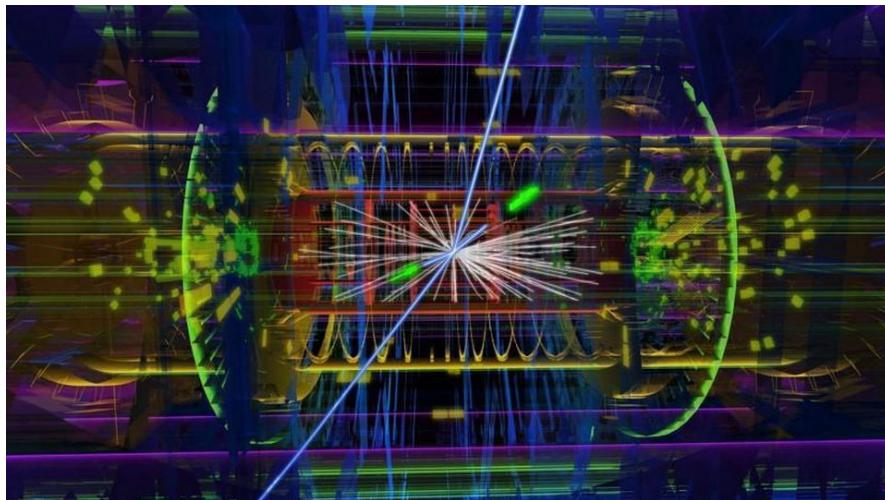




Probing the composite nature of the Higgs boson at the LHC.

Tuesday, 25 June 2019, DESY Auditorium, 16:45 h

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The extensive program of measurements of the Higgs boson at the LHC has so far yielded results compatible with the Standard Model (SM) predictions, yet the underlying dynamics responsible for the breaking of the electroweak symmetry remains elusive. A scenario in which the Higgs boson is a pseudo Nambu-Goldstone boson of some new strong dynamics is very attractive as it addresses many open questions in the SM, such as the stability of the Higgs boson mass against quantum effects, or the hierarchy in the mass spectrum for the SM particles. A key prediction of this scenario is the existence of new resonances from the composite sector, both fermionic and bosonic, which are preferentially coupled to the top quark. The production of these signals at the LHC would yield spectacular experimental signatures involving multiple top quarks and/or Higgs bosons, which represent both an opportunity and a challenge. In this talk we will review the experimental status of this exciting search program during Run 2 of the LHC, as well as discuss about its future prospects at the LHC and beyond.

- **Coffee, tea and cookies will be served at 16:30h**
- **After the colloquium there is a chance for private discussions with the speaker over drinks and pretzels**