
CONTACT INFORMATION	European Space Agency Camino Bajo del Castillo s/n, 28692 Villafranca del Castillo, Madrid, Spagna	<i>Tel:</i> +34(0)613079389 <i>E-mail:</i> nicola.gentile@esa.int <i>website:</i> https://npgfusillo.github.io/
RESEARCH INTERESTS	Observational astronomy, large-scale identification and characterization of white dwarfs (e.g. magnetism, variability, metal-pollution), planetary remnants, wide-area optical and infrared surveys.	
EDUCATION	University of Warwick , Coventry, United Kingdom PhD, Astrophysics <ul style="list-style-type: none">• Topic: "Stellar and planetary remnants in large area surveys."• Supervisor: Prof. Boris Gänsicke	October, 2011 - September, 2015
	University of Warwick , Coventry, United Kingdom MPhys. Thesis topic: "Optical transients in the WASP orphan database"	October, 2007 - June, 2011
HONORS AND AWARDS	European Space Agency (ESA) reserach fellowship for the years 2022-2025 European Southern Observatory Fellowship (Garching) for the years 2019-2022	
WORK AND ACADEMIC EXPERIENCE	Research Fellow <i>European Space Agency, Madrid, Spain</i> Analysis of composition and evolution of ancient planetary systems using ground and space based observatories. Characterization of new white dwarfs flux standards for ELT MICADO instrument. Development of white dwarfs pipeline for 4MOST and SDSS V	October, 2022 - ongoing
	Research Fellow <i>European Southern Observatory, Garching bei München, Germany</i> Large scale identification and characterization of white dwarf using Gaia. Discovery and analysis of planetary remnants around white dwarfs. Selection and characterization of white dwarfs as flux standards for next generation optical and IR survey/instruments. Development of white dwarfs pipeline for 4MOST and SDSS V	October, 2019 - September, 2022
	Postdoctoral research Assistant <i>University of Warwick, Coventry, UK</i> Working on several aspects of white dwarf characterization and spectral modeling. Fitting UV, optical, and near infrared spectra and photometry of white dwarfs. White dwarf population studies using Gaia. Development of machine learning algorithm for white dwarf spectra classification.	August, 2016 - September 2019
	Postdoctoral research Assistant <i>University of Warwick, Coventry, UK</i> Working on identification and characterization of planetary debris around white dwarfs. Exploitation of new large area surveys (VST ATLAS, PTF, PanSTARRS) in various areas of white dwarf science.	November, 2015 - July, 2016

PhD Student**October, 2011 - September, 2015***University of Warwick, Coventry, UK*

Development of colour and proper motion based algorithm for selecting high-confidence white dwarf candidates. Large area surveys (e.g. SDSS, LAMOST) data mining for: identification of metal-polluted white dwarfs and multi-epoch photometry variability studies.

Support astronomer at Isaac Newton Telescope September 2013, - September, 2014*Isaac Newton Group studentship, Santa Cruz de La Palma, Spain*

Duties involved instrument calibration and maintenance, supervising and instructing visiting astronomers, performing service mode and technical nights observations. Additional ING projects related to improving instrument and software user interface.

Observing programs

PI of two successful HST programs: 26 total awarded orbits

PI of multiple successful VLT programs: total of 9 nights

PI of multiple PATT proposals awarded a total of 27 nights Co-I in proposals awarded over 100 nights at 10m to 2m class telescopes

Observing experience

Over 100 nights of experience as observer and support astronomer at the international observatories of Roque de Los Muchachos (La Palma) and Paranal (Chile) for various types of programs (e.g. optical imaging, slit spectroscopy, high-cadence time-resolved photometry).

Operation Scientist for the Milky Way Mapper survey in SDSS V

My role involve monitoring the survey progress, quality control and ediation between the survey and operation teams.

Member of the WEAVE, 4MOST and SDSS V consortia, and collaborator in DESI

I am involved in the selection of white dwarfs as flux calibrators in WEAVE and DESI and I lead the development of the white dwarf pipeline for 4MOST and SDSS V.

Contributed talks

ESA Sci Science 15th Workshop, Akersloot, Netherlands	December, 2022
White Dwarfs from Physics to Astrophysics, KITP, Isla Vista, USA	November, 2022
22nd European White Dwarf Workshop, Tübingen, Germany	August, 2022
Congresso Nazionale Oggetti Compatti XI, Firenze, Italy	November, 2019
IAU Symposium: White Dwarfs as Probes of Fundamental Physics and Tracers of Planetary, Stellar, and Galactic Evolution; Hilo, USA	October, 2019
Royal Astronomical Society specialist meeting, London, UK	October 2018
ESO Workshop: A Revolution in Stellar Physics with Gaia and Large Surveys, Warsaw, Poland	September, 2018
21th European White Dwarf Workshop, Austin,USA	July, 2018
EWASS 2018, Liverpool, UK	April 2018
Congresso Nazionale Oggetti Compatti X, Padova, Italy	December, 2017
Gaia data workshop, Heidelberg, Germany	November, 2016
20th European White Dwarf Workshop, University of Warwick, UK	August, 2016
19th European White Dwarf Workshop, Montreal, Canada	August, 2014

	National Astronomy Meeting, St Andrews, UK	July, 2013
	18th European White Dwarf Workshop, Krakow, Poland	August, 2012
	Invited talks	
	Stellar evolution along the HR diagram with Gaia, Naples, Italy	September, 2022
	Seminar at Boston University astronomy group, USA	July, 2021
	Summer workshop on white dwarfs and related objects, University of Warwick, UK	July, 2021
	KITP online conference: White Dwarfs from Physics to Astrophysics	March, 2021
	Seminar at OA Trieste	June, 2020
	Invited collaboration visits	
	Universidad Técnica Federico Santa Maria, Valparaiso, Chile	May, 2016
	Space Telescope Science Institute, Baltimore, USA	November, 2017
TEACHING AND STUDENT SUPERVISION	ESO 4th summer research programme- student supervision	July - August 2022
	Supervised a master-level student over a six-weeks programme on cluster identification and characterization of binary systems using ancillary data from Gaia DR3.	
	ESO 3rd summer research programme- student supervision	July - August 2021
	Supervised a master-level student over a six-weeks programme on identification of peculiar stellar objects in Gaia EDR3.	
	ESO 2nd summer research programme- student supervision	June - August, 2020
	Supervised a master-level student over a six-weeks programme on the topic of stellar variability in Gaia DR2. The resulting work was included in Gentile Fusillo et al. (2021 MNRAS, 508, 3877), the student Alina Vorontseva co-authored the paper.	
	Master student co-supervision	January - July, 2016
	Six month co-supervision of master student working on identification of white dwarf triple systems.	
	Laboratory Demonstrator	October, 2011 - 2013
	Duties included demonstrating undergraduate students through experiments in the teaching labs, marking their work and instructing other demonstrators on the details of the experiments.	
ADDITIONAL ACADEMIC ACTIVITIES	Main organizer of the 3rd and 4th ESO summer research programme	2020-2022
	Supervising the candidate selection process, multiple logistic and scientific aspects in the organization of the six-week summer programme. The 4th edition in 2022 attracted over 333 applicants from 45 countries.	
	Member of ELT standard stars working group	2021 - ongoing
	Currently leading the selection and characterization of flux standards for the first generation near-IR ELT instruments.	
	Mentorship support for one PhD student at ESO	2019 - ongoing
	Astronomy group seminar organizer	2015 - 2019
	I organized weekly seminars for the astronomy group at the university of Warwick. Speakers from other institutions were invited to give a one hour talk followed by an informal coffe-break discussion.	
	Member of the Local Organizing Committee for the 20th European White Dwarf workshop	
	Scientific Assistants for different panels during the ESO Observing Programmes Com-	

mittee Panel meetings

Professional service as peer reviewer for A&A, ApJ and MNRAS and for PATT telescope-time allocation committees. Expert external reviewer for HST Cycle 29.

OUTREACH Guest speaker for the online outreach organisation "Astronomiamo". May, 2022

Regular organizer and speaker of yearly outreach programs in junior-high and elementary schools in Italy since 2016.

Speaker at AstroZoom Public Introductory Astronomy Webinar Series November, 2020

Speaker at the EuroScience Open Forum (ESOF 2020) Trieste. September, 2020

COMPUTER SKILLS • Languages: Python, Unix shell scripts, SQL querying.
• Specific data reduction: Slit spectroscopy using the starlink packages molly and PAMELA. X-shooter data reduction using REFLEX reduction tools and molecfit.

FIRST AUTHOR PUBLICATIONS • Gentile Fusillo, N. P. et al. (2021 MNRAS, 508, 3877) *A catalogue of white dwarfs in Gaia EDR3*
• Gentile Fusillo, N. P. et al. (2021 MNRAS, 504, 2707) *White dwarfs with planetary remnants in the era of Gaia I: six emission line systems*
• Gentile Fusillo, N. P. et al. (2020 MNRAS, 491, 3613) *Cool white dwarfs as standards for infrared observations*
• Gentile Fusillo, N. P. et al. (2019 MNRAS, 482, 4570) *A Gaia Data Release 2 catalogue of white dwarfs and a comparison with SDSS*
• Gentile Fusillo, N. P. et al. (2017 MNRAS, 473, 3693) *Can magnetic fields suppress convection in the atmosphere of cool white dwarfs? A case study on WD2105-820*
• Gentile Fusillo, N. P. et al. (2017 MNRAS, 469,621) *A catalogue of white dwarf candidates in VST ATLAS*
• Gentile Fusillo, N. P. et al. (2017 MNRAS, 468,971) *Trace hydrogen in helium atmosphere white dwarfs as a possible signature of water accretion*
• Gentile Fusillo, N. P. et al. (2016 MNRAS, 455,2295) *A search for variable white dwarfs in large area surveys: a pilot study in SDSS Stripe 82*
• Gentile Fusillo, N. P. et al. (2015 MNRAS, 452, 765G) *An independent test of the photometric selection of white dwarf candidates using LAMOST DR3*
• Gentile Fusillo, N. P. et al. (2015 MNRAS, 448, 2260G) *A photometric selection of white dwarf candidates in Sloan Digital Sky Survey Data Release 10*

CO-AUTHORED PUBLICATIONS full list available at:
<https://ui.adsabs.harvard.edu/public-libraries/qez6nEPqQTG2pkKB3NIzYw>

NASA ADS CITATION METRICS 57 refereed papers, 1220 citations h-index of 25 (data retrieved on 20/01/2023)