Warwick Mathematics Research Centre

2009/10 EPSRC Symposium on the Mathematics of Complexity Science and Systems Biology

Workshop on
Spatio-temporal Dynamics Challenges from Fluorescence Data
13-16 July 2010

Organisers: Nigel Burroughs, Till Bretschneider and Kurt Anderson

Tuesday 13 July (Zeeman Building room **MS.02**)

10:00		Registration & Coffee in the Mathematics Common Room
11:15		Welcome
11:30	**Daniel Axelrod** (Michigan)	*Visualising Submicroscopic Dynamics in Cells: Polarized TIRF and Membrane Deformation During Secretion*
12:30		Lunch in the Mathematics Common Room
	In Vivo Imaging	
13:45	**Paul Barber** (Oxford)	*Automated High-throughput FLIM for the Analysis of Protein-Protein Interactions*
14:45	**Kurt Anderson** (Glasgow)	*Imaging Invasion*
15:15		Coffee and Tea in the Mathematics Common Room
15:45	**Vladimir Ermolayev** (München)	*Non-Invasive Imaging for Cancer Diagnostics and Treatment*
16:45	**Ernst Stelzer** (Heidelberg)	*Fluorescence Microscopy Based on Spatially Modulated Light Sheets Reduces Phototoxic Effects and Estimates Scattering Properties*
17:45		Wine Reception in the Mathematics Common Room
18:45		Bus to Leamington Spa, Emperors Restaurant (Chinese)
22:00		Return bus

Wednesday 14 July (Zeeman Building room **MS.02**)

	Image Processing and Information Extraction	
09:30	**Gaudenz Danuser** (Harvard)	*Forces and Signals at the Leading Edge*
10:30	**Marjan Ashtari** (Brunel)	*Contributed Talk: Machine Learning to Model and Understand Live Cell Time-Lapse Sequences*
11:00		Coffee and Tea in the Mathematics Common Room
11:30	**Michael Unser** (EPFL)	*Advanced Signal Processing for Fluorescence Microscopy*
12:30	**Ali Rizwan** (Dresden)	*Contributed Talk: Live Cell Imaging of Intracellular Distribution of Benzo(a)pyrene*
13:00		Lunch in the Mathematics Common Room
	Super Resolution Imaging	
14:00	**George Patterson** (Bethesda)	*Development of Fluorescent Proteins for Single Molecular Localization Techniques*
15:00	**Christian Eggeling** (Göttingen)	*Observing the Nanoscale Far-Field STED Microscopy*
16:00		Coffee and Tea in the Mathematics Common Room
18:30		Bus to Coombe Abbey, Conference Dinner (Booking essential) Dresscode (no jeans, no sneakers)
22:00		Return Bus

For further information please see:
go.warwick.ac.uk/mathsevents
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Thursday 15 July

(Zeeman Building room **MS.02**)

Single Particle Interactions and Kinetics

10:00	**Sandy Simon** (Rockefeller)	*Dynamics of Proteins in Macromolecular Machines*
11:00		Coffee and Tea in the Mathematics Common Room
11:30	**Xavier Darzacq** (Paris)	*Time Resolved Gene Expression and Regulation of Transcription Factors Nuclear Mobility*
12:30	**Andrew McAinsh** (Warwick)	*Contributed Talk: Chromosome Navigation: Finding the way to the Spindle Equator*
13:00		Lunch in the Mathematics Common Room
14:00	**Gerhard Schütz** (Linz)	*Addressing Plasma Membrane Nanostructures by Single Molecule Techniques*
15:00	**Justin Molloy** (NIMR)	*TIRF Microscopy of Single Molecules Inside Live Cells*
16:00		Coffee and Tea in the Mathematics Common Room
16:30	**Karsten Rippe** (Heidelberg)	*Dissecting Chromatin Dynamics and Epigenetic Networks in Living Cells by Fluorescence Fluctuation Microscopy*
17:45		Bus to Pub, Canal Walk and Dinner at The Waterman
21:30		Return Bus

Friday 16 July

(Zeeman Building room **MS.B3.03**)

High-throughput Methods and Sub Cellular Structure Classification

09:30	**Zvi Kam** (Weizmann)	*Multi-parametric Quantification of Cell Images: Analysis Pipeline and Data Mining Platform*
10:30	**Katrin Hübner** (Bioquant)	*Contributed Talk: Correlating Cell Morphology Dynamics with Fluorescent Intensities of Intracellular Calcium in Single Human Neutrophils*
11:00		Coffee and Tea in the Mathematics Common Room
11:30	**Robert Murphy** (Carnegie Mellon)	*Proteome-Scale Analysis and Modeling of Subcellular Patterns for Integration with Systems Biology*
12:30		Lunch in the Mathematics Common Room
14:00		End of Workshop

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