



UNDERSTANDING THE Physics of Life

April 2019

EPSRC

Pioneering research and skills



Physics of Life Events

Physics of Evolution

8-10 July 2019, Francis Crick Institute, London

$p_i = \frac{e^{2Nf_i}}{Z}$

Relative fitness

$\frac{dS}{dt} = \frac{ds_i}{dt} + \frac{ds_e}{dt}$

"Nothing in Biology Makes Sense Except in the Light of Evolution"

$\beta(\Delta Q)_{I \rightarrow II} + \ln \left[\frac{\pi(II \rightarrow I)}{\pi(I \rightarrow II)} \right] + \Delta S_{int} \geq 0$

$\frac{dx}{dt} = sx(1-x)$

$\beta \langle W_{diss}[x_t \rightarrow x_{t+1}] \rangle = I_{mean}(t) - I_{pred}(t)$

$\langle e^{-N\Phi + \Delta H} \rangle = 1$

Organised by Bhavin Khatri, Tom McLeish and Ard Louis

Confirmed sessions and speakers:

- **Evolution of pathogens and cancer;** [Rosalind Allen, University of Edinburgh](#), [Daniel Fisher, Stanford University](#)
- **Emergence in genotype-phenotype maps;** [Paulien Hogeweg, Utrecht University](#)
- **Non-equilibrium statistical physics of evolution: analogies and beyond – what is optimised in evolution?;** [Susanne Still, University of Hawaii](#)
- **Experimental evolution;** [Santiago Elena, Universitat de València & Santa Fe Institute](#)

[Register Now](#)



Physics of Life ECR Summer School: *From Cells to Tissues and Organisms*

Confirmed Guest Lectures:

- **Single Molecule biophysics** (Mark Leake)
- **Hierarchical biomechanics** (Lorna Dougan)
- **Working across disciplines** ([Martin Cann](#))
- **The Poetry and Music of Science** (Tom McLeish FRS)
- **Durham BSI** (Steve Cobb, Margarita Staykova and Kislou Voitchovsky)

Confirmed mini courses:

- **Physics of Cancer** (Josef Käs)
- **Physics of Animal Health** (Cyril Rauch)
- **Super Resolution Imaging** (Michelle Peckham)
- **Biological Design** (Jenny Southgate)
- **Physics of Death** (Wilson Poon)
- **Mixing Biology and Physics for Business** (David Weinkove and Chris Saunter)
- **Phase separation in active and living matter** (Mike Cates)

15-19 July 2019
Durham Business School,
Durham University

Co- sponsored by:



Register now

SAVE THE DATE! The Fundamentals of Late Stage Cancer

19-20 September 2019, NW cancer Research Centre, University of Liverpool,
Peter Weightman and Jamie Hobbs. Registration opening soon!

Opportunities of interest

PhD opportunity "Dynamical modelling of pattern formation in synthetic biofilms"

1+3 year EPSRC-funded DTP PhD Studentship co-supervised by Dr. Robert Endres (r.endres@imperial.ac.uk) and Prof. Mark Isalan (m.isalan@imperial.ac.uk). Please email direct for any enquiries or apply here by 1 May 2019:

<https://www.findaphd.com/phds/project/dynamical-modelling-of-pattern-formation-in-synthetic-biofilms/?p108290>

PhD opportunity "Quantum Effects in Biological Systems; Cryptochrome magnetoreception amplified by three-spin quantum correlation"

Fully funded Dstl UK-France Joint Research studentship supervised by Dr Daniel Kattnig (d.r.kattnig@exeter.ac.uk; +44 (0) 1392 72 7479) and Dr Aurélien de la Lande (aurelien.de-la-lande@u-psud.fr; +33 (0)169 157398). PhD students will be expected to spend time in both Exeter and Paris over the course of their PhD. Contact directly for any enquiries.

Other events of interest

- [Field theories of Active and Driven matter](#), 2-3 May, University of Edinburgh
- [International Soft Matter Conference](#), June 3-7, Edinburgh
- [CELLMECH 2019](#) June 3-6, Milan, Italy.
- [3rd Meeting of the UCL Cross-Disciplinary Network on Soft Materials](#), June 10, 2019, UCL School of Pharmacy
- [Florey Institute's 6th Annual Postgraduate Symposium: The Hidden Army](#), June 28, 2019, University of Sheffield
- [5th WQBP Symposium 2019- Better Biology... Through Chemistry](#), July 2, 2019, University of Warwick
- [EBSA-IUPAP Biophysics Congress](#), July 20-24, 2019, Madrid, Spain
- [CompBioMed Conference 2019](#), London, September 25-27 2019
- [Physics meets Biology](#), September 9-11, University of Oxford
- [Various Upcoming EMBO workshops](#)

If you would like to advertise an event of interest or opportunity of relevance to Physics of Life members, please email: k.h.baker@dur.ac.uk.

Visit Physics of Life Website

