Antoni Luque, Ph.D.

Research and Innovation | Leadership | Collaboration

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# Summary

* Highly motivated computational biophysicist with 15 years of experience leading and evaluating innovative technological projects in computational predictive modeling, systems biology, and biophysics resulting in more than $50 million distributed across stakeholders.
* Experience leading computational and data science interdisciplinary projects, resulting in 30 publications, including high-impact journals like Nature, Proceedings of the National Academy of Sciences, and Nucleic Acids Research.
* Strong communication and presentation skills with the capacity to simplify complex scientific problems to diverse audiences, as demonstrated by presenting at more than 40 national and international institutions and events.

# Work Experience

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| **Principal Scientist** | **2015 – Present** |

Gained as an Assistant (2015-2021) and Associate (2021-present) Professor in the Department of Mathematics and Statistics, the Computational Science Research Center, and the Viral Information Institute at San Diego State University, CA, USA.

* Led an interdisciplinary scientific team as a Principal Investigator specialized in developing novel mechanistic and machine learning models to predict the molecular structure and dynamics of viruses, resulting in 17 scientific publications and more than $2 million in funding.
* Experience leading cross-functional projects integrating computational modeling, imaging, genomic, and biochemical data, as demonstrated by establishing 10 successful interdisciplinary collaborations and evaluating 150 innovative projects in systems biology, biophysics, and applied mathematics.
* Mentored highly skilled STEM professionals in predictive modeling, systems biology, biophysics, and computational science, as demonstrated by fostering the scientific career of 5 Ph.D. and more than 20 Master of Science researchers.

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| **Research Scientist** | **2012 – 2014** |

Gained as a Research Associate in Computational Biology at New York University in New York, NY.

* Scientific leader in the development of multiscale computational models for DNA-protein complexes, resulting in a new framework relating chromatin structure and epigenetics, producing 3 major scientific publications.
* Experience working with cross-functional teams with a strong ability to integrate experimental data and mechanistic models, as demonstrated by leading a collaboration outside the organization.
* Experience proposing and evaluating novel technologies to measure, test, and analyze macromolecular complexes and genomes, as evidenced by contributing to two federal grant contracts and consulting for 10 scientific organizations.

# Education

## Ph.D. in Physics with an interdisciplinary focus combining computational biophysics, macromolecular complexes, and virology.

# Techniques, Technical Skills & Documentation

Biophysics

Bioinformatics

Mathematical Modeling

Machine Learning

Multiscale Simulations

Genomics

Linux / Unix

Python

R

MATLAB

C++

Fortran

Data Analysis

Technical Writing

Leadership

Communication

Project Management

Time Management

**Affiliations, Awards & Hobbies**

* National Science Foundation Award in Mathematical Biology.
* Faculty Innovation and Leadership Award from the California State University.
* Food lover and soccer fan.