



The Hub

What's on this month

MAY 2017

Event Calendar

Get involved! The below events are open to all Hub partners. [Click here](#) to find out more info and see what other events are coming up throughout the Hub!

M	Tues	Wed	Thurs	Fri	Sat	Su
01	02	03	04	05	06	07
	12 - 1pm The Westmead Infectious Diseases and Immunology Seminar Series (WIMR Seminar Room)	4 - 5pm Flow Cytometry User Group meeting (WIMR)	10 - 11am Westmead Hub Bioinformatics and 'Omics Seminar (WIMR Seminar Room/ video conference) 12:30 - 2pm Allied Health Research Forum - Multiple Sclerosis (Auburn Hospital, Conference Room 1)			
08	09	10	11	12	13	14
12 - 1pm CMRI Seminar: 10 years of collaborative investigations of cancer proteomics (CMRI Seminar Room)			12:30 - 1:30pm WSLHD Research & Education Network Thematic Research Seminar Series: Predicting response and resistance to immunotherapy (Westmead Hospital, Education Block, Lecture Theatre 3)	12:30 - 1:30pm CMRI Seminar: Bioinformatics unlocks the power of transcriptomes in cancer biology and single cell analysis (CMRI Seminar Room)		
15	16	17	18	19	20	21
11:30 - 12:30pm Lonza Technical Seminar - Free (CMRI Seminar Room)	11am StResS Wellness Week: meditation with Andrew Harman (WIMR Conf Room) 12 - 1pm The Westmead Infectious Diseases and Immunology Seminar Series (WIMR Seminar Room) 3 - 4pm Image Analysis & Microscopy Special Interest Group (CMRI Seminar Room)	12pm StResS Wellness Week: Student Picnic Lunch (Parramatta Park - meet outside WIMR)	12pm StResS Wellness Week: Yoga with Kirsten Steiner (CMRI Seminar Room) 12pm WIMR Seminar Series - Neuroinflammation Research Group (WIMR Seminar Room)	12:30 - 1:30pm CMRI Seminar: Dr. Joanne Dickinson, Topic TBD (CMRI Seminar Room)		
22	23	24	25	26	27	28
2:30 - 3:30pm Corning Technical Seminar, 2D VS 3D systems -Which is better? (CMRI Seminar Room)	12:30 - 1:30pm CMRI Seminar: Dr. Sara Sandin, Topic TBD (CMRI Seminar Room) 1:30pm SCHN Seminar: Ethics of Genome Editing & Mainstreaming Genomics (WIMR Conference Room 1 & 2)					
29	30	31	01	02	03	04
	12 - 1pm The Westmead Infectious Diseases and Immunology Seminar Series (WIMR Seminar Room)		12pm WIMR Seminar Series - Paediatrics and Child Health (WIMR Seminar Room)			

Core Facilities

Core Facilities available to all Hub members include Cell Imaging, Electron Microscopy, Flow Cytometry, Genomics, Proteomics, as well as Sydney Cell and Gene Therapy.

Focus: Biomedical Proteomics

Biomedical Proteomics at Children's Medical Research Institute (CMRI) is designed as a 'Research Hotel' and is located in a custom-built space on level 6, housing an instrumentation laboratory with eight mass spectrometry (MS) systems, as well as dedicated laboratories for sample preparation and data analysis. It enables basic research and drug development, while offering core proteomics expertise to the wider research community. The Facility operates on a "research-driven, staff-assisted" model, whereby a researcher is trained on appropriate equipment and supported by the CMRI Proteomics team while performing their study.



If you believe an MS-based proteomics approach is suitable for your research, please discuss with your Research Project Leader who can then discuss the project feasibility, funding, expected time frame and suitable candidates with the Facility Manager, Val Valova (vvalova@cmri.org.au).

All candidates require extensive training and should have a background in, or aptitude for understanding the chemistry and physics of MS-based proteomics. They should also have a relatively long-term appointment to see the project through.

For more information, please visit <http://www.westmead.org.au/core-facilities/core-facilities/proteomics>

How are Hub partners using this?

Dr. Eve Diefenbach is an Advanced Specialist in Proteomics who is responsible for all protein related mass



spectrometry at the Westmead Institute for Medical Research (WIMR), providing help to researchers

from the initial stages of planning through to practical training of sample preparation.

Following extensive training, Eve is able to take advantage of the Proteomics Facility next door at CMRI, working with the CMRI Proteomics team to complete projects of all sizes, from a variety of research groups at WIMR – including liver disease, obesity and diabetes, vision and virology.

Each Mass Spectrometer differs in sensitivity and precision, so is suitable for different research applications. Eve has been trained on the Sciex Triple TOF 5600 Plus, which she uses to identify proteins in complex samples and quantify the relative amount of proteins in multiple samples. Other key applications for Mass Spectrometers

include post-translational modification and metabolomics.

Interesting projects that Eve has used MS approaches for include exploring drug resistance in Leukaemia and how liver diseases like Hepatitis C affect the liver. Some of the biggest challenges in Eve's role arise when projects need to stop due to a lack of funding or when troubleshooting for the equipment she is working on takes longer than expected.

Each MS system is unique, meaning extensive, multi-week training (both from the CMRI Proteomics team and/or vendor) is required on the equipment best suited to the research application. The equipment is complex so significant vendor support is also required for ongoing maintenance.

If you think your project could benefit from the use of MS-based proteomics, please discuss with:

- WIMR: Eve Diefenbach (eve.diefenbach@sydney.edu.au)
- Other Institutes: speak to your project leader to then investigate feasibility with the Facility Manager – Val Valova (vvalova@cmri.org.au)

Other news

The WRH Student Open Day is on **Wed 9th August**. Look out for the project submission form from your post-graduate student coordinator.

For more information on the Westmead Research Hub, visit westmead.org.au