

21st Nishinomiya-Yukawa memorial symposium on Theoretical Physics

# Noncommutative Geometry and Quantum Spacetime in Physics

November 11–12, 2006 Nishinomiya  
November 13–15, 2006 Kyoto

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## Saturday, November 11

**9:00–10:00 Registration**

**10:00–10:10 Opening**

**10:10–11:10 Wess, Julius** (MPI Munchen)  
“Deformed Gravity Theories”

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**11:30–12:30 Kawai, Hikaru** (Kyoto Univ.)  
“Curved Spacetimes in Matrix Models”

— *Lunch* —

**14:30–15:30 Landi, Giovanni** (Trieste Univ.)  
”Noncommutative instantons and twisted conformal symmetry”

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**15:50–16:50 Varghese Mathai** (Univ. of Adelaide)  
”T-duality in string theory via noncommutative geometry and beyond ”

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**17:10–18:10 Omori, Hideki** (Tokyo Science Univ.)  
“Deformation of expressions of elements of algebra and transcendental calculus”

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## Sunday, November 12

**9:00–10:00 Balachandran, Aiyalam P.** (Syracuse Univ.)  
“Quantum Fields on the Moyal Plane”

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**10:20–11:20 Chong-Sun Chu** (Durham Univ.)  
"Time-dependent AdS/CFT duality and null singularity "

**11:40–12:40 Grosse, Harald** (Univ. of Vienna)  
"Noncommutative Field Theory and Renormalization "

— *Lunch* —

**14:30–15:30 Amelino-Camelia, Giovanni** (Univ. Roma)  
"A generalization of the Noether theorem for Lie-algebra noncommutativity and its implications in phenomenology"

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**15:50–16:20 Hasebe, Kazuki** (Takuma national college of technology)  
"Quantum Hall Effect based on SUSY noncommutative geometry"

**16:20–16:50 Abe, Yasuhiro** (CCNY)  
"Construction of fuzzy S4 and its applications"

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### Monday, November 13

**9:00–10:00 Freidel, Laurent** (Perimeter Institute)  
"3D Effective field theory from quantum gravity"

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**10:20–11:00 Aschieri, Paolo** (Universita' del Piemonte Orientale)  
"Gravity on noncommutative manifolds"

**11:00–11:40 Tureanu, Anca** (Univ. of Helsinki)  
"Twisted Poincare symmetry and its implications on noncommutative quantum field theory"

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**11:50–12:20 Koch, Florian** (MLU, Munchen)  
"From Starproducts to Drinfeld-Twists: Present and Future Applications"

**12:20–12:40 Fiore, Gaetano** (Univ. Federico II, Napoli)  
"On "full" twisted Poincare' covariance for QFT on Moyal-Weyl NC spaces"

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### Tuesday, November 14

**9:00–10:00 R. Brandenberger** (McGill Univ.)  
"String Theory, Space-Time Non-Commutativity and Structure Formation"

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**10:20–11:00 Zoupanos, George** (NTU)  
“Higher Dimensional Unified Theories with Fuzzy Extra Dimensions”

**11:00–11:30 Nishimura, Jun** (KEK)  
“Non-perturbative Study of Non-commutative U(1) Gauge Theory”

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**11:40–12:10 Tsuchiya, Asato** (Osaka Univ.)  
“Embedding various vacua of theories with SU(2–4) symmetry into the plane wave matrix model”

— *Lunch* —

**13:30–14:30 Mathai Varghese** (Univ. of Adelaide)  
“D-branes and RR-fields on noncommutative manifolds”

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**14:50–15:50 Kapustin, Anton** (Caltech)  
“Topological D-branes and noncommutative geometry 1”

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**16:00–18:00 Poster session**

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**18:30–20:30 Banquet**

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### Wednesday, November 15

**9:00–10:00 Kapustin, Anton** (Caltech)  
“Topological D-branes and noncommutative geometry 2”

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**10:20–11:20 Lechtenfeld, Olaf** (Leibniz Univ. Hannover)  
“Quiver Gauge Theories and Noncommutative Vortices”

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**11:40–12:10 Abou Zeid Mohab** (Vrije Univ. Brussels)  
“Symmetries, Conservation Laws and Gauge Invariant Operators in Noncommutative Field Theory”

**12:10–12:40 Terashima, Seiji** (YITP)  
“Nocommutative D-brane and Tachyon”

— *Lunch* —

**14:00–15:00 Lerda, Alberto** (Universit'a del Piemonte Orientale)  
“Instanton calculus in closed string backgrounds”

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**15:20–16:20 Yoneya, Tamiaki** (Tokyo Univ.)  
“Space-Time Uncertainty and Approaches to D-Brane Field Theory ”