



## Annual Meeting Sheffield – 22<sup>nd</sup> March, 2019

The Circle Conference venue, <http://www.thecirclesheffield.org.uk/>

Final timings are still subject to minor changes

<https://www.cilianetwork.org.uk/events/4595/2019-uk-cilia-network-meeting>

The organisers of the meeting would like to thank the following companies for their generous support for the meeting.



09.30-10.15 Registration and Coffee

10.15-10.45 Welcome - Gwen Reilly and Colin Bingle,

**In remembrance of Jarema Maliki**

**Colin Johnson** - for the UK cilia community

**Freek van Eeden** – for the Bateson/BMS

**Update on the UK Cilia Network**

**Martin Knight.**

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**Session 1**                      **Chair: Dominic Norris**

10.45-11.05

**Robert Hirst**<sup>1</sup>,

C Watson<sup>2</sup>, A Rutman<sup>1</sup>, G Williams<sup>1</sup>, P Chetciti<sup>2</sup>, E Sheridan, C O'Callaghan<sup>1,3</sup>.

<sup>1</sup>Centre for PCD Diagnosis and Research, Department of Respiratory Sciences, University of Leicester, <sup>2</sup>School of Medicine, University of Leeds, <sup>3</sup>Respiratory, Critical Care & Anaesthesia, Institute of Child Health, UCL & Great Ormond Street Children's Hospital

**Do mutations in LRRC56 cause human motile ciliopathies?**

11.05-11.25

**Hermes Gadelha**<sup>1</sup>,

P Hernández-Herrera<sup>2</sup>, F Montoya<sup>2</sup>, A Darszon<sup>3</sup>, G Corkidi<sup>2</sup>.

<sup>1</sup>Department of Mathematics, University of York, <sup>2</sup> Departamento de Ingeniería Celular y Biocatálisis, Instituto de Biotecnología, Universidad Nacional Autónoma de México (UNAM), Mexico. <sup>3</sup>Departamento de Genética del Desarrollo y Fisiología Molecular, Instituto de Biotecnología, UNAM, Mexico.

**How does the sperm flagellum beat in 4D?**

11.25-11.45

**Basudha Basu**<sup>1</sup>,

CA.Johnson<sup>1</sup>, J. Bond<sup>1</sup>, R. Taylor<sup>1</sup>, K Khan<sup>1,2</sup>, M McKibbin<sup>2</sup>, C Inglehearn<sup>1</sup>, J. Ladbury<sup>3</sup>.

<sup>1</sup>Leeds Institute of Medical Research, University of Leeds, <sup>2</sup>Dept. of Ophthalmology, Leeds Teaching Hospitals NHS Trust, <sup>3</sup>Astbury Centre, Faculty of Biological Sciences, University of Leeds.

**Developing a stem cell facility for the molecular modelling of genetic variants in inherited retinal dystrophies**

11.45- 12.05

**Asma Boukhalfa,**

N Dupont, P Codogno, E Morel. INSERM U1151-CNRS UMR8253, Descartes-Sorbonne Paris Cité University, Paris, France.

**Non-canonical role of ATG16L1 in primary cilium trafficking and functions**

12.05-12.25

**John Vakonakis**<sup>1</sup>,

A Kantsadi<sup>1</sup>, G Hatzopoulos<sup>2</sup>, P Gönczy<sup>2</sup>.

<sup>1</sup>University of Oxford, <sup>2</sup>Swiss Federal Institute of Technology (EPFL), Switzerland.

**Structural origins of cartwheel self-assembly by the centriolar protein SAS-6**

12.25-13.25

**Lunch & poster viewing**

(Prize - £100 from Portland Press/ Biochemical Society

Transactions. Judging will be by popular vote with all attendees to indicate their preference by the tea break).

**Session 2**

**Chair: Pleasantine Mill**

13.25-14.00.

**Ronald Roepman,**

Radboud UMC, The Netherlands

**Social networking to deconvolute cilium (dys-) function**

14.00-14.15

Introducing the Nanoimager - ONI Bio presentation

14.15-14.35

**Ursula McClurg**<sup>1,4</sup>,

S Sandhu<sup>1</sup>, K Szymanska<sup>5</sup>, JE Hunter<sup>2</sup> CL Wilson<sup>3</sup>, ND Perkins<sup>2</sup>, N Hunter<sup>1</sup>, OR Davies<sup>2</sup>.

<sup>1</sup>Howard Hughes Medical Institute University of California Davis, USA.

<sup>2</sup>Institute for Cell and Molecular Biosciences, Newcastle University,

<sup>3</sup>Institute of Cellular Medicine, Newcastle University. <sup>4</sup>Institute for Integrative Biology, University of Liverpool. <sup>5</sup>Leeds Institute of Medical Research, University of Leeds.

**A novel centrosomal function of a meiotic protein, TEX12 in cancer**

14.35-14.55

**Alice Lake**<sup>1</sup>,

G Grant<sup>1</sup>, C Galloni<sup>1</sup>, J Bond<sup>1</sup>, E Morrison<sup>1</sup>[1], M Olson<sup>2</sup>, G Marvia<sup>1</sup>, CA Johnson<sup>1</sup>.

<sup>1</sup>Leeds Institute of Medical Research, University of Leeds, <sup>2</sup>Ryerson University, Toronto

**Actin remodelling, regulated by ROCK2, modulates ciliogenesis**

14.55-15.15

**Patricia Yeyati**<sup>1</sup>,

MJ Ford<sup>2</sup>, MA Keighren<sup>1</sup>, IJ Jackson<sup>1</sup>, P Mill<sup>1</sup>, RL Mort<sup>3</sup>.

<sup>1</sup>MRC Human Genetics Unit, Edinburgh; <sup>2</sup>Goodman Cancer Research Centre, McGill University, Canada; <sup>3</sup>Division of Biomedical and Life Sciences, , Lancaster University, Lancaster

**A fluorescent tri-cistronic biosensor of cilia and cell cycle in live cells and mice.**

15.15-15.35

**Rosie Little**<sup>1,2</sup>,

RV Walker<sup>1,2,3</sup>, JL Keynton<sup>1</sup>, DP Norris<sup>1</sup>.

<sup>1</sup>Cilia, Development & Disease Group, MRC Harwell Institute,

<sup>2</sup>Department of Physiology, Anatomy & Genetics, University of Oxford,

<sup>3</sup>University of Maryland, USA (current)

**Examining vesicles and Fgf signalling in the mouse node.**

15.35-15.55.

**Tea**

**Session 3**

**Chair: Hannah Mitchison**

15.55-16.30

**Albert Ong**

Infection, Immunity and Cardiovascular Disease, University of Sheffield.

**New treatments for ADPKD**

16.30-16.50

**Melis Dalbay**<sup>1</sup>,

RA Hirst<sup>2</sup>, H Mitchison<sup>1</sup>, C O'Callaghan<sup>1</sup>, SL Hart<sup>1</sup>.

<sup>1</sup>University College London, Institute of Child Health. <sup>2</sup>University of Leicester.

**A cell line model for primary ciliary dyskinesia**

16.50-17.10

**Isabella Collins**<sup>1</sup>,

Š Bálint<sup>2</sup>, CR Coveney<sup>1</sup>, K Yamamoto<sup>3</sup>, F Bangs<sup>4</sup>, L Troeberg<sup>1</sup>, AKT Wann<sup>1</sup>.

<sup>1</sup>Arthritis Research UK Centre for Osteoarthritis Pathogenesis, Kennedy Institute of Rheumatology, University of Oxford, <sup>2</sup>Kennedy Institute of Rheumatology, University of Oxford, <sup>3</sup>Institute of Ageing and Chronic Disease, University of Liverpool, <sup>4</sup>CRUK/MRC Institute for Radiation Oncology, University of Oxford

**The primary cilium in the regulation of cartilage matrix remodelling: a hotspot for endocytic clearance of proteases?**

17.10-17.30

**Victor Hernandez-Hernandez**<sup>1,4</sup>

A Abarrategi<sup>1</sup>, J Jeyabalan<sup>1</sup>, MM Munye<sup>1</sup>, SC de Castro<sup>1</sup>, M Chawda<sup>1</sup>, R Ruiz<sup>1</sup>, SN Waddington<sup>2</sup>, AA Rahim<sup>3</sup>, PL Beales<sup>1</sup>.

<sup>1</sup>Great Ormond Street Institute of Child Health, UCL, <sup>2</sup>Institute of Women Health, Maternal and Fetal Medicine, UCL, <sup>3</sup>UCL School of Pharmacy, <sup>4</sup>Department of Life Sciences, Brunel University London.

**Gene therapy rescues CNS defects and obesity in ciliopathies**

17.30

Meeting wrap up – move to the Devonshire Cat

## Poster presentations.

- 1: The role of primary cilia in controlling stem cells in the developing cerebral cortex. **Kerstin Hasenpusch-Theil**<sup>1</sup>, Christine Laclef<sup>2</sup>, Eamon Fitzgerald<sup>1</sup>, Matt Colligan<sup>1</sup>, Sylvie Schneider-Maunoury<sup>2</sup>, Thomas Theil<sup>1</sup>  
<sup>1</sup>University of Edinburgh, Centre for Discovery Brain Sciences, Edinburgh.  
<sup>2</sup>Université Pierre et Marie Curie, Developmental Biology Laboratory, 75252 Paris Cedex 05, France
- 2: Primary cilia elongation enhances mechanosensitivity **Liam A Boyle**<sup>1</sup>, Ingvar Kiricenko<sup>1</sup>, Damien Lacroix<sup>2</sup>, Gwendolen C. Reilly<sup>1</sup>  
<sup>1</sup>INSIGNEO Institute for in silico Medicine, Department of Materials Science and Engineering, University of Sheffield. <sup>2</sup>Department of Mechanical Engineering University of Sheffield, United Kingdom
- 3: Investigating the mechanisms of ciliary localisation in PKD2 function **Laura. M. Dyer**, V. Sreekumar, C.T. Esapa, R.V. Walker, D.P. Norris.  
MRC Harwell Institute
- 4: Survey of ciliary motility genes in Drosophila sperm and ciliated mechanosensory neurons reveals substantial cell-type-specific differences motile cilia and sperm flagella. **Petra. zur Lage**, F.G. Newton, A.P. Jarman.  
University of Edinburgh, SBMS (Centre for Discovery Brain Sciences)
- 5: Twitchy, the Drosophila FBF1/dyf-19 orthologue is required for coordinated locomotion and ciliary function. S Hodge, J Birkhead, **Lindsay K MacDougall**.  
University of Manchester
- 6: Mcidas mutant mice reveal a two-step process for the specification and differentiation of multiciliated cells in mammals. H Lu<sup>1</sup>, **Priyanka Anujan**<sup>1,2</sup>, F Zhou<sup>1</sup>, Y Zhang<sup>1</sup>, Y L Chong<sup>1</sup>, C D Bingle<sup>2</sup>, S Roy<sup>1</sup>.  
<sup>1</sup>Agency of Science Technology and Research Singapore. <sup>2</sup>Department of Infection, Immunity and Cardiovascular Disease, University of Sheffield
- 7: Transitions in synchronization states of model cilia through basal-connection coupling. Y. Liu, R. Claydon, D. R. Brumley, **Marco Polin**.  
University of Melbourne, University of Warwick
- 8: Ciliary regulation of polycystin signalling in chondrocytes. **Clare. L. Thompson**, H.M. Mitchison, P.L. Beales, M. Ramachandran, J.P. Chapple, M.M. Knight  
[1] Institute of Bioengineering, Queen Mary University of London, London, UK. [2] Genetics and Genomic Medicine, UCL Institute of Child Health, London, UK. [3] William Harvey Research Institute, Barts and the

London School of Medicine, Queen Mary University of London, London,  
UK

- 9: Using CRISPR technology to endogenously tag retinal disease gene CEP290 with EGFP in induced pluripotent stem cells. **Rowan.D. Taylor**<sup>1</sup>, B. Basu<sup>1</sup>, C.A. Johnson<sup>1</sup>, J. Bond<sup>1</sup>, K. Khan<sup>1,2</sup>, Martin McKibbin<sup>2</sup>, Chris Inglehearn<sup>1</sup>, J. Ladbury<sup>3</sup>.  
<sup>1</sup>Leeds Institute of Medical Research, School of Medicine, University of Leeds,  
<sup>2</sup>Dept. of Ophthalmology, Leeds Teaching Hospitals NHS Trust, <sup>3</sup>Astbury Centre, Faculty of Biological Sciences, University of Leeds