

Jorge Cuadra

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Research Keywords

Galactic Centre – Proto-planetary Discs – Massive Black Hole Binaries

Academic Appointments

- **2010–present:** Associate¹ Professor at the Instituto de Astrofísica, Pontificia Universidad Católica de Chile (PUC), Santiago.
- **2008–2010:** Joint postdoctoral research position between the **Max-Planck Institute for Astrophysics**, Garching, Germany, and the **Shanghai Astronomical Observatory**, China.
- **2006–2008:** Postdoctoral researcher at **JILA, University of Colorado**, Boulder, USA.

Education

- **PhD in Astronomy, 2006**
Max-Planck Institute for Astrophysics (MPA), Garching, Germany.
Thesis: *Stars in the Galactic Centre: Sources and Probes of the Accretion Flow*.
Advisers: Dr. S. Nayakshin and Prof. R. Sunyaev.
- **Licenciatura en Astronomía, 2001**
P. Universidad Católica (PUC), Santiago, Chile.
Dissertation: *The Luminosity Function of Galaxies up to $z \sim 1.5$* .
Adviser: Prof. F. Barrientos.
- **Graduate Courses on Physics and Astronomy, 2001–2002**
Courses on Engineering and Computer Science, 1996–2000
P. Universidad Católica (PUC), Santiago, Chile.

¹since 2015, before that Assistant Professor

Publications in refereed ISI journals

This list includes the number of citations to each article, taken from the ADS² on Aug 26, 2016. Underlined names correspond to students or post-docs working under J Cuadra's supervision.

43. Faramaz V., Ertel S., Booth M., **Cuadra J.**, Simmonds C.: *Inner mean-motion resonances with eccentric planets: A possible origin for exozodiacal dust clouds*. Submitted to MNRAS.
42. Gallego S. C., **Cuadra J.**: *Satellite Infall and Mass Deposition on the Galactic Centre*. Submitted to MNRAS.
41. Russell C. M. P., Wang Q. D., **Cuadra J.**: *Modelling the thermal X-ray emission around the Galactic centre from colliding Wolf-Rayet winds*. Submitted to ApJ, arXiv:1607.01562
40. Goicovic F. G., Sesana A., **Cuadra J.**, Stasyszyn F.: *Infalling clouds on to supermassive black hole binaries - II. Binary evolution and the final parsec problem*. Submitted to MNRAS, arXiv:1602.01966
39. Zheng Z.-Y., Butler N. R., Shen Y., Jiang L., Wang J.-X., Chen X., **Cuadra J.**: *SDSS J0159+0105: A Radio-Quiet Quasar with a Centi-Parsec Supermassive Black Hole Binary Candidate*. The Astrophysical Journal 827, 56 (2016) 1 citation
38. Booth M., Jordán A., Casassus S., Hales A. S., Dent W. R. F., Faramaz V., Matrà L., Barkats D., Brahm R., **Cuadra J.**: *Resolving the planetesimal belt of HR 8799 with ALMA*. Monthly Notices of the Royal Astronomical Society 460, L10 (2016) 3 citations
37. Amaro-Seoane P., Casanellas J., Schödel R., Davidson E., **Cuadra J.**: *Probing dark matter crests with white dwarfs and IMBHs*. Monthly Notices of the Royal Astronomical Society 459, 695 (2016)
36. Montesinos M., Perez S., Casassus S., Marino S., **Cuadra J.**, Christiaens V.: *Spiral Waves Triggered by Shadows in Transition Disks*. The Astrophysical Journal 823, L8 (2016) 3 citations

²The SAO/NASA Astrophysics Data System (ADS) is a Digital Library portal for researchers in Astronomy and Physics, operated by the Smithsonian Astrophysical Observatory (SAO) under a NASA grant.

35. [Chen X.](#), Amaro-Seoane P., **Cuadra J.**: *Stability of Gas Clouds in Galactic Nuclei: An Extended Virial Theorem.* The Astrophysical Journal 819, 138 (2016) 2 citations
34. [Calderón D.](#), Ballone A., **Cuadra J.**, Schartmann M., Burkert A., Gillessen S.: *Clump formation through colliding stellar winds in the Galactic Centre.* Monthly Notices of the Royal Astronomical Society 455, 4388 (2016) 2 citations
33. [Goicovic F. G.](#), **Cuadra J.**, Sesana A., Stasyszyn F., Amaro-Seoane P., Tanaka T. L.: *Infalling clouds on to supermassive black hole binaries - I. Formation of discs, accretion and gas dynamics.* Monthly Notices of the Royal Astronomical Society 455, 1989 (2016) 5 citations
32. Casassus S., Marino S., Pérez S., Roman P., [Dunhill A.](#), Armitage P. J., **Cuadra J.**, Wootten A., van der Plas G., Cieza L., Moral V., Christiaens V., Montesinos M.: *Accretion Kinematics through the Warped Transition Disk in HD142527 from Resolved CO(6-5) Observations.* The Astrophysical Journal 811, 92 (2015) 11 citations
31. del Valle L., Escala A., Maureira-Fredes C., Molina J., **Cuadra J.**, Amaro-Seoane P.: *Supermassive Black Holes in a Star-forming Gaseous Circumnuclear Disk.* The Astrophysical Journal 811, 59 (2015) 2 citations
30. **Cuadra J.**, Nayakshin S., Wang Q. D.: *The role of feedback in accretion on low-luminosity AGN: Sgr A* case study.* Monthly Notices of the Royal Astronomical Society 450, 277 (2015) 4 citations
29. [Montesinos M.](#), **Cuadra J.**, Perez S., Baruteau C., Casassus S.: *Protoplanetary Disks Including Radiative Feedback from Accreting Planets.* The Astrophysical Journal 806, 253 (2015) 7 citations
28. [Dunhill A. C.](#), **Cuadra J.**, Dougados C.: *Precession and accretion in circumbinary discs: the case of HD 104237.* Monthly Notices of the Royal Astronomical Society 448, 3545 (2015) 7 citations
27. Brem P., **Cuadra J.**, Amaro-Seoane P., Komossa S.: *Tidal Disruptions in Circumbinary Disks. II. Observational Signatures in the Reverberation Spectra.* The Astrophysical Journal 792, 100 (2014) 3 citations

26. Bu D.-F., Yuan F., Wu M., **Cuadra J.**: *On the role of initial and boundary conditions in numerical simulations of accretion flows*. Monthly Notices of the Royal Astronomical Society 434, 1692 (2013) 13 citations
25. Wang Q. D., Nowak M. A., Markoff S. B., Baganoff F. K., Nayakshin S., Yuan F., **Cuadra J.**, Davis J., Dexter J., Fabian A. C., Grosso N., Haggard D., Houck J., Ji L., Li Z., Neilsen J., Porquet D., Ripple F., Shcherbakov R. V.: *Dissecting X-ray-Emitting Gas Around the Center of Our Galaxy*. Science 341, 981 (2013) 70 citations
24. Amaro-Seoane P., Brem P., **Cuadra J.**: *Tidal Disruptions in Circumbinary Disks. I. Star Formation, Dynamics, and Binary Evolution*. The Astrophysical Journal 764, 14 (2013) 12 citations
23. Gillessen S., Genzel R., Fritz T. K., Eisenhauer F., Pfuhl O., Ott T., **Cuadra J.**, Schartmann M., Burkert A.: *New Observations of the Gas Cloud G2 in the Galactic Center*. The Astrophysical Journal 763, 78 (2013) 68 citations
22. Roedig C., Sesana A., Dotti M., **Cuadra J.**, Amaro-Seoane P., Haardt F.: *Evolution of binary black holes in self gravitating discs. Dissecting the torques*. Astronomy and Astrophysics 545, A127 (2012) 59 citations
21. Casassus S., Perez M. S., Jordán A., Ménard F., **Cuadra J.**, Schreiber M. R., Hales A. S., Ercolano B.: *The Dynamically Disrupted Gap in HD 142527*. The Astrophysical Journal 754, L31 (2012) 45 citations
20. Gillessen S., Genzel R., Fritz T. K., Quataert E., Alig C., Burkert A., **Cuadra J.**, Eisenhauer F., Pfuhl O., Dodds-Eden K., Gammie C. F., Ott T.: *A gas cloud on its way towards the supermassive black hole at the Galactic Centre*. Nature 481, 51 (2012) 167 citations
19. Amaro-Seoane P., Brem P., **Cuadra J.**, Armitage P. J.: *The Butterfly Effect in the Extreme-mass Ratio Inspiral Problem*. The Astrophysical Journal 744, L20 (2012) 10 citations
18. Roedig C., Dotti M., Sesana A., **Cuadra J.**, Colpi M.: *Limiting eccentricity of subparsec massive black hole binaries surrounded by self-gravitating gas discs*. Monthly Notices of the Royal Astronomical Society 415, 3033 (2011) 77 citations

17. Baruteau C., **Cuadra J.**, Lin D. N. C.: *Binaries Migrating in a Gaseous Disk: Where are the Galactic Center Binaries?*. The Astrophysical Journal 726, 28 (2011) 21 citations
16. **Cuadra J.**, Armitage P. J., Alexander R. D., Begelman M. C.: *Massive black hole binary mergers within subparsec scale gas discs*. Monthly Notices of the Royal Astronomical Society 393, 1423 (2009) 182 citations
15. Alexander R. D., Armitage P. J., **Cuadra J.**: *Binary formation and mass function variations in fragmenting discs with short cooling times*. Monthly Notices of the Royal Astronomical Society 389, 1655 (2008) 16 citations
14. **Cuadra J.**, Armitage P. J., Alexander R. D.: *Stellar dynamical evidence against a cold disc origin for stars in the Galactic Centre*. Monthly Notices of the Royal Astronomical Society 388, L64 (2008) 36 citations
13. Alexander R. D., Armitage P. J., **Cuadra J.**, Begelman M. C.: *Self-Gravitating Fragmentation of Eccentric Accretion Disks*. The Astrophysical Journal 674, 927 (2008) 45 citations
12. **Cuadra J.**, Nayakshin S., Martins F.: *Variable accretion and emission from the stellar winds in the Galactic Centre*. Monthly Notices of the Royal Astronomical Society 383, 458 (2008) 58 citations
11. Nayakshin S., **Cuadra J.**, Springel V.: *Simulations of star formation in a gaseous disc around Sgr A* - a failed active galactic nucleus*. Monthly Notices of the Royal Astronomical Society 379, 21 (2007) 99 citations
10. Nayakshin S., **Cuadra J.**: *Clumpy stellar winds and the obscuration of active galactic nuclei*. Astronomy and Astrophysics 465, 119 (2007) 8 citations
9. Paumard T., Genzel R., Martins F., Nayakshin S., Beloborodov A. M., Levin Y., Trippe S., Eisenhauer F., Ott T., Gillessen S., Abuter R., **Cuadra J.**, Alexander T., Sternberg A.: *The Two Young Star Disks in the Central Parsec of the Galaxy: Properties, Dynamics, and Formation*. The Astrophysical Journal 643, 1011 (2006) 403 citations

8. Nayakshin S., Dehnen W., **Cuadra J.**, Genzel R.: *Weighing the young stellar discs around Sgr A**. Monthly Notices of the Royal Astronomical Society 366, 1410 (2006) 61 citations
7. **Cuadra J.**, Nayakshin S., Springel V., Di Matteo T.: *Galactic Centre stellar winds and Sgr A* accretion*. Monthly Notices of the Royal Astronomical Society 366, 358 (2006) 106 citations
6. Nayakshin S., **Cuadra J.**: *A self-gravitating accretion disk in Sgr A* a few million years ago: Is Sgr A* a failed quasar?*. Astronomy and Astrophysics 437, 437 (2005) 100 citations
5. **Cuadra J.**, Nayakshin S., Springel V., Di Matteo T.: *Accretion of cool stellar winds on to Sgr A*: another puzzle of the Galactic Centre?*. Monthly Notices of the Royal Astronomical Society 360, L55 (2005) 48 citations
4. Nayakshin S., **Cuadra J.**, Sunyaev R.: *X-ray flares from Sgr A*: Star-disk interactions?*. Astronomy and Astrophysics 413, 173 (2004) 44 citations
3. **Cuadra J.**, Nayakshin S., Sunyaev R.: *Bright stars and an optically thick inactive disk in Sgr A* and other dormant galaxy centers*. Astronomy and Astrophysics 411, 405 (2003) 20 citations
2. Candia P., Krisciunas K., Suntzeff N. B., González D., Espinoza J., Leiton R., Rest A., Smith R. C., **Cuadra J.**, Tavenner T., Logan C., Snider K., Thomas M., West A. A., González G., González S., Phillips M. M., Hastings N. C., McMillan R.: *Optical and Infrared Photometry of the Unusual Type Ia Supernova 2000cx*. Publications of the Astronomical Society of the Pacific 115, 277 (2003) 50 citations
1. Day A. S., Layden A. C., Hoard D. W., Brammer G., Cooksey K., **Cuadra J.**, Holmes S., Labbe E., Montez R., Jr.: *Light and Color Curves of Six Field RR Lyrae Variable Stars*. Publications of the Astronomical Society of the Pacific 114, 645 (2002) 7 citations

Colloquia and Invited Seminars

Swinburne Astrophysics Colloquium; Melbourne, Australia, July 2016
 Seminar; Monash Centre for Astrophysics, Melbourne, Australia, July 2016
 Special ZAH Colloquium; ITA, Heidelberg, Germany, Nov. 2015
 Astronomy Seminar; Physics Dept., U Milano-Bicocca, Italy, July 2015

Galactic Centre Seminar; MPE, Garching, Germany, Feb. 2015
 Seminar; NAOC, Beijing, China, Sept. 2014
 Infrared Group Seminar; MPE, Garching, Germany, July 2014
 Colloquium; MPI für Radioastronomie, Bonn, Germany, July 2014
 Gravity and Particle Physics Seminar; PUC, Santiago, Chile, Oct 2013
 Astronomy Dept. Colloquium; U Concepción, Chile, June 2013
 High Energy Astrophysics Seminar; MPA Garching, Germany, Feb. 2012
 High Energy Astrophysics Seminar; MPA Garching, Germany, May 2010
 Astroph. Relativity Seminar; A. Einstein Inst., Golm, Germany, May 2010
 Institute Seminar; MPA Garching, Germany, Mar. 2010
 Astrophysics Seminar; Racah Inst. of Physics, Jerusalem, Israel, Dec. 2009
 Cosmology Seminar; MPA Garching, Germany, Sep. 2009
 High Energy Astrophysics Seminar; MPA Garching, Germany, Feb. 2009
 Physics Dept. Seminar; Univ. Andrés Bello, Santiago, Chile, Jan. 2009
 Astronomy Dept. Seminar; Univ. de Chile, Santiago, Chile, Jan. 2009
 Astronomy Dept. Colloquium; P. Univ. Católica, Santiago, Chile, Jan. 2009
 Max-Planck Partner Group Seminar; Shanghai Obs., China, Nov. 2008
 Lunch Talk; Leiden Observatory, Netherlands, June 2008
 Astronomy Dept. Colloquium; P. Univ. Católica, Santiago, Chile, Dec. 2007
 Astronomy Group Seminar; Univ. of Southampton, UK, Sep. 2007
 Astronomy Seminar; Shanghai Observatory, China, July 2007
 JILA Astrophysics Lunch Seminar; Boulder, USA, Jan. 2007
 Lunch Talk; Leiden Observatory, Netherlands, June 2006
 Star Formation Seminar; Astroph. Institute Potsdam, Germany, Feb. 2006
 Institute Seminar; MPA Garching, Germany, Mar. 2005

Conference Talks

Multi-Messenger Galactic Centre; Cairns, Australia, July 2016 (*invited*)
 Planet formation in the era of ALMA and XAO; Santiago, Chile, May 2016
 Astrophysics & Relativity; São Paulo, Brazil, Aug. 2015 (*invited review*)
 Disc Dynamics & Planet Formation; Larnaka, Cyprus, July 2015
 Numerical Models and Simulations; Santiago, Chile, May 2015 (*invited*)
 AGN–Galaxy Evolution Connection; Puerto Varas, Chile, Mar. 2015
 Star Clusters and Black Holes; Beijing, China, Aug. 2014 (*invited*)
 EWASS: Tidal disruptions, Sgr A* and beyond; Geneve, Switz., July 2014
 Meeting of the Chilean Astronomical Society; San Felipe, Chile, Jan. 2014
 14th Latin-American Regional IAU Meeting; Florianop., Brazil, Nov. 2013
 Galactic Center; Santa Fe, USA, Oct. 2013
 Massive Black Holes; Santa Barbara, USA, Aug. 2013 (*invited*)

Gas Dyn. and Star Form. in Gal. Nuclei; Ringberg, Germany, March 2013
 26th Texas Symp. on Relativistic Astroph.; São Paulo, Brazil, Dec. 2012
 Meeting of the Chilean Astronomical Society; Santiago, Chile, Oct. 2012
 IAU 293: Exoplanets; Beijing, China, Aug. 2012
 Max Planck–Chile research seminar; Berlin, Germany, June 2012
 Tidal Disruption events and AGN outbursts; Madrid, Spain, June 2012
 First Argent.–Chilean Astronomy Meeting; San Juan, Argentina, Oct. 2011
 Single and Double Black Holes; Ann Arbor, USA, Aug. 2011 (*invited*)
 Galaxy and Central Black Hole Coevolution; Aspen, USA, June 2011
 Galaxy Formation in a Hierarchical Universe; Santiago, Chile, Mar. 2011
 Star Form. and Galaxies with ALMA; Santiago, Chile, Dec. 2010 (*invited*)
 2nd Meeting CATA; Santiago, Chile, July 2010
 460th Heraeus Workshop on Black Holes; Bad Honnef, Germany, June 2010
 LISA Massive Black Hole Binaries; Zürich, Switzerland, Feb. 2010
 Stars and Singularities; Rehovot, Israel, Dec. 2009 (*invited*)
 The Hidden Side of Galaxy Formation. Qawra, Malta, Oct. 2009
 Massive Black Hole Binaries; Beijing, China, July 2009 (*invited*)
 The Energetic Cosmos: from Suzaku to ASTRO-H; Otaru, Japan, June 2009
 8th Sino–German Workshop on Astrophysics; Kunming, China, Feb. 2009
 7th Meeting of the Chilean Astronomical Society; Santiago, Chile, Jan. 2009
 Kavli Workshop on Accretion Discs; Beijing, China, Nov. 2008
 East-Asia Numerical Astrophysics Meeting; Nanjing, China, Nov. 2008
 The Starburst–AGN Connection; Shanghai, China, Oct. 2008
 Meeting of the Division on Dynamical Astronomy; Boulder, USA, Apr. 2008
 Astrophysics of Compact Objects; Huangshan, China, July 2007 (*invited*)
 Black Holes (IAU General Assembly); Prague, Czech Rep., Aug. 2006
 Galactic Centre Workshop; Bad Honnef, Germany, Apr. 2006
 11th Latin-American Regional IAU Meeting; Pucón, Chile, Dec. 2005
 Relativistic Astrophysics and Cosmology; Munich, Germany, Nov. 2005
 Workshop on Simulations with Gadget; Garching, Germany, Oct. 2005
 High Energy Phenomena in the Galactic Centre; Paris, France, June 2005
 Modelling Dense Stellar Systems (Modest-5a); Edinburgh, UK, Dec. 2004

Conference Posters

IAU 295: The intriguing life of massive galaxies; Beijing, China, Aug. 2012
 Circumstellar Disks to Planetary Systems; Garching, Germany, Nov. 2009
 The Paradoxes of Massive Black Holes; Santa Barbara, USA, Apr. 2005
 Growing Black Holes; Garching, Germany, June 2004
 3rd Meeting of the Chilean Astronomical Society; Santiago, Chile, Jan. 2004

199th AAS Meeting; Washington, DC, USA, Jan. 2002

10th Latin-American IAU Meeting; Córdoba, Argentina, Sep. 2001

Astrophysics Schools Attended

Numerical N-body Dynamics; Strasbourg, France, Mar. 2004

Joint Evolution of Black Holes and Galaxies; Como, Italy, May 2003

Stellar Remnants; Vatican Observatory, Italy, June–July 2001

Cerro Tololo Inter-American Observatory Research Experience for Undergraduates Programme; La Serena, Chile, Jan.–Mar. 2001

Research Resources Awarded as PI

- Max Planck Partner Group: *Galactic Centre Astrophysics*. 60,000 EUR awarded (2016–19)
- Gemini Science Program: *Star formation and dynamics at < 2.5 pc from Sgr A**. 6.8 hours awarded in Band One (2016)
- FONDECYT Regular Project: *Episodic feeding of accreting objects: from massive black hole growth to planet formation*. 105,190,000 CLP ($\sim 191,000$ USD) awarded (2014–18)
- CONICYT-DAAD Exchange Grant: *Magneto-hydrodynamical simulations of a molecular cloud falling onto single and binary super-massive black holes*. 5,800,000 CLP ($\sim 10,500$ USD) awarded (2014–16)
- ESO–Chile Joint Committee Grant: *Organisation of a Workshop on Super-massive Black Hole Binaries in Chile*. 5,000,000 CLP ($\sim 9,100$ USD) awarded (2014)
- CONICYT Network Grant: *Chile–Max Planck Network on Super-Massive Black Hole Binaries*. 15,275,000 CLP ($\sim 30,000$ USD) awarded (2013–14)
- ALMA-CONICYT Grant: *Postdoctoral position on ALMA-related Numerical Astrophysics*. 44,000,000 CLP ($\sim 92,000$ USD) awarded (2013–15)
- FONDECYT Initiation into Research Project: *Black Hole Mergers and Kicks in Gas-Rich Galaxies*. 45,888,000 CLP ($\sim 92,000$ USD) awarded (2010–13)

- PUC Vice-rectory for Research Initiation Project: *Massive black holes, stars and gas in the central parsecs of galaxies*. 4,800,000 CLP (\sim 9,500 USD) awarded (2010–11)
- NSF Teragrid Projects: *Gas dynamics of binary–disc interactions, Self-gravity and fragmentation in eccentric accretion discs*, and *Gas dynamics of binary–disc interactions including star formation*. Total of 1,054,480 CPU hours awarded (2007–09)

Research Resources Awarded as co-I

- ICM Grant: *Millenium Nucleus on Protoplanetary Discs*. 100,000,000 CLP (\sim 145,400 USD) share awarded (2014–17)
- CONICYT Anillo Grant: *Establishing the Role of Mergers in Black Hole Growth and Galaxy Evolution* (2012–15)
- CONICYT Basal Grant: *Centro de Astrofísica y Tecnologías Afines (CATA)* (2010–18)
- Several observing proposals.

Fellowships

- Fellowship for International Young Researchers from the Chinese Academy of Sciences (2008–09).
- PhD Fellowship from the International Max-Planck Research School on Astrophysics at the University of Munich (2002–06).

Professional Service

- Organisation of conferences
 - SOC for *Establishing the AGN–Galaxy Evolution Connection*, Puerto Varas, Chile, 2015.
 - SOC for *Protoplanetary disks and the planets they form*, Santiago, Chile, 2014.
 - Main organiser of the *Workshop on Super-massive Black Hole Binaries in Chile*, Las Cruces, Chile, 2014.
 - LOC for *Growing Black Holes: Accretion in a Cosmological Context*, Garching, Germany, 2004.

- Director for Research of PUC’s Institute for Astrophysics (2016–).
- Academic Secretary of the PUC Physics Faculty (2014–).
- Member of the PUC Physics Faculty teaching committee (2011–14).
- Editor of PUC’s Institute for Astrophysics annual reports (2010–).
- Leader of daily pre-print discussion at PUC (once/week, 2012–13).
- PUC representative at the Max Planck–Chile research seminar (2012).
- Webmaster of the Accretion Group at SHAO (2008–09).
- Organiser of the JILA Astrophysics Lunch Seminar (2007–08).
- Student Representative in the Executive Committee of the International Max-Planck Research School on Astrophysics (Garching, 2005).
- Refereed papers for *ApJ*, *MNRAS*, *A&A*, and *PASJ*; and grant applications for the Dutch Organisation for Scientific Research (NWO) and the Chilean Astronomical Society (SOCHIAS).

Outreach

- Columnist for “Tendencias de la Astronomía” series, in the online version of the national newspaper “El Mercurio” (2016–).
- Participated in ESA’s online broadcast of Mercury’s transit (2016).
- Outreach talks at the *Centro de Extensión UC*, schools, ACHAYA (amateur astronomy association), *Colegio de Ingenieros*, etc (2010–).
- Have given several interviews for radio and written media.

Theses supervised

- *Molecular cloud infall and fragmentation around single and binary massive black holes*. PhD in Astrophysics thesis by Felipe G. Goicovic (PUC, expected 2017).
- *The role of interacting stellar winds on the feeding of Sgr A**. PhD in Astrophysics thesis by Diego Calderón (PUC, expected 2019).

- *Thin-shell instabilities and clump formation due to colliding stellar winds in the Galactic Centre.* MSc in Astrophysics thesis by Diego Calderón (PUC, March 2015).
- *Evolution of circumbinary discs at decoupling.* MSc in Astrophysics thesis by Camilo Fontecilla (PUC, expected 2017).
- *Feedback and migration of accreting planets in discs.* MSc in Astrophysics thesis by Matías Gárate (PUC, expected 2017).
- *Satellite infall and mass deposition on the Galactic Centre.* BSc in Astronomy thesis by Sofía Gallego (PUC, Aug. 2012).
- *One-dimensional hydrodynamical models of circumbinary discs.* BSc in Astronomy thesis by Camilo Fontecilla (PUC, Aug. 2014).
- *Proto-planetary discs: effect of an accretion-dependent feedback.* BSc in Astronomy thesis by Matías Gárate (PUC, Aug. 2015).

Additional mentoring

- Advisor of postdoctoral researchers Alex Dunhill (2013–15), Xian Chen (2015–), Aiara Lobo Gomes (2016–), and Nicolás Cuello (2016–).
- Sponsor of FONDECYT postdoctoral fellows Dr. Matías Montesinos (2011–14) and Dr. Virginie Faramaz (2014–17).
- Local supervisor of Heidelberg–PUC joint PhD student Sebastian Stammer (advisor C.P. Dullemond, ITA; 2016).
- Advisor of several summer and part-time research projects for undergraduate and graduate students at PUC (2011–).
- Member of the PhD thesis committees of Luciano del Valle (advisor A. Escala; 2011–) and Francisco Castillo (advisor A. Valdivia; 2014–) at Universidad de Chile, and of the MSc thesis committee of Cristián Maureira at UTFSM (advisor P. Amaro-Seoane, AEI; 2012–13).
- Member of several BSc and MSc thesis evaluation committees at PUC and U de Chile (2010–).

Teaching Experience

- Courses at P. Univ. Católica de Chile:
 - 2016B: The Galactic Centre
 - 2016A: Planets in the Universe (course created from scratch)
 - 2015B: Super-massive Black Holes
 - 2015A: Astronomy
 - 2014B: The Galactic Centre
 - 2014A: Astronomy
 - 2013B: Numerical Astrophysics
 - 2013A: Astronomy
 - 2012B: Super-massive Black Holes (course created from scratch)
 - 2012A: Astronomy
 - 2011B: Astronomy
 - 2011A: The Galactic Centre (course created from scratch)
 - 2010B: Astronomy
- Invited lectures:
 - *Stars in the Galactic Centre: Sources and Probes of the Accretion Flow and Super-massive Black Hole Binaries and their Mergers*. ‘Topics on Astrophysics’ series of lectures for grad students at PUC, Santiago (Nov. 2010, Oct. 2011, Nov. 2012, Oct. 2013 & Oct. 2014)
 - *Star Formation and Dynamics in the Galactic Centre*. Lecture and computer lab session, part of the First Summer School on Astrophysics held at PUC (Jan. 2014).
 - *SPH extensions: sink and source particles*. ‘Numerical Astrophysics’ graduate course at PUC, Santiago (Nov. 2011)
 - *Star Formation and Dynamics in the Galactic Centre*. Graduate programme of the Joint Institute for Galaxy and Cosmology of SHAO and USTC, Shanghai (Oct. 2008).
 - *Accretion Discs*. Accretion Group Graduate Seminar, Shanghai Astronomical Observatory (Sep. 2008).
 - *Star Formation and Stellar Wind Accretion in the Galactic Center*. ‘Galactic Center’ Graduate Seminar, University of Colorado (Apr. 2008).
- Teaching Assistant for several courses at P. Univ. Católica de Chile (1997–2001).