Rodrigo Silveira Vieira, Full Professor

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Rodrigo Silveira Vieira is a Full Professor at the Federal University of Ceará (UFC), Brazil, with more than 15 years of experience in biomaterials, biotechnology, and regenerative medicine. His research focuses on the development of advanced biomaterials and bioactive systems for tissue engineering, wound healing, drug delivery, and ocular surface reconstruction.

Dr. Vieira leads a multidisciplinary research program dedicated to the design and characterization of natural and bioinspired biomaterials derived from natural sources. His work combines biomaterials science, nanotechnology, biotechnology, and biofabrication to develop sustainable and clinically relevant solutions for regenerative medicine. His expertise includes the extraction and modification of biopolymers, decellularized extracellular matrices, hydrogels, bioactive membranes, nanostructured materials, and antimicrobial biomaterials.

A major focus of his research is the development of marine-derived biomaterials for ophthalmic applications. His group has pioneered innovative platforms based on decellularized fish cornea for corneal regeneration and ocular surface reconstruction. These biomimetic scaffolds integrate extracellular matrix components, stem cell-derived products, extracellular vesicles, and antimicrobial nanomaterials to enhance tissue repair while minimizing inflammation and infection. Several of these technologies are being advanced toward translational and clinical applications.

Dr. Vieira also works on advanced manufacturing approaches, including 3D bioprinting and biofabrication, to produce multifunctional biomaterials capable of directing cell behavior and improving regenerative outcomes. His current interests include corneal tissue engineering, extracellular matrix-based biomaterials, stem cell-derived therapeutics, extracellular vesicles, antimicrobial materials, hydrogel systems, marine biotechnology, and nanobiotechnology.

He has published more than 100 peer-reviewed articles in leading international journals, receiving over 3,600 citations and achieving an h-index above 30. He is the inventor of multiple patents and has coordinated several large-scale research and innovation projects funded by Brazilian agencies and industrial partners.

In addition to his scientific contributions, Dr. Vieira has supervised more than 90 undergraduate and graduate students and maintains active collaborations with national and international institutions, contributing to the advancement and translation of biomaterials research into practical healthcare solutions.