

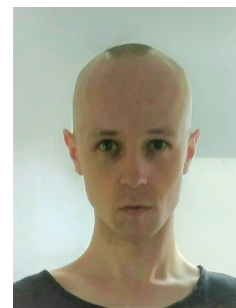
## CURRICULUM VITAE

### JÁN PICH

(b. June 23, 1987; Svidník, Slovakia)  
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**Research area:** Mathematical Logic & Complexity Theory

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### Postdoctoral research positions

- University of Oxford (Department of Computer Science) *Sep 2018 - Aug 2019* & *Mar 2020 - present*  
*Royal Society Research Fellow ('21 - )* *MSCA Individual Fellow ('20 - '22)*
- 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

- Visiting scholar, Simons Institute for the Theory of Computing, Berkeley, US  
*10 January - 12 May 2023, 1 February - 14 May 2021 and 10 October - 29 November 2018*
- 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*

### Grants

- Royal Society University Research Fellowship *Oct 2021 - Feb 2027*
- Marie Skłodowska-Curie Individual Fellowship *Mar 2020 - Feb 2022*

### Research papers

- From proof complexity to circuit complexity via interactive protocols  
*with Noel Arteché, Erfan Khaniki and Rahul Santhanam*  
*International Colloquium on Automata, Languages and Programming 2024.*
- Towards  $P \neq NP$  from Extended Frege lower bounds, *with Rahul Santhanam*  
*arXiv.* (Dec 2023)

- Localizability of the approximation method  
*Computational Complexity*, 33, 12, 2024. (Dec 2022)
- Learning algorithms versus automatability of Frege systems, *with Rahul Santhanam*  
*arXiv*. (Oct 2021)
- Learning algorithms from circuit lower bounds  
*arXiv*. (Nov 2020)
- Strong co-nondeterministic lower bounds for NP cannot be proved feasibly, *with Rahul Santhanam*  
*Symposium on Theory of Computing* 2021.
- Beyond natural proofs: hardness magnification and locality  
*with Lijie Chen, Shuichi Hirahara, Igor C.Oliveira, Ninad Rajgopal and Rahul Santhanam*  
*Innovations in Theoretical Computer Science* 2020. (Nov 2019)
- Why are proof complexity lower bounds hard? *with Rahul Santhanam*  
*Foundations of Computer Science* 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*  
*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.

### Some Talks

- *Towards  $P \neq NP$  from Extended Frege lower bounds*  
Simons Institute for the Theory of Computing, Berkeley, March 2023
- *Learning algorithms versus automatability of Frege systems*  
Workshop on Metacomplexity, Barriers and Derandomization, Rutgers University, 2022
- *Strong co-nondeterministic lower bounds for NP cannot be proved feasibly*  
Symposium on Theory of Computing, virtual, June 2021
- *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
  - Royal Holloway, University of London, October 2017
- *Gentzen and Frege systems for QBF*
  - 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