DANIEL F. CHECA

TEACHING ASSISTANT

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ABOUT ME

I am a Mathematician with a deep passion for Combinatorics, committed to a career in teaching and fostering a love of mathematics. I aim to build skills in teamwork, critical thinking, and strategic problem-solving, and to promote collaboration as a means of breaking down barriers in mathematics education.

EXPERIENCE

TEACHING ASSISTANT
2025 — Present

UNIVERSIDAD NACIONAL DE COLOMBIA

Support sophomore students in developing autonomy and effective academic strategies through collaborative, constructivist learning environments. I provide supplementary instruction, design and grade assessments, offer pedagogical guidance, and reinforce core science and engineering concepts to promote independent study and sustained academic progress.

GRADUATE ASSISTANT
2024 — 2025

UNIVERSIDAD DE LOS ANDES

Provide supplementary instruction to students, design and grade assignments and examinations, offer pedagogical guidance, promote autonomous study habits, and reinforce core science and engineering concepts, ensuring comprehension and facilitating academic development.

UNIVERSITY TUTOR
2021 — 2023

UNIVERSIDAD NACIONAL DE COLOMBIA

Support first-year students to develop autonomy and build strategies that promote academic success by generating spaces for partner interaction, under the guidance of the pedagogical theory of constructivism.

ARTICLES

ARNDT COMPOSITIONS WITH RESTRICTED PARTS, PALINDROMES, AND COLORED VARIANTS
2025. In collaboration with M.L. Nadji, M. Ahmia and J. L. Ramírez.

ARNDT COMPOSITIONS: A GENERATING FUNCTIONS APPROACH
2024. *The Electronic Journal of Combinatorial Number Theory*. Volume 24, Article #A35. In collaboration with J. L. Ramírez.

ARNDT COMPOSITIONS: CONNECTIONS WITH FIBONACCI NUMBERS, STATISTICS, AND GENERALIZATIONS
2023. Bachelor's thesis. *Awarded as the Best Mathematics Bachelor's Thesis*.

EDUCATION

UNIVERSIDAD DE LOS ANDES
2024 — 2025 (On hold)

MSc. MATHEMATICS

◇ Graduate-level focus on algebra and advanced combinatorial topics.

UNIVERSIDAD NACIONAL DE COLOMBIA
2018 — 2023

BSc. MATHEMATICS

◇ GPA: 3.52
◇ One of the best national state tests (Saber Pro).

EVENTS

VIII ECCO - CIMPA SCHOOL: BRIDGES BETWEEN ALGEBRA AND COMBINATORICS (2024)
Duration: 2 weeks. Poster.

ALTENCOA 9 (2023)
Duration: 5 days. Speaker.

XXIII COLOMBIAN CONGRESS OF MATHEMATICS (2023)
Duration: 5 days. Speaker.

INTERNATIONAL CONFERENCE ON ENUMERATIVE COMBINATORICS AND APPLICATIONS (2022 & 2023)
Duration: 2 days (Virtual).

VII ECCO - CIMPA SCHOOL: GEOMETRIC TOOLS IN COMBINATORICS (2022)
Duration: 2 weeks.

INTERESTS

COMBINATORICS
Algebraic and Enumerative Combinatorics; Matroid Theory; Extremal Combinatorics (introductory level); counting problems involving Compositions, Integer Partitions, Polyominoes, Trees, and Lattice Paths.

PROBABILITY
Discrete stochastic processes and probabilistic methods in combinatorics.

SKILLS

LANGUAGES
Spanish (native) and English (CEFR Level C1).

SOFTWARE
W. Mathematica, C++, Python, Sage, TeX, SolidWorks, AutoCAD, Adobe CC.

OTHERS
Photography and Athletics (for real).