

**LABORATORY FOR ELECTRONIC MATERIALS & DEVICES
SCHEDULE OF INTERNAL USER FEES FOR FY 2016-2017**

	INSTRUMENT / BRAND / MODEL	INITIATION FEES	ANNUAL FEES	Internal Hourly Rates FY16				
				unassisted	assisted	cost of materials		
Optical Spectroscopies	UV-vis-NIR spectrometer	Shimadzu UV-3600	1-hr assisted use (training)		\$ 10.00	\$ 15.00		
	PL spectrometer	Photon Technology Ins.	1-hr assisted use (training)		\$ 10.00	\$ 15.00		
Ultraviolet Photoelectron Spectroscopy	UPS Instrument	OMICRON ESCA+S UPS	\$540/user (includes 3 x 3hr training sessions)		\$ 40.00	\$ 60.00		
	Supplied substrates for sample fabrication	ITO		\$200/user ^{*,§}			* All standard materials for sample fabrication are free of charge (excluding Au and Ag for evaporation)	
		PEDOT:PSS/ITO						
		Au/Si						
		Ag/Si						
Cu/Si								
Electronic Device Fabrication & Characterization Line	Spin-coater in GB	SCS G3P-8	1-hr assisted use (training)		\$ 5.00	\$ 7.50		
	Thermal Evaporator in GB	MBraun 2-source	3-hr assisted use (training)		\$ 15.00	\$ 22.50		
	Supplied materials for thermal evaporation	Boats						Free of charge
		Au						\$50/pellet (50 nm)
		Ag						\$5/pellet (50 nm)
		Al, Ca, LiF, MoO ₃ , Cu						Free of charge
	IV station (includes solar simulator) in GB	Keithley 2400 / SS 91160	1-hr assisted use (training)		\$ 15.00	\$ 22.50		
	QE/IPCE Instrument	Oriel QE-PV-SI Kit	1-hr assisted use (training)		\$ 10.00	\$ 15.00		
	Supplied materials for device fabrication	Shadow masks			\$1,000/user ^Σ			Free of charge
		ITO substrates						\$3/pc.
		PEDOT:PSS						Free of charge
Common org. solvents							Free of charge	
Vials							Free of charge	
Syringes/Needles							Free of charge	
Pipets/Tips							Free of charge	
Cotton/polyester gloves							Free of charge	
PVDF & PTFE filters						Free of charge		
Electrochemical Characterization	Cyclic voltammetry (CV)	BASi, Epsilon Basic w/C3	1-hr assisted use (training)		\$ 10.00	\$ 15.00		
	Supplied materials	Pt electrodes					\$350	
		Ferrocene reference						Free of charge
Electrical Characterization	Time-Of-Flight Instr.	Custom-made	3-hr assisted use (training)		\$ 30.00	\$ 60.00		
	Impedance meter	Agilent 4293A	2-hr assisted use (training)		\$ 15.00	\$ 30.00		
	IV with Solar Simulator	Keithley/Oriel SOL2A	1-hr assisted use (training)		\$ 15.00	\$ 22.50		

§ Includes access to: (1) ultrasonic cleaner and organic solvents, (2) oven, (3) UV-Ozone cleaner, (4) Spin-coaters for aqueous solutions outside and organic solvents in GB, (5) hot plates; metal evaporation is charged at regular thermal evaporator rates

Σ Includes access to: (1) N2 storage cabinet and glove box, (2) ultrasonic cleaner with organic solvents, (3) oven, (4) UV-Ozone cleaner, (5) spin-coater for aqueous solutions, (6) balances, (7) hot plates, (8) multimeters, (9) surface profiler; metal evaporation is charged at regular thermal evaporator rates

Signature

Date