

Jarod Alper

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EDUCATION

Stanford University, Stanford, California.

- Ph.D. in Mathematics, June 2008.
- Thesis advisor: Ravi Vakil.
- Thesis title: *Good moduli spaces for Artin stacks*.

Brown University, Providence, RI.

- Sc.B. with honors in Mathematics, Sc.B. in Computer Science, Magna Cum Laude, May 2002.

POSITIONS

Columbia University, New York, New York.

- NSF Postdoctoral Fellow, 2008-present.

MSRI Postdoctoral Fellow, Berkeley, California, January 2009 - June 2009

RESEARCH INTERESTS

- Algebraic geometry: moduli spaces, algebraic stacks, invariant theory, algebraic curves, higher-dimensional geometry, minimal model program, Brauer groups, and singularity theory.

HONORS

- National Science Foundations Postdoctoral Fellowship, 2008-2011
- Fulbright Fellow, Ruprecht-Karls-Universität Heidelberg, 2002-2003.

PUBLICATIONS

- J. Alper, D. Smyth and F. van der Wyck, *Weakly proper moduli stacks of curves*, math.AG/1012.0538
- J. Alper and J. de Jong, *Invariant rings through categories*, math.AG/1011.2184.
- J. Alper, M. Fedorchuk and D. Smyth, *Singularities with \mathbb{G}_m -action and the log minimal model program for \overline{M}_g* , math.AG/1010.3751.
- J. Alper and R. Easton, *Recasting results in equivariant geometry: affine cosets, observable subgroups and existence of good quotients*, math.AG/1010.1976, submitted.
- J. Alper, *Adequate moduli spaces and geometrically reductive group schemes*, math.AG/1005.2398, submitted.
- J. Alper, *Good moduli spaces for Artin stacks*, math.AG/0804.2242, submitted.
(see also J. Alper, *Good moduli spaces for Artin stacks*, Oberwolfach Reports, Report No. **26** (2008), 14-16.)
- J. Alper, *Local properties of Artin stacks*, math.AG/0904.3358, submitted.
- J. Alper, *Computing invariants via slicing groupoids: Gel'fand MacPherson, Gale and positive characteristic stable maps*, math.AG/1011.3448, accepted by Mathematische Nachrichten.
- J. Alper, *On the local quotient structure of Artin stacks*, J. Pure Appl Algebra **214** (2010), no. 9, 1576-1591.

- J. Theiler and J. Alper, *On the choice of random directions for stochastic approximation algorithms*, IEEE Trans. Automat. Control **51** (2006), no. 3, 476-481.
- M. Abouzaid, J. Alper, S. DiMauro, J. Grosslight, and D. Smith. *On cosets of the unit loop of octonion integers*, Communications in Algebra **35** (2007), no. 1, 207-214.

WORKS IN PROGRESS

- J. Alper, *Existence of good moduli spaces*, in preparation.
- J. Alper, M. Fedorchuk, and D. Smyth. *Projectivity of log canonical models*, in preparation.
- J. Alper, \mathbb{Q} -factoriality of quotients, in preparation.

TEACHING EXPERIENCE

- *Instructor for Calculus III* (Section 2), Columbia University, Fall 2010.
- *Instructor for MA4043: Algebraic Number Theory*, Columbia University, Fall 2010.
- *Instructor for Calculus III* (Sections 3 and 4), Columbia University, Fall 2008.
- *Teaching Assistant for Math 42, 51H, 51 and 52*, Stanford University, 2005-2008.
- *Course Assistant for Math 19, 51, 210A, 210B, 216A and 216B*, Stanford University, 2003-2007.
- *Teaching Assistant for CS 22 and 51* - Brown University, Fall 2000

INVITED TALKS

- *Algebraic Geometry Seminar*, Stanford University, February 2011.
- *Algebraic Geometry Seminar*, Rice University, February 2011.
- *Algebra and Algebraic Geometry Seminar*, Brown University, November 2010.
- *Workshop on Moduli and Birational Geometry*, Pohang University of Science and Technology (POSTECH), Pohang (South Korea), August 2010.
- *Algebraic Geometry Seminar*, Humboldt Universität zu Berlin, Berlin (Germany), June 2010.
- *Algebraic Geometry Seminar*, University of British Columbia (Canada), November 2009.
- *Representation Theory, Geometry and Combinatorics: Equivariant algebraic geometry and related topics*, Berkeley, May 2009.
- *Stacks working group*, MSRI (Berkeley), May 2009.
- *Algebraic Geometry Seminar*, Princeton University, April 2009.
- *Harvard / M.I.T Algebraic Geometry Seminar*, November 2008.
- *A.M.S. Sectional Meeting*, Vancouver (Canada), October 2008.
- *Algebraic Geometry Seminar*, Columbia University, September 2008.
- *Classical Algebraic Geometry*, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach (Germany), June 2008.
- *Conference on Geometric Invariant Theory*, Göttingen (Germany), June 2008.
- *Géométrie Algébrique en Liberté*, Madrid (Spain), April 2008.
- *Algebra and Algebraic Geometry Seminar*, Brown University, April 2008.
- *Groupoids in Analysis and Geometry Seminar*, University of California-Berkeley, April 2008.
- *Geometry/Topology Seminar*, University of Missouri-Columbia, March 2008.
- *Algebraic Geometry Seminar*, Rice University, February 2008.
- *Algebraic Geometry Seminar*, University of Michigan, January 2008.
- *Eidgenössische Technische Hochschule Zürich* (Switzerland), January 2008.
- *Winter School and Conference on Moduli Spaces*, University and Max Planck Institute for Mathematics, Bonn (Germany), January 2008.
- *C.M.S. Winter Meeting*, London (Canada), December 2007.

- *American Institute of Mathematics*, Palo Alto, May 2007.
- *A.M.S. Sectional Meeting*, Tucson, April 2007.
- *Algebraic Geometry Seminar*, Stanford University, April 2007.
- *Combinatorial Algebraic Geometry Seminar*, Stanford University, December 2006.
- *Lecture series on “Quotients in algebraic geometry”* (three lectures including area exam), Stanford University, May 2006.

SYNERGISTIC ACTIVITIES

- Co-organizer for conference on “Moduli spaces and stacks” at Columbia University, May 2011.
- Referee for *Advances in Mathematics*, *Journal of Algebraic Geometry*, *Mathematische Nachrichten*.
- Senior postdoc at the MRC Snowbird workshop on “Birational geometry and moduli spaces,” June 2010.
- Gave a lecture series with Michael Thaddeus on geometric invariant theory to graduate students at Columbia University, Fall 2008.
- Graduate teaching assistant for MSRI Workshop “Deformation Theory and Moduli in Algebraic Geometry”, July 2007.
- Founded and organized the student algebraic geometry seminar at Stanford University, 2006-2008.
- Volunteered with the Amy Biehl Foundation to teach mathematics to 8th graders in the Nomlinganiselo Primary School in the Western Cape, South Africa in the summer of 2009. The focus was on teaching students fun yet useful mathematics outside their curriculum.

REFERENCES

- Johan de Jong (Columbia University)
- Brendan Hassett (Rice University)
- Ravi Vakil (Stanford University)
- Angelo Vistoli (Scuola Normale Superiore)
- Patrick Gallagher (Columbia University) – teaching