

Mathematics and Quantum Physics
Accademia Nazionale dei Lincei, Roma
July 8-12, 2013

Schedule

Monday, July 8th

9.00 – *Registration*

Morning Session:

9.30 – 10.00 *Welcome address*

Chairman: **Corrado De Concini**

10.00 – 10.50 **Victor Kac**, Massachusetts Institute of Technology
Algebraic Theory of Integrable Partial Differential Equations

11.00 – 11.30 *coffee break*

11.30 – 12.20 **Sorin Popa**, University of California, Los Angeles
A II_1 Factor Approach to the Kadison-Singer Problem

Afternoon Session:

Chairman: **Gianfausto Dell'Antonio**

14.00 – 14.50 **Karl-Henning Rehren**, Universität Göttingen
“Chiral Quantum Cloning”

15.00 – 15.30 *coffee break*

Chairman: **Laszlo Zsido**

15.30 – 16.20 **Sebastiano Carpi**, Università di Chieti-Pescara
Conformal Nets and Noncommutative Geometry

16.30 – 17.20 **Yoh Tanimoto**, Universität Göttingen
Operator Algebraic Construction of Two-Dimensional Quantum Field Models

Tuesday, July 9th

Morning Session:

Chairman: **Claudio Procesi**

- 10.00 – 10.50 **Shing-Tung Yau**, Harvard University
Quasi-local Mass and Momentum in General Relativity
- 11.00 – 11.30 *coffee break*
- 11.30 – 12.20 **Simone Warzel**, Technische Universität München
Spectral Properties of the Quantum Random Energy Model

Afternoon Session:

Chairman: **Ivan Todorov**

- 14.00 – 14.50 **Christophe Salomon**, Ecole Normale Supérieure Paris
Quantum Simulations with Ultracold Atoms
- 15.00 – 15.30 *coffee break*

Chairman: **Klaus Fredenhagen**

- 15.30 – 16.20 **Mihály Weiner**, Budapest University of Technology and
Economics
Classical Information Storage in a Quantum System
- 16.30 – 17.20 **Masaki Izumi**, RIMS Kyoto
Group Actions on Kirchberg Algebras

Public Lecture:

Chairman: **Arthur Jaffe**

- 19.00 – 20.00 **Noam Elkies**, Harvard University
Canonical Forms: A Mathematician's View of Musical Canons

Wednesday, July 10th

Morning Session:

Chairman: **Florin Radulescu**

10.00 – 10.50 **Joachim Cuntz**, Universität Münster
Number Theory and Operators on Hilbert Space

11.00 – 11.30 *coffee break*

Chairman: **Giorgio Parisi**

11.30 – 12.20 **Sergio Doplicher**, Sapienza Università di Roma
The Measurement Process in Local Quantum Theory

12.30 – 13.20 **Rudolph Haag**, Universität Hamburg
Objects, Events and Reality in Quantum Physics

20.00 Restaurant *Open Colonna*, Palazzo delle Esposizioni
Scalinata di via Milano 9A, Roma

**Conference dinner, in honor of Roberto Longo, on the occasion
of his 60th birthday**

Thursday, July 11th

Morning Session:

Chairman: **Masamichi Takesaki**

- 10.00 – 10.50 **Alain Connes**, Collège de France and IHES
Recent Advances in the Spectral Model
- 10.00 – 11.30 *coffee break*
- 11.30 – 12.20 **Robert Seiringer**, IST Austria
Microscopic Derivation of Ginzburg-Landau Theory

Afternoon Session:

Chairman: **Bert Schroer**

- 14.00 – 14.50 **Gandalf Lechner**, Universität Leipzig
*Non-Local Perturbations of Hyperbolic PDEs and
QFT on Noncommutative Spacetimes*
- 15.00 – 15.30 *coffee break*
- Chairman: **John Roberts**
- 15.30 – 16.20 **Katarzyna Rejzner**, Istituto Nazionale di Alta Matematica
*Interplay between Gravity and Quantum Physics from the
Point of View of General Local Covariance*
- 16.30 – 17.20 **Feng Xu**, University of California, Riverside
On Some Subfactor Problems Motivated by Group Theory

Public Lecture:

Chairman: **Sergio Doplicher**

- 19.00 – 20.00 **Alain Connes**, Collège de France and IHES
The Music of Shapes

Friday, July 12th

Morning Session:

Chairman: **Giovanni Landi**

10.00 – 10.50 **Dan-Virgil Voiculescu**, University of California, Berkeley
Free Probability with Left and Right Variables

11.00 – 11.30 *coffee break*

11.30 – 12.20 **Yasuyuki Kawahigashi**, Tokyo University
*Conformal Field Theory, Operator Algebras
and Tensor Categories*

Afternoon Session:

Chairman: **Daniele Guido**

14.00 – 14.50 **Stefaan Vaes**, KU Leuven
Von Neumann Algebras and Ergodic Theory of Group Actions

15.00 – 15.30 *coffee break*

Chairman: **Erling Størmer**

15.30 – 16.20 **Claudia Pinzari**, Sapienza Università di Roma
Connected Components of Compact Matrix Quantum Groups

16.30 – 17.20 **Detlev Buchholz**, Universität Göttingen
Long Range Interactions and Structure of Charge Classes in QFT

