



Arno Kret

Curriculum Vitae

Experience

- Aug 2015–present Assistant Professor, *University of Amsterdam*
- Sept 2015–Oct 2015 Professeur Invité, *Ecole Polytechnique*, Paris
- Jan 2015–Aug 2015 Post-Doc, *Max-Planck-Institut für Mathematik*, Bonn
- Aug 2014–Dec 2014 Post-Doc, *Mathematical Sciences Research Institute*, Berkeley
- Sept 2013–July 2014 Member, *Institute for Advanced Study*, Princeton
- Sept 2009–Sept 2013 Phd Student, *Université Paris-Sud 11*, Orsay

Education

- June 2013 **PhD mathematics**, Université Paris-Sud 11, Orsay, *Mention Très Honorable*.
- Sept 2009 **MSc mathematics**, Leiden University, Leiden, *Cum Laude*.
- Sept 2009 **MSc mathematics**, Université Paris-Sud 11, Orsay, *Mention Très Bien*.
- Sept 2007 **BSc mathematics**, Leiden University, Leiden, *Cum Laude*.

PhD Thesis

- Title *Stratification de Newton des variétés de Shimura et la formule des traces d'Arthur-Selberg*
- Supervisors Laurent Clozel and Laurent Fargues
- Rapporteurs Sug Woo Shin and Henri Carayol
- Jury Henri Carayol (President), Laurent Clozel, Laurent Fargues, Michael Harris, Guy Henniart and Emmanuel Ullmo
- Mention Très honorable
- Date June 2013

Research Grants

- July 2016 *The Langlands program and the geometry of Shimura varieties*. VENI grant (250k€), the Dutch organisation for scientific research (N.W.O.), 2017-2020

Awards

- Sept. 2009 MSc Mathematics *Leiden University*, Cum Laude
- Sept. 2009 MSc Mathematics *Université Paris-Sud*, Mention Très Bien
- Sept. 2007 BSc Mathematics *Leiden University*, Cum Laude

Publications

- 2016 Galois generic points on Shimura varieties (with Anna Cadoret), *Algebra and Number theory*
2015 Combinatorics of the basic stratum, *Documenta Mathematica*
2014 Equidistribution in supersingular Hecke orbits, *Journal für die Reine und Angewandte Mathematik*
2013 The basic stratum of some simple Shimura varieties, *Math. Ann.* 356 (2013), no. 2, 487–518
2012 Jacquet modules of Ladder representations (with Erez Lapid), *C. R. Math. Acad. Sci. Paris* 350 (2012), no. 21-22, 937–940

Preprints

- Galois representations for the general symplectic group (with Sug Woo Shin), submitted
- The trace formula and the existence of Newton strata modulo p , submitted
- Existence of cuspidal representations of p -adic reductive groups
- Integral points on Hilbert-Blumenthal varieties (with Rafael von Känel), in preparation

International visits

- Sept 2015 Professeur invité, *Ecole Polytechnique*, Paris. Invited by Anna Cadoret.
July 2015 Guest researcher, *Korea Institute for Advanced Study*, Seoul. Invited by Sug Woo Shin.
May 2015 *University of Berkeley*. Invited by Sug Woo Shin
March 2015 *University of Berkeley*. Invited by Sug Woo Shin
March 2014 *Massachusetts Institute of Technology*. Invited by Sug Woo Shin
June 2011 *Universtiy of Jerusalem*. Invited by Erez Lapid.

Talks

- Mar 2017 *Joint IAS/Princeton University Number Theory Seminar*: Galois representations for the general symplectic group
Mar 2017 *University of Cambridge Number Theory Seminar*: Galois representations for the general symplectic group
Feb 2017 *Université d'Aix-Marseille*: Représentations Galoisiennes pour GSp
Nov 2016 *Workshop on Shimura varieties, representation theory and related topics, Kyoto University*: Galois representations for the general symplectic group
Oct 2016 *University of Leiden*: Galois representations for the general symplectic group
Sept 2016 *University of Leuven*: Wiles' modularity theorem
Oct 2015 *Intercity Number Theory Seminar*: Galois representations for the general symplectic group
Oct 2015 *Geometry and Quantum Theory Colloquium*: Conjectural connections between automorphic representations and Galois representations
Oct 2015 *Seminaire Chevalley Université Paris 6/7*: Représentations Galoisiennes pour GSp
Oct 2015 *Ecole Polytechnique*: Conjecture de Langlands. (Series of two lectures on the Langlands conjectures for the non-expert)
Sep 2015 *Université Paris 13*: Représentations Galoisiennes pour GSp
Sep 2015 *General Mathematics Colloquium, University of Amsterdam*: Integral points on Hilbert-Blumenthal Varieties (joint work with Rafael von Känel)
May 2015 *University of Bielefeld*: Galois representations for the general symplectic group
Jun 2015 *University of Mainz*: Galois representations for the general symplectic group
Jun 2015 *Korea Institute for Advanced Study*: Galois representations for the general symplectic group
Mar 2014 *Max-Planck-Institute für Mathematik, Postdoc seminar*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
Mar 2014 *University of Leiden*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula

- Mar 2014 *Mathematical Sciences Research Institute, Berkeley*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
- Mar 2014 *Universtiy of Maryland*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
- Mar 2014 *Massachusetts Institute of Technology*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
- Feb 2014 *Princeton graduate student seminar*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
- Sep 2013 *Institute for Advanced Study, postdoc seminar*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
- Mar 2013 *University Duisenberg-Essen*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
- Mar 2013 *Seminaire mathjeunes, École normale supérieure de Paris*: Equidistribution in the supersingular locus of the modular curve
- Mar 2013 *University of Paderborn*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
- Mar 2013 *Universtiy of Paderborn*: The Langlands-Kottwitz method for the supersingular locus of the modular curve
- Feb 2013 *Universié de Bordeaux*: La stratification de Newton des varieties de Shimura et la formule des traces d'Arthur-Selberg
- Feb 2013 *University of Copenhagen*: The Newton stratification of Shimura varieties and the Arthur-Selberg trace formula
- Feb 2013 *Universié Paris 6 et 7*: La stratification de Newton des varieties de Shimura et la formule des traces d'Arthur-Selberg
- Dec 2012 *Universié Paris 11*: La stratification de Newton des varieties de Shimura et la formule des traces d'Arthur-Selberg
- Jun 2012 *University of Tel Aviv*: The supersingular locus of the modular curve
- Jun 2012 *University of Jerusalem*: The basic stratum of some simple Shimura varieties
- Mar 2012 *Seminaire REGA, Paris*: Strate basique d'une courbe de Shimura
- Jan 2012 *Algebra, Geometry and number theory seminar, Leiden*: The basic stratum of a simple Shimura curve
- Jun 2011 *Seminar on Motives, Université Paris 11*: The point counting formula of Kottwitz for the modular curve
- Jun 2011 *Seminaire Math Jeunes, Université Paris 11*: The lambda-adic representations associated to some simple Shimura varieties
- Mar 2010 *Seminaire Math Jeunes, Université Paris 11*: A Lefschetz Trace Formula for Certain Shimura Varieties
- Jan 2010 *Seminaire Math Jeunes, Université Paris 11*: The Fundamental Group of Abelian Varieties
- Oct 2009 *Seminaire Math Jeunes, Université Paris 11*: Modular forms and automorphic forms, Series of 3 talks
- Jun 2009 *University of Leiden*: Galois Representations, Defence of my master's thesis
- Mar 2009 *Seminaire Math Jeunes, Université Paris 11*: The Global Langlands Conjecture, 2 talks
- Dec 2008 *Seminar Adelic Methods, University of Leiden*: The Global Langlands Conjecture, 2 talks
- Nov 2008 *Seminar Adelic Methods, University of Leiden*: Local Class Field Theory
- May 2007 *Bachelor's Seminar, University of Leiden*: Categories with a Group Action
- Feb 2007 *Bachelor's Seminar, University of Leiden*: Tensor products
- Jan 2007 *Bachelor's Seminar, University of Leiden*: The ABC-conjecture for finite fields
- Nov 2005 *Seminar Leren presenteren en communiceren, University of Leiden*: Equivalence of \mathbf{R} and \mathbf{R}

Teaching Experience

2016-2017 'Galois theorie', University of Amsterdam

2016-2017 ‘Wiskunde 1C’ (linear algebra for physics), University of Amsterdam
2016-2017 ‘Wiskunde 1B’, (calculus and linear algebra for physics), University of Amsterdam
2016-2017 ‘Galois representations and automorphic forms’, national MasterMath course
2015-2016 ‘Wiskunde 1C’ (linear algebra for physics), University of Amsterdam
2015-2016 ‘Wiskunde 1B’, (calculus and linear algebra for physics), University of Amsterdam
2011-2013 Mathematics 1 for Biology students at Université Paris-Sud as teaching assistant
spring 2008 Topology at Leiden University as teaching assistant
fall 2007 Analyse 3, differential equations, at Leiden University as teaching assistant

Bachelor Students

Lennart van Lierop (in progress)
Ugur Taytas (in progress)

Master Students

Philip van Reeuwijk, masters (in progress)
Robert Mann, masters (in progress)
Sept 2016 David van Overeem

Other Education Experience

2017 Member of PhD-committee of Francesca Bergamaschi
2016 Member of PhD-committee of Christophe Debry
2015 Member of PhD-committee of Yongqi Feng
2011 Member of reading committee for Master student Weidong Zhuang

Languages

Dutch **Mothertongue**
English **Fluent**
French **Fluent**

References

Laurent Clozel
Laurent Fargues
Guy Henniart
Sug Woo Shin