Linus Setiabrata

linus@math.uchicago.edu
http://math.uchicago.edu/~linus/

Interests

Geometric representation theory, symplectic duality;
Schubert calculus, special polytopes, link homology

Education

2020 – **Ph.D. Mathematics**, University of Chicago.
Advisor: Victor Ginzburg
2016 – 2020 **B.A. Mathematics**, Cornell University, *summa cum laude*.

Honors

2020 Benjamin A. Blander Prize in Mathematics, University of Chicago.
2020 Harry S. Kieval Prize in Mathematics, Cornell University.

Publications

10. Elena S. Hafner, Karola Mészáros, Linus Setiabrata, Avery St. Dizier, *M-convexity of Grothendieck polynomials via bubbling*. arXiv:2306.08597.

9. Karola Mészáros, Linus Setiabrata, Avery St. Dizier, *On the support of Grothendieck polynomials*. arXiv:2201.09452.

8. Karola Mészáros, Linus Setiabrata, Avery St. Dizier, *An orthodontia formula for Grothendieck polynomials*. Trans. Amer. Math. Soc., **375** (2022): 1281–1303.

7. Linus Setiabrata, *Faces of root polytopes*. SIAM J. Disc. Math., **35** (2021): 2093–2114.

6. Karola Mészáros, Linus Setiabrata, *Lorentzian polynomials from polytope projections*. Algebr. Comb., **4** (2021): 723–739.

5. Sergey Fomin, Linus Setiabrata, *Heronian friezes*. Int. Math. Res. Not. IMRN, **1** (2021): 648–694.

4. Kabir Kapoor, Karola Mészáros, Linus Setiabrata, *Counting integer points of flow polytopes*. Disc. Comput. Geom., **66** (2021): 723–736.

3. Alexander Black, Sabri Cetin, Florian Frick, Alexander Pacun, Linus Setiabrata, *Fair splittings by independent sets in sparse graphs.* Israel J. Math, **236** (2020): 603–627.

2. Jai Aslam, Shujian Chen, Florian Frick, Sam Saloff-Coste, Linus Setiabrata, Hugh Thomas, *Splitting loops and necklaces: Variants of the square peg problem.* Forum Math. Sigma, **8** (2020): e5.

1. Jai Aslam, Shuli Chen, Ethan Coldren, Florian Frick, Linus Setiabrata, *On the generalized Erdős–Kneser conjecture: proofs and reductions.* J. Combin. Theory, Ser. B, **135** (2019): 227–237.

Talks

5. Springer fibers and irreps of the symmetric group, Farb and Friends student seminar, University of Chicago, Jan 2024.

4. Braids, links, and Khovanov-Rozansky homology, Knot homology learning seminar, Oct 2023.

3. Fair division and peg problems, Farb and Friends student seminar, University of Chicago, Feb 2023.

2. The $n!$ and $(n+1)^{n-1}$ conjectures, Representation Theory student seminar, University of Chicago, Oct 2021.

1. Heronian friezes, Cornell Discrete Geometry and Combinatorics Seminar, Cornell University, Jan 2020.

Professional Service

Quick opinion for: Selecta Mathematica

Referee for: Selecta Mathematica, Formal Power Series and Algebraic Combinatorics, Annals of Combinatorics, Collectanea Mathematica.

Teaching

UChicago:

Winter 2024	Instructor for MATH 15300 – Calculus III
Fall 2023	Instructor for MATH 15200 – Calculus II
Spring 2023	Instructor for MATH 15300 – Calculus III
Winter 2023	Instructor for MATH 15200 – Calculus II
Fall 2022	Instructor for MATH 15100 – Calculus I
Spring 2022	College Fellow for MATH 16310 – Honors Calculus III (IBL)
Winter 2022	College Fellow for MATH 25500 – Basic Algebra II
Fall 2021	Grader for MATH 32500 – Graduate Algebra I
Fall 2021	College Fellow for MATH 25400 – Basic Algebra I

Cornell:

Fall 2018 – Fall 2019	Math Tutor at the Math Support Center.
Spring 2018	Grader for MATH 2240 - Theoretical Linear Algebra and Multivariable Calculus II.
Fall 2017	Grader for MATH 2230 - Theoretical Linear Algebra and Multivariable Calculus I.

(Last updated January 20, 2024.)