Random Walks and Intracellular Transport

8-9th April 2019, School of Mathematics

Alan Turing Building, lecture room G205
Manchester UK

PROGRAMME

Talks 25+5 minutes

7th of April

19.30 Welcome dinner

8th of April

9.00 - 9.10 Sergei Fedotov, Introduction.
9.10 - 9.40 Reinhard Lipowsky, Cooperative Transport of Cargo by Molecular Motors.
9.40 - 10.10 Stefan Klumpp, Tug-of-war and coordination in bidirectional transport in cells.
10.10 - 10.40 Viki Allan, Imaging and analysing membrane movement in living cells: a cell biologist's view of the challenges.
10.40 - 11.10 Davide Calebiro, How diffusion and trafficking shape cell signalling: lessons from G protein-coupled receptors.

11.10 - 11.40 Coffee break

11.40 - 12.10 David Holcman, Trafficking inside the reticulum endoplasmic: data modeling of super-resolution single particle trajectories.
12.10 - 12.40 Charles Kervrann, Computational methods for intracellular dynamics analysis in live cell imaging.

12.40 - 14.00 Lunch

14.00-14.30 Eli Barkai, Hitchhiker model for diffusing diffusivity.
14.30-15.00 Matthias Weiss, Transport and fluctuations in active bio-fluids.
15.00-15.30 Denis Grebenkov, First-passage times in dynamic heterogeneous media.
15.30-16.00 Olivier Bénichou, Superdiffusion in driven crowded systems.

16.00 - 16.30 Coffee break

16.30-17.30 Stas Burov, CTRW and Transport Driven by Molecular Motors.
17.30-18.00 Daniel Han, Characterizing the anomalous transport of intracellular organelles.

19.30 Dinner

9th of April

9.00 - 9.30 Rainer Klages, Modeling diffusion and search in crowded environments by cellular automata and fractional Brownian motion.
9.30 - 10.00 Hugues Berry, Anomalous diffusion in living cells: bridging the gap between experiments and models through collaborative challenges.
10.00 - 10.30 Gleb Oshanin, Stochastic synchronization of two coupled components living each at its own temperature.
10.30 - 11.00 Karsten Kruse, Accuracy of position determination in Ca-signaling.

11.00 - 11.30 Coffee break

11.30 - 12.00 Thomas Waigh, Anomalous transport with bacteria.
12.00 - 12.30 Mike Meerchart, The importance of DNA double strand break motion in proton therapy treatment.

12.30 - 13.30 Lunch

13.30-14.00 Santos Bravo Yuste, Diffusion and reaction-diffusion in expanding media.
14.00-14.30 Vicenç Méndez, Random walks with stochastic resetting.
14.30-15.00 Marco Da Silva, Memory effects in discrete-time random walks.
15.00-15.30 Yevgeni Mamasakhlisov, Subdiffusive behavior of chromatin and the polymer-based models.

15.30-16.00 Coffee break

16.00 - 16.30 Helena Stage, Ageing in Mortal Superdiffusive Lévy Walkers.
16.30 - 17.00 Nickolay Korabel, Anomalous organelle transport driven by non-Markovian motor protein kinetics.

17.00 - Sergei Fedotov, Conclusion.

19.30 Dinner