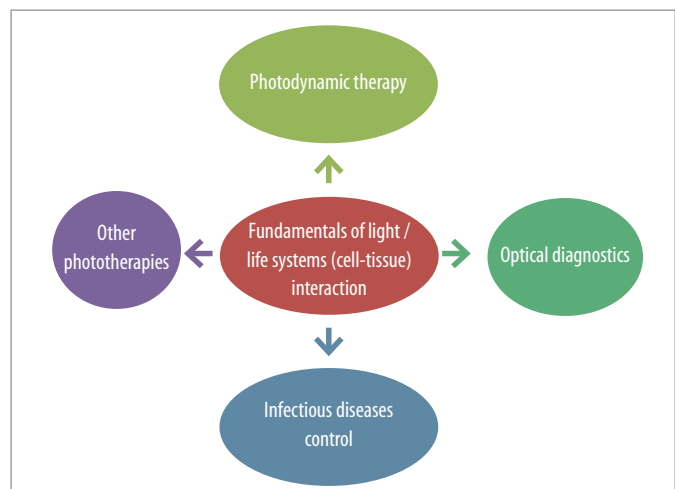


Interconnection between atomic and molecular topics

The Optics and Photonics Research Center (CEPOF) aims to be an RIDC in which cutting-edge fundamental and applied research in the field of optics and photonics can advance together. The research program comprises three main thrusts: cold-matter physics, plasmonics and biophotonics, fields that are linked by the common theme of light-matter interaction. In parallel, the Center will advance fundamental knowledge and develop innovative, practical applications. Turbulence in quantum gases, light-matter entanglement of photons and cold atoms, and optical methods for precision time-and-frequency metrology define the focus of cold-matter physics. Nanoplasmonics takes optics beyond the diffraction limit, opening new perspectives for confinement and transport of quantum gases and the development of ultrasensitive, rugged biosensors. A modern nano-fabrication facility will provide support for all scientific and technological projects. In biophotonics, our studies focus on the diagnosis and treatment of diseases using purely optical techniques. Technological innovation, benefiting from new scientific insights achieved in basic research activity, will develop new products, establish start-up enterprises, and collaborate



Synergetic action between basic and applied science

with existing companies. The science dissemination and outreach effort employs a TV channel, operating 24 hours a day, with a diverse range of active programs covering all educational levels, bringing the excitement of science to students from preschool to adults. The ambition is to create a world-class, internationally recognized Center. The CEPOF will promote international exchange and interaction by recruiting talented students and postdoctoral fellows from all over the world and establishing cooperative agreements with other high-level, globally recognized research centers.

Host Institution

University of São Paulo (USP, campus São Carlos)

Associated Institutions

State University of Campinas (UNICAMP)
Barretos Cancer Hospital (HCB)
Federal University of São Carlos (UFSCar)
Federal University of Pernambuco (UFPE)
Brazilian Agricultural Research Corporation (EMBRAPA)

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