

## CURRICULUM VITAE for Simon Casassus, May 2018

PERSONAL DATA			
<i>Surname</i> CASASSUS	<i>Mother's name</i> MONTERO	<i>Name</i> Simon	<i>Identification number</i> 8.395.350-0
<i>Birth date</i> 03 July 1970	<i>Age</i> 47	<i>Gender</i> (M o F) M	<i>Nationality</i> Chilean
<i>Title</i> Dr.		<i>Academic Degree</i> Ph.D. Oxford U.	
<i>Current position</i> Full Professor	<i>Institution</i> (Department, Faculty, Institution) Departamento de Astronomía, FCFM, Universidad de Chile		
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EDUCATION, ACADEMIC AND PROFESSIONAL EXPERIENCE			
<p>Dr. Simon Casassus is Full Professor at the Astronomy Department of the Faculty of Physical and Mathematical and Sciences (FCFM), “Universidad de Chile”, and regularly lectures on undergraduate physics and postgraduate astrophysics.</p> <p>S.C has participated in 81 ISI paper, for a total of 3291 refereed citations, and has first-authored 18 papers (8 MNRAS, 3 A&amp;A, 4 ApJ, 1 ApJL, 1 PASA, 1 Nature). Seven of his thesis students have first-authored papers for their degrees. In the last 5 years, since 2013, he has authored 18 papers either as 1st, 2nd or 3rd author, for 646 citations.</p> <p>His current research topic is on observations of planet formation. Until April 2018 he was the PI of the associative group Millennium Nucleus “Protoplanetary disks in ALMA Early Science”, funded by the Chilean Ministry of Economy until Dec. 2017, and described in <a href="http://madnucleus.com">http://madnucleus.com</a>. S.C. combines radio/IR expertise in observations of circumstellar dust and gas. His IR expertise, originally earned during his Ph.D. on planetary nebulae, lies in the observation of photo-dissociation regions (PDRs). His radio expertise includes synthesis imaging and the statistical assessment of interferometer data. This expertise was earned as a postdoc with the Cosmic Background Imager experiment (led by Pr. Tony Readhead), and perfected as Assistant Professor at FCFM, where he designed new algorithms for image reconstruction. As Associate Professor he created a line of research on radio emission mechanisms in the interstellar medium and on the formation of molecular hydrogen. S.C. further developed his knowledge on PDRs during his sabbatical at the Observatoire de Paris-Meudon in 2009-2010, as a Marie Curie fellow. He is now applying his expertise to radio/IR observations of protoplanetary disks.</p>			

## Employment

- 2013 – present full-time Full Professor, Astronomy Dept., FCFM.
- 2006 – 2013 full-time Associate Professor, Astronomy Dept., FCFM.
- 2002 – 2005 full-time Assistant Professor, Astronomy Dept., FCFM.
- 1999 – 2001 Postdoctoral position, Astronomy Dept., FCFM.

## Higher education degrees

- Doctor of Philosophy in Astrophysics. Oxford University, U.K (1996-1998, viva April 1999). “Infrared Spectroscopy of Planetary Nebulae”, advisor: Pr. Roche.
- M.Sc. (“Magíster”) in Physics: U. de Chile, FCFM (1994-1995), “The Distribution of Molecular Gas and Young Massive Stars in the Milky Way”. Advisor: Pr. Bronfman.
- B.Sc. (“Licenciatura en Ciencias”) in Physics. U. de Chile, FCFM (1992-1993).

## Awards & Grants as Principal Investigator

- FONDECYT national research funding regular competition 2017, 4 years (#1171624)
- “Nucleo Milenio” RC13007, 2015 – 2017, “Protoplanetary disks”
- FONDEQUIP 2015, funds for a HPC cluster, (#EQM140101).
- Gemini-CONICYT 2014, 5 years (#32130007), funds for a research fellowship on planet formation.
- FONDECYT national research funding regular competition 2013, 4 years (#1130949)
- ALMA-CONICYT fund, 2 years (#32120006) – funds for postdoctoral researcher.
- “Nucleo Milenio” P10-022-F, 2012 – 2014, “Protoplanetary disks in ALMA Early Science”
- FONDECYT regular competition 2010, 3 years (#1100221)
- Marie Curie International Incoming Fellowship (European Commission) 2009, 1 year, taken at Observatoire de Paris & LUTh (CNRS) (#236176)
- FONDECYT regular competition 2006, 3 years (# 1060827)
- FONDECYT regular competition 2003, 3 years (#1030805)
- FONDECYT postdoctoral competition 2001, 3 years (#3010037)
- Universidad de Chile - Caltech Joint Postdoctoral Position 1999, 3 years
- Fundación Andes Reintegration Grant 2000, 1 year
- Gemini studentship, PPARC – Fundación Andes 1996, 3 years, taken at Oxford University

## Teaching

- 44 full-semester courses at FCFM on undergraduate Physics (Statistical Physics, Modern Physics, Electromagnetism, Dynamical Systems), undergraduate Astronomy (practicals in CCD astronomy and Radiative Transfer) through a practical course on introductory CCD Astronomy and also on the Interstellar Medium), and postgraduate Astronomy (on the Interstellar Medium).
- 1 Ph.D. thesis (underway), 5 “Magíster” (M.Sc.) theses, 4 in Astronomy and 1 in Computer Sciences, and 7 “Licenciatura” (B.Sc.) dissertations. All thesis and dissertations have led to publications, 9 of which have been first-authored by students.

## Other professional activities

Dr. Casassus has participated in various telescope time allocation committees (ALMA, ESO, Gemini, APEX). He was the Chile representative to the ALMA Scientific Advisory Committee (2014-2016) and to the Gemini Science Committee (2007-2008). He is a member of the "Comisión de Calificación" FCFM, U. de Chile. He has repeatedly acted as referee for the ISI journals Nature, MNRAS, A&A, ApJ and Science. He has participated in the scientific organizing committees for the following international conferences: "Gemini Science 2007", "ALMA band 1" workshop (Victoria 2008), HAeBe conference at ESO (2014), the ALMA Observatory conference in Tokyo in 2014, and "Resolving planet formation in the era of ALMA and extreme AO" at ESO in 2016. He chaired the 2014 workshop on "Protoplanetary disks and the planets they form", held in Nov. 2014 in Santiago.

## Publications in refereed journals in the last 5 years (since 2013)

1. Price, D. J., Cuello, N., Pinte, C., Mentiply, D., **Casassus**, S., Christiaens, V., Kennedy, G. M., Cuadra, J., Sebastian Perez, M., Marino, S., Armitage, P. J., Zurlo, A., Juhasz, A., Ragusa, E., Laibe, G., Lodato, G.  
2018 Monthly Notices of the Royal Astronomical Society 477 1270  
"Circumbinary, not transitional: on the spiral arms, cavity, shadows, fast radial flows, streamers, and horseshoe in the HD 142527 disc"
2. **Casassus**, S., Avenhaus, H., Pérez, S., Navarro, V., Cárcamo, M., Marino, S., Cieza, L., Quanz, S. P., Alarcón, F., Zurlo, A., Osses, A., Rannou, F. R., Román, P. E., Barraza, M.  
2018 Monthly Notices of the Royal Astronomical Society  
"An inner warp in the DoAr 44 T Tauri transition disk"
3. Bertrang, G. H.-M., Avenhaus, H., **Casassus**, S., Montesinos, M., Kirchschrager, F., Perez, S., Cieza, L., Wolf, S.  
2018 Monthly Notices of the Royal Astronomical Society 474 5105  
"HD 169142 in the eyes of ZIMPOL/SPHERE"
4. Cieza, L. A., Ruíz-Rodríguez, D., Perez, S., **Casassus**, S., Williams, J. P., Zurlo, A., Principe, D. A., Hales, A., Prieto, J. L., Tobin, J. J., Zhu, Z., Marino, S.  
2018 Monthly Notices of the Royal Astronomical Society 474 4347  
"The ALMA early science view of FUor/EXor objects - V. Continuum disc masses and sizes"
5. Dickinson, C., Ali-Haïmoud, Y., Barr, A., Battistelli, E. S., Bell, A., Bernstein, L., **Casassus**, S., Cleary, K., Draine, B. T., Génova-Santos, R., Harper, S. E., Hensley, B., Hill-Valler, J., Hoang, T., Israel, F. P., Jew, L., Lazarian, A., Leahy, J. P., Leech, J., López-Caraballo, C. H., McDonald, I., Murphy, E. J., Onaka, T., Paladini, R., Peel, M. W., et al.  
2018 New Astronomy Reviews 80 1  
"The State-of-Play of Anomalous Microwave Emission (AME) research"
6. Planck Collaboration, Ade, P. A. R., Aghanim, N., Alves, M. I. R., Arnaud, M., Atrio-Barandela, F., Aumont, J., Baccigalupi, C., Banday, A. J., Barreiro, R. B., Battaner, E., Benabed, K., Benoit-Lévy, A., Bernard, J.-P., Bersanelli, M., Bielewicz, P., Bobin, J., Bonaldi, A., Bond, J. R., Borrill, J., Bouchet, F. R., Boulanger, F., Burigana, C., Cardoso, J.-F., **Casassus**, S., et al.  
2018 Astronomy and Astrophysics 610 C1  
"Planck intermediate results. XV. A study of anomalous microwave emission in Galactic clouds (Corrigendum)"

7. Principe, D. A., Cieza, L., Hales, A., Zurlo, A., Williams, J., Ruíz-Rodríguez, D., Canovas, H., **Casassus**, S., Mužić, K., Perez, S., Tobin, J. J., Zhu, Z.  
2018 Monthly Notices of the Royal Astronomical Society 473 879  
"The ALMA early science view of FUor/EXor objects - IV. Misaligned outflows in the complex star-forming environment of V1647 Ori and McNeil's Nebula"
8. Cárcamo, M., Román, P. E., **Casassus**, S., Moral, V., Rannou, F. R.  
2018 Astronomy and Computing 22 16  
"Multi-GPU maximum entropy image synthesis for radio astronomy"
9. Pinte, C., Ménard, F., Duchêne, G., Hill, T., Dent, W. R. F., Woitke, P., Maret, S., van der Plas, G., Hales, A., Kamp, I., Thi, W. F., de Gregorio-Monsalvo, I., Rab, C., Quanz, S. P., Avenhaus, H., Carmona, A., **Casassus**, S.  
2018 Astronomy and Astrophysics 609 A47  
"Direct mapping of the temperature and velocity gradients in discs. Imaging the vertical CO snow line around IM Lupi"
10. Cieza, L. A., **Casassus**, S., Pérez, S., Hales, A., Cárcamo, M., Ansdell, M., Avenhaus, H., Bayo, A., Bertrang, G. H.-M., Cánovas, H., Christiaens, V., Dent, W., Ferrero, G., Gamen, R., Olofsson, J., Orcajo, S., Osses, A., Peña-Ramirez, K., Principe, D., Ruíz-Rodríguez, D., Schreiber, M. R., van der Plas, G., Williams, J. P., Zurlo, A.  
2017 The Astrophysical Journal 851 L23  
"ALMA Observations of Elias 2–24: A Protoplanetary Disk with Multiple Gaps in the Ophiuchus Molecular Cloud"
11. Su, K. Y. L., MacGregor, M. A., Booth, M., Wilner, D. J., Flaherty, K., Hughes, A. M., Phillips, N. M., Malhotra, R., Hales, A. S., Morrison, S., Ertel, S., Matthews, B. C., Dent, W. R. F., Casassus, S.  
2017 The Astronomical Journal 154 225  
"ALMA 1.3 mm Map of the HD 95086 System"
12. van der Plas, G., Ménard, F., Canovas, H., Avenhaus, H., **Casassus**, S., Pinte, C., Caceres, C., Cieza, L.  
2017 Astronomy and Astrophysics 607 A55  
"An 80 au cavity in the disk around HD 34282"
13. Booth, M., Dent, W. R. F., Jordán, A., Lestrade, J.-F., Hales, A. S., Wyatt, M. C., **Casassus**, S., Ertel, S., Greaves, J. S., Kennedy, G. M., Matrà, L., Augereau, J.-C., Villard, E.  
2017 Monthly Notices of the Royal Astronomical Society 469 3200  
"The Northern arc of  $\epsilon$  Eridani's Debris Ring as seen by ALMA"
14. Hales, A. S., Barlow, M. J., Crawford, I. A., **Casassus**, S.  
2017 Monthly Notices of the Royal Astronomical Society 466 3582  
"Atomic gas in debris discs"
15. Ruíz-Rodríguez, D., Cieza, L. A., Williams, J. P., Tobin, J. J., Hales, A., Zhu, Z., Mužić, K., Principe, D., Canovas, H., Zurlo, A., **Casassus**, S., Perez, S., Prieto, J. L.  
2017 Monthly Notices of the Royal Astronomical Society 466 3519  
"The ALMA early science view of FUor/EXor objects - II. The very wide outflow driven by HBC 494"
16. Zurlo, A., Cieza, L. A., Williams, J. P., Canovas, H., Perez, S., Hales, A., Mužić, K., Principe, D. A., Ruíz-Rodríguez, D., Tobin, J., Zhang, Y., Zhu, Z., **Casassus**, S., Prieto, J. L.  
2017 Monthly Notices of the Royal Astronomical Society 465 834  
"The ALMA early science view of FUor/EXor objects - I. Through the looking-glass of V2775 Ori"

17. van der Plas, G., Wright, C. M., Ménard, F., **Casassus**, S., Canovas, H., Pinte, C., Maddison, S. T., Maaskant, K., Avenhaus, H., Cieza, L., Perez, S., Ubach, C. 2017 *Astronomy and Astrophysics* 597 A32  
“Cavity and other radial substructures in the disk around HD 97048”
18. Marino, S., Matrà, L., Stark, C., Wyatt, M. C., **Casassus**, S., Kennedy, G., Rodriguez, D., Zuckerman, B., Perez, S., Dent, W. R. F., Kuchner, M., Hughes, A. M., Schneider, G., Steele, A., Roberge, A., Donaldson, J., Nesvold, E. 2016 *Monthly Notices of the Royal Astronomical Society* 460 2933 “Exocometary gas in the HD 181327 debris ring”
19. Booth, M., Jordán, A., **Casassus**, S., Hales, A. S., Dent, W. R. F., Faramaz, V., Matrà, L., Barkats, D., Brahm, R., Cuadra, J. 2016 *Monthly Notices of the Royal Astronomical Society* 460 L10  
“Resolving the planetesimal belt of HR 8799 with ALMA”
20. Olofsson, J., Samland, M., Avenhaus, H., Caceres, C., Henning, T., Moór, A., Milli, J., Canovas, H., Quanz, S. P., Schreiber, M. R., Augereau, J.-C., Bayo, A., Bazzon, A., Beuzit, J.-L., Boccaletti, A., Buenzli, E., **Casassus**, S., Chauvin, G., Dominik, C., Desidera, S., Feldt, M., Gratton, R., Janson, M., Lagrange, A.-M., Langlois, M., et al. 2016 *Astronomy and Astrophysics* 591 A108 “Azimuthal asymmetries in the debris disk around HD 61005. A massive collision of planetesimals?”
21. Cieza, L. A., **Casassus**, S., Tobin, J., Bos, S. P., Williams, J. P., Perez, S., Zhu, Z., Caceres, C., Canovas, H., Dunham, M. M., Hales, A., Prieto, J. L., Principe, D. A., Schreiber, M. R., Ruiz-Rodriguez, D., Zurlo, A. 2016 *Nature* 535 258 “Imaging the water snow-line during a protostellar outburst”
22. Montesinos, M., Perez, S., **Casassus**, S., Marino, S., Cuadra, J., Christiaens, V. 2016 *The Astrophysical Journal* 823, L8 “Spiral Waves Triggered by Shadows in Transition Disks”
6. **Casassus**, S. 2016 *Publications of the Astronomical Society of Australia* 33, 13 “Resolved Observations of Transition Disks”
7. Booth, M., Jordán, A., **Casassus**, S., Hales, A. S., Dent, W. R. F., Faramaz, V., Matrà, L., Barkats, D., Brahm, R., Cuadra, J. 2016 *Monthly Notices of the Royal Astronomical Society* Resolving the Planetesimal Belt of HR 8799 with ALMA
8. van der Plas, G., Ménard, F., Ward-Duong, K., Bulger, J., Harvey, P. M., Pinte, C., Patience, J., Hales, A., **Casassus**, S. 2016 *The Astrophysical Journal* 819 102 Dust Masses of Disks around 8 Brown Dwarfs and Very Low-mass Stars in Upper Sco OB1 and Ophiuchus
9. Cieza, L., Williams, J., Kourkchi, E., Andrews, S., **Casassus**, S., Graves, S., Schreiber, M. R. 2015 *Monthly Notices of the Royal Astronomical Society* 454 1909 “A SCUBA-2 850- $\mu$ m survey of protoplanetary discs in the IC 348 cluster”
10. Marino, S., **Casassus**, S., Perez, S., Lyra, W., Roman, P. E., Avenhaus, H., Wright, C. M., Maddison, S. T. 2015 *The Astrophysical Journal* 813 76 “Compact Dust Concentration in the MWC 758 Protoplanetary Disk”
11. **Casassus**, S., Wright, C. M., Marino, S., Maddison, S. T., Wootten, A., Roman, P., Pérez, S., Pinilla, P., Wyatt, M., Moral, V., Ménard, F., Christiaens, V., Cieza, L., van der Plas, G. 2015 *The Astrophysical Journal* 812 126 “A Compact Concentration of Large Grains in the HD 142527 Protoplanetary Dust Trap”
12. **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. 2015 *The Astrophysical Journal* 811 92 “Accretion Kinematics through the Warped Transition Disk in HD142527 from Resolved CO(6-5) Observations”

13. Perez, S., Dunhill, A., **Casassus**, S., Roman, P., Szulágyi, J., Flores, C., Marino, S., Montesinos, M. 2015 *The Astrophysical Journal* 811 L5 "Planet Formation Signposts: Observability of Circumplanetary Disks via Gas Kinematics"
14. Wahhaj, Z., Cieza, L. A., Mawet, D., Yang, B., Canovas, H., de Boer, J., **Casassus**, S., Ménard, F., Schreiber, M. R., Liu, M. C., Biller, B. A., Nielsen, E. L., Hayward, T. L. 2015 *Astronomy and Astrophysics* 581 A24 "Improving signal-to-noise in the direct imaging of exoplanets and circumstellar disks with MLOC1"
15. Montesinos, M., Cuadra, J., Perez, S., Baruteau, C., **Casassus**, S. 2015 *The Astrophysical Journal* 806 253 "Protoplanetary Disks Including Radiative Feedback from Accreting Planets"
16. Canovas, H., Perez, S., Dougados, C., de Boer, J., Ménard, F., **Casassus**, S., Schreiber, M. R., Cieza, L. A., Cáceres, C., Girard, J. H. 2015 *Astronomy and Astrophysics* 578 L1 "The inner environment of Z Canis Majoris: High-contrast imaging polarimetry with NaCo"
17. Canovas, H., Schreiber, M. R., Cáceres, C., Ménard, F., Pinte, C., Mathews, G. S., Cieza, L., **Casassus**, S., Hales, A., Williams, J. P., Román, P., Hardy, A. 2015 "The Astrophysical Journal 805 21 Gas Inside the 97 AU Cavity around the Transition Disk Sz 91"
18. Marino, S., Perez, S., & **Casassus**, S. 2015, *The Astrophysical Journal*, 798, L44 "Shadows Cast by a Warp in the HD 142527 Protoplanetary Disk"
19. Perez, S., **Casassus**, S., Menard, F., Roman, P., van der Plas, G., Cieza, L., Pinte, C., Christiaens, V., & Hales, A. S. 2015, *The Astrophysical Journal*, 798, 85 "CO Gas Inside the Protoplanetary Disk Cavity in HD 142527: Disk Structure from ALMA"
20. Anthonioz, F., Menard, F., Pinte, C., Le Bouquin, J.-B., Benisty, M., Thi, W.-F., Absil, O., Duchene, G., Augereau, J.-C., Berger, J.-P., **Casassus**, S., Duvert, G., Lazareff, B., Malbet, F., Millan-Gabet, R., Schreiber, M. R., Traub, W., & Zins, G. 2015, *Astronomy and Astrophysics*, 574, A41 "The VLT/PIONIER near-infrared interferometric survey of southern T Tauri stars. I. First results"
21. Planck Collaboration, 151 coauthors including **Casassus**, S. 2015, *Astronomy and Astrophysics*, 573, A6 "Planck intermediate results. XVIII. The millimetre and sub-millimetre emission from planetary nebulae"
22. van der Plas, G., **Casassus**, S., Menard, F., Perez, S., Thi, W. F., Pinte, C., Christiaens, V. 2014, *The Astrophysical Journal*, 792, L25 "Spatially Resolved HCN J = 4-3 and CS J = 7-6 Emission from the Disk around HD 142527"
23. Hales, A. S., De Gregorio-Monsalvo, I., Montesinos, B., **Casassus**, S., Dent, W. F. R., Dougados, C., Eiroa, C., Hughes, A. M., Garay, G., Mardones, D., Menard, F., Palau, A., Perez, S., Phillips, N., Torrelles, J. M., & Wilner, D. 2014, *The Astronomical Journal*, 148, 47 "A CO Survey in Planet-forming Disks: Characterizing the Gas Content in the Epoch of Planet Formation"
24. Planck Collaboration, 175 coauthors, including **Casassus**, S. 2014, *Astronomy and Astrophysics*, 565, A103 "Planck intermediate results. XV. A study of anomalous microwave emission in Galactic clouds"
25. Christiaens, V., **Casassus**, S., Perez, S., van der Plas, G., & Menard, F. 2014, *The Astrophysical Journal*, 785, L12 "Spiral Arms in the Disk of HD 142527 from CO Emission Lines with ALMA"
26. Dent, W. R. F., Wyatt, M. C., Roberge, A., Augereau, J.-C., **Casassus**, S., Corder, S., Greaves, J. S., de Gregorio-Monsalvo, I., Hales, A., Jackson, A. P., Hughes, A. M., Lagrange, A.-M., Matthews,

B., & Wilner, D. 2014, *Science*, 343, 1490 "Molecular Gas Clumps from the Destruction of Icy Bodies in the beta Pictoris Debris Disk"

27. Canovas, H., Menard, F., Hales, A., Jordan, A., Schreiber, M. R., **Casassus**, S., Gledhill, T. M., & Pinte, C. 2013, *Astronomy and Astrophysics*, 556, A123 "Near-infrared imaging polarimetry of HD 142527"
28. Tibbs, C. T., Paladini, R., Dickinson, C., Mason, B. S., **Casassus**, S., Cleary, K., Davies, R. D., Davis, R. J., & Watson, R. A. 2013, *The Astrophysical Journal*, 770, 122 "Constraints on Free-Free Emission from Anomalous Microwave Emission Sources in the Perseus Molecular Cloud"
29. **Casassus**, S., Hales, A., de Gregorio, I., Dent, B., Belloche, A., Güsten, R., Menard, F., Hughes, A. M., Wilner, D., & Salinas, V. 2013, *Astronomy and Astrophysics*, 553, A64 "CO(6-5) and [C i](2-1) pointed observations of five protoplanetary disks: Warm gas in HD 142527"
30. **Casassus**, S., van der Plas, G., M. S. P., Dent, W. R. F., Fomalont, E., Hagelberg, J., Hales, A., Jordan, A., Mawet, D., Menard, F., Wootten, A., Wilner, D., Hughes, A. M., Schreiber, M. R., Girard, J. H., Ercolano, B., Canovas, H., Roman, P. E., & Salinas, V. 2013, *Nature*, 493, 191 "Flows of gas through a protoplanetary gap"
31. Cieza, L. A., Lacour, S., Schreiber, M. R., **Casassus**, S., Jordan, A., Mathews, G. S., Canovas, H., Menard, F., Kraus, A. L., Perez, S., Tuthill, P., & Ireland, M. J. 2013, *The Astrophysical Journal*, 762, L12 "Sparse Aperture Masking Observations of the FL Cha Pre-transitional Disk"