High throughput screening of large chemical libraries is a proven way to identify novel chemical entities that target and modulate specific biological systems associated with disease. In order to have this technology available to biomedical researchers, the Australian Cancer Research Foundation (ACRF) Drug Discovery Centre for Childhood Cancer (DDC) was established at Children’s Cancer Institute Australia (CCIA) within the newly built Lowy Cancer Research Centre in Sydney, with financial assistance from ACRF and CCIA. This facility will assist in drug discovery and development by defining the complex genetics / targets underlying cancer, isolating chemical compounds that affect specific cellular activities, and developing potential therapeutics or biological tools to target cancer-associated pathways.

In addition to equipment for target identification and validation, and the development of novel diagnostic tests for childhood cancer, the DDC contains a state-of-the-art high throughput small molecule screening facility. The screening facility aims to provide services to wide range of medical researchers and will operate on a fee-for-service basis. The staff will provide expertise and assistance in scaling assays for high throughput and robotic screening, and conduct those screens. The main services include consultation, compound screening, high throughput experimentation, customized assay development and counter screens.

The DDC has established close associations with other Australian high throughput screening facilities including the High Throughput Chemical Screening (HTCS) Group based at the Walter & Eliza Hall Institute of Medical Research (WEHI) in Melbourne. Specifically, the DDC (and CCIA) and HTCS (WEHI) are joint owners of the WECC compound library stored and managed within the Queensland Compound Library. The WECC compound library is composed of 160,000 selected small molecules from a number of different chemical compound vendors. Filters developed at WEHI were applied to identify a subset of the WECC compounds, while the remaining small molecules were provided from CCIA and WEHI legacy compound libraries. Both sites plan to use the WECC library to identify small molecule hits and leads for drug development, as well as tools for better understanding disease biology.

The WECC library was officially solubilised and reformatted by QCL at the end of February 2010. Primary screening of the WECC library is to begin in Q2, 2010. For further information contact QCL for WEHI and CCIA’s contact details.
4th ComPOUND® store is here!

QCL has a new ComPOUND® tubestore being installed late March. This new store allows QCL to manage 400,000 microtubes.

Currently, the existing three ComPOUND® tubestores are holding ~255,000 tubes. We have an additional 60,000 tubes to introduce from foundation members in 2010 and having the fourth ComPOUND® ensures we can support these additions and smaller library submissions for the future.

2009 QCL Stats

QCL had a very productive 2009!

Griffith University, Alchemia and a portion of the WECC library were solubilised and introduced into the ComPOUND® stores. Mother plates were produced from the majority of the tube samples solubilised and stored in the Hamilton asmPlateStores™ for future replication and cherrypicking.

The CTX tube library was used to remake new plate libraries for their continuing screening needs. This is done routinely for this company each year.

QCL produced over 2000 daughter replications for CTX and Alchemia. Cherrypicking plates include samples from tube and plate libraries. We produced an increasing amount 3pt and 11pt response curves. These are used for retesting and reconfirmation purposes.

Our "Other" plates include screening control plates and manual plate cherrypicking (soon to be automated with our Agilent Bravo Automated Liquid Handling Platform arriving in May 2010).

Moana Out & About

Recently, I have been “Out & About” visiting with customers. This is a new but great addition to my job. In December 2009, I visited with Simon Saubern and Megan Kruger at CSIRO. CSIRO is submitting their diverse compound set into QCL in Q2. I got the chance to demo the new Proforma Builder tool, the in-house software produced by the QCL.

In February, 2010, I travelled to Townsville and dropped in on Jim Burnell and Bruce Bowden at James Cook University. JCU will be submitting ‘open’ compounds in early Q3. The following day, I visited with Phil Kearns out at AIMS. I think this would be one of the most picturesque locations in Queensland. I’m not sure how any of them get any work done up there! Their marine extract library will be available for screening in the later half of the year.

My next visit is with WEHI and I’m looking forward to a tour of the Bundoora facilities! These visits are an excellent way for QCL to enhance customer relations and for a one-on-one demonstration of our QCL Proforma Builder tool. David and I have plans to visit more locations during the year, however, should you wish to meet with us before then, don’t hesitate to contact David or myself to arrange this.
Rebecca’s story

Hi! My name is Rebecca and I am that “other girl” who answers the phones and looks after the equipment here at QCL. I thought this would be a good opportunity to let you all know a little something about me. My official role at QCL is as a technical assistant, and my job really is to help Moana run things here and do most of the hands-on, time-consuming jobs, so that Moana has more time to do her thing. But on top of that, being the baby of the group, I believe I also bring a new perspective, new ideas and a bubbly new personality to our little working environment, which I hope benefits not only us, but also our customers!

So a little bit about my background… I completed a Bachelor of Biomolecular Science in 2007 at Griffith University, after which I decided to get a job, and started working in the Discovery Biology Group of NPD, on a malarial screening campaign. It was here that not only was I introduced to the world of high-throughput screening but also to the wonderful world of laboratory automation (which I knew very little about)! In 2009, after 2 years working in Discovery Biology, I decided it was time for a change, and took the risk of leaving behind my biology and research science roots, and applied for my current position here at QCL, where I now get the opportunity to play with some very cool equipment. While I still have a lot more to learn, and part of me misses the research side of things, I am enjoying the learning curve thus far, and am looking forward to seeing where this experience takes me in the future.

New members

QCL welcomes the following Organisations and their groups to our compound family. They include Foundation members and New Members. Foundation Members are those organisations that supported the establishment of the Queensland Compound Library via the Qld Government’s Smart State Research Facility Funding scheme.

Foundation Members:

New Members:

Don’t forget about the Calendar

All members have access to the QCL Calendar via Gmail. Using the following URL http://www.google.com/gmail will bring up the login window (Contact Moana for the username/password).

This displays the current and tentative workload scheduled for QCL. Every organisation, currently a member of QCL, is shown by a different colour.

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If anyone wishes to contribute to the next newsletter, please contact Moana. Next issue scheduled September 2010.