

CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION		CV date	12/09/2023
First name	Prada		
Family name	Francisco		
Gender (*)	Male	Birth date (dd/mm/yyyy)	12/08/68
Social Security, Passport, ID number	34042651Y		
e-mail	f.prada@csic.es	URL Web	http://fprada.iaa.es
Open Research and Contributor ID (ORCID)(*)	0000-0001-7145-8674		

(*) Mandatory

A.1. Current position

Position	Full Professor CSIC		
Initial date	2006		
Institution	Instituto de Astrofísica de Andalucía CSIC		
Department/Center			
Country	Spain	Teleph. number	+34958121311
Key words	Astrophysics, Cosmology, Scientific Instrumentation		

A.2. Previous positions (research activity interruptions, art. 45.2.b))

Period	Position/Institution/Country/Interruption cause
1992 – 1995	SERC Predoctoral Fellowship, Queen's University Belfast, UK
1995 – 1995	Postdoc with Prof. R. Genzel (Nobel Laureate), MPE, Germany
1995 – 1997	Postdoc, Instituto de Astrofísica de Canarias, La Laguna, Tenerife, Spain
1997 – 1998	Postdoc, Instituto de Astronomía, Obs. Astron. Nacional, UNAM, Mexico
1999 – 2002	Resident Astronomer, Spanish-German Astronomical Center, Spain
2002 – 2003	Support Astronomer, IAC & Isaac Newton Group, La Palma, Spain
2003 – 2006	Ramón y Cajal Fellowship, Instituto de Astrofísica de Andalucía CSIC
2007 – 2009	Director, Instituto de Astrofísica de Andalucía CSIC, Granada, Spain
2011 – 2016	Professor UAM-CEI, Instituto de Física Teórica UAM-CSIC, Madrid, Spain
2015 – 2015	Professor on sabbatical at Lawrence Berkeley National Lab, USA

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Physics Degree	Universidad de La Laguna, Spain	1991
Ph.D.	Queen's University Belfast, U.K.	1995

Part B. CV SUMMARY (max. 5000 characters, including spaces)

5 "sexenios de investigación" (productivity)

14 supervised PhD students and 4 Master students

Total number of referee paper published Q1: 349; Total number of citations: 54322; h-index: 107. Data taken from Google Scholar

Guarantee of 2 Severo-Ochoa Awards: IFT UAM-CSIC in 2012 and IAA-CSIC in 2018.

Scientific Interests: Theoretical and observational aspects in the field of Cosmology, Particle Astrophysics, the development of instrumentation for multi-object spectrographs for large galaxy surveys, development of databases for cosmological simulations. My research projects focus on discovering the nature of the dark components of the universe and its structure formation. In particular: Detection of dark matter - Formation and evolution of dark matter halos: theory and simulations - Large Scale Structure of the universe: dark matter, dark energy and cosmological parameters - Formation and evolution of galaxies - Development of instrumentation for large galaxy surveys - Databases for cosmological simulations - Technology transfer in the fields of advanced robotics and Biomedicine.

Publications: 349 referee articles in Q1, and more than 100 non-referee publications non-referee; which in total have 54322 citations with H-index = 107. Data taken from Google Scholar.

Training: Supervisor of 14 PhD theses, 4 Master's theses, and several summer students. Professor of the "Astroparticle Physics" course in the Theoretical Physics MSc of the UAM in Madrid. Supervisor of 4 postdocs and several engineers.

Management experience: Participation at P.I. level, co-I and Project Management in the projects LIRIS (long-slit Intermediate Resolution Infrared Spectrograph for the 4.2m WHT at La Palma), SIDE (a wide-field fibre-fed spectrograph for the GTC 10.4m telescope at La Palma), XMS (a wide-field multi-slit spectrograph for the Calar Alto 3.5m telescope), DESI (Dark Energy Spectroscopic Instrument, <https://www.desi.lbl.gov>), MAAT at GTC in La Palma (<http://maat.iaa.es>), MultiDark Project (Multimessenger Approach for Dark Matter Detection), *Skies & Universes* and MultiDark Databases for Cosmological Simulations.

Director of the Instituto de Astrofísica de Andalucía (CSIC): 06/22/07 to 01/28/09.

Participation in numerous national and international committees, experience in the organization of R&D activities (meetings, workshops and conferences). Talks given at conferences, workshops, and meetings of the MultiDark, SDSS-III BOSS, SDSS-IV eBOSS, BigBOSS/DESI, JPAS collaborations, as well as Seminars and Colloquia given at institutes and research centres worldwide.

2 Patents: (1) Fiber positioner device for multi-object spectrographs, 2010, Ref. PCT/ES2010/070279; (2) Portable non-invasive device, positioning system, microscope and method for individually activating cells in a culture, 2016, Ref. P201631612.

Dissemination: *Skies & Universes*, MultiDark Database for Cosmological Simulations (www.skiesanduniverses.org, <https://www.multidark.org>); SDSS-III, SDSS-IV data releases (<https://www.sdss.org>); Participation in numerous education training and outreach activities.

Experience as a Support Astronomer in the Isaac Newton Group of Telescopes (1996-1997; 2003) in La Palma and Resident Astronomer in the Calar Alto Observatory (1999-2002).

Part C. RELEVANT MERITS (sorted by typology)

C.1. Most important publications in books and journals with "peer review" and in conferences (see instructions).

- Ishiyama, T., Prada, F., et al. 2021, The Uchuu simulations: Data Release 1 and dark matter halo concentrations, MNRAS, 506, 4210
- Prada et al., White Paper on MAAT@GTC, 2020, arXiv:2007.01603

- Klypin, A., & Prada, F., *Dark matter statistics for large galaxy catalogues: power spectra and covariance matrices*, 2018, MNRAS, 478, 4602-4621
- Rodríguez-Torres, S.A., Chuang, C.-H., Prada, F., et al., *The clustering of galaxies in the SDSS-III Baryon Oscillation Spectroscopic Survey: modelling the clustering and halo occupation distribution of BOSS CMASS galaxies in the Final Data Release*, 2017, MNRAS, 460, 1173–1187
- Klypin, A., Prada, F., Comparat, J., *Skies And Universes: Accessing cosmological simulations and theoretical predictions*, 2017, arXiv:1711.01453
- Prada, F., et al., *Hunting down systematics in baryon acoustic oscillations after cosmic high noon*, 2016, MNRAS, 458, 613-623
- Fahim, N., Prada, F., et al., *An 8-mm diameter fibre robot positioner for massive spectroscopy surveys*, 2015, MNRAS, 450, 794-806
- Prada, F., Klypin, A., Cuesta, A.J., Betancort-Rijo, J., Primack, J., *Halo concentrations in the standard Λ cold dark matter cosmology*, 2012, MNRAS, 423, 3018-3030
- Prada, F., Klypin, A., Flix, J., Martínez, M., Simonneau, E., *Dark matter annihilation in the Milky Way galaxy: effects of baryonic compression*, Phys. Rev. Letters, 2004, 93, 241301-1, 241301-4
- Prada F., Vitvitska M., Klypin A., Holtzman J.A., Schlegel D.J., Grebel E.K., Rix H.-W., Brinkmann J., McKay T.A., Csabai, I., *Observing the dark matter density profile of isolated galaxies*, 2003, Ap. J. 598, 260-271
- Klypin, A., Kravtsov, A.V., Valenzuela, O., Prada, F., *Where are the missing galactic satellites?*, 1999, Ap. J., 522, 82-92

C.2. Congress.

I have participated in many conferences and workshops world-wide.

C.3. Projects or research lines in which you have participated.

1. Reference: PID2021-126086NB-I00
Title: Tests de modelos cosmológicos con las medidas de BAO y H0 realizadas con DESI y MAAT
Principal Investigator: Francisco Prada
Funding agency: MICINN
Dates: 01/09/2022-31/08/2025
Budget: 160,000 €
Status: Starting
2. Reference: EQC2021-007105-P
Title: A new integral field instrument for the OSIRIS spectrograph on the Gran Telescopio CANARIAS
Principal Investigator: Francisco Prada
Funding agency: MICINN
Dates: 01/06/2021-31/12/2023
Budget: 465,000 €
Status: On-going
2. Reference: PGC2018-101931-B-100
Title: Skies and Universes for large-scale galaxy redshift surveys: first science results from DESI
Principal Investigators: Francisco Prada
Funding agency: MICINN
Dates: 01/01/2019-31/12/2021

Budget: 130,000 €

Status: On-going

3. Reference: EQC2019-006089-P

Title: Acquisition of a new infrastructure with large RAM and storage capacity for the creation of digital skies

Principal Investigator: Francisco Prada

Funding agency: MINECO

Dates: 01/01/2020-31/12/2020

Budget: 187,545 €

Status: Ended

4. Reference: EQC2018-004366-P

Title: Acquisition of a "Big Data" infrastructure for extreme computational astrophysics research

Principal Investigator: Francisco Prada

Funding agency: MINECO

Dates: 01/01/2019-31/12/2019

Budget: 191,232 €

Status: Ended

6. Reference: BIO2013-50346-EXP

Title: COSMOS, ROBOTS, Y TERAPIAS

Principal Investigator: Miguel Hernández Moreno

Funding agency: MINECO

Dates: January 2015 - December 2017

Budget: 65,000 €

Status: Ended

7. Reference: SAF2015-72988-EXP

Title: ACTIVACION OPTOGENETICA DE CIRCUITOS NEURONALES
COMUNICACION SINAPTICA POR MEDIO DE MICROPOSICIONAMIENTO ROBOTICO

Principal Investigator: José Antonio Esteban

Funding agency: MINECO

Dates: April 2017 – March 2019

Budget: 55,000 €

Status: Ended

C.4. Participation in technology/knowledge transfer activities and exploitation of results.

As a result of my involvement in the development of instrumentation for multi-object spectrographs dedicated to large spectroscopic galaxy surveys, in particular the work in the design and development of robotic optical fibre positioners, I have been involved in two transdisciplinary R&D projects in the field of Neuroscience and Cellular Injection. These activities have materialized in two projects funded by the program MINECO EXPLORA: one in collaboration with the Molecular Biology Centre (CBM, Madrid) and another with the Department of Biochemistry of the UAM School of Medicine in Madrid.

Patents: (1) Fiber positioner device for multi-object spectrographs, 2010, Ref. PCT/ES2010/070279; (2) Portable non-invasive device, positioning system, microscope and method for individually activating cells in a culture, 2016, Ref. P201631612