

University of Pittsburgh
Petersen Institute of NanoScience and Engineering
NFCF User Fees – Commercial Rates

FY2016		Commercial Users	
Equipment / Facility	Rate		
	\$	per	
CHARACTERIZATION			
Transmission Electron Microscope (TEM)	\$110.00	hour	
<i>JEOL - JEM-2100F (room SB62A)</i>			
Environmental Transmission Electron Microscope (ETEM)	\$110.00	hour	
<i>HITACHI 9500 (room SB12)</i>			
Characterization (SB 60)			
Ellipsometer	\$40.00	hour	
<i>Horiba Jobin Yvon - UVISEL</i>			
Electron Probe MicroAnalyzer (EPMA)	\$150.00	hour	
<i>JEOL - JXA-8530F</i>			
Fourier Transform Infrared spectroscopy (FT-IR)	\$50.00	hour	
<i>Bruker - Vertex 70LS FT-IR & Hyperion FT-IR Microscope</i>			
use of Vertex with available ATR, Seagull, Polymer Stretcher or Liquid Cell module	\$70.00	hour	
use of Hyperion with available ATR or Grazing angle lens	\$70.00	hour	
Microspectrophotometer	\$50.00	hour	
<i>CRAIC Technologies - QDI 2010</i>			
Scanning Electron Microscope (SEM)	\$60.00	hour	
<i>JEOL JSM-6510LV/LGS</i>			
Scanning Probe Microscopes (SPM)	\$60.00	hour	
<i>Veeco - (Di)Dimension V & (Di)MultiMode V</i>			
use with available SCM, SSRM & TUNA module	\$70.00	hour	
X-Ray Diffractometer (XRD)	\$60.00	hour	
<i>Bruker - D8 DISCOVER</i>			
use with available High Res, Hot Stage or GADDS module	\$100.00	hour	
General Purpose / Sample Prep Hood	\$30.00	hour	
<i>Reynolds Tech - UL/FM 4910 CPVC</i>			
Sample Prep Bench	\$30.00	hour	
for preparation of samples for analysis in characterization facility			
Spectroscopy (SB 60A)			
Raman Microscope	\$60.00	hour	
<i>Renishaw - inVia</i>			
Other			
Staff Time	\$100.00	hour	

FABRICATION / CLEANROOM		
Cleanroom / Fabrication Facility Entry	\$30.00	day
1 entry / day charged		
Etching / Cleaning		
Plasma Cleaner	\$40.00	hour
<i>South Bay Technologies - "PC 2000"</i>		
Reactive Ion Etcher (RIE)	\$80.00	hour
<i>Trion Technology - "Phantom III LT"</i>		
Acid Hood	\$30.00	hour
<i>Reynolds Tech - UL/FM 4910 CPVC</i>		
Caustic Hood	\$30.00	hour
<i>Reynolds Tech - UL/FM 4910 CPVC</i>		
Deposition		
Vacuum Evaporator	\$50.00	hour
<i>Thermionics Vacuum Products - "VE-180"</i>		
<i>Surcharge applied equal to current price for actual amount used of: Au, Pd & Pt</i>	current	gm.
Hybrid Sputter/Evaporation System	\$120.00	hour
<i>AJAsystem</i>		
Plasma Enhanced Chemical Vapor Deposition (PECVD)	\$60.00	hour
<i>Trion Technology - "Orion III"</i>		
Lithography		
Lithography Hood w/ Spin Processor	\$40.00	hour
<i>Reynolds Tech - SS Hood & Laurell - WS-400B-6NPP-Lite Spinner</i>		
Mask Aligner	\$60.00	hour
<i>Quintel - "Q4000-4"</i>		
Mask Aligner	\$60.00	hour
<i>Karl Suss - "MJB3"</i>		
Dual Beam (FIB/SEM)	\$110.00	hour
<i>Seiko - "SMI3050 SE"</i>		
Electron Beam Lithography System (EBL)	\$100.00	hour
<i>Raith - "E-Line"</i>		
Inspection - Testing		
Optical Microscope	n/c	n/c
<i>Zeiss - "Axio Imager M1.m"</i>		
<i>Digital Camera & Computer for image recording</i>	\$50.00	day
Surface Profiler	\$50.00	hour
<i>KLA Tencor - "Alpha-Step-IQ"</i>		
Other		
Staff Time	\$100.00	hour

Assisted work, Service work & Training is charged at the instrument rate + the staff time.
Training time charged at full hourly rate for instrument + staff hourly rate / all persons in training.
All expendables used during training or assisted use will be charged to trainees / users.