

# Curriculum Vitae

ANDREA POSSENTI

Born at: Treviglio (Bg) on 9 Luglio 1963  
citizenship: italiana

## Student Titles:

- **High School Diploma** at the *Liceo Scientifico di Caravaggio* on July 1982, with marks: **60/60**.
- **Degree in Physics** at *Università degli Studi di Milano* on 24 March 1995, with marks: **110/110 cum laudem**.
- **PhD in Astronomy** at *Università degli Studi di Bologna* on 21 March 2000.

## Research/Academic titles:

- **Fellowship from December 1999 to November 2003** at *INAF-Osservatorio Astronomico di Bologna* with the title: “EVOLUTION OF BINARY SYSTEM AND FORMATION OF MILLISECOND PULSARS”
- **Post-Doc contract from July 2004 to September 2004** at *INAF-Osservatorio Astronomico di Cagliari* with title: “REQUIREMENTS OF RECEIVERS AND BACK-ENDS FOR RADIO PULSAR OBSERVATIONS”
- **Staff Researcher since 15 October 2004** at *INAF-Osservatorio Astronomico di Cagliari*.
- Staff “First Researcher” (equivalent to **Associate Professor** at University) **since 02 November 2016** at *INAF-Osservatorio Astronomico di Cagliari*.
- Staff “Director of Researcher” (equivalent to **Full Professor** at University) **since 01 January 2023** at *INAF-Osservatorio Astronomico di Cagliari*.

## MANAGEMENT ACTIVITIES AND OTHER DUTIES

### Management duties:

- **Director of INAF-Observatory of Cagliari** since 1 October 2010 until 31 July 2015 and from 26 March 2016 until 31 December 2017 (including a 7 months period as Vicar Director)
- **National responsible of the USC VIII-Computing of INAF** from 28 September 2022 until now
- **Member of the Board of the Sardinia Radio Telescope** from 1 October 2010 until completion of the activities of the Board at the end of 2013
- **Elected member of the Board of VESF (Virgo-Ego Science Forum)** since 9 November 2013 until end of 2015

- **Advisor of the INAF-Unit II for “enabling Radioastronomy”** since September 2017
- **co-Chair of the SKA Science Team ”Fundamental Physics with Pulsars”** since September 2015 until November 2017
- **Member of the steering committee of the IPTA**(International Pulsar Timing Array) since January 2018 to December 2019
- **Designated Italian Member of the SKA Regional Center (SRC) Steering Committee** (since 2018), having the duty of creating an international network of facilities for HPC and data storage/curation/archiving to handle and analyze the data produced but the SKAO.

Directorship of the INAF-Astronomical Observatory of Cagliari:

The writer was Director of the INAF-Astronomical Observatory of Cagliari (INAF-OAC) from 1 October 2010 until 31 July 2015 and then again from 26 March 2016 to 31 December 2017 (including 7 months as deputy director). The internal rules of INAF preclude to spend more than 6 years in total at the Management of an Observer.

Historically born as an astronomical Station of Latitude (i.e. just providing a service to the Italian astronomical community), INAF-OAC began a profound transformation starting from the early 2000s when it assumed a fundamental role in the construction of the Sardinia Radio Telescope (SRT), the main Italian radio telescope. During the approximately 6 years of management, the following main results were achieved:

- Inauguration of the Sardinia Radio Telescope (SRT)
- Transfer of the INAF-OAC headquarters to a new spacious site, on the route to SRT
- Transformation of INAF-OAC into a new first level pole for Italian radio astronomy
- Recruitment of personnel, often young, of high scientific value: the research staff has doubled, reaching two dozen units
- Hospitality for an ERC winner, the first at the national level to opt for being hosted in an INAF Observatory
- Start of the internationalization of the Observatory, with the permanent hiring of two French researchers and the recruitment of postdocs from China, Australia, South Africa
- Preparation of laboratories with state-of-art equipment for the construction of receivers and back-ends for radio astronomy
- Support for technology transfer programs
- Attraction of funds for around 3 million euros from local institutions
- Consolidation of collaboration with the local area, with the business world, with the university context, as well as with the media.

## TEACHING ACTIVITIES

## Teaching Duties:

- **Course of 32 hours since March 2004 to June 2004** with title NEUTRON STAR PHYSICS, at *Dep. of Physics of the University of Cagliari*, nominated by the Council of the PhD course.
- **Course of 32 hours since March 2005 to May 2005** with title NEUTRON STAR PHYSICS, at *Dep. of Physics of the University of Cagliari*, nominated by the Council of the PhD course.
- **Regular course of 40 hours since November 2005 to January 2006** with title PHYSICS OF THE COMPACT OBJECTS, at *Dep. of Physics of the University of Bologna*, for the students of the II year of the Degree in Astrophysics and Cosmology.
- **Regular course of 48 hours since March 2007 to June 2007** at *Dep. of Physics of the University of Cagliari*, for the students of the II year of the Degree in Astrophysics . Title: RADIO ASTRONOMY.
- **Module of 10 hours since December 2007 to January 2008** for the students of the II years of the SSIS *University of Cagliari* Title: ASTROPHYSICS.
- **Module of 10 hours since December 2008 to January 2009** for the students of the II years of the SSIS *University of Cagliari* Title: ASTROPHYSICS.
- **Regular course of 48 hours since March 2010 to June 2010** at *Dep. of Physics of the University of Cagliari*, for the students of the II year of the Degree in Physics. Title: RADIO ASTRONOMY.
- **Regular course of 48 hours since March 2016 to June 2016** at *Dep. of Physics of the University of Cagliari*, for the students of the II year of the Degree in Physics. Title: ASTROPHYSICS.
- **Regular course of 80 hours since October 2018 to September 2019** at *Dep. of Engineering of the University of Cagliari* , for the students of the I year of the Degree in Electronics & Informatics . Title: PHYSICS I.
- **Regular course of 80 hours since October 2019 to September 2020** at *Dep. of Engineering of the University of Cagliari* , for the students of the I year of the Degree in Electronics & Informatics . Title: PHYSICS I.
- **Regular course of 80 hours since October 2020 to September 2021** at *Dep. of Engineering of the University of Cagliari* , for the students of the I year of the Degree in Electronics & Informatics . Title: PHYSICS I.

## Teaching at International Schools for PhD students:

- **On September 2007** course with title PULSARS AND COLLAPSED OBJECTS, at Radio Telescope of Medicina (Bologna), for the *II MCCT - SKADS International School*
- **On May 2009** course with title THE ROLE OF THE BINARY PULSARS IN TESTING GRAVITY THEORIES, at Centro Volta of Como, for the *VIII SIGRAV GRADUATE SCHOOL IN CONTEMPORARY RELATIVITY AND GRAVITATIONAL PHYSICS*
- **On May 2009** course with title ELECTROMAGNETIC OBSERVATION OF PULSARS AND BINARIES, at Virgo Site at Cascina (Pisa), for the *IV VESF school on Gravitational Waves*

- **On July 2010** course with title THE ROLE OF PULSARS TIMING IN GRAVITATIONAL WAVE DETECTION, at SCfA, Sesto Pusteria, for the *V VESF school on Gravitational Waves*
- **On October 2011** course with title RADIO TIMING: METHODOLOGIES AND... SOME RESULTS, at S.Margherita di Pula, for the *School on Principles of Multi-wavelength High Time Resolution Astrophysics*, organized by UCL-MSSL, NUI Galway, Opticom, MPE, Un. Zielone Gora and University of Cagliari
- **On April 2013** course with title COMPACT OBJECTS AS SOURCES OF GRAVITATIONAL WAVES, at INAF-Monteporzio Catone, for the *VESF school 2013 on Gravitational Waves, neutrino and multiwavelength observations: the new frontiers of astronomy*
- **On July 2014** course with title RELATIVISTIC BINARY PULSARS AND COALESCING BINARIES, at INAF-Monteporzio Catone, for the *AstroGR@Rome 2014: a Phd School on Gravitational Waves and electromagnetic observations of dense stellar systems*
- **On April 2015** course with title ASTROPHYSICAL SOURCES OF GWS, at the site of EGO-VIRGO at Cascina (Pisa) for the *1st GraWITon school*
- **On Nov 2015** course with title RADIO OBSERVATIONS AND THEORY OF PULSARS AND X-RAY BINARIES, at Instituto de Astrofisica de Canarias for the *XXVII Canary Islands Winter School about "High Time Resolution Astrophysics"*
- **On April 2016** course with title PULSAR ASTRONOMY, at the University La Sapienza in Rome for the *2nd GraWITon school*

Co-supervised Laurea Theses (since 2003):

- **Matteo Bachetti** - Subject: Search for pulsar in binary systems: the confirmation of the candidates (a.a. 2003-2004, 3yr laurea in Physics at Univ. Cagliari) Supervisors: Prof. N. D'Amico, Dr. A. Possenti
- **Fabio Schirru** - Subject: Timing of millisecond pulsars in NGC6441 and NGC 6266 (a.a. 2003-2004, 4yr laurea in Physics at Univ. Cagliari) - Supervisors: Prof. N. D'Amico, Dr. M. Burgay, Dr. A. Possenti
- **Maura Pilia** - Subject: Dedispersion and folding of radiopulsar data: the case of PSRJ1803-3002 in NGC6522 (a.a. 2004-2005, 3yr laurea in Physics at Univ. Cagliari) - Supervisors: Prof. N. D'Amico, Dr. A. Possenti, Dr. M. Burgay
- **Emanuela Sanna** - Subject: Ricerca di pulsar nel braccio di Perseo della Via Lattea a.a. 2004-2005, 4yr laurea in Physics at Univ. Cagliari) - Supervisors: Prof. L. Burderi, Dr. M. Burgay, Dr. A. Possenti
- **Noemi Iacolina** - Subject: Ricerca di pulsazioni radio coerenti dalla pulsar X al millisecondo J0929-314 (a.a. 2005-2006, 4yr laurea in Physics at Univ. Cagliari) - Supervisors: Prof. L. Burderi, Dr. M. Burgay, Dr. A. Possenti
- **Matteo Bachetti** - Subject: Software per la ricerca di pulsar in sistemi binari stretti (a.a. 2005-2006, 5yr laurea in Physics at Univ. Cagliari) - Supervisors: Prof. L. Burderi, Dr. A. Possenti, Dr. M. Burgay

- **Marco Pierbattista** - Subject: Implementazione di codici di ricerca di pulsar su sistemi multiprocessore (a.a. 2005-2006, 4yr laurea in Astronomy at Univ. Bologna) - Supervisors: Prof. G.C.C. Palumbo, Dr. M. Burgay, Dr. A. Possenti
- **Maura Pilia** - Subject: Timing di Pulsar Gamma Osservate da AGILE con i Radiotelescopi dell'EPTA (a.a. 2006-2007 5yr laurea in Astronomy at Univ. Bologna) - Supervisors: Prof. G.C.C. Palumbo, Dr. A. Possenti, Dr. M. Burgay
- **Manuel Floris** - Subject: Ricerca di Pulsar con la Perseus Arm Multibeam Survey (a.a. 2006-2007, 4yr laurea in Physics at Univ. Cagliari) - Supervisors: Prof. L. Burderi Dr. M. Burgay Dr. A. Possenti
- **Mario Cadelano** - Subject: Ricerca di pulsar all'interno del resto di supernova DA530 (a.a. 2011-2012, laurea in Physics at Univ. Cagliari) - Supervisors: Prof. N. D'Amico, Dr. M. Burgay, Dr. A. Possenti
- **Alessandro Ridolfi** - Subject: Probing eclipse mechanisms in Black Widow Pulsars and Redbacks: development of a code and its applications (a.a. 2011-2012, 5yr laurea in Physics at Univ. La Sapienza di Roma) - Supervisors: Prof. V. Ferrari, Dr. A. Possenti
- **Marco Marongiu** - Subject: Pianificazione di osservazioni di pulsar con il Sardinia Radio Telescope (a.a. 2012-2013, 5yr laurea in Physics at Univ. Cagliari) - Supervisors: Prof. N. D'Amico, Dr. A. Possenti, Dr. A. Pellizzoni, Dr. M. Burgay
- **Gemma Artizzu** - Subject: La pulsar ad eclisse PSR J1723-2837 (a.a. 2013-2014, 4yr laurea in Physics at Univ. Cagliari) - Supervisors: Prof. L. Burderi, Dr. M. Burgay, Dr. A. Possenti
- **Federico Loja** - Subject: Caratterizzazione di interferenze periodiche rilevabili in osservazioni di pulsar con il Sardinia Radio Telescope (a.a. 2013-2014, 3yr laurea in Physics at Univ. Cagliari) Supervisors: Prof. N. D'Amico, Dr. M. Burgay, Dr. A. Corongiu, Dr. A. Possenti

#### Co-Supervised or Supervised PhD Theses (since 2003):

- **Marta Burgay** - Title: The Parkes High Latitude Pulsar Survey and the Discovery of the first Double Pulsar (a.a. 2000-2003, PhD in Astronomy at Univ. Bologna) - Supervisors: Prof. R. Fant, Prof. N. D'Amico, Dr. Andrea Possenti - Co-supervisor: Prof. A.G. Lyne
- **Alessandro Corongiu** - Title: Timing of Isolated and Binary Pulsars Discovered at Parkes (a.a. 2002-2005, PhD in Physics at Univ. Cagliari) - Supervisors: Prof. N. D'Amico, Dr. Andrea Possenti
- **Maria Noemi Iacolina** - Title: Accreting millisecond X-ray pulsars: a search for pulsed radio emission and constraints from the radio-ejection mechanism (a.a. 2006-2009, PhD in Physics at Univ. Cagliari) - Supervisors: Prof. L. Burderi, Dr. Andrea Possenti, Dr. Marta Burgay
- **Sabrina Milia** - Title: Search for Millisecond Pulsars for the Pulsar Timing Array project (a.a. 2008-2011, PhD in Physics at Univ. Cagliari) - Supervisors: Prof. L. Burderi, Dr. Andrea Possenti, Dr. Marta Burgay, Prof. N. D'Amico - Co-supervisor: Dr. W. van Straten

- **Caterina Tiburzi** - Title: Multidisciplinary studies of pulsar data and applications to Pulsar Timing Arrays (a.a. 2011-2014, PhD in Physics at Univ. Cagliari) - Supervisors: Prof. N. D'Amico, Dr. Andrea Possenti
- **Federico Abbate** - Title: Exploiting globular cluster pulsars as probes of their environment (a.a. 2017-2020, PhD in Physics at Univ. Milan Bicocca) - Supervisors: Prof. M. Colpi, Dr. Andrea Possenti
- **Rouhin Nag** - Title (provisional): Exploiting pulsars in globular cluster (a.a. 2023-????, PhD in Physics at Univ. Of Cagliari) - Supervisor: Dr. Andrea Possenti

## EDUCATIONAL ACTIVITIES

### Conferences:

- More than 300 *educational conferences*, three quarters of which devoted to the high school students  
- **from 1993 up to now**
- More than 110 *guided tours* for visitors *at sites and astronomical observatories* - **from 1993 u to now**

### Educational books:

- "COMETE: DIARIO DI VIAGGIO" [english title "COMETS: TRAVEL BOOK"] [ed. Mimesis-Milano, 124 pages, 40 pictures (+CD Rom), 2002, ISBN 88-8483-078-8]
- "ECLISSI" [english title "ECLIPSES"] [ed. MURSIA-Milano, 122 pages, 50 pictures (+CD Rom), 1999, ISBN 88-425-2603-7]

## RESEARCH ACTIVITIES

Official Professorship qualifications:

- **Abilitazione Scientifica Nazionale** call 2018 (DD 2175/2018). Qualification for **University Professor of I tier** (i.e. Full professorship) obtained on 29 March 2021 and expiring on 29 March 2030. Moreover, all the 3 required "median" values of the required publication parameters were largely overcome

Research projects which obtained competitive funds:

- **Coordinator and Principal Investigator TENDER 2011 LEGGE 7/2007 REGIONE SARDEGNA** - The high resolution sampling of the universe in the radio band - *PI: Andrea Possenti* (allocation: 500 keuro)
- **Coordinator and Principal Investigator PRIN INAF-SKA-CTA 2017** -Opening a new era in pulsars and compact objects science with MeerKat - *PI: Andrea Possenti* (allocation: 306 keuro)
- **Coordinator and Principal Investigator LARGE GRANT INAF 2022** -pulsar/Black Hole systems and other jewels in the casket of globular clusters stellar population - *PI: Andrea Possenti* (allocation: 200 keuro)
- **Coordinator of the radio observation section of PRIN MIUR 2017** -The new frontier of Multi-Messenger Astrophysics: follow-up of electromagnetic transient counterparts of gravitational wave sources - *co-I: Andrea Possenti* (allocation: 40 keuro)
- **Member of the Unit of Research PRIN MIUR 2001** - New frontiers in the pulsar studies - *PI: Nicoló D'Amico*
- **Member of the Unit of Research PRIN MIUR 2003** - Re-designing the frontiers of the pulsar research - *PI: Nicoló D'Amico*
- **Member of the Unit of Research PRIN MIUR 2005** - La double pulsar and beyond - *PI: Nicoló D'Amico*
- **Responsible of the Unit of Research PRIN INAF 2005** - Relativistic plasmas in astrophysical sources - *PI: Rino Bandiera*
- **Responsible of the Unit of Research PRIN INAF 2008** - Tracing Stellar cluster dynamics with blue straggler stars, binary millisecond pulsars and intermediate-mass black holes - *PI: Flavio Fusi-Pecci*
- **Responsible of the Unit of Research PRIN INAF 2010** - Unveiling the true nature of the stellar system Terzan 5 - *PI: Livia Origlia*
- **Member of the Unit of Research CALL RICERCA DI BASE 2010 LEGGE 7/2007 REGIONE SARDEGNA** - Fundamental Physics in the Double Pulsar system - *PI: Alberto Pellizzoni*
- **Member of the Unit of Research PRIN INAF 2014** - Getting to GUNS (Grand Unification of Neutron Stars) through X-ray variability studies of non-accreting neutron stars - *PI: Sandro Mereghetti*

- **Member of the Unit of Research PRIN INAF 2014** - Getting to GUNS (Grand Unification of Neutron Stars) through X-ray variability studies of non-accreting neutron stars - *PI: Sandro Mereghetti*

Prizes:

- Member of the European research group PULSE, **winner of the 2005 CARTESIO AWARD** for demonstrating the impact of pulsar science on modern physics, including the discovery of over 800 pulsars and the first double pulsar. Award presented to the Royal Society of London in November 2005.

Member of Panels:

- **Since May 2017 to Dec 2019** chair of the Panel of the telescope **LOFAR**.
- **Since February 2012 to Dec 2019** member of the Panel of the telescope **LOFAR**.
- **From September 2012 to November 2013** member of the Panel of the telescopio **WSRT**.

Member of SOC:

- **On April 2007** member of the SOC of the international congress **PULSARS SEARCH AND THAI'MING**, hold at Krabi (Thailand)
- **On October 2010** member of the SOC of the international congress **RADIO PULSARS: AN ASTROPHYSICAL KEY TO UNLOCK THE SECRETS OF THE UNIVERSE**, hold at Chia-Domus de Maria (Italy)
- **On September 2011** member of the SOC of the International School **SINGLE-DISH RADIOASTRONOMY AND RADIO-SCIENCE**, hold at Parco Tecnologico di Sardegna Ricerche at Pula (Italy)
- **On September 2017** member of the SOC of international congress **PULSARS ASTROPHYSICS - THE NEXT 50 YEARS**

Working periods at other Institutes:

- *Swinburne University of Technology* - Melbourne - several visits during 1999/2001
- *Australia Telescope National Facility* - Sydney - several visits during 1999/2000
- *Astrophysikalisches Institut Potsdam* - Berlin - a short visit during 1998
- *Swinburne University of Technology* - Melbourne - a visit during Jan-Mar 2010

Main Talks:

- Possenti: *Spinning neutron stars: pulsars & magnetars*, at **1st LGWA workshop**, GSSI, L'Aquila (and remote), Sept 2020
- Possenti: *The pulsar & FRB studies*, at **RADIOSKY2020 Italy-South Africa Research Programme (ISARP) Virtual Workshop**, all remote, Jun 2020
- Possenti: *The power of radio waves in astronomy and science* at **IAPS-Frascati**, Feb 2020

- Possenti: *New instrumentation for studies of compact objects in the radio band*, at **CNOC XI**, Firenze, Nov 2019
- Possenti: *Looking for low frequency GWs with the Pulsar Timing Arrays*, at **2nd Baracchi conference**, Firenze, Oct 2019
- Possenti: *The International Pulsar Timing Array: An useful tool for GW astronomy*, at **Multi-frequency behavior of high energy cosmic sources**, Mondello, Jun 2019
- Possenti: *GWs and Pulsar Timing with PTA/SKA*, at **1st EPS conference on Gravitation**, Roma, Feb 2019
- Possenti: *... other SRT-MeerKat synergies*, at **1st Italy-South Africa Radio Astronomy Workshop**, Pretoria, SA, Oct 2018
- Possenti: *The many lives of Pulsar Astronomy*, **2nd Italy-Ukraine meeting in Astronomy**, Kharkiv, Ukraine, Sept 2018
- Possenti: *The SKA revolution in investigating gravity*, at *Sigrav 2018 - Black Holes: theory and observations*, Pula, Sept 2018
- Possenti: *Fast Radio Bursts: a new frontier for the multi-messenger astrophysics*, at **LXII Sait**, Teramo, May 2018
- Possenti: *SRT: a modern radio telescope in the heart of the Mediterranean sea*, in **Science with a potential UAE Deep Space Network Antenna**, Abu Dhabi, Mar 2018
- Possenti: *The power of globular cluster pulsars in astrophysics*, **NYU Abu Dhabi**, Mar 2018
- Possenti: *Approaching a second Renaissance in the studies of Globular Clusters pulsars*, at **Astron-Dwingeloo**, NL, Feb 2018
- Possenti: *The Double Pulsar and Other Relativistic Systems in the GW era*, at **CNOC X**, Padova, Dec 2017
- Possenti: *Radio follow-ups: the Italian assets*, at **Onde Gravitazionali, Fotoni, Neutrini**, Auditorium ASI-Roma, Dec 2017
- Possenti: *Recent and future developments on radio HTRA of compact objects and transients*, at **HTRA meeting**, Marostica, Nov 2017
- Possenti: *Globular Clusters pulsars as laboratories for fundamental physics*, at **Fundamental Physics with the SKA**, Mauritius, May 2017
- Possenti: *The enigma of the Fast Radio Bursts (FRBs)*, at **INAF-Padova**, Mar 2017
- Possenti: *Pulsar summary talk*, at **“SKA science for the SKA generation”**, Goa, Nov 2016
- Possenti: *The Italy-Australia pulsar connection*, at **“1st Baracchi conference”**, Perth, Nov 2016
- Possenti: *The power of radio astronomy in astrophysics*, at 102.a SIF Conference, Padua, Sept 2016

- Possenti: *The intriguing science of the Fast Radio Bursts*, at “**A Century of General Relativity**” , Sigrav XXII at Cefalú, Sept 2016
- Possenti: *Highlights and perspectives of binary pulsar timing*, at Ewass 2016, Athens, July 2016
- Possenti: *Pushing ahead the frontiers of pulsar science with SKA*, at Ewass 2016, Athens, July 2016
- Possenti: *The clock-like nature of the radio pulsars*, at “**IEEE International Workshop on Metrology for Aerospace**” , at Florence, June 2016
- Possenti: *Fast Radio Bursts (FRBs)*, at “**Perspectives on the Extragalactic Frontier**” , at ICTP - Trieste, May 2016
- Possenti: *The SKA project*, at LX Congress of SAIIt, Roma, May 2016
- Possenti: *The European Pulsar Timing Array*, at “**INAF after GW150914**”, Roma, Apr 2016
- Possenti: *Radio Observations of MSP in GCs with SKA and SRT*, at “**COSMIC-LAB: Star Clusters as Cosmic Laboratories for Astrophysics, Dynamics and Fundamental Physics (MODEST16)**”, Bologna, Apr 2016
- Possenti: *Shedding light onto the Fast Radio Bursts (FRBs)*, at CNOC 2015, Como, Sept 2015
- Possenti: *Concepts for the Pulsar SKA Working Group*, at “**SKA congress**”, Stockholm, Aug 2015
- Possenti: *A Meerkat look to pulsars in southern Globular Clusters*, at “**Pulsar science in the SKA era**”, Cape Town, Apr 2015
- Possenti: *The enigmatic origin of the Fast Radio Bursts*, at 100.a SIF Conference, Pisa, Sept 2014
- Possenti: *Searching Gravitational Waves in the nanoHz band: the role of SRT in the Pulsar Timing Array(s)*, at XXI SIGRAV Conference, Alessandria, Sept 2014
- Possenti: *Relativistic pulsar binaries*, at “The Unquiet Universe”, Cefalú, Jun 2014
- Possenti: *SKA and the next-generation multi-wavelength observatories*, at “**Advancing Astrophysics with the SKA**”, Giardini Naxos, Italy, Jun 2014
- Possenti: *Science with SRT and its role in the Pulsar Timing Array(s)*, INAF-Osservatorio Astronomico di Capodimonte, Napoli, May 2014
- Possenti: *Is there a breakdown of General Relativity in strong field regime? Addressing the issue with pulsar observations*, at University of Milan Bicocca, Department of Physics, Dec 2013
- Possenti: *Detecting Gravitational Waves with the new Sardinia Radio Telescope*, at “XCIX SIF congress”, Trieste, Oct 2013
- Possenti: *Pulsar Timing Perspectives with the New Sardinia Radio Telescope*, at GWADW13-Gravitational Wave Detectors for the Next Decade”, Isola d’Elba, May 2013
- Possenti: *Detecting gravitational waves from cosmological distances: the role of the Pulsar Timing Array(s)*, at SISSA, Trieste, Jan 2013

- Possenti: *SRT: the new large single dish in Sardinia*, at Astron, Dwingeloo, Nov 2012
- Possenti: *Probing and Measuring the Space-Time with the Radio Pulsars*, at "The Time Machine Factory", Torino 2012
- Possenti: *Binary pulsar evolution: unveiled links and new species*, at "XXVIII general assembly of IAU", Symposium 291, Pechino, 2012
- Possenti: *General Relativity Tests with Pulsars*, at "**Primo Congresso Nazionale della Scienza e Tecnologia di SKA**", MIUR, Roma, Jun 2012
- Possenti: *Radio pulsars as probes of gravity theories* at "Bridging electromagnetic astrophysics and cosmology with gravitational waves", Milano, 2011
- Possenti: *Radio pulsars in relativistic binaries: perspectives for SRT* at "XCVI SIF congress", Bologna, 2010
- Possenti: *Gravitational Waves detection: the role of the pulsar timing array(s)* at "CERN: Theoretical Physics Center", CERN-Ginevra, 2010
- Possenti: *Primordial Gravitational Waves detection: the role of the pulsar timing arrays* at "Primordial Gravitational Waves", Cambridge, 2009
- Possenti: *Radio Millisecond pulsars* at "Ten Years of Accreting X-ray millisecond pulsars", Amsterdam, 2008
- Possenti: *More and more radiopulsar: the status of present surveys and perspectives* at "The Modern Radio Universe", Manchester, 2007
- Possenti: *The mystery of the RRATs*, at "SIGRAV 2006: 17<sup>th</sup> biennial Conference of the Italian Society for General Relativity and Gravitation", Turin-Italy, 2006
- Possenti: *Secular and orbital changes in emission from the J0737–2029 system* at "The Multi-coloured Landscape of Compact Objects", Cefalù-Italy, 2006
- Possenti: *Timing pulsars in Globular Cluster* at "The 2005 Lake Hanas International Pulsars Symposium", Lake Hanas-China, 2005
- Possenti: *Two years of work in the Double Pulsar Laboratory*, at "Astrophysical Sources of High energy Particles and Radiation", Torun-Poland, 2005
- Possenti: *Pulsar Observations*, at "Endpoints of stellar evolution", Granada-Spain, 2005
- Possenti: *The Double Pulsar PSR J0737-3039: news and views*, at "Neutron Stars: Structure and Cooling", ECT/Trento-Italy, 2004
- Possenti: *The Double Pulsar PSR J0737-3039: a two-clocks relativistic system*, at "SIGRAV 2004: 16<sup>th</sup> biennial Conference of the Italian Society for General Relativity and Gravitation", Vietri sul Mare-Italy, 2004
- Possenti: *The Double Pulsar PSR J0737-3039 one year after*, at "GR 17: General Relativity congress", Dublin-Ireland, 2004
- Possenti: *The Double Pulsar PSR J0737-3039*, at "Sait 2004", Milan-Italy, 2004

- Possenti, Burgay, D'Amico: *The discovery of the Double Pulsar PSR J0737-3039A/B: implications*, at aula magna "Università di Roma La Sapienza", Rome-Italy, 2004
- Possenti: *New peculiar millisecond pulsars in Globular Cluster*, at "Neutron Stars, Pulsars and Supernova Remnants", Bad Honnef-Germany, 2002

Short summary of the main research lines:

- *Participant or co-founder of the international collaborations that planned and carried out the surveys to search for new pulsars at the Parkes radio telescope, in Australia: in particular, the PM survey (1998-2004), the PH survey (2002-2004), the HTRU survey (2008-2014), the SUPERB survey (2013-2016). Taken together, these are the experiments that have revolutionized radio pulsar science over the past two decades, doubling the number of known objects and discovering the still unique Double Pulsar. They also led to the discovery of Fast Radio Bursts. **from 1998 up to 2016***
- *Coordinator of the Pulsar and Compact Objects group at the INAF-Astronomical Observatory of Cagliari, which collaborates with many international colleagues on the topics of: Neutron Stars, Binary Systems in Accretion, Relativistic Binary Systems, Pulsar, Pulsar Timing Array, Fast Radio Burst, with particular focus on radio, optical, X-ray and gamma-ray electromagnetic bands and on the emission of gravitational waves. **from 2003 up to now***
- *One of the designers of the HTRU (High Time Resolution Universe) survey at Parkes, which led to the first confirmation of the cosmic nature of the Fast Radio Bursts - **from 2008 up to 2014***
- *Founding member and member of the Steering Committee (5 members) of the European Pulsar Timing Array (EPTA: about 50 members), dedicated to the synergistic development of radio pulsars observations with the 5 major European radio telescopes and related theoretical developments, finalized to the detection of gravitational waves of ultra long period - **from 2006 up to now***
- *Member of the International Pulsar Timing Array (IPTA: over 100 members) which coordinates global activities for the detection of ultra-long period gravitational waves using observations of a rapidly rotating set of radio pulsars - **from 2006 up to now***
- *Member of the team which is carrying on the timing and follow-up studies of the Double Pulsar in radio, optical, X-ray and  $\gamma$ -ray bands - **from 2003 up to now***
- *PI of the development of a new data acquisition system, dubbed Sardara, for the Sardinia Radio Telescope - **from 2012 up to 2017***
- *Co-Iship and/or involvement in two of the Large Science Program at the Meerkat radio telescope, one of the SKAO precursors: in particular co-chairship of the Globular Cluster science theme for the timing project Meertime and membership in the Meertime theme devoted to Realistic Binaries and Pulsar Timing Array, as well as Membership in the pulsar search project Trapum, in the context of the Globular Cluster theme, the Fermi-source theme, the Pulsar Wind Nebulae theme, and the follow-ups theme - **from 2018 up to now***
- *Member of the SKAO Science Team-Tier 1 "Fundamental Physics with Pulsars" - **from 2014 up to now***
- *Studies of pulsars and magnetars from the radio to the X-ray and the  $\gamma$ -ray bands. Involvement in the Agile and Fermi projects - **from 1997 up to now***
- *Study of the X-ray emission and search for pulsed radio emission in transiently accreting neutron stars - **from 2001 up to now***

- *Evolutionary studies of (and search for) ultra rapidly rotating pulsars via an experiment set up at the Medicina observatory - from 1998 until 2001*
- *Study of the X-ray thermal emission from the neutron stars - from 1995 until 2001*

Summary of the publications at the end of 2023 :

- 352 refereed papers
- 365 non refereed works
- 2 educational books
- 2 Theses (laurea thesis and PhD thesis)

Citations and other bibliometric indexes as at the end of 2023:

- 27278 citations in refereed publications: an average of  $\sim 77$  citations for each refereed paper
- H-index (from ADS astrophysics) = 81