

**LABORATORI NAZIONALI DEL GRAN SASSO**

**SEMINAR ANNOUNCEMENT**

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**SO(10): the quest for the  
minimal theory**

*Though being on the market for the last about 38 years it is still not clear whether the grand unification idea is by any means reflected by Nature. Nevertheless, the next generation of large-volume facilities, such as Hyper-Kamiokande, will offer a unique possibility to probe the proton stability to a level which has never been explored, thus reiterating the question of the testability of the simplest grand unified scenarios. Among the grand unified models, SO(10) stands out for its beauty and its striking connection with neutrino masses. From a theoretical point of view it is natural then to try to predict the lifetime of the proton in the minimal conceivable SO(10) scheme. This important point requires the consistency between the symmetry breaking dynamics, the unification constraints and the fermionic spectrum, and will be the main subject of my talk.*

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