INDRUM2018

Second conference of the
International Network for Didactic Research in University Mathematics
April 5-7, 2018, Kristiansand (Norway)
http://indrum2018.sciencesconf.org/

Third announcement

INDRUM 2018 is an ERME Topic Conference: http://www.mathematik.uni-dortmund.de/~erme/

We are pleased to announce INDRUM2018, the second conference of the International Network for Didactic Research in University Mathematics, to be held April 5-7 in Kristiansand at the MatRIC Centre (University of Agder, Norway). The themes to be addressed at INDRUM2018 will build on those addressed at INDRUM2016 and will cover a range of issues concerning teacher and student practices and the teaching and learning of specific mathematical topics at undergraduate and post-graduate level as well as across disciplines. The target audience of this conference is researchers in didactics of mathematics, mathematicians and teachers and researchers who are interested in these issues. The conference programme will include: a plenary talk; an expert panel discussion; 6 thematic working groups (5 hours and a quarter each); short communications in parallel (two sessions of 2 hours) and a standing poster exhibition. Duncan Lawson (Newman University, United Kingdom) will be the plenary speaker. The main language of the conference is English. Preconference proceedings will be distributed to registered participants. The final version of the proceedings will be posted on the open archive HAL. A book reporting from INDRUM2016 and INDRUM2018 will be published in the Routledge ERME Series. This conference falls within the remit of the activities of INDRUM, an initiative set up by an international team of researchers in didactics of mathematics at university level. This research project aims to contribute to the development of research in didactics of mathematics at all levels of tertiary education, with a particular focus on support for young researchers in the field and for dialogue with the mathematics community.

Scientific programme

Plenary talk: Lessons for mathematics higher education from 25 years of mathematics support
Duncan Lawson (United Kingdom)
Thursday April 5th 10:00-11:30
Presentation of posters and of Thematic working groups
Thursday April 5th 12:00-13:00
Plenary panel: Preparation and training of university mathematics teachers
Panelists: Rolf Biehler (Germany), Barbara Jaworski (United Kingdom), Frode Rønning (Norway), Megan Wawro (United States) - Chair: Carl Winsløw (Denmark).
Friday April 6th 16:30-18:30

Thematic working groups (TWGs)
TWG1: Calculus and Analysis
Chairs: Maria Trigueiros (Mexico), Fabrice Vandebrouck (France)
TWG2: Mathematics for engineers; Mathematical Modelling; Mathematics and other disciplines
Chairs: Alejandro S. González-Martín (Canada), Ghislaine Gueudet (France)
TWG3: Number, Algebra, Logic
Chairs: Faiza Chellougui (Tunisia), Viviane Durand-Guerrier (France)
TWG4: Students' practices
Chairs: Elena Nardi (United Kingdom), Chris Rasmussen (United States of America)
TWG5: Teachers' practices
Chairs: Marianna Bosch (Spain), Simon Goodchild (Norway)
TWG6: Transition to and across university
Chairs: Thomas Hausberger (France), Reinhard Hochmuth (Germany)

International Programme Committee

Chair: Viviane Durand-Guerrier (France)
Co-chair: Reinhard Hochmuth (Germany)
Members: Marianna Bosch (Spain), Simon Goodchild (Norway), Thomas Hausberger (France), Ninni Marie Hogstad (Norway), Elena Nardi (United Kingdom), Chris Rasmussen (United States of America), Carl Winsløw (Denmark).

Local Organising Committee

Chair: Simon Goodchild (Norway)
Members: Lillian Egelandsaa (Norway), Thomas Hausberger (France), Ninni Marie Hogstad (Norway), Elisabeth Rasmussen (Norway)

Timetable

Thursday April 5th 2018		
9:00 – 9:30	Registration	
9:30 – 10:00	Opening ceremony	B1 007
10:00 – 11:30	Plenary – Duncan Lawson (Newman University, United Kingdom) Lessons for mathematics higher education from 25 years of mathematics support	B1 007
11:30 – 12:00	*Coffee-break*	
12:00 – 13:00	Plenary: Presentation of posters (3 min maximum) + TWGs (3 min maximum)	B1 007
13:00 – 14:30	*Lunch*	
14:30 – 16h30	Parallel presentations session 1	TWGs rooms
16:30 – 17:00	*Coffee-break*	
17:00 – 18:30	Thematic Working groups session 1	TWGs rooms
Friday 6th April 2016		
9:00 –11:00	Parallel presentations session 2 Discussion	TWGs rooms
11:00 – 11:30	*Coffee-break*	
11:30 – 13:00	Thematic Working groups session 2 – Discussion	TWGs rooms
13:00 – 13:45	*Lunch*	
13:45 – 14:45	Poster session	
14:45 – 16:00	Thematic Working groups session 3 –ERME book input	TWGs rooms
16:00 – 16:30	*Coffee-Break*	
16:30 – 18:30	Panel: Education and professional development of University Mathematics Teachers Rolf Biehler, Universität Paderborn (Germany), Barbara Jaworski, Loughborough University (United Kingdom) Frode Rønning, Norwegian University of Science and Technology (Norway), Megan Wawro Virginia Tech (United States) Chair: C. Winslow (University of Copenhagen, Denmark)	B1 007
19:00	*Gala Dinner*	
Saturday 7th April 2016		
9:00-10:00	Thematic working groups session 4 – preparation plenary reports	TWGs rooms
10:00-11:30	Plenary: Thematic working groups reports	B1 007
11:30 -12:00	Closing ceremony	B1 007
12:00-14:00	Farwell lunch	

Plenary: Lessons for mathematics higher education from 25 years of mathematics support

Duncan Lawson and Tony Croft

INDRUM Keynote Presentation

The scale and scope of mathematics support within UK universities have grown significantly since the 1990s. Mathematics support has evolved from a 'cottage industry' initiated by enthusiasts into a main-line student support provision overseen by institutional senior managers. Over this 25+ year period, the importance of the mathematical sciences in other disciplines has similarly boomed. No longer is it just engineering and physics undergraduates who need to acquire highly developed mathematical skills. Today geographers, bioscientists, sociologists and political scientists (to name but a few) have to be more skilled than ever before with understanding mathematical and statistical models and methods, particularly if they are to be able to access the international research literature and compete in the international employment market. Just as in the 1980s and 1990s, the Engineering Council produced reports warning of 'the mathematics problem', so in the 2000s and 2010s, the British Council and Royal Society of Arts have done the same. This presentation will outline how mathematics support has developed throughout the UK to meet this increasing demand. Whilst the initial impetus for mathematics support came from a desire to improve the mathematical learning of students from other disciplines, it is an indisputable fact that a significant proportion of the users of mathematics support has been, and remains, mathematics undergraduates. This gives us cause to reflect: why is mathematics support so attractive to mathematics undergraduates? To answer this question, we explore the views of mathematics undergraduate students as expressed through the National Student Survey and in focus groups and individual interviews. The views the students express shed light on the reasons why many of them find mathematics support to be an attractive resource to support their learning.

Panel: Education and professional development of University Mathematics Teachers

Rolf Biehler, Universität Paderborn (Germany),

Barbara Jaworski, Loughborough University (United Kingdom)

Frode Rønning, Norwegian University of Science and Technology (Norway)

Megan Wawro, Virginia Tech (United States)
Chair Carl Winsløw (University of Copenhagen, Denmark)

Abstract: The theme of this panel may surprise some, as university teachers of mathematics typically hold a PhD in mathematics or some adjacent field, and in many places some "pedagogical training" is also foreseen. However, university teaching presents still more challenges (in many places: more inhomogeneous or different student groups to teach), and opportunities (including new technology, and – we hope – useful resources from research on UME). For all of these reasons, the panel will address the following questions:

1. What is the current, typical preparation of University Mathematics Teachers for their function as teachers? What "in-service" opportunities for teacher development exist? - naturally, answers will depend both on countries and institutions, but sharing experiences could help to provide an updated picture of how the "professional knowledge of UME teachers" is currently built and sustained.
2. Do the current preparation and opportunities for development meet the demands that exist or can be foreseen? Could the preparation and development opportunities be improved, for instance by giving university teachers (more) access to selected parts of current research on UME, and possibly also participate in research and development projects? What initiatives exist, and which could be imagined as beneficial – both to increase the impact and quality of research on UME, and of UME itself?