

Gustavo Monteiro Silva

Assistant Professor of Biology

Trinity College of Arts and Science

My main research goal is to understand and be able to control how cells respond to stressful and harmful conditions, which are the underlying causes of many human diseases. To achieve this goal, I study cellular response to stress at the protein level and aim to characterize the different regulatory functions mediated by the ubiquitin-proteasome system (UPS), essential machinery involved in modulating protein dynamics. Ultimately, regulating specific UPS roles will provide new tools to increase cellular tolerance to a variety of environmental stresses, which is highly relevant for a variety of degenerative diseases. The main focus of my lab is to investigate the unprecedented regulation of translation mediated by ubiquitin. I laid the groundwork for this research investigating the ubiquitination response in the budding yeast *Saccharomyces cerevisiae* and we will explore the evolutionary conservation of this pathway and its function in neuronal cells. Our lab is excited to keep pushing the field forward and to use a combination of proteomics, genomics, and molecular methods to understand the mechanisms by which ubiquitin regulates translation, and ultimately, cellular response to stress.



Overview

Background

Publications

Recognition

Research

Expertise

Teaching

Professional Activities

Current Appointments & Affiliations

Historical Appointments

Assistant Professor of Biology, [Biology](#), [Trinity College of Arts & Sciences](#)

Contact

Email: Gustavo.Silva@duke.edu

Tel: (919) 725-5948

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Answering the question as to why we age is tantamount to answering the question of what is life itself. There are countless theories as to why and how we age, but, until recently, the very definition of aging – senescence – was still uncertain... [\(More\)](#)

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GM Silva, C Vogel • Molecular Systems Biology • October 2016

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[Cite](#)**Mass spectrometry analysis of K63-ubiquitinated targets in response to oxidative stress.****Overview**

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Research

Expertise

Teaching

Professional
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