Ruđer Bošković Institute
Division of Theoretical Physics
Twinning Lectures

H2020 CSA Twinning
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SELECTED TOPICS ON THE STANDARD MODEL AND BEYOND

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LECTURE 1: THE STANDARD MODEL OF PARTICLE PHYSICS IN A NEW PHYSICS PERSPECTIVE
Monday, May 15, 2 p.m.

LECTURE 2: GRAND UNIFIED EXTENSIONS OF THE STANDARD MODEL
Tuesday, May 16, 11 a.m.

LECTURE 3: THE NATURALNESS PROBLEM OF THE STANDARD MODEL AND ITS POSSIBLE SOLUTIONS IN THE LIGHT OF LHC DATA
Wednesday, May 17, 11 a.m.

Venue: Lecture hall, Ivan Supek Wing

ABSTRACT:

In the first lecture I will present the Standard Model (SM) in a form that is particularly suitable to incorporate new physics extensions and I will discuss the features of the SM that represent a challenge for such extensions. In the second lecture I will discuss the possibility to account for all the SM gauge interactions in terms of a unified theory, and in particular the simplest implementation of such a possibility based on the SU(5) group. In the last lecture I will critically review the Naturalness argument associated to the Higgs mass. The expectation that the LHC would have by now found signals of new physics was based on that very argument. I will therefore discuss its status in the light of the lack of such signals so far.

http://rbi-t-winning.irb.hr/

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