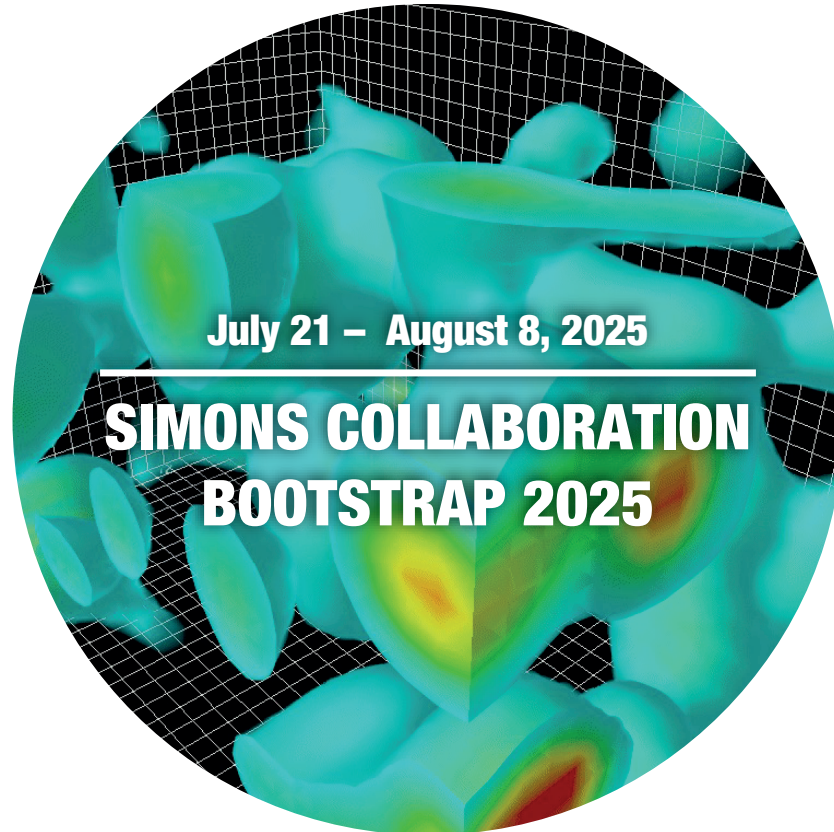




**ICTP** | International Centre for Theoretical Physics  
**SAIFR** | South American Institute for Fundamental Research

**Venue: Principia Institute – São Paulo, Brazil**



**July 21 – August 8, 2025**

**SIMONS COLLABORATION  
 BOOTSTRAP 2025**

Quantum field theory (QFT) is a universal language for theoretical physics, describing the Standard Model, gravity, early universe inflation, and condensed matter phenomena such as phase transitions, superconductors, and quantum Hall fluids. A triumph of 20th century physics was to understand weakly coupled QFTs: theories whose interactions can be treated as small perturbations of otherwise freely moving particles. However, weakly coupled QFTs represent a tiny island in an ocean of possibilities. They cannot capture many of the most interesting and important physical phenomena, from the strong nuclear force to high temperature superconductivity.

The critical challenge for the 21st century is to understand and solve strongly coupled QFTs. The Bootstrap collaboration tackles this critical problem from a myriad of different rigorous perspectives, consistency with general principles of symmetry and quantum mechanics being the central theme.

The third week of Bootstrap 2025 will be shared with the first week of a two week program on Fundamental Aspects of String Theory.

**More information:**  
[exact.ictp-saifr.org](https://exact.ictp-saifr.org)



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