

Conferință Lunară

Strings, modular forms, and moonshine

Don Zagier

(Max Planck Institute for Mathematics, Bonn)

Joi 14 septembrie 2017, ora 12:30
IMAR, Amfiteatrul Miron Nicolescu, parter

Abstract: In his last letter to Hardy, four months before his early death in 1920, Ramanujan gave a list of 17 power series that he called “mock theta functions” and that he was sure would eventually become important in mathematics. An understanding of the properties of these functions and their generalizations (“mock modular forms”) came only in 2002 with the thesis of Sander Zwegers, and it later transpired that they also play an important role in physics, e.g. in the string theory of black holes. They have also occurred in recent years in the discovery of new varieties of “Moonshine” (Mathieu moonshine, umbral moonshine,...) generalizing the famous Monstrous Moonshine of the 80s. The talk will give a survey of some of these developments.