From: Misha Gromov <██████████>
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Subject: Fwd: Leonardo Rastelli, Pulling Yourself Up by Your Bootstraps in Quantum Field Theory
Date: Tue, 07 Nov 2017 13:29:39 +0000

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Subject: Leonardo Rastelli, Pulling Yourself Up by Your Bootstraps in
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Date: Tue, 31 Oct 2017 11:40:09 -0400 (EDT)
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PULLING YOURSELF UP BY YOUR BOOTSTRAPS IN QUANTUM FIELD THEORY

Mathematics and Physical Sciences
   Speaker: Leonardo Rastelli
Wednesday, November 8, 2017

4:15PM Tea; 5:00PM Lecture

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Quantum field theory (QFT) is the universal language of theoretical
physics, underlying the Standard Model of elementary particles, the
physics of the early Universe and a host of condensed matter phenomena
such as phase transitions and superconductivity. A great achievement of
20th-century physics was the understanding of weakly coupled quantum
field theories where interactions can be treated as small perturbations
of otherwise freely moving particles. Critical challenges for the 21st
century include solving the problem of strong coupling and mapping the
whole space of consistent QFTs.

In this lecture, Leonardo Rastelli will overview the bootstrap
approach, the idea that theory space can be determined from the general
principles of symmetry and quantum mechanics. This strategy provides a
new unifying language for QFT and has allowed researchers to make
predictions for physical observables even in strongly coupled theories.
Rastelli will illustrate the general framework in a few examples,
ranging from the concrete (boiling water) to the abstract
(supersymmetric theories in various spacetime dimensions).
   Rastelli [6] is a professor at the ██. Yang Institute for
Theoretical Physics (YITP) at Stony Brook University. He received his
██. from MIT in 2000. He was a Dicke Fellow (2000-2002) and an
assistant professor (2002-2006) at Princeton University before joining
the YITP in 2006. Rastelli is the recipient of an Outstanding Junior
Investigator award, a Simons Fellowship and a Guggenheim Fellowship and
has been a Blavatnik national finalist. Rastelli's research interests
have ranged from structural aspects of string theory to purely
field-theoretic questions. Rastelli's current main focus is the study
of

superconformal field theories in various dimensions by combining
mathematical physics and numerical experimentation.

Limited seating is available on a first-come, first-served basis.
Without registration, you will not be informed of scheduling changes.

If you have already registered but are are no longer able to attend,
please notify lectures@simonsfoundation.org [7].

The attached flyer [8] can be shared with your colleagues.

   [9]

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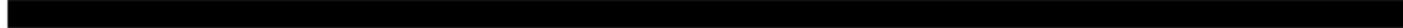Follow us on Twitter [13]

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