

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> Thesis: The deaths of massive stars in binary systems	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

AWARDED GRANTS

- **35.000 CHF:** awarded by the Federal Commission for Scholarships for Foreign Students of the Swiss Government Excellence Scholarship (ESKAS No. 2019.0091) for the academic year 2019-2020.
- **3390 €:** funded by the Leids Kerkhoven-Bosscha Fonds (LKBF) for the attendance in several conferences during the PhD period of 2015-2018.

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 Tarantula's B-type binaries”, ESO, Period 96A: **VLT FLAMES Tarantula Survey (VFTS)**, 2015, (PI: W. Taylor)

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. Shrotiyya. “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.; et al.. “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. Brunsden, 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. Millisaljevic, 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*”. 2020, A&A, 634A, 134G.
- 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*”. 2020, A&A, 635, A97, arXiv:1906.12257.
- D. Misra, T. Fragos, T. Tauris, E. Zapartas, D.R. Aguilera-Dena. “*The origin of pulsating ultra-luminous X-ray sources: Low- and intermediate-mass X-ray binaries containing neutron star accretors*”. 2020, A&A, 642A, 174M.
- 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, 640A, 56R.
- E. Zapartas et al. , S. E. de Mink, S. Justham, N. Smith, et al. “*Effect of binary evolution on the inferred initial and final core masses of hydrogen-rich, Type II supernova progenitors*”. 2021, A&A, 645A, 6Z.
- Bavera et al., Fragos, T., incl. Zapartas, E.. “*The impact of mass-transfer physics on the observable properties of field binary black hole populations*”. 2021, A&A, 647A, 153B.
- Sun, Ning-Chen; Maund, Justyn R.; Crowther, Paul A.; Fang, Xuan; E. Zapartas. “*Toward better understanding supernova environments: a study of SNe 2004dg and 2012P in NGC 5806 with HST and MUSE*”. 2021, MNRAS, 504, 2253S.
- Román-Garza, J.; Bavera, S.; Fragos, T.; Zapartas, E.; et al.. “*The role of core-collapse physics in the observability of black-hole neutron-star mergers as multi-messenger sources*”. 2021, ApJ, 912L, 23R.
- S. Bavera, T. Fragos, E. Zapartas, et al.. “*Probing the progenitors of spinning binary black-hole mergers with long gamma-ray bursts*”. In referee process in Science magazine.
- E. Zapartas; Renzo M.; Fragos, T.; Dotter, A.; et al.. “*Revisiting the explodability of single massive star progenitors of stripped-envelope supernovae*”. Submitted in A&A Letters. arXiv:XXXX

CONFERENCE/WORKSHOP ATTENDANCE (WITH ORAL OR POSTER CONTRIBUTIONS)

- Jan 2021 University of Sheffield. **Seminar** presentation.
- Nov 2020 Institute of Astraphysics - 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)

REVIEWING ACTIVITIES

- Peer-reviewer in 4 studies submitted in Monthly Notices of the Royal Astronomical Society (MNRAS) and 2 in Astronomy & Astrophysics (A&A).

SUPERVISION EXPERIENCE

- Main supervisor of 1 master and 1 bachelor student in their thesis project
- Main supervisor of 2 master and 6 bachelor students in research projects
- Co-supervisor of 5 master thesis projects

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

FELLOWSHIPS AND AWARDS

- : Honorable award of excellence (*Cum Laude*) for my grade for my grade MSc Degree at University of Amsterdam (2014).
- : Honorable award for being accepted 3rd in row in the department of Physics in Aristotle University of Thessaloniki (2006).

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

- Press release in Netherlands and USA about the results published in Margutti, Kamble, Milisavljevic, Zapartas, et al. 2017, on the first detection of a “Chameleon” Supernovae that changed its Type after a few months from Type Ib (hydrogen-poor) to Type II (hydrogen-rich).
- Numerous presentations on science and astronomy targeted to audiences of middle/high school level, in Alexandroupolis (my hometown).