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Areas of specialization

Motivic Homotopy Theory • K -theory and Algebraic Cycles • Algebraic Geometry

Employment

- Fall 2018 Postdoc, University of Copenhagen.
Spring 2019 MSRI Postdoc, Mathematical Sciences Research Institute.
July 2019 - Benjamin Peirce Assistant Professor, Harvard University.

Education

- 2018 PhD in Mathematics, Northwestern University.
2013 BS in Mathematics, University of Chicago.

Awards

- 2017 Institut Mittag-Leffler Postdoctoral Fellowship. Awarded a fellowship grant as a participant to the program “Algebro-Geometric and Homotopical Methods” at Institut Mittag-Leffler, Djursholm, Sweden (January-May 2017)
2018 Northwestern University Department of Mathematics Best Thesis Award

Visiting appointments

Mathematical Sciences Research Institute (MSRI), Berkeley, USA. January-June 2019.

Institut Mittag-Leffler, Djursholm, Sweden. January-May 2017.

Universität Duisburg-Essen, Essen, Germany. May-July 2016 (Visiting Marc Levine).

Publications

JOURNAL ARTICLES

B. Antieau and E. Elmanto, *A primer for unstable motivic homotopy theory*, Surveys on Recent Developments in Algebraic Geometry, Proc. Sympos. Pure Math. **95** (2017), pp. 305 – 370.

I. Kriz and E. Elmanto *Some nontrivial examples of the Baldwin–Ozsváth–Szabó twisted spectral sequence and Heegaard–Floer homology of branched double covers*, New York J. Math **22** (2016), 363–378.

PREPRINTS

E. Elmanto, A. A. Khan, *Perfection in Motivic Homotopy Theory*, (2018), [arXiv:1812.07506](https://arxiv.org/abs/1812.07506).

D. Carchedi, E. Elmanto, *Relative Étale Realizations of Motivic Spaces and Dwyer-Friedlander K-Theory of Noncommutative Schemes*, (2018), [arXiv:1810.05544](https://arxiv.org/abs/1810.05544).

E. Elmanto, M. Hoyois, A. A. Khan, V. Sosnilo, M. Yakerson, *Framed Transfers and Motivic Fundamental Classes*, (2018), [arXiv:1809.10666](https://arxiv.org/abs/1809.10666).

E. Elmanto *Motivic Contractibility of the Space of Rational Maps (Thesis)*, (2018), available at www.eldenelmanto.com.

E. Elmanto, M. Levine, M. Spitzweck, P. A. Østvær, *Algebraic Cobordism and Étale Cohomology*, (2017), [arXiv:1711.06258](https://arxiv.org/abs/1711.06258).

E. Elmanto, M. Hoyois, A. A. Khan, V. Sosnilo, M. Yakerson, *Motivic Infinite Loop Spaces*, (2017), [arXiv:1711.05248](https://arxiv.org/abs/1711.05248).

E. Elmanto, H. Kolderup, *On Modules over Motivic Ring Spectra*, (2017), [arXiv:1708.05651](https://arxiv.org/abs/1708.05651).

IN PREPARATION

B. Antieau, E. Elmanto *Étale Descent for Semiorthogonal Decompositions* (2019), In preparation.

T. Bachmann, E. Elmanto, J. Heller, *Mod 2 Power Operations in Motivic Homotopy Theory* (2019), A book project in preparation.

T. Bachmann, E. Elmanto, P. A. Østvær, *Inverting the Motivic Spherical Bott Element* (2019), In preparation.

T. Bachmann, E. Elmanto, M. Yakerson, *A Motivic Kahn-Priddy Theorem* (2019), In preparation.

INVITED CONFERENCE TALKS

TBA at Emerging research in algebraic groups, motives, and K-theory, St. Petersburg, Russia, August 2018.

TBA at Oberwolfach “Homotopy Theory”, Oberwolfach, Germany, August 2018.

Contractions (expository) at Humboldt Universität Berlin Arbeitsgemeinschaft on Motives, Foliations and the Conservativity Conjecture, Berlin, Germany, September 28 2018.

Topological Periodic Cyclic Homology of Smooth F_p -algebras (expository) at Oberwolfach Arbeitsgemeinschaft on Topological Cyclic Homology, Oberwolfach, Germany, April 5 2018.

Motivic Contractibility of the Space of Rational Maps at AMS Sectional Meeting on Motivic Homotopy Theory, Portland, USA, April 14 2018.

Motivic Contractibility of the Space of Rational Maps at International Workshop in Algebraic Topology, Shenzhen, China, June 9 2018.

INVITED SEMINAR TALKS

TBA at University of British Columbia, March 2019.

Perfection in Motivic Homotopy Theory at Universität Regensburg, 18 December 2018.

Stable Profinite Homotopy Theory (after Quick and Lurie) at Norwegian University of Science and Technology, 19 November 2018.

Power Operations on Normed Motivic Spectra at Universitetet i Oslo, 17 October 2018.

Motivic Fundamental Classes and Framed Motives at Institut Fourier Algebraic Geometry Seminar, 8 October 2018.

Motivic Landweber Exact Theories and Étale Cohomology at Freie Universität Berlin, 19 July 2018.

Hilbert Schemes and the Motivic Sphere Spectrum at George Mason University TADS Seminar, 2 March 2018.

Infinite Loop Spaces in Algebraic Geometry at University of Western Ontario Topology Seminar, 29 January 2018.

Infinite Loop Spaces in Algebraic Geometry at University of Copenhagen Algebra/Topology Seminar, 15 January 2018.

Infinite Loop Spaces in Algebraic Geometry at University of Chicago Topology Seminar, 28 November 2017.

Infinite Loop Spaces in Algebraic Geometry at Notre Dame Topology Seminar, 14 November 2017.

Infinite Loop Spaces in Algebraic Geometry at University of Illinois Urbana-Champaign Topology Seminar, 14 October 2017.

Infinite Loop Spaces in Algebraic Geometry at Ohio State K -Theory and Motivic Homotopy Seminar, 2 October 2017.

Infinite Loop Spaces in Algebraic Geometry at Georgia Tech Algebra Seminar, 2 October 2017.

Infinite Loop Spaces in Algebraic Geometry at Johns Hopkins University Topology Seminar, 25 September 2017.

Infinite Loop Spaces in Algebraic Geometry at University of Illinois at Chicago K -theory Seminar,

20 September 2017.

Infinite Loop Spaces in Algebraic Geometry at USC/UCLA joint Algebraic Geometry Seminar, 12 September 2017.

Motivic Landweber Exact Theories and Étale Cohomology at University of Southern California Algebra Seminar, 11 September 2017.

Motivic Landweber Exact Theories and Étale Cohomology at National University of Singapore Topology Seminar, 16 March 2017.

SELECTED EXPOSITORY TALKS

p-adic algebraic K-Theory at Algebraic K-Theory Learning Seminar at Northwestern University, September 2017

Slices of Motivic Landweber Exact Theories at Universität Duisburg-Essen Motives Seminar, July 2016.

Proof Gabber's Presentation Lemma at University of Southern California K-theory Summer School, August 2015.

Friedlander's Proof of the Adams Conjecture via Étale Homotopy Theory (qualifying exam). Committee: John Francis, Paul Goerss, Andrei Suslin, March 2015.

Voevodsky's Proof of the Milnor Conjectures at Northwestern University (3 lectures), November-December 2014.

Introduction to Étale Cohomology at Northwestern Pre-Talbot Seminar, March 2014.

Motivic Cohomology of Quadrics at Northwestern Student Topology Seminar, February 2014.

Service to the profession

Referee for Contemp. Math.

Course assistant for Berlin Summer School in Motivic Homotopy Theory (2018).

Organizer (with Benjamin Antieau and Jeremiah Heller) for "Vitamin K_1 : Kerz-Strunk-Tamme's Proof of Weibel's Conjecture"; organizer for a "learning-by-doing" style seminar (2018).

Service to the department

Organizer of the Graduate Learning Seminar at Københavns Universitet. Topic: *p-adic Hodge Theory*, 2018.

Organizer of the Algebraic K-Theory Learning Seminar at Northwestern University. Topic: *Topological Cyclic Homology*, 2017.

Organizer of the Algebraic K-Theory Learning Seminar at Northwestern University. Topic: *Rotation Invariance in Algebraic K-Theory*, 2016.

Mentor for the "Buddy Program" at Northwestern University. Helped incoming graduate students with adjusting to graduate student life, 2015-2016.

Teaching

KØBEHAVNS UNIVERSITET

2018 Topics in Topology (with Lars Hesselholt).

NORTHWESTERN

2016 Abstract algebra-I, fall quarter, teaching assistant.
2016 Differential geometry, fall quarter, teaching assistant.
2015 Abstract algebra-I, fall quarter, teaching assistant.
2015 Differential calculus, fall quarter, teaching assistant.
2015 Abstract algebra-III, spring quarter, teaching assistant.
2015 Graduate Commutative Algebra, spring quarter, teaching assistant.
2015 Abstract algebra-II, winter quarter, teaching assistant.
2015 Linear algebra, winter quarter, teaching assistant.
2014 Abstract algebra-I, fall quarter, teaching assistant.
2014 Differential calculus, fall quarter, teaching assistant.

EXTERNAL MATHEMATICS OUTREACH

2011 Young Scholar's Program (advanced math program for high school students), summer, teaching assistant, ran by Paul J. Sally Jr.
2012 Collegiate Scholar's Program (advanced math program for high school students), summer, teaching assistant, ran by Paul J. Sally Jr.
2013 SESAME Program (certification program for middle school mathematics teachers), summer, teaching assistant, ran by Paul J. Sally Jr.