Lewis Napper

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Education

2021 – · · · · **Ph.D. Mathematics, University of Surrey.**
Thesis: *Monge–Ampère Geometry and Vortices.*
Supervisors: Dr. M. Wolf and Prof. I. Roulstone.

2017 – 2021 **M.Math. 1st class (hons) Mathematics, University of Surrey.**
Thesis: *Algebraic Bethe Ansatz for* $\mathfrak{su}(2)$ *Spin Chains and Beyond.*
Supervisors: Prof. A. Torrielli and Dr. A. Prinsloo.
Average grade: 98%

2010–2017 **Therfield Secondary School and Sixth Form**
A-level: 3 *A**, 1 *A (plus* 1 *A at AS level).*
GCSE: 9 *A* including English and German Language,* 3 *A,* 1 *B*
Other: D*2 Cambridge Nationals ICT, A FSMQ Additional Mathematics

Employment History

2019 – · · · · **Teaching Assistant, University of Surrey**

– Supervised undergraduate MATLAB and R-Studio programming labs for Statistics and Numerical Methods modules. Tasks included content delivery and debugging student code.

– Marked coursework for multiple undergraduate modules, providing students with clear and concise feedback.

2013 – 2015 **Undergraduate Researcher, University of Surrey**

– A London Mathematical Society funded research bursary supervised by Dr. J. Grant, studying the synthetic Lorentzian framework of general relativity.

– Produced a report and seminar presentation which led to two academic papers.

Research Publications

1. T. Beran, J. Harvey, **L. Napper**, and F. Rott, "A Toponogov globalisation result for Lorentzian length spaces," *Preprint*, 2023. DOI: 10.48550/arXiv.2309.12733.
2. T. Beran, **L. Napper**, and F. Rott, "Alexandrov's Patchwork and the Bonnet–Myers theorem for Lorentzian length spaces," *Preprint*, 2023. DOI: 10.48550/arXiv.2302.11615.
3. **L. Napper**, I. Roulstone, V. Rubtsov, and M. Wolf, "Monge–Ampère Geometry and Vortices," *Preprint*, 2023. DOI: 10.48550/arXiv.2302.11604.

Skills

Software Skills

Coding	MATLAB, Mathematica, R-Studio, and Python to a moderate level.
Web Dev	HTML, CSS, JavaScript, and JQuery.
Other	Microsoft Office Suite (Word, Excel, Powerpoint), LaTeX typesetting and presentations, Adobe Photoshop, Affinity Serif Suite.

Interpersonal Skills

Report Writing	Learnt to integrate reports into concise, co-authored projects during a Professional Skills module at university and my Ph.D.
Public Speaking	Developed presentation skills speaking to a wide range of audiences, from students to specialists. See my website for sample slides.
Customer Relations	While working as a customer service assistant prior to university (2016–2017), my personal assistance was often requested due to the accuracy and efficiency with which I resolved customer requests.

Select Experience

Awards and Achievements

2018	**WorldQuant Championships** Part of the Surrey team for the WorldQuant Championships, for which I learnt WebSim and reached the regional final.
2017	**Surrey Merit Scholarship** Scholarship awarded to undergraduate students at the University of Surrey entering with exceptional A-level grades.
2017–2021	**Mathematics Department Prize for Excellence** Annual award for the best performance in a year of an undergraduate/master's degree.

Activities

Work Experience	1 week of work experience at MatOrtho Orthopaedic Engineering, UK (2017) including SolidWorks CAD training.
Societies	Member of the Surrey Film Society and academic secretary of the Surrey Maths Society, for which I organised seminars and produced updated graphic design.
Arts	Presented art at the Surrey Youth Voice Awards and at my Sixth Form art festival, accompanying the latter with instrumental guitar playing.

References

Prof. Ian Roulstone
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Prof. Alessandro Torrielli
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University of Surrey,
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