



UNIVERSITÉ DE TECHNOLOGIE DE BELFORT-MONTBÉLIARD

# Workshop «Geometries for Quantum Information»

JOURNÉE ORGANISÉE PAR IRTES-M3M

Présentée par Peter LEVAY

**Jeudi 25 septembre  
à 14h00**

Entrée libre

Salle de séminaire IRTES-M<sub>3</sub>M,  
bâtiment Ronde, campus de Sevenans

## ► Résumé

The aim of this workshop is to exchange different perspectives on new geometric tools for quantum information. More precisely we will discuss the entanglement of pure multipartite systems, from the point of view of homogeneous varieties, and we will discuss the geometry of Pauli operators from the perspective of finite geometry.

## ► Participants

- Alain Giorgetti (FEMTO-ST, UFC)
- Frédéric Holweck (IRTES-M<sub>3</sub>M, UTBM)
- Jean-Gabriel Luque (LITIS, Univ. Rouen)
- Michel Planat (FEMTO-ST, CNRS)
- Peter Levay (Hungarian Academy of Sciences, Budapest University of Technology and Economics)
- Metod Saniga (Slovak Academy of Sciences, Vienna University of Technology)

## Programme

- ▶ **9:30** Frédéric Holweck  
**The geometry of entanglement and the E8 adjoint variety**
- ▶ **10:15** coffee break, discussions
- ▶ **11:00** Peter Levay  
**Entanglement in Fermionic Fock Space**
- ▶ **11:45** discussions
- ▶ **12:30** lunch
- ▶ **14:15** Metod Saniga  
**From real Cayley-Dickson Algebras, through Veldkamp Spaces and Binomial Configurations, to Combinatorial Grassmannians**
- ▶ **15:00** discussions
- ▶ **16:00** Alain Giorgetti  
**Hypermaps, groups and connected permutations**
- ▶ **16:45** coffee break, discussions
- ▶ **17:15** Michel Planat  
**Contextuality from dessins d'enfants**
- ▶ **18:00** discussions

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