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The IUT Innovator Prize aims to encourage the development of researches related to IUT theory and the research activities of the younger generation. The IUT innovator award will be awarded annually to the best paper that includes new and significant developments in the field of IUT theory and its related areas, with prize money ranging from $20,000 to $100,000, starting from 2024 and for a period of 10 years.

After a strict examination by a panel of experts commissioned by the Inter-universal Geometry Center, the first IUT Innovator Award will be awarded to the paper

"Explicit estimates in inter-universal Teichmüller theory",
by Shinichi Mochizuki, Ivan Fesenko, Yuichiro Hoshi, Arata Minamide, Wojciech Porowski,
published in Kodai Math. J. 45 (2022), pp.175-236

The authors of the paper, Shinichi Mochizuki, Yuichiro Hoshi, Arata Minamide, and Wojciech Porowski of the Institute for Mathematical Sciences, Kyoto University, will receive a prize of US$100,000 (Ivan Fesenko declined to accept the prize money).

Professor Mochizuki and his co-authors hope to donate the prize money to the Research Institute for Mathematical Sciences, Kyoto University, as funds to support research activities related to inter-universal Teichmüller theory and related anabelian geometry.

About the winning paper:
The paper contains an enhanced version of the inter-universal Teichmüller (IUT) theory of Shinichi Mochizuki. This stronger version is applied to prove, for the first time in the history of mathematics, several effective abc inequalities with explicitly given constants.

The first application of the established effective abc inequalities is an entirely new proof of one of the most famous results in mathematics: Fermat's Last Theorem. The proof uses one of the proven effective abc inequalities, a new lower bound on possible positive integer solutions of the Fermat equation, obtained by P. Mihailescu via more classical number theory arguments, and some computer verifications.

In a similar fashion, integer solutions of various types of equations with integer coefficients can be now studied by deriving, using more classical number theory, lower bounds on their possible solutions and then applying the effective abc inequalities, maybe with some computer verifications. This fundamentally changes the area of number theory called Diophantine geometry, the area which has been studied from antiquity.

The authors of the award-winning paper:
Shinichi Mochizuki: Professor, Research Institute for Mathematical Sciences, Kyoto University
Ivan Fesenko: Distinguished Professor, West Lake University (China), Deputy Director of IUGC
Yuichiro Hoshi: Associate Professor, Research Institute for Mathematical Sciences, Kyoto University
Arata Minamide: Special Assistant Professor, Research Institute for Mathematical Sciences, Kyoto University
Wojciech Porowski: Special Assistant Professor, Research Institute for Mathematical Sciences, Kyoto University