

Episode 5

Measuring the Gap: The Gender Problem in Mathematics

by Tom Hedley

This podcast episode marks an important centenary: 100 years ago, in 1922, the trailblazing modern mathematician, Emmy Noether, was finally given a paid lectureship at the University of Göttingen in Germany. Despite a formidable reputation in her field, Noether had been denied paid academic work due to her gender and her Jewish heritage. She is now rightly recognized as one of the greatest mathematicians who ever lived, but she never really saw the rewards of her brilliance in her lifetime.



[In Mechthild Koreuber, *Emmy Noether, die Noether-Schule und die moderne Algebra* (Berlin: Springer, 2015), 303.]

While conditions for women in STEM and academia have certainly improved since Noether's day, even now, in Europe, only around 10-15% of permanent academic positions in mathematics are held by women, and women occupy just 3% of CEO positions in STEM industry. (<https://www.theatlantic.com/science/archive/2016/11/math-women/506417/>) To explore this lingering problem, I interview Professor **June Barrow-Green**, a historian of mathematics at the Open

University, **Iseult O'Rourke**, a mathematics and French teacher at Loreto Balbriggan, an all-girls secondary school in County Dublin, and **Mireia Martínez i Sellarès**, a PhD candidate in mathematics at Utrecht University, who has worked with the European Girls Mathematical Olympiad (EGMO).

We attempt to identify the obstacles stand in the way of a more equitable and fair academic environment and discuss how creating more meaningful connections between the sciences and the arts can help us overcome them. We ask: What cultural and societal perceptions hinder a welcoming environment for girls and women in mathematics? What can we do about it? Is mathematics inherently creative? How can connections between mathematics and literature, art and culture help shed light on inequalities in the subject in academia?

Full Bios

June Barrow-Green is a Professor of History of Mathematics at the Open University in the UK. She is chair of the International Commission on the History of Mathematics and a member of the Council of the British Society for the History of Mathematics, having served as the Society's President. She is also the Archive Curator for the IMU, and a Visiting Professor at the LSE. In 2021, Professor Barrow-Green was awarded the Royal Society Wilkins-Bernal-Medawar Medal for her research in 19th and 20th century mathematics. Special interests include analysing the under-representation of women in historical narratives and in contemporary mathematics and decolonising the mathematical curriculum.

Iseult O'Rourke is a full-time teacher of Mathematics and French at Loreto Balbriggan in County Dublin. She is a graduate of Trinity College Dublin, where she studied mathematics and French, before progressing to a teacher training degree. She has also published research on the attitudes to mathematics in the classroom, with particular focus on female students.

Mireia Martínez i Sellarès is a PhD candidate and lecturing assistant at Utrecht University at the Mathematical Institute in the Netherlands. A graduate of the University of Barcelona, she completed her MSc at Utrecht before turning to research in the history of mathematics for her PhD. She also worked at the European Girls Mathematical Olympiad (EGMO) in 2020.

For more of Professor Barrow-Green's extensive academic endeavors, see <https://www.open.ac.uk/people/jebg2#tab2>.

For Iseult O'Rourke's research on gendered attitudes to mathematics in the classroom, see <https://www.tandfonline.com/doi/full/10.1080/03323315.2021.1910969>.

For more details of the EGMO (European Girls Mathematical Olympiad), where Mireia worked in 2020, see <https://www.egmo.org>.

For more information on Tom Hedley's research, see <https://www.tcd.ie/trinitylongroomhub/research/fellows/2020-21grad-fellows/Tom-Hedley.php>.