

ATEE Winter Conference 2026
Science and Mathematics Education in the Digital Era
March 30th to April 1st 2026

CONFERENCE REPORT

University of Minho, June 2026

1 - Introduction

The University of Minho, Braga, Portugal, has hosted the Winter Conference 2026 of the Association for Teacher Education in Europe (ATEE), March 30th to April 1st, 2026.

Founded in 1973, the University of Minho has two major poles: the campus of Gualtar in Braga, and the campus of Azurém in Guimarães. It is currently among the most prestigious institutions of higher education in the country, and it has also gradually come to assert itself on the international level. The University organisational structure is flexible and conducive to innovation and interdisciplinary practices, favouring the exploration of emerging research areas. The teaching and research units - Schools and Institutes - are the basic structures of the University: School of Architecture, Art and Design, Sciences, Medicine, Law, Economics and Management and Political Science, Engineering, Psychology and School of Nursing, and Institute of Social Sciences, Institute of Education and Institute of Arts and Humanities. A research unit –I3B's was recently created. The courses and research projects have been gaining an increasingly strong international recognition. The University of Minho is a research university, committed to the valorisation of Knowledge, Research, Development and Innovation, and it is also focused on the socio-economic environment, with many successful partnerships in research, cultural, and socio-economic development projects. It belongs to the Arqus Universities Alliance and the European University Association, which has considered this University a case study of good practices at the European level. The university occupies important places in several international rankings, for its performance in teaching, research, and sustainability levels.

Science and Mathematics teacher education are key educational projects of the University, at both the graduation and post-graduation levels, and they are supported by research produced by the CIEd's researchers on Science Education and Mathematics. Some of these researchers are members of ATEE and belong to the RDC on Science and Mathematics Education. Hence, it was an honour to locally organize the ATEE Winter Conference 2026 at the University of Minho, which was an initiative of the previously mentioned RDC.

2 - Conference Committees

A local Organizing Committee and an academic committee were appointed for the conference.

The Academic Committee included 36 outstanding science and mathematics education researchers from all over the world. It was co-coordinated by Laurinda Leite, an ATEE member and a science educator from the University of Minho, and by Lorraine Harbinson, the RDC chair and a mathematics educator from Dublin City University.

The Organizing Committee included the following UMinho staff members: Laurinda Leite (Coordinator), Floriano Viseu, Luís Dourado, Luísa Carvalho, Maria Helena Martinho, and Sofia Morgado.

3 - Conference theme

Science and mathematics education is a relevant area not only for the ongoing scientific and technological development of modern, globalized, and digital societies, but also for citizenship education and the sustainability of the Planet. Moreover, it contributes to the full development of the individual learner.

Science and Mathematics teachers, teacher educators, and researchers can therefore help to make a difference beyond the classroom.

However, science and mathematics education are facing challenges associated with the digital transition. Thus, the ATEE Winter Conference 2026 focused on science and mathematics education in the digital era.

The goal of the Conference was to provide a platform for scholars worldwide to reconceptualize, recontextualize, and discuss conventional topics in science and mathematics education research in light of the digital paradigm, as well as to share and realistically discuss the emerging ones, considering their potential, limitations, and possible threats.

Additionally, as several countries are faced with the threat of teacher shortage, ways to attract students to science and mathematics, and teachers to the profession were also discussed.

Thus, the Conference encompassed a large set of subthemes that cover the diverse dimensions of the conference theme. The key aim of the subthemes was to help participants to understand the scope of the Conference theme. The conference subthemes were as follows:

- Role and features of science- and mathematics-related education in the digital era
- Science and mathematics-related literacies for a sustainable and digital future
- Science and mathematics materials (e.g., syllabi, textbooks, digital textbooks, etc) in the digital era
- Disciplinary and interdisciplinary approaches to science and mathematics education in the digital era
- Science and mathematics teacher education for a digital future
- Motivating and engaging science and mathematics students in the digital era
- Assessment in science and mathematics education in the digital era
- Opportunities and challenges offered by online science and mathematics education
- Artificial Intelligence in science and mathematics education
- Maker education for promoting STEM learning
- Robotics as an interdisciplinary STEM-promoting tool
- Gamification in science and mathematics education
- Digital labs and other technologies for science and mathematics education
- Digitalization and the leveraging of diversity and inclusion in science and mathematics education

4- Conference programme

The Opening Ceremony included short addresses by the Coordinator of the local organizing committee, Laurinda Leite, the Vice-president of ATEE, Ronny Smet, the President of the Institute of Education, Assunção Flores, and the Rector of the University of Minho, Pedro Arezes. A special welcome was given by a former student of the University of Minho, Eduardo Soares, who played Portuguese guitar.

Each of the two Keynote speakers addressed a key idea associated with the Conference theme, as follows:

- Margarida Romero (Artificial Intelligence Research Institute (IIIA-CSIC), Autonomous University of Barcelona, Spain) developed the theme ‘Creative applications of AI in Science and Mathematics Education’;
- Theodosios Sapounidis (Aristotle University of Thessaloniki, Spain) dealt with ‘The Impact of Robotics in STEM Education’.

A Panel coordinated by Lorraine Harbinson, included Paula Korsnakova (International Association for the Evaluation of Educational Achievement, Netherlands), Lucy Avraamidou (University of Groningen, Netherlands), Ana Paula Canavarro (University of Évora, Portugal), who brought their expertise to the discussion of “The challenges of science and mathematics education in the digital era”. Opposite to what was planned, at the last minute, Maria Assunção Flores (University of Minho, Portugal) was unable to participate in the panel.

Paper and Poster proposals for presentation at the Conference were submitted in two categories: empirical research and theoretical study. Abstracts for papers or posters, with no more than 500 words, were to be structured according to their category.

- Abstracts of papers or posters reporting on empirical research: Title of paper/poster; Name and affiliation of the author(s) of proposal; Context of the research; Research aim/question; Theoretical framework; Research methodology; Findings; Implications for teacher education; Relevance to European educational research and Conference theme.
- Abstracts of papers or posters focusing on a discussion of a theoretical issue: Name and affiliation of the author(s) of the proposal; Introduction of the topic/theme; Aim or argument leading question; Theoretical argument/framework; Concluding remarks; Implications for teacher education; Relevance to European

educational research and Conference theme.

Each participant was allowed to present a maximum of two papers and/or posters.

The ATEE Winter Conference 2026 Academic Committee members acted as peer reviewers for abstracts, and they will also referee the full papers submitted to the ATEE Winter Conference 2026 Proceedings. Empirical and theoretical paper and poster proposals were evaluated based on two evaluation forms given in Annex 1. Table 1 shows the number of papers and posters, from submission to acceptance.

Table 1: From proposals submitted to papers and posters presented

Type of submission	Submitted	Rejected	Accepted without reformulation	Accepted after reformulation	Dropouts	Abstracts published	Presentations at the Conference
Papers	79	0	2	77	15	62	62
Posters	23	0	0	23	3	20	20
Total	102	0	2	100	18	82	82

The closing ceremony included short addresses by the director of the UMinho Research Center on Education, José Palhares, the Vice-President of ATEE, Ronny Smet, and the coordinator of the local Organizing Committee, Laurinda Leite. They all expressed their satisfaction with the way the conference went, the quality of the papers, and the interesting discussions held.

As a Pre-conference activity, a visit to the Iberian Nanotechnology Laboratory (INL, near the *campus*) and another one to the secondary school Carlos Amarante (20 minutes' walk from the campus) took place on the afternoon of March 30th. Participants were invited to choose one of the visits, free of charge.

The origins of the Secondary School Carlos Amarante go back to the late nineteenth century. Throughout the years, the school underwent several changes and renovation work. Nowadays, it is one of the best-equipped and successful schools in Braga, which receives 7th to 12th graders. It is used to cooperate with the University of Minho, among others, for teacher training purposes and education projects.

The Iberian Nanotechnology Laboratory is an international intergovernmental research organisation aiming to perform cutting-edge research and development in nanotechnology and to function as an innovation integrator in multiple application domains. Its Research and Technology activities focus on: Information and Communication Technologies (ICT), Life Sciences, and Energy & Environment. The full-fledged nanotechnology laboratory enables leading research of the highest international standard.

The Social programme started with a Newcomers Meeting (held at the UMinho auditorium), aiming at introducing the first-time attenders to the ATEE organization and the RDC structure. They were welcomed by the Coordinator of the Organizing Committee, Laurinda Leite, the Vice-President of ATEE, Ronny Smet, and the Chair of the RDC on Science and Mathematics Education, Lorraine Harbison. Afterwards, a Welcome Reception was offered to all Conference participants and accompanying persons in the garden of the Institute of Education. Participants were greeted with the music and entertainment of GATUNA - Tuna Feminina Universitária do Minho.

A Social Dinner (at Hotel Meliã, Braga) was attended by more than 40 people. Entertainment was provided by the Grupo de Cavaquinhos de Esporões, who played cavaquinho (a small guitar, also known as ukulele) and sang traditional songs.

The Conference overall programme is given in Annex 2.

5 – Participants

The Conference was attended by 102 participants and 3 accompanying persons. The ATEE Conference participants came from 25 countries (Australia, Belgium, Brazil, Colombia, Croatia, Cyprus, Czech Republic, Germany, Greece, Ireland, Israel, Italy, Kazakhstan, Latvia, Mozambique, Norway, Poland, Portugal, Serbia, Spain, Sweden, The

Netherlands, Turkey, Ukraine, United States of America).

The ATEE Conference participants included ATEE members, ATEE non-members, students, accompanying persons, and the Organizing Committee, as shown in Table 2.

Table 2: Types of participants in the ATEE Winter Conference

Type of Participant		Number
Invited persons		7
ATEE Members and Portuguese participants	Early registration	36
	Late registration	3
ATEE Non-Members	Early registration	20
	Late registration	1
Students and low-income countries	Early registration	26
	Late registration	3
Organizing committee		6
Total of participants		102
Accompanying persons		3
Total of participants + Accompanying persons		105

6 – Finance issues

Table 3 shows the total income from Conference registration fees. Keynote speakers, people invited for the panel and the plenary, and members of the organizing committee were released from paying the conference fee. Members of the Academic were obliged to pay their normal fee. One person registered but afterwards gave up before the deadline for partial reimbursement.

Table 3: Income from Conference registration fees

Income	Number	Euro per unit	Amount (Euro)
ATEE Members and Portuguese participants (early registration)	36	240,00	8640,00
ATEE Members and Portuguese participants (late registration)	3	290,00	870,00
ATEE non-Members (early registration)	20	350,00	7000,00
ATEE non-Members (late registration)	1	450,00	450,00
Students and low-income countries (early registration)	26	150,00	3900,00
Students and low-income countries (late registration)	3	175,00	525,00
Accompanying Person	3	60,00	180,00
Drop out	1	175,00	175,00
Total	93	—	21 740,00

Table 4 shows the expenses, per item, according to the approved budget. No unforeseen expense was incurred.

Table 4: Conference cost information

Conference cost	Amount Spent (Euro)	Budget * (Euro)
Cultural Events (Opening ceremony – Portuguese Guitar, Welcome Reception - Gatuna + Social dinner – Grupo Cavaquinhos de Esporões)	1130,00	2700,00
Meals (Lunch + Welcome party + Coffee breaks)	4114,58	6380,00
Material (Copy and printing services; app; preparation of abstracts book) programme and proceedings)	1749,43 + 796,68*	3900,00
Invited people (keynotes and panel)	4877,98	5000,00
Staff costs	3593,33	4600,00
Transportations (City bus - TUB)	100,00	1000,00
Facilities (UMinho)	400,00	1227,60
Website and materials design	1874,00	1000,00
Overheads (UMinho)	1800,00	2000,00
Tokens (mouse pads)	364,00	600,00
Unforeseen expenses	0,00	747,40
Total Conference costs	20 800,00	29 155,00

* For ongoing proceedings

Table 5 shows the Conference finances balance. Because the number of participants was lower than expected, to achieve “balance zero”, expenses for several items had to be drastically reduced.

Table 5: ATEE Conference finance issues

Items	Amount (Euro)
Income	+ 21 740,00
Income ATEE	+ 1500,00
ATEE Fee	- 2440,00
Conference Costs	- 20 800,00
Balance	0,00

7 - Conference proceedings

Full papers (regarding papers or posters presented) should be submitted by June 30, through the Conference e-mail address. Full paper proposals will be peer reviewed, and afterwards, the accepted ones will be published in the Digital Conference proceedings. Proceedings should be ready by the end of November 2026. We will find ways of producing them at a 796,68 euros cost.

8 - Concluding remarks

The ATEE Winter Conference 2026, held at the University of Minho, looked at science and mathematics teaching, learning, and teacher education in the digital era. It enabled enlightening discussions on contemporary issues that encompass strong challenges for teachers, for students, for the school, and for society as a whole. Similar dilemmas (like students’ motivation, teachers’ teaching practices, and difficulty in dealing with digital technology issues) and even contradictions (want /have the resources but do not use or know how to use them) in countries all over the world were reported.

Science and mathematics education need reform, starting with a deep reform in in-service teacher education that values those who take in-service training relevant to the discipline they teach. Science and mathematics education is a complex process whose development may include resistance and turbulence because changes may be troublesome for many reasons. In addition, some digital technologies, artificial intelligence included, are a two-edged sword. However, despite the differences, the dilemmas, and even the contradictions between teachers’

conceptions and practices, we believe that science and mathematics teacher education can make a difference, as the successful experiences that were described in the Conference suggest.

Acknowledgements

Acknowledgements are due to UMinho, ATEE and RDC on Science and Mathematics Education, Conference Academic Council, INL, Secondary School Carlos Amarante, and Conference sponsors.

Conference sponsors

University of Minho, Institute of Education - UMinho, Departamento de Literacia, Didática e Supervisão - UMinho, Centro de Investigação em Educação – UMinho (na FCT research Unit), and TUB - Transportes Urbanos de Braga.

ANEXO 1

Evaluation sheets

ATEE WINTER CONFERENCE 2026

Science and Mathematics Education in the Digital Era

(March 30th to April 1st, 2026)

Evaluation of papers and poster proposals

Abstract Code: _____

Abstract Title: _____

Reviewer: _____

Conference Sub-theme: _____

Empirical research: _____ (use checklist 1) Theoretical issue: _____ (use checklist 2)

1 - Abstract evaluation (please, choose the appropriate checklist)

1.1 - Checklist 1 – Empirical research abstract evaluation

Items	Fair	Sufficient	Good	Very Good		Missing		To be improved
1 – Relevance for the conference theme								
2 – Originality of the research								
3 – Context of the research								
4 – Research questions / objectives								
5 – Theoretical framework								
6 – Research methodology								
7 – Results /findings								
8 – Implications for science/mathematics education in the digital era								
9 – Language accuracy								
10 – Consistency with the guidelines for authors								

Checklist 2 – Theoretical issue abstract evaluation

Items	Fair	Sufficient	Good	Very Good		Missing		To be improved
1 – Relevance for the conference theme								
2 – Originality of the research								
3 – Introduction of the topic /theme								
4 – Objective								
5 – Theoretical framework								
6 – Quality of the argument								
7 – Conclusions								
8 – Implications for science/mathematics education in the digital era								
9 – Language accuracy								
10 – Consistency with the guidelines for authors								

2 – Acceptance: Accept _____ Accept after minor revisions _____ Reject _____

3 – If accepted, should be presented: as Oral Communication: _____ as Poster _____

4 – Recommendations for revision (for each item marked for improvement, if applicable)

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ANEXO 2

Conference Overall Programme

Conference Overall Programme

Monday, March 30th (Pre-Conference)

14:30-15:00	Departure to visits
15:30-17:30	Visit to Secondary School Carlos Amarante or INL-Iberian Nanotechnology Laboratory
18:00-20:00	Welcome Reception

Tuesday, March 31st

08:30-9:30	Participants' registration
9:30-10:30	Opening ceremony
10:30-11:30	Keynote 1: Teachers as change agents: From technology consumption to creative production in education, Margarida Romero, Université Côte d'Azur, France
11:30-12:00	Coffee break
12:00-13:00	Parallel sessions
13:00-14:30	Lunch
14:30-16:00	Parallel sessions
16:00-16:30	Coffee break
16:30-18:00	Parallel sessions
19:30-22:30	Social dinner

Wednesday, April 1st

09:15-10:15	Keynote 2: The impact of robotics on STEM education, Theodosios Sapounidis, Aristotle University of Thessaloniki, Greece
10:15-10:30	ATEE Annual Conference announcement
10:30-11:00	Posters' session
11:00-11:30	Coffee break
11:30-13:00	Parallel sessions
13:00-14:30	Lunch
14:30-15:30	Parallel sessions
15:30-16:00	Coffee break
16:00-17:30	Panel*: The challenges of science and mathematics education in the digital era
17:30-18:00	Closing ceremony

*Participants:

Paula Korsnakova (International Association for the Evaluation of Educational Achievement, Netherlands)
Lucy Avraamidou (University of Groningen, Netherlands)
Ana Paula Canavarro (University of Évora, Portugal)
Maria Assunção Flores (University of Minho, Portugal)
Lorraine Harbison (Dublin City University, Ireland) - Moderator

- Notes:**
- Secondary School Carlos Amarante or INL - Iberian Nanotechnology Laboratory, Braga
 - Plenary sessions: Multimedia Auditorium, Institute of Education, Campus of Gualtar
 - Parallel sessions: rooms 1 - 5, ground floor, Institute of Education, Campus of Gualtar
 - Coffee break: main hall - Institute of Education, Campus of Gualtar
 - Lunch takes: Canteen, Campus of Gualtar
 - Welcome Reception: main hall, Institute of Education, Campus of Gualtar
 - Social Dinner: Hotel Melia, Braga