



UNDERSTANDING THE Physics of Life

May 2017 Newsletter

EPSRC

Pioneering research
and skills



Upcoming Physics of Life Workshops

Quantum Effects in Biological Systems

21st -22nd July, University of Surrey.

Workshop chairs: Jim Al-Khalili and John Joe McFadden

Interdisciplinary meeting on Quantum Biology for practitioners, invitees from the physical and lifesciences, stakeholders and funders.

This workshop will bring the disparate communities involved in Quantum Biology (QB) together, to help create a coherent network of activities and researchers in the UK and to catalyse sizeable research programmes in a sustainable way. Participation from a diverse range of stakeholders and interested parties is encouraged to introduce research opportunities and potential applications offered by QB.

Quantitative Approaches to Antimicrobial Resistance

20th -21st July, Edinburgh, EICC.

Workshop chairs: Jamie Hobbs and Rosalind Allen.

This PoLNET/IOP workshop aims to bring together microbiologists and biophysicists interested in using quantitative approaches for understanding antimicrobial resistance (AMR). AMR is a highly topical area with a growing biophysics community across a range of areas from instrumentation for interrogating living bacteria and their interaction with the host, to the application of statistical physics to the development of resistance genes.

Nanofluidics

11-15 September 2017, Durham University

Workshop chair: Kislou Voitchovsky

This workshop will bring biologists, physicists and engineers together to discuss challenges and opportunities in the field of nanofluidics, both in terms of fundamental scientific questions and strategies/methods to answer them. The workshop will focus on systems where unusual biophysics takes place, often beyond existing theories. A few examples are aquaporins, fluid dynamics at biointerfaces and biolubrication between rubbing membranes, and retarded diffusion along interfaces through correlated effects.

Latest Physics of Life News

Funding Opportunities

A call has now opened for Physics of Life supported workshops which can take place over 1-2 days in any location and on any topic that can link Biology and Physics. Awarded workshops can receive:

- up to £4K
- PoL workshop administrative support

Closing date: 19th September 2017.

For more information please visit the funding opportunities tab on our website.



PoL Website: Funding Opportunities



Visit IUPAB/EBSA website

IUPAB/EBSA congress

Physics of Life will be in Edinburgh for the upcoming IUPAB/EBSA conference at the EICC (16th-20th July). Please come and visit us at:

- Stand no. 6 within Strathblane Hall (16, 17, 18 July)
- The Fintry Auditorium. Talk on Physics of Life Network, phase 2 (18 July, 13.00-13.45)

Please come and have a chat, we'd love to see network members!

Reports from...

The Assembly, Dynamics and Organisation of Filaments and Cellular Responses

Organised by Roy Quinlan and Tom McLeish FRS

20th – 21st March 2017, Durham University, Calman Learning Centre 407

Bio computation

Organised by Sarah Harris, Viv Kendon, Susan Stepney, Dominic Horsman and Agnes Noy

27th- 28th March 2017, Durham University, St Chad's College



This workshop gathered 30 people at Durham University to broadly discuss cytoskeletal filaments and their physical properties which is essential to appreciating how living systems communicate across scales. A diversity of talks traversing the Physics and Biology boundary were given with discussions opening up ideas for potential future research in this area. For a full write up of this event, please follow this link:

<http://www.physicsoflife.org.uk/workshop-write-ups.html>



This workshop gathered 25 people at Durham University from backgrounds in Biology, Physics and Computer science. Discussion topics on Biocomputation included: the successes and difficulties of computation with biological molecules such as DNA, the new computational languages that will need to be developed, the limitations that measurement and detection place upon our ability to compute with biomolecules and the future applications and potential dangers of Biocomputation. A short summary of the key ideas from the workshop will be available to download shortly.

Upcoming Events of Interest

June

Technology Touching Life Regional workshops

TTL is a BBSRC, EPSRC and MRC joint initiative to foster interdisciplinary research into innovative and potentially disruptive technological capabilities that will drive world-leading basic discovery research in the health and life sciences). There is a particular encouragement for researchers with experience of working across these disciplinary fields. **Closing date** for registration/EoI: 09 May 2017.

- 06 June (Midlands)
- 16 June (London)
- 20 June (Scotland)

Allostery and molecular machines, Royal Society Discussion Meeting 19th-20th June, Royal Society, London.

Physics of Living systems 25th-29th June, Paris, Institut Pierre-Gilles de Gennes for microfluidics.

There are 12 places available for Physics of Life Network members to attend the 2017 'Physics of Living Systems' meeting. The iPOLS network is an initiative that started in the US and has since become international. Registration is 80€ + tax and includes access to the scientific program, coffee/refreshment breaks and welcome dinner/cruise on the Seine river on June 25th. Email Cait MacPhee (cait.macphee@ed.ac.uk) if you would like to attend and your name will be forwarded to the coordinator. Preference will be given to graduate students and ECRs.

July

EMBO | EMBL Symposium: Mechanical Forces in Biology: From Force Production to Integrated Roles 12th- 15th July, Heidelberg.

Joint IUPAB and EBSA Congress: Edinburgh, Scotland 16-20 July, Edinburgh.

The 19th International Union of Pure and Applied Biophysics (IUPAB) and 11th European Biophysical Societies' Association (EBSA) Congress.

September

The Physics of Living Matter Symposium 12th Edition 14-15 September 2017, Cambridge.

The theme of this year's symposium is "Basic Principles, Complex Systems."

NIHR Colorectal Therapies HTC - National Meeting 26 September 2017, Leeds.

National Meeting bringing together clinicians (a large number are colorectal surgeons), academics from engineering, nanotechnology and biosensing as well as industry and patient representatives. Previously this meeting has included basic science and industry links.

Visit Physics of Life Website

