

## A set theory program in The Isaac Newton Institute

The Isaac Newton Institute for Mathematical Sciences (Cambridge, UK) has approved a set theory Programme with the title **Infinity and the Foundations of Contemporary Mathematics**. The Programme will run from Monday 17 January 2028 to Friday 28 April 2028. The Scientific Advisory Committee of the program consists of David Aspero, Jeffrey Bergfalk, Natasha Dobrinen, Asaf Karagila, and Maryanthe Malliaris. The following specific topics will be addressed in the program:

- (i) The inner model program, particularly focusing on the so-called HOD Conjecture and on applications.
- (ii) Generalized determinacy theorems for infinite games and applications to Banach space theory and ergodic theory.
- (iii) Developing methods of forcing over models of the Axiom of Determinacy to obtain consequences of forcing axioms from weak large cardinal assumptions.
- (iv) Developing reasonable strategies and new methods towards the establishment of difficult cardinal characteristics constellations, both on the real line, as well as in generalized Baire spaces.
- (v) Clarifying the connections between condensed mathematics and set theory, e.g., the role of the "category of all forcing notions" in both disciplines.

Participation, by invitation only, follows the scheme of the Newton Institute for its programs. About 20-25 researchers will be present at any one time. Most participants, apart from the workshops' participants, will spend in the institute at least two weeks. There will be three workshops, the first of which will be the Young Set Theory Workshop 2028. More information will follow later.

The organizers of the program are Juan Aguilera, Vera Fischer (chair), Philipp Lücke, Jouko Väänänen, and Hugh Woodin.