

Director's Report of Year One

It is hard to believe that we have started our second year of COMPARE, and that our first annual symposium and meeting with the International Advisory Board has been successfully completed.

We have achieved a great deal over this period including the recruitment of world-leading researchers in Davide Calebiro and Yi Sun to Birmingham, and Dmitry Veprintsev to Nottingham; and joining us in Nottingham October 2018, Meri Canals and Rob Lane, the setting up of the COMPARE office in Nottingham and Birmingham (Sally, Chris and Sharmaine) and recruitment of the microscope and image analysis officers (Joëlle, Dee and Jeremy); the Team Science grouping led by Jeanette and Natalie and the team science committee; the refurbishment of space in Birmingham and the soon-to-completed refurbishment in Nottingham; purchase of specialist scopes; provision of pump-priming grants which have started a number of cross university programmes; award of major outside grants; the setting up of offices in Campinas, Brazil and in BioCity, Nottingham; publication of high impact papers with the COMPARE address; and the behind the scenes operational activities.

As we continue into year 2, we need to increase the focus on the science (and in particular Project 1), which is ultimately how we will be judged, and to increase our external profile via the web-site and social media etc.

We will have our launch event in Nottingham on 18th April with the Nobel Laureate, Brian Kobilka and trust this is already in your diaries.

We are very fortunate in having the support of the two universities and a fantastic group of PIs, and are looking forward to further progress in year 2 and beyond. We would like to thank everyone for their support over the last year and encourage all of you take full advantage of this unique opportunity.

Best wishes

Steve and Steve

Key Dates

COMPARE Launch

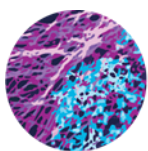
Keynote: Brian Kobilka
Nobel Prize Laureate
LT1 Medical School, Nottingham
18th April 2018 4pm

Image Analysis with Fiji Course
A36 Medical School, Nottingham
18th October 2017

Media Training
Birmingham Medical School
15th November 2017

Team Science Seminar
University of Nottingham
Medical School (C1052)
29th November 2017
12:00-13:00

Team Science Away Day
18th May 2018



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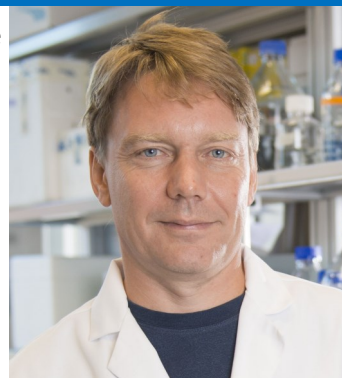
CENTRE OF MEMBRANE PROTEINS AND RECEPTORS

Welcome

Prof Dmitry Veprintsev, Professor of Molecular and Cellular Pharmacology commenced at the University of Nottingham on the 1st October. Dmitry will provide leadership in molecular and cellular pharmacology with a particular emphasis on structural approaches to study cell surface receptor activation and signalling.

Dmitry did his PhD in biophysics and protein folding at the Russian Academy of Sciences and at the Ohio State University, USA. In 1999, he joined Sir Alan Fersht at the MRC Centre for Protein Engineering and later at the MRC Laboratory of Molecular Biology in Cambridge, first as a Human Frontier postdoctoral fellow and later as a staff scientist. There he focused on the structural and biophysical characterisation of the tumour suppressor p53 and on the development of chemical chaperone strategy to rescue destabilised cancer-associated mutants of p53. In 2010 he became a group leader at the Paul Scherrer Institute in Switzerland where focused his research on the role of protein dynamics in signalling by G protein coupled receptors.

dmitry.veprintsev@nottingham.ac.uk
0115 82 30671

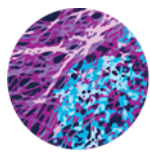


Dr Meri Canals, will join COMPARE at the in October 2018 as COMPARE Chair and Professor of Cellular Pharmacology at the University of Nottingham.

Meri obtained her PhD in 2004 from the University of Barcelona as part of an EU-funded project that examined the interactions between adenosine and dopamine receptors in Parkinson's Disease. In 2010, she was awarded a Monash Fellowship to start her independent research career within the Drug Discovery Biology (DDB) Theme at the Monash Institute of Pharmaceutical Sciences (MIPS) in Melbourne. Since then, her research has focused on understanding the interactions between GPCRs and intracellular proteins, and their consequences for receptor signalling and trafficking.

The primary focus of her laboratory is the pharmacology and cell biology of GPCRs involved in nociception and pain transmission. She has a particular interest on the opioid and neurokinin (NK1R) receptors, which not only represent exemplar GPCRs with extensive pharmacological tools, but are also major therapeutic targets for the treatment of acute and chronic pain. The use of drugs targeting these receptors is still limited by the development of adverse side effects (such as respiratory depression or opioid tolerance, which requires dose escalations to obtain the same analgesic effect) or, in the case of NK1R antagonists, lack of analgesic efficacy. Her vision is that understanding the implications of such receptor positional and conformational dynamism will provide a path for improved GPCR drug discovery, and in particular lead to more effective and safer pain management therapeutics. She is also investigating the structural determinants of signalling at the chemokine receptor CCR2, an important target for atherosclerosis, diabetes and cancer.





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Welcome

Robert Lane, will also join us in October 2018 as COMPARE Fellow and Assistant Professor of Molecular Pharmacology at the University of Nottingham

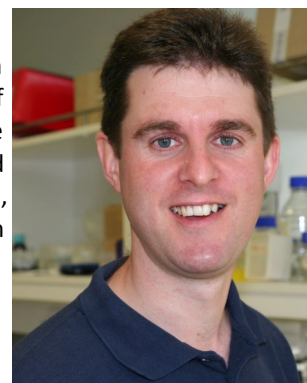
Rob obtained his PhD (2007) at the University of Glasgow supervised by Prof Graeme Milligan. The main focus of his thesis was the signalling characteristics of dopamine receptors, members of the G protein-coupled receptor (GPCR) family, and included one of the first studies of biased agonism. In 2010, he was awarded a VENI fellowship (Netherlands Organisation for Scientific Research) and Larkin's fellowship (Monash University) to begin his career as an independent researcher within the Drug Discovery Biology Theme at the Monash Institute of Pharmaceutical Sciences, in Melbourne.



His current research focuses on understanding how different drugs bind to GPCRs and how this dictates their functional effects, as the basis for the development of more effective therapeutics. He has a particular interest in GPCRs known to be targets for the treatment of neuropsychiatric and neurological disorders, such as the dopamine receptors. His lab's recent work has revealed that clinically relevant antipsychotics are biased agonists and that drug binding and signalling kinetics have a profound influence on this bias. He is also exploring the action of first-in-class negative and positive allosteric modulators of the dopamine receptors that may represent a novel approach to treat the symptoms of schizophrenia and Parkinson's disease. While the study of the dopamine receptors is the primary focus of his research. He is exploring similar concepts at other GPCRs including the muscarinic acetylcholine receptors, opioid receptors, chemokine receptors and adrenergic receptors. In 2017 he was awarded a Schaefer Scholarship to join the departments of Psychiatry & Pharmacology at Columbia University (New York, USA) as an Assistant Professor for a sabbatical year, hosted by Prof Jonathan Javitch. Here, he is developing selective pharmacological tools with which to interrogate dopamine receptor signalling *in vivo*.

Dr Mike Tomlinson is a Senior Lecturer in the School of Biosciences at the University of Birmingham and is now a COMPARE PI. His research group investigates how the tetraspanin superfamily of transmembrane proteins regulates the trafficking and activity of other membrane proteins. These include the 'molecular scissor' ADAM10, the platelet collagen receptor GPVI and the store-operated Ca^{2+} entry channel Orai1. He leads the School of Biosciences research theme on Molecules, Cells, Signalling and Health, and coordinates the MSci four-year integrated masters programme. He is an editor of *The Journal of Biological Chemistry*.

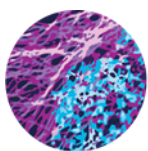
m.g.tomlinson@bham.ac.uk
0121 41 42507



Thank you

Carol Murphy, Senior Lecturer in Advanced Biological Imaging

Carol has now left the University of Birmingham and we thank her for her valued contribution to the COMPARE project and wish her well in her new role.



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International Advisory Board

The first International Advisory Board (IAB) for COMPARE was held on Thursday 28 September at the Orchard Hotel in Nottingham.

We are very fortunate to have an esteemed panel of members, comprising:

| | | |
|---------|--------------------|-------------------------------|
| Chair | Patrick Vallance | GlaxoSmithKline |
| Deputy | Steve Rees | AstraZeneca |
| Members | Kurt Ballmer-Hofer | University of Basel |
| | Nigel Bunnett | Columbia University |
| | Kathleen Caron | University of North Carolina, |
| | Evi Kostenis | University of Bonn |
| | Anne Ridley | Kings College London |
| | Jason Swedlow | University of Dundee |
| | Victor Tybulewicz | The Francis Crick Institute |

Patrick Vallance was unable to attend this meeting, so Steve Rees kindly acted as Chair. The meeting commenced with introductions to the Strategic Oversight Group (SOG) of COMPARE, which consists of PVCs and Heads of School/College for each University.

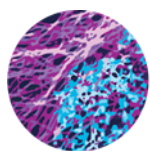
The role of the IAB for COMPARE is to provide scientific review and guidance from an objective perspective and also to provide advice to the COMPARE team and the SOG. As this was the first meeting, the Directors presented an overview of COMPARE to date, initial aims, progress in Year One and aspirations for the next two to five years.

Iain Styles, Co-Deputy Director gave a presentation on infrastructure and Jeanette Woolard, Co-Deputy Director presented on Team Science.

Many of the members of the IAB were able to stay for the first Annual Research Symposium the following day and Kathleen Caron and Nigel Bunnett made invaluable contributions as keynote speakers.

The IAB will forward a formal report towards the end of October which will be distributed to the Directors and the SOG and will form guidance for Year 2 and beyond for COMPARE.

We would like to thank all IAB members for their attendance and contributions.



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COMPARE Annual Research Symposium



The first COMPARE Annual Research Symposium took place on Friday 29th September 2017 at East Midlands Conference Centre, Nottingham. The Symposium hosted 109 delegates from across both Universities.

External speakers included; Nigel Bunnett, Colombia University, Kathleen Caron, University of North Carolina, Meri Canals, Monash University and COMPARE colleagues included Davide Calebiro, Neena Kalia, Marie-Blanche Onselaer, Rob Neely, David Hodson, Barrie Kellam and Laura Kilpatrick.

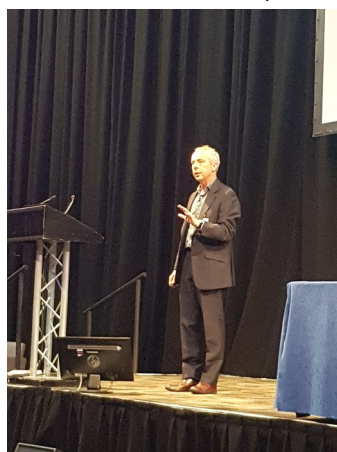
Abstracts and research posters were submitted and displayed by 39 COMPARE Post Docs and PhD Students.

A copy of the programme booklet can be requested from compare@birmingham-nottingham.ac.uk.

Feedback from delegates has been positive;

"the idea of COMPARE to bring together different fields and experts from structural biology to physiology studies is great."

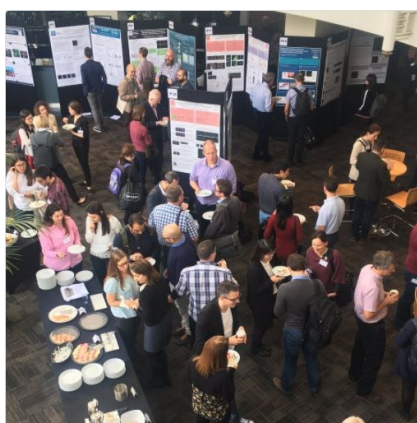
Nigel Bunnett,
Colombia University



"Great integration and interactions with colleagues across both Universities."

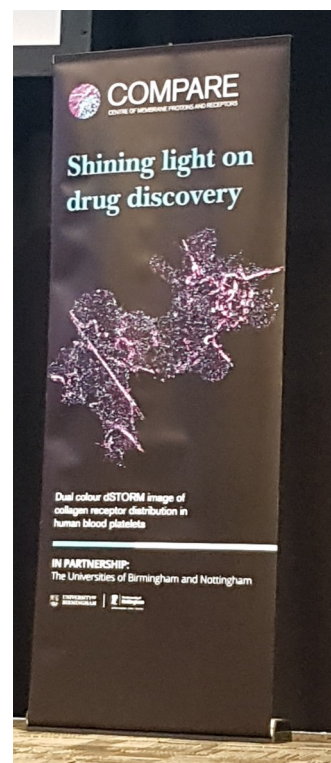
"Great exposure to research from different fields with impressive contributions from the speakers."

"Fantastic calibre of speakers and attendees, with a good breadth across the structural/single molecule level to pharmacology and in vivo physiology reflecting the COMPARE group well. Additionally specific talks on imaging and synthesising fluorescent ligands were well suited."



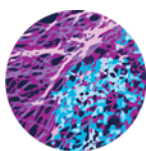
Lunch and Poster Discussions

"Seeing the breadth of research being undertaken at both institutions and the huge potential for collaborations between research groups under the COMPARE initiative. It was also very helpful to meet and discuss my work with University of Birmingham/other Nottingham researchers with shared interests."



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Report on visit to LNBio, Brazil

Visit (June 12-14th) by Prof Steve Hill and Prof Steve Watson (COMPARE) to LNBio (Campinas, Sao Paulo, Brazil).

In June, Steve Watson and I had a fantastic visit to the Brazilian National Biology Laboratory (LNBio) in Campinas, Brazil. This is where they are building the new Sirius 4th generation Synchrotron (National Light Source; LNLS) and the complex there is very similar to the Diamond Complex in the UK. This is the only synchrotron in Latin America and the facilities are absolutely world-class.

As a bit of background, I have known the LNBio director (Prof Kleber Franchini) for the last seven years during which time we set up the Nottingham-Brazil CAPES Drug Discovery programme involving Campinas (LNBio) and five other Centres in Brazil. During the first two years of this, Nottingham has hosted four scientists from LNBio. LNBio and LNLS are on the same site as the National Laboratory for Nanotechnology (LNNano) and the National Laboratory for Bioethanol Science and Technology (CTBE). Together they form the National Centre for Research in Energy and Materials (CNPEM).



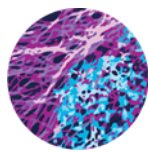
At the end of our visit Professor Franchini offered COMPARE the opportunity to establish a COMPARE Office with identified laboratory space within the LNBio complex. This is a fantastic opportunity and Kleber has valued this 'in-kind' contribution at BRL R\$5m (equivalent to £1m over five years). We anticipate that this will include two COMPARE postdoc positions in Campinas funded directly by LNBio. One of these will be Dr Danieli Goncalves who will return from my lab in Nottingham to Brazil next month and lead the COMPARE Laboratory at LNBio. Steve Watson and I had lunch with the Director General of CNPEM and the Directors of LNBio, LNLS and LNNano, at which Kleber got sign off for the offer he subsequently made.

We have also agreed to put together a Wellcome Trust (WT) Collaborative Grant application between Nottingham, Birmingham, LNBio and LNLS valued at £4M. The aim is to submit this by the end of 2017. The link involving Sirius will be enhanced by the recruitment to Nottingham of Dmitry Veprintsev and we hope to include him in the WT Collaborative application. A similar application may be made to FAPESP.

The offer from LNBio above assumes that we will be able to have the equivalent of 3-6 person months per annum time committed to the COMPARE laboratory in Brazil (i.e. COMPARE postdocs and PIs spending short periods of 2-3 weeks each adding up to a total of 3 to 6 person months per annum). This is also a potential opportunity for the two universities to put someone into the COMPARE office to support activities in Brazil (with the office infrastructure covered by the above).

A legal agreement is in preparation to formalise the arrangements.

Steve Hill



Major Publications

Latest publications with COMPARE links (May 2017—September 2017)

Kilpatrick LE, Friedman-Ohana R, Alcobia DC, Riching K, Peach CJ, Wheal AJ, Briddon SJ, Roberts MB, Zimmerman K, Machleidt T, Wood KV, Woolard J, Hill SJ (2017), Real-time analysis of the binding of fluorescent VEGF165a to VEGFR2 in living cells: Effect of receptor tyrosine kinase inhibitors and fate of internalized agonist-receptor complexes. *Biochem Pharmacol*, 136:62-75

Jones BJ, Scopolliti R, Tomas A, Bloom SR, Hodson DJ*, Broichhagen J*, (2017). Potent prearranged positive allosteric modulators of the glucagon-like peptide 1 receptor. *Chem Open*. *Corresponding authors.

Yusuf MZ, Raslan Z, Atkinson L, Aburima A, Thomas SG, Naseem KM, Calaminus SDJ, (2017) Prostacyclin reverses platelet stress fibre formation causing platelet aggregate instability. *Sci Rep*, 7:5582.

Botfield HF, Uldall MS, Westgate CSJ, Mitchell J, Hagen SM, Gonzalez A-M, Hodson DJ, Jensen RH, Sinclair AJ, (2017). A glucagon-like peptide-1 receptor agonist reduces intracranial pressure in a rat model of hydrocephalus. *Sci Transl Med*.

Cegla J, Jones BJ, Gardiner JV, Hodson DJ, Marjot T, McGlone ER, Tan TM, Bloom SR, (2017). RAMP2 influences glucagon receptor pharmacology via trafficking and signaling. *Endocrinology*.

Khan AO, Simms VA, Pike JA, Thomas SG, Morgan NV, (2017) CRISPR-Cas9 Mediated Labelling Allows for Single Molecule Imaging and Resolution, *Sci Rep* 7:8450.

Frank JA, Yushchenko DA, Fine NHF, Duca M, Citir M, Broichhagen J, Hodson, DJ*, Schultz C*, Trauner D* (2017), Optical control of GPR40 signalling in pancreatic β -cells. *Chem Sci*. *Corresponding authors.

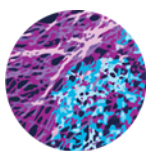
Godbole D, Lyga S, Lohse MJ, Calebiro D, (2017), Internalized TSH receptors en route to the TGN induce local Gs-protein signaling and gene transcription. *Nat Comm*. 8:443

Internalized TSH receptors en route to the TGN induce local Gs-protein signalling and gene transcription.

Godbole A, Lyga S, Lohse MJ, Calebiro D

A new paradigm of G-protein-coupled receptor (GPCR) signaling at intracellular sites has recently emerged, but the underlying mechanisms and functional consequences are insufficiently understood. Here, we show that upon internalization in thyroid cells, endogenous TSH receptors traffic retrogradely to the trans-Golgi network (TGN) and activate endogenous G_s -proteins in the retromer-coated compartment that brings them to the TGN. Receptor internalization is associated with a late cAMP/protein kinase A (PKA) response at the Golgi/TGN. Blocking receptor internalization, inhibiting PKA II/interfering with its Golgi/TGN localization, silencing retromer or disrupting Golgi/TGN organization all impair efficient TSH-dependent cAMP response element binding protein (CREB) phosphorylation. These results suggest that retrograde trafficking to the TGN induces local G_s -protein activation and cAMP/PKA signaling at a critical position near the nucleus, which appears required for efficient CREB phosphorylation and gene transcription. This provides a new mechanism to explain the functional consequences of GPCR signaling at intracellular sites and reveals a critical role for the TGN in GPCR signaling. Recent investigations suggest that G-protein-coupled receptors (GPCRs) can signal during intracellular trafficking. Here the authors use fluorescence microscopy approaches to directly visualize and investigate functional consequences of GPCR-mediated signaling at the Golgi/trans-Golgi network.

<https://www.nature.com/articles/s41467-017-00357-2>



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Shared IT space

Six workstations have been installed in Birmingham. Each has 128GB of RAM, high-performance graphics cards, and 10Gb to the research data store. A wide range of software for image and data analysis is installed. These are suitable for interactive analysis tasks and can be booked via Stratacore.

Two high-performance compute nodes on BlueBear have been secured via the CaStLeS (Computing and Storage for the Life Sciences) program. These have 128GB RAM and 20 CPU cores each and are best suited for compute-intensive non-interactive tasks. A large-memory compute node with 1TB RAM, 20 CPU cores and two nVidia P100 Tesla GPU accelerators has recently been installed for the most intensive tasks, and for machine learning. These can be accessed through the image analysis officer, Dr Jeremy Pike.

In Nottingham, the 10Gb network is now physically in place, and will be activated in stages once a network Storage Device has been installed. A range of analysis options ranging from desktop analysis machines to cloud based solutions are currently being trialled.

A number of possible methods for the transfer of data between Birmingham and Nottingham are currently under investigation. Please contact us if you have a specific need to do this so we can advise you of the options.

For more information, please contact Jeremy Pike (j.a.pike@bham.ac.uk) or Iain Styles (I.B.Styles@bham.ac.uk) in Birmingham, or Steve Briddon (Stephen.Briddon@nottingham.ac.uk) in Nottingham.

Team Science

Team Science Away Day

The Team Science Away Day took place on the 26th May 2017 at Nottingham Conference Centre. This event was attended by 44 PhD and Post-Doctoral researchers representing a wide range of the research groups within COMPARE.

The purpose of the day was to introduce the aims of COMPARE, the concept of TEAM SCIENCE and to allow the young researchers from the two Universities to get to know one another through short presentations on themselves, their key research questions and skills and through a team building exercise. The event was a great success with excellent feedback received.

A committee was formed consisting of 7 members representing both Universities and PhD students and Post-Docs (details below). This committee will decide the format of future events.

Team Science Committee

Leigh Stoddart Chair (Nottingham)

Joelle Goulding (Nottingham)

Mark Soave (Nottingham)

Carl White (Nottingham)

Dee Kavanagh (Birmingham)

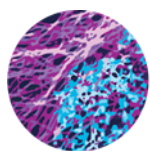
Abs Khan (Birmingham)

Victoria Simms (Birmingham)



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Team Science

Media Training by Media Women—15th November 2017, Birmingham Medical School. The course is open to all COMPARE Post Docs and PhD students. The day will involve workshops on presentation and communication skills, presentation practice, broadcast interview practice and feedback sessions. It has been highly recommended by Steve Watson and places are limited to 20. To reserve a place or to find out more information, please contact Sharmaine Afferion (s.afferion@bham.ac.uk).

Team Science Seminars

As part of COMPARE's Team Science Committee we have begun a seminar series between Birmingham and Nottingham with the intention of fostering collaboration and sharing skills. The seminar series will alternate between Birmingham and Nottingham, dates will be circulated and added to the website when they are confirmed.

Next Seminar

29th November 2017, 12:00-13:00, C1052 University of Nottingham Medical School. Dee Kavanagh and Chiara Pallini

Team Science Grants

Support for Conference Attendance

Applicants can apply for funds to support travel and registration at a conference. Applications will need to include details of how the conference fits into the scope of COMPARE and especially how it fulfils the Team Science objectives of fostering collaboration and career development.

Support for Visits to a Partner Laboratory (max £2,000)

Applications for up to £2,000 are invited to support cross University research projects or visits to learn new techniques and skills that are within the scope of COMPARE. The money can be used to cover travel, consumables and equipment costs occurred during the visit.

A post-award report and submission of abstract at the 2018 COMPARE Research Symposium, will be required from all successful applicants.

The next round of funding is NOW OPEN. The deadline for applications is **5pm, FRIDAY 15th DECEMBER 2017**.

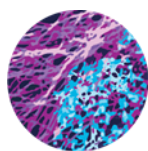
Results will be known by mid-January 2018.

Application forms can be downloaded at: <http://www.birmingham-nottingham.ac.uk/compare/news.aspx>

These must be returned by email to compare@birmingham-nottingham.ac.uk, by the application deadline to be considered.

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The Universities of Birmingham and Nottingham



Team Science Funding—Post Award Reports

Victoria Simms, University of Birmingham

European Platelet Summer School, 4th-6th September 2017

The European Platelet Summer School was held in Reading, it is a workshop and training meeting aimed at PhD students and postdoctoral researchers that are new to platelet biology. The Summer School schedule included lectures on the theory and practice of platelet biology, group discussion sessions, led by some of the top megakaryocyte and platelet researchers in Europe and interactive workshops on the topics of ex vivo thrombus formation under flow and microparticle tracking analysis methods, each of which were highly valuable for my research of studying the regulatory mechanisms of actin nodules in platelets under flow conditions using super resolution microscopy and computational analysis techniques.



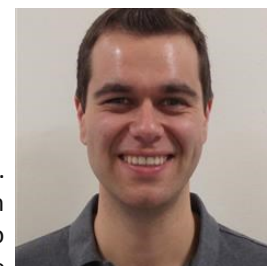
The Summer School provided excellent opportunities to discuss my research with leaders and researchers in the field, including Judith Cosemans from the University of Maastricht about *in vitro* flow models of platelet activation, and to make contact with PhD students and postdoctoral researchers from the following universities: University of Cambridge, University of Leeds, University of Hull and University of Pavia in Italy. All of these students and researchers were using microscopy techniques, and as my research focuses on using microscopy techniques to investigate the role and regulation of actin nodules in platelets, which is very much align to the goals of COMPARE, I was also able to promote COMPARE within the workshop sessions.

Over the three day Summer School I developed my knowledge of the platelet and megakaryocyte field and this enhancement of knowledge and understanding will help to take my own research to the next level. I also gained valuable experience of discussing and debating platelet biology topics with other researchers which is an important aspect of developing as a researcher.

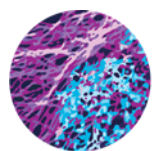
Mark Soave, University of Nottingham

7th Joint Italian-German Purine Club Meeting, 20th—22nd July 2017

The 7th joint Italian-German Purine club meeting was held in Rome this July and took place over three days. The research presented concentrated on the adenosine receptors, purine P2Y GPCRs, and purine P2X ion channel proteins. Talks and posters ranged from modelling the molecular dynamics of ligand binding to the translational application of adenosine A_{2A} antagonists in the treatment of Parkinson's disease. There were several talks and posters on the dimerization of adenosine receptors, as well as the application of FRET-based sensors to monitor receptor activation in real-time.



Attending the conference has resulted in discussions with group leaders and early-career researchers, including Prof Carsten Hoffmann, as well as his PhD student Nelly Rüttiger, Prof Geoffery Burnstock and PhD students and Postdocs studying P2X and P2Y receptors at the LMU Munich. I also discussed nanobodies with Carolina Pinto, a final year PhD student with Dr. Friedrich Koch-Nolte. The information gained from this discussion will be of great use to my research approach in the MRC programme. This has widened my personal career network, as well as introducing me to several techniques which should prove useful during my time within COMPARE.



Team Science Funding—Post Award Reports

Adam Lokman, University of Birmingham

ESC Congress 2017, 26th—30th August 2017

The European Society of Cardiology congress is an annual meeting which brings together scientist and clinicians in order to network and communicate findings and encourage cooperation. I attended the meeting to showcase recent findings in my own research and to gain insight into basic science that is focussed on cardiac ischaemia/reperfusion injury.



I was able to meet and exchange scientific knowledge with a number of speakers including; Prof Dirk Duncker who is a leading expert in coronary circulation, specifically the no-reflow phenomenon that occurs during ischaemia/reperfusion injury. He was able to provide a succinct yet valuable insight into the science behind this process. Prof Ignatios Ikonomidis is another expert in the field of ischaemia/reperfusion, focussing more on pre- and post-conditioning of the heart and its effects on myocardial infarction.

I presented my research during the poster sessions and it was interesting to discuss the pros and cons of working on different animal species under the same umbrella research and open up future possibilities of collaborations. I received valuable feedback with regards to the work that I presented at the conference. Part of this will be looking into understanding the mechanisms in our own research better, while other aspects of interest would be to extend our research to include more forms of characterisation of cardiac ischaemia/reperfusion injury.

Aaron Horsey, University of Nottingham

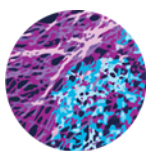
Transporters and Ion Channels in Drug Discovery & Preclinical Development, 6th—10th August 2017

I attended 'Transporters and Ion Channels in Drug Discovery and Preclinical Development' held in the Olympic Museum, Lausanne, Switzerland. The primary focus of the conference was on the clinical relevance and application of the most recent developments in transporter and channel research including the identification of inhibitors, de-orphanisation and basic pharmacological understanding.

Important contacts were made with key researchers including Prof Douglas Kell CBE (Manchester) and Prof Nieng Yan (Tsinghua) and discussions with other early career researchers, with whom some collaborative projects should be possible, along with contacts in industry ie, Bayer and Novartis. Attendance has widened my appreciation of the clinical relevance of my research area through communication with key researchers in the field and others with a diverse range of experiences.



Through feedback from other researchers about my project I have a number of new ideas for experiments and applications for the techniques I have already developed.



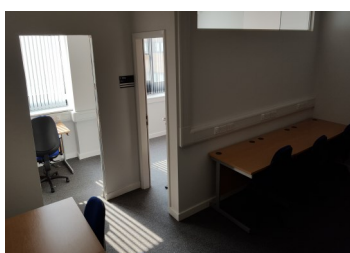
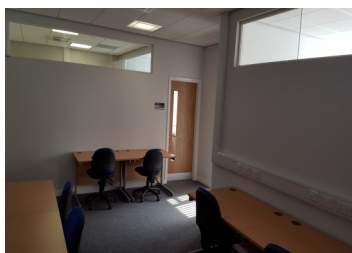
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Nottingham Refurbishment

The COMPARE labs (C100) in Nottingham have been completed and are being equipped as we go to print. The office space (C101) is for the COMPARE Chair and appointments as well as post-docs and visiting Birmingham staff.

There is a multipurpose open lab, tissue culture room and two purpose built microscope rooms.



COMPARE Telephone numbers

C100 Lab—0115 82 30679

C101 Main office—0115 82 30458

C101a Shared Office—0115 82 30467 and 0115 82 30468

C101b Dmitry Verprintsev—0115 82 30671

C101c Small office—0115 82 30675

Branding

Academic publications should conform to each paper's standard requirements but must acknowledge the funding source and equipment. Documents may need to be adjusted according to the nature of the document and individual organisations standard formatting. All publications must be uploaded to PURE in Birmingham.

The agreed form of words to be included into publications is:

"COMPARE University of Birmingham and University of Nottingham, Midlands" in addition to home University affiliation.

Parking

Nottingham— Please contact either Sally (sally.utton@nottingham.ac.uk) or Chris (christine.mcgrath@nottingham.ac.uk) prior to travel to arrange collection. Please provide the following information; date of visit, car registration and name of person/dept you are visiting.

Birmingham—Please contact either Sally or Sharmaine to request parking outside the Medical School Building in advance of a visit.

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