

Chris Hamilton

Curriculum Vitae

Nationality: U.K.

Date of birth: 13 February 1995

Dept. of Applied Math. & Theor. Physics (DAMTP),
Centre for Mathematical Sciences,
University of Cambridge
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EDUCATION

- **University of Cambridge**, DAMTP / Emmanuel College Oct. 2017 - June 2021 (expected)
PhD Student in Theoretical Astrophysics
Supervisor: Dr. Roman Rafikov. Advisor: Prof. Gordon Ogilvie.
- **University of Oxford**, Merton College Oct. 2013 - June 2017
Master of Mathematical and Theoretical Physics
First Class (BA part, Physics) / Distinction (4th yr., MMathPhys)
- **Lord Lawson of Beamish Academy**, Gateshead, U.K. Sep. 2006 - July 2013
A level: 4A grades (Math., Further Math., Physics, Eng. Lit.). GCSE: 12A*, 2.5A.*

PUBLICATIONS

- [1] **C. Hamilton** and R. R. Rafikov, “Secular dynamics of binaries in stellar clusters – III. Doubly-averaged dynamics in the presence of general relativistic precession”, *submitted to Monthly Notices of the Royal Astronomical Society*, arXiv:2011.14947, Nov. 2020.
- [2] **C. Hamilton** and T. Heinemann, “Noise and waves: a unified kinetic theory for stellar systems”, *submitted to Monthly Notices of the Royal Astronomical Society*, arXiv:2011.14812, Nov. 2020.
- [3] **C. Hamilton**, “A simple, heuristic derivation of the Balescu-Lenard kinetic equation for stellar systems”, *submitted to Monthly Notices of the Royal Astronomical Society*, arXiv:2007.07291, Jul. 2020.
- [4] **C. Hamilton** and R. R. Rafikov, “Compact Object Binary Mergers Driven By Cluster Tides: A New Channel for LIGO/Virgo Gravitational-wave Events”, *The Astrophysical Journal Letters*, vol. 881, no. 1, L13, Aug. 2019.
- [5] **C. Hamilton** and R. R. Rafikov, “Secular dynamics of binaries in stellar clusters - II. Dynamical evolution”, *Monthly Notices of the Royal Astronomical Society*, vol. 488, no. 4, pp. 5512–5535, Oct. 2019.
- [6] **C. Hamilton** and R. R. Rafikov, “Secular dynamics of binaries in stellar clusters - I. General formulation and dependence on cluster potential”, *Monthly Notices of the Royal Astronomical Society*, vol. 488, no. 4, pp. 5489–5511, Oct. 2019.
- [7] **C. Hamilton**, J.-B. Fouvry, J. Binney, and C. Pichon, “Revisiting relaxation in globular clusters”, *Monthly Notices of the Royal Astronomical Society*, vol. 481, no. 2, pp. 2041–2061, Dec. 2018.

PRIZES & AWARDS

- Young researcher fellowship, Vlasovia-2019 July 2019
Covering expenses for attendance at the Vlasovia-2019 conference.
- Commendation for best MMathPhys Dissertation, University of Oxford July 2017
Title: ‘Fluctuation and Relaxation in Stellar Systems’. Supervisor: Prof James Binney FRS.
- Research Studentship, Newcastle University Aug. 2015
Funding to pursue a 6 week laboratory research project in the Dept. of Chemistry.
- 1st Place, Undergraduate Physics Speaking Competition, University of Oxford May 2015
Title: ‘Chaos is come again’.
- Exhibitionership & Postmastership, Merton College, Oxford 2014 - 2017
Awarded for first class examination results.

TEACHING

- **Supervisor** for *Cosmology*, DAMTP, University of Cambridge 2017, 2018, 2019
Gave regular tutorials to third year undergraduate mathematics students; total ~ 80 hours.
- **Supervisor** for *Statistical Physics*, DAMTP, University of Cambridge 2018
Gave regular tutorials to third year undergraduate mathematics students; total ~ 25 hours.
- **Mathematics support staff**, Lord Lawson of Beamish Academy 2013
Teaching mathematics to small groups/individuals aged 11-17 years; total over 100 hours.

COMPUTING SKILLS

Python, Mathematica, Fortran, Julia, Matlab.

SCIENTIFIC PRESENTATIONS

- Oxford Plasma Theory Seminar June 2020
University of Oxford, U.K. (online)
- Vlasovia-2019: Sixth Int'l Workshop on the Vlasov Equation July 2019
ECPM Strasbourg, France
- DAMTP Astrophysics Lunch Seminar Oct. 2018
University of Cambridge, U.K.
- Surrey Astrophysics Seminar Oct. 2018
University of Surrey, U.K.
- TRENDY-2: Triple Evolution & Dynamics Sep. 2018
Lorentz Center, Leiden, Netherlands
- DAMTP Astrophysics Lunch Seminar May 2018
University of Cambridge, U.K.
- Institute of Astronomy Galaxies Seminar May 2018
University of Cambridge, U.K.

OTHER EXPERIENCE & RESPONSIBILITIES

- **Reviewer for MNRAS**
1 journal article.
- **Seminar organiser** for DAMTP Astro Mondays and DAMTP Astro Lunch 2019 - 2020
Responsible for inviting and hosting speakers from across the world. Organised 34 seminars in total.
- **Summer research student**, University of Oxford July - Aug. 2017
Rudolf Peierls Centre for Theoretical Physics. Supervisor: Prof. James Binney FRS.
- **Summer research student**, University of Oxford July - Aug. 2016
Rudolf Peierls Centre for Theoretical Physics. Supervisor: Dr. Eugene Vasiliev.
- **Summer research student**, Newcastle University July - Aug. 2015
Dept. of Chemistry. Supervisor: Dr. Toni Carruthers.

REFERENCES

- **Dr. Roman Rafikov**, University of Cambridge
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- **Prof. James Binney FRS**, University of Oxford
james.binney@physics.ox.ac.uk
- **Prof. Alexander Schekochihin**, University of Oxford
a.schekochihin1@physics.ox.ac.uk