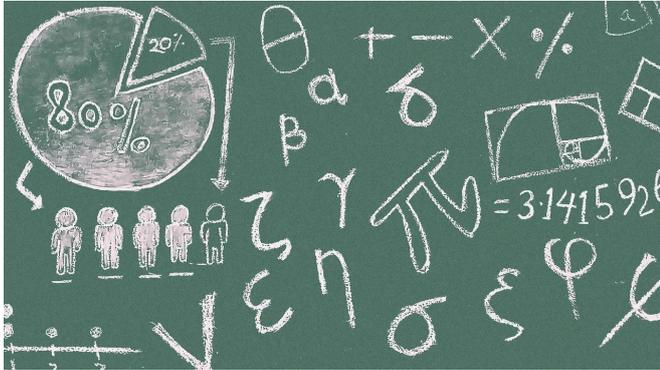


The Fields Medal fallacy: Why this math prize should return to its roots

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The Fields Medal, whose origins date back to the 1930s, will be issued again this year in August to up to four of the world's most accomplished mathematicians under the age of 40. In a commentary for [Nature](#), Michael Barany, a Society of Fellows post-doctoral fellow in history at Dartmouth, proposes that the Fields Medal return to its roots as a tool intended to shape the future of mathematics, rather than recognizing those who have already found the spotlight.

Issued every four years at the International Congress of Mathematicians, the Fields Medal has been likened to a Nobel Prize in mathematics. To date, 55 of the 56 recipients of this [prize](#) have been male and come from a narrow selection of institutional, disciplinary and geographic backgrounds compared with the discipline as a whole

"The current approach to the Fields Medal reinforces biases both within the [field](#) of mathematics and in broader public attitudes on what makes for a brilliant [mathematician](#) and typically overlooks how mathematics can be used to advance public good. Medalists today must

achieve notable milestones in their research and careers at a young age— something that is a lot easier for those with the most social and institutional privilege," explained Barany, who presented this research Friday at the Joint Mathematics Meetings of the American Mathematical Society and Mathematical Association of America.

Through research in Harvard University's archives, Barany draws on forgotten records behind the deliberations from two early Fields Medal committees, which show, in a way not possible with existing published materials, how the medal's purpose was interpreted following its origins in interwar international conflict.

In 1932, Canadian mathematician John Charles Fields called for the creation of an "International Medal for Outstanding Discoveries in Mathematics" that should be "in recognition of work already done" and "an encouragement for further achievement." According to Barany, early committees avoided rewarding the best-regarded mathematicians and focused instead on identifying those who could benefit from the boost of an international prize to make a difference in the discipline.

However, in 1966, the medal's meaning radically changed. The committee established a strict age limit of 40-years old, which opened the prize up to those who become famous early on in their careers. In addition, the prestige of the Fields Medal was elevated following a controversy relating to one of the medalists, whose colleagues defended him by comparing the Fields Medal to the much higher-profile Nobel prizes.

As Barany explains, shifting recognition to more established mathematicians embraced the kinds of judgement and rivalry that Fields aimed to avoid in its founding, and was counter to the Fields Medal's heritage. He says that future Fields Medal committees can learn from their predecessors'

insistence on using the award to make a difference for the future, and address ongoing challenges facing [mathematics](#) and its place in the world.

More information: Michael Barany. The Fields Medal should return to its roots, *Nature* (2018).

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