MALEVICH'S PAINTED SQUARES AND THE BIRCH AND SWINNERTON - DYER CONJECTURE

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In 2000, the Clay Mathematics Institute published a list of the 7 mathematical problems of the millennium, and awarded 1M $ to the solution of each of them.

One of the 6 remaining open problems is: The Birch and Swinnerton-Dyer conjecture, stated in the mid-1960's. This conference is an improbable journey through time, mathematics and art: starting ca 250 AC with Diophantus of Alexandria, the journey leads us through Fermat's 17th century, up to nowadays knowledge. Along the way, Malevich's "Black Square on a White Ground" from 1913 shows up. A surprise, but a natural and welcome surprise after all.

Considered as a turning point in abstract art, Malevich's suprematism movement, which leaded to his famous "Black square", refers to an art based upon the supremacy of "pure artistic feeling" rather than on the depiction of objects.

This talk owns a "Malevichian" character. The speaker obviously hopes to clearly explain what the problem is. However his main goal is to provide the audience with a "feeling of" --- and, who knows? maybe a "feeling for" --- the Birch and Swinnerton-Dyer conjecture: one of the most challenging problems of today's science.