RyanHannam

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CANES CDT profile
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languages
native English
basic German

programming
MATLAB
Mathematica
C/C++
Git
LaTeX

Environments
Linux
Windows
Mac OS

interests

Complex & disordered systems, stochastic processes, cell biology, cell reprogramming, gene regulatory networks, biological computation, computing and electronics

education

2015 - **Ph.D. Applied Mathematics** — King's College London
Cell reprogramming and its relation to gene expression levels during the cell cycle.
Supervisors: Dr A. Annibale, Prof R. Kühn
This project is funded by the EPSRC through a scholarship at the CANES center for doctoral training (CDT).

Jul 2017 **School on Advances in Complex Systems** — Lake Como School of Advance studies
Interdisciplinary approaches to tissue regeneration, chromatin conformations and telomers, bio-inspired materials, protein aggregation and complex networks in health sciences.

Dec 2016 **Winter School on Quantitative Systems Biology** — ICTP, Trieste
Physical and biological principles of the development of multicellular organisms, with a main focus on morphogenesis. I presented a poster during the school.

2015/16 **Systems Biomedicine Graduate Programme** — King's College London
Introduction to systems biology at the Institute of Mathematical and Molecular Biomedicine.

2014/15 **M.Sc. Non-equilibrium Systems pass with merit** — King's College London
Theoretical modelling, simulation and data driven analysis.
Selected lectures of specialisation:
- Equilibrium analysis of complex systems
- Dynamical analysis of complex systems
- Statistical Learning
- Rare events & large deviation theory
- Fluctuation theorems and stochastic thermodynamics
- Dynamical processes on networks
- Statistical Physics of Game Theory

This degree was funded by the EPSRC through a scholarship at the CANES center for doctoral training (CDT).

2010-14 **B.Sc. Physics 1st class Honours** — University of Dundee
Statistical Physics applied biology: A study of gene regulatory networks.
Supervisor: Prof T. Newman
Selected lectures of interest:
- Statistical mechanics and Thermodynamics
- Computer algebra and dynamical systems
- Computational physics

Awards: James Durham Prize, 1st Year class medal
The majority of my undergraduate degree focused on applied and experimental physics.

publications

2017 **Cell reprogramming modelled as transitions in a hierarchy of cell cycles** — arXiv, bioRxiv
R. Hannam, A. Annibale, and R. Kühn, J. Phys. A: Math. Theor. 50 425601

teaching

2018 **Computational Methods in Complex Systems** — King's College London
Teacher and lab tutor

2017 **5CCM241A/6CCM241B** — King's College London
"Probability & Statistics II" tutor

2017 **4CCM131A/5CCM131B** — King's College London
"Introduction to dynamical systems" tutor

2016 **7CCMNE07** — King's College London
"Theoretical modelling of non-equilibrium systems research project" tutor

2011/12 **TUSLIP** — St Andrews/Dundee
Lab tutor and spokesperson at Tayside Universities and schools in physics alliance days

conferences & workshops

2017 **Quantitative Systems Biology (QSB 2017) workshop** — London
Organiser. Responsibilities included: Website design and creating promotional material; Liaising with sponsors, speakers and attendees; event management (venues, catering and programme design)

2017 **Mathematical Innovation for Biomedicine** — London
Poster presented

2017 **Statistical Mechanics of Complex, Glassy & Non-equilibrium Systems (CGNeS)** — London
Presentation

2017 **WWCS2017: Winter Workshop on Complex Systems 2017** — Petnica, Serbia
Ran a Tutorial

2016 **StatPhys26: International Conference on Statistical Physics** — Lyon, France
Poster presented

2016 **CONES: Conference on Non-Equilibrium Systems** — London
Poster and spotlight presentation

2015 **Statistical Physics Approaches to Networks Across Disciplines** — London

2015 **Statistical Mechanics of Complex, Glassy & Non-equilibrium Systems (CGNeS)** — London

outreach & communication

2016 **Paths to Utopia** — London
Video interview for an exhibition at Somerset house

2016 **CANES CDT annual retreat** — London
Presentation and Poster

2015 **CANES CDT annual retreat** — London
Poster presented

2013 **NASA Space Apps Challenge - Printing the moon** — Uni's of. Dundee & Northumbria
Research assistant. Worked as part of a team to successfully 3D print a moon crater from open source data. The aim of the project was to provide high school students with a physical object to interact with when studying astronomy. The work presented at the Late lab of Edinburgh science festival.

2012 **Dundee science festival** — Dundee
Lab demonstrator and tour guide

2010-14 **Physics SSLC Rep.** — Dundee
Student representative on the student and staff liaison committee for the University of Dundee's physics department

2011-13 **Physics Society PR** — Dundee
PR member for the University of Dundee Physics Society