

Topics from the Langlands program

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This PhD-thesis is inscribed in the framework of the Langlands program, one of the most fundamental and active areas in modern number theory. Let us sketch the background: In a nutshell, the Langlands program postulates deep relationships between several, seemingly unrelated central topics in *number theory*, *geometry* and *Galois-theory*, through a web of far-reaching conjectures. In line with this setup, the Langlands program offers a wide range of methods, approaches and applications – nonetheless the recurring, unifying theme being *representation theory*.

The actual topic of this Phd-thesis will be decided on in discussion with the successful applicant. We will take a great effort to design the very PhD-topic depending on the applicant's background as well as her/his interests. As a requirement, we expect the student to have a strong background (and interest) in algebraic number theory and Lie groups.