# MSc Horacio Castellanos Muñoa

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#### EDUCATION

 B.A in Economics
 2007-2012

 School of Economics, UNAM
 CDMX

 • GPA: 8.53/10
 2014-2020

 B.A in Mathematics
 2014-2020

 School of Sciences, UNAM
 CDMX

 • GPA: 8.21/10
 CDMX

## M.S in Mathematical Sciences

2020-2022

Institute of Mathematics, UNAM

CDMX

- Doctoral Qualifying Examination in Modern Algebra (Summer 2021)
- GPA: 9.44/10

M.S in Economics

University of Montevideo, Uruguay

PhD in Mathematics

Institute of Mathematics, UNAM

2022-Ongoing

CDMX

- Doctoral Qualifying Examination in Algebraic Geometry (Spring 2023)
- Doctoral Qualifying Examination in Algebraic Topology (Summer 2023)

#### Work experience

### Professional Practice (Servicio Social)

January 2011 – July 2011

Mexican National Banking and Securities Commission

CDMX

• I did my professional practice in Economics in the "Dirección General de Prevención de Operaciones con Recursos de Procedencia Ilícita". My main task was to process requests from the Mexican government, mainly from the judiciary system, regarding access to financial data from people involved in any legal procedure. It involved file processing, redacting responses and managing highly confidential information.

#### Teaching Assistant

January 2016 – January 2019

School of Economics (Main Professor: Dr. Rafael Núñez)

UNAM, CDMX

- Statistics (Spring 2016)
- Introductory Econometrics (Fall 2016)
- Statistics (Spring 2017)
- Introductory Econometrics (Fall 2017)
- Statistics (Spring 2018)
- Introductory Econometrics (Fall 2018)

## RESEARCH

About an open problem in surfaces  $K^2 = 6$  and  $p_q = 4 \mid Master thesis in Mathematics$ 

February 10, 2023

• Master thesis in mathematics, particularly in algebraic geometry, under the supervision of Dr. Juan Salvador Garza Ledesma. Thesis successfully defended on February 10, 2023.

## Bloch-Beilinson-Murre Conjecture and Mixed Motives | PhD thesis in Mathematics

Ongoing

• I am currently working on the still conjectural filtration of the Chow groups with rational coefficients using Voevodsky's triangulated category of motives approach. My main advisor is Dr. Pablo Pelaez.

## Grants and Awards

Mexican Council of Science and Technology's scholarship for M. Sc. studies: Grant given by the mexican government as financial support for master students in public institutions.

Mexican Council of Science and Technology's scholarship for PhD studies: Grant given by the mexican government as financial support for PhD students in public institutions.

# TECHNICAL SKILLS

Languages: English (proficient), French (basic), Japanese (begginer)

International certifications: TOEFL iBT (96/120)

Programming languages: LaTeX (intermediate), R (intermediate), Python (begginer), Stata (begginer)

# REFERENCES

Dr. Rafael Núñez Zúñiga: School of Economics, UNAM. rafaelnz@economia.unam.mx

 $\textbf{Dr. Mauricio Olivares Gonz\'alez}: \ Department \ of \ Statistics \ and \ Econometrics, \ Ludwig-Maximilians-Universit\"at$ 

(LMU) Munich. m.olivares@lmu.de

Dr. José Pablo Pelaez Menaldo: Institute of Mathematics, UNAM. pablo.pelaez@gmail.com