Thursday 25/1, 17:00, MR4

"Using mathematics to prevent harm."

Mathematics can be used to fight crime, avert destruction, and protect our society. But how far are we willing to go to do this, what are the drawbacks of such pursuits, and are they worth doing "at any cost"? In the pursuit of preventing harm and improving society, are we capable of doing even more harm in the process? There are instances when this is obvious, but also instances when it becomes somewhat opaque.

Thursday 1/2, 17:00, MR4

"The impartiality of mathematics."

We hold mathematics in very high regard, as the beacon of absolute truth. Mathematics does not have any intrinsic prejudice or bias; it reveals truth. But how do we infer meaning from truth? Mathematicians design systems to remove human subjectivity from decision making processes, to make them more impartial. Does this mean that that we've removed all subjectivity from the process? We must realise the strengths, and weaknesses, of the systems we design.

Thursday 8/2, 17:00, MR4

"Standing on the shoulders of giants"

Our understanding of mathematics comes from building on that of those who came before us; we are taught and mentored by them. We admire their work, and by extension we admire them as people. So how well do these mathematicians prepare us for the real world, and how much more do we need to know? We work very hard to emulate them, but we must be careful not to do so absolutely or without question.

Monday 12/2, 17:00, MR4

Professor Joanna Bryson (Bath/Princeton)

Professor Bryson's first and third degrees were in Psychology, while her 2nd and 4th were in Artificial Intelligence, so she approaches AI for the purpose of understanding human behaviour. Joanna has worked in AI ethics since 1996, and helped author the UK research councils' Principles of Robotics in 2010. Just in the last two months she's consulted to The Red Cross on autonomous weapons, Chatham House on the impact of AI on the nuclear threat, and she's currently advising the British Parliament, European Parliament, and the OECD regarding the regulation of AI.

Thursday 15/2, 17:00, MR4

"Winning with mathematics"

Mathematics is frequently used in competitive environments, to help people optimise their situation by finding the best tactical position to take. This is often very technical work, taking in to account all sorts of real-world factors to find the "winning" position. So how do we go about identifying all these factors, how do we weigh them all up, and what does it even mean to "win"? We can't solve a problem if we don't have an understanding of what we are solving and why we are solving it.

Thursday 22/2, 17:00, MR4

"Mathematicians being leaders."

The notions of "leadership" and "mathematics" are seldom mentioned together in conversation. Yet there are mathematicians who choose to be in, or inadvertently find themselves in, positions of management and leadership. These scenarios can arise in both in academia and in industry. But is it even possible for a mathematician to lead effectively? How do we reconcile our training in axiomatised mathematics with the interpersonal dynamics and social considerations that we must deal with as leaders? There is much more to leadership than bean-counting and number-crunching.

Thursday 1/3, 17:00, MR4

Professor Bonnie Shulman (Bates College)

Bonnie Shulman's focus is in Mathematical Physics but takes a strong interest in philosophy of science and mathematics. Throughout her academic career she has devoted attention on ethical issues that arise in mathematics alongside her mathematics research, which includes Mathematical Biology and Game Theory. Publications she has authored include "Is There Enough Poison Gas to Kill the City?: The Teaching of Ethics in Mathematics Classes" and "Using Original Sources to Teach Mathematics in Social Context".

Thursday 8/3, 17:00, MR4

"Our mathematical identity."

We are all part of the community of mathematicians. We use our own type of language and special terms, we gather together for events of mutual interest, and we even have our own mathematical "rock stars" whom we collectively hold in high regard. Thus, like members of any community, we strive to be individually recognised, and be the best. So what make the "best" mathematician? What is it that we are all striving for? What elevates a mathematician to a position of fame and renown? How do we get there, and do we even want to be there?

Thursday 15/3, 17:00, MR4

"Going back to the start."

We look back at what we have learned, to see how we can pursue these ideas further. What more can we do, how can we do it, and where do we begin? Mathematics is actually quite a social profession, in a way. How we interact with others has a great deal of influence on what work we choose to do, and choose not to do. Understanding this is extremely important.

All regular seminars given by Dr Maurice Chiodo.

All events in the Centre for Mathematical Sciences. More speakers TBC!

We see mathematics as a tool for doing good, because we can find good useful things to do with it. It is clearly used as a way for humans to understand, change, direct and manipulate the world around us. But, just as this can be for good, it can also be for bad. Indeed, those who have the greatest ability to understand and manipulate the world hold the greatest capacity to do damage and inflict harm.

We are the Cambridge University Ethics in Mathematics Society, and we are here to help mathematicians recognise the ethical questions that arise when doing mathematics. By hosting seminars, talks, and discussions, we hope to teach mathematicians about the harm that they can do, and give them some of the tools and insight that they will need to prevent such harm from taking place.

Committee:

President: John Helsby
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