

The Essence of Mathematics Education in Undergraduate Level CALL FOR PROPOSALS

Topic Study Group 9 (TSG9) is dedicated to addressing issues pertaining to *The Essence of Mathematics Education in Undergraduate Level*. The goal of TSG9 is to showcase and examine a variety of theoretical and empirical approaches for studying mathematics education at the undergraduate level, including post-secondary, tertiary, and graduate levels. We especially look forward to receiving submissions from different countries that describe current work on issues of mathematics education for post-secondary students and their instructors, in all areas of mathematics so that we can hear and represent diverse perspectives.

Mathematics Education in the undergraduate level, is a thriving field of international research and development as can be attested by the substantive work that has been advanced in several Conferences of the European Research in Mathematics Education (University Mathematics Study Group), the International Journal for Research in Undergraduate mathematics Education, and the biennial INDRUM conference. A significant volume documenting both research and development tied to practice was published in 2002 (Biehler et al., 2022), and a special issue of [Educational Studies in Mathematics](#) (Martino, et al., 2023) was devoted to experiences across educational contexts regarding the transition from school into university mathematics. A recent survey on didactic research in university mathematics education (Biehler, et al., 2024) suggests that while substantive work has been done in early courses in undergraduate programs (e.g., calculus, linear algebra), and that questions of transitions from secondary to tertiary mathematics education have been extensively documented, the field has been exploring new areas concerning (1) innovations in theory, practices in teaching and technology, and motivation and values; (2) a broader sets of contexts to explore transitions, and (3) proofs and proving in advanced mathematics. Added to these, a significant area of scholarship relates to students' understanding of advanced mathematics.

In this TSG will accept contributions on topics that may encompass, but are not limited to, the following three areas:

Faculty and future teachers preparation, for example:

- The preparation of faculty for teaching advanced mathematics courses
- Teaching variations in university mathematics for mathematics majors and non-mathematics majors
- The double discontinuity between university mathematics courses and school mathematics in teacher preparation

Students and their learning, for example:

- Students' understanding of higher level mathematical topics
- Students' understanding of mathematical concepts in interdisciplinary contexts
- Student assessment
- Student transition to university

Resources for Learning and Teaching, for example:

- Models of Instruction in undergraduate settings
- Resources for learning and teaching
- Textbooks and technology usage in university courses

We welcome submissions of theoretical, methodological, empirical (quantitative, qualitative, and mixed-method), or developmental research on any of the areas and topics noted above. Research will be on undergraduate contexts (e.g., university, post-secondary, vocational, higher education, etc.). We look forward to receiving your contributions!

References

- Biehler, R., Durand-Guerrier, V., & Trigueros, M. (2024). New trends in didactic research in university mathematics education. *ZDM–Mathematics Education*, 1-16. <https://doi.org/https://doi.org/10.1007/s11858-024-01643-2>
- Biehler, R., Liebendörfer, M., Gueudet, G., Rasmussen, C., & Winsløw, C. (2022). *Practice-oriented research in tertiary mathematics education*. Springer. <https://doi.org/https://doi.org/10.1007/978-3-031-14175-1>
- Di Martino, P., Gregorio, F., & Iannone, P. (2023). Transition from school into university mathematics: experiences across educational contexts. *Educational Studies in Mathematics*, 113(1), 1-5. <https://doi.org/10.1007/s10649-023-10217-0>

Submission Guidelines

Length of Proposal: Proposals should be no more than four pages.

Language: Proposals must be written in English.

Format: Proposals should use the template for EARCOME 9.

(https://www.earcome9.org/earcome9/05_view.html?sMenu=05&s=l&bldx=MTM=)

Please use the webportal: <https://www.earcome9.org/abstract/01.html?sMenu=01>
to submit your proposal.

Timeline:

- Proposal Submission: February 1, 2025
- Notification of Acceptance and Feedback to Authors: March 31, 2025
- Revision Submission: April 30, 2025

Additional information can be found in EARCOME 9's website:

(<https://www.earcome9.org>)

Topic Study Group 9 Contact Information

For additional information or inquiries, please feel free to reach out to the team members listed below:

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