



# Prirodno-matematički fakultet - Niš Odsek za fiziku, Katedra za teorijsku fiziku



Seriya predavanja:

**PREDAVAČ: PROF. DR LUDMIL HADJIIVANOV**

Elementary Particles Theory Lab., INRNE,  
Bulgarian Academy of Sciences, Sofia, Bulgaria

## SYMMETRIES IN FIELD THEORY

Utorak, 29. juna 2010. godine, od 13:15 časova

**Lecture 1:** Groups - an introduction. Various types of groups and group structures. Representations. Schur's lemma.

Sreda, 30. juna 2010. godine, od 13:00 časova

**Lecture 2:** Space-time groups (rotation group, Lorentz and Poincaré groups, conformal group). Groups of internal (gauge) symmetries (Standard Model and GUTs). Examples and applications.

Četvrtak, 1. jula 2010. godine, od 11:00 časova

**Lecture 3:** Semisimple Lie groups and Lie algebras - general theory and finite dimensional representations. Schur-Weyl duality. Superselection sectors. Observables and symmetries in QFT. Supersymmetry.

**MESTO: SVEČANA SALA PMF-A (I SPRAT), VIŠEGRADSKA 33**

Predavanja se realizuju u okviru UNESCO projekta „Training and Mobility Program. Promotion of excellence and growing of the youth's interest for education in Physics and Mathematics“, koji u okviru SEENET-MTP mreže (Southeastern European Network in Mathematical and Theoretical Physics) realizuju Fizički fakultet u Krajovi (Rumunija) i PMF u Nišu.

<http://www.seenet-mtp.info/>