The University of São Paulo and the Institute of Chemistry

The University of São Paulo (USP) is a public university in the Brazilian state of São Paulo. Established in 1934 it is the largest and one of the oldest Brazilian universities and the country's most prestigious educational institution. With an annual budget of R$ 5 billion (US$ 1.6 billion) and approximately 90,000 enrolled students, USP has 11 campuses active in teaching, research and outreach in all areas of knowledge. USP is consistently ranked the number 1 university in Latin America and in 2017 it was placed number 120 in the QS World University Rankings (available at https://www.topuniversities.com/universities/universidade-de-s%C3%A3o-paulo#wurs) and appeared in position 91-100 in the 2016 Times Higher Education ranking that orders institutions based on their international reputation.

The Institute of Chemistry is at the main campus, also known as Cidade Universitária, located in the city of São Paulo, capital of the state of São Paulo. With a total area of 7,443,770 m², the campus is a green island in this large cosmopolitan city. In addition to the lush vegetation, it has several museums and libraries, a comprehensive athletic center, a lively atmosphere, and a stimulating college environment. The main campus also houses the Institutes of Biosciences, Biomedical Sciences, Chemistry, Physics, Geology, Oceanography and Pharmaceutical Sciences, the Schools Dentistry, Economics, Architecture and Engineering and Faculties of Arts, Languages, Social Sciences, History and Philosophy.

The Institute of Chemistry is home to the Biochemistry and the Chemistry departments. The Biochemistry department has 44 professors with interests in different aspects of cellular, molecular and structural biology applied to various systems, such as cancer, neuroscience, parasitology and microbiology, plant biology, biofuels, oxidative stress and mitochondria, DNA repair and peptide synthesis. The multidisciplinary nature of our research community creates an outstanding environment for scientific discussion. In 2015, the professors in the Biochemistry program had a median h-index of 23 with a total of 7285 citations (165 per PI) and published an average 3 articles per PI that year with an average Impact Factor of 4.7; numbers comparable to top North American and other international graduate programs.

Research Facilities at the Institute of Chemistry.

The Institute of Chemistry has a highly respected analytical instrument center equipped to carry out a wide variety of chemical and biological analyses. Researchers in our Institute have access to a DNA core facility equipped with low (ABI PRISM 3130XL) and high-throughput DNA sequencers (Roche 454 GS FLX and Illumina MiSeq), a bioanalyzer and an Applied 7300 real time PCR system to support genomic studies. The analytical center also houses several systems for high resolution LC-MS-MS analysis. For cell biologists, we have a FAC sorter (Beckman Coulter model FC500 MPL), a Zeiss LSM 510 Meta confocal microscope, an Odyssey imaging system as well as scanning and transmission electron microscopes. A Bruker 800 MHz NMR instrument with a cryoprobe is available for protein structural studies, as well as 300 and 500 MHz NMR machines dedicated for analytical purposes. Facilities for protein crystallization and collection of X-ray diffraction data (Rigaku MicroMax 007HR rotating anode X-ray source with VariMax HR optics and an R-Axis++ Image Plate detector) are available. Researchers also have free access to the protein crystallography and SAXS synchrotron beamlines at the Laboratório Nacional de Luz Síncrotron in Campinas, less than 100 km from São Paulo (http://lnls.cnpem.br/).