

**Programme on  
“Modern Trends in Topological Quantum Field Theory”**

**February 3 - March 28, 2014**

**organized by  
Jürgen Fuchs, Ludmil Katzarkov,  
Nicolai Reshetikhin, and Christoph Schweigert**

**Workshop Schedule: February 17 - 21, 2014**

• **Monday, February 17, 2014**

09:30 **Opening & Registration**

10:00 – 10:40 *coffee*

10:40 – 11:30 **Kevin Walker**

*Premodular TQFTs*

11:40 – 12:30 **Chris Schommer-Pries**

*Extended topological field theories and tensor categories*

12:30 – 15:00 *lunch break*

15:00 – 15:50 **Sonia Natale**

*On weakly group-theoretical non-degenerate braided fusion categories*

15:50 – 16:30 *break*

16:30 – 17:20 **Alessandro Valentino**

*Boundary conditions for 3d TQFTs and module categories*

• **Tuesday, February 18, 2014**

09:10 – 10:00 **Pranav Pandit**

*The topological A-model, spectral networks, WKB-theory and buildings*

10:00 – 10:40 *coffee*

10:40 – 11:30 **Alexis Virelizier**

*3-dimensional HQFTs*

11:40 – 12:30 **Joost Slingerland**

*Local representations of the loop braid group*

12:30 – 15:00 *lunch break*

15:00 – 15:50 **Catherine Meusburger**

*Diagrams for Gray categories with duals*

15:50 – 16:30 *break*

16:30 – 17:20 **Thomas Nikolaus**

*Twisted differential cohomology*

- **Wednesday, February 19, 2014**

09:10 – 10:00 **Ulrich Bunke**  
*Differential cohomology theory*

10:00 – 10:40 *coffee*

10:40 – 11:30 **Ulrike Tillmann**  
*Commutative K-Theory and other new generalised cohomology theories*

11:40 – 12:30 **Boris Vertman**  
*Combinatorial quantum field theory and gluing formula for determinants*

- **Thursday, February 20, 2014**

09:10 – 10:00 **Scott Morrison**  
*Progress on small fusion categories*

10:00 – 10:40 *coffee*

10:40 – 11:30 **Rinat Kashaev**  
*Beta pentagon relations*

11:40 – 12:30 **Mahmoud Zeinalian**  
*A concise construction of differential K-theory*

12:30 – 15:00 *lunch break*

15:00 – 15:50 **Thomas Strobl**  
*Dirac sigma models and gauging*

15:50 – 16:30 *break*

16:30 – 17:20 **Urs Schreiber**  
*Homotopy-type semantics for quantization*

- **Friday, February 21, 2014**

09:10 – 10:00 **Kazuo Habiro**  
*Kirby calculus for null-homologous framed links in 3-manifolds*

10:00 – 10:40 *coffee*

10:40 – 11:30 **Thomas Schick**  
*Geometric models for higher twisted of K-theory (joint work with Andrei Ershov)*

11:40 – 12:30 **Theo Johnson-Freyd**  
*Poisson AKSZ theory and homotopy actions of properads*

12:30 – 14:30 *lunch break*

14:30 – 15:20 **Dror Bar-Natan**  
*A partial reduction of BF theory to combinatorics*

**All lectures take place in the ESI Boltzmann Lecture Hall**