

# Humboldt Kolleg “Open Problems in Theoretical Physics: the Issue of Quantum Spacetime”

Corfu Greece 19-21 September 2015

## Time schedule

### Saturday 19

Chairman: N. Antoniou

9:00 - 9:30 G. Zoupanos *Opening*

Greetings from the Humboldt Representative, Dr. J. Belz

Greetings from the local authorities

9:30 -10:20 C. Wetterich *Scale Symmetry in Quantum Gravity*

10:25 -11:15 S. Doplicher *A quantum texture of spacetime and fields*

11:20 -11:40 Coffee break

11:40 -12:30 D. Luest *Some aspect of gravity, quantum space and strings*

12:35 -13:25 D. Oriti *Group field theory: a quantum field theory for the atoms of space*

13:30 -16:30 Lunch break

Chairman: I. Vergados

16:30 -17:20 E. Dudas *Aspects of nilpotent supergravity*

17:25 -18:05 N. Bodendorfer *Canonical loop quantum gravity: foundations and recent progress*

18:10 -18:40 Coffee break

18:40 -19:10 I. Florakis *The universal structure of quantum corrections to gauge couplings in strings with broken supersymmetry*

19:10 -19:40 A. Pinzul *Spectral geometry approach to Horava-Lifshitz type theories: gravity and matter sectors in IR regime*

19:40 - 20:10 F. Correa *Hairy black holes and its microscopic entropy*

### Sunday 20

Chairman: J. Kim

9:00 - 9:50 R. Szabo *Perspectives on Nonassociative Geometry*

9:55 -10:45 C. Bachas *On the moduli problem of string theory vacua*

10:50 -11:20 Coffee break

11:20 -12:10 G. Savvidy *Extension of Poincaré Group and of Yang-Mills theory. proton structure and tensor gluons*

12:15 -13:05 C. Dappiaggi *An overview on algebraic quantum field theory on curved spacetimes*

13:10 -15: 30 Lunch break

Chairman: P. Aschieri, P. Vitale

15:30 -16:30 J. Belz *Presentation of the Humboldt activity to PhD students and young researchers*

16:30 -17:20 A. Chatzistavrakidis *T-duality without isometry via hidden gauge symmetries in 2D sigma models*

17:25 -18:15 I. Todorov *New mathematical tools in perturbative quantum field theory*

18:20 -18:50 Coffee break

18:50 -19:20 M. Panero *The numerical approach to quantum field theory in a noncommutative space*

19:20-20:00 E. Ivanov *On-shell  $N=(1,1)$  6D-harmonic superspace and its applications*

## **Monday 21**

Chairman: N. Irges, G. Fiore

9:00 -9:50 A. Chamseddine *Quanta of Geometry: Basics and Applications*

9:55 -10:45 J. Bengeloun *Renormalization in tensorial group field theory*

10:50 -11:20 Coffee break

11:20 -12:10 H. Steinacker *Matrix model description of gauge theory and gravity*

12:15 -13:05 P. Minkowski *The notion of Heraklitean spacetime*

13:10 -16: 30 Lunch break

Chairman: V. Dobrev

16:30 -17: 20 K. Stelle *Gravity Localisation on Braneworlds*

17:25 -18:15 A. Sitarz *Metrics on Noncommutative Spaces and the Moyal Sphere*

18:20 -18:50 Coffee break

18:50 -19:20 V. Lahoche *Renormalization of an Abelian Tensor Group Field Theory*

19:20 -20:10 C. Kounnas *Stringy  $N = 1$  Super no Scale Models*