

Abstract

Oberwolfach Workshop:

Partial Differential Equations

Dates:

20 Jul - 25 Jul 2025 (Code: 2530)

Organizers:

Ailana Fraser, Vancouver
Xavier Ros-Oton, Barcelona
Felix Schulze, Coventry

The focus of this workshop is on elliptic and parabolic Partial Differential Equations (PDE). This wide field is not only fundamental in its applications in the natural sciences and engineering, but has developed into a core subject in pure mathematics itself, with an increasing importance for other core mathematical subjects. The main theme of the workshop is around PDE related to geometric and variational problems, though for this meeting we are adding an emphasis on related problems in neighbouring areas, with an aim to broaden the reach of the meeting. The workshop will focus on questions regarding existence, uniqueness, and qualitative behaviour of solutions in topics such as

- elliptic and parabolic PDEs;
- free boundary problems;
- geometric measure theory;
- minimal surfaces;
- geometric variational problems;
- geometric flows;
- metrics maximising the first eigenvalue;
- singularities in nonlinear parabolic flows.