

Emmanouil Zapartas

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EDUCATION AND POSITIONS

PostDoc researcher <i>In the group of Anastasios Fragkos</i>	Observatoire astronomique de l'Université de Genève (Switzerland) Jan 2019 - Present
Scholarship holder <i>Swiss Government Excellence Scholarship for PostDoc research</i>	Observatoire astronomique de l'Université de Genève (Switzerland) Sep 2019 - Aug 2020
PhD in Astronomy and Astrophysics <i>Supervisors: Selma de Mink & Alex de Koter</i> <i>Thesis: The deaths of massive stars in binary systems</i>	Anton Pannekoek Institute - University of Amsterdam (Netherlands) Oct 2014 - Dec 2018
MSc in Astronomy and Astrophysics <i>Grade: 8.04 – Award of excellence (Cum Laude)</i>	Anton Pannekoek Institute - University of Amsterdam (Netherlands) Sep 2012 - Sep 2014
LLP/Erasmus Programme <i>student exchange programme</i>	Radboud University of Nijmegen (Netherlands) Jan 2011- Jun 2011
Degree in Physics <i>Selected Stream: Astronomy and Astrophysics, Grade: 7.92</i>	Aristotle University of Thessaloniki (Greece) Sep 2006 - Jul 2012

LIST OF PUBLICATIONS

- E. Zapartas, S. E. de Mink, R.G. Izzard, S.-C. Yoon, C. Badenes, Y. Götberg, A. de Koter, C.J. Neijssel, M. Renzo, A. Schootemeijer, T S. Shrotriya. “*Delay-time distribution of core-collapse supernovae with late events resulting from binary interaction*”. 2017a, A&A, 601A, 29Z.
- E. Zapartas, S. E. de Mink, Van Dyk, S. D.; Fox, O. D.; Smith, N.; Bostroem, K. A.; de Koter, A.; Filippenko, A. V.; Izzard, R. G.; Kelly, P. L.; Neijssel, C. J.; Renzo, M.; Ryder, S.. “*Predicting the Presence of Companions for Stripped-envelope Supernovae: The Case of the Broad-lined Type Ic SN 2002ap*”. 2017b, ApJ, 842, 125Z.
- S. D. Van Dyk, S. E. de Mink, & E. Zapartas. “*Constraints on the Binary Companion to the SN Ic 1994I Progenitor*”. 2016, ApJ, 818, 75V.
- Margutti, R.; Kamble, A.; Milisavljevic, D.; Zapartas, E.; De Mink, S.; Drouot, M.; Chornock, R.; Risaliti, G.; Zauderer, B. A.; Bietenholz, M.; Cantiello, M.; Chakraborti, S.; Chomiuk, L.; Fong, W.; Grefenstette, B.; Guidorzi, C.; Kirshner, R.; Parrent, J. T.; Patnaude, D.; Soderberg, A. M.; Gehrels, N. C. & Harrison, F. “*Ejection of the massive Hydrogen-rich envelope timed with the collapse of the stripped SN2014C*”. 2017, ApJ, 835, 140M. Press release followed.
- Ryder, S; Van Dyk, S. D.; Fox, O. D.; Zapartas, E.; S. E. de Mink; N. Smith.; E. Brunsten, K. A. Bostroem, A. V. Filippenko, I. Shivvers, WeiKang Zheng. “*Ultraviolet Detection of the Binary Companion to the Type IIb SN 2001ig*”. 2018, ApJ, 856, 83R. Press release followed.
- J. Japelj, S.D. Vergani, R. Salvaterra, M. Renzo, E. Zapartas, S. E. de Mink, L. Kaper, S. Zibetti. “*Host galaxies of SN Ic-BL with and without long gamma-ray bursts*”. 2018, A&A, 617A, 105J.
- Y. Götberg, S. E. de Mink, J. H. Groh, T. Kupfer, P. A. Crowther, E. Zapartas, M. Renzo. “*Spectral models for binary products: Unifying Subdwarfs and Wolf-Rayet stars as a sequence of stripped-envelope stars*”. 2018, A&A, 615A, 78G. arXiv:1802.03018.
- A. Schootemeijer, Y. Götberg, S. E. de Mink, D. Gies, E. Zapartas. “*Clues about the scarcity of stripped-envelope stars from the evolutionary state of the sdO+Be binary system ϕ Persei*”. 2018, A&A, 615A, 30S, arXiv:1803.02379.
- W. E. Kerzendorf, T Do, Y. Götberg, D. Millisavljevic, S. E. de Mink, E. Zapartas, M. Renzo, S. Justham, P. Podsiadlowski, R. A. Fesen. “*No surviving stellar companion for Cassiopeia A*”. 2019, A&A, 623A, 34K., arXiv:1711.00055.
- M. Renzo, E. Zapartas, S. E. de Mink, Y. Götberg, S. Justham, R. J. Farmer, R. G. Izzard, S. Toonen & H. Sana. “*Massive Runaway and Walkaway Stars*”. 2019, A&A, 624A, 66R.
- E. Zapartas, S. E. de Mink, S. Justham, N., Smith, A. de Koter, M. Renzo, I. Arcavi, R. Farmer, Y. Götberg, S. Toonen. “*The diverse lives of the progenitors of hydrogen-rich core-collapse supernovae: the role of binary interaction*”. 2019, A&A, 631A, 5Z.
- Y. Götberg, S. E. de Mink, M. McQuinn, E. Zapartas, J. H. Groh, C. Norman. “*The contribution from stars stripped in binaries to cosmic reionization of hydrogen and helium*”. 2019, A&A, arXiv:1911.00543.
- E. Zapartas, S. E. de Mink, S. Justham, N. Smith, M. Renzo, A. de Koter. “*How binarity affects the observed initial and final core masses of hydrogen-rich, Type II supernova progenitors*”. 2020, A&A, arXiv:2002.07230.
- K.D. Temmink, S. Toonen, E. Zapartas, S. Justham, B.T. Gänsicke. “*Looks can be deceiving. Underestimating the age of single white dwarfs due to binary mergers*”. 2020, A&A, 636, A31, arXiv:1910.05335.
- S. Bavera, T. Fragos, Y. Qin, E. Zapartas, C.J. Neijssel, I. Mandel, A. Batta, S.M. Gaebel, C. Kimball, S. Stevenson. “*The origin of spin in binary black holes. Predicting the distributions of the main observables of Advanced LIGO*”. 2020a, A&A, 635, A97, arXiv:1906.12257.
- D. Misra, T. Fragos, T. Tauris, E. Zapartas, D.R. Aguilar-Dena. “*The origin of pulsating ultra-luminous X-ray sources: Low- and intermediate-mass X-ray binaries containing neutron star accretors*”. 2020, A&A, arXiv:2004.01205.
- Renzo, M.; Farmer, R.; Justham, S.; Götberg, Y.; de Mink, S.E.; Zapartas, E.; Marchant, P.; Smith, N. “*Predictions for the hydrogen-free ejecta of pulsational pair-instability supernovae*”. 2020, A&A, arXiv:2002.05077.
- Bavera, Simone S.; Fragos, Tassos; Zevin, Michael; Berry, Christopher P. L.; Marchant, Pablo; Andrews, Jeff J.; Coughlin, Scott; Dotter, Aaron; Kovlakas, Konstantinos; Misra, Devina; Serra-Perez, Juan G.; Qin, Ying; Rocha, Kyle A.; Román-Garza, Jaime; Tran, Nam H.; Zapartas, Emmanouil “*The impact of mass-transfer physics on the observable properties of field binary black hole populations*”. 2020b, A&A, arXiv:2010.16333.

Link to my PhD thesis (successfully defended in 7th of December 2018):

<http://hdl.handle.net/11245.1/85627fa7-3481-4d05-a4b4-470c71323526>

AWARDED GRANTS

- **35.000 CHF**: Awarded support from the Federal Commission for Scholarships for Foreign Students for the Swiss Government Excellence Scholarship (ESKAS No. 2019.0091) for the academic year 2019-2020
- **400 €**: funded by the Leids Kerkhoven-Bosscha Fonds (LKBF) for the conference of: “Shocking Supernovae”, Stockholm (Sweden), Apr 2018
- **1000 €**: funded by the LKBF for the workshop: “MESA: stellar evolutionary code”, Santa Barbara (USA), Aug 2017
- **450 €**: funded by the LKBF for the conference: “AGB-Supernova mass transition”, Rome (Italy), Mar 2017
- **350 €**: funded by the LKBF for the workshop about the population synthesis code “binary_c”, Cambridge (UK), Sep 2016
- **790 €**: funded by the LKBF for the conference: “Fifty-One-Ergs” about supernovae, North Carolina (USA), Jun 2015
- **400 €**: funded by the LKBF for the work meeting: VFTS, Granada (Spain), Mar 2014

CO-INVESTIGATOR IN SUCCESSFUL OBSERVATIONAL PROPOSALS

- “*Towards a Comprehensive Search for Surviving Companions to Stripped-Envelope Supernovae*”, **Hubble Space Telescope**, 14 orbits of Cycle 28: GO-16165, 2020, (PI: O. Fox)
- “*Mapping Extreme Mass Loss from Evolved Massive Stars with Chandra and NuSTAR*”, **Chandra Space X-ray Telescope & Nuclear Spectroscopic Telescope Array (NuSTAR)**, 2016, Cycle 18 (PI: R. Margutti)
- “*Probing the Sub-Parsec Environment of the Type Ib SN2016bau*”, **Very Large Array**: 16A-447, 2016, (PI: A. Kamble)
- “*Long-Lost Companions: A Search for the Binary Secondaries of Three Nearby Supernovae*”, **Hubble Space Telescope**, Cycle 23: GO-14075, 2015, (PI: O. Fox) The observations from this proposal has lead to two publications (Zapartas et al. 2017b & Ryder et al. 2018)
- “*Uncovering the fate of the Tarantulas B-type binaries*”, ESO, Period 96A: **VLT FLAMES Tarantula Survey (VFTS)**, 2015, (PI: W. Taylor)

CONFERENCE/WORKSHOP ATTENDANCE (WITH ORAL OR POSTER CONTRIBUTIONS)

- Nov 2020 Institute of Astrophysics - FORTH, Herakleion, Greece. **Seminar** presentation.
- Jun 2020 “*European Astronomical Society (EAS) Annual Meeting*”, digital conference. **Poster** contribution.
- Jun 2020 “*European Astronomical Society (EAS) Annual Meeting*”, digital conference, Session “Supernova host environments”. **Oral** contribution.
- Sep 2019 *ESO Conference: “The extragalactic explosive Universe: the new era of transient surveys and data-driven discovery”*, in Garching (Germany). **Invited talk**.
- Jun 2019, “*European Week of Astronomy and Space Science (EWASS)*”, conference in Lyon (France). **Oral** contribution.
- May 2019, “*Fifty-One-Ergs*”, conference about supernovae in North Carolina (USA). **Oral** contribution.
- June 2018 “*Shocking Supernovae*”, in Stockholm (Sweden). **Oral** contribution.
- Mar 2018, “*BlackGEM science meeting*”, in Nijmegen (Netherlands)
- Sep 2017, “*Electromagnetic Signatures of Stellar Mass Binary Black Hole Mergers*”, Lorentz workshop in Leiden (Netherlands)
- Aug 2017, “*MESA: stellar evolutionary code*”, workshop in Santa Barbara (USA)
- Jul 2017, “*Supernova workshop*”, conference/workshop in Ringberg (Germany). **Oral** contribution.
- Jun 2017, “*Meeting of the greek astronomical association*”, conference in Irakleion (Greece). **Oral** contribution.
- Apr 2017, “*Nijmegen stellar group*”, work visit in Nijmegen (Netherlands). **Oral** seminar.
- Mar 2017, “*AGB-Supernova mass transition*”, conference in Rome (Italy). **Oral** contribution.
- Sep 2016, “*Supernovae outliers*”, conference in Garching (Germany). **Oral** contribution.
- Jul 2016, “*Binary stars*”, conference in Cambridge (UK). **Oral** contribution.
- Jul 2016, “*European Week of Astronomy and Space Science (EWASS)*”, conference in Athens (Greece). **Oral** contribution.
- Jun 2016, “*Bridging the gap between massive stars and supernovae*”, conference in Munich (Germany). **Poster** contribution
- May 2016 Netherlands Astronomy Conference (NAC), in Nunspeet (Netherlands). **Oral** contribution.
- Sep 2015, “*binary_c*”, technical workshop about the stellar evolution population synthesis code binary_c in Cambridge (UK). **Oral** contribution.
- Jul 2015, “*Impact of Massive Binaries throughout the Universe*”, Lorentz Workshop in Leiden (Netherlands). **Oral** contribution.
- Jun 2015, “*Fifty-One-Ergs*”, conference about supernovae in North Carolina (USA). **Poster** contribution winning the **first poster prize**
- May 2015, “*NAC*”, in Nunspeet (Netherlands). **Oral** contribution.
- Mar 2015, “*VFTS*”, work meeting in Sheffield (UK). **Oral** contribution.
- May 2014, “*NAC*”, in Leiden (Netherlands)
- Mar 2014, “*VFTS*”, in Granada (Spain)

SUPERVISION EXPERIENCE

- Fall 2019 Main supervisor of master student J. Roman Garza
- Fall 2019 Supervisor of bachelor student I. Jermann
- Spring 2019 Supervisor of bachelor student A. Perriard
- Spring 2018 Co-supervisor of master student K. Temmink
- Jun 2017 Main supervisor of bachelor student T. Dodds
- Spring 2017 Co-supervisor of master student L. Edstam
- 2014-2015 Main supervisor of master student R. Boots
- 2015-2016 Co-supervisor of master student C.J. Neijssel
- 2014-2015 Co-supervisor of master student A. Schootemeijer

TEACHING EXPERIENCE

- Spring 2017, Stellar structure and evolution (MSc course) Anton Pannekoek Institute - University of Amsterdam.
Teaching assistant
- Autumn 2015, & 2016, Stellar atmospheres and radiative transfer (MSc course). Anton Pannekoek Institute - University of Amsterdam.
Teaching assistant
- Sep 2010 - Jun 2012 Physics and Mathematics (secondary education), Alexandroupolis & Thessaloniki - Greece.
Teacher of private lessons to children of various ages

ORGANIZATIONAL EXPERIENCE

- Sep 2014 - Aug 2017, Main organizer of regular research meetings. Anton Pannekoek Institute - University of Amsterdam.
Bi-weekly research meetings of the staff and students working on stellar evolution in the institute.

OUTREACH EXPERIENCE

- Feb 2014 - Feb 2018, Outreach presentations Alexandroupolis (Greece).
Numerous presentations about science and astronomy targeted to audiences of middle/highschool level