

Rafael Lainez Reyes

Rafael A. Lainez Reyes

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Webpage

ra-lainezr.github.io

Education

University of California, Santa Barbara / Ph.D., Mathematics

OCTOBER 2017 - ONGOING, UNITED STATES

Centro de Investigación en Matemáticas (CIMAT) / Master of Science, Applied Mathematics

AUGUST 2013- AUGUST 2015, MEXICO

Thesis: *Modeling and Identification of Fractional Systems*

Universidad Nacional Autónoma de Honduras (UNAH) /

Bachelor, Chemical Engineering

AUGUST 2006- AUGUST 2012, HONDURAS

Experience

University of California Santa Barbara / Research Assistant

JUNE 2019 - PRESENT, SANTA BARBARA

Principal Investigator: Carlos J. García-Cervera

Focus: Calculus of Variations, Hartree-Fock Equations, Electronic Structure

University of California Santa Barbara / Teaching Associate

JUNE 2019 - JULY 2019, SANTA BARBARA

Courses Taught

- Math 3B: Integral Calculus

University of California Santa Barbara / Teaching Assistant

OCTOBER 2017 - JUNE 2019, SANTA BARBARA

Courses Taught:

- Math 3A: Differential Calculus
- Math 4A: Linear Algebra
- Math 34A: Calculus for Social Sciences
- Math 6A: Vector Calculus I
- Math 8: Introduction to Higher Mathematics

Centro de Investigación en Matemáticas (CIMAT) / Research Assistant

AUGUST 2015 - DECEMBER 2015, MEXICO

Principal Investigator: Miguel Ángel Moreles Vázquez

Focus: Fractional calculus.

**National Autonomous University of Honduras/ Adjunct
Professor**

JANUARY 2016 - SEPTEMBER 2017, HONDURAS

Courses Taught:

- Numerical Methods for Engineering.
- Measure Theory.
- Partial Differential Equations.
- Numerical Methods for Differential Equations.
- Mathematical Methods in Engineering.
- Vector Calculus.
- Mathematics for Health Sciences.

Publications

M.A. Moreles, R.A. Lainez, *Mathematical Modelling of Fractional Order Circuit Elements and Bioimpedance Applications*, **Communications in Nonlinear Science and Numerical Simulation**, 2016

Awards

CONACyT, Mexico, Grant for Master's Program,

AUGUST 2013-AUGUST 2015

Centro de Investigación en Matemáticas (CIMAT) Research Grant,

AUGUST 2015-DECEMBER 2015

Visiting Positions

**Institute for Pure and Applied Mathematics (IPAM),
University of California, Los Angeles,**

SPRING 2022

Program: Advancing Quantum Mechanics with Mathematics and Statistics

Conferences and Talks

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- **Institute for Pure and Applied Mathematics (IPAM),
University of California, Los Angeles,**
MARCH 2022
Talk: *On the Hartree-Fock Equations and the Roothman Algorithm*
 - **DFTK Summer School on Numerical Methods for Density
Functional Theory Simulations,**
Sorbonne Université,
AUGUST 2022
-

Outreach

Society for Industrial and Applied Mathematics (SIAM),
University of California, Santa Barbara, Student Chapter,
October 2018-Present, Member
October 2019-Present, President

Skills

Matlab, C++, Python

References

Carlos J. García-Cervera, PhD., Advisor, cgarcia@math.ucsb.edu
Gustavo Ponce, PhD., Full Professor, ponce@math.ucsb.edu
Hector Cenicerros, PhD., Full Professor, cenicerros@ucsb.edu