

# Curriculum Vitae – Márton Hablicsek

September 2, 2017

Department of Mathematics  
University of Copenhagen  
Universitetsparken 5,  
Copenhagen, Denmark, 2100

Citizenship: Hungarian  
Born: 04/02/1986  
mhablicsek@math.ku.dk  
+45-22626720

---

POSITION                      Postdoctoral Fellow, joint position between University of Copenhagen and Centre of Symmetry and Deformation, 2017–

University of Pennsylvania, Hans Rademacher Instructor, 2014–2017

---

EDUCATION                    University of Wisconsin - Madison - PhD in Mathematics, 2009–2014

PhD Advisor: Andrei Căldăraru

PhD Thesis: *Derived intersections and their applications*

Eötvös Loránd University (ELTE), Budapest, Hungary - MA in Mathematics, 2004–2009

Summa cum Laude

Master's Thesis: *Sum-free Sets*

---

INTERESTS                    Derived Algebraic Geometry, Algebraic Combinatorial Geometry

---

PUBLICATIONS                *Algebraic Geometry over the residue field of the infinite place*, with Máté L. Juhász, accepted in Communications in Algebra (2017), arxiv:1701.02178

*Derived intersections over the Hochschild cochain complex*, submitted, (2016), arxiv:1608.069655

*Explicit computations of Hida families via overconvergent modular symbols*, with Evan Dummit, Robert Harron, Lalit Jain, Robert Pollack, Daniel Ross, Research in Number Theory, 2:25, (2016) arxiv:1510.05795

*Hodge theorem for the logarithmic de Rham complex via derived intersections*, submitted (2015), arxiv:1503.00177

*On the number of rich lines in high dimensional real vector spaces*, with Zachary Scherr, published in Discrete and Computational Geometry 55(4), 955-962, (2016), arxiv:1412.7025

*Formality of derived intersections and the orbifold HKR isomorphism*, with Dima Arinkin and Andrei Căldăraru, submitted (2014), arxiv:1412.5233.

*On the joints problem with multiplicities*, submitted (2014), arxiv:1408.5791

*Derived intersections and the Hodge theorem*, with Dima Arinkin and Andrei Căldăraru, accepted in Algebraic Geometry, arxiv:1311.2629

*An incidence conjecture of Bourgain over fields of positive characteristic*, with Jordan S. Ellenberg, accepted in Forum of Mathematics, Sigma, arxiv:1311.1479

*Kekeya sets over non-archimedean local rings*, with Evan Dummit, *Mathematika*, **59**, (2013), 257 – 266

*Power map permutations and symmetric differences in finite groups*, with Guillermo Mantilla-Soler, *Journal of Algebra and Applications* **10** (2011), 947 – 959

Editor of two books: *Bergengóc Példatár I-II*. (mathematical problem book for high school students)

---

TALKS

*Derived intersections over the Hochschild cochain complex*, Algebra and Topology Seminar, University of Copenhagen, Copenhagen, Denmark, Jan 2017

*Derived intersections and applications*, Geometric structures seminar, University of Toronto, Toronto, Canada, Nov 2016

*Derived intersections over the Hochschild cochain complex*, Geometry and Topology Seminar, Western University, London, Canada, Nov 2016

*Derived intersections over the Hochschild cochain complex*, I-70, Algebraic Geometry Symposium, University of Missouri-Columbia, Columbia, MO, Nov 2016

*Derived intersections over the Hochschild cochain complex*, University of Pennsylvania Deformation Theory Seminar, Philadelphia, PA, Oct 2016

*Hodge theorems via derived intersections*, Algebraic Geometry Seminar, Temple University, Philadelphia, PA, Apr 2016

*Logarithmic Hodge theorem via derived intersections*, Algebraic Geometry Seminar, University of Illinois at Chicago, Chicago, IL, Apr 2016

*Formality of derived intersections and applications*, Lecture series, Summer School on Derived Algebraic Geometry, Pavia, Italy, Sept 2015

*(Logarithmic) Hodge decomposition via derived intersections*, Alfréd Rényi Institute of Mathematics, Budapest, Hungary, Aug 2015

*Logarithmic Hodge theorem and Derived Intersections*, Summer Research Institute on Algebraic Geometry, Salt Lake City, UT, July 2015 (poster)

*On the number of rich lines in high dimensional real vector spaces*, Mid-Atlantic Algebraic Geometry and Combinatorics Workshop, Philadelphia, PA, Apr 2015 (poster)

*The Barannikov-Kontsevich theorem from a derived algebraic geometry point of view*, Rice University Algebraic Geometry Seminar, Houston, TA, Nov 2014

*On incidence problems in 3-space*, University of Pennsylvania Galois Seminar, Philadelphia, PA, Oct 2014

*The Barannikov-Kontsevich theorem from a derived algebraic geometry point of view*, University of Pennsylvania Deformation Theory Seminar, Philadelphia, PA, Oct 2014

*Hochschild Cohomology in Algebraic Geometry*, Algebraic Geometry in Seattle 2014, Seattle, WA, Aug 2014

*Kekeya problem over non-archimedean local rings*, Algebraic Techniques for Combinatorial and Computational Geometry, IPAM, Los Angeles, CA, May 2014

*Twisted derived intersections and twisted de Rham complexes*, Midwest Algebraic Geometry Graduate Conference, Chicago, IL, Feb 2014

*Twisted derived intersections and twisted de Rham complexes*, Northwestern Topology Seminar, Evanston, IL, Jan 2014

*Twisted derived intersections and twisted de Rham complexes*, University of Michigan Algebraic Geometry Seminar, Ann Arbor, MI, Jan 2014

*Hodge Theory and Derived Intersection*, Géométrie Algébrique en Liberté, Stockholm, Sweden, June 2013 (poster)

*Hodge theorem via derived self intersection*, Recent Advances in Algebraic Geometry, Ann Arbor, MI, May 2013 (poster)

*Hodge theorem via derived self intersection*, Midwest Algebraic Geometry Graduate Conference, Madison, WI, Nov 2012

*Kekeya sets over non-archimedean local rings*, Graduate Student Combinatorics Conference, Urbana, IL, April 2012

---

CONFERENCES,  
WORKSHOPS

*Stable Homotopy Theory and  $p$ -adic Hodge Theory*, University of Copenhagen, Copenhagen, Denmark, June 2017

*Bárány 70*, Rényi Alfréd Institute, Budepest, Hungary, June 2017

*Derived Algebraic Geometry and Interactions*, Institut de Mathématiques de Toulouse, Toulouse, France, June 2017

*I-70, Algebraic Geometry Symposium*, University of Missouri-Columbia, Columbia, MO, Nov 2016

*Non-commutative, derived and homotopical methods in geometry*, Antwerp, Belgium, Sept 2016

*Mid-Atlantic Algebraic Geometry and Combinatorics Workshop*, Philadelphia, PA, Apr 2016

*Inaugural Conference of the Simons Collaboration on Homological Mirror Symmetry*, Philadelphia, PA, Nov 2015

*Summer School on Derived Algebraic Geometry*, Pavia, Italy, Sept 2015

*Summer Research Institute on Algebraic Geometry*, Salt Lake City, UT, July 2015

*Summer Research Institute on Algebraic Geometry, Bootcamp*, Salt Lake City, UT, July 2015

*Supermoduli*, Stony Brook, NY, May 2015

*Mid-Atlantic Algebraic Geometry and Combinatorics Workshop*, Philadelphia, PA, Apr 2015

*AGNES*, Boston, MA, Mar 2015

*Workshop on Chow groups, motives and derived categories*, Princeton, NJ, Mar 2015

*AGNES*, Philadelphia, PA, Nov 2014

*Higher Structures in Philadelphia*, Philadelphia, PA, Aug 2014

*Algebraic Geometry in Seattle 2014*, Seattle, WA, Aug 2014

*Algebraic Techniques for Combinatorial and Computational Geometry*, IPAM, Los Angeles, CA, May 2014

*Homological Methods in Algebraic Geometry*, Madison, WI, April 2014

*Midwest Algebraic Geometry Graduate Conference*, Chicago, IL, Feb 2014

*Géométrie Algébrique en Liberté*, Stockholm, June 2013

*Recent Advances in Algebraic Geometry*, Ann Arbor, MI, May 2013

*Interactions between Noncommutative Algebra, Representation Theory and Algebraic Geometry*, Berkeley, CA, Apr 2013

*Sage Days 44*, Madison, WI, Feb 2013

*Mirror Symmetry in the Midwest II*, Madison, WI, Nov 2012

*Midwest Algebraic Geometry Graduate Conference*, Madison, WI, Nov 2012

*Noncommutative Algebraic Geometry*, Berkeley, CA, Jun 2012

*Spring School on Algebraic Microlocal Analysis*, Evanston, IL, May 2012

*8th Annual Graduate Student Combinatorics Conference*, Urbana, IL, April 2012

*Singularities in the Midwest*, Madison, WI, March 2012

*Arizona Winter School 2012*, Tucson, AR, March 2012

*Arizona Winter School 2011*, Tucson, AR, March 2011

*Midwest Number Theory Graduate Conference*, Madison, WI, Oct 2011

*Midwest Algebraic Geometry Graduate Conference*, Madison, WI, Oct 2010

---

WORKING  
EXPERIENCE

Instructor at IAR Summer Program, Shanghai, Fudan University, July 2017  
4 week program for high school students

Instructor at University of Pennsylvania, 2014-2017

Calculus (two semesters)

Proof-learning course in Algebra (one semester)

Undergraduate Research Seminar (one semester)

Ordinary Differential Equations (two summers)

Modern Algebra (two semesters)

Graduate Level Algebra (one semester)

Research Assistantship at UW-Madison, 2010-2014

for Jordan S. Ellenberg (two semesters)

for Andrei Căldăraru (three summers and one semester)

Teaching Assistantship at UW-Madison, 2009-2013

two preparation classes for the Algebra Qualifying Exam

four semesters in Calculus

two semesters in Introductory Geometry

Grading at UW-Madison, 2010-2014

Talent Search (for high school students)

Graduate Ring Theory

Undergraduate Probability Theory

Teaching Assistantship at Eötvös Loránd University (ELTE), 2007–2008

three semesters in Undergraduate Linear Algebra

one semester in Undergraduate Number Theory course

---

SERVICE

Students

Jay Reegan, Masters students, 2017

Anthony Rodriguez, Undergraduate student, 2016-

Timothy Hayes, member of his PhD thesis committee, 2016

Member of

Active-based learning Seminar, 2014-2016

Undergraduate Committee, 2014

TA Training Committee, 2014-2016

TA Recruitment Committee, 2015-2016

One of the organizers for  
Higher K-theory Seminar, 2015-  
AGNES, 2014 (responsible for the poster session)  
Homological Methods in Algebraic Geometry, 2014  
Midwest Number Theory Graduate Conference, 2011  
Midwest Algebraic Geometry Graduate Conference, 2010

Reviewer for  
Mathematical Reviews, 2016-  
zbMath, 2015-

Referee for numerous journals including Journal of Algebra, Discrete and Computational Geometry, Archiv der Mathematik, Mathematische Nachrichten, London Mathematical Society

Organized Training Camps for the IMC (International Mathematics Competition for Undergraduate Students) (2008, 2007)

---

COMPETITIONS	IMC (International Mathematics Competition for Undergraduate Students) 2008 - Second Prize; First Place in team competition 2007 - Second Prize; First Place in team competition
--------------	--

---

HONORS AND AWARDS	Simons Travel Grant, 2015-2017 Departmental Teaching Award, 2016, Fall Departmental Teaching Award, 2015, Fall Departmental Teaching Award, 2015, Spring Excellence in Mathematical Research Award, 2013 Mathematics Graduate Teaching Award, 2013 Scholarship of the Republic of Hungary, 2008 Excellent Student of the Faculty, 2007
-------------------	---

---

SKILLS	Languages Hungarian - native English - fluent French - intermediate German - beginner  Computer skills TeX, Python, Maple, Magma, Sage, Macaulay2, Singular
--------	--

---