

## ***Westmead Research Hub Imaging Resources***

The imaging resources available to Postgraduate students include equipment, training and advice from specialist staff employed to look after the imaging resources on campus.

The equipment available for use by all Westmead Campus researchers is set out in the Westmead Hub Imaging Resources list available at:

[http://intranet.kids/ou/research/resources/imaging\\_-\\_microscopy/westmead\\_research\\_hub\\_imaging\\_resources.pdf](http://intranet.kids/ou/research/resources/imaging_-_microscopy/westmead_research_hub_imaging_resources.pdf)

This list may be updated periodically as new equipment becomes available.

Please contact the person in charge to gain the relevant access and training for each piece of equipment.

### **Kids Research Institute at the Children's Hospital at Westmead**

The Kids Research Institute (formerly known as the Research Building or Clinical Sciences) employs two imaging specialists to assist researchers with training and experimental approaches. Dr Laurence Cantrill (Advanced Microscopy and Imaging Specialist) (x53087; [laurenc@chw.edu.au](mailto:laurenc@chw.edu.au)) looks after brightfield, fluorescence, confocal and laser capture microdissection (LCM) microscopy, and Dr Marko Nykanen (John Douglas Research Fellow) (x53062; [markon@chw.edu.au](mailto:markon@chw.edu.au)) looks after electron microscopy.

### **Equipment located at the Kids Research Institute**

#### **Item: Confocal Microscope**

Location: Room 444873 Level 4 North Wing, Kids Research Institute (CHW)

Contact: Laurence Cantrill (53087; [laurenc@chw.edu.au](mailto:laurenc@chw.edu.au))

Description: Leica TCS SP2 confocal microscope with an upright and inverted microscope (which also has live cell imaging capability, with heated CO2 chamber). Blue argon, and green and red helium-neon lasers. Information available online at

[http://www.chw.edu.au/research/hub/microscopy/equip\\_info.htm#confocal](http://www.chw.edu.au/research/hub/microscopy/equip_info.htm#confocal)

#### **Item: Digital Camera and Imaging Software**

Location: Room 444873 Level 4 Kids Research Institute (CHW)

Contact: Laurence Cantrill (53087; [laurenc@chw.edu.au](mailto:laurenc@chw.edu.au)) Description: SPOT Camera attached to Leica DMIRBE inverted fluorescent microscope. Shuttered fluorescent and bright field sources allow time lapse imaging of either illumination. Image Pro 5 imaging software.

#### **Item: Fluorescent Microscopes (x2)**

Location: Room 434876 Level 3 North Wing, Kids Research Institute (CHW)

Contact: Laurence Cantrill (53087; [laurenc@chw.edu.au](mailto:laurenc@chw.edu.au)) Description: Olympus BX50 with Jenoptik digital camera and ProgRes V2.6 image capture software & Leica DMLA with QiCam camera and Q Capture image capture software. Information available online at:

[http://www.chw.edu.au/research/hub/microscopy/equip\\_info.htm#optical](http://www.chw.edu.au/research/hub/microscopy/equip_info.htm#optical)

**Item: Dissecting Microscope**

Location: Room 434876 Level 3 North Wing, Kids Research Institute (CHW)

Contact: Laurence Cantrill (53087; [laurencc@chw.edu.au](mailto:laurencc@chw.edu.au))

Description: Leica MZ8 Dissecting Microscope with Leica Schott KL1500 cold light source, DC500 camera and Image Manager (IM50) image capture software.

**Item: Inverted Fluorescent TC Microscope/Digital Camera**

Location: Level 3 South Wing, Kids Research Institute (CHW)

Contact: Laurence Cantrill (53087; [laurencc@chw.edu.au](mailto:laurencc@chw.edu.au))

Description: DP12 Olympus digital camera attached to an inverted light microscope (with phase and fluorescence- blue and green excitation filters).

**Item: Inverted Light TC Microscope/ Digital Camera**

Location: TC Room 1 Level 3 North Wing, Kids Research Institute (CHW)

Contact: Laurence Cantrill (53087; [laurencc@chw.edu.au](mailto:laurencc@chw.edu.au))

Description: DP12 Olympus digital camera attached to an inverted light microscope (with phase).

**Item: PALM Laser Capture Microdissection system**

Location: Room 434871 Level 3 North Wing, Kids Research Institute (CHW)

Contact: Laurence Cantrill (53087; [laurencc@chw.edu.au](mailto:laurencc@chw.edu.au))

Description: PALM Robot-MicroBeam Research system - broad range of applications including single cell DNA and mRNA analysis and separation of single cells from cultures. Information available online at:

[http://www.chw.edu.au/research/hub/microscopy/equip\\_info.htm#laser](http://www.chw.edu.au/research/hub/microscopy/equip_info.htm#laser)

**Item: Motorised Inverted Fluorescent Microscope for in vivo imaging.**

Location: Room 444874 Level 4 North Wing, Kids Research Institute (CHW)

Contact: Geraldine O'Neill (53116; [geraldio@chw.edu.au](mailto:geraldio@chw.edu.au))

Description: Olympus IX81 motorised inverted fluorescent microscope with motorised stage and Metamorph image collection and analysis software. Hamamatsu Photonics Cooled CCD camera. Blue/Green/Red/Far Red filter sets, fully enclosed chamber, heating and CO<sub>2</sub>

**Item: Aperio CS Virtual Microscopy Suite**

Location: Room 444874 Level 4 North Wing, Kids Research Institute (CHW)

Contact: Daniel Catchpoole (51205; [DanielC@chw.edu.au](mailto:DanielC@chw.edu.au))

Description: Automated slide imager with capture and storage software

**Item: Beta counter and x-ray processor**

Location: Level 3 corridor North Wing, Kids Research Institute (CHW)

Contact: Matt Laver (53091; [matthel1@chw.edu.au](mailto:matthel1@chw.edu.au))

Description: Radiation assays + auto radiography

## Westmead Hospital

### Transmission Electron Microscope Laboratory

Located at ICPMR / WMI, this is a core facility of the Westmead Research Hub.

The laboratory is well equipped for conventional (resin) and low temperature techniques, the latter including cryo-fixation, cryo-sectioning and freeze substitution.

Both morphological and immunolabelling investigations are routinely undertaken.

**Item: 200kV Transmission Electron Microscope**

Location: Electron Microscope Laboratory (ICPMR)

Contact: Ross Boadle (Senior Scientist)(x57783)

Description: FEI Tecnai G2 20 TWIN + Eagle 2Kx2K digital camera

**Item: 120kV Transmission Electron Microscope**

Location: Electron Microscope Laboratory (ICPMR)

Contact: Ross Boadle (Senior Scientist)(x57783)

Description: Philips CM120 BioTWIN + STEM + SIS Morada digital camera

**Item: 100kV Transmission Electron Microscope**

Location: Electron Microscope Laboratory (ICPMR)

Contact: Ross Boadle (Senior Scientist)(x57783)

Description: Philips CM10 (film camera only)

### Other Items

**Item: Scanning Electron Microscope**

Location: Institute of Dental Research Level 2 (Westmead Dental School)

Contact: Mara Cvejic (57412)

Description: Jeol 840

**Item: Confocal Microscope**

Location: Room 4.2288 Level 4. Centre for Oral Health (Westmead Hospital)

Contact: Professor Neil Hunter (58762), Derrick Dehati (58772), Sheryl Chapel (58770)

Description: Optiscan Confocal with an Argon Laser

**Item: Video/VCR Microscope**

Location: Anatomical Pathology (Westmead Hospital)

Contact: Bill Sinai (57774)

Description: Video attached to microscope, record to VCR. No PC capture card.

**Item: Image Analyser**

Location: Lab 2155 Clinical Sciences Area (Westmead Hospital)

Contact: Wayne Hawthorne (57365; wayneh@med.usyd.edu.au)

Description: Optimas system (version 6.5.1) Computer image analysis system, uses a light box to image directly to a digital camera

**Item: Olympus BX60 Fluorescence Microscope and Spot camera**

Location: Lab 2154 Clinical Sciences Area (Westmead Hospital)

Contact: Hong Yu (59515; hong\_yu@wmi.usyd.edu.au)

Description: Olympus BX60 with newly upgraded phase contrast condenser; DAPI/FITC/TexasRed filter sets, awaiting computer replacement

### **Westmead Millennium Institute**

**Item: Olympus FV 1000 confocal laser scanning microscope.**

Location: Room 3048 Level 3 WMI Building

Contact: Hong Yu (59515; hong\_yu@wmi.usyd.edu.au)

Description: Olympus IX-81 ZDC microscope with motorised stage, live cell imaging heated chamber and CO<sub>2</sub>, Lasers: 405nm, 473nm, 559nm, 633nm. Olympus FV10-ASW 1.7a capture software.

**Item: Imaging analysis PC.**

Location: Room 3048 Level 3 WMI Building

Contact: Hong Yu (59515; hong\_yu@wmi.usyd.edu.au)

Description: Olympus FV10-ASW 1.7a analysis software.

**Item: Live cell Imaging Microscope.**

Location: Room 2019 Level 2 WMI Building

Contact: Hong Yu (59515; hong\_yu@wmi.usyd.edu.au)

Description: Zeiss AxioVert 200M motorised microscope with motorised stage, fully-enclosed incubator with CO<sub>2</sub> supply and temperature controller, Zeiss AxioCam HRM digital camera, Zeiss AxioVision capture software. Blue/Green/Red/Far Red filter sets.

**Item: SPOT Microscope System**

Location: Room 3014 Level 3 (WMI)

Contact: Hong Yu (59515; hong\_yu@wmi.usyd.edu.au) Description: Upright fluorescent Leica microscope with Spot digital camera and Spot software. UV, FITC, Texas Red filters.

**Item: Inverted Leica fluorescence microscope**

Location: Room 3014 Level 3 (WMI)

Contact: Hong Yu (59515; hong\_yu@wmi.usyd.edu.au) Description: inverted fluorescent Leica microscope with Leica digital camera and LAS software. UV, FITC, Texas Red, YFP filters.

**Item: Victor Plate Reader**

Location: Room 2032 Level 2 (WMI)

Contact: Hong Yu (59515; hong\_yu@wmi.usyd.edu.au)

Description: A Wallac Victor 2 (1420) multi label counter. It has 7 filters for absorbance, and fluorescence filters.

**Item: Zeiss Elispot microscope**

Location: Room 2032 Level 2 (WMI)

Contact: Hong Yu (59515; hong\_yu@wmi.usyd.edu.au)

Description: Axioplan2 microscope for elispot counting. Equipped with HV-C20A HITACHI 3CCD camera, motorised stage, only one 5X objective. Fluorescence is not available. Counting software: KE elispot.

**Item: Kodak Imaging Station 4000MM**

Location: Room 2032 Level 2 (WMI)

Contact: Hong Yu (59515; [hong\\_yu@wmi.usyd.edu.au](mailto:hong_yu@wmi.usyd.edu.au))

Description: Multi-wavelength illumination system allows fluorescence and bright field imaging. 10x optical zoom digital camera. Excitation filters: 465nm, 535nm; Emission filter: 535nm,600nm.

**Item: Microarray Scanner**

Location: Gene expression lab Room 3004 Level 3 (WMI)

Contact: Ilya Henner (59000)

Description: The GenePix 4000B microarray scanner is a dual-wavelength laser scanner that produces high resolution images used in the acquisition of expression data from DNA microarrays, protein microarrays, tissue arrays and cell arrays.

**Item: Flow Cytometer FACSCALIBUR**

Location: Flow room Level 2, Rm 2013 (WMI)

Contact: Mary Sartor (56257 or 56275; [Mary@icpmr.wsahs.nsw.gov.au](mailto:Mary@icpmr.wsahs.nsw.gov.au)), or Sanda Lum (59050; [sanda\\_lum@wmi.usyd.edu.au](mailto:sanda_lum@wmi.usyd.edu.au))

Description: 4 colour acquisition FACSCALIBUR Benchtop flow cytometer. 488nm and 633 nm lasers. Bookings required (2 hour limit per user). Bench top flow cytometer

**Item: Flow Cytometer FACSCAN**

Location: ICPMR, Rm 2071

Contact: Mary Sartor (56257 or 56275; [Mary@icpmr.wsahs.nsw.gov.au](mailto:Mary@icpmr.wsahs.nsw.gov.au)), or Sanda Lum (59050; [sanda\\_lum@wmi.usyd.edu.au](mailto:sanda_lum@wmi.usyd.edu.au))

Description: 3 colour acquisition FACSCAN. 488nm laser. Bench top flow cytometer. Bookings are required

**Item: FACSDIVA cell sorter**

Location: WMI flow room 2013

Contact: Mary Sartor (56257 or 56275; [Mary@icpmr.wsahs.nsw.gov.au](mailto:Mary@icpmr.wsahs.nsw.gov.au)), or Sanda Lum (59050; [sanda\\_lum@wmi.usyd.edu.au](mailto:sanda_lum@wmi.usyd.edu.au))

Description: 488nm and 635nm HeNe laser. The sorter is now FACSDIVA capable of high speed cell sorting and can acquire six colours. The facility is also PC2 compliant.

**CELLQuest Workstation Locations:**

WMI: Flow Room 2013 and Level 3- Rooms 3014 and 3013.

ICPMR: Flow Room 2071 and ICPMR: Renal dept

Children's Hospital: Research Building-Level 3 Microscopy Room, Rm 434876

**Children's Medical Research Institute (CMRI)**

(Telephone: 96872800)

**Item: FacsCanto Becton Dickinson**

Location: CMRI

Contact: Christine Smyth (9687 2800)

Description: An ion laser and 633nm diode laser; Diva Software.

**Item: Beta-Plate Counter**

Location: Room F26 (CMRI)

Contact: Greg Craig ([GCraig@cmri.usyd.edu.au](mailto:GCraig@cmri.usyd.edu.au)), Doreen Molasky, Grant Logan.

Description: For counting Beta Radiation in a 96 well plate format.

**Item: Storm System**

Location: Room F27A (CMRI)

Contact: Greg Craig ([GCraig@cmri.usyd.edu.au](mailto:GCraig@cmri.usyd.edu.au)), Doreen Molasky.

Description: For quantitation of autoradiographs utilizing phosphor imaging screens and storm scanner.

**Item: Fluorescent Spectrophometer**

Location: Room G 26 (CMRI)

Contact: Greg Craig ([GCraig@cmri.usyd.edu.au](mailto:GCraig@cmri.usyd.edu.au)), Doreen Molasky. Description: For the analysis/quantitation of fluorescently active samples.

**Item: UV/Vis Spectrophometer**

Location: Room F27A (CMRI)

Contact: Greg Craig ([GCraig@cmri.usyd.edu.au](mailto:GCraig@cmri.usyd.edu.au)), Doreen Molasky (Lab Manager)

Description: For the analysis/quantitation of UV/Vis active samples.

**Item: Inverted Fluorescent Microscope**

Location: Room G25 (CMRI)

Contact: Christine Smyth ([csmyth@cmri.usyd.edu.au](mailto:csmyth@cmri.usyd.edu.au)), Axel Neumann ([aneumann@cmri.usyd.edu.au](mailto:aneumann@cmri.usyd.edu.au))

Description: Leica fluorescent microscope with Blue, Green and DAPI excitation filters. Spot b/w digital camera.

**Item: Upright Fluorescent Microscope**

Location: Room F75 (CMRI)

Contact: Christine Smyth ([csmyth@cmri.usyd.edu.au](mailto:csmyth@cmri.usyd.edu.au)), Axel Neumann ([aneumann@cmri.usyd.edu.au](mailto:aneumann@cmri.usyd.edu.au))

Description: Leica fluorescent microscope with Blue, Green and DAPI excitation filters. Spot colour digital camera.

**Item: Upright Fluorescent Microscope**

Location: Room F75 (CMRI)

Contact: Christine Smyth ([csmyth@cmri.usyd.edu.au](mailto:csmyth@cmri.usyd.edu.au)), Axel Neumann ([aneumann@cmri.usyd.edu.au](mailto:aneumann@cmri.usyd.edu.au))

Description: Olympus BX51 fluorescent microscope with Blue, Green and DAPI excitation filters. Spot b/w digital camera.

Item: **Motorised Inverted Fluorescent Microscope for in vivo imaging.**

Location: Room G27 (CMRI)

Contact: Andrew McGeachie ([amcgeachie@cmri.com.au](mailto:amcgeachie@cmri.com.au))

Description: Olympus IX81 motorised inverted fluorescent microscope with motorised stage and image collection and analysis software. Hamamatsu Photonics Cooled CCD camera. Blue and Green filter sets.

Item: **InCell Scanner.**

Location: Room G27 (CMRI)

Contact: Andrew McGeachie ([amcgeachie@cmri.com.au](mailto:amcgeachie@cmri.com.au))