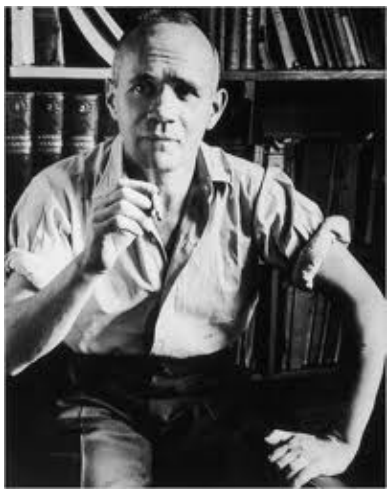
Seminários Genet-Roussel



Palestrante: **Reimundo Heluani** (IMPA)

Data: **19 de outubro** (sexta-feira)

Local: Sala 3-011 do ICMC

Horário: 14:00-16:00

Mathieu's Moonshine

Studying string theory with a K3 surface as background, physicists have found numerical evidence of a possible appearance of Mathieu's M24 group as a "hidden symmetry" of these surfaces. In this talk we will set up the problem in a rigurous mathematical framework and review recent progress.

From a physicists' perspective the conjecture is simple to state: "There is an action of M24 on the chiral part of the N=2,2 supersymmetric sigma model with target a K3 surface commuting with the N=4 supersymmetry algebra". From the mathematics perspective it reads as "There exists a vertex operator algebra V structure on the elliptic genus of a K3 surface with an action of the N=4 superconformal vertex algebra and a commuting action of Mathiew's M24 sporadic group". We plan to elucidate some of these terms as well as what the numerical evidence mentioned above is.