

# Curriculum Vitae

RNDr. Michal Hrbek, Ph.D.

**Date of birth:** December 4, 1988, Prague, Czech Republic

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## Professional experience

**2017** - Post-doc, Institute of Mathematics, Czech Academy of Sciences

**2012** - Teaching Assistant, Department of Algebra, Charles University

Practical classes: Algebra, Linear Algebra and Geometry, Number Theory and RSA, Representations of Finite-dimensional Algebras

## Education

**2013 - 2017** Ph.D., Faculty of Mathematics and Physics, Charles University

Thesis topic: Tilting theory of commutative rings; Advisor: Jan Trlifaj

**2011 - 2013** MSc. (hons.), Faculty of Mathematics and Physics, Charles University

**2008 - 2011** BSc., Faculty of Mathematics and Physics, Charles University

## Awards

**2013** Dean prize for best master thesis in Mathematics, Faculty of Mathematics and Physics, Charles University

## Research visits

**02/2015** Research programme IRTATCA CRM in Barcelona

**09/2015** Research visit at University of Verona, joint work with Lidia Angeleri Hügel.

**01 - 08/2018** Research stay at University of Padova, joint work with Silvana Bazzoni.

**10/2018** Research visit at University of Verona, joint work with Lidia Angeleri Hügel.

**11/2018** Research visit at University of Stuttgart, joint work with Frederik Marks.

**12/2018** Research visit at University of Padova, joint work with Silvana Bazzoni.

## Community service

Reviewer for *Publicacions Matemàtiques*, *Journal of Algebra*, *Journal of Pure and Applied Algebra*, *Algebras and Representation Theory*, and other journals.

## Project participation

**01/2014 - 12/2016** Project no. 14-15479S: Representation theory (structural decompositions and their constraints), Czech Science Foundation, role: team member.

**01/2017 - 07/2017** Project no. 17-23112S: Structural representation theory of algebras (localization and tilting theory), Czech Science Foundation, role: team member.

**01/2018 - 12/2018** Project no. MSM1001918011, Structure and localizations of the derived category of a commutative ring, Czech Academy of Sciences Programme for research and mobility support of starting researchers, role: main investigator.

## Publications

1. M. HRBEK, P. RŮŽIČKA, Weakly based modules over Dedekind domains. *Journal of Algebra* 399 (2014): 251-268.
2. M. HRBEK, P. RŮŽIČKA, Characterization of Abelian groups with a minimal generating set. *Quaestiones Mathematicae* 38.1 (2015): 103-120.
3. M. HRBEK, One-tilting classes and modules over commutative rings. *Journal of Algebra* 462 (2016): 1-22.
4. D. HERDEN, M. HRBEK, P. RŮŽIČKA, On the existence of weak bases for vector spaces. *Linear Algebra and its Applications* 501 (2016): 98-111.
5. L. ANGELERI HÜGEL, M. HRBEK, Silting modules over commutative rings. *International Mathematics Research Notices* 2017.13 (2017): 4131-4151.
6. M. HRBEK, P. RŮŽIČKA, Regularly weakly based modules over right perfect rings and Dedekind domains. *Czechoslovak Mathematical Journal* 67 (2017): 367-377.
7. M. HRBEK, Divisibility classes are seldom closed under flat covers. *Journal of Pure and Applied Algebra* 223.3 (2019): 1258-1271.

## Preprints

1. M. HRBEK, J. ŠŤOVÍČEK, Tilting classes over commutative rings. arXiv preprint arXiv:1701.05534 (2017).
2. M. HRBEK, J. ŠŤOVÍČEK, J. TRLIČKA, Zariski locality of quasi-coherent sheaves associated with tilting. To appear in *Indiana University Mathematics Journal*. arXiv preprint arXiv:1712.08899 (2017).
3. M. HRBEK, Compactly generated t-structures in the derived category of a commutative ring. To appear in *Mathematische Zeitschrift*. arXiv preprint arXiv:1806.00078 (2018).
4. S. BAZZONI, M. HRBEK, Definable coaisles over rings of weak global dimension at most one. arXiv preprint arXiv:1901.04577 (2019).

## A selection of given talks

**June 2012** *Modules with a minimal generating set*, AAA84, TU Dresden, Germany.

**June 2014** *Some notes on Saorín's problem*, ASTA 2014, Spineto, Italy.

**July 2015** *One dimensional tilting modules and classes over commutative rings*, Homological algebra in Kentucky, Lexington, USA.

**April/May 2016** *Silting Modules over Commutative Rings*, Maurice Auslander Distinguished Lectures and International Conference, Woods Hole, USA.

**August 2016** *n-tilting classes over commutative rings*, ICRA 2016, Syracuse, USA.

**March 2017** *Local homology and n-tilting classes*, ECI Workshop, Brno, Czech Republic.

**April 2018** *Compactly generated t-structures over commutative rings*, Conference in memory of Gena Puninsky, Manchester, UK.

**July 2018** *Compactly generated t-structures over commutative rings*, International Conference on Algebra and related topics, Rabat, Morocco.

**September 2018** *Definable coaisles over rings of weak global dimension at most one*, Joint meeting of the Czech, Slovenian, Austrian, Slovak and Catalan Mathematical Societies, Bratislava, Slovakia.