

UPR Rio Piedras Capability Statement

Institution: **UPR Rio Piedras**

POC Information: **Dr. Luis Ferrao, Chancellor**
Address: 6 University Ave, San Juan, PR 00925-2526
Tel: (787) 751-4166 email: luis.ferrao@upr.edu

OVERVIEW

The University of Puerto Rico, Rio Piedras Campus (UPR-RP) is a public research university located on a 289-acre (1.17 km²) campus in Rio Piedras, San Juan, Puerto Rico. UPR-RP serves around 15,000 students, of which 20% are graduate students, and grants an average of over 2,500 degrees a year. It is recognized by the Carnegie Foundation for the Advancement of Teaching as a research university "high research activity" (RU/H). As a public comprehensive doctoral institution, its academic offerings range from the baccalaureate to the doctoral degree, through 70 undergraduate programs and 19 graduate degrees with 71 specializations in the basic disciplines and professional fields. UPR-RP is the largest campus in terms of student population of the University of Puerto Rico System, and Puerto Rico's first public university.

RESEARCH CAPABILITIES

Biomedical Research: Cancer research, HIV vaccine research, drug delivery, MRI contrast agents

Chemistry/Materials Science: Computational modeling, chemical sensors, nanomaterials and polymeric materials for targeting delivery of anti-cancer drug, energy harvesting and energy efficient devices, energy storage, green organic synthesis, macromolecular self-assembly, bio-fuels, natural products

Mathematics/Computer Science: algorithm development, combinatorics, math modeling, cryptography

Physics/Engineering: Metamaterial synthesis and characterization, ferroelectrics and semiconducting materials, photovoltaic materials, modeling of electrolyte solutions

Health Disparities: HIV/AIDS, Mental health, obesity, suicide prevention, substance abuse.

Environmental Science: Microbial ecology, environmental genomics, microbial water quality, environmental aerosols characterization, climate change biology, aquatic toxicology, landscape ecology, tropical forest ecology, alternative fuels, ecosystem modeling, soil ecology

FACILITIES

Major & Specialized Instrumentation: DNA Microarray, global gene expression, cellular/ biological imaging & analysis, Quantitative Gene Express, Microarray Verification, Quality control and Assay Validation, Pathogen Detect, SNP Genotyping, MicroRNA Analysis, Viral Quantification through both Real Time PCR and Thermal Cycle PCR, Transmission and Scanning Electron Microscopy, Infrared, NMR (Bruker Avance DPX-300, Bruker Avance AV-500, Bruker Ascend Aeon 700, Bruker Ascend Aeon 500 with Ultra Shield Aeon Magnet), UV/Vis, High speed centrifugation, Fluorescence Microscopy, Real time PCR, Particle Size Analyzer, Vector Network Analyzer, 3-D Printing, Real time PCR, flow cytometer, Atomic absorption Spectroscopy, GC-Mass Spectroscopy, TEM, SEM, Raman Spectroscopy

PERFORMANCE

- Around 200 peer-reviewed publications per year
- Around \$25M in federally funded research per year