

IPM School on Higher Spin Theory
 School of physics, IPM, Tehran, Iran
 15-19 February, 2016 (26-30 Bahman 1394)
Program

Venue: Farmanieh Conference Hall

	10:00 -12:00	13:00-13:30	13:30-15:30	15:30-16:00	16:00-18:00
15 February, 2016 Monday		Registration	Dario Francia (D1)	Break	Xavier Bekaert (X1)
16 February, 2016 Tuesday			Dario Francia (D2)	Break	Per Sundell (P1)
17 February, 2016 Wednesday			Xavier Bekaert (X2)	Break	Per Sundell (P2)
18 February, 2016 Thursday		Dario Francia (D3)		Xavier Bekaert (X3)	Break

Title of Talks:

D1: General introduction and motivations; wave eqs for irreps of the Poincare' group; free Lagrangians; connections and curvatures, Bargmann-Wigner-like eqs.

X1: No-go results.

D2: (A)dS spaces, Cartan gravity in flat and (A)dS backgrounds, MMSW action, frame-like higher spins: towards Higher-Spin algebra.

P1: Group theory (singletons, enveloping algebras and HS representations, oscillators) , Cartan integrable systems (free differential algebras, integrability from gauge symmetry, Alexandrov–Kontsevich–Schwarz–Zaboronsky formalism) ,Unfolding Fronsdal fields (free spin 0,1,2 and $s>2$).

X2: Cubic vertices from Noether method, Metsaev bounds on derivatives, Fradkin-Vasiliev mechanism.

P2: Classical HS gravity in 4D: Vasiliev's equations (perturbative gauging, deformed oscillators, Lorentz symmetry) ,Solution space (gauge functions, normal versus Weyl order, instantons, black holes and massless particles).

D3: More general types of particles on flat and (A)dS backgrounds in arbitrary D.

X3: Aspects of Higher Spin holography.

P3: Quantization and strings: Frobenius-Chern-Simons model (dynamical two-form, superconnection, AKSZ action, HS amplitudes and free energy), 2D Poisson sigma models (Kontsevich star product, Cattaneo-Felder model, fermion model and p-forms, gauged model, HS amplitudes),Tensionless strings (AdS centrifuge, string partons, two-parton states and 2D PSM).