

# Closing Ceremony



June 10<sup>th</sup> – 14<sup>th</sup> 2024

Barcelona (Spain)



# LOC Chair

## Ignasi Florensa

## Evaluation form

→ Let us know  
how it was for  
you and how we  
can do better!



<https://forms.office.com/e/NYwMyvAP0t>

# Chairs of INDRUM2024

Alejandro S. González-Martín and Ghislaine Gueudet

# Big THANK YOU to all

- The members of the **INDRUM2024 IPC**
- Special thanks to the chair and co-chair of INDRUM2022:
  - ◆ María Trigueros and Berta Barquero, and to all previous co-chairs
- Coordinators of the **INDRUM early career researchers' workshop**
  - ◆ Elena Nardi and Megan Wawro to make it possible
- The **INDRUM2024 keynote speaker and reactor**,
  - ◆ Marianna Bosch and Yves Chevallard
- The **INDRUM2024 panel chair and panellists**,
  - ◆ Laura Branchetti, Frank Feudel, Felix Ho, Ricardo Karam, Noemí Ruíz Munzón
- The members of the **INDRUM INSC** and all the reviewers
- All the presenters and participants

# Big THANK YOU to the TWGs

## → The **INDRUM2024 TWG co-leaders of the 5 thematic working groups**

- ◆ **TWG1: Teaching and learning of analysis and calculus**  
Chairs: Erik Hanke (Germany), Rafael Martínez-Planell (Puerto Rico)
- ◆ **TWG2: Teaching and learning of linear and abstract algebra**  
Chairs: Yael Fleischmann (Norway), Megan Wawro (USA)
- ◆ **TWG3: Mathematics and other disciplines**  
Chairs: Matija Bašić (Croatia), Ida Landgärds-Tarvoll (Norway)
- ◆ **TWG4: Teacher education and knowledge**  
Chairs: Imène Ghedamsi (France), Pedro Nicolás (Spain)
- ◆ **TWG5: Teachers' and students' practices and experience**  
Chairs: Athina Thoma (UK), Olov Viirman (Sweden)

# Big THANK YOU to the TWGs



**TWG1:** Teaching and learning of analysis and calculus



**TWG2:** Teaching and learning of linear and abstract algebra



**TWG3:** Mathematics and other disciplines



**TWG4:** Teacher education and knowledge



**TWG5:** Teachers' and students' practices and experience

# Conference proceedings: content

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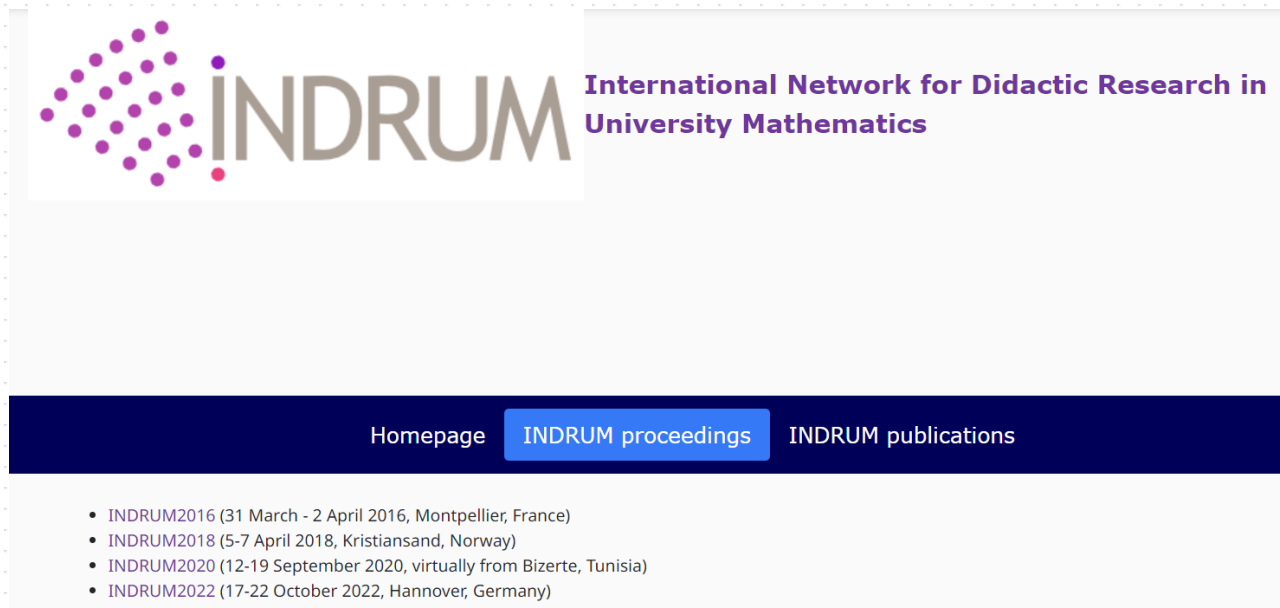
- A **short editorial** by the IPC chair and co-chair
- **Plenary lecture** (up to 20 pages, ref. included)
- **Plenary panel** (up to 30 pages, ref. included), coauthored by the panel chair and panelists
- **Final manuscripts** of the presented papers and posters
- **TWG reports** (up to 5 pages per group, ref. included), co-authored by the co-leaders of each group

# Conference proceedings: procedure

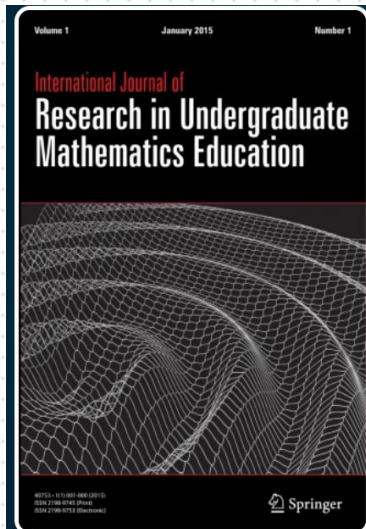
- For all the texts: **Follow the INDRUM Template** (include an **abstract up to 10 lines, no page numbers, APA7 norms for the references including DOIs ...**)
- For the papers (10 p.) and poster presentations (2 p.): **Deadline August 20<sup>th</sup>**  
The online submission system will open again on **June 17<sup>th</sup>** for those of you wishing to upload a final version of your paper (as a replacement of the previous pdf file). Please upload **ONLY PDF FILES**. If you intend to conduct revisions involving anything more substantial than typographical changes or minor rephrasing for the purpose of clarification, please contact us with a brief outline of these intended revisions ([a.gonzalez-martin@umontreal.ca](mailto:a.gonzalez-martin@umontreal.ca), [ghislaine.gueudet@universite-paris-saclay.fr](mailto:ghislaine.gueudet@universite-paris-saclay.fr))
- For the other texts (Plenary, Panel, TWG reports): **Deadline September 30<sup>th</sup>**. Please send us a Word file by e-mail.

# Conference proceedings: publication

The final proceedings should be ready by December 2024 and should soon after be available on HAL (<https://hal.science/INDRUM/page/indrum-proceedings>).



# INDRUM2024 Opportunities for publishing



Consider transforming your paper or poster proposal into a journal paper!

Elise Lockwood  
[elise.Lockwood@oregonstate.edu](mailto:elise.Lockwood@oregonstate.edu)

Ghislaine Gueudet  
[ghislaine.gueudet@universite-paris-saclay.fr](mailto:ghislaine.gueudet@universite-paris-saclay.fr)

Elena Nardi  
[E.Nardi@uea.ac.uk](mailto:E.Nardi@uea.ac.uk)

Alejandro S. González-Martín  
[a.gonzalez-Martin@umontreal.ca](mailto:a.gonzalez-Martin@umontreal.ca)

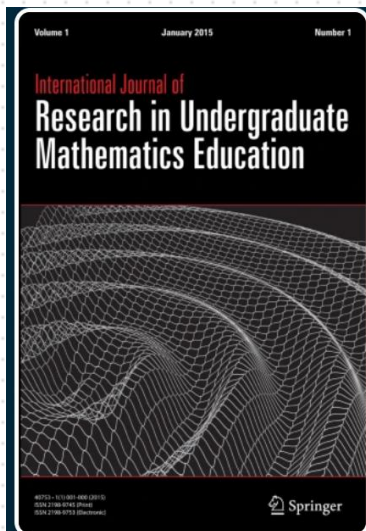
## Theme

**University teachers' practices, knowledge, and training**

In the planning phase

More information during the Fall

# INDRUM2024 In search of reviewers



We are looking to expand our list of reviewers!

Do let us know if you are interested. Contact us for more information.

Elise Lockwood

[elise.Lockwood@oregonstate.edu](mailto:elise.Lockwood@oregonstate.edu)

Elena Nardi

[E.Nardi@uea.ac.uk](mailto:E.Nardi@uea.ac.uk)

Alejandro S. González-Martín

[a.gonzalez-Martin@umontreal.ca](mailto:a.gonzalez-Martin@umontreal.ca)

Check out our  
[guidelines](#) to  
reviewers!

# INDRUM Joint Co-ordinators

Elena Nardi and Thomas Hausberger

Thank you!

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LOC

LOC Chair

IPC Chairs

*What a team!*

Common ground may  
start from...  
frivolous things



# Common ground may start from... frivolous things 😊

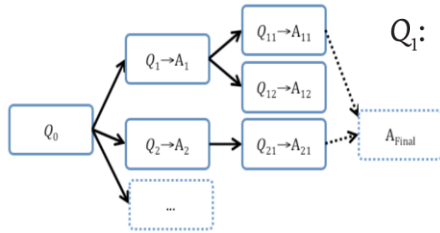


- 9) Evolución de las ventas semanales de las camisetas one-print desde el 15 de febrero de 2010 en la tienda de las Ramblas 136 (Barcelona):

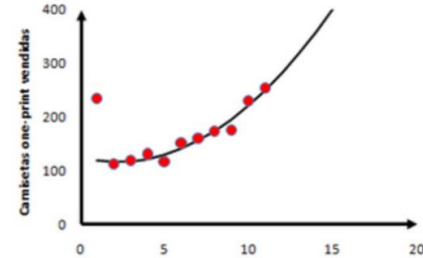
Semana	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
Camisetas one-print vendidas	233	112	118	130	116	151	159	173	175	230	253

- 10) Evolución de las ventas semanales de las camisetas one-print desde el 1 de marzo de 2010 en la tienda de la Rambla de Catalunya 140 (Barcelona):

Semana	1	2	3	4	5	6	7	8	9	10
Camisetas one-print vendidas	100	101	107	115	125	140	140	164	194	210



How to forecast the sales of the company, given some time-series real data?



# INDRUM: an ERME Topic Conference (ETC)

erme.site



Home Purpose **Conferences** Publications YERME Mail-list Awards Bye-laws Board About

## Topic Conferences

### Idea of ETCs

#### General Idea of ERME Topic Conferences

From 2016 on, ERME has held ERME Topic Conferences on different topics.

ERME Topic Conferences (ETC) are conferences organised on a specific research theme or themes related to the work of ERME as presented in associated working groups at CERME conferences. Their aim is to extend the work of the group or groups in specific directions with clear value to the mathematics education research community.

ERME Topic Conferences are led by ERME members who have been working group leaders and have research credentials in the thematic areas proposed. They build explicitly on European research in mathematics education and attract participation from researchers from Europe or beyond. ETCs build on European research while valuing wider perspectives. They have an interdisciplinary or multifaceted nature, bringing together participants that usually attend different Thematic Working Groups in CERME. The preparation of the ETC follows a procedure similar to the preparation of the Working Groups at CERME, using similar guidelines, with possible adaptations. Besides the communication and collaborations that may evolve from this activity, the expected result of the ETC is to produce a set of refereed proceedings, under the name of ERME, that may be available online or in print or both and that contributes, by itself, to the advancement of knowledge in our field. These initiatives normally take place during the year in which CERME does not take place.

#### Recent Posts

- Get ready for CERME 14 – Feb. 4-8, 2025
- Presubmission support, CERME14
- In memoriam Guy Brousseau (1933-2024)
- Proceedings from CERME13 ready (including HAL)
- ERME Topic Conferences 2024
- YESS13 – second announcement & Pre YESS13 event



ERME is affiliated with ICMI

## ETC in 2024

**ETC 18: GAME. Game-based and Playful Approaches to Mathematics Education**  
9 – 10 September 2024, Rome, Italy. Further information available at [www.game-conference.eu](http://www.game-conference.eu)

**ETC 17: MEDA 4. Mathematics Education in the Digital Age**  
3 – 6 September 2024, Bari, Italy. Further information available at <https://www.dm.uniba.it/ricerca/convegna/2024/meda4/meda4>

**ETC 16: Language and Social Interaction in Heterogeneous Mathematics Classrooms**  
20 – 22 August 2024, Halle, Germany. Further information available at <https://didaktik.mathematik.uni-halle.de/etc16/>

**ETC 15: INDRUM 2014. International Network for Didactic Research in University Mathematics**  
10 – 14 June 2024, Barcelona, Spain. Further information available at <https://indrum2024.sciencesconf.org>

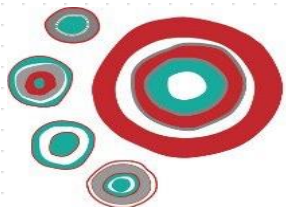
**ETC 14: FAME 2024. Feedback and Assessment in Mathematics Education**  
5 – 7 June 2024, Utrecht, The Netherlands. Further information available at [www.uu.nl/fame](http://www.uu.nl/fame)

## What comes next...

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- The **INDRUM network mailing list**: [indrum@umontpellier.fr](mailto:indrum@umontpellier.fr) for communication of information through the INDRUM network about its activities or other events that may be of interest to its members
- **To subscribe**: send an empty message to [sympa@umontpellier.fr](mailto:sympa@umontpellier.fr) with objet: **subscribe indrum Surname Name**
- The list is moderated by the members of the INDRUM network coordination group (INCG)
- To contact the INCG: [indrum-incg@umontpellier.fr](mailto:indrum-incg@umontpellier.fr)

# INDRUM: a vibrant event amongst other vibrant events



## 15th International Congress on Mathematical Education

7-14 July 2024 • ICC Sydney, Australia

Come and be counted

e.g. TSG3.2

**MATHEMATICS EDUCATION  
AT TERTIARY LEVEL**



## HERENGA DELTA 2021

The 19th Southern Hemisphere Conference on the Teaching and Learning of Undergraduate Mathematics and Statistics

22 - 25 November

Tāmaki Makaurau | Auckland NZ

Delta, since 1997

Special Interest Group of the MAA on  
Research in Undergraduate Mathematics Education

RUME, since 2002

Not forgetting, national events, e.g.



network for excellence in  
mathematics and statistics support

CETL-MSOR Conference 29-30 Aug 2024

RUME Conference: February 7 – March 1, 2025

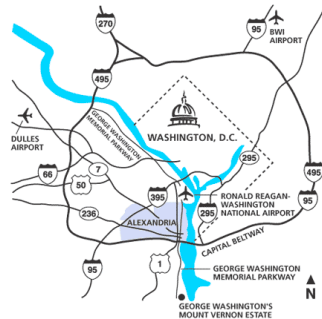
In-person  
AND  
hybrid

THE 27TH ANNUAL CONFERENCE ON RESEARCH IN UNDERGRADUATE MATHEMATICS EDUCATION



## RUME 2025 in Alexandria, VA

Hosted by the Virginia Tech Department of Mathematics  
February 27 - March 1, 2025



Conference Website:  
[rumeconference.com](https://rumeconference.com)

Paper submissions due:  
September 10, 2024

Poster submissions due:  
November 15, 2024

Conference email:  
[rumevirginia@gmail.com](mailto:rumevirginia@gmail.com)

Join the RUME listserv!  
[https://groups.google.com/u/0/g/rume\\_list](https://groups.google.com/u/0/g/rume_list)

INDRUM: a vibrant event amongst other vibrant events

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And, of course....



<https://www.cerme14.it/>

4<sup>th</sup> – 8<sup>th</sup> February 2025 in Bozen-Bolzano (It)

## Deadlines

- Jun 30 Deadline for “early bird” submission
- July 1 Submission open
- Sep 15 Deadline for submission of papers and posters
- Sep 15 Deadline for request of financial support



### Chairs of the Committees

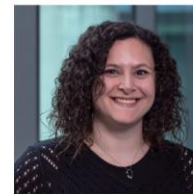
#### Local Organizing Committee



Chair Giorgio Bolondi



Co-Chair Michael Gaidoschik



Co-Chair Camilla Spagnolo

#### International Program Committee



IPC-Chair Marianna Bosch



IPC Co-Chair Susana Carreira

→ 29 Thematic Working Groups TWG

→ Plenary sessions:

**General Topic:** The problem of the evolution of the mathematical curriculum given the new society's demands

**Plenary 1:** *Curriculum changes.* **Ferdinando Arzarello** (Italy).



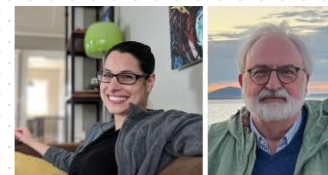
**Plenary 2:** *Sustainability and Mathematics Education.*

Dialogue between **Kjellrun Hiis Hauge** (Norway) and **Alf Coles** (UK).



**Plenary 3:** *Data science and statistics education.*

Dialogue between **Michelle Wilkerson** (USA) and **Rolf Biehler** (Germany).



## → Novelties:

- Participants submit to one TWG and choose a **second-option TWG**
- **Limited** number of accepted contributions (papers & posters) to 600
- A **rejection rate** higher than in previous conferences might be expected
- **Same review template** for theoretical and empirical studies
- Accepting a paper as a poster will be **exceptional** (not an option for reviewers)

## → Groups closely related to University Mathematics Education:

- **TWG14:** University Mathematics Education → Irene Biza as leader
- **TWG25:** Teaching and Learning of Calculus (New) → Laura Branchetti as leader

## TWG14: University Mathematics Education

Leader: Irene Biza Co-leaders: Ignasi Florensa, Ghislaine Gueudet, Mathilde Hitier, Athina Thoma, Olov Viirman

### Indicative topics:

- **the teaching and learning of mathematical topics**, including proof and modelling (also note call for papers of the other TWGs, including the new TWG25 on “Calculus Teaching and Learning”);
- **students’ experiences** of university mathematics;
- **inclusion, access** and **equity** in UME;
- **transition** issues at the entrance, across and beyond university mathematics;
- the role of **resources**, including digital, in the teaching and learning of university mathematics;
- opportunities and challenges presented by the **use of AI** in UME;
- challenges for, and **novel approaches to, teaching** mathematics at university level;
- **teacher preparation**, professional development and practices of university mathematics;
- **collaborative research**, for example, between university mathematics teachers and researchers in mathematics education; and,
- **theoretical and methodological approaches** in university mathematics education research.

**15 September 2024 - Deadline for submission of papers and posters**

## TWG25: Teaching and Learning of Calculus

Leader: Laura Branchetti Co-leaders: Vahid Borji; Anatoli Kouropatov ; Jana Peters; Farzad Radmehr

### Indicative topics:

- Calculus related concepts from Grade 7 to college.
- Students' preparation for learning calculus, including topics such as variable, covariation, graphs, graphical thinking, functional thinking, rates of change, and accumulation.
- The fundamental notions of calculus, including derivative as rate of change, integral as accumulation, differentials, continuous, derivable integrable functions and the fundamental theorem of calculus (also multi-variable calculus)
- Extra-mathematical contexts for learning calculus as well as the notions of calculus as they are being used outside of mathematics proper, for example in-service courses addressed to non-mathematicians at tertiary level, teaching in other disciplines at secondary school, or modelling.
- Calculus as preparation for further mathematical development such as the idea of differential equation.
- Calculus as a discipline that is different from analysis.

### We welcome different viewpoints:

- Historical, philosophical, epistemological, disciplinary, and interdisciplinary (including computer science and AI)
- Cognitive, affective, embodied, multimodal, social, and cultural, intervention design, argumentation and proving

**15 September 2024 - Deadline for submission of papers and posters**

# 3<sup>rd</sup> Calculus Conference



MatRIC Centre for Research  
Innovation and Coordination  
Mathematics Teaching

*CalcConf2*

The Learning and Teaching of  
Calculus Across Disciplines

*Bergen (Norway; June 2023)*

# 3<sup>rd</sup> Calculus Conference



## MathExcellence

Excellence project of the Mathematics Department of the Università degli Studi di Milano

### CalcConf3

The Learning and Teaching of Calculus Across Disciplines. Vol 2.

16-20 June 2025



UNIVERSITÀ DEGLI STUDI  
DI MILANO

DIPARTIMENTO DI MATEMATICA  
"FEDERIGO ENRIQUES"

# 3<sup>rd</sup> Calculus Conference

Laura Branchetti (Milan, IT)

Alejandro González-  
Martín (Montreal, Canada)

Olivia Levrini (Bologna, IT)

Sibel Erduran (Oxford, UK)

Frank Feudel (Berlin, DE)



FEDORA



## Scientific Committee

INDRUM 2026  
is on the way already!  
With thanks to Matija Bašić and Željka  
Milin Šipuš, and their team

DUBROVNIK, 15 – 19 JUNE 2026

...and so is  
INDRUM 2028!

Check the website for the  
**INDRUM Hosting Application**  
**Form and Process**  
if you are thinking about 2030  
and beyond 😊

We now declare  
INDRUM2024 closed!

**Thank you all for your work!**

**Meet you again very soon and in  
INDRUM2026**

**INDRUM2024. June 10<sup>th</sup> – 14<sup>th</sup> 2024**

**Barcelona (Spain)**

