

# Federico G. Lopez Armengol

## Curriculum Vitæ

Instituto Argentino de Radioastronomía – C.C. No 5, Villa Elisa, Buenos Aires, Argentina  
☎ (+54) (0221) 425 4909 int. 102 • ✉ flopezar@iar.unlp.edu.ar

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### Personal information

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- **Name:** Federico Gaston Lopez Armengol
- **Nationality:** Argentine
- **Place of birth:** La Plata, Buenos Aires, Argentina
- **Date of birth:** January, 24th, 1990
- **Marital status:** Single
- **E-mail:** fedelopezar@gmail.com

### Current position

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- **April 2015 - present: Astronomy PhD student**  
Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata
- **October 2015 - present: Teaching Head of Practical Assignments**  
Facultad de Ingeniería, Universidad Nacional de La Plata

### Academic formation

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1. **1996 - 2007: High School**  
San Luis of La Plata School  
Average mark: 8.23/10
2. **2008 - 2015: M.Sc. in Astronomy**  
Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata  
Degree thesis: *Cosmological evolution of black holes and their relationship with the second law of Thermodynamics*  
Supervisors: Prof. Dr. Gustavo E. Romero & Dra. Daniela Pérez  
Average mark: 9.68/10
3. **2015 - present: Astronomy PhD student**  
Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata  
Topic: Black holes in astrophysical and cosmological contexts  
Supervisor: Prof. Dr. Gustavo E. Romero  
Working place: Instituto Argentino de Radioastronomía

### Post-graduate courses

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1. **GRTensor applications to Astrophysics and Cosmology**  
Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata  
Professor: Dr. Santiago E. Pérez-Bergliaffa  
Final mark: 10/10
2. **Introduction to Quantum Field Theory I**  
Facultad de Ciencias Exactas, Universidad Nacional de La Plata  
Professor: Dr. Martin Schwellingner  
Final mark: 10/10

### 3. Introduction to Magnetohydrodynamics

Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata  
Professor: Dra. Ana María Platzbeck  
Final mark: 10/10

### 4. Einstein Toolkit School and Workshop

'National Center for Supercomputing Applications', University of Illinois  
31th july - 4th august (2017)  
Urbana-Champaign, Illinois, EE.UU.

### 5. Workshop in Scientific Programming Techniques

Universidad Nacional de Quilmes  
26th february - 9th march (2018)  
Bernal, Buenos Aires, Argentina

## Publication list

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### Refereed papers in international journals.....

#### 1. Cosmological black holes and the direction of time

Romero, G.E., Pérez, D. & Lopez Armengol, F.G.  
*Foundations of Science*, 23: 415 (2018)

#### 2. Effects of Scalar-Tensor-Vector Gravity on relativistic jets

Lopez Armengol, F.G. & Romero, G.E.  
*Astrophysics and Space Science*, 362: 214 (2017)

#### 3. Accretion disks around black holes in Scalar-Tensor-Vector Gravity

Pérez, D., Lopez Armengol, F.G. & Romero, G.E.  
*Physical Review D* **95**, 104047 (2017)

#### 4. Neutron stars in Scalar-Tensor-Vector Gravity

Lopez Armengol, F.G. & Romero, G.E.  
*General Relativity and Gravitation*, **49** (2), 1-15 (2017)

### International conference proceedings.....

#### 1. Scalar-Tensor-Vector gravity effects on relativistic blobs ejected by AGNs

Lopez Armengol, F.G. & Romero, G.E.  
*Proceedings of the Fifth Meeting on High-Energy Phenomena in Relativistic Outflows (HEPRO V)*, 153-158,  
ISBN 978-987-24948-3-4 (2016)

### National conference proceedings.....

#### 1. Interpretation misunderstandings about elementary Quantum Mechanics

Lopez Armengol, F.G. & Romero, G.E.  
*Metatheoria*, **7** (2), ISSN 1853-2322 (2017)

#### 2. Scalar-tensor-vector gravity theory solutions with matter content

Lopez Armengol, F.G. & Romero, G.E.  
*Boletín de la Asociación Argentina de Astronomía*, **58**, 231-233 (2016)

## Scientific meetings

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### Contributions.....

#### 1. Grav17

La Falda, Argentina (2017)

Oral presentation: *Strong field effects of Scalar-Tensor-Vector Gravity*

Authors: Federico G. Lopez Armengol, Gustavo E. Romero & Daniela Pérez

#### 2. International Summer Institute on the Philosophy of Quantum Gravity

Williams Bay, Wisconsin, USA (2016)

Oral presentation: *Some philosophical issues in the causal set approach to quantum gravity*

Authors: Federico G. Lopez Armengol & Gustavo E. Romero

3. **High-Energy Phenomena in Relativistic Outflows V**  
 La Plata, Argentina (2015)  
 Poster: *Scalar-Tensor-Vector gravity effects on relativistic blobs ejected by AGNs*  
 Authors: Federico G. Lopez Armengol, Daniela Pérez & Gustavo E. Romero
4. **First Latin American meeting of Scientific Phylosophy**  
 Ciudad de Buenos Aires, Argentina (2015)  
 Oral presentation: *Interpretation misunderstandings about elementary Quantum Mechanics*  
 Authors: Federico G. Lopez Armengol & Gustavo E. Romero
5. **58th Annual Meeting of the Argentinian Astronomical Association**  
 La Plata, Argentina (2015)  
 Oral presentation: *Scalar-tensor-vector gravity theory solutions with matter content*  
 Authors: Federico G. Lopez Armengol, Gustavo E. Romero & Daniela Pérez
6. **Grav15**  
 La Falda, Argentina (2015)  
 Oral presentation: *Cosmic evolution of black holes and the second law of thermodynamics*  
 Authors: Federico G. Lopez Armengol, Daniela Pérez & Gustavo E. Romero
7. **First International Science-Technology Conference of Buenos Aires province**  
 La Plata, Argentina (2013)  
 Poster: *Black holes and the second law of Thermodynamics*  
 Authors: Federico G. Lopez Armengol, Gustavo E. Romero & Daniela Pérez

## Schools and Workshops.....

1. **International Summer Institute on the Philosophy of Quantum Gravity**  
 'Beyond Spacetime', University of Illinois  
 19th june - 24th june (2016)  
 Williams Bay, Wisconsin, EE.UU.
2. **Einstein Toolkit School and Workshop**  
 'National Center for Supercomputing Applications', University of Illinois  
 31th july - 4th august (2017)  
 Urbana-Champaign, Illinois, EE.UU.
3. **Workshop in Scientific Programming Techniques**  
 Universidad Nacional de Quilmes  
 26th february - 9th march (2018)  
 Bernal, Buenos Aires, Argentina

## Organization.....

1. **First Latin American meeting of Scientific Phylosophy**  
 Ciudad de Buenos Aires, Argentina (2015)  
 Member of the Local Organizing Committee

## Fellowships

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1. **PhD fellowship**  
 Comisión Nacional de Investigaciones Científicas (CONICET)  
 April 2015 - present
2. **Undergraduated research training fellowship**  
 Comisión de Investigaciones Científicas de la Provincia de Buenos Aires (CIC)  
 October 2013 - September 2014

## Teaching experience

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1. **Teaching Head of Practical Assignments**  
 Facultad de Ingeniería, Universidad Nacional de La Plata  
 October 2017 - present

2. **Graduated Teaching Assistant of Physics**  
Facultad de Ingeniería, Universidad Nacional de La Plata  
August 2017 - October 2017
3. **Graduated Teaching Assistant of Math**  
Facultad de Ingeniería, Universidad Nacional de La Plata  
October 2015 - March 2018
4. **Undergraduate Teaching Assistant of Math**  
Facultad de Ingeniería, Universidad Nacional de La Plata  
March 2015 - October 2015
5. **Undergraduate Teaching Assistant of Elementary Math**  
Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata  
February 2015 - March 2015
6. **Undergraduate Teaching Assistant of Math**  
Facultad de Ingeniería, Universidad Nacional de La Plata  
March 2014 - February 2015
7. **Undergraduate Teaching Assistant of Elementary Math**  
Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata  
February 2014 - March 2014
8. **Undergraduate Teaching Assistant of Math**  
Facultad de Ingeniería, Universidad Nacional de La Plata  
March 2013 - February 2014
9. **Undergraduate Teaching Assistant of Elementary Math**  
Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata  
February 2012 - March 2012

## Outreach

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### Articles.....

1. **El espacio y el tiempo**  
Boletín de Divulgación Científica y Tecnológica del IAR, ISSN: 1669-7871 (2016)
2. **Exploring The Discrepancies Between General Relativity And Scalar-Tensor-Vector Gravity Theory**  
Science Trends, <http://doi.org/10.31988/SciTrends.8993> (2018)

## Informatics

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- **OS:** Windows, GNU/Linux
- **Languages:** Fortran 77/90, Python, Bash, C
- **Others:** Wolfram Mathematica, Maple (GRTensor), Cactus (Einstein Toolkit)

## Miscellaneous

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### Institutional management.....

1. **2016 - present:** Member of the Directive Council of the Instituto Argentino de Radioastronomía

### Awards.....

1. **Distinguished graduate**, for outstanding marks during degree studies  
Universidad Nacional de La Plata, 2015
2. **Dr. Joaquín V. González Distinction**, for outstanding marks during degree studies  
Municipalidad de La Plata, Buenos Aires, Argentina, 2015

## Membership of scientific organizations.....

1. **2015 - present:** *Asociación Argentina de Astronomía*  
<http://www.astronomiaargentina.org.ar/>
2. **2015 - present:** *Grupo de Astrofísica Relativista y Radioastronomía (GARRA)*  
<http://garra.iar.unlp.edu.ar/>
3. **2017 - present:** *Pulsar Monitoring in Argentina (PuMA)*