



Hi Everyone,

In Cambridge, on the 7th March 2019 the DMDG hosted the first early careers meeting : Hot topics in the lab. This review explains the format of the event and highlights the scientific topics discussed. We had 36 early career scientists attending and I'm really happy this included 17 oral and 12 poster presenters as everyone really embraced the chance to participate fully in the event!

The day began with an opening presentation given by the DMDG chairperson Dr Becky Scott. It was great to hear Becky discussing her career up till now in DMPK at GSK and looking forward to new technologies we can embrace in drug discovery!



'New *in vitro* techniques' was the first session of oral presentations and focussed on assays to understand non CYP-mediated metabolism - all the delegates now know the best assays to look at MATE's, SULT's, NAT's and UGT isoforms! In the second oral session, 'Cell culture in DMPK', the talks showcased a spectrum of cell types currently in use in DMPK including transfected-MDCK and HEK cells, co-cultured hepatocytes and primary renal cells. After lunch we moved away from *in vitro* studies to look at 'In vivo and LC/MS analysis'. Here we looked at approaches for metabolite identification approaches, bioanalysis and inhaled PK with lots of tips for common pitfalls to avoid! The final session considered the

measurement of specific and non specific compound binding before during and after studies. This session sparked lots of discussion after the talks and several of the attendees have joined a red device discussion group to continue further assay optimisation!

In between the mini sessions we had a great selection of posters too again covering a range of DMDG disciplines. Congratulations to Chloe Whitehouse who's poster : Blood-Brain Barrier "on-a-Chip" model for Testing Drug Permeability into the Brain was voted best poster by fellow delegates. I'd like to say a massive thank you to all the presenters, many of whom were giving their first presentation outside of their company, you all did a fantastic job!



In addition to giving their own presentation Alpesh Shah, Jenny Rankin, Mi-Young Lee and Vanessa Portman agreed to chair the 4 mini-sessions. Alpesh, Jenny and Vanessa have each written a short piece below to tell you about their experience of the day :

### **Alpesh Shah (Astex Therapeutics)**

The early careers meeting was a great success as it engaged attendees across all aspects of DMPK that we may not always consider/carry out ourselves. It was very interesting to hear about topics such as multivitamin transporter absorption assays through to cytosolic metabolism assays and I thought the range of talks were broad, especially for scientists new in the field. The networking aspect was very useful to discuss the presentations, talk with poster

presenters and discuss challenges we may face in the lab daily. As my first ever chair of a session, I enjoyed the opportunity and found it a good way to interact with the whole audience in addition to the speakers in my session. As my first time presenting to an external audience I felt the whole event was informal and relaxed, which helped the speakers and prompted questions from the audience to make it highly interactive. For future early careers events it would be nice to hear about topics such as PKPD relationships, modelling and biologics to further widen the scope.

### **Jenny Rankin (Charles River Laboratories)**

The Early Careers Event discussing Hot Topics in the Lab was a great event where DMPK scientists who are early in their careers, could present their work in a more relaxed environment. Being the first speaker of the day was daunting, but having time to chat with all of the attendees before the event kicked off made me much more relaxed. All talks presented were interesting and pitched at a level which allowed lots of open discussion. This made chairing the session in Cell Culture in DMPK easier than expected, with discussion surrounding why we use 21-day cultured Caco-2 and the use of antibiotic cycling. It was interesting to hear about the use of new modelling tools such as spheroids and HepatoPac, and the breadth of assays used between DMPK labs in determining PK properties. Having slides available afterwards was great to be able to carry discussions back to your own department. As well as the presentations, having frequent intermissions to look at the many posters meant that there was lots of new connections and interesting discussions. Overall, it was a great day where you got to meet like-minded scientists and being able to network over drinks afterwards was a bonus!

### **Vanessa Portman (Sygnature Discovery)**

The Early Career's meeting provided an opportunity for relatively new DMPK scientists, including myself, to witness the "hot topics" currently providing discussion in the DMPK field of drug discovery. I enjoyed the variety of the day; via a range of posters and oral presentations. As it was the first DMDG event I have attended, it was a good opportunity to gain an insight into the sort of events they organise and the way in which research topics are discussed.

Prior to the day, I was given the opportunity to chair one of the oral presentation sessions focussed on new *in vitro* techniques. The talks I chaired were Jenny Rankin's "MATEs – why they are important and how we predict DDIs", Rosie Rawlinson's methodology for "Reactive Metabolite Trapping" with a focus on the effect of pH on metabolic activity, Justine Badee's "Optimisation of an automated glucuronidation assay" and Heather Edwardson's development of an "Automated Cytosol Stability Assay". All presentations were between 15 and 20 minutes, including a relatively informal discussion of the latest science presented. Those who had fewer questions during the chaired sessions were able to talk to people afterwards because of the intermittent poster sessions. The day was well planned and everyone I had the chance to speak to said they had enjoyed the day and agreed it would be a good event to continue in future years.

I hope that this has given you an overview of the wide range of topics discussed which, in DMDG tradition, continued into the bar afterwards! Since hot topics I have handed over the role of the DMDG apprentice to Lilly Collins from Sygnature. Stay tuned for a second article from Lilly and I discussing the apprentice role moving forward!

Hugh Walton