

## Aurel Mihai Fulger

---

CONTACT INFORMATION	Department of Mathematics University of Connecticut 341 Mansfield Road, Unit 1009 Storrs, Connecticut 06269	<i>Work phone:</i> +1.860.486.4328 <i>E-mail:</i> mihai.fulger@uconn.edu
RESEARCH INTERESTS	I am interested in algebraic geometry and related areas. I focus on positivity questions, particularly on the positivity of numerical cycle classes and on local positivity notions such as Seshadri constants.	
EMPLOYMENT	2017–present <b>University of Connecticut</b> , Assistant Professor 2016–2017 <b>École Polytechnique Fédérale de Lausanne</b> , Lecturer (post-doc) 2012–2016 <b>Princeton University</b> , Instructor of Mathematics (post-doc) 2007–present <b>IMAR</b> , Research Assistant, on leave with no pay 2006–2007 <b>IMAR</b> , Junior Research Assistant	
EDUCATION	2012 Ph.D., University of Michigan, Thesis: Local volumes, Adviser: Robert Lazarsfeld 2007 M.S., <b>SNSB</b> , Romania; Adviser: Marian Aprodu 2006 B.S., University of Bucharest, Romania	
HONORS	2018–2023 Simons Collaboration grant 2014 Junior faculty teaching award, Princeton University 2012 Allen Shields Memorial Fellowship, University of Michigan 2007–2009 Rackham Graduate Fellowship, University of Michigan	
PAPERS	<ol style="list-style-type: none"><li>(with T. Murayama) <i>Seshadri constants for vector bundles</i>, arXiv:1903.00610 [math.AG] (2019), submitted</li><li><i>Seshadri constants for curve classes</i>, arXiv:1707.07347 [math.AG] (2017), IMRN, to appear</li><li><i>Positivity for numerical cycle classes</i>, Bull. Math. Soc. Sci. Math. Roumanie 60 (108) (2017), no. 4, 399–415, in collection: honorary volume dedicated to Dorin Popescu on the occasion of his 70th birthday</li><li>(with B. Lehmann) <i>Zariski decompositions of numerical cycle classes</i>, J. Algebraic Geom. 26 (2017), no. 1, 43–106</li><li>(with B. Lehmann) <i>Positive cones of dual cycle classes</i>, Algebr. Geom. 4 (2017), no. 1, 1–28</li></ol>	

6. (with B. Lehmann) *Kernels of numerical pushforwards*, Adv. Geom. 17 (2017), no. 3, 373–378
7. (with J. Kollár and B. Lehmann) *Volume and Hilbert function of  $R$ -divisors*, Michigan Math. J. 65 (2016), no. 2, 371–387
8. (with B. Lehmann) *Morphisms and faces of pseudo-effective cones*, Proc. Lond. Math. Soc. (3) 112 (2016), no. 4, 651–676
9. (with D. Schmitz) *Newton–Okounkov bodies and complexity functions*, C. R. Math. Acad. Sci. Paris 354 (2016), no. 5, 522–525
10. (with X. Zhou) *Asymptotic Schur decomposition of Veronese syzygy functors*, Math. Ann. **362** (2015), no. 1–2, 529–540
11. *Local volumes on normal algebraic varieties*, Ann. Inst. Fourier (Grenoble) **63** (2013), no. 5, 1793–1847
12. *The cones of effective cycles on projective bundles over curves*, Math.Z. **269** (2011), no. 1–2, 449–459
13. (with M. Marchitan) *Some splitting criteria on Hirzebruch surfaces*, Bull. Math. Soc. Sci. Math. Roumaine (N.S.) **54 (102)** (2011), no. 4, 313–323

LECTURE SERIES 2019 Congress of the Romanian Mathematicians, Galați, Romania

2019 National School of Algebra, Bucharest, Romania

2018 Positivity in Algebraic Geometry, Yonsei University, Seoul, Korea

2018 Special session on convex bodies in Algebraic Geometry and Representation Theory within the AMS central sectional meeting in Columbus, OH

2018 Valley Geometry Seminar, University of Massachusetts Amherst

2017 Algebraic Geometry near Boston conference, Boston College

2017 Commutative Algebra meeting Algebraic Geometry: Dorin Popescu’s 70th birthday

2017 Workshop on Positivity in algebraic and complex geometry, ICMS, Edinburgh

2016 AIM workshop on the Positivity of cycles

2016 Workshop on Positivity of higher (co)dimensional numerical cycle classes, University of Illinois at Chicago, <http://kftucker.people.uic.edu/cycles/>

2016 Anniversary conference celebrating 120 years of CNMB, Constanța, Romania

2014 Special session on Algebraic Geometry within the AMS joint meetings in Baltimore

2013 Special session on Algebraic Geometry within the joint international meetings of the AMS and the RMS in Alba Iulia, Romania

- 2012 Special session on singularities in Commutative Algebra and Algebraic Geometry within the AMS central sectional meetings, Lawrence, Texas
- 2010 School on birational geometry and moduli spaces, Salt Lake City
- COLLOQUIUM TALKS Queen’s University (2016), University of Connecticut (2016), University of Warwick (2016)
- SEMINAR TALKS Harvard University (2019); Northwestern University (2018); University of Chicago (2018); University of Massachusetts Amherst (2018); Princeton University (2018,2013,2012); Leibniz University in Hannover (2018); École Polytechnique de Paris (2017); University of Edinburgh (2017); University of Basel (2017); Boston College (2015); World Wide Center of Math., Cambridge (2015); Ovidius University, Constanta, Romania (2015), University of Notre Dame (2015,2014); IMJ-PRG, Paris 6, 7 and ENS joint seminar, Paris (2015); Ohio State University (2014); Purdue University (2014); Institute for Advanced Studies, Princeton (2014); University of Illinois at Chicago (2014); University of Illinois at Urbana–Champaign (2014); University of Michigan (2014); Rice University (2013,2012); Johns Hopkins University (2012); University of Utah (2011)
- MENTORING 2019 Working project on Kobayashi hyperbolicity with Gunhee Cho
- 2018–2019 Informal course on Topics in Algebraic Geometry
- 2018 Problems in Scheme Theory with Garen Chiloian, Gunhee Cho, and Nha Truong.
- 2017 Problems in Algebraic Geometry with Gunhee Cho
- 2015 Undergraduate senior thesis adviser for Conner Jager, Princeton
- 2015, 2013 Undergraduate junior project adviser for Horia Mania and Bumsoo Kim, Princeton
- 2014 Supervised an undergraduate reading course with Monica Marinescu
- SERVICE 2018-present Organizer of the Algebra Seminar at the University of Connecticut
- 2017-present Serving as part of a student test training committee at the University of Connecticut
- 2018 Member of the committee for the oral examination of Gunhee Cho
- 2018 Grading coordinator for the International Mathematical Olympiad in Cluj-Napoca, Romania
- 2017 Co-organized a mini-workshop on Positivity in Higher-dimensional Geometry: Higher-codimensional Cycles and Newton–Okounkov Bodies, Oberwolfach (September)
- 2017 Co-organized an AIM workshop on Positivity of cycles (August)

2012–2016 Co-organizer of the Princeton University Algebraic Geometry seminar,  
Princeton

2015, 2013 Course coordinator for Linear Algebra MAT202 and Calculus II  
MAT104, Princeton

2011 Co-organizer of the OSU/UIC/UM Algebraic Geometry workshop

REFEREEING

Duke Math. Journal, J. Reine Angew. Math, Advances in Math., Algebra  
and Number Theory, IMRN, Proceedings of the London Mathematical Society,  
European Journal of Mathematics, Documenta Mathematica, Math. Z., Proc.  
Amer. Math. Soc., Journal of Algebra, Journal of Pure and Applied Algebra,  
Annales de la Faculté des Sciences de Toulouse, Communications in Algebra,  
Kyoto Journal of Mathematics

TEACHING  
EXPERIENCE

University of Connecticut

- Math5211: Abstract Algebra II Spring 2019
- Math3230: Abstract Algebra I Fall 2018
- Math5321: Algebraic Geometry II Spring 2018
- Math1131Q: Calculus I Spring 2018
- **Math5320**: Algebraic Geometry I Fall 2017

EPFL

- MAT-438: Commutative Algebra Fall 2016

Princeton University

- **MAT104**: Calculus II Fall 2015
- **MAT202**: Linear Algebra Spring 2015,2013; Fall 2013,2012
- **MAT217**: Honors Linear Algebra Spring 2016
- **MAT447**: Commutative Algebra Fall 2014
- **MAT457**: Algebraic Geometry Spring 2014

University of Michigan

- **Math116**: Calculus II Winter 2011
- **Math115**: Calculus I Fall 2009
- **Math105**: Pre-Calculus Fall 2008