# Carles Badenes CV and Publication List

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## Employment and Education

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|---|---|
| Since **2017** | **Associate Professor (tenured)**, University of Pittsburgh, Pittsburgh, PA |
| **2011 - 2017** | **Assistant Professor**, University of Pittsburgh, Pittsburgh, PA |
| **2009 - 2011** | **Senior Research Associate**, Weizmann Institute of Science, and Tel-Aviv University, Israel |
| **2006 - 2009** | **Chandra Postdoctoral Fellow**, Princeton University, Princeton, NJ (2007-2009); Rutgers University, Piscataway, NJ (2006-2007) |
| **2004 - 2006** | **Postdoctoral Research Associate**, Rutgers University, Piscataway, NJ. Supervisor: John P. Hughes |
| Completed in **2004** | **Ph.D., Astrophysics**, Universitat Politècnica de Catalunya, Departament de Física i Enginyeria Nuclear, Barcelona, Spain<br>Thesis Title: *Thermal X-ray Emission from Young Type Ia Supernova Remnants*. Advisor: Dr. Eduardo Bravo |
| Completed in **1999** | **M.S. and B.S., Electrical Engineering**, Universitat Politècnica de Catalunya, Escola Tècnica Superior d'Enginyeria de Telecomunicació de Barcelona, Spain |

## Research Interests

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| **Type Ia Supernovae** | Explosion physics, progenitor systems, delay time distribution. |
| **Supernova Remnants** | X-ray emission, shock physics, Galactic and extragalactic populations. |
| **Survey Science** | Time-domain astrophysics, data mining, short-period binaries, white dwarfs, gravitational wave foreground, spectral variability, astrometry, statistical tests of stellar evolution. Focus on SDSS and DESI. |

## Publication Record

**74** refereed papers, **16** as first author, **28** as second/third author. Total citations: in *NASA* ADS, **3427** citations and Hirsch index **32** [link]; in Google Scholar, **3816** citations and Hirsch index **34** [link]. I have played a central role in **14 high-impact papers** (with more than 50 citations in ADS): 9 as first author, 5 as second/third author. For details, see attached publication list.

## Honors and Awards

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| **2016** | Distinguished Visitor, Carnegie Observatories, USA. |
| **2015** | Scialog Fellow for Time Domain Astrophysics, Research Corporation, USA. |
| **2011** | Ramón y Cajal Fellowship, Ministerio de Ciencia e Innovación, Spain (declined to accept tenure-track offer from U Pitt). |
| **2010** | Marie Curie IRG Fellowship, European Comission. |
| **2006** | *Chandra* Fellowship, NASA. |
| **2000** | *FI* Fellowship, Generalitat de Catalunya. |

## External Funding

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| **2016** | \$100k | U Pitt | Research Corporation Scialog Grant 24215. Duration: 2 years. Title: *Stellar Multiplicity Meets Stellar Evolution: The APOGEE View*. Co-PI with Todd Thompson at OSU and Kevin Covey at UWV, U Pitt award is \$33k |
| **2015** | \$318k | U Pitt | NASA ADAP grant (NNX15AM03G S01). Duration: 3 years. Title: *Burning Chrome: Secondary Fe-Peak Elements in Type Ia Supernova Remnants with Suzaku*. PI. |
| **2014** | \$537k | U Pitt | NSF AST award (1410319). Duration: 3 years. Title: *Collaborative Research: The Supernova Rate and Delay Time Distribution in the Local Group*. Co-PI with Laura Chomiuk at MSU, U Pitt award is \$268k. |
| | \$250k | U Pitt | ARC Internal SDSS grant (SSP428). Duration: 3 years. Purpose: Support a postdoc at U Pitt (Dr. Brett Andrews) to develop data retrieval and visualization software for the SDSS-IV MaNGA survey. PI. |
| **2011** | €100k | TAU | ERC ITG grant FP7-PEOPLE-2010-RG. Duration: two years. Grant terminated in July 2011 when PI Badenes moved to U Pitt. |

**Total: \$1.3M** In competitive research grants as PI or Co-PI since 2011. For context, the success rate for most astronomy grants in the US during this period has been ∼15% [link].

## Supervision and Mentoring

**POSTDOCS (direct supervision):**

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| **Brett Andrews** | Projects: *Data visualization software and science highlights for the SDSS-IV MaNGA survey; Galactic archeology and stellar multiplicity for the SDSS APOGEE survey.*<br>Advising period: Fall 2014 to Fall 2017 |

**GRADUATE STUDENTS (main advisor, unless noted):**

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| **Thomas Hettinger** | *Stellar Multiplicity Analysis with Time-Resolved Spectroscopy and Markov Chain Monte Carlo Simulations* **Ph D Thesis defended August 13, 2015**<br>Institution: Michigan State University (co-advised with Jay Strader) |

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| **Sumit Sarbadhicary** | *Supernova Remnant Populations in the Local Group*<br>Institution: University of Pittsburgh. **Defense scheduled for June 11, 2018** |
| **Matthew Schell** | *Type Ia Supernova Progenitor Studies from Supernova Remnants*<br>Institution: University of Pittsburgh. Expected completion: 2019 |
| **Héctor Martínez-Rodríguez** | *Neutronization in Type Ia SNe: Models and observations*<br>Institution: University of Pittsburgh. Expected completion: 2019 |
| **Christine Mazzola** | *Stellar Multiplicity Meets Stellar Evolution: The SDSS/APOGEE View*<br>Institution: University of Pittsburgh. Expected completion: 2020 |

**UNDERGRADUATE STUDENTS (main advisor, unless noted):**

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| **Seth Roffé** | Project: *Orbital fits for binary White Dwarfs*<br>Institution: University of Pittsburgh<br>Paid summer intern in 2016, **B.S. Thesis defended 2017** |
| **Eric Alpert** | Project: *Stellar Multiplicity with Approximate Bayesian Computation*<br>Institution: Carnegie Mellon University, Department of Statistics (co-advised with Peter Freeman and Chad Schaefer) **Honors Thesis defended 2016** |
| **Roger Hatfull** | Project: *Orbital fits for binary White Dwarfs*<br>Institution: University of Pittsburgh<br>Paid summer intern in 2015, now a graduate student at the University of Alberta |
| **Ashwin Iyengar** | Project: *Identification of short-period binaries in the Sloan Digital Sky Survey*<br>Institution: University of Pittsburgh<br>Paid summer intern in 2014, now a graduate student at Berkeley |

## Teaching at the University of Pittsburgh

Main lecturer on all listed courses, responsible for grading, teaching materials, and lectures (30 hours/course):

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| **ASTRON 0088: From Stonehenge to Hubble** | 2014 Spring, Fall; 2016 Fall | Undergraduate introduction to astronomy and the history of science for non-science majors. Typical enrollment: 130 |
| **ASTRON 0113: Introduction to Astronomy** | 2012 Spring, Fall | Undergraduate introduction to astronomy for science majors. Typical enrollment: 40 |
| **ASTRON 1120: Stellar Astrophysics** | 2015 Fall | Advanced undergraduate course in stellar astrophysics, with exercises based on Python and MESA-Web. Typical enrollment: 10 |
| **ASTRON 1121: Galaxies and Cosmology** | 2016 Spring | Advanced undergraduate course in extragalactic astrophysics and data science, with exercises based on Python and usage of SDSS data. Typical enrollment: 10 |
| **ASTRON 3550: Stellar Structure** | 2013 Spring; 2015 Spring | Graduate course in stellar structure, with a final project based on Python and MESA. Typical enrollment: 5 |

## Selected Talks, Reviews, and Colloquia

Since 2011, I have given more than 70 seminars, talks, and colloquia in international research centers across the world, and presented more than 50 invited talks, contributed talks and posters in scientific conferences. Here I only list the most recent and relevant.

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| **2018** | May: Seminar, Instituto de Astrofísica de Canarias, La Laguna, Spain. |
| | March: Institut de Ciències del Cosmos (ICCUB), Universitat de Barcelona, Barcelona, Spain. |
| **2017** | November: Seminar, Institut de Ciències de l'Espai, Barcelona, Spain. |
| | October: Colloquium, Anton Pannekoek Astronomical Institute, University of Amsterdam, Amsterdam, the Netherlands. |
| | May: Invited talk, Supernova Remnants Workshop, UC Santa Cruz, Santa Cruz, CA |
| | April: Astrophysics Seminar, Dept. of Physics and Astronomy, Ohio University, Athens, OH |
| | January: Astrophysics Seminar, Dept. of Physics and Astronomy, Rutgers University, Piscataway, NJ |
| **2016** | September: Invited talk, Supernova Physics Workshop, Garching, Germany. |
| | June: Invited review, Supernova Remnant Conference, Chania, Crete, Greece. |
| | March: Seminar, Observatories of the Carnegie Institution of Washington, Pasadena, CA. |
| **2015** | December: Colloquium, Dept. of Physics, University of Alabama, Tuscaloosa, AL. |
| | September: Colloquium, Dept. of Astronomy, Ohio State University, Columbus, OH. |
| | August: Invited talk, SN Ia Progenitor Workshop, Carnegie Observatories, Pasadena, CA. |
| | June: Invited talk, Fifty-One Ergs Supernova Conference, Raleigh, NC. |
| | February: Colloquium, Harvard-CfA, Cambridge, MA. |
| **2014** | October: Invited talk, Transients' Unsolved Mysteries Workshop, Eilat, Israel. |
| | August: Invited talk, Supernovae in the Local Universe Conference, Coffs Harbour, Australia. |
| | June: Invited talk, The Unquiet Universe Conference, Cefalù, Sicily, Italy. |
| | February: Invited talk, SN Ia Progenitor Workshop, IAS, Princeton, NJ. |
| **2013** | November: Seminar, CCCP, New York University, New York, NY. |
| | September: Invited talk, Observational Signatures of SN Ia Progenitors II. Lorentz Center, Leiden, Netherlands. |
| | May: Invited review/debate, Fifty-One Ergs Supernova Conference, Raleigh, NC. |
| | April: Colloquium, Dept. of Physics & Astronomy, Johns Hopkins University, Baltimore, MD. |
| **2012** | December: Colloquium, Dept. of Astronomy, University of Illinois at Urbana-Champaign, IL. |
| | November: Seminar, Dept. de Physique, Université de Montréal, Montréal, Canada. |
| | September: Invited talk, Supernovae Illuminating the Universe: from Individuals to Populations Conference, Garching, Germany. |
| | August: Invited talk, Atomic Data for Astrophysics Workshop, Harvard-CfA, Cambridge MA. |
| | March: Colloquium, ICC-UB, Universitat de Barcelona, Barcelona, Spain. |
| **2011** | June: Invited talk, Supernovae and their Host Galaxies Conference, Sydney, Australia. |

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| | May: Invited talk, Advanced Topics in Astrophysics Conference, Llafranc, Spain. |
| **2010** | October: Colloquium, KIPAC, Stanford University, Stanford, CA . |
| | September: Invited talk, Observational Signatures of Type Ia Supernova Progenitors. Lorentz Center, Leiden, The Netherlands. |
| | March: Colloquium, Kapteyn Institute of Astronomy, Groningen University, the Netherlands. |
| | March: Invited talk, High-resolution X-ray spectroscopy: past, present, and future. Utrecht, the Netherlands. |
| **2009** | September: Invited review, Chandra's First Decade of Discovery, Boston, MA. |
| | July: Invited Talk, Supernova Remnants and Pulsar Wind Nebulae, Boston, MA. |
| | April: Colloquium, Dept. of Physics, University of Colorado, Boulder, CO. |

## Outreach

**Selected Public Talks and events:**

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| **2018** | March: Inaugural talk, XXVI Jornadas de Astronomía, Planetari de Castelló. |
| **2017** | November: Special talk for the XXV Anniversary of the Sociedad Española de Astronomía, Aula Magna, Universitat de Barcelona. |
| | March: Organized SDSS Plates Workshop fot Science Educators in the Pittsburgh area. Attended by educators from public and private schools serving more than 2,500 students. |
| **2016** | March: Amateur Astronomers Association of Pittsburgh, Pittsburgh PA. |
| **2015** | April: Carnegie Science Center, Pittsburgh PA. |
| **2012** | February: Allegheny Observatory, Pittsburgh PA. |
| **2009** | August: Atzeneta del Maestrat, Spain (part of the International Year of Astronomy). |
| | May: Amateur Astronomers Society of Princeton, Princeton, NJ. |
| Since **2001** | Several participations in blogs, TV shows, and radio shows, including CBS Pittsburgh, The Academic Minute at WAMC and the *Chandra* blog in the USA, and TV2, Radio Nacional, and Catalunya Radio in Spain, as well as informal talks in community centers in the Pittsburgh area. |

**Press Releases on First- and Second-author papers:**

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| **2015** | [link] NASA/GSFC Press center. *Suzaku Studies Supernova 'Crime Scene,' Shows a Single White Dwarf to Blame*. |
| **2014** | [link] NASA/GSFC Press center. *Iron 'Fingerprints' Point Astronomers to Supernova Suspects*. |
| **2013** | [link] NASA/GSFC Press center. *Suzaku 'Post-mortem' Yields Insight into Kepler's Supernova*. |
| **2012** | [link] SDSS Press center. *Fireworks: The Merger Rate of Binary White Dwarfs*. |
| **2008** | [link] *Chandra* press center. *SNR 0509-67.5: Action Replay of Powerful Stellar Explosion*. |

## Professional Service

**Management and Science Definition:**

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| Since **2016** | *SDSS-V* Task force on time-resolved spectroscopy and stellar multiplicity. |
| Since **2014** | *Athena* Mission, US Representative in Science Working Group 3.4: Supernova remnants and the Interstellar Medium. |
| Since **2013** | *SDSS-IV/MaNGA* Data Products Committee. |
| Since **2012** | *BigBOSS*/*MS-DESI*/*DESI* Bright Time Science Committee. |
| **2013-2016** | *SDSS-IV* Collaboration Council: Representative for Associate Member Institutions. |
| **2009-2010** | Science Associate for the *International X-ray Observatory (IXO)*. |
| **2008** | NASA *Constellation-X* Panel on Production and Distribution of the Elements. |
| **2004** | NASA *Constellation-X* Panel to Define Scientific Objectives for Supernova Remnants. |

**Panels, societies, and other committees:**

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| **2018** | Science reviewer, Israel Science Foundation. |
| **2017** | Workshop Organizer, Observational Signatures of Type Ia Supernova Progenitors III, Lorentz Center, Leiden, the Netherlands. |
| **2017** | Science reviewer, Natural Sciences and Engineering Research Council of Canada, . |
| **2017** | Science reviewer, Swiss National Science Foundation, COST program. |
| **2016** | National Science Foundation, Astronomy & Astrophysics Panel. |
| **2015** | Science reviewer, *Vici* program, Netherlands Organisation for Scientific Research (NWO). |
| **2015** | *Chandra* Cycle 17 Time Allocation Committee. |
| Since **2014** | Academic advisor to incoming graduate students, U Pitt Dept of Physics & Astronomy. |
| **2011-2013** | National Optical Astronomy Observatory Time Allocation Committee. |
| **2009** | *Chandra* Cycle 11 Time Allocation Committee. |
| **2009** | Scientific Organizing Committe, SN Ia Progenitor Workshop, Princeton, NJ. |
| **2008** | *Swift* Cycle 4 Guest Investigator Program Review. |
| **2007** | Scientific Organizing Committee, Endpoints And Interactions: A Supernova Remnant Workshop, AAS Summer Meeting, Hawaii. |
| Since **2007** | Member of the American Astronomical Society (AAS). |
| Since **2006** | Scientific referee (*A&A*, *ApJ*, *MNRAS*, *Science* and *Nature*). |
| **2006** | *Suzaku (Astro-E2)* AO-1 Time Allocation Committee. |
| Since **2003** | Member of the Sociedad Española de Astronomía (SEA). |

## Competitively Obtained Observing Time

**Successful proposals as PI:**

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| **Optical Ground** | Mayall 4m Telescope, Kitt Peak: 17 nights (4 in 2010B, 4 in 2011A, 5 in 2011B, 4 in 2012A); ARC 3.5m Telescope, Apache Point Observatory: 12 half-nights (8 in 2009, 4 in 2008). |
| **Radio** | Green Bank Telescope: 10 hours in 2009. |
| ***HST*** | 5 orbits in 2010. |
| ***Swift*** | 5 ks in 2010. |

**Successful proposals as Co-I:**

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| **Optical Ground** | W.M. Keck Observatory, 6 nights (2011-2013, PI Kasen); Gemini South Telescope, 24 hours (2012, PI Kerzendorf); Mayall 4m Telescope at Kitt Peak, 16 nights (2010-2011, PI Rest); ARC 3.5m Telescope, 8 half-nights (2009-2010, PI Mullally). |
| **Radio** | *EVLA*: Type Ia SNe (ToO). 10 hrs (PIs Soderberg, Chomiuk). |
| ***HST*** | 4 orbits in 2007. |
| ***Suzaku*** | 1150 ks: 650 ks in 2014 (PI Yamaguchi), 400 ks in 2008 (PI Hughes), 100 ks in 2005 (PI Hughes). |
| ***Chandra*** | 3338 ks: 725 ks in 2009 (PIs Park, Hughes, Maoz), 1650 ks in 2008 (PIs Hughes, Bauer), 213 ks in 2007 (PIs Hughes, Reynolds), 750 ks in 2006 (PI Reynolds). |
| ***INTEGRAL*** | ToO for nearby SN Ia (2000-present, PI Isern), triggered for SN2011fe and SN2014J. |

## Languages

Spanish and Catalan (native); English (fluent); French and German (good)

## References


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|---|---|
| **Prof. Lars Bildsten** | Kavli Institute for Theoretical Physics and University of California, Santa Barbara<br>Kohn Hall, University of California Santa Barbara, CA 93106<br>bildsten@kitp.ucsb.edu |
| **Prof. Dan Maoz** | School of Physics and Astronomy, Tel-Aviv University<br>Tel-Aviv 69978, Israel<br>maoz@astro.tau.ac.il |
| **Prof. John P. Hughes** | Department of Physics and Astronomy, Rutgers University<br>136 Frelinghuysen Rd, Piscataway, NJ 08854<br>jph@physics.rutgers.edu |
| **Prof. Brian P. Schmidt** | Research School of Astronomy and Astrophysics, Australian National University<br>via Cotter Rd, Weston Creek, ACT 2611, Australia<br>brian@mso.anu.edu.au |

## Refereed Publications

**2018**

74 Sarbadhicary, S. K., Chomiuk, L., **Badenes, C.**, Tremou, E., Soderberg, A. M.& Sjouwerman, L.O. (2018) The two most recent thermonuclear supernovae in the Local Group: radio constraints on their progenitors and evolution. ApJ, in press [arXiv:1709.05346]

73 Maoz, D., Hallakoun, N., & **Badenes, C.** (2018) The separation distribution and merger rate of double white dwarfs: improved constraints. MNRAS, 476, 2584

72 Abolfathi, B., et al. (326 co-authors, incl. **Badenes, C.**) (2018). The Fourteenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the extended Baryon Oscillation Sky Survey and from the second phase of the Apache Point Observatory Galactic Evolution Experiment. ApJS, 235:42

71 McWilliam, A., Piro, A. L., **Badenes, C.**, & Bravo, E. (2018), Evidence for a Sub-Chandrasekhar-mass Type Ia Supernova in the Ursa Minor Dwarf Galaxy ApJ, 857, 97

70 Galbany, L., Anderson, J. P., Sánchez, S. F., Kuncarayakti, H., Pedraz, S., González-Gaitán, S., Stanishev, V., Domínguez, I., Moreno-Raya, M. E., Wood-Vasey, W. M., Mourao, A. M., Ponder, K. A.,**Badenes, C.**, Mollá, M., López-Sánchez, A. R., Rosales-Ortega, F. F., Vílchez, J. M., García-Benito, R. & Marino, R. A.. (2018). PISCO: The PMAS/PPak Integral-field Supernova Hosts Compilation ApJ, 855, 107

69 **Badenes, C.**, Mazzola, C., Thompson, T. A., et al. (2018) Stellar Multiplicity Meets Stellar Evolution and Metallicity: The APOGEE View ApJ, 854, 147

68 MacLeod, C. L., Green, P. J., Anderson, S. F., Eracleous, M., Ruan, J. J., Runnoe, J., Nielsen Brandt, W., **Badenes, C.**, Greene, J., Morganson, E., Schmidt, S. J., Schwope, A., Shen, Y., Amaro, R., Lebleu, A., Grier, C. J., Hoover, D., McGraw, S. M., Dawson, K., Hall, P. B., Hawley, S. L., Mariappan, V., Myers, A. D., Pâris, I., Schneider, D. P., Stassun, K. G., Bershady, M. A., Blanton, M. R., Seo, H.-J., Tinker, J., Fernández-Trincado, J. G., Chambers, K., Kaiser, N., Kudritzki, R.-P., Magnier, E., Metcalfe, N., and Waters, C. Z. (2018) The Time-domain Spectroscopic Survey: Target Selection for Repeat Spectroscopy AJ, 155, 6

**2017**

67 Schwab, J., Martínez-Rodríguez, H., Piro, A. L., & **Badenes, C.** (2017). Exploring the Carbon Simmering Phase: Reaction Rates, Mixing, and the Convective Urca Process. ApJ, 851, 105

66 Woods, T. E., Ghavamian, P., **Badenes, C.**, & Gilfanov, M. (2017). No hot and luminous progenitor for Tycho's supernova. Nature Astronomy, 1, 800

65 Patnaude, D. J., Lee, S.-H., Slane, P. O., **Badenes, C.**, Nagataki, S., Ellison, D. C., and Milisavljevic, D. (2017). The Impact of Progenitor Mass Loss on the Dynamical and Spectral Evolution of Supernova Remnants. ApJ: 849,109

64 García-Berro, E., **Badenes, C.**, Aznar-Siguán, G., and Lorén-Aguilar, P. (2017). White dwarf dynamical interactions and fast optical transients. *MNRAS*, 468:4815–4821

63 Blanton, et al.(362 co-authors, incl. **Badenes, C.** ) (2017). Sloan Digital Sky Survey IV: Mapping the Milky Way, Nearby Galaxies, and the Distant Universe. *AJ*, 154:28

62 Galbany, L., Mora, L., González-Gaitán, S., Bolatto, A., Dannerbauer, H., López-Sánchez, Á. R., Maeda, K., Pérez, S., Pérez-Torres, M. A., Sánchez, S. F., Wong, T., **Badenes, C.**, Blitz, L., Marino, R. A., Utomo, D., and Van de Ven, G. (2017). Molecular gas in supernova local environments unveiled by EDGE. *MNRAS*, 468:628–644

61 Martínez-Rodríguez, H., **Badenes, C.**, Yamaguchi, H., Bravo, E., Timmes, F. X., Miles, B. J., Townsley, D. M., Piro, A. L., Mori, H., Andrews, B., and Park, S. (2017). Observational Evidence for High Neutronization in Supernova Remnants: Implications for Type Ia Supernova Progenitors. *ApJ*, 843:35

60 Zapartas, E., de Mink, S. E., Izzard, R. G., Yoon, S.-C., **Badenes, C.**, Götberg, Y., de Koter, A., Neijssel, C. J., Renzo, M., Schootemeijer, A., and Shrotriya, T. S. (2017). Delay-time distribution of core-collapse supernovae with late events resulting from binary interaction. *A&A*, 601:A29

59 Sarbadhicary, S. K., **Badenes, C.**, Chomiuk, L., Caprioli, D., and Huizenga, D. (2017). Supernova remnants in the Local Group - I. A model for the radio luminosity function and visibility times of supernova remnants. *MNRAS*, 464:2326–2340

58 Yamaguchi, H., Hughes, J. P., **Badenes, C.**, Bravo, E., Seitenzahl, I. R., Martínez-Rodríguez, H., Park, S., and Petre, R. (2017). The Origin of the Iron-rich Knot in Tycho's Supernova Remnant. *ApJ*, 834:124

57 SDSS Collaboration, Albareti, F. D. et al (238 co-authors, incl. **Badenes, C**) (2017). The Thirteenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-IV Survey MApping Nearby Galaxies at Apache Point Observatory. *ApJS*, 233:25

**2016**

56 Ruan, J. J., Anderson, S. F., Green, P. J., Morganson, E., Eracleous, M., Myers, A. D., **Badenes, C.**, Bershady, M. A., Brandt, W. N., Chambers, K. C., Davenport, J. R. A., Dawson, K. S., Flewelling, H., Heckman, T. M., Isler, J. C., Kaiser, N., Kneib, J.-P., MacLeod, C. L., Paris, I., Ross, N. P., Runnoe, J. C., Schlafly, E. F., Schmidt, S. J., Schneider, D. P., Schwope, A. D., Shen, Y., Stassun, K. G., Szkody, P., Waters, C. Z., and York, D. G. (2016). The Time-Domain Spectroscopic Survey: Understanding the Optically Variable Sky with SEQUELS in SDSS-III. *ApJ*, 825:137

55 Martínez-Rodríguez, H., Piro, A. L., Schwab, J., and **Badenes, C.** (2016). Neutronization During Carbon Simmering In Type Ia Supernova Progenitors. *ApJ*, 825:57

54 Galbany, L., Stanishev, V., Mourão, A. M., Rodrigues, M., Flores, H., Walcher, C. J., Sánchez, S. F., García-Benito, R., Mast, D., **Badenes, C.**, González Delgado, R. M., Kehrig, C., Lyubenova, M., Marino, R. A., Mollá, M., Meidt, S., Pérez, E., van de Ven, G., and Vílchez, J. M. (2016). Nearby supernova host galaxies from the CALIFA survey. II. Supernova environmental metallicity. *A&A*, 591:A48

53 Chomiuk, L., Soderberg, A. M., Chevalier, R. A., Bruzewski, S., Foley, R. J., Parrent, J., Strader, J., **Badenes, C.**, Fransson, C., Kamble, A., Margutti, R., Rupen, M. P., and Simon, J. D. (2016). A Deep Search for Prompt Radio Emission from Thermonuclear Supernovae with the Very Large Array. *ApJ*, 821:119

52 Isern, J., Jean, P., Bravo, E., Knödlseder, J., Lebrun, F., Churazov, E., Sunyaev, R., Domingo, A., **Badenes, C.**, Hartmann, D. H., Hoeflich, P., Renaud, M., Soldi, S., Elias-Rosa, N., Hernanz, M., Domínguez, I., García-Senz, D., Lichti, G. G., Vedrenne, G., and Von Ballmoos, P. (2016). Gamma-ray emission from SN2014J near maximum optical light. *A&A*, 588:A67

51 Rubin, A., Gal-Yam, A., De Cia, A., Horesh, A., Khazov, D., Ofek, E. O., Kulkarni, S. R., Arcavi, I., Manulis, I., Yaron, O., Vreeswijk, P., Kasliwal, M. M., Ben-Ami, S., Perley, D. A., Cao, Y., Cenko, S. B., Rebbapragada, U. D., Woźniak, P. R., Filippenko, A. V., Clubb, K. I., Nugent, P. E., Pan, Y.-C., **Badenes, C.**, Howell, D. A., Valenti, S., Sand, D., Sollerman, J., Johansson, J., Leonard, D. C., Horst, J. C., Armen, S. F., Fedrow, J. M., Quimby, R. M., Mazzali, P., Pian, E., Sternberg, A., Matheson, T., Sullivan, M., Maguire, K., and Lazarevic, S. (2016). Type II Supernova Energetics and Comparison of Light Curves to Shock-cooling Models. *ApJ*, 820:33

**2015**

50 Bours, M. C. P., Marsh, T. R., Gänsicke, B. T., Tauris, T. M., Istrate, A. G., **Badenes, C.**, Dhillon, V. S., Gal-Yam, A., Hermes, J. J., Kengkriangkrai, S., Kilic, M., Koester, D., Mullally, F., Prasert, N., Steeghs, D., Thompson, S. E., and Thorstensen, J. R. (2015). A double white dwarf with a paradoxical origin? *MNRAS*, 450:3966–3974

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**Unlisted:** More than 60 unrefereed publications, including communications, conference proceedings, and astronomer's telegrams. A complete list of unrefereed publications can be found [here]