Миникурс
Modular Galois representations and applications

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Миникурс пройдет 02.04 и 03.04 в 17.00 в аудитории 1001, 04.04 в 15.30 и в 17.00 в аудитории 212.

Lecture 1: Representations of profinite groups.
Basic definitions. Basic properties of representations of profinite groups.

Lecture 2: Galois representations.
Basic definitions (ramification, Frobenius elements, etc.). Examples (cyclotomic character, Galois representations attached to elliptic curves). Chebotarev's density theorem.

Lecture 3: Galois representations attached to modular forms.
Explanation of Galois representations attached to Hecke eigenforms. Statement of Serre's modularity conjecture, i.e. the theorem of Khare and Wintenberger, including level lowering and level raising.

Lecture 4: Applications.
Sketch of the proof of Fermat's Last Theorem via Serre's modularity conjecture. An application of modular Galois representations to the inverse Galois problem.