

# İZZET COŞKUN

---

CONTACT INFORMATION      University of Illinois at Chicago      *Phone:* (312) 413 2152  
851 S Morgan St. (M/C 249)      *E-mail:* icoskun@uic.edu  
Chicago, IL 60607-7045      <http://www.math.uic.edu/~coskun>

RESEARCH      I am an algebraic geometer with broad interests, including combinatorics, complex dynamics, several complex variables and number theory. My research focuses on topological and numerical invariants of moduli spaces of curves, surfaces and sheaves, Bridgeland stability, rationally connected varieties, the cohomology of homogeneous varieties and Gromov-Witten theory.

EDUCATION      **Harvard University**, Department of Mathematics, MA 2001, Ph.D. 2004.  
**Princeton University**, Department of Mathematics, A.B. 2000

APPOINTMENTS      **Professor**, University of Illinois at Chicago, 2013 –  
**Associate Professor**, University of Illinois at Chicago, 2010 – 2013  
**Assistant Professor**, University of Illinois at Chicago, 2007 – 2010  
**C. L. E. Moore Instructor**, Massachusetts Institute of Technology, 2004 – 2007  
**Liftoff Fellow**, Clay Mathematics Institute, Summer 2004

## PUBLICATIONS

### SUBMITTED PAPERS:

1. I. Coskun, D. Eken and C. Yun, *PGL-orbits in tree varieties*, (25 pages)
2. I. Coskun and J. Huizenga, *Interpolation and moduli spaces of vector bundles on very general blowups of  $\mathbb{P}^2$* , (28 pages)
3. I. Coskun, E. Larson and I. Vogt, *Generic Beauville's conjecture*, (6 pages)
4. I. Coskun and G. Smith, *Stability of normal bundles of Brill-Noether curves*, (33 pages)

### ACCEPTED PAPERS:

1. I. Coskun, J. Huizenga and H. Nuer, *The Brill-Noether Theory of the moduli spaces of sheaves on surfaces*, to appear in the volume in honor of Newstead's 80th birthday (45 pages)
2. I. Coskun, H. Nuer and K. Yoshioka, *The cohomology of a general stable sheaf on a K3 surface*, to appear in **Adv. Math.** (58 pages)
3. I. Coskun, E. Larson and I. Vogt, *Stability of Tschirnhausen bundles*, to appear in **Int. Math. Res. Not. (IMRN)**, (10 pages)
4. I. Coskun, E. Larson and I. Vogt, *The normal bundle of a general canonical curve of genus at least 7 is semistable*, to appear in **J. Eur. Math. Soc. (JEMS)**, (20 pages)
5. I. Coskun, J. Huizenga and G. Smith, *Stability and cohomology of Kernel bundles on projective space*, to appear in **Michigan J. Math.** (20 pages)

PUBLISHED PAPERS:

1. I. Coskun and E. Riedl, *Algebraic hyperbolicity of very general surfaces*, **Israel J. Math.**, 253 no. 2 (2023), 787–811.
2. I. Coskun and E. Riedl, *Clustered families and applications to Lang-type conjectures*, **Proc. Lond. Math. Soc.**, 125 no. 6 (2022), no. 6, 1353–1376.
3. I. Coskun and M. Woolf, *Stabilization of cohomology of moduli spaces of sheaves on surfaces*, **J. Differential Geom.** 121 no.2 (2022), 291–340.
4. I. Coskun, E. Larson and I. Vogt, *Stability of normal bundles of space curves*, **Algebra Number Theory** 16 no. 4 (2022), 919–953.
5. I. Coskun and G. Smith, *Very free rational curves on Fano varieties*, **J. Algebra** 611 (2022), 246–264.
6. I. Coskun, J. Huizenga and J. Kopper, *Disconnected moduli spaces of stable bundles on surfaces*, **Bull. Lond. Math. Soc.** 54 no. 2 (2022), 812–824.
7. I. Coskun, J. Huizenga and J. Kopper, *The cohomology of the tensor product of vector bundles on the projective plane*, **Selecta Math.** 27 no.5, Article number: 94 (2021), 46 pages.
8. I. Coskun and J. Huizenga, *Existence of stable sheaves on Hirzebruch surfaces*, **Adv. Math.** 381 (2021) (95 pages).
9. I. Coskun and J. Huizenga, *Brill-Noether theorems and globally generated vector bundles on Hirzebruch surfaces*, **Nagoya J. Math.** 238 (2020), 1–36.
10. I. Coskun and J. Huizenga, *Brill-Noether Problems, Ulrich bundles and the cohomology of moduli spaces of sheaves*, Proceedings of the ICM Satellite Conference on Moduli Spaces in Algebraic Geometry and Applications, **Matematica Contemporanea** 47 (2020), 21–72.
11. I. Coskun and E. Riedl, *Effective bounds on ampleness of cotangent bundles*, **Bull. London Math. Soc.** 52 (2020), 237–243.
12. I. Coskun and E. Riedl, *Algebraic hyperbolicity of the very general quintic surface in  $\mathbb{P}^3$* , **Adv. Math.** 350 (2019), 1314–1323.
13. I. Coskun and E. Riedl, *Normal bundles of rational curves on complete intersections*, **Communications in Contemporary Math.** 21 no. 2 (2019), (23 pages)
14. I. Coskun and A. Prendergast-Smith, *Fano manifolds of index  $n - 2$  and the cone conjecture*, **Math. Proc. Camb. Phil. Soc.** 166 no. 1 (2019), 1–31.
15. I. Coskun and J. Huizenga, *The moduli spaces of sheaves on surfaces, pathologies and Brill-Noether problems*, in Geometry of Moduli, **Abel Symposia** 14 (2018), 75–106.
16. I. Coskun and J. Huizenga, *Weak Brill-Noether for rational surfaces*, in Local and Global Methods in Algebraic Geometry, **Contemp. Math.** 712 (2018), 81–104.
17. I. Coskun and E. Riedl, *The normal bundles of rational curves in projective space*, **Math. Z.** 288 (2018), 803–827.
18. I. Coskun, *Restriction varieties and the rigidity problem*, in Schubert varieties, equivariant cohomology and characteristic classes Impanga 15 (2018), 49–96.
19. I. Coskun and J. Huizenga, *The nef cone of the moduli spaces of sheaves and strong Bogomolov inequalities*, **Israel J. Math.** 226 no. 1 (2018), 205–236.
20. I. Coskun, J. Huizenga and Matthew Woolf, *The effective cone of the moduli spaces of sheaves on the plane*, **J. Eur. Math. Soc. (JEMS)** 19 no. 5 (2017), 1421–1467.
21. I. Coskun and L. Jaskowiak, *Ulrich partitions for two-step flag varieties*, *Involve* 3 no. 3 (2017), 531–539.

22. I. Coskun, Donghoon Hyeon and Junyoung Park, *Castelnuovo-Mumford regularity and Bridgeland stability for points in the projective plane*, **Proc. Amer. Math. Soc.** 145 (2017), 4573–4583.
23. I. Coskun, L. Costa, J. Huizenga, R.M. Miró-Roig and M. Woolf, *Equivariant Ulrich bundles on flag varieties*, **J. Algebra** 474 (2017), 49–96.
24. I. Coskun, *Birational Geometry of Moduli Spaces*, in Algebraic Geometry and Number Theory, CIMPA–CMI–TÜBITAK Summer School, Galatasaray University, Istanbul 2014, Progress in Mathematics, 321 (2017), 29–54.
25. I. Coskun, J. Lesieutre and J.C. Ottem, *Effective cones of cycles on blow-ups of projective space*, **Algebra Number Theory** 10 no. 9 (2016), 1983–2014.
26. I. Coskun and J. Huizenga, *The ample cone of the moduli spaces of sheaves on the plane*, **Algebraic Geom.** 3 no. 1 (2016), 106–136.
27. I. Coskun and J. Huizenga, *The birational geometry of the moduli spaces of sheaves on the plane*, Proceedings of the Gökova Geometry-Topology Conference 2014, (2015), 114–155.
28. D. Chen and I. Coskun, *Extremal higher codimension cycles on moduli spaces of curves*, **Proc. Lond. Math. Soc.** 111 no. 1 (2015), 181–204.
29. I. Coskun, M. Hadian and D. Zakharov, *Dense PGL-orbits in products of Grassmannians*, **J. Algebra** 429 (2015), 75–102.
30. I. Coskun and A. Prendergast-Smith, *Eckardt loci on hypersurfaces*, **Comm. Algebra** 43 no. 8 (2015), 3083–3101.
31. D. Chen and I. Coskun, *Extremal effective divisors on the moduli space of  $n$  pointed genus one curves*, **Math. Ann.** 359 no. 3 (2014), 891–908.
32. I. Coskun, *Symplectic restriction varieties and geometric branching rules II*, **J. Comb. Theory A** 125 (2014), 47–97.
33. I. Coskun and J. Huizenga, *Interpolation, Bridgeland stability and monomial schemes in the plane*, **J. Math. pures app.** 102 (2014), 930–971.
34. I. Coskun and A. Prendergast-Smith, *Fano manifolds of index  $n - 1$  and the cone conjecture*, **Int. Math. Res. Not. (IMRN)** (2014), 2401–2439.
35. I. Coskun, *Rigidity of Schubert classes in orthogonal Grassmannians*, **Israel J. Math.** 200 no. 1, (2014), 85–126.
36. I. Coskun and C. Robles, *Flexibility of Schubert classes*, **Differ. Geom. Appl.** 31 no. 6 (2013), 759–774.
37. I. Coskun, *Symplectic restriction varieties and geometric branching rules*, **Clay Mathematics Proceedings** 18 (2013), 205–239.
38. A. Bertram and I. Coskun, *The birational geometry of Hilbert schemes of points on surfaces, Birational geometry, rational curves and arithmetic*, **Simons Symposia**, Springer 2013, 15–55.
39. D. Arcara, A. Bertram, I. Coskun and J. Huizenga, *The birational geometry of the Hilbert Scheme of Points on the plane and Bridgeland stability conditions*, **Adv. Math.** 235 (2013), 580–626.
40. I. Coskun, *Surfaces of low degree containing a canonical curve*, **Contemp. Math.** 572 (2012), 57–70.
41. R. Abdelkerim and I. Coskun, *Spaces of Schubert varieties contained in hyperplane sections of Grassmannians*, **J. Pure Appl. Algebra** 216 (2012), 800–810.
42. S. Billey and I. Coskun, *Singularities of generalized Richardson varieties*, **Comm. Alg.** 40 no. 4 (2012), 1466–1495.

43. D. Chen, I. Coskun and S. Nollet, *Hilbert scheme of a pair of codimension two linear subspaces*, **Comm. Alg.** 39 no.8 (2011), 3021–3043.
44. D. Chen and I. Coskun, *Towards the Minimal Model Program for the Kontsevich moduli spaces*, (with an appendix with C. Crissman), **Amer. J. Math.** 133 no.5 (2011), 1389–1419.
45. I. Coskun, *Restriction varieties and geometric branching rules*, **Adv. Math.** 228 no.4 (2011), 2441–2502.
46. I. Coskun, *Rigid and non-smoothable Schubert cycles*, **J. Differential Geom.** 87 no.3 (2011), 493–514.
47. I. Coskun, *The quantum cohomology of flag varieties and the periodicity of the Schubert structure constants*, **Math. Ann.** 346 no. 2 (2010), 419–447.
48. D. Chen and I. Coskun, *Stable base locus decompositions for Kontsevich moduli spaces*, **Michigan Math. J.** 59 no.2 (2010), 435–466.
49. I. Coskun and J. Starr, *Rational curves on cubic hypersurfaces*, **Int. Math. Res. Not. (IMRN)** Article RPN102 (2009), 16 pages.
50. I. Coskun and R. Vakil, *Geometric positivity and the cohomology of homogeneous spaces and generalized Schubert calculus*, Algebraic Geometry, Proceedings of the Seattle 2005 Conference, vol. 1 (2009), 77–124.
51. I. Coskun, *A Littlewood-Richardson rule for two-step flag varieties*, **Invent. Math.** 176 no. 2 (2009), 325–395.
52. I. Coskun, J. Harris and J. Starr, *The ample cone of the Kontsevich moduli space*, **Canad. J. Math.** 61 no. 1 (2009), 109–123.
53. I. Coskun, J. Harris and J. Starr, *The effective cone of the Kontsevich moduli space*, **Canad. Math. Bull.** 51 no. 4 (2008), 519–534.
54. I. Coskun, *The Gromov-Witten invariants of jumping curves*, **Trans. Amer. Math. Soc.** 360 (2008), p. 989–1004.
55. I. Coskun and J. Starr, *Divisors on the space of maps to Grassmannians*, **Int. Math. Res. Not. (IMRN)** vol. 2006, Article ID 35273, (2006) 25 pages.
56. I. Coskun, *Enumerative geometry of Del Pezzo surfaces via degenerations*, **Amer. J. Math.** 128 no. 3 (2006), p. 751–786.
57. I. Coskun, *Degenerations of surface scrolls and the Gromov-Witten invariants of Grassmannians*, **J. Algebraic Geom.** 15 (2006), p. 223–284.
58. I. Coskun, *The arithmetic and the geometry of Kobayashi hyperbolicity*, Snowbird lectures in algebraic geometry. **Contemp. Math.** vol. 388 (2005) p. 77–88.
59. C. Cadman, I. Coskun, K. Jabbusch, M. Joyce, S. Kovács, M. Lieblich, F. Sato, M. Szczesny, J. Zhang, *A first glimpse at the minimal model program*, Snowbird lectures in algebraic geometry. **Contemp. Math.** vol. 388 (2005) p. 17–42.
60. I. Coskun, *Degenerations of scrolls and Del Pezzo surfaces and applications to enumerative geometry*. Harvard University Ph.D. Thesis, 2004—under the supervision of Professor Joe Harris.

#### IN PREPARATION:

1. I. Coskun and H. Nuer, Weak Brill-Noether on generic abelian varieties,
2. I. Coskun and S. Rosset, Orbits in products of orthogonal flag manifolds,
3. I. Coskun and Y. Liu, Classes of restriction varieties,

## BOOKS

1. Surveys on recent developments in algebraic geometry, (coedited with Tommaso de Fernex and Angela Gibney), Proceedings of Symposia in Pure Mathematics **95**, American Mathematical Society, 2017.

## OTHER WRITING

1. I. Coskun, How to Help Your Graduate Students and Postdocs Find a Problem, The Early Career Section, Notices of the American Mathematical Society, June 2022.
2. I. Coskun, Math Under a Minute, The Early Career Section, Notices of the American Mathematical Society, February 2020.
3. I. Coskun, You Should Organize Conferences and Workshops, The Early Career Section, Notices of the American Mathematical Society, May 2019.
4. I. Coskun, Birkar'ın Birasyonel Geometriye Katkıları, Matematik Dünyası, 2019.
5. I. Coskun, L. DeMarco, and D. Dumas, Maryam Mirzakhani in Graduate School, Notices of the American Mathematical Society, November 2018.

## HONORS AND AWARDS

- LAS Distinguished Professor, 2023
- NSF grant, PI, 2022–2025, \$ 200,000
- NSF RTG grant, PI, 2021–2026, \$ 2,499,830
- University Scholar, 2019–2022
- Graduate College Mentoring Award 2018
- Fellow of the American Mathematical Society, class of 2018
- NSF FRG grant DMS 1664296, PI, joint with Aaron Bertram, Jack Huizenga, Emanuele Macrì, 2017–2021
- NSF grant DMS 1500031, PI, 2015–2018,
- Researcher of the Year Award, UIC, 2013
- NSF RTG grant DMS 1246844, co-PI (2013–2017)
- NSF CAREER Grant DMS 0950951535, PI (2010–2015)
- Alfred P. Sloan Foundation Fellowship (2009–2011)
- NSF grant DMS 1045217 (2010–2011), Co-PI, James McKernan, PI
- NSF grant DMS 0737581, PI (2007–2010)
- Kavli Fellow (2010), National Academy of Sciences.
- Jean de Valpin Fellowship, 2004 Harvard University.
- Raphael Salem Fellowship, 2001 Harvard University.
- 2000 Phi Beta Kappa Prize, for highest academic standing in the Class of 2000 at Princeton University.
- 2000 Middleton Miller'29 Prize, for the best senior thesis in mathematics, Princeton University.
- 2000 George B. Covington Prize, highest achievement in the mathematics major, Princeton University.
- 1999 Andrew H. Brown Prize, the highest achieving junior in the Mathematics Department, Princeton University.
- Class of 1939 Princeton Scholar Award, for highest standing at the end of the junior year at Princeton University, shared with Benjamin Sommers.

EDITORIAL

I serve on the editorial boards of the **Journal of Pure and Applied Algebra**, the **European Journal of Mathematics** and **Advances in Geometry**. I served on the editorial board of the Central European Journal of Mathematics, 2009–2014.

TEACHING  
EXPERIENCE:

I am a recipient of a Certificate of Distinction in Teaching (Fall 2003) awarded by Harvard's Derek Bok Center. I have taught the following courses and attended the following teacher training programs:

- Math 571, Spring 2023, Topics in Algebraic Geometry: Rationality
- Math 554, Fall 2022, Complex Manifolds I
- Math 320, Fall 2022, Linear Algebra
- Math 517, Spring 2022, Graduate Algebra II
- Math 417, Fall 2021, Complex Analysis
- Math 552, Fall 2021, Algebraic Geometry I
- Math 553, Spring 2021, Algebraic Geometry II
- Math 571, Fall 2020, Topics in Algebraic Geometry: K3 surfaces
- Math 417, Fall 2020, Complex Analysis
- Math 553, Spring 2020, Algebraic Geometry II
- Math 554, Fall 2019, Complex Manifolds I
- Math 417, Fall 2019, Complex Analysis
- Math 553, Spring 2019, Algebraic Geometry II
- Math 554, Fall 2019, Complex Manifolds I
- Math 417, Fall 2019, Complex Analysis
- Math 553, Spring 2019, Algebraic Geometry II
- Math 552, Fall 2017, Algebraic Geometry I
- Math 320, Fall 2017, Linear Algebra
- Math 571, Fall 2015, Topics in Algebraic Geometry: Birational geometry of moduli spaces
- Math 552, Fall 2015, Graduate Algebraic Geometry
- Math 517, Spring 2015, Graduate Algebra II
- Math 516, Fall 2014, Graduate Algebra I
- Math 494, Spring 2014, Undergraduate Algebraic Geometry
- Math 330, Fall 2013: Undergraduate Algebra
- Math 516, Fall 2013: Graduate Algebra I
- Math 571, Fall 2012: Topics in Algebraic Geometry, Intersection theory and birational geometry
- Math 520, Fall 2012: Commutative and Homological Algebra
- Math 517, Spring 2012: Graduate Algebra II
- Math 516, Fall 2011: Graduate Algebra I
- Math 571, Fall 2010: Topics in Algebraic Geometry, Moduli spaces.
- Math 494, Fall 2010: Undergraduate Algebraic Geometry
- Math 320, Spring 2010: Linear Algebra
- Math 210, Fall 2009: Calculus III
- Math 552, Fall 2008, Fall 2009: Algebraic Geometry

- Math 417, Spring 2008, Fall 2008: Complex Analysis
- Math 330, Fall 2007: Abstract Algebra
- 18.726, Spring 2007: Algebraic Geometry (M.I.T.)
- 18.727, Fall 2006: Topics in Algebraic Geometry, Positivity in algebraic geometry (M.I.T.)
- 18.727, Spring 2006: Topics in Algebraic Geometry, Intersection theory on moduli spaces (M.I.T.)
- 18.100B, Fall 2005: Instructor for Analysis I (M.I.T.)
- 18.01, Fall 2005: Calculus recitation instructor 2 sections (M.I.T.)
- 18.03, Spring 2005: Ordinary differential equations, recitation instructor 3 sections (M.I.T.)
- 18.781, Fall 2004: Instructor for Introduction to Number Theory (M.I.T.)
- Math 21 b, Fall 2003: Teaching fellow for introductory linear algebra at Harvard University.
- Math 25 a and b, 2002-2003: Teaching fellow for introduction to analysis and linear algebra intended for mathematics majors at Harvard University.
- Math 260 a and b, 2001-2002: The course assistant for a year long graduate class Introduction to Algebraic Geometry.
- Tutorial on Special Functions: Applications to Number Theory and Geometry, Summer 2001. Advanced topics tutorial for sophomores and juniors at Harvard University.
- Math Xb, Spring 2001: Teaching fellow for second semester introductory calculus at Harvard University.
- Tutor of the college in mathematics and physics at Princeton University, 1997-2000.
- M.I.T. teacher training seminar Fall 2004.
- Harvard Derek Bok Teacher Training Program Fall 2000.
- Attended semi-annual Derek Bok Center teaching seminars 2000-2004.

POSTDOCS:

Dawei Chen (RAP 2008–2011, Professor at Boston College)  
 Artie Prendergast-Smith (RAP 2011–2013, Lecturer at Loughborough University)  
 Majid Hadian-Jazi (RAP 2012–2014, Caltech)  
 Jack Huizenga (NSF postdoc 2012–2015, Associate Professor at Penn State)  
 Matthew Woolf (RTG postdoc 2014–2018, Youtube)  
 John Lesieutre (RTG postdoc 2015–2018, Assistant Professor at Penn State )  
 Eric Riedl (RTG postdoc 2015–2018, Assistant Professor at Notre Dame)  
 Howard Nuer (NSF and RTG postdoc 2017–2020, Assistant Professor at Technion )  
 Geoff Smith (RAP 2020–2023, Radix trading)  
 Nolan Schock (RTG postdoc, 2022–2025)  
 Eric Jovinelly (NSF postdoc, 2023-24)  
 Gwyneth Moreland (RTG postdoc, 2023–2026)

GRADUATE STUDENTS:

Rebecca Lehman (co-advised with Jason Starr, graduated 2007, MIT)  
 Richard Abdelkerim (graduated 2011, UIC)  
 Cesar Lozano (graduated 2014, UIC)  
 Charles Staats (graduated 2014, University of Chicago)  
 Seckin Adali (graduated 2016, UIC),  
 Tim Ryan (graduated 2016, UIC),  
 Alex Stathis (graduated 2017, UIC)  
 Tabes Bridges (graduated 2018, UIC)  
 John Kopper (graduated 2019, UIC)  
 Daniel McLaury (seventh year student, on leave)  
 Sayanta Mandal (graduated 2020, UIC)

See-Hak Seong (graduated 2020, UIC)  
Ben Gould (graduated 2023, UIC)  
Dorian Lee (graduated 2023, UIC)  
Yuxiang Liu (graduated 2023, UIC)  
Yeqin Liu (expected 2024, UIC)  
Lucas Mioranci (expected 2024, UIC)  
Junyan Zhao (expected 2024, UIC)  
Sixuan Lou (expected 2025, UIC)  
Chen Song (expected 2025, UIC)  
Sean Edwards (expected 2026, UIC)

MINOR THESIS Corina Tarnita (Harvard, minor thesis advisor, 2006).

THESIS READER Ethan Cotterill (Harvard, Spring 2007), Dawei Chen (Harvard, Spring 2008), Roi Docampo (UIC, 2009), Tuan Pham (UIC, 2011), Wenbo Niu (UIC, 2011), Drew Shulman (UIC, 2011), Jack Huizenga (Harvard, Spring 2012), Yaim Cooper (Princeton, Spring 2013), Luigi Lombardi (UIC, Spring 2013), Holly Krieger (UIC, Spring 2013), Paul Reschke (UIC, Spring 2013), Matthew Wechter (UIC, Spring 2013), Chih-Chi Chou (UIC, Spring 2014), Lei Song (UIC, Spring 2014), Xudong Zhang (UIC, 2016), Shuhang Yang (UIC, Spring 2018), Janet Page (UIC, Spring 2018), Sam Shideler (UIC, Spring 2018), Eun Hye Lee (UIC, Spring 2019), Dylon Chow (UIC, Spring 2019), Fumiaki Suzuki (UIC, Spring 2020), Victor Jatoba (UIC, Spring 2020), Rebeca Saccochi (UIC, 2020), Sybille Rosset (Paris, 2020), Austyn Simpson (UIC, 2021), Arda Demirhan (UIC, 2021), Shijie Shang (UIC, 2022), Ben Tighe (UIC, 2023), Greg Taylor (UIC, 2023)

QUALIFYING EXAM COMMITTEE Main examiner on the qualifying exam committees of Brian Lehmann, Craig Desjardins (MIT, Spring 2007).  
Examiner on the qualifying exam committee of Fucheng Tan (MIT, Spring 2007).

UNDERGRADUATE STUDENTS: Demir Eken, mentor for undergraduate research, Summer 2021- Spring 2023  
Chris Yun, mentor for undergraduate research, Summer 2021-Spring 2023  
Yunus Syed, mentor for reading courses, 2017-2019.  
Veronica Kalicki, mentor for reading courses, 2017-2018.  
Luke Jaskowiak, mentor for undergraduate research, 2015-2016.  
Nick Cahill, mentor for undergraduate research, Summer 2012.  
Joseph Berner, mentor for undergraduate research, Summer 2011.  
Conor Jensen, mentor for undergraduate research, Spring 2010 and Fall 2010.  
Nick Spizzirri, mentor for undergraduate research, Fall 2008.  
Kai Ho Wong, mentor for summer research, Spring, Summer and Fall 2008.

HIGHSCHOOL STUDENTS: Kevin He, IMSA, mentor for student inquiry and research, 2012-2013.  
James Tao, IMSA, mentor for student inquiry and research, 2013-2014  
Karen Ge, 2016-2018  
Shivansh Gupta, 2017-2019  
Max Nguyen, summer 2022  
Eda Kocaoglu, summer 2022

SERVICE



## CONFERENCE ORGANIZATION

1. Faculty organizer of the Midwest Algebraic Geometry Graduate Conference, UIC (August 2022, May 2020 (zoom), March 2019, May 2018, April 2017, April 2015, February 2014)
2. Organizer of FRG Lecture on Moduli spaces of sheaves on surfaces, June 2021 on zoom
3. Organizer of special session on Moduli Spaces at the Mathematical Congress of the Americas 2021
4. Organizer FRG workshop on Moduli and Stability December 2020 on zoom
5. Organizer of FRG Workshop on Stability, moduli spaces and applications at UIC (December 2019)
6. Scientific advisory committee, IMPANGA 2020, Banach, International Mathematical Center, Poland (took place in 2022)
7. Organizer of Moduli spaces of sheaves on surfaces and Bridgeland stability at UIC (December 2018)
8. Co-organizer of Moduli of Sheaves and Strange Duality at Penn State (December 2017)
9. Organizer of Workshop on Combinatorics and Moduli at the Fields Institute (December 2016)
10. Scientific Advisory Committee, Conference on ACM bundles, 2015 ODTU, Ankara, Turkey.
11. Chair of the organizing committee for the graduate student boot camp for the 10 year algebraic geometry meeting, July 2015 in Salt Lake City, Utah.
12. Scientific Advisory Committee, Turkish National Mathematics Symposium 2014.
13. On the Scientific Committee for the third Birational Geometry and Moduli Spaces Workshop in Busan, Korea, 2014.
14. Scientific Advisory Committee member, configuration spaces and moduli spaces, Morocco 2014.
15. Co-organizer workshop on birational geometry and moduli spaces, Vietnam 2014.
16. Organizer, Summer school in algebraic geometry in Istanbul Turkey, June 17-21, 2013.
17. Chair of the organizing committee, Graduate student workshop on Bridgeland stability and moduli spaces, UIC, March 23-25, 2013.
18. On the Scientific Committee for the 25th National Turkish Mathematics Symposium, 2013.
19. Co-organizer, Workshop on moduli and birational geometry, August 2013, Pohang, Korea.
20. Chair of the organizing committee for Algebraic Geometry: A Conference in honor of Joe Harris' 60th birthday, August 2011 at Harvard University.
21. Co-organizer Ohio State-Michigan-UIC Algebraic Geometry Workshop, October 2010.
22. Co-organizer of Snowbird MRC Conference: Birational Geometry and Moduli Spaces, June 2010.
23. Co-organizer of Algebraic Geometry: A conference in honor of Anatoly Libgober's 60th birthday, October 2009 at UIC.
24. Chair of the organizing committee for the workshop on moduli theory during MSRI 2009 jumbo semester.
25. Co-organizer of special session in algebraic geometry in the joint AMS/SBM meeting in Rio de Janeiro.
26. Co-organizer of Algebraic Geometry and Commutative Algebra, in honor of Robin Hartshorne's 70th birthday to take place April 11-13, 2008 at UIC.
27. Co-organizer of Midwest Number Theory Days March 7-8, 2008 at UIC.

## OTHER ORGANIZATION

1. Co-organizer UIC Algebraic Geometry Seminar, 2007–
2. Co-organizer of the Turkish Mathematics Association Distinguished Colloquium Committee, (chair: 2022-23), 2021–
3. Scientific Advisory Board, Matematik Dünyası, 2021–
4. Co-organizer of Departmental Colloquium (2009–2011).
5. Co-organizer of UIC Graduate student algebraic geometry seminar, 2007-2008.
6. Organizer of The Seminar on MMP, a graduate student seminar on MMP culminating in a Clay workshop, Spring 2007.
7. Co-organizer of the Harvard-MIT Algebraic Geometry Seminar. Fall 2005-Spring 2007.
8. Organizer of BAGS, a Boston area graduate student algebraic geometry seminar. Fall 2005-Spring 2007.
9. Designed web page, with complete course notes, for OpenCourseWare on intersection theory on moduli spaces.

## OUTREACH AND DEI

1. Mentor for Chicagoland Postdoctoral Recruitment Event, 2021
2. Panelist, Women in Mathematics Day, Secrets of the surface panel discussion, Sydney Australia, May 12, 2021
3. Focus group/panel for UIC's NSF-supported efforts to train traditionally underrepresented groups, 2021
4. Panelist, GROW, September 2020
5. Develop and chair hiring committee of UIC MSCS Bridge to Faculty Postdoc, 2019

## REVIEWING AND REFEREEING

- NSF Panel (2023, 2017, 2015, 2014, 2011, 2009)
- Reviewer for NSA grants (2013, 2012, 2011)
- Reviewer for the Indian Institute of Technology Madras (2022)
- Reviewer for the Swiss National Science Foundation (2022)
- Reviewer for Deutsche Forschungsgemeinschaft (2020)
- Reviewer for Austrian Science Fund (2019)
- Reviewer for US-Israel Binational Science Foundation (2015)
- Reviewer for the Simons Foundation grants (2014, 2013)
- Reviewer for the National Research Council of Romania (2012)
- Reviewer for CONICYT, Chile (The Chilean National Commission for Scientific and Technological Investigations) (2012)
- Reviewer for the Sedat Simavi Science Awards (2010)

- Referee for Annals of Math, Journal of the AMS, Inventiones Mathematicae, Acta Mathematica, Journal of Algebraic Geometry, Duke Math. Journal, Advances in Mathematics, American Journal of Mathematics, Proceedings of the London Math. Soc., Mathematische Annalen, Transactions of the AMS, Proceedings of the AMS, IMRN, Experimental Mathematics, Michigan Journal of Mathematics, Geometry and Topology, Surveys in Differential Geometry.

#### DEPARTMENT COMMITTEES

- Chair of the Tenure Track Hiring Committee (2022-23)
- Member of the Tenure Track Hiring Committee (2012-13, 2009-10)
- Advisory Committee (2017–2019)
- Chair of the RAP hiring committee (2019-20, 2015-2016, 2014-15, 2013-14)
- Member of the RAP hiring committee (2021-22, 2011-12, 2010-11)
- Member of the Graduate Student Admission Committee (2021-22, 2013-14, 2012-13, 2011-12)
- Member of the Graduate Curriculum Committee (2011-12, 2007-08)
- Member of the Undergraduate Curriculum Committee (2014-15, 2013-14, 2010-11, 2008-09)

#### UNIVERSITY SERVICE

- Reviewer for the Researcher and Scholar of the Year Awards, 2023
- Covid-19 Relief Fund Application Review Committee, 2022
- UIC Faculty Group on NSF funding proposals, VCRI Susan Martinis, VCR Groden, 2021
- Graduate College Fellowships and Awards Focus Group, 2018
- Honors College, 2012–

#### INVITED LECTURE SERIES

1. Utah VIGRE Summer School on Birational Geometry and Moduli Spaces, June 2010, Salt Lake City, Utah (5 lectures)
2. Geometry of Homogeneous Varieties, February 2011, Rio de Janeiro, Brazil (12 hours of lectures)
3. Summer School on Algebraic Geometry, June 2012, Yangyang, Korea (4 lectures)
4. Graduate workshop in Algebraic Geometry, June 2013, Istanbul, Turkey (8 hours of lectures)
5. School in Algebraic Geometry, July 2013, Morelia, Mexico (4 lectures)
6. Graduate workshop on the geometry of Hilbert schemes, Simons Center, Stony Brook, NY (2 90-minute lectures)
7. Lectures in the Banach Center, December 2013, Warsaw, Poland (16 lectures)
8. CIMPA/TUBITAK/GSU Summer School in algebraic geometry and number theory, June 2014, Galatasaray University, Istanbul, Turkey (2 hour long lectures)
9. Algebraic Geometry Summer School, July 2014, Calouste Gulbenkian Foundation, Lisbon, Portugal (5 hour long lectures)
10. Cones and Positivity Summer School, August 2015 (4 hour and a half long lectures)
11. Universita Roma Tre, April 2016, Rome, Italy (3 two hour lectures)
12. Stability conditions on triangulated categories and geometric applications, Nordfjordeid, Norway, June 2016 (7 lectures)

13. Jornadas de geometria algebraica en Oaxaca, UNAM Oaxaca, March 2019 (3 hour and a half lectures)
14. 5th Geometry and Topology Summer School, Istanbul Center for Mathematical Sciences, July 2020 (4 hour and a half lectures)
15. 6th Geometry and Topology Summer School, Istanbul Center for Mathematical Sciences, August 2021 (4 hour and a half lectures)
16. Derived Categories, Stability Conditions and Moduli, Technion, Haifa, Israel, July 2023 (3 hour and a half lectures)

INVITED  
CONFERENCE TALKS

1. Oberwolfach Mathematics Institute, The geometry of Grassmannians and flag varieties, June 2004
2. Snowbird Conference, The geometry and arithmetic of Kobayashi hyperbolicity, June 2004
3. AMS Special Session on Schubert Calculus, The geometry of Grassmannians and flag varieties, Oct. 2004
4. Banff Research Center, The ample and effective cones of Kontsevich moduli spaces, Banff, Canada, Oct. 2005
5. University of Michigan-Ohio State University joint workshop, The ample and effective cones of Kontsevich moduli spaces, Dec. 2005
6. TMS/AMS Joint Conference, The ample and effective cones of Kontsevich moduli spaces, Dec. 2005
7. Banff International Research Center, Banff, Canada, Mar. 2007
8. AMS Special Session on Combinatorial Algebraic Geometry, Apr. 2007
9. Western Algebraic Geometry Seminar, Seattle, Apr. 2007
10. AMS Meeting De Paul University, Fall 2007
11. Clay Mathematics Institute workshop on rational connectivity, Fall 2007
12. AMS Meeting in NYC, March 2008
13. AMS/SBM Joint meeting, Rio de Janeiro, Brazil, Hour lecture, June 2008
14. University of Arizona Tucson, Colloquium, September 2008
15. MSRI, Combinatorial, Enumerative and Toric Geometry Workshop, March 2009
16. The Show-Me Algebraic Geometry Workshop, St. Louis, MO, May 2009
17. XI. Antalya Algebra Days, Antalya, Turkey, May 2009
18. FRG Conference on Eigenvalue and Saturation Problem for reductive groups, UNC, May 2009
19. FRG Conference on Spaces of curves and their interaction with diophantine problems, Columbia University, June 2009
20. 1st PRIMA Congress, University of New South Wales, Sydney, Australia, July 2009
21. Moduli Konferenz, Humboldt University, Berlin, Germany, August 2009
22. XXIII National Mathematics Symposium, invited speaker, (2 lectures), Kayseri, Turkey, August 2010.
23. Poster presentation, National Academy of Sciences, 22nd Kavli Symposium, November 2010
24. Special Session in computational algebraic geometry of low dimensional varieties, AMS Joint Meeting, January 2011
25. Special Session in the birational geometry of moduli spaces, AMS Joint Meeting, January 2011
26. Workshop on the Birational Geometry of Moduli Spaces, Gyeongju, Korea, July 2011
27. A Celebration of Algebraic Geometry, Harvard University, August 2011

28. Simons Symposium, Virgin Islands, February 2012
29. Ohio State-Michigan-UIC Algebraic Geometry Workshop, March 2012
30. The first Georgia Algebraic Geometry Symposium, UGA, Athens, Georgia May 2012
31. Workshop on Moduli and Birational Geometry, Busan, Korea, July 2012
32. Workshop on birational geometry of moduli spaces, AIM, Palo Alto, December 2013
33. Southern California Algebraic Geometry Seminar, UC San Diego, April 2013
34. Complex Algebraic Geometry, Singapore, July-August 2013
35. Conference on birational geometry of moduli spaces, Pohang, Korea, August 2013
36. FRG meeting on geometry and arithmetic of rational curves, Rice University, Houston, Texas, September 2013
37. Second Georgia Algebraic Geometry Symposium, Athens, Georgia, October 2013
38. VIASM workshop on birational geometry of the moduli spaces of curves, Hanoi, Vietnam, January 2014
39. 21st Gokova Conference in Geometry and Topology, Gokova Turkey, May 2014
40. Workshop on Bridgeland stability conditions, RIMS, Kyoto, Japan, June 2014
41. Oberwolfach Workshop on Classical Algebraic Geometry, Oberwolfach, Germany, July 2014
42. Novos Talentos em Matematica, National Meeting, Gulbenkian Foundation, Lisbon, Portugal, July 2014.
43. Current developments in moduli theory, Boston, October 2014
44. Workshop on new developments in moduli and geometric invariant theory, Chapel Hill, November 2015.
45. New Methods in Birational Geometry, Université Paul Sabatier, Toulouse, France, June 2016
46. Higher codimension cycles, AIM, San Jose, CA, August 2016.
47. Geometry at the ANU: Conference, Canberra, Australia, August 2016.
48. Hyperkähler varieties and derived categories, Simons Center, Stony Brook, NY, September 2016
49. Stability and moduli, AIM, San Jose, CA, January 2017
50. Sheaves, curves and K3 surfaces, Humboldt University, Berlin, Germany, February 2017
51. Abel symposium, Svolvær, Norway, August 2017
52. Combinatorial Algebraic Geometry Retrospective Workshop, Fields Institute, Toronto, June 2018
53. ICM Sattelite Conference on Moduli Spaces in Algebraic Geometry and applications, Campinas, Brazil, July 2018
54. Moduli Spaces: Birational Geometry and Wall Crossings, BIRS, Banff, Canada, October 2018.
55. AGNES, Boston College, September 2019
56. 8. Bahar Konusmalari, October 2020, zoom
57. BIRS Conference on Derived Birational and Categorical Algebraic Geometry, November 2020, zoom
58. AMS Special Session on Algebraic and Arithmetic Geometry, Joint Meetings, January 2021, zoom
59. Izmir Mathematics Days, Izmir Institute of Technology, June 2022, zoom
60. Derived Categories, moduli spaces and Hyperkaehler varieties, University of Michigan Ann Arbor, August 2022

61. Vector Bundles in Chennai, Chennai, India, February 2023
62. Current trends in algebraic geometry, Oberwolfach, Germany, June 2023

INVITED COLLOQUIA

1. Rice University, The geometry of Grassmannians and flag varieties, Colloquium, Sep. 2004
2. University of Illinois at Chicago, Colloquium, Nov. 2006
3. University of Illinois at Urbana-Champaign, Colloquium, Dec. 2006
4. Texas AM, Colloquium, Dec. 2006
5. UC Irvine, Colloquium, Jan. 2007
6. University of Pittsburgh, Colloquium, Jan. 2007
7. UC Santa Cruz, Colloquium, Jan. 2007
8. UC Santa Barbara, Colloquium, Jan. 2007
9. The Ohio State University, Colloquium, Jan. 2007
10. Rutgers University, Colloquium, Jan. 2007
11. The Georgia Institute of Technology, Colloquium, Jan. 2007
12. Brandeis University, Colloquium, Feb. 2007
13. UC Riverside, Colloquium, Feb. 2007
14. University of Massachusetts Amherst, Colloquium, Feb. 2007
15. SUNY Stony Brook, Colloquium, Feb. 2007
16. Bogazici University, Colloquium, Istanbul, Turkey, May 2008
17. UFMG, Belo Horizonte, Brazil, Colloquium, June 2008
18. Colloquium, Bogazici University, Istanbul, Turkey, December 2009
19. Boston College, Colloquium, October 2011
20. Boston College, Colloquium, January 2012
21. University of British Columbia, Colloquium, January 2012
22. Purdue University, Colloquium, February 2013
23. POSTECH, Colloquium, Pohang, Korea, March 2014
24. Caltech, Colloquium, January 2015
25. University of Madison, Wisconsin, Colloquium, September 2015
26. University of Texas, Austin, Colloquium, February 2018
27. Penn State, Colloquium, April 2019
28. Bogazici University, Colloquium, August 2019
29. Ohio State, Colloquium, February 2021
30. The University of Kansas, The Smith Colloquium, March 2022
31. University of Pennsylvania, April 2023

INVITED SEMINAR  
TALKS

1. Harvard University, Abelian differentials and dynamics, Dec. 2002
2. M.I.T., Characteristic numbers of surfaces, Feb. 2003
3. Bogazici University, Characteristic numbers of surfaces, Mar. 2003
4. Rice University, Characteristic numbers of scrolls, Sep. 2003
5. Rice University, Characteristic numbers of Del Pezzo surfaces, Sep. 2003
6. University of Michigan, Characteristic numbers of surfaces, Dec. 2003
7. Northwestern University, Characteristic numbers of surfaces, Jan. 2004
8. Brandeis University, Characteristic numbers of surfaces, Feb. 2004
9. Harvard University, The NEF cone of the moduli space of curves and the F-conjecture, May 2004
10. Brown University, Characteristic numbers of surfaces, Fall 2004
11. Harvard University, The geometry of Grassmannians and flag varieties, Nov. 2004
12. Ohio State University, The geometry of Grassmannians and flag varieties, Nov. 2004
13. Boston University, The geometry of Grassmannians and flag varieties, Nov. 2004
14. Columbia University, Characteristic numbers of surfaces, Jan. 2005
15. Princeton University, The geometry of Grassmannians and flag varieties, Feb. 2005
16. University of Chicago, The geometry of Grassmannians and flag varieties, Feb. 2005
17. Harvard University, Coble sextics and holomorphic actions of lattices on  $\mathbb{P}^1$ , May 2005
18. Stanford University, Counting jumping curves of vector bundles, May 2005
19. Harvard University, The ample and effective cones of Kontsevich moduli spaces, Sep. 2005
20. Johns Hopkins University, The ample and effective cones of Kontsevich moduli spaces, Oct. 2005
21. Texas A&M University, The ample and effective cones of Kontsevich moduli spaces, Oct. 2005
22. Northeastern University, The geometry of Grassmannians and flag varieties, Nov. 2005
23. Stanford University, Rational curves on hypersurfaces, Jan. 2006
24. Stanford University, Density of sections for pencils of Calabi-Yau hypersurfaces, Jan. 2006
25. Stanford University, The ample and effective cones of Kontsevich moduli spaces, Jan. 2006
26. UC Berkeley, The ample and effective cones of Kontsevich moduli spaces, Jan. 2006
27. University of Minnesota, The geometry of flag varieties, April 2006
28. University of Illinois at Urbana-Champaign, The ample and effective cones of Kontsevich moduli spaces, May 2006
29. M.I.T., Positivity in the Cohomology of homogeneous varieties, Sep. 2006
30. University of Illinois at Chicago, The ample and effective cones of Kontsevich moduli spaces, Oct. 2006
31. University of Chicago, The ample and effective cones of Kontsevich moduli spaces, Nov. 2006
32. UMass. Amherst, The geometry of Grassmannians and flag varieties, Dec. 2006
33. University of Maryland, Fall 2007
34. Princeton University, Algebraic Geometry Seminar, March 2008
35. IMPA, Rio de Janeiro, Brazil, Algebraic Geometry Seminar, June 2008
36. Park City, Utah, July 2008
37. UIUC, Algebraic Geometry Seminar, September 2008

38. University of Arizona Tucson, Algebraic Geometry Seminar, September 2008
39. University of Notre Dame, Algebraic Geometry Seminar, October 2008
40. UIC, Number Theory Seminar, October 2008
41. SUNY Stony Brook, Algebraic Geometry Seminar, November 2008
42. MSRI, Emphasis Period Seminar, March 2009
43. Koc University, Istanbul, Turkey, Mathematics Seminar, May 2009
44. Undergraduate Math Club, UIC, October 2009
45. Graduate Math Club, Bogazici University, Istanbul, Turkey, December 2009
46. Bilkent-ODTU Algebraic Geometry Seminar, Ankara, Turkey, December 2009
47. Algebraic Geometry Seminar, Bar-Ilan University, Bar-Ilan, Israel, December 2009
48. Algebraic Geometry and Representation Theory Seminar, Ben Gurion University, Beer Sheva, Israel, December 2009
49. Algebraic Geometry Seminar, Ohio State, January 2010
50. Algebraic Geometry Seminar, Stanford University, May 2010
51. Seminar, Yeditepe Universitesi, Istanbul, Turkey, August 2010
52. Algebraic Geometry Seminar, SUNY Stony Brook, September 2010
53. Algebraic Geometry Seminar, University of Wisconsin Madison, December 2010
54. Algebraic Geometry Seminar, Princeton University, December 2010
55. Algebraic Geometry Seminar, Tulane University, January 2011
56. UIC Undergraduate Math Club, January 2011
57. Algebraic Geometry Seminar, KIAS, Seoul, Korea, July 2011
58. University of Houston, Complex Geometry Seminar, September 2011
59. Texas AM, Algebraic Geometry Seminar, September 2011
60. Northwestern University Student Seminar, November 2011
61. Northwestern University Geometry and Physics Seminar, November 2011
62. University of British Columbia, Algebraic Geometry Seminar, January 2012
63. Harvard University, Harvard-MIT Algebraic Geometry Seminar, April 2012
64. UIUC, Algebraic Geometry Seminar, November 2012
65. Stony Brook, Algebraic Geometry Seminar, January 2013
66. Columbia University, Algebraic Geometry Seminar, January 2013
67. University of Chicago, Geometry and Topology Seminar, April 2013
68. University of Utah, Algebraic Geometry Seminar, February 2014
69. POSTECH, Algebraic Geometry Seminar, Pohang Korea, March 2014 (2 talks)
70. Boston College, Algebraic Geometry Seminar, May 2014
71. Universidade de Coimbra, Algebraic geometry and combinatorics seminar, Coimbra, Portugal, July 2014
72. Texas A & M, Geometry seminar, November 2014
73. Caltech, Algebraic Geometry seminar, January 2015
74. Penn State, Algebra and Number Theory Seminar, February 2016
75. Stanford, Algebraic Geometry Seminar, April 2016
76. University of Georgia, March 2017



77. Tel Aviv University, Tel Aviv, Israel, April 2017
78. Rice University, Algebraic geometry and number theory seminar, October 2017
79. Stanford, Algebraic Geometry Seminar, January 2018
80. UIC, Algebraic Geometry Seminar, February 2018
81. University of Chicago, Algebraic Geometry Seminar, November 2018
82. Notre Dame, Algebraic Geometry and Commutative Algebra Seminar, November 2018
83. University of Chicago, Geometry and Topology Seminar, January 2019
84. UIC Algebraic Geometry Seminar, January 2019
85. Columbia University, Algebraic Geometry Seminar, February 2019
86. Duke University, Algebraic Geometry Seminar, April 2019
87. Penn State, Algebraic Geometry Seminar, April 2019
88. Northwestern University, Number Theory Seminar, May 2019
89. UIC, Algebraic topology and K-theory Seminar, September 2019
90. Stanford Algebraic Geometry Seminar, January 2020
91. ETH Zoominar, Algebraic Geometry and Moduli, April 2020
92. ZAG Zoominar, Algebraic Geometry, June 2020
93. Ucgen, Algebraic Geometry Zoominar, December 2020
94. Stanford Algebraic Geometry Seminar, February 2021
95. ODTU-Bilkent Algebraic Geometry Seminar, September 2021
96. Istanbul University Math Club Seminars, November 2021
97. Seminario Nacional de Geometria Algebraica, Mexico, December 2021
98. UC Davis Algebraic Geometry Seminar, February 2022
99. The University of Kansas, Geometry Seminar, March 2022
100. Brown University Algebraic Geometry Seminar, April 2022
101. SUNY Stony Brook, Algebraic Geometry Seminar, November 2022
102. Washington University St. Louis, Algebraic Geometry Seminar, April 2023

#### REFERENCES

- Joe Harris, Harvard University (thesis advisor)
- Mihnea Popa, Harvard University
- Ravi Vakil, Stanford University
- Jason Starr, SUNY Stony Brook
- Brendan Hassett, Brown University
- Lawrence Ein, UIC