

Report on IPPP Senior Experimental Fellowship,
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During 2016, I held a Senior Experimental Fellowship. As the main activity of this programme I organized a forward-looking workshop with the title, "Heavy Flavour Quo Vadis?" at the Ardbeg distillery on Islay from 11 -15 July 2016.

The main organisers were Alex Lenz from the IPPP, Roman Zwicky, Greig Cowan and myself. The workshop attracted many excellent flavour physicists, both from theory and experiment (LHCb, Belle and ATLAS). The topics of the workshop were CP violation and mixing, rare decays and searches for New Physics. Each speaker was given a brief with a set of questions that should be addressed. The format was 30' presentation followed by 15' for in depth discussions, which was often followed-up during coffee break. The workshop kicked off with introductory theoretical and experimental talks on the future of flavour physics by Thomas Mannel and Ulrik Egede, respectively. The CP violation session featured presentations from LHCb (Olivier Leroy, Mika Vesterinen and Marco Gersabeck), Belle (Bostjan Golob), phenomenology (Matthew Kirk) and Lattice theory (Matthew Wingate and Aida El-Khadra). Here recent results were reviewed and the prospects for ultimate precision were discussed. In the rare decay sessions, Kostas Petridis and Thomas Latham reviewed the experimental prospects in rare semi-leptonic and hadronic decays, the implication of the P5 anomaly was discussed by Matias Quim, Ulrich Nierste, Sebastian Jaeger, Alexander Khodjamirian and Alkhaba Data presented the theory prospects. In the new physics session, Gudrun Hiller and Martin Jung presented models of lepton flavor unitarity violation and Dario Buttazzo presented possible links between anomalies in the flavour sector the diphoton anomaly (which was about to disappear). Marcella Bona reviewed the New Physics sensitivities in the Unitarity triangle analyses. The talks are available on the workshop web page, see <http://events.ph.ed.ac.uk/heavyflavour2016>.

Feedback from the workshop has been excellent, with many participants asking when the workshop will happen next time. We are considering running a similar event in 2018. I would like to take this opportunity to thank the IPPP for the financial support of £10k that made this event possible. The funds were used to pay for the cost of all invited participants at Islay and for travel of local participants from Edinburgh and the IPPP Durham. The largest cost was £6.4k for accomodation for 32 participants for typically 4 nights, and we also paid £2.9k for all lunches and coffees, a reception and a dinner at the venue. Please note Ardbeg generously provided us with an excellent conference room in their visitor centre at no cost. The total expenditure of the fellowship, including preparatory work, was £12.7k. The remaining £2.7k was funded by a grant from Edinburgh University.

We concurrently ran the PP4SS exhibition at the Islay High School in Bowmore and Matjaz Vidmar, a PhD student from the University of Edinburgh, and I gave a talk to the general public. This event was also well attended. We also featured in the Ardbeg newsletter as Barrel Boffins.