

# CHRISTOPHER E. H. LUTSKO

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## EDUCATION

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<b>University of Bristol</b> PhD in Mathematics Advisor: Jens Marklof	2016-2020
<b>University of Texas at Austin</b> B.S Mathematics Dean's Scholars Honors Program William's Scholar Honored Graduate	2012-2016

## CAREER

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<b>Rutgers University</b> Hill Assistant Professor	2020-2023
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## PUBLICATIONS

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### Papers:

1. *A microscopic approach to nonlinear Reaction-Diffusion: the case of morphogen gradient formation* with J.P. Boon, J.F. Lutsko, Physical Review E 85:021126 (2016)
2. *Directions in orbits of geometrically finite hyperbolic subgroups* Mathematical Proceedings of the Cambridge Phil. Soc. [Available Online] (2020)
3. *Invariance principle for the random Lorentz gas – beyond the Boltzmann-Grad limit*, with B. Tóth, Communications in Mathematical Physics, **379**, 589-632, (2020).
4. *Invariance principle for the random wind-tree process*, with B. Tóth, Annales Henri Poincaré (2020) (Available Online).
5. *Farey sequences for thin groups* International Mathematics Research Notices (2020) (Available Online).
6. *Long-range correlations of sequences modulo 1*, Journal of Number Theory (2020) (To Appear).

### Preprints:

1. *Pair correlation of the fractional parts of  $\alpha n^\theta$* , with A. Sourmelidis, N. Technau, arXiv:2106.09800.

### PhD Thesis:

Statistical Properties of Dynamical Systems: From Statistical Mechanics to Hyperbolic Geometry, 2020 (Bristol University).

### Conference Proceedings:

1. *Invariance principle for random Lorentz gas in the Boltzmann-Grad Limit*, Oberwolfach Report 10/2019 p. 33-35 (2019)
2. *Invariance principle for random Lorentz gas — Beyond the Boltzmann-Grad Limit*, Oberwolfach Report 42/2019 p. 12-15 (2019)

## TEACHING

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### Teaching Assistant:

UTexas: Intro to Physics	Summer 2013
Garza High School: Volunteer Chemistry Tutor	Spring 2015
UTexas: Intro to Math	Fall 2015
UTexas: Undergraduate TA for Intro to Math	Spring 2016
Bristol: Calculus & Computational Mathematics - 2 groups	Fall 2016
Bristol: Calculus & Calculus & Mechanics - 2 groups	Spring 2017
Bristol: Analysis & Proofs - 2 groups	Fall 2017
Bristol: Analysis & Group Theory - 2 groups	Spring 2018
Bristol: Measure Theory and Integration	Fall 2018
Bristol: Probability II	Fall 2018

### Instructor:

Rutgers: Math 152 Calculus II (Math/Physics)	Fall 2020
Rutgers: Math 152 Calculus II (Math/Physics)	Spring 2021
Rutgers: Math 356 Theory of Numbers	Spring 2021
Rutgers: Math 356 Theory of Numbers	Fall 2021

## ORGANIZATIONAL DUTIES

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Organizer: Linfoot Number Theory Seminar (UoB)	Fall 2019 - Spring 2020
Organizer: Rutgers Number Theory Seminar	Fall 2021 - Onward

## ACADEMIC INVITATIONS

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1 week - Budapest University of Technology (BME)	2017
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## SEMINAR TALKS

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University of Bristol	2017
Budapest University of Technology	2017
University of Bristol	2017
University of Warwick	2018
University of Bristol	2018
University of Bristol	2018
Univ. Libre de Bruxelles	2018
University of Bristol	2018
Rutgers University	2019
University of Texas at Austin	2019
University of Houston	2019
University of Exeter	2019
Manchester University	2019
University of Bristol	2019
University of Loughborough	2020
University of Oklahoma	2020
Yeshiva University	2020
TATA Institute of Fundamental Research ( <i>Upcoming</i> )	2021

## CONFERENCE TALKS

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MINGLE post-graduate event - University of Bristol	2017
Dynamics Days Europe (Billiards Minisymposium) - University of Loughborough	2018
Probability and NonLocal PDEs - University of Swansea	2018
Mini-Workshop: Lorentz Gas Dynamics: particle systems and scaling limits - Mathematisches Forschungsinstitut Oberwolfach	2019
Large Scale Stochastic Dynamics - Mathematisches Forschungsinstitut Oberwolfach	2019
MINGLE post-graduate event - University of Bristol	2019

## OUTREACH

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- Participant in “Skype a Scientist”.
- Speaker to Chicago public schools mentoring program STEM event

## JOURNAL REFEREEING

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- International Mathematics Research Notices
- Annales de l’Institut Henri Poincaré