

Curriculum Vitae of A. Javanpeykar

Personal data

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Homepage: <http://www.blogs.uni-mainz.de/fb08-mathematik-agtz/arakelov-geometrie/junior-prof-dr-ariyan-javanpeykar/>

Positions

1. Junior Professor, Johannes Gutenberg-Universität Mainz. November 2015-present.
2. Visiting Professor, Paris XIII. June 2018.
3. Oberwolfach Leibniz fellow. May 2018.
4. Post-doc SFB/Transregio 45. Johannes Gutenberg-Universität Mainz. 2013-2015.

Degrees

1. Ph.D. Mathematics, obtained in June 2013.
 - Leiden University and Université Paris-Sud 11, 2010-2013.
2. MSc. Mathematics, obtained in July 2010.
 - Université Paris-Sud 11, 2008-2009.
 - Leiden University, 2009-2010.
3. BSc. Mathematics (Minor Physics), obtained in July 2008.
 - Leiden University, 2005-2008.

Papers

1. Polynomial bounds for Arakelov invariants of Belyi curves [with an appendix by P. Bruin].
Algebra and Number Theory, Vol. 8 (2014), No. 1, 89-140.
2. Szpiro's small points conjecture for cyclic covers of prime degree [with R. von Känel].
Documenta Math., 19 (2014) 1085-1103.

3. Néron models and the arithmetic Shafarevich conjecture for certain canonically polarized varieties.
Bull. London Math. Soc., (2015) 47 (1).
4. Good reduction of algebraic groups and flag varieties [with D. Loughran].
Archiv der Math., (2015) Vol. 104, Issue 2, 133-143.
5. An effective Arakelov-theoretic version of the hyperbolic isogeny theorem.
Math. Proc. Cambridge Phil. Soc., (2016) Vol. 160, Issue 03, 463-476
6. Belyi's theorem for smooth complete intersections of general type.
Michigan Math. J. Volume 66, Issue 1 (2017), 85-97.
7. Complete intersections: Moduli, Torelli, and good reduction [with D. Loughran].
Math. Ann. 368 (2017), no. 3-4, 1191-1225.
8. The moduli of smooth hypersurfaces with level structure [with D. Loughran].
Manuscripta Math. 154 (2017), no. 1-2, 1322.
9. Effectively computing integral points on the moduli of smooth quartic curves.
The Quarterly Journal of Mathematics, Volume 68, Issue 2, 1 June 2017, 345-358.
10. Bounding heights uniformly in families of hyperbolic varieties [with K. Ascher].
New York J. Math. 23 (2017), 1791-1808.
11. The Belyi degree of a curve is computable [with J. Voight].
Contemporary Mathematics (AMS Proceedings of AGCT 2017).
12. Good reduction of Fano threefolds and sextic surfaces [with D. Loughran].
Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) Vol. XVIII (2018), 509-535.
13. Invariants of smooth Fano varieties in families [with F. Gounelas].
Moscow Mathematical Journal, Volume 18, Issue 2 (2018), p. 305-319.
14. Horospherical stacks [with K. Langlois and R. Terpereau].
Münster Journal of Mathematics, to appear. *arXiv:1703.00488*.
15. Algebraicity of analytic maps to a hyperbolic variety [with R. Kucharczyk].
Submitted, *arXiv:1806.09338*.
16. Demailly's notion of hyperbolicity: geometricity, boundedness, moduli of maps [with L. Kamenova].
Submitted, *arXiv:1807.03665*.
17. Non-archimedean hyperbolicity and applications [with A. Vezzani].
Submitted, *arXiv:1808.09880*.

18. Arithmetic hyperbolicity and a stacky Chevalley-Weil theorem [with D. Loughran].
Submitted, arXiv:1808.09876.
19. Arithmetic hyperbolicity: endomorphisms, automorphisms, hyperkähler varieties, geometricity.
Submitted, arXiv:1809.06818.
20. Effective estimates for the degrees of special maximal subvarieties [with C. Daw and L. Kühne].
Submitted, arXiv:1812.04341

Teaching

Courses

1. Teacher BSc. Course *Lineare Algebra II*. Universität Mainz, Winter 2018.
2. Teacher BEd. Course *Elementarmathematik*. Universität Mainz, Winter 2018.
3. Teacher BSc. and MSc. Seminar *Analytische Zahlentheorie und Diophantische Approximation*. Universität Mainz, Summer 2018.
4. Teacher BSc. Course *Algebra 2*. Universität Mainz, Summer 2017.
5. Teacher BSc. Course *Lineare Algebra II*. Universität Mainz, Winter 2016.
6. Teacher MSc. Course *Elliptische Kurven II*. Universität Mainz, Winter 2016.
7. Teacher MSc. Course *Elliptische Kurven I*. Universität Mainz, Summer 2016.
8. Teacher MSc. Course *Algebraische Geometrie II*. Universität Mainz, Winter 2015.
9. Teacher MSc. Course *Elliptic curves, complex multiplication, modular curves* [with S. Müller-Stach]. Universität Mainz, Winter 2014.
10. Teaching Assistant for the course *Lineare Algebra und Geometrie II* taught by Theo de Jong. Universität Mainz, Winter 2014.
11. Teaching Assistant for the course *Algebraische Kurven und Riemannsche Flächen* taught by Duco van Straten. Universität Mainz, Summer 2014.
12. Teaching Assistant for the course *Zahlentheorie* taught by Manuel Blickle, Universität Mainz, Winter 2013.
13. Teaching Assistant for the course *Algebraic Topology* taught by Robin de Jong, Universität Leiden, Winter 2011.

14. Teaching Assistant for the course *Linear Algebra 2* taught by Bart de Smit, Universiteit Leiden, Winter 2011.
15. Teaching Assistant for the national Mastermath course *Algebraic Geometry* taught by Bas Edixhoven, Universiteit van Amsterdam, Summer 2011.
16. Teaching Assistant Mathematics, Universiteit Leiden, 2007-2008.
17. Teaching Assistant Physics, Lorentz Institute of Leiden University, 2006-2008.
18. Teaching Assistant Physics at high school *Northgo College*. Noordwijk, the Netherlands, Winter 2009.

Graduate students

1. Philipp Licht. *On the hyperbolicity of the moduli space of Fano threefolds*. October 2017 - present.

International Mini-Courses

1. *Hyperbolicity of moduli spaces*, 7th Swiss-French workshop in algebraic geometry, January 8th until January 12th, Charmey (Switzerland), 2018.
2. *Faltings's proof of the Mordell conjecture*, USTC Hefei workshop on arithmetic geometry, May 4th until May 6th, 2017.
3. *Arakelov invariants, Belyi's theorem, and Szpiro's small points conjecture*, Chalmers University of Gothenburg, April 4th until April 15th, 2016.

Supervised Master Theses

1. Daniel Züfle, *Finiteness results for j -invariants of elliptic curves with complex multiplication*. Universität Mainz, 2017.
2. Sebastian Schösser, *Galois actions on dessins d'enfants and Beauville surfaces*. Universität Mainz, 2017.
3. Jennifer Pütz, *Simultaneous rank jumps of elliptic curves*. Universität Mainz, 2017.
4. Philipp Licht, *Finiteness theorems for complements of large divisors*. Universität Mainz, 2017.
5. Anesh Din, *Shafarevich-type finiteness results for Del Pezzo surfaces of degree one*. Universität Mainz, 2017.

Supervised Bachelor Theses

1. Maximilian Oischinger, *Belyi Abbildungen*. Universität Mainz, 2018
2. Oliver Zell, *Beweis des Hilbertschen Irreduzibilitätssatzes mittels thin sets*. Universität Mainz, 2018

Organization of Conferences, Seminars, Workgroups

1. Seminar on Hyperbolic varieties. Universität Mainz. Winter 2018.
2. International school on arithmetic geometry, joint with Davide Cesare Veniani and Dino Festi. University of Salerno, Italy. September 10th until September 14th, 2018.
3. Seminar on Faltings's proof of Mordell-Lang's conjecture, joint with Matthias Nickel. University of Mainz. July 17th and July 18th, 2018.
4. Seminar on p -adic Hodge theory. Universität Mainz. Winter 2017.
5. SFB Autumn School: Topics in algebraic and arithmetic geometry, joint with Davide Cesare Veniani and Dino Festi. Universität Mainz. October 9th until October 13th, 2017.
6. Talks on Hyperbolicity. Universität Mainz. June 28th and June 29th, 2017.
7. The Mainzer arXiv seminar. Universität Mainz. Summer 2017.
8. Seminar: Perfectoid spaces, joint with Robert Wilms. Universität Mainz, Summer 2017.
9. Darmstadt-Frankfurt-Mainz seminars, joint with Alejandro Soto Posada (Frankfurt). Winter 2016.
10. Seminar: derived categories in algebraic geometry, joint with Robert Wilms. Universität Mainz, Winter 2016.
11. Bonn-Mainz seminar on Fano varieties, joint with Lars Kühne (Bonn) and Ronan Terpereau (Bonn). MPI Bonn and Universität Mainz, Winter 2015
12. SFB Summer school: Algebraic stacks and related topics, joint with Ronan Terpereau. Universität Mainz, August 31st until September 4th, 2015.
13. Seminar: Hodge theory and Torelli theorems, joint with Ana-Maria Brean and Ronan Terpereau. Universität Mainz, Summer 2014.
14. Seminar: Abelian varieties, joint with Ronan Terpereau. Universität Mainz, Winter 2014.

15. Seminar: Néron models, joint with Ronan Terpereau. Universität Mainz, Summer 2013.
16. Seminar: The Shafarevich conjecture, joint with David Holmes. Universiteit Leiden, Summer 2012.

Invited research visits

- Paris XIII, June 2018. (Invited by Alberto Vezzani)
- School of Mathematical Science, Hefei, May 2017. (Invited by Kang Zuo)
- Chalmers Technical University, Gothenburg, April 2nd - April 15th, 2016. (Invited by Per Salberger)
- Australian National University, Canberra, March 21st - March 25th, 2016. (Invited by Jarod Alper)
- Institute for Advanced Study, Princeton, February, 2012. (Invited by Rafael von Känel)

Selected talks

Séminaire géométrie algébrique, Caen, June 2018.
Séminaire géométrie algébrique, Strasbourg, January 2018.
Séminaire géométrie algébrique, École Polytechnique, Paris, November 2018.
Complex algebraic geometry seminar, Bochum, November 2018.
Arithmetic geometry seminar, Munich, November 2018.
Séminaire géométrie algébrique, Nancy, November 2018.
Arakelov Intercity Seminar, Copenhagen Denmark, September 2018.
Kolloquium, Düsseldorf Germany, July 2018.
Arithmetic geometry seminar, Bielefeld Germany, July 2018.
Lorentz center, Leiden, June 2018.
Séminaire géométrie algébrique, Paris XIII, June 2018.
Algebraic geometry seminar, Columbia University, April 2018.
Algebraic geometry seminar, UGA Athens Georgia, April 2018.
Algebraic geometry seminar, UW Seattle, March 2018.
Algebraic geometry seminar, UC Berkeley, March 2018.
Arithmetic geometry seminar, Brown University, March 2018.
Algebraic geometry seminar, M.I.T. Boston, March 2018.
Algebraic geometry seminar, Stony Brook, March 2018.
Swiss-French workshop in algebraic geometry, Charmey, January 2018.
Number theory seminar, Basel, December 2017.
Séminaire tournant de théorie de nombres, Lyon, Novembre 2017.

SFB seminar, Bonn, October 2017.
Algebraic geometry seminar, Dijon, September 2017.
Komplexe analysis, Oberwolfach, September 2017.
Stacks project workshop, Ann Arbor, August 2017.
Diophantine approximation, Banff, July 2017.
Arithmetic geometry, Alpbach, July 2017.
Moduli spaces, Hefei (China), May 2017.
Algebraic geometry seminar, Saarbrücken, May 2017.
Algebraic geometry seminar, Dijon, February 2017.
Complex geometry seminar, Marseille, February 2017.
Algebraic geometry seminar, Freiburg, February 2017.
Séminaire autour des cycles algébriques, Paris, December 2016.
Number theory seminar, Manchester, October 2016.
Seminar, Durham, October 2016.
Classical Algebraic Geometry, Oberwolfach, June 2016
AG Seminar, TU Munich, May 2016
Séminaire Variétés Rationnelles, ENS Paris, May 2016
SAG, Max Planck Institute Bonn, May 2016
Seminar, Algebra and Number Theory, KTH Stockholm, April 2016.
SFB seminar, University of Essen, April 2016
Géométrie Algébrique et Géométrie Complexe, CIRM Luminy, November 2015,
Seminar Zahlentheorie, Basel, September 2015
Summer School of the IRTN “Moduli of Automorphic Forms”, Sienna, August 2015
AG-Seminar Algebra, Darmstadt, July 2015
Arithmetic Geometry Seminar, Humboldt-Universität Berlin, July 2015
Oberseminar Zahlentheorie und Arithmetische Geometrie, Hannover, May 2015
Seminar: Arithmetische Geometrie und Zahlentheorie, Hamburg, July 2014.
Diamant symposium, Arnhem, June 2014.
Seminaire de Théorie de Nombres, Bordeaux, December 2013.
Number Theory seminar, Chalmers University Göteborg, April 2016.
Oberseminar Algebra, Oldenburg, January 2015.
SFB Seminar, Regensburg, November 2014.
Number Theory Seminar ETH, Zürich, October 2014.
Intercity workshop in Arakelov theory, Rome, September 2014.
Méthodes arithmétiques et applications, Institut de Mathématiques de Besançon, October 2013.
Séminaire: Autour de la Géométrie d’Arakelov, Institut de Mathématiques de Jussieu, March 2013.
Séminaire: Géométrie Diophantienne, Institut de Mathématiques de Bordeaux, November 2012.
Réseau d’étudiants en géométrie algébrique, Institut Henri Poincaré, Paris, October 2012.
Séminaire d’algèbre et théorie des nombres, Laboratoire de Mathématiques de Besançon, September 2012.

Seminar: Arithmetische Geometrie und Zahlentheorie, Hamburg, May 2012.
Conference Heights 2011, Tossa de Mar, Spain, April 2011.

Languages

Dutch: Native speaker.

English: Fluent level of oral and written.

French: Fluent level of oral and written.

German: Fluent level of oral and written.

References

1. Dan Abramovich, abrmovic@math.brown.edu, Brown University.
2. Jean-Benoît Bost, Jean-Benoit.Bost@math.u-psud.fr, Université de Paris-Sud 11.
3. Bas Edixhoven, edix@math.leidenuniv.nl, Leiden University.
4. Robin de Jong, rdejong@math.leidenuniv.nl, Leiden University.
5. Damian Rössler, damian.rossler@gmail.com, Oxford University.