

# Francisco Ponce-Carrion

Raleigh, NC, US

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## Education

- North Carolina State University **Raleigh, NC, US**
  - PhD Mathematics *August 2021 – May 2026*
- Universidad San Francisco de Quito **Quito, Ecuador**
  - BS Mathematics *August 2016 – May 2020*

## Professional Experience

- North Carolina State University **Raleigh, NC, US**
  - Graduate Teaching Assistant *August 2021 – Present*
- Universidad San Francisco de Quito **Quito, Ecuador**
  - Mathematics Teaching Assistant *January 2021 – June 2021*
- Banco Solidario **Quito, Ecuador**
  - Data Analyst/Scientist (Intern from June-September) *June 2019 – June 2021*

## Teaching Experience

| Term        | Course   | Position             | Institution |
|-------------|--|----------------------|-------------|
| Fall 2025   | MA 520 Linear Algebra                              | Instructor of record | NCSU        |
| Summer 2025 | MA 305 Introductory Linear Algebra and Matrices    | Instructor of record | NCSU        |
| Spring 2025 | MA 131 Calculus for Life and Management Sciences A | Instructor of record | NCSU        |
| Fall 2024   | MA 305 Introductory Linear Algebra and Matrices    | Instructor of record | NCSU        |
| Summer 2024 | MA 305 Introductory Linear Algebra and Matrices    | Instructor of record | NCSU        |
| Spring 2024 | MA 241 Calculus II                                 | Instructor of record | NCSU        |
| Fall 2023   | MA 305 Introductory Linear Algebra and Matrices    | Instructor of record | NCSU        |
| Spring 2023 | MA 131 Calculus for Life and Management Sciences A | Instructor of record | NCSU        |
| Fall 2022   | MA 242 Calculus III (Honors section)               | Recitation leader    | NCSU        |
| Spring 2022 | MA 241 Calculus II                                 | Recitation leader    | NCSU        |
| Fall 2021   | MA 241 Calculus II                                 | Recitation leader    | NCSU        |
| Spring 2021 | MAT 1202 Integral Calculus (4 sections)            | Recitation leader    | USFQ        |

## Preprints and Publications

- Preprints.....
- Francisco Ponce-Carrión and Seth Sullivant. Marginal Independence and Partial Set Partitions, 2024. <https://arxiv.org/abs/2402.16292>
  - Jonathan D. Hauenstein, Caroline Hills, Hoon Hong, and Francisco Ponce-Carrión. Geometry of Continuous Adjoint Newton's Method for Bivariate Quadratics, 2024.  
**To appear in Maple Transactions**
  - Nicolás Coloma, Maria Espericueta Sandoval, Erika Lopez, Francisco Ponce-Carrión, Gustavo Rama,

Nathan C. Ryan, Alejandro Vargas-Altamirano. Repulsion of zeros close to  $s = 1/2$  for L-functions, 2024.  
<https://arxiv.org/abs/2401.07959>

**To appear in Journal of Experimental Mathematics**

## Publications

- Johan Ceballos, Nicolás Coloma, Antonio Di Teodoro, Diego Ochoa-Tocachi, and Francisco Ponce. Fractional multicomplex polynomials. *Complex Analysis and Operator Theory*, 16(4):60, 2022.
- Nicolás Coloma, Antonio Di Teodoro, Diego Ochoa-Tocachi, and Francisco Ponce. Fractional Elementary Bicomplex Functions in the Riemann–Liouville Sense. *Advances in Applied Clifford Algebras*, 31(4):1–29, 2021.
- Johan Ceballos, Nicolas Coloma, Nicola Di Teodoro, and Francisco Ponce. Introduction to Clifford analysis: A new perspective. *Nova Science Publishers*, 2020.

## Presentations

- **AMS Special Session: Numerical Algebraic Geometry and Applications. JMM.** **January 2026**  
*Talk* *Washington DC, US*
- **Algebra and Combinatorics Seminar. NCSU.** **September 2025**  
*Invited Talk* *Raleigh, NC, US*
- **New Directions in Algebraic Statistics. IMSI.** **July 2025**  
*Contributed Lightning talk* *Chicago, IL, US*
- **AMS Special Session: Algebraic Statistics in Our Changing World. JMM.** **January 2025**  
*Invited Talk* *Seattle, WA, US*
- **KTH Combinatorics seminar.** **October 2024**  
*Invited Talk* *Virtual (Sweden)*
- **ISSAC 2024.** **July 2024**  
*Contributed Poster* *Raleigh, NC, US*
- **Algebraic Statistics for Ecological and Biological Systems. IMSI.** **October 2023**  
*Contributed Lightning talk* *Chicago, IL, US*

## Select Workshops/Conferences attended

- **MRC: Real Numerical Algebraic Geometry** **July 2025**  
*Participant* *Providence, RI, US*
- **Días de Combinatoria 2023** **December 2023**  
*Teaching assistant for mini-course dictated by Laura Colmenarejo* *Bucaramanga, Colombia*
- **Invitation to Algebraic Statistics and Applications. IMSI.** **September 2023**  
*Participant* *Chicago, IL, US*
- **Meeting on Applied Algebraic Geometry 2023** **April 2023**  
*Participant* *Atlanta, GA, US*

## Service

- Mentor for an undergraduate student for Undergrads Union Grads program. **Fall 2021.**
- Organizer of Pure Graduate Seminar at NCSU **August 2024–May 2026**
- Organizer of AMS Special Session at JMM 2026: Numerical Algebraic Geometry and its Applications **January 2026**

## Languages

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- **English:** Fluent, certified CEFR C2 proficiency.
- **Spanish:** Native language.
- **French:** Basic.

## Other skills and interests

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- **Programming:** R, Python, Macaulay2, Maple, Julia, Sage, C++ and Latex