

Progress and Visions in Quantum Theory in View of Gravity

FZM

 $M \cap \Phi$

ACADEMY LEIPZIG

Bridging foundations of physics and mathematics

October 01 – 05, 2018

SPEAKERS

Markus Aspelmeyer – UNIVERSITY OF VIENNA Časlav Brukner – IQOQI VIENNA Tian Yu Cao – BOSTON UNIVERSITY Dirk Deckert – LUDWIG MAXIMILLIAN UNIVERSITY OF MUNICH Chris Fewster – UNIVERSITY OF YORK Jürg Fröhlich – ETH ZURICH Lucien Hardy – PERIMETER INSTITUTE Olaf Lechtenfeld – UNIVERSITY OF HANOVER Shahn Majid – QUEEN MARY UNIVERSITY OF LONDON Gregory Naber – DREXEL UNIVERSITY Hermann Nicolai – MPI FOR GRAVITATIONAL PHYSICS

DISCUSSANTS

Eric Curiel – MCMP MUNICH/BHI HARVARD Claudio Dappiaggi – UNIVERSITY OF PAVIA Detlef Dürr – LUDWIG MAXIMILLIAN UNIVERSITY OF MUNICH Michael Dütsch – UNIVERSITY OF GÖTTINGEN Christian Fleischhack – PADERBORN UNIVERSITY Harald Grosse – UNIVERSITY OF VIENNA Stefan Hollands – LEIPZIG UNIVERSITY Bernard Kay – UNIVERSITY OF YORK Klaas Landsmann – RADBOUD UNIVERSITY Valter Moretti – UNIVERSITY OF TRENTO

ABSTRACT

The conference focuses on a critical discussion of the status and prospects of current approaches in quantum mechanics and quantum field theory, in particular concerning gravity. In contrast to typical conferences, instead of reporting on the most recent technical results, participants are invited to discuss

quest

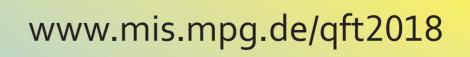
mat

- visions and new ideas in foundational physics, in particular concerning foundations of quantum field theory
- which physical principles of quantum (field) theory can be considered fundamental in view of gravity
- new experimental perspectives in the interplay of gravity and quantum theory.

In tradition of the meetings in Blaubeuren (2003 and 2005), Leipzig (2007) and Regensburg (2010 and 2014), the conference brings together physicists, mathematicians and philosophers working in foundations of mathematical physics.

The conference is dedicated to Eberhard Zeidler, who sadly passed away on 18 November 2016. He was the founding director of the Max Planck Institute for Mathematics in the Sciences. With his outstanding knowledge and warm-hearted personality, he helped shape this conference series. Being thankful for all the inspiration he gave us, the organizers aim at keeping alive his scientific visions.

Peter Pickl – Ludwig Maximillian University of MUNICH Nicola Pinamonti – University of Genova Karl-Henning Rehren – University of göttingen Martin Reuter – Johannes Gutenberg University Roderich Tumulka – University of tübingen Jakob Yngvason – University of vienna





SCIENTIFIC ORGANIZERS

ADMINISTRATIVE CONTACT

REGISTRATION

Felix Finster-UNIVERSITY OF REGENSBURG

Domenico Giulini – UNIVERSITY OF HANOVER

Johannes Kleiner – UNIVERSITY OF HANOVER

Jürgen Tolksdorf – MPI FOR MATHEMATICS IN THE SCIENCES

Antje Vandenberg

Max Planck Institute MIS Inselstraße 22; 04103 Leipzig; Germany

Mail: avanden@mis.mpg.de Phone: +49 (0) 341 - 9959 - 552 Further information as well as registration available online.

Local Organization Associate: Research Profile Area Mathematical and Computational Sciences

as of July 6, 2018