The Local and Global History of Early Modern Mathematics: Material Culture as a Key

Samuel Gessner

PL - Theme 4

Portugal

Can a local museum inspire and challenge students of mathematics? The recreational side of mathematics has a long history – one that can be uncovered through museum heritage. This talk explores examples from the material culture of early modern mathematics, including manuscripts, early prints, and instruments. While mathematical concepts, techniques, and results can have global reach, mathematics has always been practiced within specific communities, places, and historical contexts. Local histories of mathematics offer a richer perspective on both the subject and the past of our own localities.

This talk presents a model of interdisciplinary collaboration that can be replicated anywhere. Since 2021, we have been developing a pilot project in Lisbon involving a mathematics teacher, museum staff, a product designer, and a historian of mathematics. Together, we have created low-cost models of historical instruments, inspired by authentic objects in local museums. These models serve both to engage students in mathematical reasoning and to foster inquiry into the mathematical past of their city.

References

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Samuel Gessner is an assistant researcher at the Center for History of Science and Technology (CIUHCT) and an invited professor at the Department of History and Philosophy of Science of the Universidade de Lisboa.

His research focuses on the diverse mathematical cultures in medieval and early modern Europe. He examines how they interacted by studying the role of mathematical and astronomical instruments as conceived by both theoreticians and practitioners. He emphasises using artefacts of material culture as primary sources, in particular mathematical and astronomical instruments, alongside textual documents.