

# Ján Pich

## Personal data

*Birth date:* June 23, 1987      *Address:* 8.mája 493/16  
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## Education

Charles University in Prague

- PhD, Algebra, Theory of Numbers and Mathematical Logic *Sep 2011- Nov 2014*  
Thesis: Complexity Theory in Feasible Mathematics
- Mgr, Mathematical Structures      *Sep 2009 - May 2011*  
Thesis: Hard tautologies
- Bc, Mathematics      *Sep 2006 - Jun 2009*  
Thesis: Bounded Arithmetic and Theory of Razborov and Rudich

Supervisor: Jan Krajíček (2007-2014)

## Longer academic visits

- Visiting fellow at the Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, March 1 - May 11, 2012
- Erasmus scholarship, Durham University, UK, supervisor: Stefan Dantchev, October 2010 - February 2011

## Publications

- Complexity Theory in Feasible Mathematics, PhD Thesis, August 2014.
- Logical strength of complexity theory and a formalization of the PCP theorem in bounded arithmetic,  
accepted for publication in Logical Methods in Computer Science.  
preprint: [arxiv.org/abs/1412.3246](http://arxiv.org/abs/1412.3246), December 2014.
- Circuit Lower Bounds in Bounded Arithmetic,  
Annals of Pure and Applied Logic, 166(1), 2015,  
preprint: [eccc.hpi-web.de/report/2013/077/](http://eccc.hpi-web.de/report/2013/077/), May 2013.
- Hard tautologies, Mgr thesis, May 2011.
- Nisan-Wigderson generators in proof systems with forms of interpolation,  
Mathematical Logic Quarterly, 57(4), 2011,  
preprint: [eccc.hpi-web.de/report/2010/046/](http://eccc.hpi-web.de/report/2010/046/), March 2010.
- Bounded Arithmetic and Theory of Razborov and Rudich, Bc thesis, May 2009.

## Selected Talks

Circuit Lower Bounds in Bounded Arithmetic, 32nd weak arithmetics days, Athens, June 25 2013  
Proof complexity of circuit lower bounds, Logical approaches to barriers in complexity II, Cambridge, March 29 2012  
Hard tautologies, SAS seminar, Isaac Newton Institute, Cambridge, March 8 2012  
NW-generators in proof systems with FIP, Proof Complexity and Verification seminar, Swansea University, January 2011

NW-generators in proof systems with FIP, Logic Seminar, Mathematical Institute of Academy of Sciences in Prague, May 2010

### **Some attended workshops**

Optimal algorithms and proofs, Dagstuhl, Germany, 12-17 October 2014

32nd weak arithmetics days, Athens, Greece, 24-26 June 2013

Logical approaches to barriers in complexity II, Cambridge, UK, 26-30 March 2012

Oberwolfach seminar: New Trends in Godelian Incompleteness and Combinatorics, Germany, 16-22 October 2011

Banff workshop in Proof complexity, Canada, 2-7 October 2011

Fall Schools of Logic and Complexity, mainly in Prague, 2007-2010

### **Community Service**

- Event organization: Prague Seminar - math competition for high-school students in Czech Republic, 2006-2007
- Teaching: Logic seminar at Charles University (topic: Finite Model Theory), summer semester 2008

### **Languages**

Slovak, English