

# Geometric, Algebraic and Topological Methods for Quantum Field Theory

**July 4 - 22, 2011**  
**Villa de Leyva, Colombia**

<http://matematicas.uniandes.edu.co/summer2011/>

**Chern classes of singular varieties, graph hypersurfaces and Feynman integrals**

Paolo Aluffi  
(Florida State University, USA)

**Noncommutative spacetimes and quantum physics**

A.P. Balachandran  
(Syracuse University, New York, USA)

**Index theory and geometric quantization of non-compact manifolds**

Maxim Braverman  
(Northeastern University, Boston, USA)

**Supergeometry and applications to Poisson geometry**

Alberto Cattaneo  
(Universität Zürich, Switzerland)

**Compactifications of string theory and generalized geometry**

Mariana Graña  
(Institut de Physique Théorique CEA-Saclay, France)

**Spectral Geometry**

Bruno Iochum  
(Centre de Physique Théorique, Marseille, France)

**Noncommutative geometry models in particle physics and cosmology**

Matilde Marcolli  
(California Institute of Technology, Pasadena, USA)

**Expansions: A loosely tied traverse from Feynman diagrams to quantum algebra**

Dror Bar Natan  
(University of Toronto, Canada)

**Integrability and the AdS/CFT correspondence**

Matthias Staudacher  
(Max-Planck-Institut für Gravitationsphysik, Germany)

**Introductory lectures on Chern-Simons theories in physics**

Jorge Zanelli  
(Centro de Estudios Científicos, Valdivia, Chile)



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