

**WAGP06 — 2006 WORKSHOP ON  
ALGEBRAIC GEOMETRY AND PHYSICS**

**GERBES, GROUPOIDS AND QUANTUM FIELD  
THEORY**

Erwin Schrödinger Institute, Vienna

May 9-13, 2006

**Preliminary Programme**

**Tuesday, May 9**

- 9:00-9:30 Registration
- 9:30-10:20 B. Fantechi, Gerbes as algebraic stacks (I)
- 10:20-11:10 T. Pantev, Langlands duality, D-branes and quantization (I)
- 11:10-11:30 Break
- 11:30-12:20 P. Bouwknegt, T-duality and generalized geometry
- 12:20-13:00 B.-L. Wang, Gerbes, twisted K-theory and some applications
- 13:00 **Lunch**
- 14:30-15:20 P. Xu,  $S^1$ -gerbes over differential stacks
- 15:20-16:10 D. Husemöller, Gerbes and Tannakian categories
- 16:10-16:30 Break
- 16:30-17:20 A. Caldararu, The Hopf algebra governing orbifold Hochschild cohomology

**Wednesday, May 10**

- 9:30-10:20 B. Fantechi, Gerbes as algebraic stacks (II)
- 10:20-11:10 T. Pantev, Langlands duality, D-branes and quantization (II)
- 11:10-11:30 Break
- 11:30-12:00 M. Joachim, K-theory of  $C^*$ -groupoids and KK-theory
- 12:00-12:30 P. Polesello, Quantization of complex contact manifolds and twisted differential operators
- 12:30-13:10 B. Uribe, Extended generalized complex structures
- 13:10 **Lunch**
- 14:30-15:20 B. Fantechi, Gerbes as algebraic stacks (III)
- 15:20-16:10 G. Landi, Twisted conformal symmetries and noncommutative instantons
- 16:10-16:30 Break
- 16:30-17:20 H. Sati, M/F-theory and generalized cohomology

### Thursday, May 11

- 9:30-10:20 P. Xu, Twisted K-theory of differential stacks  
10:20-11:10 T. Pantev, Langlands duality, D-branes and quantization (III)  
11:10-11:30 Break  
11:30-12:20 E. R. Sharpe, String on gerbes  
12:20-13:00 J. Evslin, Gerbes, a K-theory polarization and T-duality from  $E_8$

### Free afternoon

- 20:00 Conference Dinner

### Friday, May 12

- 9:30-10:20 U. Bunke, Sheaf theory for topological stacks and twisted cohomology  
10:20-11:10 V. Gorbounov, Elliptic genus test for mirror symmetry  
11:10-11:30 Break  
11:30-12:20 G. Felder, A gerbe for the elliptic Gamma function (I)  
12:20-12:50 C.-C. Zhu, A gerbe for the elliptic Gamma function (II)  
12:50 **Lunch**  
14:20-15:10 P. Xu, Ring structure for equivariant twisted K-theory  
15:10-16:00 N. Hitchin, Poisson structure and bihermitian metrics  
16:00-16:20 Break  
16:20-16:50 S. Willerton, Gerbes, groupoids and the Dijkgraaf-Witten 3-dimensional topological quantum field theory  
16:50-17:30 M. Stienon, A Lie groupoid theory approach to nonabelian differential gerbes

### Saturday, May 13

- 9:30-10:20 A. Tomasiello, Generalized complex geometry in string theory  
10:20-11:00 A. M. Uludag, Classification of Calabi-Yau orbifolds  
11:00-11:20 Break  
11:20-11:50 E. Mann, Orbifold quantum cohomology of weighted projective spaces  
11:50-12:20 U. Schreiber, Surface transport, gerbes, topological quantum field theory and conformal field theory  
12:20-13:10 Mathai Varghese, T-duality and noncommutative geometry  
13:10 **Lunch**