

Curriculum vitae

PERSONAL INFORMATION **Andrea Orlati**

Sex Male | Date of birth 11/03/1974 | Nationality Italian

WORK EXPERIENCE

01/04/2017–31/07/2018 **Technology researcher- Head of Operations of the Sardinia Radio Telescope**
National Institute for Astrophysics - Cagliari Observatory, Cagliari (Italy)
<http://www.oa-cagliari.inaf.it/index.php>

- In charge of the the operations at the SRT station.
- Scheduler of the telescope.
- Leader of the telescope team composed by more then 30 members.
- Responsible for the budget of the station(2M€ in the period)
- Responsible for the maintenance of both the telescope and the infrastructure (buildings, CED and laboratories).
- Member of the Italian Telescope Allocation Committee (TAC) for the technical assessment of the proposals for the SRT.

01/06/2004–Present **Technology researcher**
National Institute for Astrophysics - Institute of Radioastronomy, Bologna (Italia)
www.ira.inaf.it

- Team leader of the group in charge of the development of the monitoring and control system installed at the SRT, Noto and Medicina radio telescopes (<https://www.ict.inaf.it/index.php/31-doi/99-2019-00001>). The project, based on the Alma Common Software (ACS), enables all the capabilities of the Italian radioastronomy facilities and provides the tools for calibration, astrometry and the preparation/scheduling of both single-dish and interferometric observations.
- In the framework of the Sardinia Radio Telescope construction, contributing to the main servo system work package. During the technical commissioning, taking care of sub-systems verification and first-light measurements and telescope calibration.
- Responsible of VLBI activities at the Medicina radio telescope ("VLBI friend"), permanent member of the EVN-TOG (Technical and Operation Group).
- Member of the Italian Telescope Allocation Committee (TAC) for the technical assessment of the proposals for the Medicina radio telescope and for the Sardinia Radio Telescope.
- Member of the Board of the Institute of Radioastronomy from October 2013 to March 2017.
- Telescope Scheduler of the Sardinia Radio Telescope.
- Joined the Observation Management group inside the Telescope Manager consortium of the SKA project (SKA.TM.OBSMGT) until March 2017.
- Joined the ACTL-OPS package (the array control software) of the CTA Consortium until April 2017.

Such experience followed a collaboration as a consultant within the ASTRI project, focusing on the preliminary definition and deployment strategies of the control software.

- joined the "RFI mitigation at the Italian radio telescopes" project funded by a INAF PRIN and aimed at providing the Italian radio telescopes with on-line and off-line tools for RFI detections and excision.

- Joined the working group in charge of the design and the implementation of a radio data archive for the INAF facilities.

- Joined a group in charge to implement and deploy a new digital, large bandwidth backend at the station of Medicina and Noto in order to dramatically improve their science capabilities.

- Member the Program Committee of the International Conference on Accelerators and Large Experimental Physics Control Software (ICALEPCS).

- Technical Referent of Noto radio telescope with particular focus on a large maintenance involving the cryogenic pipes, the servo systems and the active surface system.

- Scientific Coordinator of the Work Package 7 (Delivery of electronic and mechanical interfaces for the integration of new systems) in the framework of the project "Improvement of the Sardinia Radio Telescope to study the Universe at high radio frequencies", funded by PON "Ricerca ed Innovazione 2014-2020". WP 7 focuses on delivering in a timely manner all the interfaces, plants and infrastructures needed to install the microwave receivers and digital backends. The present budget is 2.5M€.

01/05/2001–31/05/2004 Research fellowship

National Council for Research (CNR), Institute for Radioastronomy, Bologna (Italy)

- Tasks aimed at the optimizations of the VLBI activities and data quality at the Medicina radio telescope.

- Responsible for the telescope gain and pointing calibration.

- In charge of the monitoring and control system of the main servo drivers of the telescope.

- Maintainer for the gain calibration software (gnplt) in use at the VLBI stations. This task was carried out in collaboration with the NASA Goddard Space Flight Center staff.

01/2001–04/2001 Independent consultant for software modeling and analysis

CEDAF s.r.l., Forli (Italy)

- Tasks aimed at the production of data handling/logbook software for the Public Health Care Office ("ASL – Azienda Sanitaria Locale").

- Conceptual data modeling: E/R models

- Oracle RDBMS

- Visual Basic

09/1999–12/2000 Programmer and developer of custom business software

INFOMANAGER, Cesena (Italy)

- Coding and configuration of Production of Enterprise Resource Planning software for small business customers

- Visual Basic and Borland Delphi

EDUCATION AND TRAINING

- 12/2014 Introduction to System Engineering
INCOSE Italia, ASTER S.p.A.
- Project lifecycle
- Use cases
- System architecture and design
- 01/2014–05/2014 VmWware certified professional: data center virtualization
VmWare, inc., Palo Alto(CA) (USA)
- Virtualization environments
- VMware vSphere v5.5
- 01/2010 Matlab and Simulink for dynamic systems modellation
MathWorks inc.
- 05/2009 Red Hat Certified Engineer (RHCE)
Red Hat, inc., Roma (Italy)
- Course and examination
- 09/2005 Red Hat Certified Technician (RHCT)
Red Hat inc., Roma (Italy)
- Course and examination
- RHCT is the first step in Red Hat Linux certifications
- 12/2003 Advanced training in labVIEW
National Instruments Italy s.r.l, Milano (Italy)
- Laboratory software and automated measuring systems
- Field buses
- Data acquisition and signal conditioning
- 05/2003 Course on message passing programming
CINECA, universities and research institutes consortium, Bologna (Italy)
- Parallel programming
- Asynchronous communications
- 11/2002 Cluster-Linux Laboratory
CINECA, universities and research institutes consortium, Bologna (Italy)
- Systems architecture
- Cluster file systems
- High Performance Computing (HPC)
- 07/2000 Master degree in computer science
Università degli Studi "Alma Mater Studiorum", Bologna (Italy)

- Computation techniques
- Methods for optimization
- Applied mathematics
- Statistics
- Software engineering

PERSONAL SKILLS

Mother tongue(s) Italian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B1	B1	B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills Good verbal and written communication skills gained throughout my career. Excellent mediating attitude, obtained by collaborating with several heterogeneous large teams and research groups.

Organisational / managerial skills Good organization and prioritisation skills earned when coordinating software development team. Good team leadership developed as VLBI Friend at the Medicina radio telescope and as Head of Operations at the Sardinia Radio Telescope. where I was responsible for a team of more than 30 people.

Job-related skills Good mentoring skill gained as supervisor of several students during their graduation theses.

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital skills - Self-assessment grid

- Good knowledge of UML and SysML
- Excellent command of c++ and very good knowledge of Python
- Used with ICT technologies, I'm holding one Red-Hat certifications

Driving licence B

ADDITIONAL INFORMATION

Publications List of publication can be retrieved from ORCID:
<https://orcid.org/0000-0001-8737-255X>

Related document(s): publications.pdf

- Certifications** Red Hat Certified Technician (RHCT)
Red Hat Inc.
September 2005
Rome, Italy
- Memberships** Associate member of the IVS Organization (International VLBI service for Geodesy and Astrometry)
- Seminars** "Antenna Gain Calibration" (invited)
May, 9-12, 2005 - IVS Technical Workshop
Haystack Observatory
- Selection Boards**
- Det. INAF-OAC 18, 2019 January 25
"Technical Collaborator" (VI Liv.)
"Gazzetta Ufficiale - Concorsi ed esami n. 83 del 18 ottobre 2018"

 - Det. INAF-OAC 171, 2017 July 28
"Technology Researcher" (III Liv.) "Software per la gestione e ottimizzazione delle attività del Sardinia Radio telescope"
"Gazzetta Ufficiale - Concorsi ed esami n. 23 del 23 giugno 2017"

 - Det. INAF-IRA 304, 2016
"Technology Researcher" (III Liv.) "Analisi e progettazione software per il Telescope Manager di SKA"
"Gazzetta Ufficiale - Concorsi ed esami n. 87 del 4 novembre 2016"

 - Det. INAF-IRA 93, 2015
"Research fellowship", "RFI software mitigation"
"Call n. 57, 2014 March 12"

 - Det. INAF-IRA 168, 2014
"Technical Collaborator" (VI Liv.)
"Gazzetta Ufficiale - Concorsi ed esami n. 46 del 13 giugno 2014"

 - Det. INAF-IRA 109, 2014
"Research fellowship" "Analisi e progettazione software per lo SKA-Telescope Manager-Observation Management"
"Call n 69, 2014 March 25"

 - Det. INAF-IRA 2, 2014
"Research fellowship" "RFI hardware mitigation"
"Call n.1179, 2014 December 5"

 - Det. INAF-IRA 1, 2014
"Research fellowship", "RFI software mitigation"
"Call n. 1174, 2014 December 5"

 - Det. INAF-IRA 132, 2013
"Research fellowship" "Realizzazione software per acquisizione e controllo array di antenne per attività di calibrazione e beamforming"

"Call n. 1392, 2012 December 14"

-Det iNAF-IRA 589, 2012

"Technology Researcher" (III Liv.) "Sviluppo ed implementazione di software guida di radiotelescopi single-dish"

"Gazzetta Ufficiale - Concorsi ed esami n. 15 del 24 febbraio 2012"

ATTACHMENTS

- publications.pdf

publications.pdf 

Andrea Orlati

 <https://orcid.org/0000-0001-8737-255X>

Other IDs

Scopus Author ID: 6506694018 (<http://www.scopus.com/inward/authorDetails.url?authorID=6506694018&partnerID=MN8TOARS>)

Employment (1)

Istituto nazionale di astrofisica: Roma, Lazio

2004-05-01 to present | Tecnologo (Istituto di Radioastronomia IRA)

Employment

Source: Andrea Orlati

Works (48 of 48)

Discos 1.0

2019-01-31 | software

DOI: 10.20371/INAF/SW/2019_00001

Source: Andrea Orlati

The Discos project

2019-01-28 | manual

DOI: 10.20371/INAF/PUB/2019_00001

Source: Andrea Orlati

The high brightness temperature of B0529+483 revealed by RadioAstron and implications for interstellar scattering

Monthly Notices of the Royal Astronomical Society

2018 | journal-article

DOI: 10.1093/mnras/stx2991

EID: 2-s2.0-85040240019

Source: Scopus - Elsevier

An RFI mitigation project at the Italian radio telescopes 2017 32nd General Assembly and Scientific Symposium of the International Union of Radio Science, URSI GASS 2017

2017 | conference-paper

DOI: 10.23919/URSIGASS.2017.8104499

EID: 2-s2.0-85046159753

Source: Scopus - Elsevier

**EVOLUTION IN THE DEVELOPMENT OF THE ITALIAN
SINGLE-DISH CONTROL SYSTEM (DISCOS)**

2017 | conference-paper

DOI: 10.18429/JACoW-ICALEPCS2017-THPHA014

Source: Andrea Orlati

**Multi-messenger observations of a binary neutron star
merger**

Astrophysical Journal Letters

2017 | journal-article

DOI: 10.3847/2041-8213/aa91c9

EID: 2-s2.0-85037171677

Source: Scopus - Elsevier

**Multiband variability studies and novel broadband SED
modeling of Mrk 501 in 2009**

Astronomy and Astrophysics

2017 | journal-article

DOI: 10.1051/0004-6361/201629540

EID: 2-s2.0-85021894732

Source: Scopus - Elsevier

**PROCEDURES OF SOFTWARE INTEGRATION TEST
AND RELEASE FOR ASTRI SST-2M PROTOTYPE
PROPOSED FOR THE CHERENKOV TELESCOPE
ARRAY**

2017 | conference-paper

DOI: 10.18429/JACoW-ICALEPCS2017-TUPHA004

Source: Andrea Orlati

**Prospects for Cherenkov Telescope Array Observations
of the Young Supernova Remnant RX J1713.7-3946**

Astrophysical Journal

2017 | journal-article

DOI: 10.3847/1538-4357/aa6d67

EID: 2-s2.0-85019555631

Source: Scopus - Elsevier

**Single-dish and VLBI observations of Cygnus X-3
during the 2016 giant flare episode**

Monthly Notices of the Royal Astronomical Society

2017 | journal-article

DOI: 10.1093/mnras/stx1730

Source: Andrea Orlati

The Sardinia Radio Telescope (SRT): A large modern radio telescope for observations from meter to mm wavelengths

Proceedings of the 2017 19th International Conference on Electromagnetics in Advanced Applications, ICEAA 2017

2017 | conference-paper

DOI: 10.1109/ICEAA.2017.8065630

EID: 2-s2.0-85035130955

Source: Scopus - Elsevier

The Sardinia Radio Telescope: From a technological project to a radio observatory

Astronomy and Astrophysics

2017 | journal-article

DOI: 10.1051/0004-6361/201630243

EID: 2-s2.0-85037686375

Source: Scopus - Elsevier

Observation management challenges of the Square Kilometre Array

Proceedings of SPIE - The International Society for Optical Engineering

2016 | conference-paper

DOI: 10.1117/12.2232578

EID: 2-s2.0-85006356604

Source: Scopus - Elsevier

Planetary Radio Interferometry and Doppler Experiment (PRIDE) technique: A test case of the Mars Express Phobos fly-by

Astronomy and Astrophysics

2016 | journal-article

DOI: 10.1051/0004-6361/201628869

EID: 2-s2.0-84986309983

Source: Scopus - Elsevier

Radio data archiving system

Proceedings of SPIE - The International Society for Optical Engineering

2016 | conference-paper

DOI: 10.1117/12.2232603

EID: 2-s2.0-85006371686

Source: Scopus - Elsevier

Rules of thumb to increase the software quality through testing

Proceedings of SPIE - The International Society for Optical Engineering

2016 | conference-paper

DOI: 10.1117/12.2230626

EID: 2-s2.0-85006354934

Source: Scopus - Elsevier

Status report of the SRT radiotelescope control software: The DISCOS project

Proceedings of SPIE - The International Society for Optical Engineering

2016 | conference-paper

DOI: 10.1117/12.2232581

EID: 2-s2.0-85006494074

Source: Scopus - Elsevier

CTA Contributions to the 34th International Cosmic Ray Conference (ICRC2015)

2015-08 | journal-article

BIBCODE: 2015arXiv150805894C

OTHER-ID: 11104750

Source: NASA Astrophysics Data System

Sardinia Radio Telescope: General Description, Technical Commissioning and First Light

Journal of Astronomical Instrumentation

2015 | journal-article

DOI: 10.1142/S2251171715500087

Source: Andrea Orlati

The 2009 multiwavelength campaign on Mrk 421: Variability and correlation studies

Astronomy and Astrophysics

2015 | journal-article

DOI: 10.1051/0004-6361/201424216

EID: 2-s2.0-84928410952

Source: Scopus - Elsevier

**10 years of multi-frequency monitoring of blazars with
Medicina and Noto**

Proceedings of Science

2014 | conference-paper

EID: 2-s2.0-85017451654

Source: Scopus - Elsevier

**10 Years of Multi-Frequency Monitoring of Blazars with
Medicina and Noto**

2014 | journal-article

BIBCODE: 2014evn..confE..69B

OTHER-ID: 10951470

Source: NASA Astrophysics Data System

**Commissioning of the Sardinia Radio Telescope in Italy:
Results and perspectives**

***2014 31th URSI General Assembly and Scientific
Symposium, URSI GASS 2014***

2014 | conference-paper

DOI: 10.1109/URSIGASS.2014.6930052

EID: 2-s2.0-84919742809

Source: Scopus - Elsevier

**The SRT in the context of European networks:
Astronomical Validation & future perspectives**

Proceedings of Science

2014 | conference-paper

EID: 2-s2.0-85016499475

Source: Scopus - Elsevier

**The SRT: Astronomical Validation & Scientific
Perspectives**

2014 | journal-article

BIBCODE: 2014evn..confE..46P

OTHER-ID: 10951482

Source: NASA Astrophysics Data System

**The sardinia radio telescope: Overview and status
*Proceedings of the 2013 International Conference on
Electromagnetics in Advanced Applications, ICEAA 2013***

2013 | conference-paper

DOI: 10.1109/ICEAA.2013.6632194

EID: 2-s2.0-84888349081

Source: Scopus - Elsevier

Diving into the Sardinia Radio Telescope minor servo system

Proceedings of SPIE - The International Society for Optical Engineering

2012 | conference-paper

DOI: 10.1117/12.925387

EID: 2-s2.0-84872186292

Source: Scopus - Elsevier

The control software for the Sardinia Radio Telescope

Proceedings of SPIE - The International Society for Optical Engineering

2012 | conference-paper

DOI: 10.1117/12.924973

EID: 2-s2.0-84871743861

Source: Scopus - Elsevier

Extremely high cm-band radio flux level of the gamma-ray flaring FSRQ PKS 1510-089

2011-11 | journal-article

BIBCODE: 2011ATel.3775....1O

OTHER-ID: 1883677

Source: NASA Astrophysics Data System

Fermi large area telescope observations of Markarian 421: The missing piece of its spectral energy distribution

Astrophysical Journal

2011 | journal-article

DOI: 10.1088/0004-637X/736/2/131

EID: 2-s2.0-80051535196

Source: Scopus - Elsevier

Insights into the high-energy γ -ray emission of Markarian 501 from extensive multifrequency observations in the Fermi era

Astrophysical Journal

2011 | journal-article

DOI: 10.1088/0004-637X/727/2/129

EID: 2-s2.0-84891253144

Source: Scopus - Elsevier

SETI-ITALIA 2008: On-going searches and future prospects

Acta Astronautica

2010 | journal-article

DOI: 10.1016/j.actaastro.2010.03.005

EID: 2-s2.0-77956879967

Source: Scopus - Elsevier

The next steps in Seti-Italia science and technology

Acta Astronautica

2010 | journal-article

DOI: 10.1016/j.actaastro.2009.07.015

EID: 2-s2.0-70449517258

Source: Scopus - Elsevier

Status of the sardinia radio telescope project

Proceedings of SPIE - The International Society for Optical Engineering

2008 | conference-paper

DOI: 10.1117/12.790503

EID: 2-s2.0-66749100111

Source: Scopus - Elsevier

The next steps in SETI-Italia science and technology

International Astronautical Federation - 59th International Astronautical Congress 2008, IAC 2008

2008 | conference-paper

EID: 2-s2.0-77950479644

Source: Scopus - Elsevier

Radio and X-Ray Monitoring of SS433

2007-03 | journal-article

BIBCODE: 2007RMxAC..27..222P

OTHER-ID: 1671106

Source: NASA Astrophysics Data System

Multi-frequency monitoring of γ -ray loud blazars I. Light curves and spectral energy distributions

Astronomy and Astrophysics

2007 | journal-article

DOI: 10.1051/0004-6361:20066561

EID: 2-s2.0-33947186164

Source: Scopus - Elsevier

Generalized Hough transform: A useful algorithm for signal path detection

Acta Astronautica

2006 | journal-article

DOI: 10.1016/j.actaastro.2005.09.004

EID: 2-s2.0-292444489049

Source: Scopus - Elsevier

SETI-Italia 2003 status report and first results of a KL transform algorithm for ETI signal detection

Acta Astronautica

2006 | journal-article

DOI: 10.1016/j.actaastro.2005.09.003

EID: 2-s2.0-292444488240

Source: Scopus - Elsevier

Results of the first Italian planetary radar experiment

Planetary and Space Science

2004 | journal-article

DOI: 10.1016/j.pss.2003.09.001

EID: 2-s2.0-1042288973

Source: Scopus - Elsevier

Seti-Italia

2004 | journal-article

BIBCODE: 2004lufm.conf..299M

OTHER-ID: 1474229

Source: NASA Astrophysics Data System

SETI-Italia 2003 status report and first results of a KL Transform algorithm for ETI signal detection

2003-10 | journal-article

BIBCODE: 2003iaf.conf.....M

OTHER-ID: 1409399

Source: NASA Astrophysics Data System

Generalized Hough transform: A useful algorithm for signal path detection

54th International Astronautical Congress of the International Astronautical Federation (IAF), the International Academy of Astronautics and the International Institute of Space Law

2003 | conference-paper

EID: 2-s2.0-223444445463

Source: Scopus - Elsevier

SETI-Italia 2003 status report and first results of a KL transform algorithm for ETI signal detection
54th International Astronautical Congress of the International Astronautical Federation (IAF), the International Academy of Astronautics and the International Institute of Space Law

2003 | conference-paper
EID: 2-s2.0-22344435220

Source: Scopus - Elsevier

SETI-Italia 2002 status report

2002-11 | journal-article
BIBCODE: 2002ESASP.518..543M
OTHER-ID: 1355364

Source: NASA Astrophysics Data System

Intercontinental Bistatic Radar Test Observation of Asteroid 1998 WT24

2002-01 | journal-article
BIBCODE: 2002ASSL..278...65R
OTHER-ID: 1345316

Source: NASA Astrophysics Data System

SETI-Italia 2002 status report

European Space Agency, (Special Publication) ESA SP

2002 | conference-paper
EID: 2-s2.0-0036766109

Source: Scopus - Elsevier

The First Italian Radar Experiment

2002 | journal-article
BIBCODE: 2002EGSGA..27.5643D
OTHER-ID: 1352828

Source: NASA Astrophysics Data System

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