers and proposals for posters will address advances, new trends, and important work done in recent years on the teaching and learning processes of Calculus. These can include:

- Precalculus topics, such as students' understanding of the mathematics of change;
- The transition from pre-calculus to calculus;
- Introducing and building basic concepts of Calculus in upper secondary and/or tertiary education;





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- Meeting the challenges of teaching and learning Calculus and Analysis at universities and through online courses;
- Teaching and learning of Calculus for special audiences (e.g., professional training, engineering, life sciences);
- Use of technology in the teaching and learning of Calculus, including online courses;
- The role of visualisation in the teaching and learning of Calculus;
- Analysis of textbooks concerning the presentation of the concepts of Calculus and Analysis;
- Easing the transition between secondary and tertiary education in the teaching and learning of Calculus, and between Calculus and Analysis at the tertiary level; and
- Theoretical approaches to study the phenomena related to the teaching and learning of Calculus.

Submissions can also describe theoretical or pragmatic research into effective practices for the teaching and learning of key concepts of Calculus such as co-variation of functions, limits, continuity, differentiation, integration, or the Fundamental Theorem of Calculus, among others.

How to make a submission to this Topic Study Group

Submissions for Topic Study Group Papers and proposals for Posters open 28 April 2023 via the official ICME-15 website, icme15.org. The website also contains a timeline of dates for the activity of the Topic Study Groups in the lead up to the Congress.

For questions about this TSG, please contact the Co-Chairs using the email addresses provided.

