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Moshe Kamensky

Education

1999-2007 PhD studies in Mathematics, at the Hebrew University, Israel, under the supervision of Prof. Ehud Hrushovski.

Research area

The research included elimination of quantifiers for modules in a two-sorted language, study of definable automorphism groups under a general assumption of internality, and application of this study to difference equations.

1996-1999 MSc in Computer Science from the Weizmann Institute, Israel, under the supervision of Prof. David Harel. The research topic was:
Decidability of non-regular extensions of PDL (Propositional Dynamic Logic)

1993-1996 Undergraduate degree in Mathematics from the Open University, Israel

Research Interests

I am interested in model theory and its applications, especially in algebra, algebraic geometry, valued fields and differential fields. I am also interested in the interplay between category theory and model theory. I am currently working on applications of model theory to various versions of the Tannakian formalism, on a model theoretic approach to the Riemann–Hilbert correspondence and on problems in the model theory of compact complex manifolds.

Grants

I am the principal investigator of NSF award no. [1001741](#)

Work Experience

Aug 2009– Robert Lumpkins Instructor, University of Notre-Dame, Notre-Dame, IN, USA. Hosted by Sergei Starchenko.

Aug 2007–Jul 2009 Postdoc at the University of Waterloo, Waterloo, Ontario, Canada. Hosted by Rahim Moosa.

Work Experience (continued)

Jul 2006–Jun 2007 MODNET Postdoc at the University of East-Anglia, Norwich, England. Hosted by David Evans.

Publications

Tannakian formalism over fields with operators, preprint, [arxiv:1111.7285](#)

A categorical approach to internality, In: “Models, Logics and Higher dimensional categories. A tribute to the work of Mihaly Makkai.” (Centre de Recherches Mathématiques, Université de Montréal, June 2009). Ed. by Bradd Hart et al. CRM Proceedings and lecture notes 53. American Mathematical Society, 2011. [arxiv:1012.3185](#)

Model theory and the tannakian formalism, submitted, [arxiv:0908.0604](#)

Ind- and pro- definable sets, Ann. Pure Appl. Logic **147** (2007), no. 3, 180–186. MR MR2335085, [arxiv:math/0608163](#)

Definable groups of partial automorphisms, Selecta Mathematica, New Series **15** (2009), no. 2, 295–341. [arxiv:math/0607718](#)

The model completion of the theory of modules over finitely generated commutative algebras, J. Symbolic Logic **74** (2009), 734–750. [arxiv:math/0607418](#)

Some Invited Talks

Tensor Categories for Fields with Operators, Kolchin Seminar, CUNY, Nov 2011

Categorical aspects of internality, Recent Developments in Model Theory, Oléron, France, June 2011

Differential tensor categories, Midwest model theory day, UIC, Apr 2011

Tannakian Categories (after Deligne), Kolchin Seminar, CUNY, Oct 2010

A model theoretic approach to the Tannakian formalism, Special seminar, University of Haifa, Israel, July 2010

A model theoretic approach to the Tannakian formalism, Algebraic Geometry and Representation theory seminar, Weizmann Institute, Israel, July 2010

Differential tensor categories and model theory, meeting on differential algebraic geometry, CUNY Graduate centre, April 2010

Model theory of the Tannakian formalism, Midwest model theory meeting, UIUC, November 2009

Some Invited Talks (continued)

Differential tensor categories, Kolchin Seminar, CUNY, October 2009

Galois groups in model theory, Department Colloquium, University of Waterloo, Canada, October 2008

Internality to algebraically and differentially closed fields, Logic Colloquium, Bern, Switzerland, July 2008

Model theory of the Tannakian formalism, Research workshop on the model theory of fields, CIRM, Luminy, France, November 2007

Model theory of fibre functors. Model Theory and Algebra Workshop, University of Camerino, Italy, June 2007

Model theory of differential fibre functors, Differential Fields Workshop, University of Leeds, June 2007

Applications of definable automorphism groups, Modnet review meeting, Mons, Belgium, January 2007

Galois groups of linear difference equations, Annual Conference of the Israel Mathematical Union, Israel, May 2006

Teaching Experience

- Fall 2011** Lecturer, "Set theory (forcing)", University of Notre-Dame, USA
- Spring 2011** Lecturer, "Algebra", University of Notre-Dame, USA.
- Spring 2011** Lecturer, "Calculus III", University of Notre-Dame, USA.
- Fall 2010** Lecturer, "Calculus III", University of Notre-Dame, USA.
- Spring 2010** Lecturer, "Calculus III", University of Notre-Dame, USA.
- Fall 2009** Lecturer, "Topics in model theory (ACFA)", University of Notre-Dame, USA.
- Spring 2009** Lecturer, "Calculus II for biology", University of Waterloo, Canada.
- Summer 2008** Lecturer, "Introduction to Group Theory", University of Waterloo, Canada.
- Fall 2007** Lecturer, "Linear algebra for Engineers", University of Waterloo, Canada.
- 1999-2000** Teaching assistant in the courses "Differential equations for physicists", "Calculus" and "Ordinary differential equations" in the Hebrew university, Israel.

Teaching Experience (continued)

1996-2000 Teaching assistant in the courses “Automatons and formal languages” and “Discrete mathematics” in the Open university, Israel.

1995-1996 Teaching assistant in the course “Mathematical logic for philosophers” in Tel-Aviv university, Israel.

Other skills

Human languages Hebrew, English, Russian (partial)

Computer languages Perl, matlab, c++, c