

CURRICULUM VITAE ET STUDIORUM

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Main Scientific interests

Deep multi-wavelength and radio continuum surveys — Galaxy stellar mass growth and morphological evolution — Star formation and dust attenuation properties of high redshift galaxies — The co-evolution of galaxies and massive black holes — Radio and sub-mm interferometry/observations — Molecular gas & interstellar medium

Education

- Sept 2007** **Ph.D.** in Astronomy at the Ludwig Maximilian University of Munich
Thesis title: *The morphological evolution of field galaxies over the last 8 Gyrs.* Advisors: Prof. R. Bender, Dr. R.P. Saglia
- Oct 2000** **Master degree** in Physics at the University “Federico II” of Naples
Thesis title: *Ly- α emitters as tracers of the primeval Universe large scale structure.* Advisors: Prof. M. Capaccioli, Dr. M. Arnaboldi.
Marks: 110/110 *cum laude*

Research Experience

- Feb 2020 - present** Postdoctoral Fellow at the University of Trieste
Trieste, Italy
- Jul 2016 - Dec 2019** Postdoctoral Fellow at the LMU Universitaets-Sternwarte
Munich, Germany
- Sep 2014 - Aug 2015** Postdoctoral Fellow at the Max-Planck Institute for Extraterrestrial
Physics, Garching, Germany
- Oct 2010 - Aug 2014** Postdoctoral ANR Fellow at the Service d'Astrophysique, CEA-Saclay
Gif-sur-Yvette Cedex, France
- Oct 2007 - Oct 2010** Postdoctoral Research Associate at the National Radio Astronomy Observatory
Socorro, New Mexico, USA
- Sept 2005 - Sept 2007** Predoctoral Research Assistant at the Max-Planck Institute for Extraterrestrial
Physics, Garching, Germany
- Sept 2002 - Aug 2005** PhD fellowship of the International Max-Planck Research School
(IMPRS) on Astrophysics
- Jan 2001 - Aug 2002** Undergraduate Research Assistant at the Astronomical Observatory
of Capodimonte, Naples, in the VST Science Group

Schools

- Jun 2008** Eleventh NRAO Synthesis Imaging Workshop,
Socorro, New Mexico (USA)
- Sept 2004** International Summer School "Data Analysis in Cosmology",
Valencia (Spain)
- Sept 2002 - Mar 2004** *International Max-Planck Research School on Astrophysics*,
Garching (Germany)
- Sept 2002** Italian National School of Astrophysics: Cosmology and Relativistic
Astrophysics, Asiago (Italy)
- Sept 2000** Italian National School of Astronomical Technologies,
Astronomical Observatory of Capodimonte, Naples (Italy)

Languages

Italian: native. English: fluent

International Meetings/Conferences

- 2019** *The journey of galaxies in the assembling cosmic structure*,
GEE6 conference series, Trieste, 28 - 31 October 2019, - **contributed talk**
- The life and death of star-forming galaxies* ,
ICRAR Conference in Perth, Australia, 18 - 22 March 2019, - **contributed talk**
- 2018** *Radio2018 and GLOW-SKA Annual Assembly*,
Collaboration meeting, Jena, Germany, 24 - 26 October 2018
- LSST@Europe3 - Building Science Collaborations*,
LSST@Europe conference series, Lyon, France, 11-15 June 2018, - **contributed talk**
- D-MeerKAT collaboration meeting*,
F2F meeting, Wuerzburg, Germany, 12 March 2018, - **contributed talk**
- 2017** *Galaxy evolution across time*,
Conference in Paris, France, 12 - 16 Jun 2017, - **contributed talk**
- Exploring dark matter and dark ages with lensing cluster*,
Sexten, Italy, July 2017 - **contributed talk**
- MIGHTEE collaboration meeting*,
F2F meeting, Oxford, UK, 18 - 21 September 2017 - **contributed talk**
- In & Out. What rules the Baryon Cycle?*,
MIAPP workshop, Garching, Deutschland, 10 - 21 July 2017 - **SFE discussion co-leader**
- D-MeerKAT collaboration meeting*,
F2F meeting, Hannover, Germany, 26 June 2017 - **contributed talk**
- 2016** *The galaxy life-cycle. From activity to quiescence, and back, across cosmic time*,
conference in Venice, Italy, 24 - 28 October 2016, - **contributed talk**
- 2015** *Star Formation History of the Universe*,
MIAPP workshop, Garching, Deutschland, 27 July - 21 August 2015, - **invited talk**
- Deconstructing Massive Galaxy Formation*,
EWASS Symposium 3, 22-26 June 2015, San Cristobal de la Laguna, Spain - **contributed talk**
- The physics behind the Radio-FIR Correlation*
EWASS SpS9, 22-26 June 2015, San Cristobal de la Laguna, Spain - **contributed talk**
- 2014** *Multiwavelength-surveys: Galaxy Formation and Evolution from the early universe to today*,
International symposium, Dubrovnik, Croatia, 12 - 16 May 2014, - **contributed talk**
- The Unquiet Universe: Investigating the distant Universe with GRBs, AGN and Galaxies*
2 - 14 June 2014, Cefalù, Italy - **contributed talk**

- 2013** *The co-Evolution of Black Holes and Galaxies,*
EWASS Symposium 10, 10-11 July 2013, Turku, Finland - **contributed talk**
- Starburst galaxies now and then with ALMA*
EWASS SpS13, 12 July 2013, Turku, Finland - **contributed talk**
- Star Formation Through Cosmic Time,*
28 Jan – 1 Feb, Sesto Val Pusteria, Italy - **contributed talk**
- 2012** *Molecular Gas, Dust and Star Formation in Galaxies,*
IAU Symposium 292, 20-24 Aug 2012, Beijing, China - *poster*
- Calibration of Star-Formation Rate Measurements Across the Electromagnetic Spectrum*
IAU SpS8, 27-30 Aug 2012, Beijing, China - **contributed talk**
- Stellar Populations across Cosmic Times*
June 25/29, IAP, Paris - **contributed talk**
- 2011** *Galaxy Formation 2011,*
May 23 – June 6, Durham, UK - *poster*
- Multiwavelength Views of the ISM in High-redshift Galaxies*
June 27/30, Santiago de Chile - **contributed talk**
- 2010** *The 25th Annual New Mexico Symposium,*
October 20, Socorro, NM (USA) - **contributed talk**
- 2009** *The Gaseous Evolution of Galaxies*
November 15/18, 2009, Ringberg Castle (Germany) - **invited talk**
- Assembly, Gas Content and Star Formation History of Galaxies*
The Fourth North American ALMA Science Center Conference
September 21/24, 2009, Charlottesville, VA (USA) - **contributed talk**
- Harvesting the desert: the Universe between redshift 1 and 3*
June/July 2009, Marseille (France) - **contributed talk**
- Panoramic Radio Astronomy. Wide-field 1-2 GHz research on galaxy evolution,*
June 2009, Groningen (the Netherlands) - *poster*
- The 2009 NRAO Postdoctoral Symposium,*
April/May 2009, Socorro, NM (USA) - **contributed talk**
- 2008** *The EVLA vision: galaxies through cosmic time,*
December 2008, Socorro, NM (USA) - **contributed talk**
- Great Surveys of Astronomy Workshop,*
November 2008, Santa Fe, NM (USA) - *poster*
- The 24th Annual New Mexico Symposium,*
October 2008, Socorro, NM (USA) - **contributed talk**

Probing Stellar Populations out to the Distant Universe ,
September 2008, Cefalu' (Italy) - **contributed talk**

The 2008 NRAO Postdoctoral Symposium,
April 2008, Charlottesville, VA (USA) - **contributed talk**

2006 *Galaxies and Structures through Cosmic Times*,
March 26-31, Venice, Italy -*poster*

MPE Dark Energy Meeting,
February 27 - March 1, Ringberg Castle, Germany

2005 *From Simulations to Surveys*,
June 26 - July 1, Ringberg Castle, Germany - **contributed talk**

Stellar Populations, a Rosetta Stone for Galaxy Formation,
July 4-8, Ringberg Castle, Germany -LOC member

The Origin of the Hubble Sequence,
June 6-12, Vulcano Island, Italy - **contributed talk**

Community Service and other Professional Activities

since Nov 2015 External Reviewer for funding proposals submitted to the Chilean National Commission for Scientific and Technological Research (CONICYT).

Oct 2011/Jul 2014 Organizer of the Journal Club of the CEA/SAp Galaxy Evolution group

Oct/Nov 2009 Visiting Astronomer at Max Planck Institute for Extraterrestrial Physics in Munich to work on the project: *The evolution of the stellar mass-size relation in massive galaxies as a function of environment and cosmic time*, in collaboration with Prof. R. Bender and Dr. R.P. Saglia.

since 2006 Peer Reviewer for *Monthly Notices of the Royal Astronomical Society*, *Astronomy & Astrophysics*, *Astrophysical Journal* and *Publications of the Astronomical Society of the Pacific*

2005 Member of the Local Organizing Committee for the conference: *Stellar Populations, a Rosetta Stone for Galaxy Formation*, MPE Workshop dedicated to the 65th birthday of Alvio Renzini, July 4-8, Ringberg Castle, Germany

Supervising and mentorship activity

- Oct 2012/Sep 2015** Co-Supervisor, with D. Elbaz, of the PhD Thesis project of C. Schreiber on the subject: *A Statistical and Multi-wavelength Study of Star Formation in Galaxies*
- Spring 2011** Co-Supervisor, with E. Daddi, of the 3 months stage project of Marine Ciesla on the subject: *Study of the Ly-alpha emission in a protocluster at $z \approx 4$*
- Summer 2010** Supervisor, with V. Strazzullo, of the NRAO REU summer student Thomas Connor from Case Western Reserve University for the project: *Optical Morphology of Faint Radio Sources in the GOODS-N Field*
- Summer 2009** Supervisor, with V. Strazzullo, of the NRAO REU summer student R. F. Cardoso from University of Wisconsin for the project: *Disentangling AGN emission and star formation activity in deep radio continuum surveys.*

Observational and Technical Experience

- **Direct observing experience as visiting observer**

- Optical imaging (2.2m ESO/MPG at ESO La Silla, April 2001)
- Optical spectroscopy (NTT at ESO La Silla, April 2001 and May 2002; TNG at La Palma Observatory, March 2005)

- **Direct experience with Phase II service mode observations**

- Radio/sub-mm wavelengths (JVLA since 2010 – ALMA since Cycle 0)
- NIR spectroscopy (KMOS IFU spectroscopy)
- Optical spectroscopy (VIMOS MOS spectroscopy)

- **Data reduction**

- Extensive experience with optical/NIR imaging and multi-object spectroscopy (from several instruments on the main ground-based telescopes and HST). Basic experience with radio and (sub-)mm data.

- **Data analysis**

- Extensive, long-term experience in **assembling and verifying large multi-wavelength catalogs**, and **handling of large data sets**.
- Extensive, long-term experience in the **analysis of multi-wavelength catalogs to derive photometric redshifts** and stellar population properties.
- Extensive, long-term experience with the **analysis of 2D galaxy surface brightness profiles** and automated morphological classification (both parametric and non-parametric).
- Extensive experience with **stacking analysis** at different wavelengths (from optical to radio, including data from HST/ACS, Spitzer IRAC and MIPS, Herschel PACS and SPIRE, JVLA).

- **General IT knowledge**

Operating Systems: Unix, Linux, macOS

Programming Languages: Fortran, SuperMongo, Shell Script, Python, IDL.

Word/Graphical Processing: LaTeX, OpenOffice, Keynote, Powerpoint.

Successful Observing Proposals

2018

2018.1.00216.S *Quenching in action: gas reservoirs in a transitioning massive galaxy at $z=3.71$*
(P.I.: C. Schreiber, ALMA Cycle 6, 10 hours bands 3,6,7 line spectroscopy)

2017

HST/15229 *Spectroscopic redshifts and age dating of a first statistical sample of passive galaxies at $z\sim 3$*
(P.I.: E. Daddi & V. Strazzullo, HST 17 orbits, grism spectroscopy)

2017.1.01099.S *Witnessing the onset of environmental quenching in the most distant x-ray cluster at $z=2.51$*
(P.I.: T. Wang, ALMA Cycle 5, 20 hours band 3 line spectroscopy)

2016

2015.A.00026.S *On or Off? Resolving the surprising submm emission from a record-breaking "quiescent" galaxy at $z=3.717$*
(P.I.: C. Schreiber, ALMA Cycle 4, line spectroscopy)

2016.1.01155.S *Resolved star formation and molecular gas distribution in the most distant cluster at $z=2.506$*
(P.I.: T. Wang, ALMA Cycle 4, 8 hours in band 3 and 7, line spectroscopy)

VLA/15B-290 *Molecular gas contents for galaxies in a forming massive cluster at $z=2.5$*
(P.I.: T. Wang, JVLA, Ka line spectroscopy)

2015

HST/14252 *Environmental signatures on galaxy populations in the most massive clusters at $z 1.5$*
(P.I.: V. Strazzullo, HST 14 orbits, imaging)

2015.1.00543.S *Towards a census of star-formation since $z\sim 6$ with ALMA-1.1mm*
(P.I.: D. Elbaz, ALMA Cycle 3, 22 hours, band 6 continuum)

VLA/15B-290 *Molecular gas contents for galaxies in a forming massive cluster at $z=2.5$*
(P.I.: T. Wang, ALMA Cycle 3, hours Ka line spectroscopy)

2015.1.00704.S *Unveiling a population of massive, dark ALMA galaxies at $z=6$*
(P.I.: C. Schreiber, ALMA Cycle 3, 3 hours, band 6/7 redshift scan)

2015.1.01495.S *Are the most massive $z>4$ galaxies hidden from HST ?*
(P.I.: T. Wang, ALMA Cycle 3, 3.6 hours band 7 continuum)

ESO-096.A-0848 *The ALMA-VLT Synergy: on the main mode of star formation in the early Universe*
(P.I.: R. Leiton, KMOS@VLT, 20 hours, IFU spectroscopy)

2014

VLA/15A-138 *A deep continuum JVLA survey in the UDS-CANDELS field*
(P.I.: **M. Pannella**, JVLA, 50 hours 1.5 GHz continuum)

VLA/15A-223 *Missing the fireworks? JVLA imaging of a galaxy cluster at $z=1.8$*
(P.I.: **M. Pannella**, JVLA, 24 hours 3.0 GHz continuum)

2013.1.01292.S *An ALMA survey to unveil the main mode of star formation in the early Universe*
(P.I.: R. Leiton, ALMA Cycle 2, 5.6 hours band 7 continuum)

ESO-094.A-0922 *A KMOS survey to unveil the dust obscured star formation at $z\gtrsim 3$*
(P.I.: R. Leiton, KMOS@VLT, 20 hours, IFU spectroscopy)

2013

VLA/14A-360 *Resolving the Obscured Cosmic Accretion History and Modes of Galaxy Assembly*
(P.I.: W. Rujopakarn, JVLA, 208 hours 6 GHz continuum)

2012

- 2012.1.00869.S *Star-formation rates for a complete sample of AGN host galaxies*
(P.I.: J. Mullaney, ALMA Cycle I, 3.6 hours band 7 continuum)
- 2012.1.00775.S *Characterizing the [CII] 158 μ m emission line in typical,
main sequence-selected disk galaxies at $z=1.8$*
(P.I.: E. Daddi, ALMA Cycle I, 4.5 hours band 7/9 continuum/spectroscopy)
- 2012.1.00983.S *Probing the spatial distribution of star formation in distant ULIRG with ALMA*
(P.I.: R. Leiton, ALMA Cycle I, 4.9 hours band 7 continuum)
- 27GTC12-11B *Star formation in a massive galaxy cluster at $z \approx 1.4$*
(P.I.: M Sanchez-Portal, 30 hours GTC/OSIRIS TF imaging)
- NRAO/12A-188 *Star formation, AGN activity and cold gas in the most distant galaxy cluster*
(P.I.: V. Strazzullo, 36 hours EVLA/S+Ka bands continuum and spectral line)

2011

- HERSCHEL *HERSCHEL+CANDELS: Unraveling the physical processes that regulate
star formation and AGN activity in ordinary galaxies at $z=2$*
(P.I.: M. Dickinson, 193.6 hours PACS imaging of priority 1)
- HERSCHEL *Revealing dusty starbursts around an X-ray emitting galaxy cluster at $z=2.07$*
(P.I.: H. Dannerbauer, 4 hours SPIRE 250/350/500 μ m imaging)
- OSO/088.F-9301 *Revealing dusty starbursts around an X-ray emitting galaxy cluster at $z=2.07$*
(P.I.: H. Dannerbauer, 40 hours APEX/LABOCA sub-mm continuum)
- NRAO/11A-241 *The reversal of fortune: a deeper look. Starbursts and AGN in distant clusters*
(P.I.: V. Strazzullo, 40 hours EVLA/L band continuum)

2010

- NRAO/10A-153 *CO 1-0 in a proto-cluster at $z=2.4$*
(P.I.: F.N.Owen, 40 hours EVLA/Ka band spectral line)

2009

- GN-2009B-Q-96 *NIRI H α Imaging of Cluster Members in XMMU J2235 at $z \sim 1.4$*
(P.I.: G. Morrison, 14.4 hours at GEMINI/NIRI)

2006

- ESO-077.B-0790 *A deep survey of fossil groups*
(P.I.: N.R. Napolitano, 3.5 nights at 2.2m ESO-MPG/WFI)
- TNG-AOT13-TAC_66 *A test for the CDM theory: the galaxy luminosity function of fossil groups
from deep spectroscopy* (P.I.: E. D'Onghia, 2 nights at 3.5m TNG)

2005

- ESO-076.A-0677 *A test for the CDM theory: the galaxy luminosity function of fossil groups
from deep spectroscopy*
(P.I.: D. Pierini, 3 nights at 3.5m NTT and 9 hrs at 2.2m ESO-MPG/WFI)
- TNG-AOT11-TAC_27 *A test for the CDM theory: the galaxy luminosity function of fossil groups
from deep spectroscopy* (P.I.: E. D'Onghia, 3 nights at 3.5m TNG)
- ESO-075.A-0716 *A test for the CDM theory: the galaxy luminosity function of fossil groups
from deep spectroscopy*
(P.I.: D. Pierini, 21 hrs at VLT/VIMOS and 12.6 hrs at 2.2m ESO-MPG/WFI)

2003

- ESO-072.B-0308 *Determining the harassment origin of intracluster stars in Virgo*
(P.I.: M. Arnaboldi, 20 hrs at 2.2m ESO-MPG/WFI)
- ESO-71.B-0147 *Harassment and the distribution of baryonic mass in the Virgo cluster*
(P.I.: M. Arnaboldi, 10 hrs at VLT/FLAMES)

2002

- ESO-70.B-0086 *Harassment and the distribution of baryonic mass in the Virgo cluster*
(P.I.: M. Arnaboldi, 48 hrs at 2.2m ESO-MPG/WFI)
- ESO-69.A-0661 *Characterization of Candidate Gravitational Lenses in the OACDF*
(P.I.: G. Covone, 10 hrs at 3.6m ESO/EFOSC2)

ReferencesDr. Maurilio Pannella

Dr. David Elbaz

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Luogo e data

Trieste, 1 May 2020

Firma

MAURILIO PANNELLA