epiSTEME-11

An International Conference to Review Research in Science, Technology, Engineering, and Mathematics Education

5 – 8 January 2027

Conference Venue: Homi Bhabha Centre for Science Education (HBCSE), Tata Institute of Fundamental Research (TIFR), Mumbai, India

Conference Website: https://episteme11.hbcse.tifr.res.in/

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FIRST ANNOUNCEMENT & CALL FOR PAPERS

The epiSTEME conference series is a premier biennial event for Science, Technology, Engineering, and Mathematics Education (STEME) research. Hosted by the Homi Bhabha Centre for Science Education (TIFR) since 2004, it serves as a global platform to nurture scholarship and address the evolving educational aspirations of the country's vast student and teacher populations. By integrating international expertise with a unique, multidisciplinary focus on teaching and learning, epiSTEME remains a critical catalyst for strengthening the STEME field. Details of the past nine editions of the conference are available at https://www.hbcse.tifr.res.in/academic/episteme-conference.

Building upon two decades of scholarship, epiSTEME-11 arrives at the forefront of a global transformation in Science, Technology, Engineering, and Mathematics Education (STEME), convening researchers to address the multifaceted challenges of the field through four interdisciplinary and visionary themes.

Conference Themes

This edition of *epiSTEME* is organised around themes and strands that address issues of contemporary relevance, as outlined below. The list is not intended to be exhaustive; we also welcome submissions that engage with intersections across these areas. Contributions may be situated across primary, secondary, and tertiary levels of education, as well as within teacher professional development programmes.

Theme 1: Discipline-Based Educational Research (DBER) & Cognitive Studies in STEME

1. Conceptual change and knowledge representation in DBER, with a focus on how students build mental models, navigate misconceptions, and use external representations to internalize STEME concepts.
2. Learning sciences and cognition-based studies in DBER.
3. Strategies for building cognitive resilience, including how students' sense of belonging, interest, and confidence shape their persistence in STEME.
4. Peer-to-peer dialogue, shared argumentation, and collective reasoning in the development of deep conceptual mastery.

Theme 2: The Digital Turn in STEME

1. Exploring AI-assisted problem-solving, personalized learning pathways, and the role of Large Language Models in science and math classrooms.
2. Investigating smartphone-based laboratories for democratizing experimental science through accessible tools.
3. Using augmented reality, virtual reality, and complex simulations to render abstract scientific and mathematical phenomena more accessible, thereby supporting deeper meaning-making.
4. Integrating coding, data visualization, and algorithmic reasoning across the STEME curriculum.

Theme 3: Navigating Global Policy Reforms, Mentorship, and Teacher Education

1. Critical analysis of how national and international standards are redesigning curricula, assessment practices, and institutional structures in STEME.
2. Research on shifting educator mindsets, the role of collaborative learning, and the continuous professional development of STEME teachers.
3. Exploring the impact of robust mentorship and institutional academic advising on student success and educator retention in STEME.
4. Addressing the STEME pedagogical and systemic challenges students face when moving between middle, secondary, and tertiary education levels.

Theme 4: Knowledge, Culture, Socio-Scientific Issues in STEME

1. Investigating how the nature of Science and Math is constructed, validated, and communicated within formal and non-formal settings.
2. Exploring how local contexts, culture, and community knowledge systems intersect with formal STEME education.
3. Pedagogical strategies that leverage group dynamics, communities of practice, and collaborative environments to bridge equity gaps in the STEME classroom.
4. Empowering students to apply STEME thinking to global challenges such as climate change, sustainability, and social disadvantage.

Confirmed Review Speakers

Prof. Andreas Borowski University of Potsdam Potsdam, Germany *(Physics Edu. & Physics Teacher Edu.)*	Prof. Chochong Vareichung Shimray National Council for Educational Research & Training (NCERT), Delhi *(Environmental Science Education)*
Prof. Erin Dolan University of Georgia Athens, GA, USA *(Biology Education)*	Dr. Igor' Kontorovich University of Hong Kong Pok Fu Lam, Hong Kong SAR, China *(Mathematics Teaching and Learning at University Level)*
Prof. Gabriele Kaiser University of Hamburg Hamburg, Germany *(Maths Education & Maths Teacher Edu.)*	Prof. Sebastian Staacks, 2nd Institute of Physics, RWTH Aachen University, Germany *(Physics Education & Digital Tools)*
Prof. Mei-Hung Chiu, National Taiwan Normal University Taipei City, Chinese Taipei *(Chemistry Education & use of AI in Edu.)*	TBA

Paper Submission Guidelines

- Word limit: Max 3000 words excluding references and up to 5 figures.
- Review Process: Double-blind peer review by national and international experts.
- Publication: Accepted papers will be published in the Peer-Reviewed Conference Proceedings.

Timeline

- Paper Submission Portal Opens: 1 May 2026
- Last date for submission of paper: 25 June 2026.
- Notification of acceptance: 1 September 2026
- Registration Deadline (for foreign delegates): 1 October 2026
- Submission of revised manuscript: 15 October 2026
- Registration Deadline for Indian delegates: 1 December 2026

Academic Programme Committee

- Aniket Sule, HBCSE-TIFR, Mumbai (Co-convenor)
- Shweta Naik, HBCSE-TIFR, Mumbai (Co-convenor)
- Deepa Chari, HBCSE-TIFR, Mumbai
- Jonaki Ghosh, Lady Shri Ram College for Women, Delhi / Mathematics Teachers' Association
- Lakhan Lal Yadav, University of Rwanda
- Lakshmy Ravishankar, V. G. Vaze College, Mumbai / Association of Chemistry Teachers
- Lara Rodrigues de Andrade, Metropolitan University of Educational Sciences, Santiago, Chile
- Madan M. Chaturvedi, SGT University, Gurugram / Association of Teachers of Biological Sciences
- Mashood K. K, HBCSE-TIFR, Mumbai
- Mustafa Sözbili, Atatürk Üniversitesi, Erzurum, Turkiye
- Vanashri Nargund-Joshi, New Jersey City University, USA
- Vijay Singh, Indian Association of Physics Teachers

Registration Fees

The registration fees include access to conference sessions, registration materials, e-proceedings as well as all the meals on conference days.

Category	**Indian**	**Foreign**
Student / Postdocs	INR 2500	USD 150
Faculty / Teachers / Professionals	INR 5000	USD 300

Accommodation

The rooms at the HBCSE guest house and hostel will be available for accommodation of conference participants. Participants can avail the facilities at the following rates.

Type	**Indian**	**Foreign**
Twin Occupancy (4 nights)	INR 4000	USD 150
Single Occupancy (4 nights)	INR 8000	USD 300