

ICFAR Charge Out Rates for Processing and Analytical Equipment, September 2018*

List of Processing and Analytical Equipment in Dr. Charles Xu's Lab				
	Equipment Names	University Rate (per sample)		External Rate (per sample)
		Self-Operated	Staff-Operated	Staff-Operated
1	Large autoclave reactor, 16L	\$150.00	\$300.00	\$500.00
2	Small autoclave HTL reactors (3 units, 75-100mL)	\$80.00	\$100.00	\$150.00
3	Bio-oil Hydrotreatment Semi-Batch Reactor, 500 mL	\$100.00	\$150.00	\$200.00
4	Continuous Flow HTL Reactor, 6kg/h	\$150.00	\$300.00	\$500.00
5	Continuous Flow SCWG Reactor	\$100.00	\$150.00	\$200.00
6	Fluidized Bed Biomass Gasification Reactor	\$150.00	\$300.00	\$500.00
7	Environmental Chamber (per day)	\$10.00	\$15.00	\$20.00
8	Catalyst Preparation Reactor System	\$50.00	\$70.00	\$100.00
9	GC-MS/FID**	\$50.00	\$80.00	\$130.00
10	GPC**	\$45.00	\$65.00	\$120.00
11	HPLC**	\$65.00	\$80.00	\$130.00
12	DSC**	\$45.00	\$60.00	\$100.00
13	TGA**	\$70.00	\$85.00	\$130.00
14	FTIR**	\$30.00	\$40.00	\$60.00
15	TPD/TPR**	\$100.00	\$150.00	\$200.00
16	TGA-FTIR**	\$100.00	\$150.00	\$200.00
17	BET**	\$65.00	\$85.00	\$130.00
18	GC-FID	\$40.00	\$60.00	\$90.00
19	GC-TCDs (2 units) (Duplicate Analysis)	\$40.00	\$60.00	\$90.00
20	Viscometer (dynamic, kinematic, density) - Triplicate**	\$15.00	\$20.00	\$40.00
21	Titroline 7000 Titrator	\$30.00	\$40.00	\$70.00
22	Hot Press	\$40.00	\$60.00	\$100.00
23	Universal Test Machine	\$30.00	\$50.00	\$90.00
		Rates for Trained Self-operated	Dr. Xu's Group Member Operated	Rates for External Corporate

* a discount of 20% will be applied to the charge out rates for University and External Rates beyond the 10th sample

** instruments not available for self-operation

