The ABC Mysteries

In 2012, the Japanese mathematician Shinichi Mochizuki released a series of four papers, 'Interuniversal Teichmueller Theory I, II, III, IV', totaling over 500 pages and relying on several thousand pages of prior work, that claimed to prove the ABC-conjectures, a subtle statement about the simplest of possible equations: A+B=C. To this day, the correctness of the proof is not completely settled, in spite of heated debate, publication, and media attention. How could this happen in a subject with as clear criteria of correctness and a high degree of valuative consensus as mathematics? Some have even claimed that East-West cultural tensions have contributed to the impasse. This lecture will present a brief review of this perplexing 'social problem' of our mathematical times, together with some commentary on mathematical truth, proof, and practice.

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Minhyong Kim is Director and Sir Edmund Whittaker Professor of Mathematical Sciences at the International Centre for Mathematical Sciences in Edinburgh. He works on arithmetic geometry. Minhyong studied mathematics at Seoul National University and then received his PhD in Mathematics at Yale University. He has held professorships at Purdue University, the Korea Institute for Advanced Study, University College London, and the University of Oxford, where he was head of the number theory research group. Before moving to Edinburgh, Minhyong was Christopher Zeeman Professor of Algebra, Geometry, and Public Understanding of Mathematics at the University of Warwick. He has given numerous presentations on a wide range of topics in mathematics and its interface with other domains of inquiry, especially physics and economics, and published nine books for the layperson.

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