

March 21, 2026

## DAN ABRAMOVICH

- **Institutional address:** Department of Mathematics, Brown University, 151 Thayer Street, Brown University Box 1917, Providence, RI 02912. Tel: (401) 863-7968.  
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- **Education:**  
**Harvard University:** Ph.D 1991 in Mathematics. Advisor: Joe Harris.  
**Tel Aviv University:** B.Sc. *summa cum laude* 1987.
- **Research interests:** Algebraic and Arithmetic Geometry.
- **Faculty positions:**  
**Brown University:** Professor, 2003 - present. L. Herbert Ballou University Professor, 2019 - present.  
**Boston University:** Associate Professor 1999 - 2003, Assistant Professor 1994 - 1999.  
**Massachusetts Institute of Technology:** C. L. E. Moore instructor, 1991 - 1994.
- **Visiting positions:**  
**Institut Mittag Leffler:** Wallenberg Visiting Professor, September-October 2021.  
**ICERM:** Visitor, Spring 2021. Spring 2012.  
**Brown University:** Visiting Distinguished Professor, spring 2003.  
**Hebrew University, Jerusalem:** Forschhimer / Landau Center Visiting Fellow, February-July 2002.  
Lady Davis visiting Fellow, Spring 2012. Visiting Professor, November-December 2021 and January-April 2025.  
**Massachusetts Institute of Technology:** Visiting Professor, September-December 2001.  
**Max Planck Institue für Mathematik, Bonn:** Visitor, April-June 1999.  
**Centre Emile Borel:** Visiting Professor, February 1999.  
**Institut des Hautes Etudes Scientifiques:** Visiting researcher, January-March 1999; Fall 2024.  
**Université Paris VI:** Visiting Professor, June 1994.  
**Mathematical Sciences Research Institute:** Postdoctoral fellow, spring 1993. Visiting Member, May-June 1998. Research Professor, Spring 2009.
- **Honors and funding:**  
Alfred P. Sloan Doctoral Dissertation Fellowship, academic year 1990-1991.  
Alfred P. Sloan Research Fellowship 1996 - 1998.  
Lady Davis Fellow, Spring 2002, Spring 2012.  
GAANN grants co-PI, 1998-2002; 2009-2012  
NSF research grants 1992-1994, 1995-present.  
BSF research grants, 2011-present.  
NSF, conference grants PI and co-PI, Summer 2005; Summer 2008, 2010-2023.  
AMS Fellow, class of 2017.  
Invited Speaker, ICM 2018.  
2019 Amnon Pazy Memorial Research Award  
2021, 2024-2025 Simons Fellow in Mathematics.  
Sicne 2022: Fellow of the American Association for Advancement of Science.

• **PhD student advising:**

Patricia Pacelli,	B.U.	PhD 1996.	Jian-Hua Wang,	M.I.T.	PhD 1997.
Kalle Karu,	B.U.	PhD 1999.	Gabriele La Nave,	Brandeis	PhD 2000.
Jiun-Cheng Chen,	Harvard	PhD 2003.	James Spencer,	B.U.	PhD 2004.
Jonathan Wise	Brown	PhD 2008	Henning Ulfarsson	Brown	PhD 2009
Qile Chen	Brown	PhD 2011	Noah Giansiracusa	Brown	PhD 2011
Steffen Marcus	Brown	PhD 2011	Samouil Molcho	Brown	PhD 2014
Evangelos Routis	Brown	PhD 2015	Martin Ulirsch	Brown	PhD 2015
Kenneth Ascher	Brown	PhD 2017	Alicia Harper	Brown	PhD 2018
Dori Bejleri	Brown	PhD 2018	Giovanni Inchiostro	Brown	PhD 2020
Tangli Ge	Brown	PhD 2022	Ming Hao Quek	Brown	PhD 2023
Stephen Obinna	Brown	PhD 2024	Veronica Arena	Brown	PhD 2024
Roberta Pagliaro	Brown	current	Hao Sun	Brown	current
Alberto Landi	Brown	current			

- **Visiting students:** Oskar Kedzierski (Warsaw), Summer 2004; Amost Turchet (Udine), Fall 2012; Dhruv Ranganathan (Yale), Spring 2015.
- **Honors thesis advising:** Daniel Dadush, 2004; Alexander Young, 2007; Alex Kruckman, 2010; Justin Semonsen, 2015; JongHyun Lee, 2020.
- **First-year/sophomore advisor:** 2015 - 2019, 2022 - 2024, 2025-2026.
- **Post-doctoral fellows and Tamarkins sponsored:** Max Lieblich, 2004-2005; Danny Gillam, 2008-2011, Nathan Pflueger, 2014-2017, Jeremy Usatine, 2019-2023. Netanel Friedenberg; Spring 2021.
- **Service**

**Department and university level:**

Chair, Brown Mathematics, 7/2017 - 2019. Vice chair, 2016-2017.  
 Director of graduate studies, BU 1997-1998, Brown 2007-2011.  
 GAANN grants senior personnel, BU 1998-2002, Brown 2009-2013.  
 Member of numerous committees through the years.  
 MSRI Seminars Committee, spring 2009.  
 MSRI Logarithmic Geometry Seminar co-organizer.  
 Brown Fulbright committee, Fall 2011, Fall 2012.  
 Brown Mathematics Junior Hiring committee, 2010, 2012, 2014, 2019. Senior hiring committee 2013. Several tenure and promotion committees.  
 Founding co-organizer, Trivial Notions Seminar, Harvard, 1988.

**To the profession:**

Co-organizer / scientific committees:

- Toroidal geometry and resolution of singularities, BIRS, December 2004.
- AMS Summer Institute in Algebraic Geometry, Seattle July 24-August 12, 2005.
- AMS Special Session, Storrs, CT, October 28-29, 2006
- Aspects of Moduli Theory, de Giorgi Center, Pisa, June 2008
- *Moduli spaces*, Oberwolfach, January 2010 and February 2013.
- Algebraic Geometry New England Series, 2010-2023.
- MRC program ‘Birational Geometry and Moduli’, Snowbird, June 2010
- Resolution of Singularities, Valladolid, Spain, March 2010
- A celebration of classical algebraic geometry, August 2011

- Logarithmic Geometry and Moduli, CMI, August 2011.
- STAGS 2.0, Brown University, April 2015.
- BATMoBYle/BATMOBILE, Brown University, 2014 - present.
- Combinatorial Moduli Spaces, Fields Institute, December 2016.
- JHU/CTY weekend event, Brown, April 8, 2018.
- Moduli Spaces: Birational Geometry and Wall Crossings, BIRS, October 2018.
- Logarithmic Enumerative Geometry and Mirror Symmetry, Oberwolfach, June 2019.
- Semistable reduction seminar, ICERM combinatorial algebraic geometry, Spring 2021.
- Oberwolfach Seminar: new techniques in resolution of Singularities, October 2021.
- Real and Logarithmic enumerative Geometry, Oberwolfach, May 2024.

Mentor, program for women in mathematics, MSRI, 1993.

AMS Committee on Committees, 2003 and 2004; AMS Council member, 2012-2015, 2021-2025;  
Ad hoc committee 2014-2015; DARC committee, 2021.

NSF, NSA, DFG, NSERC, other reviews and review panels.

#### **Editorial boards:**

International Mathematics Research Notices, 1999-2004.

Transactions and Memoirs of the AMS, 2003-2015, Managing Editor, 2021-2025.

Algebraic Geometry – Seattle 2005, PSPUM 80.

AMS Graduate Studies in Mathematics, 2014-2017.

Manuscripta Mathematica, 2014-2020.

Selecta Mathematica, 2016-2020.

Geometry and Topology, 2016-present.

**Referee/reviewer** for numerous papers, grant applications and promotion dossiers.

#### **To the community:**

Alef-Bet Child Care board member & Secretary, 2002-2004.

#### • **Teaching**

- Elementary courses: Calculus 1, 2, 3, honors multivariable calculus, linear algebra.
- Mathematics major/concentration courses: undergraduate algebra, undergraduate Galois theory, elementary number theory, graph theory, elementary hyperbolic geometry.
- Introductory graduate courses: graduate algebra I, II, graduate geometry, graduate algebraic geometry I, II, graduate number theory I, II,
- Topics courses on the minimal model program, moduli spaces, logarithmic geometry, toric varieties, class field theory, diophantine geometry, stacks, resolution of singularities.
- Ran teaching training program as DGS.
- Trained and evaluated numerous teaching assistants.
- Early adopter of a number of course technologies.
- Mentored on all levels and in many capacities.

#### • **Lectures:**

##### – **Invited lecture series:**

1. **Poincaré Lecture Series**, The Fields Institute for Research in Mathematical Sciences, Toronto.  
**Title:** Resolution of Singularities and Semistable Reduction in Characteristic 0. **Dates:** February 11 and 12, 1997
2. **Working Week on Resolution of Singularities**, Obergurgl, Tirol, Austria.  
**Title:** Alterations and Resolution of Singularities. **Dates:** September 7-14, 1997

3. **Trimester on Diophantine Equations** at Centre Émile Borel, Paris.  
**Title:** The conjectures of Lang and Vojta. **Dates:** February 9-25, 1999.
  4. **Summer School on Intersection Theory and Moduli**, International Center for Theoretical Physics, Trieste, Italy.  
**Title:** Orbifold Cohomology and Quantum Cohomology of Orbifolds. **Dates:** September 16-20, 2002
  5. **Enumerative invariants in algebraic geometry and string theory** (CIME), Cetraro, Italy.  
**Title:** Gromov-Witten invariants for orbifolds **Dates:** June 6 - 11, 2005
  6. **Clay summer school in Arithmetic Geometry**, Göttingen, Germany.  
**Title:** Birational Geometry for Number Theorists **Dates:** July 31-August 4, 2006
  7. **Working week in algebraic geometry**, Obergurgl, Tirol, Austria.  
**Title:** The weak factorization theorem **Dates:** October 21-26, 2007
  8. **Toric degenerations and mirror symmetry**, Sophus Lie Center, Nordfjordeid, Norway.  
**Title:** Logarithmic Geometry and Moduli **Dates:** June 16-17, 2014
  9. **IRTG Moduli and Automorphic Forms**, Siena, Italy.  
**Title:** Logarithmic Geometry and Rational Curves **Dates:** August 24-28, 2015
  10. **Tropical Geometry ICM Satellite conference**, Cabo Frio, Rio de Janeiro, Brazil.  
**Title:** Logarithmic geometry and moduli, **Dates:** August 13-17, 2018.
  11. **Oberwolfach Seminar: New Techniques in Resolution of Singularities**, MFO, Germany.  
**Title:** Stacks, weighted resolution, and logarithmic resolution. **Dates:** October 25-29, 2021.
  12. **Einstein Institute of Mathematics, Hebrew University**, Jerusalem, Israel.  
**Title:** Logarithmic Geometry and Moduli Spaces. **Dates:** November-December, 2021.
  13. **Modern Perspectives on Birational Geometry**, National Center for Theoretical Sciences, Taipei, Taiwan.  
**Title:** Resolution of Singularities for Everyone. **Dates:** July 29-30, 2023.
  14. **LMS Invited Lectures 2024**, Imperial College London.  
**Title:** Logs and stacks in birational geometry and moduli. **Dates:** 1-5 July, 2024.
  15. **Foliations, birational geometry and applications**, CIRM thematic month *Singularities, differential equations, transcendence*, Marseille, France.  
**Title:** Resolution of singularities for the dynamical mathematician. **Dates:** February 3-6, 2025.
- **Recent Conference and Workshop Talks**
- \* Simons symposium on Non-Archimedean and Tropical Geometry, Puerto Rico: “Artin fans”, February 6, 2015.
  - \* AMS summer institute on Algebraic Geometry, SLC: “Artin fans”, July 24, 2015.
  - \* Student AGNES warmup workshop, Brown: “Introduction to logarithmic curves on logarithmic schemes”, October 2, 2015.
  - \* Classical Algebraic Geometry, Oberwolfach, Germany: “Level structures on abelian varieties and the conjectures of Lang and Vojta”. June 14, 2016.
  - \* Boston College - Northeastern Algebraic Geometry Conference: “Resolution in toroidal orbifolds”. March 18, 2017.
  - \* Birational geometry and Arithmetic, ICERM: “Level structures on abelian varieties and Vojta’s conjecture”, May 17, 2018.
  - \* A tale of algebra and geometry, Pisa, Italy: “Resolution and the art of toroidal stack maintenance”, June 4, 2018.
  - \* ICM, Rio de Janeiro, Brazil: “Resolving singularities of varieties and families”, August 7, 2018.
  - \* Yamabe Conference, Minneapolis: “Resolving singularities of varieties and families”, Sept 30, 2018.
  - \* Algebraic Geometry, representation theory and mathematical physics, Harvard CMSA, Cambridge, MA: “Resolution in characteristic 0 using weighted blowings up”, April 30, 2019.
  - \* Recent progress in moduli theory, MSRI, Berkeley, CA: “Resolution in characteristic 0 using weighted blowings up”, May 7, 2019.
  - \* Rational points on irrational varieties, IHP, Paris, France: “Resolution in characteristic 0 using weighted blowings up”, June 28, 2019.

- \* Simons Conference on Rationality, Simons Center, NY (online), *Resolution and logarithmic resolution by weighted blowings up*, July 27, 2020.
- \* 3CinG workshop, Cambridge–London–Warwick UK (online), *Punctured logarithmic maps and punctured logarithmic invariants*, September 18, 2020.
- \* Moduli and Hodge Theory, IMSA, Miami (online), *Semistable reduction - a progress report*, February 1, 2021
- \* Singularities in positive characteristics, CIRM, Luminy, France, *Stacks in the service of resolution*, July 16, 2021.
- \* Classical elegance: the Geometry of Algebraic varieties, Cortona, Italy: *Stacks at the service of resolution of singularities*, June 9, 2022.
- \* Higher Dimensional Geometry, Simons Foundation, New York: *Chow rings of weighted blowups*, October 25, 2022.
- \* VBAC webinar on Birational Geometry (online): *Chow rings of weighted blowups*, January 23, 2023.
- \* Moduli and algebraic cycles, MLI, Stockholm, Sweden: *Chow rings of weighted blowups*, May 31, 2023.
- \* Modern Perspectives on Birational Geometry, NCTS, Taipei, Taiwan: *The Chow ring of weighted blowups*, August 3, 2023.
- \* Higher Dimensional Algebraic Geometry San Diego, CA: *Logarithmic resolution using weighted blowing up* (cancelled due to illness). January 2024.
- \* AMS Special Session on Moduli Spaces in Algebraic Geometry, Tallahassee, FL: *Logarithmic resolution of singularities using algebraic stacks* March 23, 2024.
- \* Tropical moduli and matroids, Frankfurt, Germany: *Resolution of singularities in characteristic 0: why does it work?* October 8, 2024.
- \* Non-Archimedean Geometry, Birational Geometry, and Resolution of Singularities, Caen, France: *Resolution of singularities in characteristic 0 - how does it work?*, March 11, 2025.
- \* Enumerative geometry in logarithmic, tropical and real world, Les Diablerets, Switzerland: *Normal-crossings resolution using weighted blowups*, April 15, 2025.
- \* Harmonies in moduli spaces, Rome, Italy: *Resolution of singularities in characteristic 0: why does it work?*, June 13, 2025.
- \* A tour through algebraic geometry, Cortona, Italy: *Resolution on foliated orbifolds*, September 19, 2025.

– **Recent Seminar and colloquium talks.**

- \* Princeton-IAS Algebraic Geometry day, *Factorization of birational maps on steroids*, April 14, 2015.
- \* UBC Algebraic Geometry Seminar, *Factorization of birational maps, with a shot of good energy*, February 22, 2016.
- \* UIC Algebraic Geometry Seminar, *Resolution in toroidal orbifolds*, September 29, 2017.
- \* Harvard-MIT Algebraic Geometry Seminar, *Moduli techniques in resolution of singularities*, February 12, 2019.
- \* Stony Brook Algebraic Geometry Seminar, *Resolving singularities in families*, March 13, 2019.
- \* Columbia algebraic geometry seminar, *Resolution by weighted blowing up*, September 13, 2019.
- \* Brown Undergraduate Mathematics Seminar, *Singularities and their resolutions*, September 26, 2019.
- \* JHU algebraic geometry seminar, *Resolution by weighted blowing up*, November 12, 2019.
- \* ETH Algebraic Geometry and Moduli Seminar (online), *Resolution and logarithmic resolution by weighted blowings up*, July 22, 2020.
- \* Stanford Algebraic Geometry Seminar (online), *Resolution and logarithmic resolution by weighted blowings up*, July 31, 2020.
- \* Seminario di geometria algebrica e aritmetica di Pisa (online), *Stacks, blowing up and resolution*, October 14, 2020.
- \* Geometry and Analysis Seminar, Oxford (online), *Punctured invariants and gluing*, February 8, 2021.

- \* Real and Complex Geometry, Tel-Aviv University (online), *Punctured logarithmic maps*, December 16, 2021.
- \* Colloquium, Tel-Aviv University, *Resolving singularities in families*, December 20, 2021.
- \* Algebra Seminar, Technion, Israel, *Resolution of singularities using weighted and logarithmic blowing up*, December 23, 2021.
- \* Algebraic Geometry Seminar, Harvard, *Stacks at the service of resolution of singularities*, March 8, 2022.
- \* Valley Geometry Seminar, UMass, Amherst, *Stacks at the service of resolution of singularities*, April 1, 2022.
- \* ETH/Zurich moduli seminar, *The Chow ring of weighted blowups*, May 24, 2023.
- \* Trinity College Dublin Mathematics Colloquium, *Weighted blowups*, October 12, 2023.
- \* BU Number Theory Seminar, *Logarithmic resolution using weighted blowing up*, February 12, 2024.
- \* Brown AG Seminar, *Logarithmic resolution using weighted blowing up*, February 23, 2024.
- \* IHES Séminaire de Géométrie Arithmétique, *Principalization on foliated orbifolds*, September 26, 2024.
- \* Cambridge Algebraic Geometry Seminar, *Resoluiton of singularities in characteristic 0: why does it work?* October 29, 2024.
- \* Université Sorbonne Paris Nord Séminaire de Géométrie Arithmétique, *Resoluiton of singularities in characteristic 0: why does it work?* November 22, 2024.
- \* IMJ Séminarie de Géométrie Algébrique, *Principalization on foliated orbifolds*, November 28, 2024.
- \* Université de Lille Séminaire “Géométrie des Espaces Singulieres”, *Resolution of singularities in characteristic 0: why does it work?*, December 17, 2024.
- \* Hebrew University Number Theory And Algebraic Geometry Seminar, *Resolution of singularities in characteristic zero - why does it work?*, March 24, 2025.
- \* Cable Car Algebra seminar, Technion, Haifa, *Resolution on foliated orbifolds*, April 3, 2025.
- \* Wesleyan Mathematics Colloquium, *Singularities and their resolutions*, December 11, 2025.

• **Publications:**

1. With Joe Harris, *Curves and abelian varieties on  $W_d(C)$* , Comp. Math. 78, p. 227-238, 1991.
2. *Subvarieties of Abelian Varieties and of Jacobians of Curves*, Ph.D. Thesis, Harvard U., 1991.
3. With L.-Y. Fong, J. Kollár, K. Matsuki and J. Mckernan: *Abundance for threefolds*. In: *Flips and Abundance on Algebraic Threefolds*, J. Kollár, Astérisque 211, 1992.
4. With J.-F. Burnol and J. Kramer: Lecture notes for C. Soulé’s Book *Lectures on Arakelov Geometry*. Cambridge University Press, 1992.
5. With J. F. Voloch, *Toward a proof of the Mordell Lang conjecture in characteristic p*, IMRN, June 1992.
6. *Subvarieties of semiabelian varieties*, Comp. Math. 90, 1994, p 37-52
7. *Formal finiteness and the torsion conjecture on elliptic curves*, in *Columbia University Number Theory Seminar*, Astérisque 228 (1995).
8. *Uniformité des points rationnels des courbes algébriques sur toutes les extensions quadratiques et cubiques*, C.R. Acad. Sc. Paris, t. 321, Sér. I, p. 755-758, 1995.
9. *Uniformity of stably integral points on elliptic curves*, Inventiones Math. 127, 307-317 (1997).
10. With J. F. Voloch, *Lang’s conjectures, fibered powers, and uniformity*, New York J. of Math. II, p 20-34, 1996. <http://nyjm.albany.edu:8000/j/v2/Abramovich-Voloch.html>
11. *A high fibered power of a family of varieties of general type dominates a variety of general type*, Inventiones Math. 128, 481-494 (1997).
12. *Lang maps and Harris’s conjecture*, Israel J. of Math. 101 (1997), 85-91.
13. With A. J. de Jong, *Smoothness, Semistability, and Toroidal Geometry*, J. Alg. Geom. 6 (1997), 789-801.
14. With J. Wang, *Equivariant resolution of singularities in characteristic 0*, Math. Res. Letters 4, 427-433 (1997).

15. *A linear lower bound on the gonality of modular curves*, IMRN 1996, no 20, 1005-1011.
16. With F. Oort, *Alterations and resolution of singularities*, In: Resolution of Singularities. A research textbook in tribute to Oscar Zariski. Eds. H. Hauser, J. Lipman, F. Oort, A. Quirós. Progress in Math. vol 181, Birkhäuser 2000.
17. With K. Karu, *Weak semistable reduction in characteristic 0*, Invent. math. 139 (2000) 2, 241-273.
18. With A. Vistoli, *Complete moduli for fibered surfaces*, in: *Recent Progress in Intersection Theory*, Proceedings of the *International Conference on Intersection Theory*, Bologna, December 15–20, 1997, G. Ellingsrud, W. Fulton, A. Vistoli (eds.), Birkhäuser, 2000.
19. With K. Matsuki and S. Rashid, *A note on the factorization theorem*, Tohoku Math. J. (2) 51 (1999), no. 4, 489–537.
20. With K. Matsuki, *Uniformity of stably integral points on principally polarized abelian varieties of dimension  $\leq 2$ .*, Israel J. Math. 121 (2001), 351–380.
21. With A. Bertram, *The formula  $12 = 10 + 2 \times 1$  and its generalizations (Counting rational curves on Hirzebruch surfaces)*, in: Advances in algebraic geometry motivated by physics (Lowell, MA, 2000), 89–100, Contemp. Math., 276, E. Previato, ed., Amer. Math. Soc., Providence, RI, 2001.
22. With F. Oort, *Stable maps and Hurwitz schemes in mixed characteristic*, Advances in algebraic geometry motivated by physics (Lowell, MA, 2000), 89–100, Contemp. Math., 276, E. Previato, ed., Amer. Math. Soc., Providence, RI, 2001.
23. With A. Vistoli, *Compactifying the space of stable maps*, J. of the Amer. Math. Soc 15 no. 1. 27-75.
24. With K. Karu, K. Matsuki and W. Włodarczyk, *Torification and factorization of birational maps*, J. Amer. Math. Soc. 15 (2002), 531-572.
25. With T. Graber and A. Vistoli, *Algebraic orbifold quantum products*. Orbifolds in mathematics and physics (Madison, WI, 2001), 1–24, Adem, Morava, Ruan, eds., Contemp. Math., 310, Amer. Math. Soc., Providence, RI, 2002.
26. With T. Jarvis, *Moduli of twisted spin curves*, Proc. Amer. Math. Soc. 131 (2003), no. 3, 685–699.
27. With J. M. Rojas, *Extending triangulations and semistable reduction*, in *Proceedings of FoCM 2000, special meeting in honor of Steve Smale's 70th birthday* (July 2000, City University of Hong Kong, Hong Kong), pp. 1-13, World Scientific, 2002.
28. With A. Corti and A. Vistoli, *Twisted covers and level structures*, Special issue in honor of Steven L. Kleiman. Comm. Algebra 31 (2003), no. 8, 3547–3618.
29. With A. Vistoli, *Twisted stable maps and quantum cohomology of stacks*, ICTP lecture notes, 2005.
30. With J. C. Chen, *Flops, flips and perverse point sheaves on threefold stacks*, Journal of Algebra 290 (2005), no. 2, 372–407.
31. With A. Polishchuk, *Sheaves of  $t$ -structures and valuative criteria for stable complexes*, J. reine ang. Mathematik, 590 (2006), 89–130.
32. With T. Graber, M. Olsson, and H.-H. Tseng, *On The Global Quotient Structure of The Space of Twisted Stable Maps to a Quotient Stack*, Journal of Algebraic Geometry 16 (2007) no. 4, 731-751.
33. *Lectures on Gromov–Witten invariants of orbifolds*, in: Enumerative invariants in algebraic geometry and String Theory, M. Manetti, ed., LNM 1947, Springer, 2008.
34. With M. Olsson and A. Vistoli, *On tame Artin stacks*, Ann. Inst. Fourier (Grenoble) 58 (2008), no. 4, 1057–1091.
35. With T. Graber and A. Vistoli, *Gromov–Witten invariants of Deligne–Mumford stacks*, Amer. J. Math. 130 (2008), no. 5, 1337–1398.
36. D. Abramovich, A. Bertram, L. Katsarkov, R. Pandharipande, M. Thaddeus (eds.), *Algebraic Geometry - Seattle 2005 I, II*. American Mathematical Society, 2009.
37. *Birational geometry for number theorists*, in *Arithmetic Geometry*, Darmon, Ellwood, Hassett, Tschinkel (eds), Amer. Math. Soc. 2009.

38. With B. Hassett, *Stable varieties with a twist*, in Classification of Algebraic Varieties, Schiermonnikoog, Faber, van der Geer, Looijenga, eds., EMS 2011.
39. With M. Olsson and A. Vistoli, *Twisted stable maps into tame Artin stacks*, J. Algebraic Geom. 20 (2011), 399-477.
40. With J. Lubin, *Raynaud's group-scheme and reduction of coverings*, With an appendix by Jonathan Lubin. Number theory, analysis and geometry (Lang memorial volume), 1-18, Springer, New York, 2012.
41. With M. Romagny, *Moduli of Galois  $p$ -covers in mixed characteristics*, Algebra and Number Theory, Vol. 6 (2012), No. 4, 757-780.
42. *Logarithmic Geometry and Moduli*, CMI annual report 2011, 14-15 (2012).
43. With Qile Chen, Danny Gillam, Yuhao Huang, Martin Olsson, Matt Satriano, and Shenghao Sun, *Logarithmic Geometry and Moduli*, In: *Handbook of Moduli*, G. Farkas and I. Morrison (eds.), International Press, 2013.
44. With C. Cadman, B. Fantechi and J. Wise, *Expanded degenerations and pairs*, Communications in Algebra 41 No. 6, 2346-2386, 2013.
45. With J. Denef and K. Karu, *Weak toroidalization over non-closed fields*, Manuscripta Mathematica 142 No. 1-2, 257-271, 2013.
46. *Moduli of algebraic and tropical curves*, in *Colloquium De Giorgi 2010-2012*. Edited by Umberto Zannier. Colloquia 4. Edizioni della Normale, Pisa, 2013.
47. With Q. Chen, *Logarithmic stable maps to Deligne–Faltings pairs II*, Asian Journal of Mathematics 18.3, July 2014.
48. With S. Marcus and J. Wise, *Comparison theorems for Gromov-Witten invariants of smooth pairs and of degenerations*, Annales de l'Institut Fourier, Vol. 64 no. 4 (2014), p. 1611-1667.
49. With L. Caporaso and S. Payne, *The tropicalization of the moduli space of curves*, Annales de l'École Normale Supérieure (4) 48 (2015), no. 4, 765-809.
50. With B. Fantechi, *Orbifold techniques in degeneration formulas*, Annali della SNS XVI, issue 2 (2016) 519-579. DOI Number: 10.2422/2036-2145.201408\_006
51. With Q. Chen, S. Marcus, M. Ulirsch and J. Wise, *Skeletons and fans in logarithmic geometry*, p 287-336 In *Nonarchimedean and Tropical Geometry*, Baker and Payne, eds. Springer 2016
52. With M. Temkin, *Torification of diagonalizable group actions on toroidal schemes*, J. Algebra 272 (2017) 279–338.
53. With Anthony Várilly-Alvarado, *Level structures on abelian varieties and Vojta's conjecture*, with an appendix by Keerthi Madapusi Pera, Compositio Mathematica 153 (2017), no. 2, 373-394. <https://doi.org/10.1112/S0010437X16008253>
54. With B. Fantechi, *Configurations of points on degenerate varieties and properness of moduli spaces*, Rendiconti del Seminario Matematico di Padova 137 (2017), 1-17. <https://doi.org/10.4171/RSMUP/137-1>
55. With C. Cadman and J. Wise, *Relative and orbifold Gromov–Witten theory*, Algebraic Geometry 4 (4) (2017) 452-471. <https://doi.org/10.14231/AG-2017-024>
56. With Q. Chen, S. Marcus and J. Wise, *Boundedness of the space of stable logarithmic maps*, JEMS 19 (9) (2017) 2783-2809 <https://doi.org/10.4171/JEMS/728>
57. With M. Temkin, *Luna's fundamental lemma for diagonalizable groups*, Algebraic Geometry, (1) (2018) 77-113 doi:10.14231/AG-2018-003
58. With J. Wise, *Birational Invariance in logarithmic Gromov-Witten theory*, Compositio Mathematica 154 (3) (2018), 595-620 doi:10.1112/S0010437X17007667
59. With Anthony Várilly-Alvarado, *Level structures, Kodaira dimensions, and Lang's conjecture*, Advances in Mathematics 329 (2018), pp. 523-540 <https://doi.org/10.1016/j.aim.2017.12.023>
60. With Anthony Várilly-Alvarado, *Campana points, Vojta's conjecture, and level structures on semistable abelian varieties*, J. Théorie de Nombres de Bordeaux 30 (2) (2018) p. 525-532 [dx.doi.org/10.5802/Jtnb.1037](https://doi.org/10.5802/Jtnb.1037).

61. With M. Temkin, *Functorial factorization of birational maps for  $qg$  schemes in characteristic 0*, Algebra and Number Theory Vol. 13 (2019), No. 2, 379–424 DOI:10.2140/ant.2019.13.379
62. *Resolution of singularities of complex algebraic varieties and their families*, Proc. International Congress of Math. - 2018, Rio de Janeiro, Brazil, Vol. II, pp. 523–546. World Scientific, May 2019, <https://doi.org/10.1142/11060>
63. With M. van Garrel and H. Ruddat, *Logarithmic enumerative geometry and mirror symmetry*. Oberwolfach Rep. 16 (2019), no. 2, 1639–1695.
64. With M. Temkin and J. Włodarczyk, *Principalization of ideals on toroidal orbifolds*, JEMS, Electronically published Aug. 4, 2020. DOI: 10.4171/JEMS/997.
65. *PhD advising before tenure*, Notices of the Amer. Math. Soc. Early Career section, October 2020, <https://www.ams.org/journals/notices/202009/rnoti-p1351.pdf>.
66. With D. Rydh, M. Temkin and J. Włodarczyk, *Toroidal orbifolds, destackification and Kummer blowings up*, Algebra & Number Theory 14-8 (2020), 2001–2035. DOI 10.2140/ant.2020.14.2001
67. With Q. Chen, M. Gross and B. Siebert, *Decomposition formula for Logarithmic maps*, Compositio Math. 156 (October 2020), no. 10, 2020–2075, <https://doi.org/10.1112/S0010437X20007393> (Published online 19 November 2020)
68. **Q**-mild reduction, appendix to *On the hyperbolicity of base spaces for maximally variational families of smooth projective varieties* by Ya Deng, J. Eur. Math. Soc. (online 2021-11-05). DOI:10.4171/JEMS/1152
69. *Stacks for everyone interested in singularities*, in *Oberwolfach Seminar: New Techniques in Resolution of Singularities*, Springer, 2023, <https://doi.org/10.1007/978-3-031-32115-3>
70. With M. Temkin and J. Włodarczyk, *Birational geometry using weighted blowing up*, In *Oberwolfach Seminar: New Techniques in Resolution of Singularities* Springer, 2023, <https://doi.org/10.1007/978-3-031-32115-3>
71. With A. Frühbis-Krüger, M. Temkin and J. Włodarczyk, *Open problems*, in: *Oberwolfach Seminar: New Techniques in Resolution of Singularities* Springer, 2023, <https://doi.org/10.1007/978-3-031-32115-3>
72. With A. Frühbis-Krüger, M. Temkin and J. Włodarczyk (eds.), *Oberwolfach Seminar: New Techniques in Resolution of Singularities* Springer, 2023, <https://doi.org/10.1007/978-3-031-32115-3>.
73. With B. Schober, *Resolving binomial varieties via fantastacks*, Mathematische Zeitschrift (2024) 306:48 <https://doi.org/10.1007/s00209-024-03441-8>
74. With H. Cohn, D. Futer, and R. Harington, *Double-Anonymous Peer Review in Mathematics: Implementation for American Mathematical Society Journals*. Notices of the American Mathematical Society, Vol. 71, No. 8 (September 2024) 1079–1081.
75. With M. H. Quek, *Logarithmic resolution of singularities via multi-weighted blow-ups*, EPIGA, Volume 8 (2024), Article No. 15, [epiga.episciences.org](https://epiga.episciences.org), <https://doi.org/10.46298/epiga.2024.9793>
76. With M. Temkin and J. Włodarczyk, *Functorial embedded resolution via weighted blowings up*, Algebra and Number Theory, Vol. 18 (2024), No. 8, 1557–1587. DOI:10.2140/ant.2024.18.1557
77. With P. Georgieva and H. Ruddat, *Real and logarithmic enumerative geometry*. Oberwolfach Reports 2024. DOI:10.4171/OWR/2024/23.
78. With Q. Chen, M. Gross and B. Siebert, *Punctured Logarithmic maps*, Memoirs of the EMS Vol 15 (2025). DOI:10.4171/MEMS/15, ISBN 978-3-98547-086-0
79. With V. Arena and S. Obinna, *The Chern class of a weighted blowup*, appendix for *The integral Chow ring of a weighted blowup*, by V. Arena and S. Obinna, Algebra and Number Theory, 19-6 (2025), 1231–1258. DOI:10.2140/ant.2025.19.1231

**Accepted / In press:**

80. Resolution of singularities for the dynamical mathematician. Publications mathématiques de Besançon, accepted, <http://arxiv.org/abs/2503.17321>.

81. With A. Belotto da Silva, M. H. Quek, M. Temkin and J. Włodarczyk, *Logarithmic resolution of singularities in characteristic 0 using weighted blowing up*, Pure and Applied Mathematics Quarterly, accepted, <https://arxiv.org/abs/2503.13341>.

**In progress:**

82. With M. Temkin and J. Włodarczyk, *Relative desingularisation and principalization of ideals*, preprint [arXiv:2003.03659](https://arxiv.org/abs/2003.03659)
83. With M. H. Quek and B. Schober, *Resolving plane curves using stack-theoretic blow-ups*, preprint [arXiv:2412.16426](https://arxiv.org/abs/2412.16426)
84. With A. Belotto da Silva, M. Temkin and J. Włodarczyk, *Principalization on logarithmically foliated orbifolds*, preprint <https://arxiv.org/pdf/2503.00926>
85. With M. Temkin and J. Włodarczyk, *Functorial monomialization of centers and relative principalization* (appendix to (82)), preprint <https://arxiv.org/abs/2503.13345>.
86. With M. H. Quek and B. Schober, *Torus actions, weighted blow-ups, and desingularization of plane curves*, preprint <https://arxiv.org/abs/2507.01232>.
87. With M. Temkin, *Partial desingularization in characteristic 0*, preprint <https://arxiv.org/abs/2602.15612>.
88. With R. Pandharipande and D. Ranganathan, *Virtual intersection theory on the space of lines in the plane*, in preparation.
89. With M. Temkin, *The tragic story of Whitney's umbrella: characteristic 0 and characteristic 2*, in preparation.
90. With M. H. Quek and B. Schober, *Invariants of singularities in arbitrary characteristics*, in preparation.
91. With J. Wise, *Representability criteria in logarithmic and tropical geometry*, in preparation.

**Software:**

92. Jonghyun Lee, Anne Frühbis-Krüger and Dan Abramovich, `weightedresolve.lib`, A SINGULAR library for weighted resolution, 2020.
93. With Nada Ben Abla, Dhruv Bhatia, Lars Kästner, Chen Li, Daniel Li, Davis Lister, Stephen Obinna, Daniel Silverston, Henry Talbott, and Jeremy Wong: *An OSCAR implementation of Algorithms A-D of Bergh's destackification*, GITHUB library, 2021.
94. With Mathilde Kermorgant and Ameer Muhialdeen: *An OSCAR implementation of Algorithm E of Bergh's destackification*, GITHUB library, 2024.

**Other:**

95. *A coupling time of  $O(n \log n)$  for the  $j$ -at random shuffle*, unpublished manuscript, 1990. <http://www.math.brown.edu/dabramov/PAPERS/shuffle.pdf>
96. With A. Vistoli, *Complete moduli for families over semistable curves*, [arXiv:math/9811059](https://arxiv.org/abs/math/9811059).
97. *Canonical models and stable reduction for plurifibered varieties*, [math.AG/0207004](https://arxiv.org/abs/math.AG/0207004)
98. With Q. Chen, D. Gillam and S. Marcus, *The Evaluation Space of Logarithmic Stable Maps*, [arXiv:1012.5416](https://arxiv.org/abs/1012.5416)
99. With C. Xu, *Pseudoideals as DG schemes*, preliminary manuscript, around 2012.
100. With M. Temkin and J. Włodarczyk, *Principalization of ideals and canonical desingularization on logarithmic varieties*, draft (beginning 2019).
101. *Remarks on weak semistable reduction and alterations* (2022).