Dr. John Mighton, PhD, OC - Biography

Dr. John Mighton is an award-winning mathematician, playwright and best-selling author, who founded JUMP Math as a charity in 2002. He is internationally recognized for his ground-breaking work building children’s confidence, skills, and success in math.

John began tutoring children in math as a financially struggling playwright, though he had abandoned the subject for years after having nearly failed first-year calculus in university. His success in helping students achieve levels of success that teachers and parents had thought impossible fueled his belief that everyone has great untapped potential. The experience of repeatedly witnessing the heart-breaking paradox of high potential and low achievement led him to conclude that the widely held assumption that mathematical talent is a rare genetic gift has created a self-fulfilling prophecy of low achievement. A generally high level of math anxiety among many elementary school teachers, itself an outcome of that belief system, creates an additional challenge.

John had to overcome his own "massive math anxiety" before making the decision to earn a PhD in Mathematics at the University of Toronto. He was later awarded a Natural Sciences and Engineering Research Council (NSERC) Fellowship for post-doctoral research in knot and graph theory. He is currently a Fellow of the Fields Institute for Research in Mathematical Sciences and has taught mathematics at the University of Toronto. He has also lectured in philosophy at McMaster University, where he received a master’s degree in philosophy.

John developed JUMP (Junior Undiscovered Math Prodigies) Math to address academic and social inequities created by low expectations for students in math and to dispel the myth that only some people are naturally gifted at math while others are destined to struggle. What makes JUMP Math unique is the premise that anyone can learn mathematics, and anyone can teach it. His national best-seller, The Myth of Ability: Nurturing Mathematical Talent in Every Child, describes his approach and successes with the program. In 2007, John released a follow-up book, The End of Ignorance, as a further exploration of the JUMP Math philosophy and methods. In 2020, Alfred A. Knopf Canada published John’s third book on the subject, All Things Being Equal: Why Math is the Key to a Better World.

Through John’s leadership and innovation, JUMP Math has grown into an award-winning charitable organization dedicated to enhancing every child’s learning and life potential and addressing academic and social inequities through math education. Its evidence-based approach and comprehensive, curriculum-aligned Grades K-8 teaching resources empower educators in Canada, the US and other countries worldwide to build confidence, understanding and a love of mathematics in every student.

(Updated Sept, 2022)
In recognition of his lifetime achievements, John has received numerous awards. He is a recipient of the Fields Institute for Research in Mathematical Sciences’ 2022 Margaret Sinclair Memorial Award and the Canadian Mathematical Society's 2022 Adrien Pouliot Award. He has also been awarded a prestigious Ashoka Fellowship for social entrepreneurship, a Schwab Foundation Social Entrepreneur of the Year award, an Ernst & Young Social Entrepreneur of the Year award for Canada, and six honorary doctorates. In 2010, he was named an Officer of the Order of Canada. John is also the recipient of the 10th Annual Egerton Ryerson Award for Dedication to Public Education and 2021 President’s Award from the Professional Engineers of Ontario.

John is frequently consulted as a thought leader on math education. He has been featured in Scientific American Mind, The New York Times and The Globe & Mail, among other media. He has given hundreds of talks and training sessions, including a TEDx talk, the Nerenberg Lecture at the University of Western Ontario, the Hagey Lecture at the University of Waterloo, and a Public Lecture at the Perimeter Institute (broadcast by TVO). John was also invited by The New York Academy of Sciences to give a keynote at the Aspen Brain Forum and was invited as a contributor to the 2015 World Economic Forum in Davos.

As a mathematician and a playwright, John believes that there are more connections between the arts and sciences than people generally see, as mathematicians are often led by a sense of beauty or elegance in their work. His own plays have been performed across Canada, Europe, Japan, and the United States, and he has won several national awards including two Governor General’s Literary Awards for Drama, the Dora Award, the Chalmers Award, and the Siminovitch Prize. His play, Possible Worlds, was made into a full-length feature film of the same name by Robert Lepage. In a twist of fate, he played Matt Damon’s math tutor in the 1997 movie, Good Will Hunting.

To learn more about John Mighton and JUMP Math, visit: jumpmath.org.