Abhinandan

Email: abhi@ms.u-tokyo.ac.jp
Web: https://abhinandan1729.github.io/
Address: 3 Chome-8-1 Komaba, Meguro City, Tokyo, Japan

Research Interests

Arithmetic geometry: p-adic Hodge theory, p-adic cohomology theories

Employement

University of Tokyo, Japan — Jul 2022 - Present
JSPS Postdoctoral fellow

Université de Lille, France — Jan 2022 - Jun 2022
Postdoctoral fellow

Samsung R&D Institute Bangalore, India — Jun 2014 - Aug 2016
Senior Software Engineer (Apr 2016 - Aug 2016)
Software Engineer (Jun 2014 - Mar 2016)

Education

Université de Bordeaux, France — Sep 2018 - Nov 2021
Ph.D. in Mathematics (Advisors: Denis Benois & Nicola Mazzari)
Thesis: Finite height representations and syntomic complex

Université de Bordeaux, France — Sep 2017 - Jul 2018
Second year of ALGANT masters (Advisor: Nicola Mazzari)
Thesis: p-adic Galois representations and elliptic curves
Grade: très bien

Universiteit Leiden, The Netherlands — Sep 2016 - Aug 2017
First year of ALGANT masters

Indian Institute of Technology Guwahati, India — Jul 2010 - Jun 2014
B.Tech. in Mathematics & Computing (Advisor: Anupam Saikia)
Thesis: Galois theory and inverse Galois problem

Papers

1. Prismatic F-crystals and Wach modules (in preparation)
2. Crystalline representations and Wach modules in the relative case II (preprint)
3. Finite crystalline height representations and syntomic complexes
   To appear in *RIMS Kôkyûroku* (based on 4 & 5)
4. Syntomic complex and p-adic nearby cycles (submitted)
5. Crystalline representations and Wach modules in the relative case
   To appear in *Annales de l'Institut Fourier*

Achievements

JSPS KAKENHI research grant	2022 - 2024
ALGANT masters scholarship and 75% tuition fee waiver	2016 - 2018
Employee of the month at Samsung	Oct 2015
Merit-cum-means scholarship for B.Tech.	2010 - 2014

Research Talks

Crystalline representations and Wach modules in the relative case — Mar 2023
Institute of Mathematical Sciences, Chennai

Crystalline representations and Wach modules in the relative case, — Feb 2023
Indian Institute of Science, Bangalore

Syntomic complex and finite height crystalline representations, RIMS Kyoto — Dec 2022
Algebraic number theory and related topics 2022

Crystalline representations and Wach modules in the relative case, Kyoto University — Nov 2022

Syntomic complex with coefficients, University of Tokyo — Oct 2022

Syntomic complex with coefficients, Séminaire géométrie arithmétique, Rennes — Mar 2022

Syntomic complex with coefficients, Séminaire arithmétique, Lille — Feb 2022

Crystalline representations and Wach modules in the relative case, Lille — Feb 2022
Séminaire arithmétique

Crystalline representations and Wach modules in the relative case, Bordeaux — Nov 2021
Séminaire théorie des nombres

Expository Talks

p-adic Simpson correspondence and p-adic Riemann-Hilbert correspondence — Jan 2023
D Seminar, University of Tokyo

On local newforms for $U(3)$, Groupe de travail "Formes automorphes", Lille — April 2022

Étale fundamental group, Séminaire Lambda, Bordeaux — Dec 2019

Conferences and Schools

Algebraic number theory and related topics, RIMS Kyoto — Dec 2022

p-adic cohomology and arithmetic geometry, Tohoku — Nov 2022

L-fuctions and motives in Niseko, Hokkaido — Sep 2022

Galois representations, automorphic forms and L-functions, CIRM Luminy — Jun 2022

Franco-Asian summer school in arithmetic geometry, CIRM Luminy — May 2022

Recent developments around p-adic modular forms (online), ICTS Bangalore — Dec 2020

Perfectoid spaces and p-adic automorphic forms, ICTS Bangalore — Sep 2019

Iwasawa 2019, Bordeaux — Jun 2019

Serre conjectures and p-adic Langlands program, Padova — Jun 2019

Masterclass on stacks, Angers — Dec 2017

Summer school on modular forms, Padova — Aug 2017

Computer skills

Languages: C, C++, Python

Softwares: LaTeX, Sage, MATLAB