

# CURRICULUM VITÆ

(last update: 28/12/2020)<sup>1</sup>

Name: **Andrea Biviano**  
Date of birth: 07/10/1962  
Nationality: Italian  
Gender: Male  
Marital status: Widowed  
Current position: First researcher at INAF-Osservatorio Astronomico di Trieste (INAF-OATS)  
Web page: <http://adlbitum.oats.inaf.it/biviano/>

## Education/Qualification

- 08/10/1986: Laurea degree (equiv. Master equivalent) in Physics, marks: 110/110, at the University of Trieste, supervisor: Prof. F. Mardirossian, assistant supervisor: Dr. M. Ramella
- 14/09/1992: Dottorato di ricerca (PhD) in Astrophysics, at the University of Trieste, supervisor: Prof. M. Hack,
- 27/12/2013: Italian national university habilitation to Associate Professor
- 23/12/2019: Italian national university habilitation to Full Professor

## Employment History

- 01/02/1993 – 15/01/1995: Post-doc at the Institut d'Astrophysique de Paris
- 16/01/1995 – 31/12/1995: Post-doc at the Leiden Astronomical Observatory (NL)
- 01/01/1996 – 23/11/1997: Research astronomer (tenure) at the TeSRE Institute, Bologna (effectively at ESA, Madrid, for the ISO project)
- 24/11/1997 – 30/06/2009: Research astronomer (staff) at the INAF-OATS
- 01/07/2009 – 31/07/2017: Researcher (staff) at the INAF-OATS
- 01/08/2017 – present: First researcher (staff) at the INAF-OATS

## Visiting appointments

- 01/01/1992 – 31/07/1992: Visiting scientist at the International Centre for Theoretical Physics, Trieste

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<sup>1</sup>All dates in the format DD/MM/YYYY, or in the format Month/Year.

- 09/12/2002–20/12/2002 Invited Scientist (“Poste rouge”) at the Observatoire Astronomique de Marseille-Provence (F)
- 14/09/2003–27/09/2003 Invited Scientist (“Poste rouge”) at the Observatoire Astronomique de Marseille-Provence (F)
- 01/01/2007–23/01/2007: Invited Scientist at the Caltech, Pasadena, Los Angeles (CA, USA)
- 01/04/2008–30/06/2008: Invited Scientist (“Poste rouge”) at the Institut d’Astrophysique de Paris (F)
- 01/02/2010–28/02/2010: Invited Scientist at the Caltech, Pasadena, Los Angeles (CA, USA)
- 22/06/2010–21/07/2010: Invited Professor at the Université Pierre et Marie Curie, Paris (F)
- 24/06/2011–26/07/2011: Invited Scientist at the Institut d’Astrophysique de Paris (F)
- 01/02/2012–31/03/2012: Invited Scientist at the Observatoire de la Côte d’Azur, Nice (F)
- 14/01/2013–12/03/2013: Invited Scientist (“Poste rouge”) at the Institut d’Astrophysique de Paris (F)
- 07/10/2013–25/10/2013: Invited Scientist at the Institut d’Astrophysique de Paris (F)
- 19/05/2014–23/05/2014: Invited Scientist at the Excellence Cluster Universe, München (D)
- 20/06/2014–19/07/2014: Invited Professor at the Observatoire de Paris-Meudon<sup>2</sup> (F)
- 08/09/2014–21/09/2014: Invited Scientist at the Institut d’Astrophysique de Paris (F)
- 04/12/2014–12/12/2014: Invited Scientist at the Excellence Cluster Universe, München (D)
- 27/03/2015–07/04/2015: Invited Scientist at the Institut d’Astrophysique de Paris (F)
- 26/05/2015–28/05/2015. Invited Scientist at the University Observatory of München (USM, D)
- 21/07/2015–30/07/2015. Invited Scientist at the Excellence Cluster Universe, München (D)
- 08/12/2016–20/12/2016: Invited Scientist at the Institut d’Astrophysique de Paris (F)
- Jan/2017–present: Chercheur Associé at the Institut d’Astrophysique de Paris

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<sup>2</sup>The status of the Paris-Meudon Observatory is equivalent to that of a University.

- 16/01/2017–21/01/2017. Invited Scientist all’Excellence Cluster Universe, München (D)
- 27/03/2019-26/04/2019. Invited Scientist at IATE, Córdoba (AR)
- 10/09/2019-26/09/2019. Invited Scientist at IATE, Córdoba (AR)

## Responsabilities in research and administrative groups

- Oct/1988–Dec/2003: member of the ESO Nearby Abell Cluster Survey (ENACS) team
- Jan/1996–May/1998: member of the ISO-CAM Instrument Dedicated Team
- Oct/1998–present: member of the library committee of the INAF-OATS
- Dec/1999–Dec/2003: member of the ISO-CAM Interactive Analysis User’s Board
- Sep/2000–present: member of the International Astronomical Union, commission 47 (cosmology)
- Oct/2004–Dec/2010: Chair of the Seminars and Meetings organization office of the INAF-OATS
- Aug/2006–Dec/2010: member of the Scientific Council of the INAF-OATS
- Aug/2011–Feb/2016: member of the Observatory Council of the INAF-OATS (Consiglio di Struttura)
- Oct/2011–present: member of the CLASH-VLT team<sup>3</sup>
- Oct/2011–present: co-Chair of the Euclid OU LE3 Work Package ““Clusters of Galaxies - Implementation””<sup>4</sup> (98 members)
- Jan/2014–present: Chair of the “Cluster Dynamics” group of the GOGREEN team<sup>5</sup> (43 members)
- Nov/2014–Oct/2020: co-Chair of the “Mass–Observable relation” work package of the Euclid Clusters of Galaxies Science Working Group (113 members)
- Jan/2017–Dec/2018: Principal Investigator of the LSST team “Clusters of galaxies as probes of cosmology, dark matter, and the evolution of cosmic structures”
- Jan/2018–Dec/2020: Deputy Director of the INAF-OATS

<sup>3</sup><https://sites.google.com/site/clashvlt/home?pli=1>

<sup>4</sup>[http://www.euclid-ec.org/?page\\_id=2625](http://www.euclid-ec.org/?page_id=2625)

<sup>5</sup><http://gogreenlp.pbworks.com/w/page/81562172/FrontPage>

## **Funds responsibility**

- Research Unit (RU) responsible for the approved 2010 ASI project “Star formation in galaxy superclusters with GALEX” (3500 euros for the RU)
- Research Unit (RU) responsible for the approved 2006 INAF (PRIN) project “Galaxies in clusters and groups at redshift=0.5–1” (18000 euros for the RU)
- Supervisor of the ASI-Euclid contract for the OULE3a Trieste unit (124097 euros allocated for the period Aug 2015– Aug 2018; 162484 euros approved for the period Sep 2019-Sep 2021)

## **Professional skills**

Fluent in Italian (mother tongue), French, English and Spanish.

Knowledge of Linux, Unix, VMS.

Programming proficiency in Fortran, IDL; knowledge of Python, SuperMongo, SCILAB.

Use of astronomical software (e.g. IRAF).

Guest observer at several 4 m-class telescopes (optical band spectroscopy, IR-band photometry).

Scientific and calibration observations with the ISO satellite.

PI of 4 approved observational proposals and Co-I of another 25 on ground-based telescopes (TNG, ESO, CFHT, Roque de los Muchachos and KPNO) as well as on space observatories (Infrared Space Observatory, Spitzer Space Telescope, GALEX, Herschel).

## **Outreach**

Collaboration to the outreach activities of the Trieste Astronomical Observatory (1998–present) and of the Institut d’Astrophysique de Paris (1993–1994).

## **Teaching and tutoring**

- Lectures at the course in Cosmology, held by prof. F. Mardirossian at the Univ. of Trieste, on 19/02/1991 and 08/04/1992
- Lectures at the course in Radioastronomy, held by prof. G. Giuricin at the Univ. of Trieste, on 19/09/1991
- Lectures at the course in Astrophysics, held by prof. F. Mardirossian at the Univ. of Trieste, on 20/11/2009, 20/10/2010, 16/11/2011, 29/10/2012, 3/12/2013, 10/11/2014;
- Lectures at the course in Astronomy, held by prof. F. Mardirossian at the Univ. of Trieste, 10/11/2006, 07/11/2008;

- Invited lecturer at the International School of Physics Enrico Fermi, course on the *Astrophysics of Galaxy Clusters*, Varenna, 15–25/07/2008 (scientific directors: Prof. Alfonso Cavaliere and Prof. Yoel Rephaeli). Lectures on “Galaxy systems in the optical and infrared”
- Invited professorship at the Université Pierre et Marie Curie, Paris, 22/06–21/07/2010 (1 month)
- Invited professorship at the Observatoire de Paris-Meudon, 20/06–19/07/2014 (1 month)
- Supervisor of two PhD theses at the Univ. of Trieste: Emiliano Munari (academic years 2010–2013; PhD title on 20/03/2014), and Marianna Annunziatella (academic years 2012–2015; PhD title on 16/03/2016)
- Assistant supervisor of the PhD thesis of Christophe Adami (1998, Marseille, F), Tom Thomas (2002, Leiden, NL), Daniela Coia (2003, Dublin, IE), Rafael Barrena (2004, Canarias, E), Paola Popesso (2006, Munich, D), Antonio Cava (2007, Padova, I), Tania Tagliaferro (2019, Córdoba, AR)
- Co-supervisor of the Laurea thesis of Emiliano Munari (2010; supervisor: Stefano Borgani; full marks cum laude) and Stefania Barsanti (2015; supervisor: Marisa Girardi; full marks cum laude) at the Univ. of Trieste
- Scientific supervisor of the research grant of Giulia Rodighiero at the INAF-OATs in 1999
- Scientific supervisor of the postdoc of Sam Farrens at the INAF-OATs (2-year contract started on 01/11/2013)
- Scientific supervisor of the postdoc of Emiliano Munari at the INAF-OATs (2-year contract started on 02/05/2016)
- Scientific supervisor of the non-permanent researcher position of Emiliano Munari at the INAF-OATs (3-year contract started on 01/09/2018)

## Examination boards: degrees and positions

- Member of the committee for assigning the *Habilitation a Diriger les Recherches* to Valerie de Lapparent (2011), a pre-requisite for the job of *Directeur de Recherches*.
- Member of PhD committees at:
  - the *Universiteit Leiden* [NL] (candidate: T. Thomas, 2002);
  - the *Universidad de La Laguna* [E] (candidate: R. Barrena, 2004);
  - the *Institut d’Astrophysique de Paris* [F], (candidate: J.-C. Mauduit, 2007);
  - the University of Torino [I] (candidate: A.L. Serra, 2012);
  - the University of Insubria, Como [I] (candidates: M.M. Civitani, V. Presotto, L.Raimondi, 2012);
  - the Universidad Complutense de Madrid [E] (candidate: R. Pérez Martínez, 2016);

- the University of Copenhagen [DK] (candidate: A. Skielboe, 2017);
- the Université de la Côte d’Azur [F] (candidate: M. Ricci, 2018).
- External referee for the PhD theses of Damien Castagné at the *Université de Toulouse* [F] (2011), and Elinor Medezinsky at the *Tel Aviv University* [IL] (2011).
- Member of 6 postdoc/grant committees at the Trieste Astronomical Observatory (1998, 2006, 2007, 2011, 2015, 2016).
- Invited external expert (‘contro-relatore’) on 3 Laurea (Masters) committees at the Trieste University (1999, 2001, 2019).

## Examination boards: research projects

External referee for the evaluation of research projects submitted to:

- the *United States Israel Bilateral Science Foundation* (2009)
- the *Serbian Ministry of Education and Science* (2010)
- the *Italian Ministry for the University and Research (MIUR), Scientific Independence of young Researchers program 2014* (2015)
- the *Qatar National Research Fund* (2015)
- *CFHT time allocation committee* (2015, 2016, 2019)
- *NWO (Netherland) Domain Science Veni Research proposals* (2018)

## Conference committees

- Member of the SOC, and Co-editor of the proceedings, of the meeting *Galaxy Evolution in Groups and Clusters*, JENAM Workshop, Porto, 3–5 September 2002, Kluwer Academic Pub., ed.: C. Lobo, M. Serote Roos, & A. Biviano.
- Chair of the SOC of the meeting *The evolution of galaxy clusters and cluster galaxies in the epoch of large optical/IR surveys*, Sesto, 13–17 January 2014.
- Chair of the SOC of the workshop *Building the Euclid cluster survey*, Sesto, 7–11 July 2014.
- Member of the SOC of the meeting *In the Footsteps of galaxies: tracing the evolution of environmental effects*, Soverato, 7–11 September 2015.
- Member of the LOC/SOC of the *Joint OULE3/SWG Euclid Meeting on Clusters of Galaxies*, Trieste, 14–17 November 2016.
- Member of the LOC/SOC of the *Galaxy Evolution and the Environment - 6*, meeting, Trieste, 28–31 October 2019.

- Member of the LOC of two meetings: *Taking ISO to the Limits: Exploring the Faintest Sources in the Infrared*, Madrid, 1997, and *Nuovi Orizzonti dell'Astrofisica Italiana*, Trieste 2003. Member of the LOC of the Italian National School of Astrophysics, 8<sup>th</sup> cycle, 48<sup>th</sup> course, held in Trieste in October 2006.

## Invited talks/reviews/seminars

Participation to more than 80 international meetings and workshops.

20 invited talks or reviews.

33 invited seminars.

### Invited talks/reviews

- R1. Meeting: *A New Vision of an Old Cluster: untangling Coma Berenices*, Marseille, 17–20/06/1997; review: “Our best friend, the Coma cluster”
- T2. Meeting: *First ISO workshop on Analytical Spectroscopy*, Madrid, 6–8/10/1997; talk: “Topics in ISOCAM Spectroscopy Calibration”
- T3. Meeting: *Constructing the Universe with Clusters of Galaxies*, Paris, 4–8/07/2000; talk: “From Messier to Abell: 200 Years of Science with Galaxy Clusters”
- T4. Meeting: *Tracing Cosmic Evolution with Galaxy Clusters*, Sesto, 3–6/07/2001; talk: “Tracing the Cluster Internal Dynamics with Member Galaxies”
- T5. Meeting: *Outskirts of Galaxy Clusters: Intense Life in the Suburbs*, Torino, 12–16/03/2004; talk: “Galaxies in Present-day Clusters: Evolutionary Constraints from Their Distributions and Kinematics”
- R6. Meeting: *Mass profiles and Shapes of Cosmological Structures*, Paris, 4–9/07/2005; review: “Tracing the mass profiles of galaxy clusters with member galaxies”
- R7. Meeting: *Distant Clusters of Galaxies*, Ringberg, 24–28/10/2005; review: “Structure of Galaxy Clusters”
- T8. Meeting: *From Dark Halos to Light*, La Thuile, 12–18/03/2006; talk: “Mass profiles of Galaxy Clusters from Dynamics”
- T9. Meeting: *Tracing Cosmic Evolution with Galaxy Clusters. Six Years Later*, Sesto, 25–29/06/2007; talk: “Cluster Density Profiles and Orbits of Galaxies from Dynamical Analysis”
- T10. Symposium *Out of the Limelight*, in honour of Prof. Peter Katgert, Leiden, 18/09/2009; talk: “Structure and substructure of galaxy clusters”
- T11. Workshop: *How to weigh clusters of galaxies*, Leiden, 19–23/04/2010; talk: “Galaxy dynamics as a probe of cluster mass”

- T12. Workshop: *The origin and evolution of fossil galaxy groups*, La Laguna, 6–8/09/2010; talk: “Modelling anisotropy and mass profiles of observed spherical systems”
- T13. Workshop: *Star formation in galaxy clusters*, Nice, 6–7/06/2011; talk: “The (mid- and far-) IR luminosity function of cluster galaxies and its evolution”
- R14. Meeting: *The mass profiles of galaxy clusters from the core to the outskirts: the need for a multi-wavelength approach*, Madonna di Campiglio, 18–22/03/2013; review: “The mass profiles of galaxy clusters using galaxies as tracers”
- R15. Meeting: *Tracing Cosmic Evolution with Galaxy Clusters*, Sesto, 1–5/07/2013; review: “On the dynamical equilibrium of clusters of galaxies - clues from kinematics”
- T16. Meeting: *The Euclid Consortium Annual Meeting*, Lausanne, 8–12/06/2015; talk: “Forecasting the selection function of clusters in Euclid”
- R17. Meeting: *Galaxy Clusters Across Cosmic Time*, Aix en Provence, 10–13/07/2017; talk: “Opening Talk”
- T18. Meeting: *IX Friends of Friends Meeting*, Córdoba, 1–4/04/2019; talk: “Structure and dynamics of clusters of galaxies”
- T19. Meeting: *Tracing Cosmic Evolution with Galaxy Clusters*, Sesto, 7–12/07/2019; talk: “The structure of clusters from spectroscopic observations”
- T20. Meeting: *61<sup>a</sup> Reunión anual de la Asociación Argentina de Astronomía*, Viedma, 16–20/09/2019; talk: “Clusters of galaxies: structure and dynamics in the last 8 Gyr”
- T21. Workshop: *GOGREEN Data Release Toronto* (virtual meeting), 24–28/08/2020; talk: “Euclid”

### Invited seminars

- S1. “Problemi relativi alla definizione di ammasso di galassie”, 28/11/1986, at the Astronomical Observatory of Trieste
- S2. “Dynamical mass in clusters of galaxies”, 19/12/1986, at the Astronomical Observatory of Trieste
- S3. “Evidenza di estinzione nell’ammasso di galassie di Virgo”, 10/01/1990, at the University of Rome (I)
- S4. “Spiral arms and dynamical structure”, 31/10/1990, at the SISSA, Trieste (I)
- S5. “Analyse dynamique des amas de galaxies”, 05/05/1994, at the Institut d’Astrophysique de Paris (F)
- S6. “The Coma cluster luminosity function”, 13/12/1994, at the OAMP/Laboratoire d’Astrophysique de Marseille (F)
- S7. “The Coma cluster luminosity function”, 02/03/1995, at the Leiden Observatory (NL)



- S8. "ENACS3: ELG in clusters", 08/12/1995, at the Leiden Observatory (NL)
- S9. "L'amas de galaxies de Coma: Dr. Jeckill et Mr. Hyde", 14/04/1995, at the Institut d'Astrophysique de Paris (F)
- S10. "The current status of ISO-CAM", 02/07/1996, at the TeSRE institute, Bologna (I)
- S11. "Update on the status of ISO-CAM" 13/12/1996, at the TeSRE institute, Bologna (I)
- S12. "The mass profile of galaxy clusters", 27/05/2003, at the SISSA, Trieste (I)
- S13. "Le profil de masse des amas de galaxies", 17/06/2003, at the OAMP/Laboratoire d'Astrophysique de Marseille (F)
- S14. "The Orbits of Galaxies in Clusters", 12/11/2004, at the Institut d'Astrophysique de Paris (F)
- S15. "The Orbits of Galaxies in Clusters", 21/12/2004, at the Trieste Astronomical Observatory (I)
- S16. "Deconstructing Galaxy Clusters", 12/06/2006, at the INAF-Istituto di RadioAstronomia, Bologna (I)
- S17. "Deconstructing Galaxy Clusters", 21/06/2006, at the INAF-Brera Astronomical Observatory, Milano (I)
- S18. "Deconstructing Galaxy Clusters", 19/01/2007, at the California Institute of Technology, Pasadena, LA (USA)
- S19. "Cluster density profiles and galaxy orbits from kinematical analysis", 17/03/2008, at the ESAC, Madrid (E)
- S20. "The paths of glory of galaxy evolution", 18/05/2010, at the Observatoire de la Côte d'Azur, Nice (F)
- S21. "The paths of glory of galaxy evolution", 25/05/2010, at the INAF-IASF, Milano (I)
- S22. "The paths of glory of galaxy evolution", 05/07/2010, at the Observatoire de Paris-Meudon (F)
- S23. "Cluster feeding filaments are the "Paths of Glory" of galaxy evolution", 18/11/2010, at the INAF-OATs Observatory (I)
- S24. "Cluster feeding filaments are the "Paths of Glory" of galaxy evolution", 25/01/2011, at the ESO Munich (D)
- S25. "A multiwavelength view of galaxy evolution in a  $z=0.2$  supercluster", 24/11/2011, at the INAF-Padova Astronomical Observatory (I)
- S26. "CLASH-VLT: the internal structure of galaxy clusters", 11/03/2015, at the INAF-Trieste Astronomical Observatory (I)

- S27. “CLASH-VLT: the internal structure of galaxy clusters”, 16/03/2015, at the Wien University (A)
- S28. “CLASH-VLT: the internal structure of galaxy clusters”, 27/05/2015, at the University Observatory of Munich (USM, D)
- S29. “The dynamics of galaxy clusters from the CLASH-VLT survey”, 28/07/2015, at the Max-Planck-Institut für extraterrestrische Physik (MPE, Munich, D)
- S30. “Galaxy evolution in clusters from the CLASH-VLT survey”, 11/12/2015, at the ESAC (Madrid, E)
- S31. “The orbits of galaxies in clusters over the last 8 Gyr”, 31/03/2016, at the Tuorla Observatory (Turku University, FIN)
- S32. “Structure and dynamics of clusters of galaxies from spectroscopic surveys”, 21/09/2018, at the Institut d’Astrophysique de Paris (Paris, F)
- S33. “The mass distribution in clusters of galaxies”, 23/09/2019, at the Instituto de Astronomia Teórica y Exeprimental (Córdoba, AR)

## Publications

- 178 refereed publications, of which:
  - 153 in international journals with impact factor  $\geq 4$ : A&A, AJ, ApJ, ApJL, ApJS, JCAP, MNRAS, Sp Sci Rev
  - 33 in the last three years (Dec 2018 – Dec 2020)
  - 26 as a 1<sup>st</sup> author<sup>7</sup>
  - 40 as a 2<sup>nd</sup> author<sup>7</sup>

Another 91 not refereed publications<sup>8</sup>.

- 8 invited contributions to conference proceedings and one contributed paper to an astronomy book
- 10050 citations of which 1485 to publications as 1<sup>st</sup> author<sup>8</sup>
- h-index: 58
- h1-index (considering only 1<sup>st</sup>-author papers): 19
- read10-index: 875
- Referee of 61 papers in A&A (24), MNRAS (21), ApJ (13), AJ (1), SpSciRev (1), EuroPhysLett (1)

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<sup>7</sup>My position as a 1<sup>st</sup> or 2<sup>nd</sup> author always reflects my predominant rôle in the collaboration. When it coincides with the alphabetical order, this is by pure chance (in case of papers with two or three authors) or by the explicit decision of my co-authors to be listed in alphabetical order after my name.

<sup>8</sup>According to [http://adsabs.harvard.edu/abstract\\_service.html](http://adsabs.harvard.edu/abstract_service.html)

## List of publications

Publications are divided in three parts.

- Refereed papers in journals with high current impact factors ( $\geq 4$ ): A&A, AJ, ApJ, ApJL, ApJS, JCAP, MNRAS, Sp Sci Rev
- Refereed papers in journals with low current impact factors ( $< 4$ ): A&AS, ApL&C, Ap&SpSci, Baltic Ast, Exp Ast, New Ast; and refereed conference proceedings
- Relevant unrefereed papers

### Refereed papers in journals with high impact factors<sup>6</sup>

- Rh-61. Euclid Collaboration: Desprez, G. et al. 2020, A&A, 644, A31: *Euclid preparation. X. The Euclid photometric-redshift challenge*
- Rh-60. Angora, G. et al. 2020, A&A, 643, A177: *The search for galaxy cluster members with deep learning of panchromatic HST imaging and extensive spectroscopy*
- Rh-59. Euclid Collaboration: Guglielmo, V. et al. 2020, A&A, 642, A192: *Euclid preparation. VIII. The Complete Calibration of the Colour-Redshift Relation survey: VLT/KMOS observations and data release*
- Rh-58. Euclid Collaboration: Blanchard, A. et al. 2020, A&A, 642, A191: *Euclid preparation. VII. Forecast validation for Euclid cosmological probes*
- Rh-57. Webb, K., et al. 2020, MNRAS, 498, 5317: *The GOGREEN survey: post-infall environmental quenching fails to predict the observed age difference between quiescent field and cluster galaxies at  $z > 1$*
- Rh-56. van der Burg, R.F.J., et al. 2020, A&A, 638, A112: *The GOGREEN Survey: A deep stellar mass function of cluster galaxies at  $1.0 < z < 1.4$  and the complex nature of satellite quenching*
- Rh-55. Sartoris, B., **Biviano, A.**, et al. 2020, A&A, 637, A34: *CLASH-VLT: a full dynamical reconstruction of the mass profile of Abell S1063 from 1 kpc out to the virial radius*
- Rh-54. Capasso, R., Mohr, J.J., Saro, A., **Biviano, A.**, et al. 2020, MNRAS, 494, 2736: *Mass calibration of the CODEX cluster sample using SPIDERS spectroscopy - II. The X-ray luminosity-mass relation*
- Rh-53. Gjergo, E., et al. 2020, MNRAS, 493, 2782: *On the origin of dust in galaxy clusters at low-to-intermediate redshift*
- Rh-52. Pizzuti, L., Sartoris, B., Borgani, S., **Biviano, A.** 2020, JCAP, 4, 24: *Calibration of systematics in constraining modified gravity models with galaxy cluster mass profiles*

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<sup>6</sup>Numbering starts from a negative integer

- Rh-51. Vulcani, B. et al. 2020, ApJ, 892, 146: *GASP XXIV. The History of Abruptly Quenched Galaxies in Clusters*
- Rh-50. Old, L.J. et al. 2020, MNRAS, 493, 5987: *The GOGREEN survey: the environmental dependence of the star-forming galaxy main sequence at  $1.0 < z < 1.5$*
- Rh-49. Euclid Collaboration, Paykari, P. et al. 2020, A&A, 635, A139: *Euclid preparation. VI. Verifying the performance of cosmic shear experiments*
- Rh-48. Poggianti, B.M., et al. 2019, ApJ, 887, 155: *GASP XXIII: A Jellyfish Galaxy as an Astrophysical Laboratory of the Baryonic Cycle*
- Rh-47. Caminha, G. B., et al. 2019, A&A, 632, A36: *Strong lensing models of eight CLASH clusters from extensive spectroscopy: Accurate total mass reconstructions in the cores*
- Rh-46. Erfanianfar, G., et al. 2019, A&A, 631, A175: *Stellar mass-halo mass relation for the brightest central galaxies of X-ray clusters since  $z \sim 0.65$*
- Rh-45. Mamon, G., Cava, A., **Biviano, A.**, et al. 2019, A&A, 631, A131: *Structural and dynamical modeling of WINGS clusters. II. The orbital anisotropies of elliptical, spiral, and lenticular galaxies*
- Rh-44. Bergamini, P., et al. 2019, A&A, 631, A130: *Enhanced cluster lensing models with measured galaxy kinematics*
- Rh-43. Euclid Collaboration; Barnett, R., et al. 2019, A&A, 631, A85: *Euclid preparation. V. Predicted yield of redshift  $7 < z < 9$  quasars from the wide survey*
- Rh-42. Zarattini, S., Aguerri, J.A.L., **Biviano, A.**, et al. 2019, A&A, 631, A16: *Fossil group origins. X. Velocity segregation in fossil system*
- Rh-41. Lotz, M., Remus, R.-S., Dolag, K. **Biviano, A.**, & Burkert, A. 2019, MNRAS, 488, 5370: *Gone after one orbit: How cluster environments quench galaxies*
- Rh-40. Chan, J., Wilson, G., Rudnick, G., et al. 2019, ApJ, 880, 119: *The Rest-frame H-band Luminosity Function of Red-sequence Galaxies in Clusters at  $1.0 < z < 1.3$*
- Rh-39. Ragagnin, A., Dolag, K., Moscardini, L., **Biviano, A.**, & D'Onofrio, M. 2019, MNRAS, 486, 4001: *Dependency of halo concentration on mass, redshift and fossilness in Magneticum hydrodynamic simulations*
- Rh-38. Euclid Collaboration, Adam, R., Vannier, M., Maurogordato, S., **Biviano, A.**, et al. 2019, A&A, 627, A23: *Euclid preparation. III. Galaxy cluster detection in the wide photometric survey, performance and algorithm selection*
- Rh-37. Capasso, R., Mohr, J., Saro, A., **Biviano, A.**, et al. 2019, MNRAS, 486, 1594: *Mass calibration of the CODEX cluster sample using SPIDERS spectroscopy - I. The richness-mass relation*
- Rh-36. Pizzuti, L., Saltas, I., Casas, S., Amendola, L., & **Biviano, A.** 2019, MNRAS, 486, 596: *Future constraints on the gravitational slip with the mass profiles of galaxy clusters*

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- Rh87. Giuricin, G., **Biviano, A.**, Girardi, M., Mardirossian, F., & Mezzetti, M. 1993, A&A, 275, 390: *Effects of Interactions on the Nuclear Near Infrared Properties of Spiral Galaxies* (c=10)
- Rh88. **Biviano, A.**, Girardi, M., Giuricin, G., Mardirossian, F., & Mezzetti, M. 1993, ApJL, 411, L13: *The mass function of nearby galaxy clusters* (c=68)
- Rh89. Girardi, M., **Biviano, A.**, Giuricin, G., Mardirossian, F., & Mezzetti, M. 1993, ApJ, 404, 38: *Velocity dispersions in galaxy clusters* (c=129)
- Rh90. **Biviano, A.**, Girardi, M., Giuricin, G., Mardirossian, F., & Mezzetti, M. 1992, ApJ, 396, 35: *Velocity segregation in galaxy clusters* (c=69)
- Rh91. **Biviano, A.**, Girardi, M., Giuricin, G., Mardirossian, F., & Mezzetti, M. 1991, ApJ, 376, 458: *Arm classification and velocity gradients in spiral galaxies* (c=21)
- Rh92. Girardi, M., **Biviano, A.**, Giuricin, G., Mardirossian, F., & Mezzetti, M. 1991, ApJ, 366, 393: *The luminosity-diameter relation for disk galaxies in different environments*
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- Rl0. **Biviano, A.** 2020, in the proceedings of the 2019 meeting of the Asociación Argentina de Astronomía, BAAA, Vol. 61B, Vásquez, Benaglia, Iglesias & Sgró eds.: *Clusters of Galaxies: Structure and Dynamics in the Last 8 Gyr*
- Rl1. Annunziatella, M., **Biviano, A.**, Mercurio, A., et al. 2016, in “The Universe of Digital Sky Surveys”, Ap Sp Sci Proc 42., p.243: *The Stellar Mass Functions of the CLASH-VLT Clusters MACS J1206-0847 and Abell 209*
- Rl2. Mercurio, A., Annunziatella, M., **Biviano, A.**, et al. 2016, in “The Universe of Digital Sky Surveys”, Ap Sp Sci Proc 42., p.225: *Luminosity Functions in the CLASH-VLT Cluster MACS J1206.2-0847: The Importance of Tidal Interactions*
- Rl3. **Biviano, A.**, Katgert, P., & Mazure, A. 2004, in ‘Clusters of Galaxies: Probes of Cosmological Structure and Galaxy Evolution’, Carnegie Obs Ap Ser. Edited by J.S. Mulchaey, A. Dressler, and A. Oemler: *The Mass Profile of Clusters from ENACS*
- Rl4. Coia, D., McBreen, B., Metcalfe, L., et al. 2004, Baltic Ast, 13, 638: *Luminous Infrared Galaxies in the Cluster cl 0024+1654*
- Rl5. **Biviano, A.**, & Katgert, P. 2003, Ap&SpSci, 285, 25: *The Orbits of Cluster Galaxy Populations as Evolutionary Constraints*

- R16. Katgert, P., Thomas, T., & **Biviano, A.** 2003, *Ap&SpSci*, 285, 19: *The properties of the galaxies in the ENACS clusters, and the relation between spirals and S0 galaxies*
- R17. Pipino, A., Matteucci, F., Borgani, S., & **Biviano, A.** 2002, *New Ast*, 7, 227: *SNe heating and the chemical evolution of the intra-cluster medium (c=66)*
- R18. **Biviano, A.**, Sauvage, M., Gallais, P., et al. 2000, *Exp Ast* 10, 255: *The ISOCAM/LW Detector Dark Current Behaviour*
- R19. Blommaert, J. A. D. L., Metcalfe, L., Altieri, B., et al. 2000, *Exp Ast*, 10, 241: *The Isocam Responsivity in Orbit. Standard star photometry*
- R110. Katgert, P., Mazure, A., den Hartog, R., et al. 1998, *A&AS*, 129, 399: *The ESO Nearby Abell Cluster Survey. V. The catalogue: Contents and instructions for use (c=108)*
- R111. Giuricin, G., **Biviano, A.**, Mazure, A., et al. 1997, *ApL&C*, 36, 129: *The ESO nearby Abell cluster survey*
- R112. Durret, F., **Biviano, A.**, Gerbal, D., et al. 1997, *ApL&C*, 36, 97: *New results on the Coma cluster: revealing the primary component*
- R113. Lobo, C., **Biviano, A.**, Durret, F., et al. 1997, *A&AS*, 122, 409: *A photometric catalogue of the Coma cluster core (c=11)*
- R114. **Biviano, A.**, Durret, F., Gerbal, D., et al. 1996, *ApL&C*, 33, 223: *The Coma cluster luminosity function*
- R115. **Biviano, A.**, Durret, F., Gerbal, D., et al. 1996, *ApL&C*, 33, 187: *X-ray and Optical Wavelet Maps in the Central Region of Coma*
- R116. Girardi, M., Fadda, D., Giuricin, G., et al. 1996, *ApL&C*, 33, 163: *Galaxy Clusters: X-ray Temperature vs. Galaxy Velocity Dispersion*
- R117. **Biviano, A.**, Giuricin, G., Katgert, P., et al. 1996, *ApL&C*, 33, 157: *The ESO Nearby Abell Clusters Survey (ENACS): Velocity Dispersion Distribution for a Complete Cluster Sample*
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- R119. Lobo, C., **Biviano, A.**, Durret, F., et al. 1995, *ApL&C*, 31, 345: *On the galaxy luminosity function in the central region of the Coma Cluster*

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- U-3. Ott, S., Abergel, A., Altieri, B., et al. 1997, in 'Astronomical Data Analysis Software and Systems VI', A.S.P. Conference Series, Vol. 125, 34: *Design and Implementation of CIA, the ISOCAM Interactive Analysis System (c=57)*

- U-2. Metcalfe, L., Altieri, B., McBreen, B., et al. 1999, in 'The Universe as Seen by ISO', ESA-SP 427, 1019: *A deep and ultra-deep ISOCAM cosmological survey through gravitationally lensing clusters of galaxies* (c=11)
- U-1. **Biviano, A.**, Metcalfe, L., Altieri, B., et al. 2000, in 'Clustering at High Redshift', ASP Conference Series, Vol. 200, 101: *An ISOCAM Survey through Gravitationally Lensing Galaxy Clusters* (c=11)
- U0. Duc, P.-A., Fadda, D., Poggianti, B., et al. 2004, in 'IAU Colloq. 195: Outskirts of Galaxy Clusters: Intense Life in the Suburbs', 347-351: *Luminous infrared starbursts in a cluster of galaxies* (c=14)
- U1. Rosati, P., Balestra, I., Grillo, C., et al. 2014, Msngr, 158, 48: *CLASH-VLT: A VIMOS Large Programme to Map the Dark Matter Mass Distribution in Galaxy Clusters and Probe Distant Lensed Galaxies* (c=31)
- U2. Sánchez-Portal, M., Cepa, J., Pintos-Castro, I., et al. 2011, in 'Highlights of Spanish Astrophysics VI, Proceedings of the IX Scientific Meeting of the Spanish Astronomical Society': *The GaLaxy Cluster Evolution survey (GLACE): introduction and first results*
- U3. Laureijs, R.; Amiaux, J.; Arduini, S., et al. 2011, arXiv:1110.3193: *Euclid Definition Study Report* (c=893)
- U4. **Biviano, A.** 2011, in the Proceedings of the International School of Physics "Enrico Fermi", Course CLXXII, eds. A. Cavaliere & Y. Rephaeli: *Astrophysics of Galaxy Clusters*, IOS Press: *Galaxy systems in the optical and infrared*, arXiv:0811.3535 (c=13) (lezioni su invito)
- U5. **Biviano, A.** 2006, in 'Mass profiles and shapes of Cosmological Structures', EAS Publications Series 20, 171-178: *Tracing the mass profiles of galaxy clusters with member galaxies.* (relazione su invito)
- U6. Boehringer, H., Braglia, F., Pierini, D., **Biviano, A.**, et al. 2006, Msngr, 123, 49: *Unveiling the Structure of Galaxy Clusters with Combined ESO-VLT WFI, and XMM-Newton Observations*
- U7. **Biviano, A.**, & Katgert, P. 2004, in 'IAU Colloq. 195: Outskirts of Galaxy Clusters: Intense Life in the Suburbs', 406-412: *Galaxies in present-day clusters: evolutionary constraints from their distributions and kinematics* (relazione su invito)
- U8. Lobo, C., Serote Roos, M., **Biviano, A.** 2003, Ap&SpSci, 285, 1, eds. of the Proceedings of 'Galaxy Evolution in Groups and Clusters', a JENAM Workshop, held in Porto, Sep/2002
- U9. Girardi, M., **Biviano, A.** 2002, Ap&SpSci, 272, 39, in 'Merging Processes in Galaxy Clusters', eds. L. feretti, I. Gioia, G. Giovannini: *Optical Analysis of Cluster Mergers* (c=29)
- U10. **Biviano, A.** 2002, in 'Tracing Cosmic Evolution with Galaxy Clusters', 268, 127: *Tracing the Cluster Internal Dynamics with Member Galaxies* (relazione su invito)

- U11. **Biviano, A.** 2000, in 'Constructing the Universe with Clusters of Galaxies', IAP meeting, eds. F. Durret and D. Gerbal: *From Messier to Abell: 200 Years of Science with Galaxy Clusters* (relazione su invito)<sup>9</sup>
- U12. **Biviano, A.** 1998, in 'Untangling Coma Berenices: A New Vision of an Old Cluster', eds. A. Mazure, F. Casoli, F. Durret, D. Gerbal, World Scientific: *Our best friend, the Coma cluster (a historical review)* (relazione su invito)<sup>9</sup> (c=25)
- U13. Mazure, A., Escalera, E., Katgert, P., et al. 1991, *Msngr*, 65, 7: *A survey of nearby clusters of galaxies*

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<sup>9</sup>These review papers are part of the Caltech on-line Level5 library of Extragalactic Astronomy and Cosmology, <http://ned.ipac.caltech.edu/level5/index.html>



## **Main research topics**

- The structure and evolution of clusters and groups of galaxies
- The nature of dark matter and dark energy
- The evolution of galaxies in different environments