

HERNÁN E. NORIEGA

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EDUCATION

Instituto de Física, Universidad Nacional Autónoma de México (UNAM) *2022 - Present*
PhD in Science (Physics) *CDMX, Mexico*

Advisors: Dra. Mariana Vargas-Magaña & Dr. Alejandro Aviles

Grants: CONACYT Scholarship

Instituto de Física, Universidad Nacional Autónoma de México *2020 - 2021*
Master in Science (Physics) *CDMX, Mexico*

Thesis: ‘Effects of massive neutrinos on the Large Scale Structure of the Universe’

Thesis Advisors: Dra. Mariana Vargas-Magaña & Dr. Alejandro Aviles

Distinctions: Graduated with honors; Score 100 %

Grants: CONACYT Scholarship, PAEP-UNAM

Universidad del Atlántico (UA) *2014 - 2019*
BA in Physics *Barranquilla, Colombia*

Thesis: ‘Constant-roll inflation driven by a scalar field with nonminimal derivative coupling’

Thesis Advisor: Dr. Alexander Oliveros

Distinctions: Graduated with honors; 1st Class (Rank 1/55, 90 %)

Grants: UA Scholarship

LANGUAGES

Spanish Native

English Fluent

LONG-TERM ACADEMIC VISITS

Instituto Nacional de Investigaciones Nucleares (ININ) *2022 - Present*
Visiting Graduate Student with Dr. Alejandro Aviles *La Marquesa, Mexico*

Instituto de Ciencias Físicas, UNAM *Jan. - April, 2021*
Visiting Graduate Student with Dr. Sebastien Fromenteau *Cuernavaca, Mexico*

PUBLICATION LIST

Profile: [arXiv](#), [INSPIRE](#)

* = Author list alphabetized

1. **Hernán E. Noriega**, Alejandro Aviles, Sebastien Fromenteau, Mariana Vargas-Magaña, “Fast computation of non-linear power spectrum in cosmologies with massive neutrinos”, *JCAP* 11 (2022) 038 ([arXiv](#)).
2. *DESI Collaboration • B. Abareshi (incl. **Hernán E. Noriega**), “Overview of the Instrumentation for the Dark Energy Spectroscopic Instrument”, *Astron.J.* 164 (2022) 5, 207 ([arXiv](#)).

3. A. Oliveros, **Hernán E. Noriega**, “Constant-roll inflation driven by a scalar field with nonminimal derivative coupling”, *Int. J. Mod. Phys. D* **28** (2019) 12, 1950159 ([arXiv](#)).

SELECTED TALKS

* = *Virtual Talk*

2022

- *DESI Collaboration Meeting, Breakout 3a: Compressed Statistics (joint KP57+GQC) - Updates on FOLPS*, Cancun, Mexico, Dec.
- *VIII Essential Cosmology for the Next Generation*, Cancun, Mexico, Dec. - *Contributed Talk*.
- **Celebration for the Physicist day and the 20 year of the physics program*, Universidad del Atlántico, Barranquilla, Colombia, Nov. - *Invited Talk*.
- **DESI Collaboration Meeting, Breakout 7a: Update on GQC projects – Bayview*, Berkeley, California, USA, June.

2021

- *Short course: FFTLog formalism in cosmological perturbation theories*, Instituto Avanzado de Cosmología (IAC), CDMX, Mexico, Aug. - *Invited Talk*.
- **Celebration for the day of light*, SCOP (OSA & SPIE), Barranquilla, Colombia, May - *Invited Talk*.

2018

- *VIII Regional Physics Meeting*, SUE Caribe & Sociedad Colombiana de Física, Barranquilla, Colombia, Nov.
- *II Workshop on Current Challenges in Cosmology*, UAN, Univalle, UNAL y COLCIENCIAS, Bogotá, Colombia, Nov.
- *XV Departmental Meeting of Research*, RedCOLSI, Barranquilla, Colombia, May.

ACADEMIC EXPERIENCE

Vera C. Rubin Observatory (LSST) <i>LSST member</i>	<i>2022 - Present</i>
Dark Energy Spectroscopic Instrument (DESI) <i>DESI member</i> Galaxies Quasars Clustering (GQC) working group	<i>2021 - Present</i>
Institución Educativa Distrital Ciudadela Estudiantil <i>High School teacher in Physics and Mathematics</i>	<i>2019 - 2020</i> <i>Barranquilla, Colombia</i>
Universidad del Atlántico <i>Administrative staff: Physics labs</i>	<i>2019 - 2020</i> <i>Barranquilla, Colombia</i>
Universidad del Atlántico <i>Assistant teacher</i>	<i>2016 - 2018</i> <i>Barranquilla, Colombia</i>

TECHNICAL STRENGTHS

Computing Languages	Python, C/C++ MATHEMATICA, MATLAB
Codes Developed	FOLPS ν , <i>fkpt</i>
Supercomputer	Miztli, Atocatl, NERSC

REFERENCES

Dra. Mariana Vargas-Magaña

UNAM, Instituto de Física

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Dr. Alejandro Aviles

CONACYT & ININ

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Dr. Sebastien Fromenteau

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