



Bernardo Bonilauri

Instructor, Cardiovascular Institute

Bio

BIO

Dr. Bernardo Bonilauri is a molecular biologist investigating the fundamental mechanisms of protein misfolding, cryptic peptides, and non-canonical codes in human biology and disease. He completed his postdoctoral training at the Stanford Cardiovascular Institute under the mentorship of Dr. Joseph C. Wu, after which he was appointed Instructor. In this role, he continues to develop advanced in vitro disease models to probe molecular and cellular processes underlying human pathology.

His research focuses on Transthyretin Amyloidosis (ATTR) and related protein misfolding disorders, applying multi-omics, structural biology, and stem cell-based platforms to dissect how pathogenic aggregates form and impair cellular function. In parallel, Dr. Bonilauri investigates microproteins encoded by small open reading frames (sORFs), with emphasis on their translation, subcellular localization, and biological functions in human cells.

ACADEMIC APPOINTMENTS

- Instructor, Cardiovascular Institute

HONORS AND AWARDS

- AHA Career Development Award, American Heart Association (AHA) (2025-2028)
- Among the five best dissertations of the 2021–2024 quadrennium, Oswaldo Cruz Foundation (FIOCRUZ) - Carlos Chagas Institute (2025)
- AHA Postdoctoral Fellowship, American Heart Association (AHA) (2022-2024)
- Vice-presidency of Education, Information, and Communication (VPEIC-FIOCRUZ), Oswaldo Cruz Foundation (FIOCRUZ) (2018-2021)
- CAPES Fellowship, Higher Education Personnel Scholarship (CAPES) (2016-2018)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member of the Council on Genomic and Precision Medicine (Early Career Committee), American Heart Association (AHA) (2022 - present)
- Member, American Heart Association (AHA) (2022 - present)
- Member, International Society of Amyloidosis (ISA) (2023 - present)
- Member, Sigma Xi (2024 - present)

Publications

PUBLICATIONS

- **The Long Non-coding RNA Landscape of Endurance Exercise Training.** *bioRxiv : the preprint server for biology*
Bonilauri, B., Smith, G. R., Raja, A. N., Jimenez-Morales, D., Ahmed, A., Jin, C., Sparks, L. M., Walsh, M. J., Montgomery, S. B., Bodine, S. C., Ashley, E. A., Lindholm, M. E.
2025

- **Environmental and phytohormone modulation of organ-specific specialized metabolite profiles in the dryland tree *Erythrina velutina*.** *Plant biology (Stuttgart, Germany)*
Chacon, D. S., Bonilauri, B., da Costa, C. T., Vilasboa, J., Koetz, M., Pinto, L., Zuanazzi, J. A., Giordani, R. B., Fett-Neto, A. G.
2025
- **The Evolving Landscape of Amyloid Research.** *Proteins*
Bonilauri, B.
2025
- **Transcriptome-guided selection of reference genes from field-grown adult trees and seedlings exposed to defense phytohormones in *Erythrina velutina*** *PLANT GENE*
Chacon, D., da Costa, C., Antonelo, F., Bonilauri, B., Torres, T., Giordani, R., Fett-Neto, A.
2025; 42
- **Fibroblast Growth Factor 8 enhances the chondrogenesis of trunk neural crest cells: a possible gene regulatory network.** *The International journal of developmental biology*
Josino, R., Bispo, S., Bonilauri, B., Dallagiovanna, B., Calloni, G. W.
2024; 68 (3): 135-143
- **Exploring the Molecular Pathology of Iatrogenic Amyloidosis** *JOURNAL OF MOLECULAR PATHOLOGY*
Bonilauri, B.
2024; 5 (2): 238-257
- **Unveiling Polysomal Long Non-Coding RNA Expression on the First Day of Adipogenesis and Osteogenesis in Human Adipose-Derived Stem Cells.** *International journal of molecular sciences*
Bonilauri, B., Ribeiro, A. L., Spangenberg, L., Dallagiovanna, B.
2024; 25 (4)
- **Generation of two induced pluripotent stem cell lines from hereditary amyloidosis patients with polyneuropathy carrying heterozygous transthyretin (TTR) mutation.** *Stem cell research*
Melesio, J., Bonilauri, B., Li, A., Pang, P. D., Liao, R., Witteles, R. M., Wu, J. C., Sallam, K.
2023; 74: 103265
- **Generation of two induced pluripotent stem cell lines from patients with cardiac amyloidosis carrying heterozygous transthyretin (TTR) mutation.** *Stem cell research*
Bonilauri, B., Shin, H. S., Htet, M., Yan, C. D., Witteles, R. M., Sallam, K., Wu, J. C.
2023; 72: 103215
- **Microproteins in skeletal muscle: hidden keys in muscle physiology.** *Journal of cachexia, sarcopenia and muscle*
Bonilauri, B., Dallagiovanna, B.
2022; 13 (1): 100-113
- **Non-target molecular network and putative genes of flavonoid biosynthesis in *Erythrina velutina* Willd., a Brazilian semiarid native woody plant.** *Frontiers in plant science*
Chacon, D. S., Santos, M. D., Bonilauri, B., Vilasboa, J., da Costa, C. T., da Silva, I. B., Torres, T. d., de Araujo, T. F., Roque, A. d., Pilon, A. C., Selegatto, D. M., Freire, R. T., Reginaldo, et al
2022; 13: 947558
- **Proteogenomic Analysis Reveals Proteins Involved in the First Step of Adipogenesis in Human Adipose-Derived Stem Cells.** *Stem cells international*
Bonilauri, B., Camillo-Andrade, A. C., Santos, M. D., Fischer, J. d., Carvalho, P. C., Dallagiovanna, B.
2021; 2021: 3168428
- **Long Non-Coding RNAs Associated with Ribosomes in Human Adipose-Derived Stem Cells: From RNAs to Microproteins.** *Biomolecules*
Bonilauri, B., Holetz, F. B., Dallagiovanna, B.
2021; 11 (11)
- **Linking long noncoding RNAs (lncRNAs) and doping detection.** *Drug testing and analysis*
Bonilauri, B., Dallagiovanna, B.
2021; 13 (5): 1068-1071

- **The impact of blood-processing time on the proteome of human peripheral blood mononuclear cells.** *Biochimica et biophysica acta. Proteins and proteomics*
Bonilauri, B., Santos, M. D., Camillo-Andrade, A. C., Bispo, S., Nogueira, F. C., Carvalho, P. C., Zanchin, N. I., Fischer, J. d.
2021; 1869 (3): 140581
- **Long Non-coding RNAs Are Differentially Expressed After Different Exercise Training Programs.** *Frontiers in physiology*
Bonilauri, B., Dallagiovanna, B.
2020; 11: 567614
- **Data describing the experimental design and quality control of RNA-Seq of human adipose-derived stem cells undergoing early adipogenesis and osteogenesis.** *Data in brief*
Marcon, B. H., Spangenberg, L., Bonilauri, B., Robert, A. W., Angulski, A. B., Cabo, G. C., Cofré, A. R., Bettes, P. S., Dallagiovanna, B., Shigunov, P.
2020; 28: 105053