Curriculum Vitae of Matty Van Son

PERSONAL DETAILS

NAME: Matty Van Son

DATE OF BIRTH: 26 May 1994

INSTITUTION: The Open University, School of Mathematics & Statistics, Postdoctoral Research Associate

E-MAIL: matty.van-son@open.ac.uk

EDUCATION

[2012-2015] BSc in Theoretical Physics and Mathematics, NUI Maynooth

[2015-2016] MSc in Mathematical science, University of Liverpool

[2016-2020] PhD in Mathematics, University of Liverpool
Title: *Extended Markov numbers and integer geometry*

POSTDOCTORAL POSITIONS

[2021-2022] TU Wien, Institute of Discrete Mathematics and Geometry, Projektassistent (FWF), Postdoctoral Research Assistant

[2022-2025] The Open University, School of Mathematics & Statistics, Postdoctoral Research Associate

RESEARCH EXPERIENCE

- **Research areas:**
  - **Geometry**: Geometry of numbers, geometric continued fractions, discrete differential geometry, lattice geometry, hyperbolic geometry, Farey complex
  - **Number theory:** Markov numbers and extensions, Diophantine approximation, continued fractions
  - **Knot theory**: Energy of knots
- **Scholarships:**
  - [2012] €1,000.00, Entrance Scholarship from the NUI Maynooth
  - [2015] £2,000.00, bursary from the Department of Mathematical Sciences, University of Liverpool

CONFERENCE AND SEMINAR ORGANISATION

Organiser of the seminar "Selected Topics in Mathematics - Online Edition" since February 2021

PUBLICATIONS

[1] O. Karpenkov and M. van Son. Generalised Markov numbers. *Journal of Number Theory*, 213:16–66, 2020

[2] O. Karpenkov and M. van Son. Generalized Perron Identity for broken lines. *Journal de théorie des nombres de Bordeaux*, 31:131–144, 2019

[3] M. van Son. Palindromic Sequences of the Markov Spectrum. *Mathematical Notes*, 106:457–467, 2019

[4] M. van Son. Equations of the Cayley Surface. *arXiv:2108.02441, preprint*

[5] M. van Son. Uniqueness conjectures for extended Markov numbers. *arXiv:1911.00746, preprint*

[6] I. Short, M. van Son, and A. Zabolotskii. Frieze patterns and Farey complexes. *arXiv:2312.12953, preprint*

[7] O. Karpenkov and M. Van Son. Geometry of multidimensional Farey summation algorithm and frieze patterns. *arXiv:2410.13091, preprint*