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Research field: Number Theory
Key words: Galois representation, representation of reductive algebraic group, moduli space

Present research:
I'm interested in moduli spaces of arithmetic objects and their applications to Galois representations and representations of reductive algebraic groups. More explicitly, I studied moduli spaces of finite flat group schemes, Shimura varieties, which are moduli spaces of abelian varieties or their generalization, and local Shimura varieties, which are generalization of Rapoport–Zink spaces parametrizing p-divisible groups, from the viewpoint of Langlands correspondence. I am also interested in geometric Langlands correspondences. From this point of view, I am also studying moduli spaces of G-bundles on Fargues–Fontaine curves and moduli spaces of Langlands parameters.

Notice for the students:
Please be able to distinguish what you understand and what you don't understand. I write demands on mathematical contents below, but this is one standard and it doesn't imply that you can't do any research if you doesn't satisfy the standard. More important thing is that you understand more basic contents certainly.

It is desirable to understand the class field theory, basics on the algebraic geometry and the theory of etale cohomology of schemes. The representation theory is an important tool in number theory. Although you will learn it as the need arises, please study basic theory of representations of finite groups at least. Further, please study abelian varieties, theory of p-adic Galois representations, representation theory of p-adic algebraic group, rigid geometry, and so on according to your interest.