

Virginia Cúneo

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DOB: 26th September 1987
Nationality: Argentinean

Current Position

Post-Doctoral Research Fellow, April 2017 - Present

Relativistic Astrophysics and Radio Astronomy Group, Argentine Institute of Radio Astronomy

– Supervisor: Prof. Jorge A. Combi

Education & Previous Positions

PhD in Astrophysics, Apr. 2012 - Mar. 2017

Astronomical Observatory of Córdoba, University of Córdoba, Córdoba, Argentina

"Interacting binary systems with compact components: a spectroscopical study"

– Supervisor: Prof. Mercedes Gómez

MSc in Astronomy, Mar. 2006 - Mar. 2012

University of Córdoba, Córdoba, Argentina

"About stellar-mass black holes in the Galaxy"

– Supervisor: Prof. Mercedes Gómez

Memberships & Responsibilities

Member of the Argentinian Astronomical Association.

Successful PI of 5 Gemini proposals in the queue mode for both, Gemini-North and Gemini-South telescopes (awarded >11 hours).

Successful PI of a Gemini-South proposal in the Fast Turn Around mode (awarded 2 hours).

Successful PI of a Swift proposal (awarded 1.7 hours).

Support astronomer at the Estación Astrofísica de Bosque Alegre (EABA; optical telescope), Córdoba, Argentina, twice a month during 2 years, for a variable stars monitoring program.

Workshops, Courses & Visiting research

Academic visit to the University of Southampton, UK, for a period of 2 months, July 2017

Course: "Data reduction of UVOT and XRT/Swift", Southampton, UK, 2016

Academic visit to the University of Southampton, UK, for a period of 6 weeks, under a COSPAR fellowship, May 2016

Course: "Data reduction of GMOS/Gemini", Córdoba, Argentina, 2015

COSPAR Capacity Building Workshop "Advanced School on X-ray Astrophysics", Ensenada, México, November 2014

Workshop on "Composite Spectra: Reconstructing the Components", Río de Janeiro, Brazil, August 2014

Course: "Elements of astronomical spectroscopy with diffraction gratings", Córdoba, Argentina, 2014

Course: "Interacting binary systems", Córdoba, Argentina, 2013

Course: "Introduction to black holes astrophysics", La Plata, Buenos Aires, Argentina, 2013

COSPAR Capacity Building Workshop "Infrared and Submillimetre Astronomy", San Martín, Buenos Aires, Argentina, October 2012

Course: "High energy physical processes and data analysis of Chandra, XMM-Newton and Suzaku satellites", Córdoba, Argentina, 2012

Course: "Numerical hydrodynamic in astrophysical fluxes", Córdoba, Argentina, 2012

Course: "Evolution of massive stars", Córdoba, Argentina, 2012

South American Gemini Data Workshop, Sao José dos Campos, Brazil, November 2011

Teaching & Outreach Experience

2015-2016 Professor in charge of practical classes of the 1st year MSc course "Introduction to Physics", National University of Córdoba, Argentina.

2015 Speaker at the "Museum's Night" at the Astronomical Observatory of Córdoba, Argentina.

2013 Speaker and co-organiser of public outreach events to public schools in Córdoba province using a mobile telescope and speaker and telescope operator at the "Museum's Night" at the Astronomical Observatory of Córdoba, Argentina.

2011 Speaker at the inauguration of the Museum of the Astronomical Observatory of Córdoba, Argentina.

2010-2011 Speaker and telescope operator at weekly visits from schools to the Astronomical Observatory of Córdoba and at the general public visits to the EABA, during winter, summer and bank holidays.

2009 Speaker at several activities organized by the Astronomical Observatory of Córdoba, Argentina, as "100 hours of astronomy" and "Galilean nights".

2009 Speaker and co-organiser of public outreach events to public schools in Córdoba, Argentina.

Notable Talks

7th Friends of Friends Meeting, Córdoba, Argentina, April 2017
"30 years of optical spectroscopy from the symbiotic binary PU Vulpeculae"

PhD thesis defense, Córdoba, Argentina, March 2017
"Interacting binary systems with compact components"

PhD seminars, Córdoba, Argentina, October 2016 & February 2017
"30 years of optical spectroscopy from the symbiotic binary PU Vulpeculae" & "X-ray binary systems: an spectroscopical study of Swift J1553.5-0127 and IGR J17062-6143"

National Meeting of Astronomy Students, Córdoba, Argentina, September 2013
"Stellar-mass black holes in the Galaxy"

MSc thesis defense, Córdoba, Argentina, March 2012
"About stellar-mass black holes in the Galaxy"

MSc seminars, Córdoba, Argentina, November 2011 & February 2012
"Stellar-mass black holes" & "Stellar-mass black hole candidates in the Galaxy"

Relevant Skills

Extensive experience in programming languages Fortran and Python.

Extensive experience with tools for modelling data, such as CLOUDY, SYNTHE, ATLAS and XSPEC.

Extensive knowledge of techniques for the reduction and manipulation of photometry and spectra from a range of telescopes, at optical, IR and X-ray wavelengths, using IRAF and HEASARC softwares.

Extensive experience in the preparation and submission of large proposals to spectroscopically observe multiple science targets using optical and X-ray telescopes.

Experienced (20+ visits and queue mode) optical astronomer at facilities such as Gemini (long-term program) and EABA, to obtain spectroscopic and photometric data. Experienced observer at X-ray wavelengths with facilities as the Swift mission.

Proficient user of Linux/Windows operating systems. Considerable experience with \LaTeX associated packages.

Excellent level of Spanish and English, and basic Portuguese and French.

List of Publications

An illumination effect and an eccentric orbit for the symbiotic binary PU Vul revealed by 32 yr of optical spectroscopy

V.A. Cúneo, S.J. Kenyon, ..., 2018, *MNRAS*, 479, 2728

A search for transit timing variations and orbital decay in WASP-46b

R. Petrucci, ..., V. Cúneo, ..., 2018, *MNRAS*, 473, 5126

Evidence for the ultra-compact nature of IGR J17062-6143

J.V. Hernández Santisteban, V. Cúneo, ..., 2018, *MNRAS*, preprint (arXiv:1801.03006 [astro-ph.SR])

Abundancias químicas de la compañera visible del agujero negro binario V4641 Sgr (XTE J1819-254)

V.A. Cúneo, E. Jofré, ..., 2015, *BAAA*, 57, 145

No Transit Timing Variations in WASP-4

R. Petrucci, ..., V. Cúneo, ..., 2013, *ApJL*, 779, L23

Distribuciones Espectrales de Energía de las compañeras visibles en sistemas binarios que albergan agujeros negros de masas estelares

V.A. Cúneo & M.N. Gómez, 2013, *BAAA*, 56, 183

Agujeros negros de masas estelares en la Galaxia

V.A. Cúneo & M.N. Gómez, 2013, *BAAA*, 56, 179