universitätbonn

bctp Bethe Center for Theoretical Physics

5 years bctp

Hans Bethe,
*1906 †2005

bctp

Founded in 2008, the Bethe Center for Theoretical Physics (bctp) is a joint center of theoretical physicists and mathematicians at various institutes of Bonn University. In the spirit of Hans Bethe it fosters research activities over a wide range of theoretical and mathematical physics.

The bctp provides a forum for interdisciplinary research and education throughout the fields of physics, mathematics and cosmology. Activities of the bctp include a regular Bethe Colloquia series with 38 talks to date, workshops on dedicated research topics, lectures for doctoral students as well as short and long term visitor programs.
Research in the bctp has been instrumental in unlocking the secrets of the Universe. We are tackling the deepest questions at the frontiers of theoretical and mathematical physics and are committed to sharing our results with the scientists of the young generation.

Bethe Center Workshops and Lecture Series, eight events to date, have offered the opportunity to meet leading physicists to over 300 participants. Five Bethe Forum programs have brought together 84 invited scientists for extensive discussion sessions and talks. Highlights in our activities have been three international conferences hosted by the bctp, "SUSY 2010", "String-Math" in 2012 and "Planck 2013 – From the Planck Scale to the Electroweak Scale", with about 200 participants each. The work of the bctp in research and education has resulted in approximately 500 publications and 31 doctoral theses.

Program • Friday, 11th April 2014

Colloquium

to mark the 5th anniversary of the Bethe Center for Theoretical Physics

14:00	Introductory talks and greetings	
14:30	**John Ellis, London / CERN**	"The Higgs Boson and Beyond"
15:30	Coffee Break	
16:00	**Yuri I. Manin, Bonn**	"Physics and Algebraic Geometry: Quantum Strings, Quantum Cohomology and Motives"
17:00	**Michael S. Turner, Chicago**	"Quarks and the Cosmos"
18:00	Reception	

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John Ellis, London/CERN

14:30

"The Higgs Boson and Beyond"

The discovery of the Higgs Boson at the Large Hadron Collider (LHC) marks the culmination of a quest that has extended over half a century. It also marks the start of a new era in fundamental physics, opening new vistas in astrophysics and cosmology as well as particle physics.

http://bctp.uni-bonn.de/5yearsbctp/ellis.php

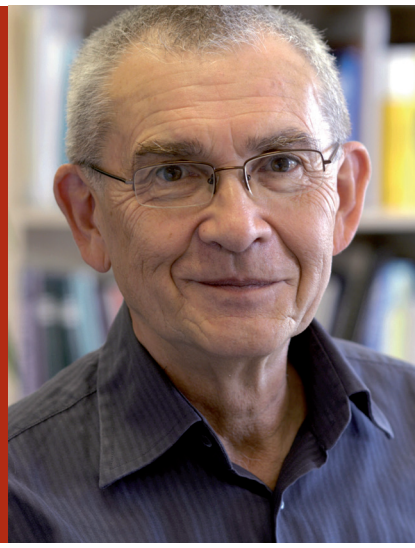
Yuri I. Manin, Bonn

16:00

"Physics and Algebraic Geometry: Quantum Strings, Quantum Cohomology and Motives"

During the last three decades, the mathematical formalism of quantum fields and especially of quantum string theory have become heavily dependent on modern algebraic geometry and, conversely, have stimulated quite unexpected deep algebraic geometric constructions. I will give a survey of this development, focusing on quantum cohomology.

http://bctp.uni-bonn.de/5yearsbctp/manin.php



Michael S. Turner, Chicago

17:00

"Quarks and the Cosmos"

The deep connections between the very big and the very small are profound and go well beyond the simple fact that the Universe began as quark soup. At present, the scientific agendas of these two fields – particle physics and cosmology – have almost merged and progress in the two fields is linked. I will discuss what we know about the Universe, what we are trying to find out, and finally what the big questions are today.

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