ITS @ The Graduate Center

Initiative for the Theoretical Sciences

Conformal Bootstrap and Related Ideas

Quantum field theory (QFT) is a universal language underlying theoretical physics, from the Standard Model of particle physics to condensed matter phenomena. At present, a central challenge is to chart the total space of QFTs, including those that are strongly coupled. The Bootstrap approach to this problem is based on the remarkable fact that the space of QFTs can be characterized using solely general principles such as symmetries and basic properties of quantum mechanics. This workshop will be devoted to the most exciting new developments in this field, ranging from surveying the space of CFTs to applications to quantum gravity.

Friday, November 22nd 2019

Lectures will be held in the Baisley Powell Elebash Recital Hall (1st Floor)
The Graduate Center is located at 365 Fifth Avenue, between 34th and 35th Streets, in Manhattan

9:30 AM Coffee and bagels

10:00 AM **The Analytic Bootstrap, Sphere Packing and Quantum Gravity**
Leonardo Rastelli (Stony Brook)

11:30 AM Coffee

12:00 PM **Charting the Landscape of 3d CFTs**
David Poland (Yale)

1:30 PM Lunch

2:30 PM **Instantons in O(N) Vector Models and in $\mathcal{N}$ = 4 SYM**
Silviu Pufu (Princeton)

4:00 PM Coffee

4:30 PM **Quantum Gravity and Bulk Reconstruction**
Jared Kaplan (Johns Hopkins)