

## FACILITIES AND RESOURCES (Georgia State University, Department of Biology)

**Laboratory:** The PI has a laboratory of \_\_\_\_\_ sq. ft. with bench space for \_\_\_ investigators located in the two old, five-story Natural Sciences Center Building. The lab is adjoined to two small rooms, one that is used as a tissue culture facility (150 sq. ft.), and another that is used as a Prep room (150 sq. ft.). Within the new BSL3 PI has a fully equipped BSL3 tissue culture hood. f

**Computers:** In the lab, there are \_\_\_#\_ Dell, \_\_\_#\_ HP, \_\_\_#\_ and \_\_\_#\_ Apple computer workstations. All are with a minimum of 500 GB hard drives, CD-ROM drive and/or backup hard drive capacity. Computers are i to HP or Brothers laser printers and a color inkjet printer. All computers are hard wired to the university ser is a UNIX system equipped with version 9.0 of the Genetics Computer Group sequence analysis software.

**Office:** The PI has an office in the Petit H. Science Center or the Natural Sciences Center, in which there is and \_\_\_\_\_ printer.

**Equipment:** The laboratory is equipped with: waterbaths; balances, vortexes; hot plate stirrers; microelectrophoresis equipment for analysis of nucleic acids and analysis and transfer of proteins; a Biorad Hydration drying system; a BSL2 laminar flow hood; Beckman Avanti J30-I centrifuge; an Eppendorf 5417R tabletop re centrifuge; two Eppendorf 5415D tabletop centrifuges; a pH meter; a chromatography refrigerator; incubators; one -80C freezers; a Mettler balance; top loading balances; two -20C freezers; two refrigerators speed-vac; a gel documentation/analysis system (UVP) an AKTA FPLC system (Amersham), a electrophoresis system(P-ACE 5500: Beckman), a UV600 spectrophotometer (Shimadzu); an AKTA Autom Systems (Pharmacia); bacterial shaker/incubators; yeast waterbath shaker/incubator; a Class II Type A/E Biological Safety Cabinet, and a water purification system (Millipore).

**Shared Departmental Equipment:** Standard equipment such as autoclaves, steam and electric (Castle, S Hirayama), Beckman XL-100K, Optima MAX-XP and Optima TL ultracentrifuges with rotors (Type 35, 45Ti, 80Ti, Vti50, two Vti80, SW25-1, three SW28, SW50 and SW41), Beckman Avanti 25 and Avanti 30 ce Perkin-Elmer Gene Amp PCR System 9700, seven Eppendorf Gradient thermal cyclers, a Bio-Rad CE pulsed field nucleic acid electrophoresis system, five Kodak x-ray film developers , four Beckman liquid s counters (Beckman LS 6500 and LS 7500), 4 sonifiers (Branson),incubator/shakers (New Brunswick Sc concentrator/evaporator (Savant and Eppendorf), four Lyophilizers (3 Labconco Freezone ; Virtis BT3.3E purification systems (Millipore), two Wallac 1470 Wizard gamma counter, Millipore cell concentrator, 2 Phenotype microarray system (BioLog), 3 Cell Press (SLM-Aminco), electroporator (Gene Pulser Xcell; Bic crosslinker (Fisher), a Spectramax multiwavelength plate-reader and two PE Victor 3 fluoresc reader/luminometer. All shared equipment is housed in common-use areas.

**Shared Imaging Equipment:** Several printers (HP1055 CM 36", Tektronics Phaser 840, Tetronics Phas video recorders (Sony and Sharp) and video copy processor (UVP), 8 gel documentation/analysis system ( Omega 10g, UVP and AlphaInnotech (FluorChem), three chemiluminescent system (LAS 4000 mini, LAS LAS1000: Fuji), two phosphoimagers (Fuji BAS 2500 and FLA 7000), Image Analyzer (Leica Quantim Scanner (AGFA), Sony DSC VI Digital camera and video camers (MTI and Javelin).

### **Core facilities :**

**Molecular Biology core Facility** - This facility is staffed by five full-time technicians. Equipment housed in t include two DNA sequencers (1 ABI 3130 and 1 ABI 3730), one Roche GS 454 Junior high throughput s system, a Genomic Gene-Chip analysis system with Fluidics/Hybridization unit (Affymetrix), an Etta Proteomics 2-D gel electrophoresis system - including 2 Variable Mode Imagers (Typhoon 9400 and Typh MD Personal Densitometer SI, automated spot picker and automated digestion platform (GE Health automated workstations (Beckman Biomek 2000and Biomek NX), 4800 Plus MALDI ToF/ToF mass-spe system, N<sub>2</sub> generator (Parkin-Balston), a Biacore 3000 and 2000 plasmon resonance system (Biacore), P RT-PCR System and 3 Prism 7500 FAST RT-PCR Svstems (ABI). two densitometers (BioRad). four

**Electron Microscopy Facility** - electron microscope (LEO 906E), scanning electron microscope (LEO 145) systems (vacuum, sputter coater, carbon coater) epi-fluorescence/Epi-white light/DIC microscopes (Nikon, Nikon-DI Optics Microscope (Olympus BH2), video microscope (Hirox HiScope), Zeiss Axiovert microscope, microtomes (RMC MR3 rotary, RMC MTX Ultra microtome with cryo mode) and a spectrophotometer (Olympus BH2), Shandon Histocentre 3, Microm HM 550 cryostat with freezing stage, Speed Processor .

#### **Equipment (continued)**

**Mass Spectrometry** - QP5050A GC/MS, Waters Q-TOF micro MS w/ 2695 HPLC (EI, APCI and Q-TOF) w/lockspray, (with MassLynx software + proteinLynx server, Perkin-Elmer CHN analyzer, ABI 4800 Plus ToF/ToF Mass Spectrometer, HP 5890 Series II Gas Chromatograph-Mass Spectrometer (with electron ionization modes), Perkin-Elmer Ion Trap Instrument (with attached gas chromatograph), Shimadzu 5050 GC/Mass Chromatograph (with a GC-17A gas chromatograph attached to an AST microcomputer, 1100 LC-CE-MSD Quadrupole Mass Spectrometer (Agilent), Protein Chip Reader (Ciphergen)

**Confocal Microscope Facility** - Three confocal microscopes (UV/Argon/HeNe lasers; Zeiss), Confocal Deconvolution microscope (2008 software upgrade) and 2 atomic force microscopes (Park Scientific Instrument, Veeco).

**Molecular Modeling Facility** - Hardware and software for visualization of molecular structures and interactions, as well as for quantum chemical, molecular mechanics, and molecular dynamics calculations.

**NMR Support Facility** - Varian 500 MHz and 600 MHz NMR spectrometers and a Varian UVRX400 M Workstation.

**Laser Laboratory** - This laboratory contains a Brookhaven Instruments laser light-scattering system with He-Ne lasers as light sources.

Additional department core facilities include: a Structural Biology Core Facility (This facility uses the Synchrotron ray beam lines at the Argonne National Lab), Proteomics Core Facility and MicroArray Core Facility.

Other: Machine and electronics shops are located in the **Physics Department**. The Departmental office has seven full-time staff members. Two of whom are experts in word processing, two are dedicated to professional monitors the budgetary status of research grants, another functions as a receptionist and one is manager. The office is equipped with seven PC computers, printers, and Fax machines, and copy machine