

Preface

*Stefan Götz**, *Evelyn Süss-Stepancik†*

This special issue is dedicated to the 13th International Congress on Mathematical Education (ICME-13). This congress is held every four years. It is a worldwide meeting and a great opportunity to get in touch with various colleagues from countries all over the world. In 2016 ICME-13 took place in Hamburg (Germany) from 24th of July to 31st of July.

Due to the short distance from Austria to the venue (note that the next congress will hold in Shanghai in 2020!) many researchers from the Austrian community participated in ICME-13. Some of them will publish in the proceedings which will appear by Springer. Other contributions by Austrian authors are the content of this issue.

We are proud to be able to present eleven papers. The main part of the conference was divided in 54 “Topic Study Groups” (TSG). They

“[...] will therefore promote the discussion of a variety of perspectives on the theme of the Group. The TSG will consist of high-standard discussions enabling the newcomer to get a broad overview on the state-of-the-art and allowing the experts to lead discussions at a high level.” (13th International Congress on Mathematical Education (ICME-13), 24 – 31 July 2016 in Hamburg, 2nd Announcement, 14)

Each TSG offered different kinds of contributions: Presentations (20 minutes), Oral Communications (10 minutes) and Posters. In this issue contributions of all these kinds are presented.

So the reader of this issue will find a compact overview on recent research topics of the Austrian subject didactics in mathematics. We are thankful to all contributors that we are able to publish this synopsis. We also thank Gernot Greschonig for technical support and the editorial board for permitting this special issue.

Content

Presentations

1. Ann Cathrice George, Alexander Robitzsch
An Alternative Approach for Measuring Gender Differences in Mathematical Sub-Competencies
TSG 52: Empirical methods and methodologies

Oral Communications

2. Christoph Ableitinger
Tutors' Qualification in Responding to Pupils during private lessons
TSG 46: Knowledge in/for teaching mathematics at secondary level
3. Stefan Götz, Evelyn Süss-Stepancik
School Mathematics and Mathematical Training: Two Hotspots in the Curriculum Development for Teacher Education
TSG 37: Mathematics curriculum development
4. Markus Hohenwarter, Zoltán Kovács, Tomás Recio
Deciding Geometric Properties Symbolically in GeoGebra
TSG 18: Reasoning and proof in mathematics education

* Universität Wien, Institut für Mathematik, Oskar-Morgenstern-Platz 1, 1090 Wien.

E-mail: stefan.goetz@univie.ac.at

† Pädagogische Hochschule Niederösterreich, Mühlgasse 67, 2500 Baden.

E-mail: evelyn.stepancik@ph-noe.ac.at

5. Barbara Kimeswenger
Addressing Quality Aspects of Dynamic Mathematics Materials
TSG 42: Uses of technology in lower secondary mathematics education (age 10 to 14)
6. Edith Lindenbauer
The use of dynamic worksheets to support functional thinking in lower secondary school
TSG 42: Uses of technology in lower secondary mathematics education (age 10 to 14)
7. Christian Spreitzer
Modeling a real pendulum with smartphone sensor technology
TSG 21: Mathematical applications and modelling in the teaching and learning of mathematics
8. Annika M. Wille
Developing mathematical language proficiency in preservice teacher education: a case study
TSG 31: Language and communication in mathematics education

Posters

9. Christian Dörner
What kind of financial mathematics should be taught in math classes?
TSG 23: Mathematical literacy
10. Roland Gunesch
How, when, where and why do students use lecture recordings?
TSG 02: Mathematics education at tertiary level
11. Cornelia Plunger
Model- and Context-oriented Reflection in Mathematics Classrooms
TSG 23: Mathematical literacy

Stephan Götz

Jelena Šušteršič

Wien and Baden, March 2017