

# Jorge Cuadra

Research keywords: Theoretical Astrophysics – Proto-planetary Discs  
Galactic Centre – Massive Black Hole Binaries

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## ACADEMIC POSITIONS

### Univ. Adolfo Ibáñez (UAI), Viña del Mar — *Full Professor*

March 2020 - present

Departamento de Ciencias, Facultad de Artes Liberales

### P. Univ. Católica de Chile (PUC), Santiago — *Assoc. Professor*

July 2010 - Feb 2020

Director of Astrophysics Undergraduate Programme (2018–20)  
Sabbatical at the Max Planck Institute for Extraterrestrial Physics (2017)  
Director for Research of Institute for Astrophysics (2016)  
Academic Secretary of Faculty of Physics (2014–16)

### Max-Planck Institute for Astrophysics, Garching, Germany; Shanghai Astronomical Observatory, China — *Joint Postdoctoral Position*

Sept 2008 - July 2010

### University of Colorado, Boulder, US — *Postdoc. Researcher*

Oct 2006 - Sept 2008

## EDUCATION

### Ludwig-Maximilians-Universität, München, Germany — *PhD in Astronomy*

Oct 2006

Thesis at the Max-Planck Institute for Astrophysics

### PUC — *Licenciatura en Astronomía*

Dec 2001

Also, Graduate Courses on Physics and Astronomy, 2001–2002, and  
Courses on Engineering and Computer Science, 1996–2000

## OUTREACH

- Development of video game and VR apps from simulations
- Talks for general public and lectures for high school teachers
- Astronomy articles for Emol, Qué Pasa and RAL
- Interviews for TV, radio, online, and written media

## RESEARCH OUTPUT

80+ WoS Q1 refereed articles  
with 4650+ citations,  $h=31$   
[orcid:0000-0003-1965-3346](https://orcid.org/0000-0003-1965-3346)  
[arxiv.org/a/cuadra\\_j\\_1.html](https://arxiv.org/a/cuadra_j_1.html)

40+ colloquia and invited  
seminars

60+ oral presentations at  
conferences, 12 invited

## MENTORING

- 12 postdoctoral researchers,  
including 6 FONDECYT
- Theses: 4 PhD, 4 MSc, 6 BSc
- 2 exchange PhD students
- 15+ summer and part-time  
research students

## REFEREEING

- papers for ApJ, MNRAS,  
A&A, and PASJ
- grant applications for  
DAAD, NWO, NSF,  
FONDECYT, and SOCHIAS

## SELECTED PUBLICATIONS FROM LAST FIVE YEARS

Underlined names correspond to supervised students or postdocs

1. Fontecilla, Camilo, Haiman, Zoltán, & Cuadra, Jorge: "Non-steady-state long-term evolution of supermassive black hole binaries surrounded by accretion discs", MNRAS, Volume 482, Issue 4, p.4383-4396, <http://doi.org/10.1093/mnras/sty2972> (2019)
2. Poblete, Pedro P., Cuello, Nicolás, & Cuadra, Jorge: "Dusty clumps in circumbinary discs", MNRAS, Volume 489, Issue 2, p.2204-2215, <http://doi.org/10.1093/mnras/stz2297> (2019)
3. Calderón, Diego, Cuadra, Jorge, Schartmann, Marc, et al.: "Stellar Winds Pump the Heart of the Milky Way", ApJL, Volume 888, Issue 1, article id. L2, 5 pp., <http://doi.org/10.3847/2041-8213/ab5e81> (2020)
4. Calderón, D., Cuadra, J., Schartmann, M., et al.: "Three-dimensional simulations of clump formation in stellar wind collisions", MNRAS, Volume 493, Issue 1, p.447-467, <http://doi.org/10.1093/mnras/staa090> (2020)
5. Gárate, M., Cuadra, J., Montesinos, M., et al.: "Feedback-limited accretion: variable luminosity from growing planets", MNRAS, Volume 501, Issue 3, pp.3113-3121, <http://doi.org/10.1093/mnras/staa3860> (2021)
6. Ronco, María Paula, Guilera, Octavio M., Cuadra, Jorge, et al.: "Long Live the Disk: Lifetimes of Protoplanetary Disks in Hierarchical Triple-star Systems and a Possible Explanation for HD 98800 B", ApJ, Volume 916, Issue 2, id.113, 16 pp., <http://doi.org/10.3847/1538-4357/aco438> (2021)
7. Scherer, Andrés, Cuadra, Jorge, & Bauer, Franz E.: "Galactic center gamma-ray production by cosmic rays from stellar winds and Sgr A East", A&A, Volume 659, id.A105, 8 pp., <http://doi.org/10.1051/0004-6361/202142401> (2022)
8. Gormaz-Matamala, A. C., Cuadra, J., Meynet, G., et al.: "Evolution of rotating massive stars with new hydrodynamic wind models", A&A, Volume 673, id.A109, 18 pp., <http://doi.org/10.1051/0004-6361/202345847> (2023)
9. Scherer, Andrés, Cuadra, Jorge, & Bauer, Franz E.: "Modeling the Galactic center gamma-ray emission with more realistic cosmic-ray dynamics", A&A, Volume 679, id.A114, 15 pp., <http://doi.org/10.1051/0004-6361/202245822> (2023)
10. Cuadra, Jorge: "The asymmetric sunrise effect on Thales' alleged measurement of the Sun angular size", PASJ, Volume 75, Issue 3, pp.L12-L17, <http://doi.org/10.1093/pasj/psado26> (2023)

## TEACHING EXPERIENCE

- Undergraduate: core science course, basic astronomy and planetary science courses
- Graduate courses: the Galactic centre, supermassive black holes, numerical astrophysics
- Graduate lecture series on ancient Greek Astronomy,

## SELECTED GRANTS FROM LAST FIVE YEARS

FONDECYT "Multi-phase Hydrodynamics in the Galactic Centre" / PI / 2021-25

Max Planck Partner Group on Galactic Centre Astrophysics / Director / 2016-21

Millennium Nucleus for Planet Formation / Main Researcher and Deputy Director / 2017-23

Millennium Nucleus on Transversal Research and Technology to Explore Supermassive Black Holes / Main Researcher / 2024-27

ANID-ALMA project "Protoplanetary discs with luminous companions" / PI / 2023-25

FONDECYT "The Astrophysical Impact of Radiation-Driven Stellar Winds on Protoplanetary and Circumplanetary Disk Evolution" / Co-I / 2024-28

FONDECYT "The Inner Parsec of the Galactic Center" / Sponsor / 2017-20

FONDECYT "Dust Evolution in Protoplanetary Disks With Complex Morphologies" / Sponsor / 2017-20

FONDECYT "Planet Formation in Binary Systems: Linking Different Formation Stages" / Sponsor / 2019-21

FONDECYT "The Missing Rings: Forming and Discovering Rings and Moons Around Exo-planets" / Sponsor / 2023-24

FONDECYT "Exploring Intermediate-mass Black Holes in Triple Systems with Gravitational Waves" / Sponsor / 2024-27