

## EMANUELE MACRÌ

---

Northeastern University  
Department of Mathematics  
360 Huntington Avenue  
Boston, MA 02115, USA

Phone: +1-617-373-3893  
Fax: +1-617-373-5658  
[e.macri@northeastern.edu](mailto:e.macri@northeastern.edu)  
<https://web.northeastern.edu/emacri/>

### Academic Education

August 2006      Ph.D. in Mathematics, SISSA, Trieste.  
September 2002    Laurea in Matematica, Università di Genova.

### Appointments

01/15–present    Associate Professor, Northeastern University.  
09/11–12/14     Assistant Professor, The Ohio State University.  
07/10–08/11     Junior Professor, W2 level, Universität Bonn.  
07/08–06/11     Wylie Assistant Professor, University of Utah (on leave to Bonn on 2010-11).  
09/07–06/08     Postdoc, Hausdorff Center for Mathematics, Bonn.  
09/06–08/07     Postdoc, Max-Planck-Institute für Mathematik, Bonn.

### Visiting Positions

02/17–07/17     Poincaré Chair, Institut Henri Poincaré.  
August 2016     Visiting Professor, Australian National University.  
06/16–07/16     Visiting Professor, Université de Toulouse.  
05/14–06/14     Visiting Scholar, Universität Bonn.  
06/12–07/12     Visiting Scholar, Universität Bonn.  
05/09–07/09     Visiting Scholar, Universität Bonn.  
May 2008        Visiting Scholar, Universidad de Salamanca.  
02/07–04/07     Institut des Hautes Études Scientifiques, Bures-sur-Yvette.  
03/06–04/06     Visiting Student, University of Pennsylvania.  
04/05–07/05     Visiting Student, University of Pennsylvania.

## Publications

### Refereed Articles in Journals:

1. O. DEBARRE AND E. MACRÌ: *On the period map for hyperkähler fourfolds*, to appear in Int. Math. Res. Not.
2. M. LAHOZ, M. LEHN, E. MACRÌ, P. STELLARI: *Generalized twisted cubics on cubic fourfolds as a moduli space of stable objects*, to appear in Journal de Mathématiques Pures et Appliquées.
3. M. BERNARDARA, E. MACRÌ, B. SCHMIDT, X. ZHAO: *Bridgeland stability conditions on Fano threefolds*, *Épjournal de Géométrie Algébrique* **1** (2017), Article Nr. 2.
4. A. BAYER, E. MACRÌ, AND P. STELLARI: *The space of stability conditions on abelian threefolds, and on some Calabi-Yau threefolds*, *Invent. Math.* **206**, 869–933 (2016).
5. M. LAHOZ, E. MACRÌ, AND P. STELLARI: *ACM bundles on cubic threefolds*, *Algebraic Geometry* **2**, 231–269 (2015).
6. A. BAYER AND E. MACRÌ: *MMP for moduli of sheaves on K3s via wall-crossing: nef and movable cones, Lagrangian fibrations*, *Invent. Math.* **198**, 505–590 (2014).
7. A. BAYER AND E. MACRÌ: *Projectivity and birational geometry of Bridgeland moduli spaces*, *J. Amer. Math. Soc.* **27**, 707–752 (2014).
8. E. MACRÌ: *A generalized Bogomolov-Gieseker inequality for the three-dimensional projective space*, *Algebra Number Theory* **8**, 173–190 (2014).
9. A. BAYER, A. BERTRAM, E. MACRÌ, AND Y. TODA: *Bridgeland stability conditions on threefolds II: An application to Fujita’s conjecture*, *J. Algebraic Geom.* **23**, 693–710 (2014).
10. A. BAYER, E. MACRÌ, AND Y. TODA: *Bridgeland stability conditions on threefolds I: Bogomolov-Gieseker type inequalities*, *J. Alg. Geom.* **23**, 117–163 (2014).
11. E. MACRÌ AND P. STELLARI: *Fano varieties of cubic fourfolds containing a plane*, *Math. Ann.* **354**, 1147–1176 (2012).
12. M. BERNARDARA, E. MACRÌ, S. MEHROTRA AND P. STELLARI: *A categorical invariant for cubic threefolds*, *Adv. Math.* **229**, 770–803 (2012).
13. A. BAYER AND E. MACRÌ: *The space of stability conditions on the local projective plane*, *Duke Math. J.* **160**, 263–322 (2011).
14. D. HUYBRECHTS, E. MACRÌ, AND P. STELLARI: *Formal deformations and their categorical general fibre*, *Comment. Math. Helv.* **86**, 41–71 (2011).
15. E. MACRÌ AND P. STELLARI: *Infinitesimal Derived Torelli Theorem for K3 surfaces* (with an appendix by S. Mehrotra), *Int. Math. Res. Not.*, Article ID rnp049, 31 pp. (2009).
16. D. HUYBRECHTS, E. MACRÌ, AND P. STELLARI: *Derived equivalences of K3 surfaces and orientation*, *Duke Math. J.* **149**, 461–507 (2009).
17. E. MACRÌ, S. MEHROTRA, AND P. STELLARI: *Inducing stability conditions*, *J. Alg. Geom.* **18**, 605–649 (2009).
18. E. MACRÌ, M. NIEPER-WISSKIRCHEN, AND P. STELLARI: *The module structure of Hochschild homology in some examples*, *C. R. Math. Acad. Sci. Paris* **346**, 863–866 (2008).
19. E. MACRÌ AND P. STELLARI: *Automorphisms and autoequivalences of generic analytic K3 surfaces*, *J. Geom. Phys.* **58**, 133–164 (2008).
20. D. HUYBRECHTS, E. MACRÌ, AND P. STELLARI: *Stability conditions for generic K3 categories*, *Compositio Math.* **144**, 134–162 (2008).
21. E. MACRÌ: *Stability conditions on curves*, *Math. Res. Lett.* **14**, 657–672 (2007).

22. C. BARTOCCI AND E. MACRÌ: *Classification of Poisson surfaces*, Comm. Cont. Math. **7**, 89–95 (2005).

**Submitted Papers and Preprints:**

23. A. BAYER, M. LAHOZ, E. MACRÌ, P. STELLARI: *Stability conditions on Kuznetsov components*, Preprint 2017, available at <https://arxiv.org/abs/1703.10839>.
24. E. MACRÌ: *Some examples of spaces of stability conditions on derived categories*, Preprint 2004, available at <http://arxiv.org/abs/math/0411613>.

**Articles in Books:**

25. E. MACRÌ AND B. SCHMIDT: *Lectures on Bridgeland Stability*, in the Proceedings of the “CIMPA-CIMAT-ICTP School on Moduli of Curves” (Guanajuato, Mexico, 2016), Springer 2017.
26. M. LAHOZ, E. MACRÌ, AND P. STELLARI: *ACM bundles on cubic fourfolds containing a plane*, in the Proceedings of the AIM workshop “Brauer groups and obstruction problems: moduli spaces and arithmetic” (Palo Alto, 2013), Birkhäuser 2017.
27. E. MACRÌ: *Stability conditions for derived categories*, appendix to the book “Fourier-Mukai and Nahm transforms in geometry and mathematical physics”, by C. Bartocci, U. Bruzzo, and D. Hernández-Ruipérez, Progress in Mathematics **276**, Birkhäuser 2009.

**Seminar Talks**

- 2017    Università di Roma Tor Vergata, Columbia University, Brown University, Institut de Mathématiques de Jussieu-Paris Rive Gauche, Università di Roma Sapienza, Université de Lorraine, Université Paris-Sud, University of Texas at Austin, University of Michigan
- 2016    Harvard/MIT, University of Oregon (colloquium).
- 2015    Boston University, Yale University, University of North Carolina (colloquium), University of South Carolina, SUNY–Stony Brook, University of Massachusetts–Amherst, Columbia University, University of Maryland.
- 2014    University of Illinois at Chicago, University of Edinburg, Università Roma Tre, Università Roma 1, Sapienza, Purdue University, University of British-Columbia, Northeastern University (colloquium).
- 2013    Rice University (colloquium), University of Michigan, University of Massachusetts–Amherst, Colorado State University–Fort Collins, Duke University.
- 2012    Princeton University, Brown University, SUNY–Stony Brook
- 2011    University of Windsor (colloquium), University of Illinois at Chicago, Kansas State University, University of Minnesota (colloquium), Colorado State University–Fort Collins (colloquium), University of Wisconsin–Madison (colloquium), Northeastern University (colloquium), The Ohio State University (colloquium), University of Arizona (colloquium).
- 2010    Humboldt-Universität zu Berlin, Colorado State University–Fort Collins, KIAS–Seoul, Università di Milano, University of Oxford, Brown University, University of Connecticut, University of Chicago.
- 2009    Universität Bielefeld, Universität Bonn, Universität Regensburg, Colorado State University–Fort Collins, University of Wisconsin–Madison, University of Arizona.
- 2008    University of Arizona, University of Utah, MPIM–Bonn.

- 2007 Osaka University, University of Illinois at Chicago, University of Pennsylvania, SISSA–Trieste.
- 2006 Université de Nice–Sophia Antipolis, MPIM–Bonn, Università di Milano, SISSA–Trieste, Universidad de Salamanca,
- 2005 Università di Genova, University of Massachusetts–Amherst.
- 2004 Università di Genova.

### Conference Talks and Lecture Series

1. “Algebraic Geometry: Birational Classification, Derived Categories, and Moduli Spaces” MFO, Oberwolfach, September 2017.
2. “VBAC 2017” (4 lectures) University of Essen, September 2017.
3. Abel Symposium 2017, “Geometry of moduli” Svolvær, Norway, August 2017.
4. “Positivity in Algebraic and Complex Geometry” ICMS, Edinburgh, April 2017.
5. “Georgia Algebraic Geometry Symposium” University of Georgia, March 2017.
6. “Stability and moduli spaces” AIM, San Jose, January 2017.
7. “Christmas Workshop on Quivers, Moduli Spaces and Integrable Systems” University of Genova, December 2016.
8. “Algebraic geometry: old and new” Clay Mathematics Institute, Oxford, September 2016.
9. “Geometry at the ANU” (4 lectures), Australian National University, August 2016.
10. “Interacting algebraic geometry” University of Burgundy, July 2016.
11. “New methods in birational geometry” (4 lectures) Université de Toulouse, July 2016.
12. “Classical Algebraic Geometry” MFO, Oberwolfach, June 2016.
13. CIMPA School “Moduli of curves” (5 lectures), CIMAT, Guanajuato, Mexico, February 2016.
14. “New Developments in Moduli and Geometric Invariant Theory” University of North Carolina, November 2015.
15. “Recent advances in arithmetic and algebraic geometry” (4 lectures), Siena, Italy, August 2015.
16. “AMS Summer Institute in Algebraic Geometry” University of Utah, July 2015.
17. “New Techniques in Birational Geometry” Stony Brook University, April 2015.
18. “Simons Symposium on Geometry Over Nonclosed Fields” Rio Grande, Puerto Rico, March 2015.
19. “AGNES” Boston College, March 2015.
20. “Chow groups, motives, and derived categories” IAS, Princeton, March 2015.
21. “Geometry from stability conditions” University of Warwick, UK, February 2015.
22. “K3, Enriques surfaces and related topics” Nagoya University, Japan, November 2014.
23. “Current Developments in Moduli Theory” Northeastern University, October 2014.
24. “New Developments in Algebraic Geometry” National Taiwan University, Taipei, Taiwan, September 2014.
25. “Classical Algebraic Geometry” MFO, Oberwolfach, June 2014.
26. “K3 surfaces and their moduli ” Schiermonnikoog, The Netherlands, May 2014.
27. Workshop “Birational geometry and stability of moduli stacks and spaces of curves” VIASM, Hanoi, January 2014.

28. “AGNES” Boston College, October 2013.
29. “AMS Sectional Meeting” Boston College, April 2013.
30. Graduate Student Workshop “Moduli Spaces and Bridgeland Stability” University of Illinois at Chicago, March 2013.
31. “Brauer groups and obstruction problems: moduli spaces and arithmetic” AIM, Palo Alto, February 2013.
32. “Southern California Algebraic Geometry Seminar” Caltech, November 2012.
33. “Mirror Symmetry in the Midwest, II” University of Wisconsin, Madison, November 2012.
34. “Hyper-Kähler Geometry” Simons Center, Stony Brook, October 2012.
35. Summer school “The derived category of cubic hypersurfaces” (3 lectures), Universitat de Barcelona, July 2012.
36. Workshop “Derived Categories in Algebraic Geometry” (3 lectures), Université de Bourgogne, Dijon, May 2012.
37. “Geometry of derived categories and representation theory”, Northeastern University / MIT, May 2012.
38. “AMS Sectional Meeting” University of Kansas, March 2012.
39. “Advances in hyperkähler and holomorphic symplectic geometry”, BIRS, Banff, March 2012.
40. “UM/UIC/OSU Weekend Algebraic Geometry Workshop”, The Ohio State University, March 2012.
41. “AMS Sectional Meeting” University of Utah, October 2011.
42. “Derived categories in Algebraic Geometry”, Steklov Institute, Moscow, September 2011.
43. “Recent Developments on Orbifolds”, Chern Institute, Tianjin, July 2011.
44. “Derived Categories”, University of Tokyo, January 2011.
45. “Categorical Methods in Geometry and Gauge Theory”, Chern Institute, Tianjin, September 2010.
46. “School on Birational Geometry and Moduli Spaces” (4 lectures), University of Utah, June 2010.
47. “Western Algebraic Geometry Seminar”, A special occurrence in honor of David Gieseker, University of California, Los Angeles, October 2009.
48. Summer school “BPS state counting, stability structures and derived algebraic geometry”, Universität Hamburg, August 2009.
49. “Derived Categories and the Langlands Programme”, VBAC 2009, Freie Universität Berlin, June 2009.
50. “Bundles, gerbes and derived categories in string theory”, Universidad de Salamanca, May 2008.
51. “First CTS conference on vector bundles” (3 lectures), TIFR, Mumbai, March 2008.
52. Workshop “Seminario di Natale”, Università di Milano, December 2007.
53. “Categorical Aspects of Algebraic Geometry in Mirror Symmetry”, RIMS, Kyoto, December 2007.
54. Mini-workshop “Stability conditions, derived categories, etc.”, MPIM, Bonn, April 2007.
55. Workshop “Categorical Construction of Primitive Forms II”, RIMS, Kyoto, December 2006.
56. “Giornate di Geometria Algebrica e Argomenti Correlati VIII”, Università di Trieste, May 2006.
57. “KIAS School on Derived Categories of Coherent Sheaves”, KIAS, Seoul, April 2006.

58. Mini-workshop “Heterotic Strings, Derived Categories and Stacks”, MFO, Oberwolfach, November 2005.

## Teaching Experience

- 2015–present      Instructor, Northeastern University.
- Schemes (Math 7361), Spring 2018.
  - Introduction to Mathematical Reasoning (Math 1365), Fall 2017.
  - Schemes (Math 7361), Fall 2016.
  - Calculus I for Science and Engineering (Math 1341), Fall 2015.
  - Introduction to Mathematical Reasoning (Math 1365), Fall 2015.
- 2011–2014      Instructor, The Ohio State University.
- Topics in Algebraic Geometry (Math 8140), Autumn 2014.
  - Algebra I (Math 6111), Autumn 2014.
  - Algebra I (Math 6111), Autumn 2013.
  - Abstract Algebra II (Math 4581), Spring 2013.
  - Topics in Algebraic Geometry (Math 8140), Autumn 2012.
  - Abstract Algebra I (Math 4580), Autumn 2012.
  - Algebraic Geometry III (Math 842), Spring 2012.
  - Algebraic Geometry II (Math 841), Winter 2012.
  - Algebra I (Math 580), Autumn 2011.
- 2010–2011      Instructor, Universität Bonn.
- Advanced Topics in Algebra, Spring 2011.
  - Algebraic Geometry II, Winter 2010.
- 2008–2010      Instructor, University of Utah.
- Accelerated Engineering Calculus II (Math 1280), Spring 2010.
  - PDEs for Engineers (Math 3150), Fall 2009.
  - Calculus III (Math 2210), Spring 2009.
  - Calculus III (Math 2210), Fall 2008.
- 2004–2006      Teaching Assistant, SISSA, Trieste.
- Geometria Differenziale 1, 2005-2006.
  - Geometria Differenziale 1, 2004-2005.
  - Algebra 1, 2005-2006 (at Università di Trieste).

## Awards and Financial Support

- 2017–2020      NSF Grant DMS-1700751 (PI, standard grant, \$155,000).
- 2017–2020      NSF Grant DMS-1664215 (PI, FRG grant, \$154,000).
- 2017–2022      NSF Grant DMS-1645877 (PI, RTG grant, \$2,242,000).
- 2016–2017      Poincaré Chair, Institut Henri Poincaré.
- 2015–2016      College of Engineering Outstanding Teacher of First Year Engineering Students Award.
- 2013–2017      NSF Grant DMS-1302730 (PI, standard grant, transferred as DMS-1523496, \$163,000).
- 2013–2014      NSF Grant DMS-1302729 (PI, School on Compactifying Moduli Spaces at CRM, Barcelona, \$10,000).

2013–2014	NSF Grant DMS-1302880 (co-PI, Conference on Hodge Theory at the Ohio State University, \$27,963).
2010–2014	NSF Grant DMS-1001482 (PI, standard grant, transferred as DMS-1160466, \$120,674).
2009–2010	Outstanding Instructor Award, University of Utah.

### Master and Graduate students

Benjamin Schmidt (PhD, 2012-2016, The Ohio State University; currently R.H. Bing Assistant Professor at the University of Texas at Austin).

Bingyu Xia (PhD, 2013-2017, The Ohio State University; currently postdoc at Max Planck Institute for Mathematics, Bonn).

Huachen Chen (Master, 2014-2015, The Ohio State University; currently PhD student at the University of Utah)

Benjamin Sung (PhD, 2016-present, Northeastern University).

Yucheng Liu (PhD, 2016-present, Northeastern University).

Céline Bonandrini (PhD, 2017-present, Northeastern University).

### Postdoc Mentoring

Martí Lahoz (2010-2011, Universität Bonn, with D. Huybrechts; currently Maître de conférences at Université Paris Diderot - Paris 7).

Davide Fusi (2013-2014, The Ohio State University; currently Assistant Professor at the University of South Carolina, Beaufort).

Xiaolei Zhao (2015-present, Northeastern University).

Howard Nuer (2016-2017, Northeastern University; currently NSF postdoc at University of Illinois at Chicago).

Laure Flapan (2017-present, Northeastern University).

### Service

(Co-)organizer of the following conferences:

- Workshop “Semiorthogonal decompositions, stability conditions and sheaves of categories”, Université de Toulouse, May 2018.
- AMS Sectional Meeting: “Geometry of Moduli Spaces”, Northeastern University, April 2018.
- “Moduli of Sheaves and Strange Duality”, Penn State University, Décembre 2017.
- “AGNES”, Northeastern University, October 2017.
- “Positivity in Arithmetic and Geometry”, Université Paris-Sud, Orsay, France, May 2017.
- “Derived categories and Chow groups of hyperkähler and Calabi-Yau varieties”, Simons Center, Stony Brook University, September 2016.
- “AGNeUBC”, Northeastern University and Boston College, April 2015, September 2015, April 2016, October 2016, March 2017, November 2017.
- Spring School “Compactifying Moduli Spaces”, CRM, Barcelona, May 2013.
- “Hodge Theory and Classical Algebraic Geometry”, The Ohio State University, May 2013.
- AMS Sectional Meeting: “Geometry of Algebraic Varieties”, University of Akron, October 2012.

- “UM/UIC/OSU Weekend Algebraic Geometry Workshop”, The Ohio State University, March 2012, April 2014.

(Co-)organizer of the following activities:

- Geometry, Physics, and Representation Theory Seminar, Northeastern University, 2015-2018.
- Algebraic Geometry Seminar, The Ohio State University, 2013-2014.
- Seminar Algebraic Geometry (SAG), Universität Bonn, Fall 2007 and Fall 2010.
- Algebraic Geometry Seminar, University of Utah, 2008-2010.
- Graduate seminar on moduli of sheaves on K3 surfaces, MIT/Northeastern University, Spring 2016.
- Graduate seminar on Hodge modules, MIT/Northeastern University, Fall 2016 .
- Reading Seminar in Algebraic Geometry, The Ohio State University, 2011-2014. Topics: *Derived Category, Bridgeland Stability Conditions, Hilbert and Quot Schemes, Geometric Invariant Theory, Intersection Theory*.
- Reading Seminar in Algebraic Geometry, University of Utah, Spring 2010. Topic: *Berkovich Spaces*.
- Baby Algebraic Geometry Seminar (group reading course for graduate students), University of Utah, Fall 2009. Topic: *Positivity in Algebraic Geometry*.
- Reading Seminar in Algebraic Geometry, Universität Bonn, 2006-2008. Topics: *Mixed Hodge Structures, Rational Curves on Fano Varieties, Langlands Correspondence for Loop Group*.

Group supervisor at the MRC 2010 Program on “Birational geometry and moduli spaces”, Snowbird, June 2010.

Oral exam committee member:

- Ching-Jui Lai (March 2009, University of Utah).
- Lei Yang (June 2012, The Ohio State University)
- Zhilin Ye (December 2012, The Ohio State University)
- Qing Zhang (December 2012, The Ohio State University)
- Greg Malen (March 2013, The Ohio State University)
- Benjamin Schmidt (September 2013, The Ohio State University).
- Bingyu Xia (January 2014, The Ohio State University).
- Fenlong You (September 2014, The Ohio State University).

Ph.D. defense committee member:

- Xun Yu (April 2013, The Ohio State University).
- Barbara Bolognese (April 2016, Northeastern University).
- Yinbang Lin (April 2016, Northeastern University).

Ph.D. Thesis referee:

- Heinrich Hartmann (April 2011, Universität Bonn)
- Anna Barbieri (April 2017, University of Pavia)

Algebra Qualifying Exam, The Ohio State University:

- Organizer, Spring 2014.
- Grading and creating the exam, Spring and Fall 2013, Fall 2014.

Hiring committee member, Northeastern University, 2017-2018.

Postdoc hiring committee member, Northeastern University, 2015-2017.

Undergraduate committee member, The Ohio State University, 2012-2014.

Executive committee member, The Ohio State University, 2013-2014.

Evaluation of visiting assistant professors committee member, The Ohio State University, 2013-2014.

Course coordinator, Abstract Algebra (Math 4580/4581), 2013-2014.



Course development, Algebraic Surfaces, Topics in Algebraic Geometry (Math 8140), Autumn 2012.

Editorial work:

- Proceedings of the Hodge Theory Conference at OSU, AMS (with M. Caibăr, A.-M. Castravet, G. Kennedy).
- Lecture notes for the summer school “Compactifying Moduli Spaces”, Birkhäuser, 2 volumes (with G. Bini, M. Lahoz, P. Stellari).

Referee for: Advances in Mathematics, Algebraic Geometry, Bulletin de la Société Mathématique de France, Bulletin of the London Mathematical Society, Compositio Mathematica, Duke Mathematical Journal, Geometriae Dedicata, International Mathematics Research Notices, Journal für die reine und angewandte Mathematik, Journal of Algebraic Geometry, Journal of Differential Geometry, Journal of Geometry and Physics, Journal of the American Mathematical Society, Journal of the European Mathematical Society, Journal of Topology, Mathematical Research Letters, Mathematisches Annalen, Mathematische Zeitschrift, Proceeding of the American Mathematical Society.

Panelist for the National Science Foundation (2013, 2014, 2017).

External reviewer for the National Security Agency (2011, 2012, 2013, 2015, 2016).

External reviewer for the Natural Sciences and Engineering Research Council of Canada (2015).

External reviewer for INdAM Fellowships in Mathematics and/or Applications (2015).

External reviewer for Agence Nationale de la Recherche (2015, 2016).

Reviewer for Mathematical Reviews.