BSCB BSDB

British Society for Cell Biology
British Society for Developmental Biology

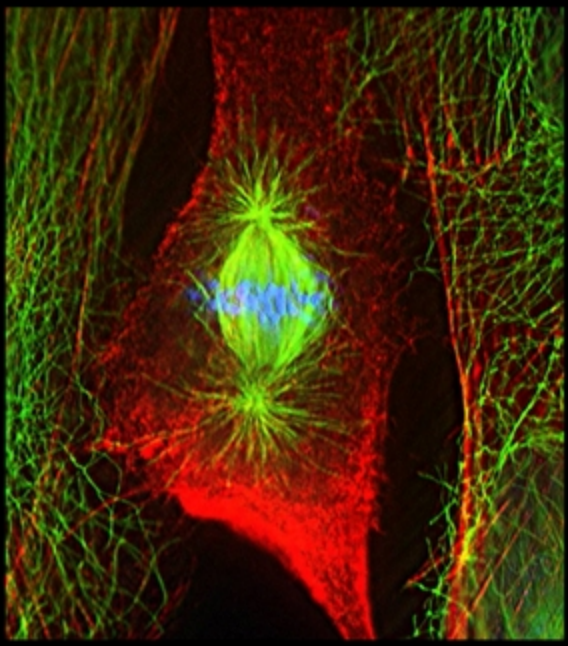
Joint Spring Meeting

Celebrating 50 years of the BSCB

12th - 15th April 2015

University of Warwick

Kiyokazu Agata
Enrique Amaya
Hilary Ashe
Julian Blow
Ineke Braakman
Andrea Brand
Siobhan Braybrook
Frank Costantini
Ana-Maria Cuervo
Caroline Dean
Liam Dolan
Kristian Franze
Clare Futter
Susan Gasser
Eyal Gottlieb
Anthony Graham
Anne Grapin-Botton
Edith Heard
Carl-Philipp Heisenberg
Corinne Houart
Joe Howard



Wieland Huttner
Andrew Johnson
Peter Lansdorp
Roberto Mayor
Irene Miguel-Aliaga
Elke Ober
Terry Orr-Weaver
Norbert Perrimon
Matthieu Piel
Chris Ponting
Peter Reddien
Tristan Rodriguez
Christiana Ruhrberg
Erik Sahai
Luca Scorrano
Jose Silva
Anne Straube
Clare Waterman
Fiona Watt
Tamotsu Yoshimori
Philip Zegerman

Plenary lectures by:

Brigid Hogan and Jennifer Lippincott-Schwartz

Topics include:
Cellular Responses, DNA Replication, Epigenetics, Metabolism, Morphogenetic Movements and Cell Migration, Organogenesis, Physical Biology and Mechanical Forces, Protein Homeostasis, Regeneration and Reprogramming

Scientific Organisers: Jo Begbie, Jenny Nichols, Kate Nobes and Grant Wheeler

www.bscb-bsdb-meetings.co.uk

Image by Ben Tyrrell and Mette Mogensen

THE COMPANY OF Biologists

BSCB/BSDB Joint Spring Meeting - Programme 2015

Sunday 12 April, 2015

14.00 – 16.30	BSCB Committee Meeting – Ensemble Room, Arts Centre BSDB Committee Meetings – National Grid Room, Arts Centre
14.00 – 18.00	Registration – Student's Union Building
15.00 – 16.30	Careers Workshop – Room TBC
16.30 – 18.00	**Graduate Symposium –** Main Lecture Theatre **Chair: Anne Grapin - Botton**
16.30 – 16.45	**O1 JM Sanchez - Imperial College London, London** A metabolic switch regulates the different apoptotic thresholds of the naïve and primed pluripotent states
16.45 – 17.00	**O2 L Lemaire - University of Copenhagen, Copenhagen, Denmark / Ecole Polytechnique, Lausanne, Switzerland** Bicaudal C1 promotes pancreatic NEUROG3^{+} endocrine progenitor differentiation and ductal morphogenesis
17.00 – 17.15	**O3 A Dimitracopoulos - UCL, London, UK / LMCB, MRC, London, UK** The role of mitotic rounding in spindle assembly and positioning
17.20 – 17.25	**FT01 K Czajkowska - University of Warsaw, Warsaw, Poland** Maternal age effect on mammalian oocytes: alterations in fertilization-induced Ca2+ oscillations, cytoplasmic movements and mitochondrial activity
17.25 – 17.30	**FT02 T McHugh – University of Warwick, Coventry** Single Molecule Mechanics of Kif15
17.30 – 17.35	**FT03 CSL Bailey – University of Dundee, Dundee** Taking it up a Notch: Identifying novel signalling dynamics in the vertebrate segmentation clock
17.35 – 17.40	**FT04 B Kroeger – University of Oxford, Oxford** Understanding the regulation of exosome biogenesis and secretion in *Drosophila* secondary cells using super resolution and time-lapse microscopy
17.40 – 17.45	**FT05 Y Wang - University of Warwick, Coventry / National University of Singapore, Singapore** Ligand Stability Shapes the Nodal Morphogen Gradient
17.45 – 17.50	**FT06 P Baillie-Johnson – University of Cambridge, Cambridge** Generation of a Candidate Neuro-Mesodermal Precursor Population in Three-Dimensional Aggregate Culture of Mouse Embryonic Stem Cells
18.00 – 19.30	**Dinner –** Rootes Restaurant, Rootes Building
19.30 – 20.30	**BSDB Plenary Lecture** – Main Lecture Theatre **PL01 Brigid Hogan - Duke University, Durham, USA** Stem cells of the lung: pathways and plasticity in development, maintenance and repair
20.30 – 21.30	**BSCB Garland Plenary Lecture** – Main Lecture Theatre **PL02 Jennifer Lippincott-Schwartz - National Institute of Health, Bethesda, USA** Cell adaptation to starvation Kindly sponsored by Garland Science
21.30 onwards	**Student and Post Doc Social/Drinks Reception:** Panorama 3, Arts Centre

Monday 13 April, 2015

07.30 – 20.00	Registration – Foyer, Arts Centre	
07.30 – 09.30	**Breakfast –** Rootes Restaurant, Rootes Building	
08.00 – 09.00	Joint Officers Meeting – Ensemble Room, Arts Centre	
Session 1:	**Morphogenesis and Cell Migration** – Main Lecture Theatre **Chair: Paul Martin**	**Organogenesis** – Woods-Scawen Lecture Theatre **Chair: Brigid Hogan**
09.00 – 09.30	**S01 Erik Sahai - Cancer Research UK, London** Modelling cancer cell invasion in complex environments	**S06 Liam Dolan - University of Oxford, Oxford** Development and evolution of land plant rooting systems
09.30 – 10.00	**S02 Anne Straube – Warwick Medical School, Coventry**	**S07 Anthony Graham** - **King's College London, London**

	Microtubules control the morphological changes during muscle cell differentiation	Pharyngeal remodelling and tetrapod evolution
10.00 – 10.30	**S03 Roberto Mayor – University College London, London** Cellular mechanism of collective migration	**S08 Christiana Ruhrberg** - **University College London, London** Neuropilin regulation of vascular morphogenesis
10.30 – 11.00	**Refreshment Break and Exhibition Viewing Time –** Mead Gallery, Arts Centre	
11.00 – 11.30	**S04 Clare Waterman** – **NHLBI/NIH, Bethesda, USA** Functional specificity of integrin-based adhesions in cell function is defined by actin nucleators.	**S09 Anne Grapin-Botton - University of Copenhagen, Copenhagen, Denmark / Ecole Polytechnique, Lausanne, Switzerland** Individual cell contributions to pancreas organogenesis: stochasticity, heterogeneity and self-organization
11.30 – 11.45	**O4 LI Wagstaff – University of Cambridge, Cambridge** Mechanically-mediated cell competition eliminates cells via induction of lethal p53 levels	**O6 T Grocott - University of East Anglia, Norwich** TGF-beta and BMP induce proximal and distal states, respectively, in the Optic Vesicle Gene Network
11.45 – 12.00	**O5 K Roeper – MRC-Laboratory of Molecular Biology, Cambridge** A dynamic microtubule cytoskeleton directs medial actomyosin function during tube formation	**O7 K Yashiro - Queen Mary University of London, London** Single-cell Expression Profiling Reveals The Unique Character of ***Tbx5***-expressing Cardiac Precursors of The First Heart Field in The Early Mouse Embryo
12.00 – 12.30	**S05 Carl-Philipp Heisenberg** - **IST Austria, Austria** Surface cell expansion drives radial cell intercalations in zebrafish gastrulation	**S10 Frank Costantini - Columbia University, New York, USA** Control of branching morphogenesis during kidney development
12.30 – 13.30	**Lunch -** Mead Gallery, Arts Centre	
13.30 – 14.30	**Posters/Exhibition Viewing Time -** Mead Gallery, Arts Centre	
Session 2:	**Epigenetics** – Main Lecture Theatre **Chair: Jose Gutierrez-Marcos**	**Protein Homeostasis** – Woods-Scawen Lecture Theatre **Chair: Jordan Raff**
14.30 – 15.00	**S11 Caroline Dean - The John Innes Centre, Norwich** Chromatin and antisense transcript dynamics underlying seasonal timing	**S15 Tamotsu Yoshimori - Osaka University, Osaka, Japan** Autophagy: Its Membrane Dynamics and Role in Suppression of Diseases
15.00 – 15.15	**O8 BH Jennings - UCL, London / Oxford Brookes University, Oxford** Insights from genome-wide profiling of Groucho co-repressor recruitment	**O10 SJ Randle – University of Cambridge, Cambridge** Fbxo7/PARK15 stabilizes p27 protein expression to ensure cell cycle arrest during erythropoiesis
15.15 – 15.45	**S12 Gert Veenstra - Radboud University, The Netherlands** Embryonic transcription is orchestrated by maternal regulatory space	**S16 Clare Futter – University College London, London** Segregation of degradative and signaling cargoes within the endocytic pathway
15.45 – 16.15	**Refreshment break and Exhibition Viewing Time –** Mead Gallery, Arts Centre	
16.15 – 16.30	**O9 J Gutierrez-Marcos – University of Warwick, Coventry** Epigenetic adaptation to environmental stress in plants	**O11 JI Pueyo – University of Sussex,Sussex** Hemo-smORF, a new regulator of endocytic trafficking and phagocytosis
16.30 – 17.00	**S13 Edith Heard - Institut Curie, France** Dynamic changes in X-chromosome inactivation status during mouse development	**S17 Ineke Braakman – Utrecht University, Utrecht, The Netherlands** Disease-related protein folding in the secretory pathway
17.00 – 17.30	**S14 Susan Gasser - Friedrich Miescher Institute, Switzerland** Heterochromatin in worm development and genome stability	**S18 Susmita Kaushik - Albert Einstein College of Medicine, Bronx, USA** Selective autophagy in the control of lipid metabolism
17.30 – 18.30	**Hooke Medal Talk – Invited Speaker** – Main Lecture Theatre **S19 Kairbaan Hodivala-Dilke – Barts Cancer Institute, QMUL, London** From the Garden to the Lab	
18.30 – 20.00	**Dinner –** Rootes Restaurant, Rootes Building	
20.00 – 21.00		**Waddington Medal Talk – Invited Speaker** – Main Lecture Theatre
21.00 – 22.30	Drinks Reception and poster viewing	

Tuesday 14th April, 2015

08.00 – 18.00	Registration – Foyer, Arts Centre	
07.30 – 09.30	**Breakfast –** Rootes Restaurant, Rootes Building	
Session 3:	**Regeneration and Reprogramming** – Main Lecture Theatre	**DNA Replication** – Woods-Scawen Lecture Theatre

	Chair: Alfonso Martinez Arias	Chair: Ron Laskey
09.00 – 09.30	**S20 Enrique Amaya - University of Manchester, Manchester** A role for reactive oxygen species in regeneration and early embryogenesis	**S25 Philip Zegerman - University of Cambridge, Cambridge** DNA replication control during the Mid-Blastula Transition in *Xenopus laevis* *Kindly sponsored by Worldwide Cancer Research*
09.30 – 10.00	**S21 Jose Silva** Mechanisms of Nuclear Reprogramming	**S26 Terry Orr-Weaver - Whitehead Institute, Cambridge, USA / Massachusetts Institute of Technology, Cambridge, USA** Regulation of DNA Replication Fork Progression
10.00 – 10.30	**S22 Fiona Watt – King's College London, London** The epidermal stem cell niche	**S27 Elke Ober - University of Copenhagen, Copenhagen, Denmark / MRC-National Institute for Medical Research, London** Progenitor cell expansion and differentiation in liver organogenesis
10.30 – 11.00	**Refreshment break and Exhibition Viewing Time –** Mead Gallery, Arts Centre	
11.00 – 11.30	**S23 Kiyokazu Agata - Kyoto University, Japan** Elucidation of A-P patterning signals in vertebrates from planarian regeneration research	**S28 Peter Lansdorp - University of Groningen, Groningen / BC Cancer Research Centre, Vancouver / University of British Columbia, Vancouver** Guanine quadruplex structures, heterochromatin and DNA replication
11.30 – 11.45	**O12 GF Mok - University of East Anglia, Norwich** myomiR-dependent switching of BAF60 variant incorporation into Brg1 chromatin remodeling complexes during embryo myogenesis	**O14 TD Carroll – University of Dundee, Dundee** Controlling proliferation in adult intestinal crypts by selective loading of Mcm2-7 proteins
11.45 – 12.00	**O13 AP Thiery - University of Sheffield, Sheffield** An ancient and conserved stem cell niche directs regeneration of the novel beaked dentition in Pufferfish	**O15 NA Copeland – Lancaster University, Lancaster / University of York, York** CDK mediated phosphorylation of Ciz1 regulates initiation of DNA replication and replisome assembly in mammalian cells
12.00 – 12.30	**S24 Peter Reddien - Cambridge, Massachusetts, USA** The cellular and molecular basis for planarian regeneration	**S29 Julian Blow - University of Dundee, Dundee** Interdependence of chromosome condensation and decondensation with DNA replication in C. elegans embryos
12.30 – 13.30	**Lunch –** Mead Gallery, Arts Centre	
13.30 – 14.30	**Poster/Exhibition Viewing Time –** Mead Gallery, Arts Centre	
Session 4:	**Cellular Responses** – Main Lecture Theatre **Chair: Claudio Stern**	**Metabolism** – Woods-Scawen Lecture Theatre **Chair: Alex Gould**
14.30 – 15.00	**S30 Andrea Brand - The Gurdon Institute, University of Cambridge, Cambridge** Nutritional control of neural stem cell quiescence and reactivation	**S39 Luca Scorrano - University of Padua, Padua / Venetian Institute of Molecular Medicine, Padua** Keeping mitochondria in shape: A matter of life and death
15.00 – 15.15	**O16 TE Saunders – National University of Singapore, Singapore** Spatio-temporal analysis of different mechanisms for interpreting morphogen gradients	**O18 MI Stefana - The Francis Crick Institute, London** The power of food: how diet during development programmes adult lifespan in *Drosophila*
15.15 – 15.45	**S31 Andrew Johnson - University of Nottingham, Nottingham** The Germ Line is Master of Its Own Destiny	**S36 Eyal Gottlieb - Cancer Research UK, Beatson Institute, Glasgow** Pyruvate Carboxylase dependency of SDH-deficient cancer cells
15.45 – 16.15	**Refreshment Break and Exhibition Viewing Time –** Mead Gallery, Arts Centre	
16.15 – 16.30	**O17 M Gouti - The Francis Crick Institute, London** Directed differentiation of ESCs to spinal cord neurons via a neuromesodermal progenitor state	**O19 RA Bone – University of Copenhagen, Copenhagen, Denmark** Investigating the Metabolic States of Differentially Lineage-Primed Embryonic Stem Cells
16.30 – 17.00	**S32 Hilary Ashe - University of Manchester, Manchester** Interpretation of BMP signalling in Drosophila	**S37 Tristan Rodriguez - Imperial College London, London** Mechanisms regulating cellular fitness during embryonic development
17.00 – 17.30	**S33 Wieland Huttner - Max Planck Institute of Molecular Cell Biology and Genetics, MPG, Dresden, Germany** Neural stem and progenitor cells and neocortex expansion in development and evolution	**S38 Norbert Perrimon - Harvard Medical School, Boston, USA** Organ-to-organ communication in Drosophila
17.30 – 18.00	**S34 Corinne Houart - MRC Centre for Dev Neuro, KCL, London, UK** Non-nuclear RNA processing protein function(s) in neuronal differentiation and	**S35 Irene Miguel-Aliaga - Imperial College, London** Intestinal sex and contraception

	neurodegeneration	
18.00 – 19.30	**BSDB AGM**	**BSCB AGM**
20.00 onwards	**Conference Dinner –** Panorama Suite, Rootes Building	

Wednesday 15 April, 2015

08.00 – 12.00	Registration – Foyer, Arts Centre	
07.30 – 09.30	**Breakfast –** Rootes Restaurant, Rootes Building	
	Physical Biology and Mechanical Forces – Main Lecture Theatre **Chair: Mohan Balasubramanian**	
09.00 – 09.30	**WICB Medal Talk** – Main Lecture Theatre **S40 Victoria Cowling - University of Dundee, Dundee** Regulation of mRNA capping in embryonic stem cell pluripotency and differentiation	
09.30 – 10.00	**S41 Matthieu Piel - Institut Curie/CNRS, Paris, France** Cell migration under confinement: pushing off the walls and squeezing the nucleus	
10.00 – 10.30	**Beddington Medal Talk –** Main Lecture Theatre **John Robert Davis - CRUK-LRI** Inter-cellular forces orchestrate cell repulsion and embryonic pattern formation	
10.30 – 11.00	**Refreshment Break –** Mead Gallery, Arts Centre	
11.00 – 11.30	**S42 Kristian Franze - University of Cambridge, Cambridge** Neuronal growth *in vivo* is regulated by mechanical signals	
11.30 – 12.00	**S43 Mohan Balasubramanian** Cytokinesis in vitro	
12.00 – 12.30	**S44 Siobhan Braybrook - University of Cambridge, Cambridge** How does your garden grow? Understanding plant cell growth from a physical perspective	
12.00 – 14.30	**Lunch & delegates depart**	