## Reactor Engineering and Catalyst Testing (*REACT*) Instrumentation and Services Rates

Pricing for standard experiments are provided below (cost for staff time are included). Sample measurement requests can be submitted via NUCore. Instruments can also be run by students and charged an hourly rate (there is no training fee). Modifications of standard measurements are subject to additional charges based on the instrument hourly rate. Contact REACT staff with questions or quotes.

| BenchCAT4000 Reactor System | Internal | External<br>Academic | Other<br>External |
|-----------------------------|----------|----------------------|-------------------|
| Hourly Rate                 | \$6.00   | \$9.48               | \$12.00           |

| Agilent 1200 HPLC Reactor | Internal | External | Other    |
|---------------------------|----------|----------|----------|
| System                    |          | Academic | External |
| Hourly Rate               | \$20.00  | \$31.60  | \$40.00  |

| Parr Reactor system | Internal |         | Other<br>External |
|---------------------|----------|---------|-------------------|
| Hourly Rate         | \$12.00  | \$18.96 | \$24.00           |

| GEMStar-8 ALD system        | Internal | External<br>Academic | Other<br>External |
|-----------------------------|----------|----------------------|-------------------|
| Hourly Rate                 | \$20.00  | \$31.60              | \$40.00           |
| 1-40 cycles of deposition** | \$80.00  | N/A                  | N/A               |

<sup>\*\*</sup>Precursors available for Al, Si, and Ti deposition, additional charges for precursor usage may apply

| Nicolet 6700 In situ DRIFTS      | Internal | External<br>Academic | Other<br>External |
|----------------------------------|----------|----------------------|-------------------|
| Hourly Rate                      | \$15.00  | \$23.70              | \$30.00           |
| NH <sub>3</sub> Characterization | \$60.00  | N/A                  | N/A               |
| Pyridine Characterizarion        | \$60.00  | N/A                  | N/A               |
| CO Characterization              | \$60.00  | N/A                  | N/A               |

| SRS UGA-100 Mass Spec<br>system | Internal | External<br>Academic | Other<br>External |
|---------------------------------|----------|----------------------|-------------------|
| Hourly Rate                     | \$15.00  | \$23.70              | \$30.00           |
| Bulk Hourly Rate***             | \$6.50   | N/A                  | N/A               |

<sup>\*</sup> Cost is for 1-3 samples

| AMI-200 Temperature Programmed Instrument | Internal             | External<br>Academic | Other<br>External |
|---|----------------------|----------------------|-------------------|
| Hourly Rate                               | \$15.00              | \$23.70              | \$30.00           |
| Bulk Hourly Rate***                       | \$6.50               | N/A                  | N/A               |
| $H_2$ TPR or $O_2$ TPO w/ UGA-100         | \$90.00<br>\$180.00  | N/A                  | N/A               |
| NH <sub>3</sub> TPD<br>w/ UGA-100         | \$90.00<br>\$180.00  | N/A                  | N/A               |
| CO Chemisorption and TPD<br>w/ UGA-100    | \$105.00<br>\$210.00 | N/A                  | N/A               |
| CO <sub>2</sub> TPD<br>w/ UGA-100         | \$105.00<br>\$210.00 | N/A                  | N/A               |

| In situ UV-vis Raman system | Internal | External<br>Academic | Other<br>External |
|-----------------------------|----------|----------------------|-------------------|
| Hourly Rate                 | \$35.00  | \$55.30              | \$70.00           |

| Consulting Services   | Internal | External<br>Academic | Other<br>External |
|-----------------------|----------|----------------------|-------------------|
| General Hourly Rate   | \$125    | \$197.50             | \$250             |
| XAS training workshop | \$125    | N/A                  | N/A               |

**Micromeritics 3Flex External** Other Internal **Physisorption Instrument Academic External Hourly Rate** \$11.50 \$18.17 \$23.00 Bulk Hourly Rate\*\*\* \$3.50 N/A N/A Surface Area (SA) Only\* \$69.00 N/A N/A Mesoporous Sample\* \$138.00 N/A N/A Microporous Sample\* \$207.00 N/A N/A Kr Surface Area\* N/A \$69.00 N/A CO, @ 273K\* N/A \$138.00 N/A

<sup>\*\*\*</sup>Bulk rates apply for reservations between 1 and 2 weeks

Updated 1/26/21