

WATLab USER SERVICE

All regular WATLab users are strongly encouraged to take the appropriate training to become an Academic Certified Users (**ACU**). Once certified, the ACU will be given machine booking privileges. Certification normally involves 3-5 sessions (1-2 hours each) of hands-on training by an on-duty specialist, to be charged at the AOU rate, during which the user will convince WATLab that he/she has acquired the necessary knowledge and the caring attitude to operate the machine safely and properly. Any ACU who has not been using the machine for more than 6 months must be recertified.

WATLab also provides operator-assisted services to academic users (Academic Operator-assisted Users or **AOU**) and to industrial users (**IU**), to have their samples analyzed by an experienced specialist. Detailed consultation about sample handling and measurement with the on-duty specialist is required. Normally, the AOU or IU is encouraged to be present during the session to ensure the proper choice of sampling features. Depending on the availability of the specialist and the machine booking, the nominal turnaround time is 5-10 working days.

WATLab USER FEES – Effective July 1, 2009	ACU*	AOU*	IU
MICROSCOPY			
Field-emission Scanning Electron Microscopy with EDX/OIM & EBL – LEO-FESEM 1530, with EDX Pegasus 1200 integrated EDX/OIM, and Raith/Nabity electron beam writer	\$40/h	\$70/h	\$160/h
SEM Consumables – Box of 12 stubs SEM Training Session – \$100/group	\$50/box	\$50/box	\$50/box
DC Magnetron Sputterer for Au or C coating – Denton Desk II	\$20/coat	\$20/coat	\$20/coat
Atomic Force Microscopy – Pacific Nanotech Nano-R SPM	\$20/use plus tip cost	\$50/h plus tip cost	\$80/h plus tip cost
AFM Consumables – AFM tips	\$50/tip	\$50/tip	\$50/tip
Scanning Probe Microscopy – DI Dimension 3100-Nanoscope IV, with SSRM, TUNA & Nanoman setups	N/A	\$50/h plus tip cost	\$100/h plus tip cost
SPM Consumables – SPM tips		\$50/tip	\$50/tip
High-resolution 4-circle X-ray Diffractometry – PANalytical MRD X'pert Pro	N/A	\$70/sample (2 h max)	\$100/sample
SPECTROMICROSCOPY & SPECTROSCOPY			
Imaging ESCA / X-ray Photoelectron Spectroscopy – Thermal VG Scientific ESCALab-250 [Add 10% for charge compensation]	N/A	\$70/h	\$250/h
UV/Vis Spectroscopy – Perkin-Elmer Lambda 35 with deuterium and tungsten-halogen lamps, plus Labsphere integrating sphere optics for reflectance measurement of thin films	\$20/h	\$50/h	\$80/h
Photoluminescence Spectroscopy – Perkin-Elmer LS 55 with Xenon lamp	\$20/h	\$50/h	\$80/h
Fourier Transform Infrared Spectroscopy – Bruker Tensor 27, with ATR and AGA specular reflectance setup for thin-film analysis	\$20/h	\$50/h	\$80/h
Raman Spectroscopy/Microscopy – Bruker Senterra Dispersive Raman Microscope, with 532 nm & 785 nm lasers	\$20/h	\$50/h	\$80/h
FABRICATION			
Electrochemical Synthesis – CHI 660A Potentio/galvanostat & CHI 440 Quartz Crystal Microbalance	\$20/h (1 h min)	\$50/h	\$80/h
Thermal Evaporation Synthesis – CVD with tube oven (up to 900°C) with flow control of selected non-corrosive gases only	N/A	\$20/use plus tubing cost	\$60/use plus tubing cost
HELP DESK – for assistance with data processing, materials characterization or research problems provided by a WATLab specialist	Free (1 h max)	\$30/h	\$50/h

*NOTE: To try to help heavy users but prevent system abuse, WATLab will reduce by half the nominal academic user fees once the total reaches \$4,000 (excluding the consumable, training and OS charges) for each six-month billing period.