MSc Horacio Castellanos Muñoa

| hcm234@ciencias.unam.mx |

Education

B.A in Economics 2007-2012
School of Economics, UNAM *CDMX*
- GPA: 8.53/10

B.A in Mathematics 2014-2020
School of Sciences, UNAM *CDMX*
- GPA: 8.21/10

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 2022-Ongoing
University of Montevideo, Uruguay *Hybrid*

PhD in Mathematics 2023-Ongoing
Institute of Mathematics, UNAM *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 $p_g = 4$ | *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 succesfully 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 goverment 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 goverment 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
Dr. Mauricio Olivares González: Department of Statistics and Econometrics, Ludwig-Maximilians-Universität (LMU) Munich. m.olivares@lmu.de
Dr. José Pablo Pelaez Menaldo: Institute of Mathematics, UNAM. pablo.pelaez@gmail.com