

Sebastian Gómez Rendón

Department of Mathematics
Wayne State University
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Research Interests

My research interest is algebraic topology. More specifically, I'm interested in chromatic, equivariant, and stable homotopy theory.

Education

Wayne State University. Aug 2024 to Current.
PhD. Mathematics.

University of Western Ontario. Supervisor: Dan Christensen. Sept 2023 to Aug 2024.
M.Sc. Mathematics.

Universidad Nacional de Colombia. Supervisor: José Manuel Gómez. Feb 2018 to Dec 2022.
B.S. Mathematics.

Academic Employment

Graduate teaching assistant. Course: Calculus 1000. May 2024 to Aug 2024.
University of Western Ontario.

Graduate teaching assistant. Course: Calculus 1301. Jan 2024 to Apr 2024.
University of Western Ontario.

Graduate teaching assistant. Course: Calculus 1000. Sep 2023 to Dec 2023.
University of Western Ontario.

Undergraduate teaching assistant. Course: Multivariable Calculus. Jan 2022 to Dec 2022.
Universidad Nacional de Colombia.

Talks and Presentations

Spectra and the Stable Category II.
Algebraic Topology and Homotopy Theory grad seminar. Western University, 1 Feb 2024.

Spectra and the Stable Category I.
Algebraic Topology and Homotopy Theory grad seminar. Western University, 25 Jan 2024.

Computing $\pi_*(MO)$ and $\pi_*(MU)$.
Algebraic Topology and Homotopy Theory grad seminar. Western University, 27 Oct 2023.

Thom's Theorem for Unoriented Cobordism.
Algebraic Topology and Homotopy Theory grad seminar. Western University, 13 Oct 2023.

Homotopy Theory and Model Categories II.
Category Theory and its Applications seminar. Universidad Nacional de Colombia, 10 Oct 2022.

Homotopy Theory and Model Categories I.
Category Theory and its Applications seminar. Universidad Nacional de Colombia, 3 Oct 2022.

Examples of Limits and Colimits.
Category Theory and its Applications seminar. Universidad Nacional de Colombia, 29 Sept 2022.

Research Experience

- Undergraduate Thesis: Cobordism and Thom-Pontryagin theorem.** 2022
Universidad Nacional de Colombia, sede Medellin
- M.Sc Project: On Central Spaces and Products of Eilenberg-Mac Lane Spaces** 2024
University of Western Ontario

Awards & Honors

- Award for best undergraduate math thesis.** 2023.
Universidad Nacional de Colombia.
- Scholarship for best score in the admission exam.** 2018.
Universidad Nacional de Colombia.

Academic Activities

- Organizer. Algebraic Topology and Homotopy Theory grad seminar.** Sept 2023 to Apr 2024.
Western University.

Projects Supervised

- Meagan James. The action of $\pi_1(X)$ on $\pi_n(X)$ for H-spaces.** Jan 2024 to Apr 2024.
University of Western Ontario.
- Directed Reading Program.
 - We studied the action of $\pi_1(X)$ on $[Y, X]$ when Y is well pointed. We used this to study the spaces $K(G, 1)$ and some properties related to these spaces.
- Meagan James. Introduction to Homotopy Theory.** Sept 2023 to Dec 2023.
University of Western Ontario.
- Directed Reading Program: This program pairs undergraduate students with graduate students/junior faculty to undertake independent study projects.
 - We study the basic notions of homotopy theory with the goal of proving that $[X, Y]$ has a group structure if and only if X is an H -cogroup or Y is an H -group. After this, we explored the classical examples of suspensions and loop spaces, and we showed the adjunction $\Sigma \dashv \Omega$.

Other Interests

Music: I am a huge fan of music. I play the guitar and the drums. From November 2021 to July 2023, I was part of an artistic group at Universidad Nacional de Colombia called Ensamble U.N. in which I played the drums and minor percussion. We had many performances both at the university and outside of it.