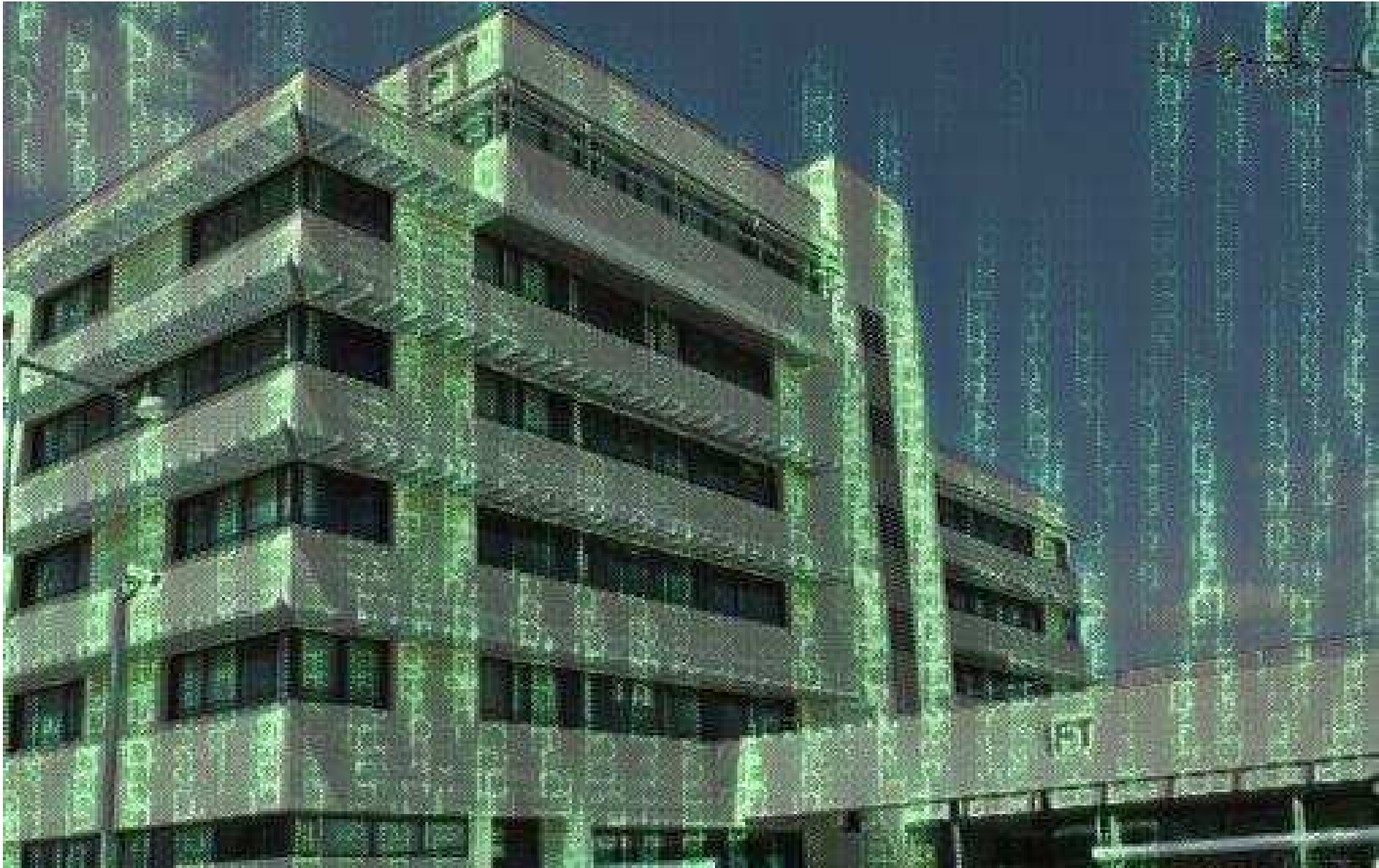# IFT: Plans for the LHC Run 3 and the HL-LHC

IFT members:

private, simple counting according to web page . . .

Senior staff: 29

Ramon y Cajal: 5

Atraccion de Talento: 7

Postdocs: 18

Students: 55

Total: 114

IFT members:

private, simple counting according to web page . . .

out of these possibly LHC related (not model building)

Senior staff: 29   13

Ramon y Cajal: 5   3

Atraccion de Talento: 7   2

Postdocs: 18   5

Students: 55   no idea . . .

Total: 114   23 + students

Areas of interest - possibly LHC related

– SM at the LHC

– BSM at the LHC

– Flavor physics

– neutrino physics

– lattice QCD

– . . .

Active participation in the LHCHXSWG, . . .

Plans for the LHC Run 3 / HL-LHC (I)

SM measurements:
– development of improved strategies for precision measurements
– development of (tools for) BSM prediction
– inclusion in BSM precision analyses

BSM searches:

Test of CMSSM, pMSSM, . . . :
– development of fast application of search results
– inclusion in global fits (MasterCode)

Test of the $\mu\nu$SSM:
– reinterpretation of existing/new searches
– development of search strategies

Dark Matter searches:
– improved predictions for LHC DM searches
– inclusion in global (SUSY, no-SUSY) fits (MasterCode)

Plans for the LHC Run 3 / HL-LHC (II)

BSM Higgs searches:
– development of fast application of search results (HiggsBounds)
– inclusion in global fits (MasterCode)
– application to specific models (HxSM, 2HDM, MSSM, BMSSM)
– complementary analysis with gravitational waves (LISA, . . .)

Higgs mass and rate measurements:
– improvement in predictions to match the exp. accuracy
– development of fast application of search results (HiggsSignals)
– inclusion in global fits (MasterCode)
– application to specific models (HxSM, 2HDM, MSSM, BMSSM, . . .)

Plans for the LHC Run 3 / HL-LHC (II)

BSM Higgs searches:

– development of fast application of search results (HiggsBounds)
– inclusion in global fits (MasterCode)
– application to specific models (HxSM, 2HDM, MSSM, BMSSM)
– complementary analysis with gravitational waves (LISA, . . .)

Higgs mass and rate measurements:

– improvement in predictions to match the exp. accuracy
– development of fast application of search results (HiggsSignals)
– inclusion in global fits (MasterCode)
– application to specific models (HxSM, 2HDM, MSSM, BMSSM, . . .)

Jump on any clear BSM signal :-)