

FACILITIES AND EQUIPMENT

RWG Corp. has a modern research facility in East Brunswick, NJ with 1,400 square feet of laboratory space and the option to lease more space as the need arises. The firm maintains a library, machine shop and a glass-blowing capability at this location.

This facility meets all environmental laws and regulations of federal, New Jersey, and local Governments for the following groupings: airborne emissions, waterborne effluents, external radiation levels, outdoor noise, solid and bulk waste disposal practices, and handling and storage of toxic and hazardous materials. Dr. Ira Whitman of The Whitman Companies, www.whitmanco.com, has been retained as an environmental consultant.

Equipment at the East Brunswick location includes all standard equipment for chemical synthesis and characterization. Additional specific major pieces of equipment at the East Brunswick location include:

1. A complete electrochemical research system based on an EG & G Princeton Applied Research (PARC) Model 273 Potentiostat/Galvanostat.
2. Houston Instruments Model 2200GW X-Y recorder.
3. Spectra-Physics Model GCR-11-3 Nd:YAG ns pulsed laser with 2nd, 3rd harmonic generation and pulse compression, associated optics, positioners, two Scientech Model 36-5002 digital power meters, an Antel Optronics Model AR-S1-C custom large-area picosecond photodetector, mounted on a Newport precision optical table. A 2.5 - 7.0 ns, 200 mJ (@ 532 nm) laser pulse repeating at 1 - 15 Hz is available.
4. Instron Model 4201 Universal Testing Machine..
5. Perkin-Elmer Model Lambda 3B automated UV-Visible spectrophotometer, which is also used in conjunction with PARC 273 for spectro-electrochemistry.
6. Perkin-Elmer Model 1615 FT-IR automated spectrometer with Reflectance/Emissivity attachment.
7. Tektronix oscilloscope: Model 2210.
8. Optical train and laser/optic instruments incl. Newport Model C-2001-65ML 65 mW Ar ion laser with acousto-optic (Isomet) modulation, Newport Model M-877 200 ps photodetector, Oriel Model 66165 150 W Xe source, Model 77250 monochromators, associated wavelength controllers, drives, optics, 3-axis positioners. Used for spectroelectrochemical, polymer studies.
9. Denton Vacuum Model 502A high vacuum thermal evaporation system (for thin film semiconductor, metal and other depositions).
- 10.. Resistivity/conductivity and electrical test instrumentation: Signatone Model S301-4 4-point resistivity probe interfaced to Keithley Model 617 electrometer, Keithley Model 220 current source; Keithley Model 197A digital multimeter.
11. Integrated Technologies, Inc. Model P6204 Spin Coater.
12. Power supplies for electro-polymerization: Micronta Dual Tracking and Vector-Viz WP-773A, associated bulk (1 L) synthesis cells.
13. Precision Instruments vacuum pumps and high-vacuum line system.

14. Ovens/Furnaces: Labline IV and Thermolyne F21100 tube furnace (to 1200°C).
15. Large capacity LabLine Imperial controlled-temperature system.
16. Ultraviolet light sources for polymerization initiation, related functions.
17. U.S. Stoneware Ball and Jar Mill, Model 753RM/V.
18. Brookfield Viscometer
19. pH meter

The firm has a Master Services Agreement with DuPont Analytical Solutions (<http://analyticalsolutions.dupont.com/>), providing access to a comprehensive analytical laboratory when the need arises. Typically, a request for quotation is made and samples are subsequently submitted. The laboratory offers a full range of services from routine testing to complex analytical problem-solving. It is an organization of experienced professionals with a strong support staff and world-class capabilities that can be put to work to meet the needs of Gumbs.