



Dr. Florencia Collacchioni Carreira

Curriculum Vitae (August 18, 2021)

Personal information

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Birth date 7th November 1990
Birth Place Ciudad Autónoma de Buenos Aires, Argentina
Nationality Spanish and Argentinian
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Current position

2021-Present **Postdoctoral Fellow**, *Universidad Nacional de La Plata (UNLP)*, La Plata, Argentina.

Academic formation

2016–2021 **Ph.D. in Astronomy**, *Universidad Nacional de La Plata (UNLP)*, La Plata, Argentina.

PhD thesis: *Chemical evolution of galaxies: mass-metallicity relation and abundance profiles*. Supervised by Prof. Dr. Sofía A. Cora and Dr. Claudia Lagos. Mark: 10 (out of 10).

2009–2016 **MSci. in Astronomy**, *Universidad Nacional de La Plata (UNLP)*, La Plata, Argentina, *Average Mark: 8.67 (out of 10)*.

Master Thesis: *Study of the Mass-Metallicity Relation in Galaxies*. Supervised by Prof. Dr. Sofía A. Cora and Dr. Claudia Lagos. Mark: 10 (out of 10).

Fellowships obtained

Apr 2021–Present **36-months Postdoctoral Fellowship from Scientific and Technical Research Council from Argentina (CONICET)**. Instituto de Astrofísica de La Plata (IALP), La Plata, Argentina.

Apr 2016–March 2021 **60-months Doctoral Fellowship from Scientific and Technical Research Council from Argentina (CONICET)**. Instituto de Astrofísica de La Plata (IALP), La Plata, Argentina.

Jul 2018–Dec 2018 **2018 Endeavour Research Fellowship from Department of Education and Training of the Australian Government**. Topic: *Study of the effect of gas accretion on the metallicity profiles of galaxies*. Supervised by Dr. Claudia Lagos. International Centre for Radio Astronomy Research (ICRAR), Perth, Australia.

- Oct 2015–March 2016 **Training Fellowship from Cientific Research Committe (Comisión de Investigaciones Cientificas, CIC) of the Buenos Aires Province.** Topic: *Study of the Fundamental Metallicity Relation on Galaxies*. Supervised by Prof. Dr. Sofía A. Cora. Instituto de Astrofísica de La Plata (IALP), La Plata, Argentina.
- Oct 2014–Sept 2015 **Cientific Vocation Incentive Fellowship from Universidad Nacional de La Plata (UNLP).** Topic: *Study of the Mass-Metallicity Relation on Galaxies*. Supervised by Prof. Dr. Sofía A. Cora. Instituto de Astrofísica de La Plata (IALP), La Plata, Argentina.

Computer skills

- Languages & Software Fortran, LaTeX, IDL, Python, Vim, basic knowledge of Bash and C.
 Operating Systems Linux, Microsoft Windows.

Languages

- Spanish** *Mothertongue*
English *Fluent (Cambridge–First Certificate in English, 2008)*

Teaching experience

For all the jobs listed below, the employer was the Universidad Nacional de La Plata in Argentina. In all cases, the tasks involve discussing exercises with the full class, marking exams, and addressing questions and concerns of the students regarding the subject of the course.

- Apr 2021–Present Teaching assistant at *Galaxy Formation and Evolution* course.
 Apr 2021–Present Teaching assistant at *Mathematical Analysis II* course.
 Jun 2017–Present Teaching assistant at *Analytical Mechanics for Astronomers* course.
 February 2021 Teaching assistant at *Leveling Course on Elementary Math for Incoming Students*.
 February 2020 Teaching assistant at *Leveling Course on Elementary Math for Incoming Students*.
 March 2017–Feb 2019 Teaching assistant at *Mathematics A for Engineers* course.
 February 2017 Teaching assistant at *Leveling Course on Elementary Math for Incoming Students*.
 Apr 2014–Feb 2017 Teaching assistant at *Algebra I* course.
 February 2014 Teaching assistant at *Leveling Course on Elementary Math for Incoming Students*.
 Apr 2012–Oct 2014 Teaching assistant at *Mathematics A for Engineers* course.

Conferences and meetings

- Contributions
- **Studying radial metallicity profiles of galaxies in 2D (talk).** 10th Friend of Friends Virtual Meetins 2021. March 2021, Córdoba, Argentina.
 - **Radial Metallicity Profiles in 2 Dimensions (talk).** 62th Annual Meeting of the Argentinean Astronomical Society - Virtual Meeting. Octubre 2020, Rosario, Argentina.
 - **The effect of gas accretion on gas metallicity profiles: Insights from cosmological simulations (poster).** European Astronomical Society 2020 - Virtual Meeting. June 2020, Leiden, The Netherlands.
 - **Effect of gas accretion on galaxies (talk).** 5th PhD Students Annual Conference. September 2019, La Plata, Argentina.

- **Effect of gas accretion on the radial metallicity profile of galaxies (talk).** 61th Annual Meeting of the Argentinean Astronomical Society. September 2019, Viedma, Argentina.
 - **Impact of supernova feedback on the mass-metallicity relation (poster).** 3rd PhD Students Annual Conference. October 2017, La Plata, Argentina.
 - **Impact of supernova feedback on the mass-metallicity relation (poster).** 60th Annual Meeting of the Argentinean Astronomical Society. September 2017, Malargüe, Argentina.
 - **Study of the Mass-Metallicity in Galaxies (talk).** MultiDark Galaxies Workshop. October 2016, La Plata, Argentina.
 - **Study of the Mass-Metallicity Relation and Abundance Profiles in Galaxies (poster).** 2nd PhD Students Annual Conference. September 2016, La Plata, Argentina.
- Attendance
- *58th Annual Meeting of the Argentinean Astronomical Society.* September 2015, La Plata, Argentina.
 - *2nd National Meeting of Astronomy Students at the Faculty of Astronomy and Geophysics – UNLP.* September 2014, La Plata, Argentina.
 - *2nd Argentinian-Brazilian Meeting on Gravitation, Astrophysics and Cosmology.* April 2014, Buenos Aires, Argentina.
 - *2nd Meeting of Astronomy Students at the Faculty of Astronomy and Geophysics – UNLP.* September 2012, La Plata, Argentina.
 - *1st Argentinian-Chilean Meeting of the Argentinean Astronomical Society and Chilean Astronomical Society.* October 2011, San Juan, Argentina.

Publications

ORCID: 0000-0003-4852-2505.

- Referee Journals
- “*The MAGPI survey: Science goals, design, observing strategy, early results and theoretical framework*”, Foster, C.; Mendel, J. T.; Lagos, C. D. P.; Wisnioski, E.; Yuan, T.; D’Eugenio, F.; Barone, T.M.; Harborne, K.E.; Vaughan, S.P.; Schulze, F.; Remus, R. S.; Gupta, A.; **Collacchioni, F.**; Khim, D. J.; Taylor, P.; Bassett, R.; Croom, S. M.; McDermid, R. M.; Poci, A.; Barristi, A. J.; Bland-Hawthorn, J.; Bellstedt, S.; Colless, M.; Davis, L. J. M.; Driver, S.; Ferré-Mateu, A.; Fisher, D. B.; Gjergo, E.; Johnston, E. J.; Khalid, A.; Kobayashi, C.; Oh, S.; Peng, Y.; obotham, A. S. G.; Sweet, S. M.; Taylor, E. N.; Tran, K. V. H.; Trayford, J. W.; van de Sande, J.; Yi and S. K.; Zanisi, L. PASA, Volume 38, article ID. e031, 24 pages, July 2021.
 - “*The effect of gas accretion on the radial gas metallicity profile of simulated galaxies*”, **Florencia Collacchioni**, Claudia Lagos, Peter Mitchell, Joop Schaye, Emily Wisnioski, Sofía A. Cora, Camila Correa. MNRAS, Volume 495, Issue 3, July 2020, Pages 2827-2843.
 - “*Semi-analytic galaxies – III. The impact of supernova feedback on the mass-metallicity relation*”, **Florencia Collacchioni**, Sofía A. Cora, Claudia Lagos, Cristian A. Vega-Martínez. MNRAS, Volume 481, Issue 1, November 2018, Pages 954-969.

- “*Semi-analytic galaxies – I. Synthesis of environmental and star-forming regulation mechanisms*”, Sofía A. Cora, Cristian A. Vega-Martínez, Tomás Hough, Andrés N. Ruiz, Álvaro A. Orsi, Alejandra M. Muñoz Arancibia, Ignacio D. Gargiulo, **Florencia Collacchioni**, Nelson D. Padilla, Stefan Gottlöber, Gustavo Yepes. *MNRAS*, Volume 479, Issue 1, September 2018, Pages 2-24.

Referee Conference
Contributions

- “*Local metallicity in simulated galaxies*”, **Florencia Collacchioni**, Camila Correa, Claudia Lagos, Sofía A. Cora. *BAAA* Vol. 62, June 2021, Pages 165-167. Code: 2021BAAA..62..165C. Public access: <http://www.astronomiaargentina.org.ar/uploads/docs/baaa62.pdf>
- “*The effect of gas accretion on the radial abundance profiles of galaxies*”, **Florencia Collacchioni**, Claudia Lagos, Peter Mitchell, Sofía A. Cora. *BAAA* Vol. 61B, June 2020, Pages 149-151.
- “*Impacto de la retroalimentación de supernovas en la evolución de la relación masa-metalicidad*”, **Florencia Collacchioni**, Sofía A. Cora, Claudia Lagos, Cristian A. Vega-Martínez. *BAAA* Vol. 60, August 2018, Pages 151-153.

Research stays

- 9-weeks Internship to perform formation and research work at Faculty of Leiden. Funded by the LACEGAL (Latinamerican Chinese European Galaxy Formation Network) project. April–May 2019, Leiden, The Netherlands.
- 5-months Internship to perform formation and research work in the International Centre for Radio Astronomy Research (ICRAR). Funded by the Endeavour Research Fellowship. July–December 2018, Perth, Australia.
- 4-weeks Internship to perform formation and research work in the International Centre for Radio Astronomy Research (ICRAR). Funded by the ICRAR and the UNLP. May–June 2017, Perth, Australia.

International schools

- **First School on Data Science and Machine Learning.** Institution: *International Centre for Theoretical Physics (ICTP)*. Dec. 2020, Sao Paulo, Brazil.
- **2nd Latin American School on Parallel Programming for High Performance Computing.** Institution: *International Centre for Theoretical Physics (ICTP)*. Dec. 2020, Sao Paulo, Brazil.
- **2018 ICRAR/CASS Radio School.** Institution: *International Centre for Radio Astronomy Research (ICRAR)*. Oct. 2018, Geraldton, Australia.
- **Especial Course of Galaxy Formation and Evolution.** Institution: *Facultad de Ciencias Astronómicas y Geofísicas*. Oct. 2016, La Plata, Argentina.

Relevant courses

- **Stellar Formation in Galaxies.** Institution: *Facultad de Ciencias Astronómicas y Geofísicas*. 2019, La Plata, Argentina.
- **High Energy Sky Workshop: unidentified sources.** Institution: *Facultad de Ciencias Astronómicas y Geofísicas*. 2019, La Plata, Argentina.
- **High Energy Astrophysics.** Institution: *Facultad de Ciencias Astronómicas y Geofísicas*. 2017, La Plata, Argentina.

- **Smoothed Particle Hydrodynamics.** Institution: *Facultad de Ciencias Astronómicas y Geofísicas.* 2016, La Plata, Argentina.
- **Computational Tools for Scientists.** Institution: *Facultad de Ciencias Astronómicas y Geofísicas.* 2016, La Plata, Argentina.
- **Galaxy Populations.** Institution: *Facultad de Ciencias Astronómicas y Geofísicas.* 2016, La Plata, Argentina.

Fundings obtained

- FCAGLP Scientific Events Funding for PhD. students. September, 2019.
- Collaborator in the Science and Technique Incentive Project “Study of extragalactic stellar systems in environments of different density by observations and numerical simulations”. Director: Prof. Dr. Sofía A. Cora, Co-Director: Prof. Dr. Lilia P. Bassino. Period 2019-2021, La Plata, Argentina.
- Collaborator in the UNLP Incentive Project “Integral study of stellar systems in environments of different density by photometry, spectroscopy and numerical simulations”. Director: Prof. Dr. Lilia P. Bassino, Co-Director: Prof. Dr. Sofía A. Cora. Period 2017-2020, La Plata, Argentina.
- Collaborator in the Science and Technique Incentive Project “Study of extragalactic stellar systems in environments of different density by observations and numerical simulations”. Director: Prof. Dr. Lilia P. Bassino, Co-Director: Prof. Dr. Sofía A. Cora. Period 2014-2018, La Plata, Argentina.

Other activities in science

- Collaborator in the MUSE large program **MAGPI survey** (*Middle Ages Galaxy Properties with Integral Field Spectroscopy*) as an associate investigator since July 2019.
- Participation of the **2017 Cycle of Seminars of the Faculty of Astronomy and Geophysics.** Presentation of preliminar results of my research to the Faculty community. Title: *Impact of Supernova Feedback on the Evolution of the Mass-Metallicity Relation.* May 2017, La Plata, Argentina.
- Two nights of observational practice at CASLEO (“El Leoncito” Astronomical Complex). April 2012, San Juan, Argentina.

Outreach

- Interview about my PhD. work: *Astronomic chemistry. Where? In galaxies.* The interview is aimed for general public. April 2020.
- Collaborator on the activity “Solstice at the Observatory” organised by the Choiols Group at the Faculty of Astronomy and Geophysics–UNLP. June 2012, La Plata, Argentina.
- Organization of the public talk: “Planeting – Episode 2: A look into the future” at the Faculty of Astronomy and Geophysics–UNLP. November 2011, La Plata, Argentina.

Other activities

- Professional Member of the Argentinean Astronomical Society since August 2017.

- Member of the Observatory Gender Commission at the Faculty of Astronomy and Geophysics–UNLP. 2013-2020, La Plata, Argentina
- Member of the selection committee for student teaching at the Faculty of Astronomy and Geophysics–UNLP. (Subject: Computer Studies). 2017, La Plata, Argentina.
- Public Service Position of Chair in representation of the Students Center at the Faculty of Astronomy and Geophysics–UNLP. 2016, La Plata, Argentina.
- Public Service Position of Chair in representation of the Students Center at the Faculty of Astronomy and Geophysics–UNLP. 2015, La Plata, Argentina.
- Member of the selection committee for student teaching at the Faculty of Astronomy and Geophysics–UNLP. (Subject: Celestial Mechanics I). 2015, La Plata, Argentina.
- Member of the selection committee for professor at the Faculty of Astronomy and Geophysics–UNLP. (Subject: Linear Algebra). 2013, La Plata, Argentina.
- Member of the selection committee for student finance grants at the Faculty of Astronomy and Geophysics–UNLP. 2013, La Plata, Argentina.
- Member of the student election commission at the Faculty of Astronomy and Geophysics–UNLP. 2012, La Plata, Argentina.