Lewis Napper

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University Webpage

Education

2021 - Present — **University of Surrey PhD Mathematics**
Part of the Fields, Strings, and Geometry Research Group
Supervised by Dr. M Wolf and Prof. I Roulstone
Full studentship to investigate Monge-Ampère Geometry and the Topology of Vortices

2017 – 2021 — **University of Surrey MMath Mathematics 1st (hons)**
Academic achievement award for highest average each year
Yearly average grades 93%, 97%, 98%, 98% (nearest percent)
Thesis 'Algebraic Bethe Ansatz for SU(2) Spin Chains and Beyond' (unpublished) with Dr. A Prinsloo and Dr. A Torrielli

2010 – 2017 — **Therfield School and Sixth form**

A level	Maths A*, Further Maths A*, Physics A*, Biology A
AS level	Art A
GCSE	9 A*, 3 A, 1 B including English Language A*, German A*
Other	ICT D*2, Additional Mathematics A
Work Experience	MatOrtho Orthopaedic engineering (Solidworks CAD Training)

Employment

10/19 - Present — **Computer Lab / Marking Assistant– University of Surrey**

- Supervised first- and second-year undergraduate labs, issued tasks and assisted with content as necessary both online and in person
- Debugged student code in R and MATLAB languages for Statistics and Computational Methods courses, the latter of which I also marked for
- Marked for courses in Differential Geometry, Topology, and Analysis, providing students with clear and concise feedback

7/19 – 9/19 — **Undergraduate Researcher - University of Surrey**

- Funding under LMS bursary URB-18-19-70 with Dr. James Grant
- Analysed Kunzinger-Saemann framework for Synthetic Lorentzian pre-length spaces as a space-time model
- Investigated possibility of globalizing timelike curvature bounds (leading to a current project under my PhD)

Skills and aptitudes

- **Quantitative and analytical skills**
  - Part of the Surrey team for the 2018 International Quant Championships, for which I learnt how to code in WebSim and reached the regional final
  - Winner of The Ogden Trust Young Physicist Award (2016), The KBR Award for Mathematics (2017) and recipient of a Surrey Merit Scholarship (2017).
  - Received a 1st in an introductory module in computational fluid dynamics prior to attending university

- **IT**
  - Proficient in Microsoft Office
  - Self-taught coder with experience in MATLAB, Mathematica, Python, C++, R and more.
  - Skilled in Adobe Photoshop

- **Communication and team-work skills**
  - Present in a concise and engaging style developed through my work within university societies
  - Learnt to integrate my own reports into a concise co-authored project, during a Professional Skills module at university
  - In work as a customer service assistant prior to university (8/16 – 12/17), I built a rapport with colleagues and customers by answering queries accurately and efficiently, to the point where my personal attention was often requested

Interests

- **Societies**
  - Organised extra-curricular seminars, arranged meetings with staff, and managed emails as Academic Secretary for the University of Surrey's Maths Society, as well as currently being an active member of their Film Society.
  - Rebranded the Maths Society by designing new logos, posters, and newsletter formats to be used in advertising a wide range of events, including fluid simulations in SimFlow for presentations.
- **Arts**
  - Developed an understanding of music by self-teaching guitar, leading to my performing with my school's guitar ensemble, and experimenting with electronics to build my own analogue effects.
  - Exhibited paintings and drawings at the Surrey Youth Voice Awards and at my sixth form's art exhibitions where I accompanied the pieces with instrumental guitar.
  - An avid reader of the video game challenge run community, I have used my knowledge of computer programming to replicate out of bounds skips and recreate the famous 'Twitch Plays' python bot so that I could learn such runs myself.

References

Prof. Ian Roulstone
Professor of Mathematics
University of Surrey
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Dr. Alessandro Torrielli
Mathematics Lecturer
University of Surrey
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