# **CMI-LMS Research School**

# **Computational Algebraic Topology**

# **Oxford 7-11 September**

|              | Monday                   | Tuesday                  | Wednesday             | Thursday                  | Friday        |
|--------------|--------------------------|--------------------------|-----------------------|---------------------------|---------------|
| 09:00-10:00  | Registration             | Found PH                 | Found PH              | Random C                  | Guest Lecture |
| 10:00-11:00  | Found PH                 | Found PH                 | Found PH              | PH Appl                   | ATI           |
| Coffee       |                          |                          |                       |                           |               |
| 11:30- 12:30 | Found PH                 | D Morse T                | D Morse T             | Prob Session<br>D Morse T | PH Software   |
| Lunch        |                          |                          |                       |                           |               |
| 13:30-14:30  | LabTime                  | Lab Time                 | Lab Time              | ATI                       | Software demo |
| 14:30-15:30  | D Morse T                | PH Appl                  | Random C              | ATI                       | ATI           |
| Теа          |                          |                          |                       |                           |               |
| 16:00-17:00  | PH Appl                  | Random C                 | Participants<br>Forum | ATI                       | ATI           |
| 17:00-18:00  | Prob Session<br>Found PH | Prob Session<br>Found PH | Excursion             | ATI                       | ATI           |
| Dinner       | Somerville C             | Somerville C             | Pub                   | ATI Dinner                |               |

#### Lecture courses:

Robert Ghrist: Foundations of persistent homology Vidit Nanda: Discrete Morse theory and cellular sheaf theory Omer Bobrowski: Random simplicial complexes Michael Kerber: Applications and software development

Software demo: Nina Otter

Guest lecture: Herbert Edelsbrunner

**Participants Forum:** A series of short talks (5-10min). Participants are invited to submit a title and abstract.

### ATI scoping workshop: Topological Data Analysis

The research school is linked to the Alan Turing Institute workshop taking place on Thursday and Friday. In particular, participants of the research school are invited to attend all lectures of the ATI workshop and the workshop dinner on Thursday evening.

*Lectures* are in L5 and *Lab Time* and *Problem Sessions* are in C1 on the Mezzanine Floor of the AWB.