

# Abstract

Oberwolfach Workshop:

## **Statistical Physics and Random Surfaces**

Dates:

**12 May - 17 May 2024** (Code: 2420)

Organizers:

**Christophe Garban, Villeurbanne**  
**Jason Miller, Cambridge UK**  
**Scott Sheffield, Cambridge MA**

We propose to assemble a diverse group of participants, from various career stages, to study problems in several hot topics that have grown increasingly prominent and interrelated in recent years. These include the following:

- (1) random surface models (Liouville quantum gravity, random planar maps, etc.)
- (2) random curve models (Schramm-Loewner evolution, conformal loop ensembles, etc.)
- (3) gauge theory models (various forms of lattice Yang-Mills, other approximations)
- (4) spin models and height functions (including delocalization problems)
- (5) dimer models (two and higher dimensions versions)
- (6) conformal field theory (Liouville theory, other theories related to SLE)

The conference will enable participants who will communicate about the most recent breakthroughs and lay the groundwork for further collaborative progress.