

**Minicourse III: Monstrous Moonshine**

Lecturer:

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A starting point was the paper of 1979 by J.H. Conway and S.P. Norton entitled "Monstrous Moonshine". It comprises several seeming-coincidences relating the Monster group (in that time its existence was only conjectured) to modular forms. Since this original paper many more connections of modular forms to sporadic simple groups were discovered. They all are collectively referred to as Moonshine.

In 1998 R. Borcherds won the Fields medal in part for his work where he proved the original conjectures of J.H. Conway and S.P. Norton. The proof opened connections of the representation theory and the theory of modular forms to mathematical physics.

In my lectures I will try to explain the basic notions and to describe the key moments of the Moonshine in its classical version. If the time permit, I will sketch some generalizations and say several words about open problems.

The course contains 2 lectures.