Diego Fernando Manco Berrío   Curriculum Vitae

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Mathematical Interests

I'm interested in Higher Category Theory and its connections with K-theory and Algebraic Topology.

Employment

Universidad de Antioquia, Medellín, Colombia.

- Part Time Instructor.   Spring 2012 and Spring 2015 - Spring 2018

Education

University of Oregon, Eugene, OR.

Ph.D. in Pure Mathematics   September 2018 - Expected 2024
- Advisors: Angélica Osorno and Dan Dugger.
- Orals: Cohomology operations, Model Categories and ∞-categories.
- Qualifying Exams: Analysis and Algebraic topology.

Universidad Nacional de Colombia, Bogotá, Colombia.

M.Sc. in Mathematics   2016
- Thesis: *Logic of sheaves of structures on a locale.*
- Awards: Meritory mention.
- Areas: Logic, Category Theory.
- Advisor: Fernando Zalamea.

Universidad de Antioquia, Medellín, Colombia.

B.Sc. in Mathematics: 2012
- Thesis: Chaitin's Ω numbers, Solovay Machines and Incompleteness (in Spanish).
- Areas: Logic, Algorithmic Information Theory.
- Advisor: Carlos Mario Parra.

Preprints

1. **D. Manco** "A coherence theorem for pseudo symmetric multifunctors", (2023) Submitted. Available at `https://arxiv.org/pdf/2311.00150.pdf`.

Teaching

GE, University of Oregon   Fall 2016 - Present
Instructor of record. My duties were teaching class 4 hours per week, holding office hours, designing and grading of exams, quizzes and homework assignments.

• Calculus I	Winter 2020,Winter 2021, Spring 2021, Fall 2023, Winter 2023
• Calculus II	Spring 2023
• Elementary functions	Spring 2020, Fall 2020, Fall 2022, Fall 2021 (2 sections)
• Discrete Math I	Summer 2020, Summer 2022
• University Math I	Summer 2021
• College Algebra	Fall 2018

Part Time Instructor, Universidad de Antioquia   2012-I and 2015-I to 2018-II

Instructor of record. My responsibilities were teaching 4 hours per week, designing and grading exam and homework assignments and holding office hours. This university holds a 2 semester per year schedule and since Colombia is a tropical country, semesters are numbered using Latin numerals.

• Calculus III (For Engineering)	2018-I
• Linear Algebra (For Physics)	2018-I
• Introduction to Mathematics	2018-I
• Category Theory	2016-II
• Basic Math	2016-I
• Mathematical Logic II (Completeness and Incompleteness)	2015-II
• Mathematical Logic (Discrete Math)	2012-I, 2015-I
• Business Calculus II	2016-II, 2017-I
• Fundamentals of Mathematics (Discrete Math)	2017-I
• Linear Algebra	2012-I,2018-I
• Transfinite numbers	2015-I

TA'ing

GE, University of Oregon   January 2018 - June 2023

Teaching assistant. I ran 4 discussion sessions of one hour per week, held office hours, gave input to the main instructor, and graded quizzes and exams.

• Elementary functions	Fall 2019

Mentoring

Project mentored through UO DRP.	Winter-Spring 2023
• Andrew Rehmann: Completeness for Propositional Logic	Spring 2023
Mentor for Incoming International Phd Students	Summer 2019- Present
• Juntao Lu (China).	AY 23-24

Past and upcoming Talks

Research talks (•) are listed above expository talks (⋆).

- • *Joint Mathematics Metteings JMM* (San Francisco, USA)
  AMS special session on Homotopy Theory I
  Pseudo symmetric multifunctors and applications to K-theory.   January 2024
- • *Topology seminar* (University of Virginia , USA)   November 2023
- • *Topology seminar* (Johns Hopkins University, USA)   November 2023
- • *Topology seminar* (University of Washington, USA)   October 2023
- • *Topology seminar* (University of Oregon, USA)   October 2023
- • *17th Latin American Symposium on Mathematical Logic* (BUAP, Mexico)
  Sheaves of structures on a Locale.   June 2017
- ⋆ *Summer School on Scissors Congruence, Algebraic K-theory and Trace methods* (University of Indiana, USA)
  Quillen's Theorems A and B.   October 2023
- ⋆ Student topology seminar (University or Oregon, USA)   Fall 2019 -present
  Roughly one talk per term after Quals. Some of the talks include:

Model Categories.
Reedy Model Structures.
Homotopy Colimits.
Dwyer-Kan Simplicial localizations.
Mapping spaces in Quasicategories.
Operads and iterated loop spaces.
Segal's infinite loop space machine.
$S^{-1}S$ construction.

Past and upcoming Conferences	• *Joint Mathematics Meetings (JMM)* San Francisco, USA	January 2024
	• *Summer School on Scissors Congruence, Algebraic K-theory and Trace methods* University of Indiana, USA	June 2023
	• *Homotopy theory in honor of Paul Goerss* Northwestern University, USA	March 2023
	• *Barcelona Conference on Higher Structures* Universitat de Barcelona, Spain	June 2022
	• *Workshop on Derived Geometry* Universitat Autònoma de Barcelona, Spain	June 2022
	• *17th Latin American Symposium on Mathematical Logic* Benemérita Universidad Autónoma de Puebla, Mexico	June 2017
	• *XVIII Congreso Colombiano de Matemáticas* Universidad Industrial de Santander, Colombia	June 2011
	• *XVIII Congreso Colombiano de Matemáticas* Universidad del Valle, Colombia	June 2009

Service	• **Directed Reading program at UO** Organizer	Fall 2024 - Spring 2024
	• **AMS Grad Chapter at UO** Diversity Chair for the Academic Year 2023-2024.	Fall 2023 - Spring 2024
	• **Eugene Youth Math Fest** Volunteer	February 2023
	• **Climate committee, Department of Mathematics at UO**	2020 - 2021

Awards	• Anderson Mathematics Ph.D. Student Research Award, awarded by the Department of Mathematics at the University of Oregon.	Summer 2023
	• Fulbright-COLCIENCIAS scholarship awarded by the Colombian Fulbright Comission and COLCIENCIAS.	Fall 2018-Summer2022
	• Honorary Mention for a Master's thesis awarded by the Universidad Nacional de Colombia.	June 2016
	• Best advanced student by program: Mathematics. Awarded by the Universidad de Antioquia.	2009-2011
	• Best GPA by cohort during 9 out of 10 semesters. Tuition fee waiver awarded by the Universidad de Antioquia.	2005-2012

Programming Languages	• Coq • Matlab	**Software Programs**	• LaTeX

Languages   • Spanish (native)   • English (fluent)   • French (competent)

Last Update: November 3, 2023