

## CURRICULUM VITAE

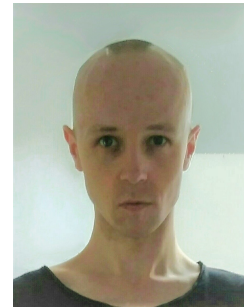
### JÁN PICH

(b. June 23, 1987; Svidník, Slovakia)

users.ox.ac.uk/~coml0742; jan.pich@cs.ox.ac.uk

**Research area:** Mathematical Logic and Complexity Theory

---



### Postdoctoral research positions

- University of Oxford (Department of Computer Science) *Sep 2018 - Aug 2019 and Mar 2020 - present*
- Czech Academy of Sciences (Institute of Mathematics) *Sep 2019 - Feb 2020*
- University of Vienna (Kurt Gödel Research Center for Mathematical Logic) *Sep 2016 - Aug 2018*
- University of Leeds (School of Computing) *Sep 2015 - Aug 2016*
- University of Toronto (Department of Computer Science) *Jan 2015 - Jun 2015*

### Education

Charles University in Prague (Faculty of Mathematics and Physics)

- 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)

### Other academic appointments

- Visitor, Simons Institute for the Theory of Computing, UC Berkeley, US, 10 October - 30 November, 2018 and 1 February - 14 May 2021 (planned)
- Intern, National Institute of Informatics, Tokyo, JP, 5 September - 12 October, 2014
- Visiting fellow, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 1 March - 11 May, 2012
- Erasmus scholarship, Durham University, UK, October 2010 - February 2011

### Research papers

- Learning algorithms from circuit lower bounds  
*preprint*. (Nov 2020)
- Beyond natural proofs, *with L.Chen, S.Hirahara, I.C.Oliveira, N.Rajgopal and R.Santhanam*  
*Innovations in Theoretical Computer Science 2020*. (Nov 2019)
- Hardness magnification near state-of-the-art lower bounds, *with Igor C. Oliveira and Rahul Santhanam*  
*Computational Complexity Conference 2019*. (Sep 2018)
- Feasibly constructive proofs of succinct weak circuit lower bounds, *with Moritz Müller*  
*Annals of Pure and Applied Logic, 2019*. (Sep 2017)
- Understanding Gentzen and Frege systems for QBF, *with Olaf Beyersdorff*  
*Proc. of the 31st Annual ACM Symposium on Logic in Computer Science 2016*.

- Logical strength of complexity theory and a formalization of the PCP theorem in bounded arithmetic  
*Logical Methods in Computer Science*, 11(2), 2015. (Jun 2014)
- Circuit Lower Bounds in Bounded Arithmetics  
*Annals of Pure and Applied Logic*, 166(1), 2015. (May 2013)
- Nisan-Wigderson generators in proof systems with forms of interpolation  
*Mathematical Logic Quarterly*, 57(4), 2011. (Mar 2010)

## Poetry collection

- Mathesis universalis, *Literis*, 2016.

## Talks

- *Beyond natural proofs*  
Academy of Sciences, Prague, October 2019
- *Hardness magnification near state-of-the-art lower bounds*  
Computational Complexity Conference, New Brunswick, July 2019  
University of Cambridge, May 2019  
Academy of Sciences, Prague, December 2018
- *Provability of weak circuit lower bounds*  
Logic and Computational Complexity, Oxford, July 2018  
Proof complexity workshop, Dagstuhl, February 2018  
Bounded arithmetic workshop, Prague, November 2017  
Royal Holloway, University of London, October 2017
- *Gentzen and Frege systems for QBF*  
Computational Logic Day, Vienna, January 2017  
Logic Colloquium, Leeds, August 2016.  
Proof complexity workshop, St.Petersburg, May 2016
- *Logical strength of complexity theory and a formalization of the PCP theorem in bounded arithmetic*  
Proof complexity workshop, Vienna, July 2014
- *Circuit lower bounds in bounded arithmetics*  
Logic Colloquium, Vienna, July 2014  
32nd Weak Arithmetics Days, Athens, June 2013
- *Proof complexity of circuit lower bounds*  
Logical approaches to barriers in complexity II, Cambridge, March 2012
- *Hard tautologies*  
Isaac Newton Institute, Cambridge, March 2012
- *NW-generators in proof systems with FIP*  
Proof Complexity and Verification seminar, Swansea University, January 2011  
Logic Seminar, Mathematical Institute of Academy of Sciences in Prague, May 2010