



ICFO Colloquium EILAM GROSS 'The Discovery of the Higgs Boson'

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September 09, 2016

Friday, September 9, 12:00, ICFO Auditorium

EILAM GROSS

Prof. in Physics, Atlas Group, Weizmann Institute of Science

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Prof. Eilam Gross was born in Tel Aviv. After completing his army service in an elite communications unit, he left for New York to study music. There he came across a cult book, *The Tao of Physics*, which prompted him to go back to Israel and study physics at the Hebrew University of Jerusalem. His master's thesis at the Weizmann Institute was written on string theory, after which he "deserted" theoretical work for experimental high-energy physics.

In the last twenty-five years, he devoted his scientific career to the search for the Higgs particle, known in public as "the God particle." Physicists believe, this is the particle that generates all elementary particles their masses in nature. Prof. Gross was the co-developer of

the statistical method used in the LHC to search and discover particles, including the Higgs Boson. He invented the so-called Asimov data set and solved with his student the open problem of trial factors in High Energy Physics, the so-called Look Elsewhere Effect. Prof. Gross was leading the Higgs group of the ATLAS experiment at CERN when the Higgs particle was discovered and announced in July 2012.

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I will tell the insider story of the search and the discovery of the Higgs Boson, from the point of view of the Higgs convener of ATLAS at the time of the discovery. How 6000 physicists managed to work in harmony, build an experiment and hunt for the only missing ingredient of the Standard Model. I will also discuss where we go from here.

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