Curriculum vitae

PERSONAL INFORMATION

Marco Limongi



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marco.limongi@inaf.it

Date of birth 18 May 1966 | Nationality Italy

WORK EXPERIENCE

2025 – present — Full Professor

National Institute for Astrophysics - Astronomical Observatory of Rome
Via Frascati 33, 00078, Monteporzio Catone, Rome, Italy

2016 – 2025 — Associate Professor

National Institute for Astrophysics - Astronomical Observatory of Rome
Via Frascati 33, 00078, Monteporzio Catone, Rome, Italy

1994 – 2016 — Assistant Professor

National Institute for Astrophysics - Astronomical Observatory of Rome
Via Frascati 33, 00078, Monteporzio Catone, Rome, Italy

EDUCATION

1995 — PhD in Astronomy (Cycle VII) - Thesis Title: “Advanced Evolution and Pre-Explosive Nucleosynthesis of Type II Supernova Progenitors”

University of Rome “La Sapienza”, Faculty of Mathematical, Physical, and Natural Sciences, Department of Physics, Astronomical Institute

1990 — Master’s Degree in Physics

University of Rome “La Sapienza”

1984 — Classical High School Diploma

Liceo Ginnasio T. Mamiani, Rome

OTHER QUALIFICATIONS

2023 — National Scientific Qualification for the position of First-Class University Professor

Competition Sector 02/C1 - Astronomy, Astrophysics, Earth and Planetary Physics

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COORDINATION / PROJECT MANAGEMENT OF SCIENTIFIC/TECHNOLOGICAL RESEARCH PROJECTS

2024-present Principal Investigator of the project "Massive Stars as Cosmic Clocks: Shaping the Evolution of Infant Galaxies" Project funded by the National Institute for Astrophysics (INAF) under the Fundamental Astrophysics Theory Grant (50,000 EUR)

2022-2024 Principal Investigator of the project "Evolution, Nucleosynthesis and Final Fate of Stars in the Transition Between AGB and Massive Stars." Project funded by the National Institute for Astrophysics (INAF) under the Fundamental Astrophysics Theory Grant (50,000 EUR)

2013-2014 Principal Investigator of the international project titled “Direct Test for a Binary Progenitor of SN 2011dh in M51.” LBT Observing Time Category: D. Period Sep 2013-Jun 2014. 4 hours LBC

2013-2014 Principal Investigator of the international project titled “Searching for Supernova Signature in the Powerful Gamma-Ray Burst GRB130427A” (PI M. Limongi). Observing Time at LBT, Category D. Period Sep 2013-Jun 2014

2005-2006 PI of the Rome Research Unit for the Project “Physics of Massive Star Explosions as Tracers of Universe Evolution” (59,300 EUR). Scientific Research Programs of National Relevance (PRIN). Call 2004

1999-2001 PI of the Rome Research Unit for the ASI Project “Observations of Supernovae from Ground and Space: A Complementary Approach.” ASI ERI.100150 (120,000,000 Lire). (PI J. Danziger, Unit PIs M. Limongi and E. Cappellaro)

PARTICIPATION IN NATIONAL AND INTERNATIONAL RESEARCH TEAMS AND WORKING GROUPS LAST 10 YEARS

2022-present Chair of Division 7 "Stellar Collapse and Isolated Neutron Stars" in the Einstein Telescope Observational Science Board (https://wiki.et-gw.eu/OSB/StellarCollapseNS/WebHome)

2021-present Member of the Division “Stellar Collapse and Isolated Neutron Stars” in the Einstein Telescope Observational Science Board (https://wiki.et-gw.eu/OSB/StellarCollapseNS/WebHome)

2020-present Participation in the international collaboration “Catching Element Formation In The Act: The Case for a New MeV Gamma-Ray Mission: Radionuclide Astronomy in the 2020s.” A White Paper for the 2020 Decadal Survey (PIs C. Fryer, F. Timmes)

2019-present Member of the ENGRAVE (Electromagnetic Counterparts of Gravitational Wave Sources at the Very Large Telescope) International Collaboration

2019-2022 Leader of WP1.1 in the project: From Massive Stars to Supernovae and Supernova Remnants: Driving Mass, Energy, and Cosmic Rays in Our Galaxy (PI. S. Orlando). PRIN INAF. Call 2019

2018-present Member of the National Collaboration GRAWITA (GRavitational Wave Inaf Team)

2017-present Member of the International Collaboration “Extended Public ESO Spectroscopic Survey of Transient Objects (ePESSTO)” (PI S.J. Smartt)

PARTICIPATION IN BOARDS, WORKING GROUPS, COMMITTEES, PANELS, AND TECHNICAL TABLES WITHIN INAF AND/OR OTHER NATIONAL AND INTERNATIONAL ORGANIZATIONS

2020-2024 Elected member of the Scientific Council of the National Institute for Astrophysics (INAF)

2017 Member of the Time Allocation Committee (TAC) - Panels on Stellar Physics - for evaluating observational proposals for the Hubble Space Telescope - Cycle 25

2016 Member of the Time Allocation Committee (TAC) - Panels on Stellar Physics - for evaluating observational proposals for the Hubble Space Telescope - Cycle 24

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2008 Member of the Time Allocation Committee (TAC) for the allocation of observation time on the INTEGRAL gamma-ray satellite - AO6

2009 Member of the Time Allocation Committee (TAC) for the allocation of observation time on the INTEGRAL gamma-ray satellite - AO7

INVITED TALKS AT INTERNATIONAL AND NATIONAL CONFERENCES/WORKSHOPS, LAST 5 YEARS

2026 Invitation to the YITP long-term workshop "Multi-Messenger Astrophysics in the Dynamic Universe", Yiukawa Institute for Theoretical Physics, Kyoto University, Japan, 16-20 February 2026. Title of the talk: "Presupernova Evolution and Explosion of Massive Stars"

2025 Invitation to the international symposium: "SN2025gw: First IGWN Symposium on Core Collapse Supernova Gravitational Wave Theory and Detection", University of Warsaw, Poland, 21-25 July 2025. Title of the talk: "Presupernova Evolution of Massive Stars: Current Status and Future Directions"

2025 Invitation to the XII Incontro dei Gruppi Italini di Astrofisica Nucleare Teorica e Sperimentale (GIANTS), Catania, Italy, 3-4 July 2025. Title of the talk: "Stellar Evolution"

2025 Invitation to the European Astronomical Society Annual Meeting on "Cosmic Chemical Enrichment: A Tale of Stars and Galaxies", Cork, UK, 23-27 June 2025. Title of the talk: "Presupernova Evolution and Nucleosythesis of $9-15\ \mathrm{M}_{\odot}$ stars"

2025 Invitation to the "20th Russbach School on Nuclear Astrophysics", Russbach, Austria, 16-22 March 2025. Title of the Lectures: "Introduction to Stellar Evolution: Presupernova Evolution of Massive Stars"

2025 Invitation to international conference: "Key Reactions in Nuclear Astrophysics (KRINA2025)", Trento, Italy, 17-21 February 2025. Title of the talk: "Evolution, Nucleosythesis and Final Fate of Stars in the Mass Range $7-15\ \mathrm{M}_{\odot}$"

2024 Invitation to the "INAC International School OMEG2024 Pre-Symposium", Beihang University, Biejing, China, 2-6 September 2024. Title of the Lectures: Presupernova evolution and Nucleosynthesis of Massive Stars. Title of the Talk: Evolution, Nucleosynthesis and Final Fate of Stars in the Mass Range $7-15\ \mathrm{M}_{\odot}$

2024 Invitation to international conference: "Cosmic Chemical Evolution, a Conference in Honour of Francesca Matteucci", Palinuro 24-28 June 2024. Title of the talk: "Evolution, explosion and nucleosynthesis of stars in the mass range $9-13\ \mathrm{M}_{\odot}$"

2023 Invitation to international conference: “Anisotropies in core-collapse supernova explosions 2”, Palermo 23-26 October 2023. Talk title: Presupernova evolution of Massive Stars

2023 Invitation to international conference: “Galactic Archaeology: reconstructing the history of galaxies”, IPFU, Trieste 9-13 October 2023. Talk title: Evolution and final fate of stars in the mass range 7-15 $\mathrm{M}_{\odot}$. The transition from AGB and SAGB stars, ECSN and CCSN progenitors

2023 Invitation to international conference: “The Galactic bulge and beyond. A conference in honour of Mike Rich”, Elba Island, 18-22 September 2023. Talk title: Evolution and final fate of stars in the transition between AGB and Massive Stars

2023 Invitation to international conference: “Enigmatic first stars and where to find them”, IPFU, Trieste 15-19 May 2023. Talk title: Evolution, Explosion, and Nucleosynthesis of PopIII Massive Stars

2022 Invitation to international conference: “Nuclear Physics in Astrophysics X”, CERN, Geneva, 5-9 September 2022. Talk title: Explosive nucleosynthesis of Massive Stars

2022 Invitation to the XVIIIth Rencontres du Vietnam international conference “THE GOLDEN UNIVERSE: Nuclear Astrophysics and Cosmic Rays in the Multimessenger Era”, July 25-29, 2022, Quy Nhon, Vietnam. Talk title: Life and death of massive stars: the chemical composition of their ejecta and the nature of their remnants

2022 Invitation to the international conference International Workshop on Origin of Elements and Cosmic Evolution: From Big-Bang to Supernovae and Mergers, July 20-22, 2022 (Online). Talk title: Stellar nucleosynthesis in rotational massive stars (20-07-2022)

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2022 Invitation to give a series of lectures at the International School of Astrophysics “Life and Death: From Stars to Compact Objects”, Asiago (Italy), August 28-September 3, 2022. Lecture titles: “Massive Star Supernovae” (30-08-2022)

RECOGNITIONS AND SCIENTIFIC AWARDS, INCLUDING AFFILIATION WITH PRESTIGIOUS ACADEMIES AND UNIVERSITIES IN THE FIELD

2008-present Affiliate Member of the KAVLI Institute for the Physics and the Mathematics of the Universe (IPMU) – The University of Tokyo, Japan, as Senior Scientist from 01-02-2008 to present

2011-2013 Adjunct Senior Research Associate at the “School of Mathematical Sciences” of Monash University, Melbourne, Australia, as Senior Researcher from 01-07-2011 to 30-06-2013

2010-2011 Adjunct Senior Research Associate at the “School of Mathematical Sciences” of Monash University, Melbourne, Australia, as Senior Researcher from 01-01-2010 to 30-06-2011

SEMINARS HELD IN ITALY AND ABROAD, LAST 5 YEARS

2024 Seminar held at Kavli-IPMU, The University of Tokyo (Japan) titled: Presupernova Evolution of Massive Stars: Current Status and Open Questions

2024 Collloquim held at the University of Knoxville (USA) titled: Presupernova Eveolution of Massive Stars: Current Status and Open Questions

2024 Seminar held at the University of Oak Ridge National Lab (USA) titled: Stellar Modeling: Current Status and Future Directions

2024 Seminar held at the Osservatorio di Capodimonte titled: Presupernova Evolution, Explosion and Nucleosynthesis of Stars in the Mass Range 7-15 Msun

2021 Seminar held at the Rome Astronomical Observatory (National Institute for Astrophysics) titled: “Life and death of Massive Stars: the nature of their remnants and the chemical composition of their ejecta”

2021 Seminar held at the Brera Astronomical Observatory (National Institute for Astrophysics) titled: “Life and death of massive stars: the chemical composition of their ejecta and the nature of their remnants”

RESPONSIBILITY FOR SCIENTIFIC STUDIES AND RESEARCH ENTRUSTED BY QUALIFIED PUBLIC OR PRIVATE INSTITUTIONS

2017 Invited to write a chapter titled “Supernovae From Massive Stars” for the book “Handbook of Supernovae”, eds. A.W. Alsabti and P. Murdin, Springer International Publishing, 2017, DOI 10.1007/978-3-319-20794-0_119-1, ISBN: 978-3-319-20794-0, 978-3-319-20794-0

2012 Invited to write an article for ENCYCLOPEDIA OF LIFE SUPPORT SYSTEMS: Limongi, M., “Big Bang Nucleosynthesis”, in “Astronomy and Astrophysics - Volume II”, Ed. Oddbjorn, Engvold, Bozena Czerny, John Lattanzio and Rolf Stabell, EOLSS Publications, 2012, ISBN: 1780210019, 9781780210018

RESEARCH ACTIVITIES ABROAD, LAST 5 YEARS

2023 Visiting Senior Scientist at the Institute for the Physics and the Mathematics of the Universe (IPMU) – The University of Tokyo, Japan from 11-04-2023 to 24-04-2023

2023 Visiting Senior Scientist at Konkoly Observatory, Budapest, Hungary, from 22-03-2023 to 24-03-2023

2022 Visiting Senior Scientist at the Institute for the Physics and the Mathematics of the Universe (IPMU) – The University of Tokyo, Japan from 2-06-2022 to 23-06-2022

2020 Visiting Senior Scientist at the Institute for the Physics and the Mathematics of the Universe (IPMU) – The University of Tokyo, Japan, from 15-01-2020 to 26-01-2020

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PUBLICATIONS

1 chapter in the book “Handbook of Supernovae”, titled “Supernovae From Massive Stars”, eds. A.W. Alsabti and P. Murdin, Springer International Publishing, 2017, DOI 10.1007/978-3-319-20794-0_119-1, ISBN: 978-3-319-21845-8 (Print), 978-3-319-21847-2 (eBook)

1 chapter in the volume “Astronomy and Astrophysics - Volume II - Encyclopedia of Life Support Systems (EOLSS)”, titled “Big Bang Nucleosynthesis”, ed. Oddbjorn Engvold, Bozena Czerny, John Lattanzio, and Rolf Stabell, EOLSS Publications, 2012, ISBN: 978-1-84826-823-4 (Print Full Color Edition), 978-1-84826-373-4 (eBook)

98 articles in peer-reviewed international journals, 15 as first author

46 invited talks at international conferences

111 articles in non-refereed journals (mostly conference proceedings)

Metrics Summary (NASA/ADS) on the refereed paper: Total citations 8497, h-index 45, m-index 1.3, g-index 92, i10-index 80, i100-index 23, tori-index 40.4, riq-index 176, read10-index 512.6.8

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