

Newsletter

Edition 14 March 2019

Sandpit—17th April 2019

The next sandpit on the **17th April** at the University of Birmingham and will focus on “*What we can learn from structural biology*”, please register at <https://www.eventbrite.com/e/sandpit-what-can-we-learn-from-structural-biology-registration-58565974406>

Timing	Session	Speaker(s)
13:30	Coffee/+	Common Room
14:00-14:05	Introduction	Dmitry Veprintsev
14:05-14:20	High-throughput cloning and mutagenesis using Assembly reaction	Tamara Miljus
14:20-14:30	Small scale purification of beta2 AR for biophysical studies	Clare Harwood
14:30-14:45	Functional characterisation of solubilised GPCRs	David Sykes
14:45-15:00	Fluorescence Correlation Spectroscopy (FCS) on GPCR-SMALPs	Rachael Grime
15:00-15:20	Biophysical studies of platelet receptor GPVI with its major ligands: The road to potential new antithrombotic drugs	Alex Slater
15:20-15:50	Cryo-EM studies of pore forming proteins	Christos Savva University of Leicester
15:50-16:10	Coffee/tea	Common Room
16:10-16:40	Applications of mini G proteins to study the structure and function of GPCRs	Byron Carpenter University of Warwick
16:40-17:00	Deciphering the phosphorylation barcode of GPCRs (biophysics+NMR)	Dmitry Veprintsev
17:00-17:15	GPCRs: what can we learn from molecular dynamics?	Charlie Laughton
17:15-17:30	X-ray (TBC)	Jonas Emsley
17:30-18:00	Open discussion	
18:00-19:00	Close and Drinks Reception	

Key Dates

Midlands Academy of Medical Sciences Research Festival 2019
Wednesday 27th March 2019
Edgbaston Park Hotel and Conference Centre, Birmingham

Seminar—David Gloriam,
New computational methods and online resources for GPCR structure and function
University of Copenhagen
28th March 2019 15:30
C1052 University of Nottingham

and

29th March 2019 14:00
IBR Seminar Room,
University of Birmingham

Journal Club—28th March 2019
IBR Seminar Room
University of Birmingham

Sandpit Event, “*What can we learn from Structural Biology?*”
17th April 2019 14:00-18:00
IBR Seminar Room, Birmingham

Annual Research Symposium
26th September 2019
Jubilee Conference Centre
Nottingham

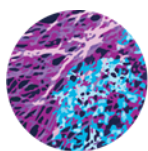
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CENTRE OF MEMBRANE PROTEINS AND RECEPTORS

Midlands Academy of Medical Sciences Research Festival

Wednesday 27th March 2019, Edgbaston Park Hotel and Conference Centre, Birmingham. The Midlands Academy of Medical Sciences Research Festival is a unique biomedical and health research event designed to bring early career researchers together to present their work, meet one another and to network with senior researchers.

For our 2019 event we have chosen three areas of focus around our recently elected Fellows: *Diabetes, Cancer and Respiratory Science*. Our key note speakers for 2019 include AMS Fellows: Professor Melanie Davies, CBE, (Director of the Leicester Biomedical Research Centre); Professor Ian Hall (Director of the Nottingham Biomedical Research Centre); Professor Paul Moss (Director of Research and Knowledge Transfer at the University of Birmingham) and Professor Martin Tobin (Professor of Genetic Epidemiology and Public Health - Leicester).

Researchers from our six institutions are welcome to attend, subject to delegate places being available. (University of Birmingham, Loughborough University, Keele University, University of Nottingham, University of Leicester, University of Warwick). Registration is mandatory at <https://www.eventbrite.co.uk/e/midlands-academy-of-medical-sciences-research-festival-2019-tickets-52817150519>

Microscopes

Three large pieces of equipment have been purchased from the BHF infrastructure grant to include: a state of the art FCD/sted in Nottingham and a SIM and light sheet ultra microscope for cleared tissues in Birmingham. Full details on usage and contact details will follow after installation.

Journal Club

The next journal club will be held on 28th March 2019 in the IBR seminar Room, at the University of Birmingham at 4pm. If you would like to find out more about these events or suggest topics for discussion, please contact Jak Grimes JXG937@student.bham.ac.uk

RMS—Imaging by Steve Briddon

On February 12th, the inaugural Royal Microscopical Society High Content Imaging (HCI) workshop was held at Jubilee Conference Centre, University of Nottingham. Organised by Tim Self and Steve Briddon (COMPARE; University of Nottingham) and Jacquelyn Bond (University of Leeds), the meeting was aimed at PhD students, ECRs and academics just starting out in HCI, or considering moving into the area. The workshop was attended by 19 delegates from academia and industry across the U.K., as well as eight invited speakers and seven exhibitors, who had also kindly provided generous sponsorship.

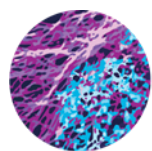
Presentations from Steve Bagley (Manchester), Liz Rosethorne (Nottingham), Steve Brown (Sheffield) and Alex Sossick (Cambridge) covered HCI hardware, experimental design and data analysis and management. Following short “Technobite” presentations from each of the exhibitors, an extended lunch break saw an intensive round of software demonstrations from Carl Zeiss, Molecular Devices, Nikon, Olympus, Perkin Elmer and ThermoFisher. Further excellent case study presentations followed lunch, demonstrating the use of HCI in 3D imaging of spheroids (Jano Kristin-Vizi, UCL), cell cycle analysis (Alexis Barr, MRC London), GPCR pharmacology (Steve Briddon, Nottingham) and siRNA screening (Katarzyna Szymanska, Leeds).

Overall, a thoroughly enjoyable, if intense, day which was had by all. Many thanks to the RMS Office for their help with the organisation, the speakers for their well-judged presentations and the exhibitors for their sponsorship and informative demonstrations. Based on the very positive feedback, planning for a follow up meeting next year is already underway!



IN PARTNERSHIP:

The Universities of Birmingham and Nottingham



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Single Molecule Workshop

COMPARE at the University of Birmingham welcomed over 100 delegates last week at the Single Molecule Imaging and Spectroscopy of Membrane Proteins Workshop. Speakers and delegates attended from all over Europe; and a variety of sessions were held throughout the two day event at the Edgbaston Park Hotel and the Imaging Labs. Check out Twitter [#bhamSM2019](https://twitter.com/bhamSM2019) for comment and photos from the event.

The organising committee would like to thank our industry partners for their generous support.



Thank you

From the 10th April, Sally Utton will be leaving COMPARE. We would like to thank her for her valuable contribution to COMPARE and wish her well in her new role at the University of Leicester.

Welcome

The Management Board welcome Dr Alejandra Tomas, who will be joining the University of Birmingham as Senior Research Fellow in the Institute of Metabolism and Systems Research, College of Medical and Dental Sciences and a COMPARE PI.

COMPARE Publications

Canals M, Poole DP, Veldhuis NA, Schmidt BL, Bunnett NW, (2019). G Protein-Coupled Receptors are Dynamic Regulators of Digestion and Targets for Digestive Diseases. *Gastroenterology*. doi: 10.1053/j.gastro.2019.01.266. [Epub ahead of print]

Onselaer MB, Nagy M, Pallini C, Pike JA, Perrella G, Quintanilla LG, Eble JA, Poulter NS, Heemskerk JWM, Watson SP1, (2019). Comparison of the GPVI inhibitors losartan and honokiol. *Platelets*. doi: 10.1080/09537104.2019.1585526. [Epub ahead of print]

Sykes DA, Stoddart LA, Kilpatrick LE, Hill SJ, (2019). Binding kinetics of ligands acting at GPCRs. *Mol Cell Endocrinol*. doi: 10.1016/j.mce.2019.01.018. [Epub ahead of print]

Ward LSC, Sheriff L, Marshall JL, Manning JE, Brill A, Nash GB, McGettrick HM, (2019). Podoplanin regulates the migration of mesenchymal stromal cells and their interaction with platelets. *J Cell Sci*. 25: 132

Wichaiyo, Surasak, et al, (2019). Platelet glycoprotein VI and C-type lectin-like receptor 2 deficiency accelerates wound healing by impairing vascular integrity in mice. *Haematologica* (epub ahead of print)

Yip SH, Romanò N, Gustafson P, Hodson DJ, Williams EJ, Kokay IC, Martin AO, Mollard P, Grattan DR, Bunn SJ, (2019). Elevated Prolactin during Pregnancy Drives a Phenotypic Switch in Mouse Hypothalamic Dopaminergic Neurons. *Cell Rep*. 26 : 1787-1799

We would like to celebrate our successful publications via the newsletter and the COMPARE website. Please email compare@birmingham-nottingham.ac.uk with the references of published papers.

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