

Stefano Etori

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RESEARCH ACTIVITY

I work on the formation and evolution of Groups and Clusters of Galaxies, focusing on two main topics: (i) the physical properties of the Intra-Cluster Medium from the core to the outskirts where mass accretion is occurring; (ii) the use of Galaxy Clusters as cosmological probes through the measurement of their baryonic and dark matter content.

*Current main projects: **CHEX-MATE**, a 2017 Multi-Year *XMM-Newton* Heritage Programme (3 Msec; PI: M. Arnaud & S. Etori) to analyze the ultimate sample of 118 *Planck* SZ-selected objects; **X-COP**, an *XMM-Newton* Very Large program dedicated to the study of the X-ray emission in the outskirts of twelve massive local galaxy clusters; feasibility studies for next-gen missions (*NewAthena*, *Euclid*).*

EMPLOYMENT

2023-present	Dirigente di Ricerca at INAF-OAS, Bologna (It)
2008-present	Research Associate at INFN, Gruppo 4 – <i>INDARK</i> , Bologna (It)
2017-2028	Italian Scientific Qualification/Habilitation as Full Professor (Sector 02/C1)
2016-2022	Primo Ricercatore at INAF-OAS, Bologna (It)
2013-2019	Italian Scientific Qualification/Habilitation as Associate Professor
2004-2016	Researcher at INAF-OA, Bologna (It)
2001-2004	Fellow at ESO, Garching (Germany)
1998-2001	Research Associate at IoA, Cambridge (UK)
1994-1995	<i>Associate</i> for 10 months at ESO, Garching (Germany)

EDUCATION

Ph.D.	1995-98	Institute of Astronomy, Churchill College, Cambridge (UK) Thesis Title: <i>Studies of the distribution of the gas in clusters and superclusters of galaxies</i> Supervisor: <i>Prof. A.C. Fabian</i>
Degree	1993	Physics Thesis Title: (trasl.) <i>A study of the distribution of galaxies at the South Galactic Pole</i> Advisors: <i>Prof. G. Chincarini</i> and <i>Dr. L. Guzzo</i>
University	1989-93	Physics, State University of Milano (Italy)
	1986-88	Electronic Engineering, Polytechnic of Milano (Italy)
Diplome	1986	Humanities Studies (Liceo Classico) <i>G. Berchet</i> , Milano (Italy)

PROFESSIONAL ACTIVITY

AWARDS, HONORS & VISITS:

- **2023-2025** Senior researcher fellowship *Jean d’Alembert* to visit [IAS, Orsay](#), Université Paris-Saclay;
- **2019 Jun** Visiting Scientist at Harvard-Smithsonian, Center for Astrophysics, Cambridge (MA, US);
- **2018 Nov** AHEAD Visitor Programme at MPE, Garching (GER);
- **2017 Oct** AHEAD Visitor Programme at MPE, Garching (GER);
- **2016 Dec** AHEAD Visitor Programme at Astronomy Department, University of Geneva (CH);
- **2012 Aug** Visiting Scientist at Harvard-Smithsonian, Center for Astrophysics, Cambridge (MA, US);
- **2001-2004** European Southern Observatory Postdoctoral Fellowship;
- **1999-2001** Research Fellowship at Darwin College, Cambridge (UK);
- **1998** *Montaigne* scholarship from the “Alfred Toepfer Stiftung F.V.S.”;
- **1996-1997** *PPARC* postgraduate studentship award and Cambridge European Trust award;
- **1994** in July, *EEC Human Capital and Mobility fellowship* for the 35th Herstmonceux Conference at Cambridge (UK).

INTERNATIONAL COLLABORATIONS:

- **CHEX-MATE**: (co)PI of an international collaboration involving about 80 researchers from 12 countries (**2017-present**)
- **XRISM ESA Guest Scientist (2022-present)**
- **Euclid** (ESA Medium) mission: **co-lead of WP-7 “Astrophysics of Clusters of Galaxies”** in Clusters of Galaxies SWG (**2020-present**)
- **NewAthena** (ESA Large) mission: **co-chair of the SWG 1 (2020-present)**; **co-chair** of Topical Panel SWG 1.2 on “Astrophysics of galaxy groups and clusters” (**2013-2020**); member of the **X-IFU** Science Advisory Team (XSAT; **2018-present**); member of the ESO-*Athena* Synergy Team (**EAST**); previously, responsible for galaxy clusters science for *EDGE–Xenia* (proposed ESA Medium) mission
- Current member of: **CTA**, the next generation ground-based observatory for gamma-ray astronomy at very-high energies; **LEM**, a US X-ray Probe mission concept (**White Paper**); **HUBS**, the Chinese mission to conduct a census of baryons in the warm-hot circumgalactic and intergalactic media; **THESEUS**, proposed as ESA M7 multi-instrument mission for transient astronomy, with focus on Gamma Ray Bursts (**White Paper**); **X-GAP**, a *XMM-Newton* Large Program to study the gas content in galaxy groups; **X-COP**, a *XMM-Newton* Large Program to study the thermodynamic properties in the outskirts of galaxy clusters; **CLUMP-3D**, a multi-wavelength study of the three-dimensional structure of massive galaxy clusters; **XXL**, a *XMM-Newton* survey of the X-ray sky; **CLASH-VLT**, a VIMOS/VLT Large Programme to provide a panoramic spectroscopic survey of 13 massive clusters at $z = 0.2–0.6$; **WEAVE Science Team GC**, dedicated to the scientific exploitation of the observations of galaxy clusters with WEAVE, a new wide-field spectroscopy facility for the prime focus of the 4.2-m William Herschel Telescope; **BUFFALO**, an astronomical survey built around the six Hubble Space Telescope (HST) Frontier Fields galaxy clusters; **The300**, dedicated to the analysis of 324 large galaxy clusters modelled with different full-physics hydrodynamical re-simulations and semi-analytical models.
- Coordinator of 2 International Teams at ISSI (Bern, CH) working on (i) **Astrophysics and Cosmology with Galaxy Clusters (2010-2012)** (ii) **XMM Heritage Cluster Project (2018-2020)**

SERVICE:

- Member of the ASI (Italian Space Agency) WG to define a roadmap in Astrophysics / *The origin and evolution of the Universe (2023-2025)*
- Member of **XMM-Newton Users’ Group (2023-2027)**
- Review panel member for: Topical Teams for **ESA Voyage 2050 program**; NASA Astrophysics Data Analysis Program (**Chair: 2015, 2014**; external panelist: **2013**)

- Referee for: NASA Postdoctoral Program (**2016-present**); Dutch Research Council (**2022**); MUR “Rita Levi Montalcini” Program (It; **2022**); Marsden Fund (New Zealand; **2021**); European Research Council (**2023, 2020**); Spanish Research Agency (AEI; **2018**); Valutazione Qualità della Ricerca (VQR 2011-2014, **2016**); Israel Science Foundation (**2014, 2006**); Estonian Research Council (**2012**); GIF German-Israeli Foundation for Scientific Research and Development (**2012**); PostDoc position at the University of Milano (It; **2011**); Austrian Science Fund (**2005**)
- Referee for scientific journals (A&A, AJ, ApJ, Ap&SS, MNRAS, PASA, PASJ, MDPI-Universe, Physics of the Dark Universe, JCAP)
- Member of Ph.D. thesis committees (Leiden University, N, 2024; Tor Vergata - Rome, It, 2016; Universidad Autónoma de Madrid, Sp, 2014; University of Copenhagen, Dk, 2011)
- Time Allocation Committees (TAC): panel member for *Chandra* (5 times; **Chair** in 2014, 2017), *XMM-Newton* (8 times; **Chair** in 2021, 2022), *ESO* (2 times); external Reviewer for *Subaru*, *TNG* and *GMRT*
- Scientific Organising Committees (SOC): **chair & organizer** of Special Session SS28 on [The new era of X-ray spectroscopy of the intracluster medium: metal enrichment, feedback, turbulence from Chandra/XMM-Newton to XRISM and Athena](#), EAS 2024, Padova (It); **member** of [Galaxy Groups in the era of eROSITA and Euclid: a multiwavelength view](#), Sesto (It), 2024; **member** of [A journey through galactic environments: From the halo assembly bias to the satellite quenching](#), Porto Ercole (It), 2023; **organizer** of [2023 Summer Workshop: Groups and Clusters of Galaxies at the Crossroad between Astrophysics and Cosmology](#), Aspen (US), 2023; **member** of [Multi-phase, Multi-temperature and Complex](#), ESO, Garching (GE), 2022; **organizer** of the CLUSTER series, biannual meeting of the Italian community working on galaxy clusters ([CLUSTER3](#), Bologna, 2022; [CLUSTER2](#), Napoli, 2018; [CLUSTER1](#), Torino, 2017); **chair & organiser** of the workshop on [The Physical Properties of the Groups of Galaxies](#), Bertinoro (FC, It), Jul 2022; **chair & organiser** of the [Symposium S5](#) on “Towards the next generation of X-ray surveys with Athena”, EAS 2022, Valencia (Sp); **chair & organiser** of the CHEX-MATE internal workshops (2nd: 2022, remote; 1st: 2021, remote); **chair & organiser** of the [Symposium S2](#) on “Tracing the structure formation in the Universe through thermal & non-thermal emission”, EAS 2020, Leiden (NL); **member** of [The 3C Extragalactic Radio Sky: Legacy of the Third Cambridge Catalogue](#), Torino (It), 2019; **organizer** of [Preparing the science of galaxy clusters & WHIM with Athena](#), the meeting of the *Athena* SWG1, Sesto (It), 2018; **member** of [Galaxy Clusters across cosmic time](#), Aix en Provence (Fr), 2017; **director** of the PhD School of Astrophysics *Francesco Lucchin* on [The Hot and Energetic Universe through high-resolution spectroscopy](#), Bertinoro (It), 2016; **chair & organiser** of the [Symposium S6](#) on “Exploring the outskirts of galaxy clusters”, EWASS 2016, Athens (Gr); **chair & organiser** of [The mass profiles of galaxy clusters from the core to the outskirts](#), Madonna di Campiglio (It), 2013; **member** of [Cosmology with Galaxy Clusters in the XXI Century](#), Madrid (Sp), 2014; **member** of [Half a century of X-ray Astronomy](#), Mykonos (Gr), 2012
- Editor: a special issue of the journal “Universe” on [“The Physical Properties of the Groups of Galaxies”](#) (2021); a special issue of the journal “Galaxies” on [“Exploring the Outskirts of Galaxy Clusters”](#) (2016)
- Member of the Editorial Board of the journal: [Galaxies](#) (2017-present); [Sci](#) (2018-2024); [Frontiers in Astronomy and Space Sciences](#) (2022-present); [ISRN Astronomy and Astrophysics](#) (2010-2012)
- Member of the International Astronomical Union (2006-present; Division D and J)
- National and Local Services: member of the National Committee selecting staff at INAF (2019); member of committees selecting PhDs (2016) and Post-Docs at INAF-OA Bologna and Dipartimento di Astronomia at Bologna University; member of the working group on “LSS and Cosmology” for *INAF Piano Triennale 2009-11*; member of the OAS steering committee (“Consiglio di Struttura”; 2016-2018); organizer of the Thursday Seminars at OAS (2005-2010); book reviewer for *Giornale di Astronomia* (2011-present); organizer of the webography on Astronomy for the Fondazione Biblioteca Europea di Informazione e Cultura (B.E.I.C.; 2010); administrator, ESO science software for X-ray analysis (2001-2004) and calibration database at IoA, Cambridge (1998-2001); Science Secretary, ESO Observing Programs Committee (2002)

TUTORING, TEACHING & PUBLIC LECTURES:

- responsible for Post-Docs at OAS Bologna (Lorenzo Lovisari, 2020-2023 / *now staff at INAF*; Mauro Sereno, 2013-2017 / *now staff at INAF*; Mauro Roncarelli, 2015-2017 / *now staff at INAF*; Cosimo Fedeli,

AstroFIT fellow 2013-2015; Myriama Gitti, 2006-2013 / *now staff at DIFA-Univ. Bologna*; Alessandro Baldi, 2009-2012; Jean-Claude Waizmann, 2011-2012; Annamaria Donnarumma, 2009; Fabio Gastaldello, 2007-2008 / *now staff at INAF*; Elena Rasia, 2006 / *now staff at INAF*

- primary advisor for 7 PhD students at the University of Bologna (Tommaso Bartalesi / 2023-current; Maria Giulia Campitiello, INAF PhD 2020 / 2020-2023; Matteo Angelinelli / 2019-2022 / co-funded by INAF; Vittorio Ghirardini, INAF PhD 2015 / 2015-2018; Cristiano De Boni / 2008-2012; Annamaria Donnarumma / 2007-2009; Andrea Morandi / 2006-2008); and for undergraduate students (2023: 1; 2019: 1; 2017: 2; 2014: 2; 2012: 2; 2011: 1; 2008: 1; 2006: 3) at the University of Bologna
- lecturer of graduate/undergraduate courses at the Universities of Bologna, Milano, Cambridge (UK); lecturer at PhD schools: 4-hrs lecture at "Eighth TRR33 Winter School", Passo del Tonale (It), December 7-12, 2014; 3-hrs lecture at School of Astrophysics *Francesco Lucchin*, XI Cycle, Bertinoro (It), May 8-13, 2011; 6-hrs lecture at "Graduate School in Astronomy, XV Special Courses", Observatorio Nacional, Rio de Janeiro (Brasil), October 18-22, 2010
- speaker at *La Notte dei Ricercatori*, Bologna (2018, 2009); 1-hr public lecture at *Conferenze alla Specola*, Bologna (2008); 3-hrs lecture at *Settimana Astronomica*, Madonna di Campiglio (2007)

TIME ALLOCATED for Observing Programs:

ALMA: 7 hrs [PI, Cycle 5]; **NIKA2-IRAM**: 29 hrs [co-I, Winter 25]; 9 hrs [PI, Winter 17]; **XRISM**: 200/C+100/C ks [col, AO1]; **XMM-Newton**: 3.6 Ms [col, Heritage Program AO23], 91+131 ks [col, AO22], 253 ks [col, AO20], 3 Ms [PI, Heritage Program AO17], 426 ks [col, AO14], 1207/LP +184 ks [col, AO13], 546 ks [col, AO12], 132+31 ks [PI+col, AO11], 21 ks [col, AO10], >74 ks [col, AO9], 120 ks [col, AO8], 106 ks [PI, AO7], 22+142 ks [PI+col, AO3], 45 ks [PI, AO1]; **Chandra**: 100 ks [col, AO26], 130 ks [col, AO22], 180+152 ks [PI+col, AO19], 235 ks [col, AO17], 200 ks [col, AO16], 51 ks [col, AO15], 64 ks [col, AO14], 163 ks [col, AO13], 118 ks [col, AO12], 44 ks [col, AO11], 80 ks [PI, AO4], 200 ks [col, AO3]; **Suzaku**: 160 ks [col, AO7], 160 ks [col, AO5], 142 ks [col, AO3], 100 ks [col, AO1]; **Swift**: 420 ks [col, 2011], 300 ks [fill-in proposal, col]; **BeppoSAX**: 320+170 ks [PI+col, AO4], 320+350 ks [PI+col, AO3]; **VLT**: VIMOS/225 hrs [LP, col, appr. Jun 2010], VIMOS/20 hrs [col, Jun 2009]; **LBT**: Lucifer/2 hrs [col, May 2010]; **TNG**: Dolores/23 hrs [col, May 2010]; **Subaru**: Suprime-cam/1 night [col, May 2011]; **GMRT**: 5.5h [col, Cycle 43]; 10h [col, Cycle 38]; 31h [col, Cycle 27]; 57h [col, Cycle 26]; **MeerKAT**: 39h [col, OT3, 2022].

FUNDING:

National and local PI of national and international programs funded with more than 1,350,000 Euros.

- [Prin MUR 2022](#) (249 kEUR; **national PI**) on *The concordance cosmological model: stress-tests with galaxy clusters*
- [AHEAD2020 \(co-I\)](#); responsible for 64 kEUR in WP2 and WP14)
- [2019 Call ASI-INAF n.2017-14-H.0](#) (122 kEUR; **national PI**) on *The XMM-Newton Heritage Cluster Sample*
- [2018 Call for support of INAF Main-stream activities](#) (34 kEUR; **national PI**)
- [2018 Call for financial support to organize Team meetings at ISSI \(Bern, CH; 28 kCHF\)](#): **Team-leader** of an international collaboration working on *XMM Heritage Cluster Project*
- [2017 Call ASI-INAF n.2017-14-H.0](#) (60 kEUR; **national PI**) on *Galaxy clusters in X-rays: the buildup of massive structures in the last 10 Gyrs*
- [NARO16, ASI-INAF I/037/12/0](#) (2016: 24 kEUR; **local PI**) to study the NuSTAR AO2 GO exposures of two galaxy clusters (A754 and A665)
- [NARO15, ASI-INAF I/037/12/0](#) (2015: 33 kEUR; **local PI**) on *Hunting for non-thermal emission and very hot gas in Galaxy Clusters with NuSTAR* to search for Inverse Compton emission and to characterize high temperature regions in NuSTAR observations of two galaxy clusters, A523 (joint XMM-NuSTAR observations, 200 ks for each satellite, B priority) and A2163 (PI: Wik D., 115 ks, A priority)
- [MAE-RSA project](#) (2014; **col**) to support activities of synergy between Italy and South Africa on *Galaxy Clusters: a pivotal case for SKA precursors*
- [ASI-INAF I/037/12/0](#) (2014: 57 kEUR; **col**) to support the analysis of archival data from *NuSTAR*

- PRIN-INAF (2012: 151 kEUR; **local PI**) on *A unique dataset to address the most compelling open questions about X-ray Galaxy Clusters*;
- PICS (2012: 15 kEUR; **col**) to support the collaboration between Italy and France on the project *XXL-The Ultimate XMM Extragalactic Survey*;
- NASA ADAP (2012: 120 kUSD; **col**) to support the study of *Baryons and Dark Matter in Hubble Treasury Clusters* at the Michigan State University (PI: M. Donahue);
- 2012 Call for financial support to organize *Team meetings at ISSI (Bern, CH; 28 kCHF)*: **Team-leader** of an international collaboration working on *Astrophysics and Cosmology with Galaxy Clusters: the X-ray and Lensing view*;
- contract ASI-INAF I/023/05/0 & I/009/10/0 (2005: 147 kEUR, 2006: 70 kEUR, 2010: 143 kEUR; **local PI**) on *Clusters of Galaxies in X-rays*;
- contract ASI I/088/06/0 (2007: 60 kEUR, 2008: 90 kEUR, 2009: 75 kEUR; **national PI**) on *Tracing the evolution of the physical properties in X-ray galaxy clusters*;
- PRIN-INAF (2009: 75 kEUR; **col**) on *Weighing galaxy clusters with strong and weak lensing*;
- Chandra Archival Proposal AO11 (2009: 55 kUSD; **col**) on *What are those clusters that do not have a radio halo?*;
- PRIN-INAF (2006: 50.0 kEUR; **local PI**) on *Observing and Modelling the Properties of Diffuse Baryons in Clusters of Galaxies*;
- Chandra Archival Proposal AO7 (2005: 52.5 kUSD; **col**) on *An Archival Study of the Metal Distribution and X-ray Scaling Relations in Galaxy Clusters at $0.1 < z < 0.7$* ;
- **col** of funded projects in PRIN-MIUR 2008 (title: *Cosmology and Dark Energy with large galaxy survey*; 186 kEUR) and 2012 (title: *The dark Universe and Baryon cosmic evolution: from present surveys to Euclid*; 256 kEUR).

SEMINARS & TALKS (S=Seminars; I=Invited talk; C=Contributed talk; P=Poster):

2024 – [C] [Understanding the Galaxy/Matter Connection in the Era of Large Surveys](#), Sestri Levante (It); [C] [CLUSTER4](#), Trieste (It); [I] [EAS 2024, Special Session 30, “Large-Scale Structure and Cosmology in the era of SRG/eROSITA and the Other Multiwavelength Surveys”](#), Padova (It); [C] [MIAPbP: “Some like it hot!”](#), a journey from the hot IGRM to the multiphase CGM, Garching (Ge); [I] [Baryons in the Universe 2024](#), Kashiwa (J); [S] [IAS](#), Orsay (Fr);

2023 – [I] [Dissecting Cluster Cosmology](#), Trieste (It); [C] [mm Universe 2023](#), Grenoble (Fr); [C] [The X-ray Universe 2023](#), Athens (Gr); [C] [Dark Matter 2023: from the Smallest to the Largest Scales](#), Santander (Sp); [C] [UniVersum IV](#), Trento (It);

2022 – [C] [XRISM Science Meeting](#), Tsukuba International Congress Center (Jp; remote); [I] [Exploring the Hot and Energetic Universe: the third scientific conference dedicated to the Athena X-ray Observatory](#), Barcelona (Sp); [I] [Giornate INAF di RSN1: Galassie e Cosmologia](#), Napoli (It); [C] [The 2nd DMNet International Symposium](#), Heidelberg (Ge; remote); [I] [Workshop on “The Physical Properties of the Groups of Galaxies”](#), Bertinoro (It); [I] [Zooming](#), Sesto (It); [S] [MPE CCG meeting](#), Garching (Ge); [C] [MIAPbP: Advances in Cosmology through numerical simulations](#);

2021 – [S] [Virtual at Ben-Gurion University of the Negev](#) (Il); [C] [Virtual at MIAPbP: The accelerating Universe 2.0](#); [C] [Virtual at The 300 Collaboration Meeting](#); [C] [Virtual at BUFFALO Collaboration Meeting 2021](#); [C] [Virtual at Observing the millimeter Universe with the NIKA2 camera](#); [S] [Virtual at NAT](#), Universidade Cruzeiro do Sul, Sao Paulo (Br); [S] [Virtual at Institut d’Astrophysique Spatiale / CNRS / Université Paris-Saclay](#)

2020 – [C] [Virtual Kashiwa Dark Matter Symposium 2020](#); [I] [Virtual Dissecting Cluster Cosmology](#); [C] [Virtual EAS 2020 - Symposium S2](#); [C] [Virtual X-IFU Consortium Meeting n.11](#)

2019 – [S] [Trieste](#) (It), [INAF OA Ts](#); [I] [Bologna](#) (It), [X-ray Astronomy 2019](#); [C] [Matera](#) (It), [Dark MatTer\(A\) - Cosmology and dark matter within galaxies and clusters](#); [S] [Cambridge](#) (US), [Special High Energy Phenomena Seminar & talk at the Cluster Group Meeting at CfA](#); [C] [Madrid](#) (Sp), [Astrophysics of hot plasma in extended X-ray sources](#); [C] [Grenoble](#) (Fr), [Observing the millimeter Universe with the NIKA2 camera](#); [S] [Garching](#) (Ge), [High-Energy Astrophysics MPE](#); [C] [Roma](#) (It), [Euclid and beyond: the many faces of](#)

modern cosmology;

2018 – [S] ESO Library (Ge), [Galaxy Cluster Discussion Group](#); [S] University of Nottingham (UK), [Nottingham Astronomy Group](#); [I] Kavli Royal Society Centre, Chicheley Hall (UK) [X-ray astronomy and fundamental physics](#); [I] Bologna (It), [Promoting interactions around interacting galaxy clusters](#); [I] Palermo (It), [Exploring the Hot and Energetic Universe: The second scientific conference dedicated to the Athena X-ray observatory](#); [C] Napoli (It), [CLUSTER2](#); [S] Hiroshima (JP), University, Theoretical Astrophysics Group; [I] Sesto (It), [Multiphase AGN Feeding & Feedback](#); [I] Gunterville (AL, US), [WHIM and Cluster Outskirts: Lost and Found Baryons in the Local Universe](#); [I] Edinburgh (UK), [Glenfiddling Galaxy Clusters](#); [I] Sesto (It), [Preparing the science of galaxy clusters & WHIM with Athena](#);

2017 – [I] Bern (Ch), [Clusters of Galaxies: Physics and Cosmology](#); [I] Sesto (It), [Exploring dark matter and dark ages with lensing clusters](#); [C] Aix-en-Provence (Fr), [Galaxy Clusters across cosmic time](#); [C] Santander (Sp), [Galaxy Clusters 2017](#); [I] Mondello (It), [Multifrequency behavior of High Energy cosmic sources](#); [S] Roma (It), Sapienza, [Dipartimento di Fisica](#); [S] Trieste (It), SISSA, [Astrophysics Colloquium](#); [C] Torino (It), [CLUSTER1](#); [S] Utrecht (NL), [SRON](#);

2016 – [C] Trieste (It), [Euclid Meeting on Clusters of Galaxies](#); [I] Paris (Fr), [High redshift \(proto\)clusters: anecdotal or important phases?](#); [C] Mykonos (Gr), [Hot spots in the XMM sky](#); [I] Frascati (It), [IAXO. The search of Axions in the Universe](#); [C] Firenze (It), [XXL workshop](#); [S] Cambridge (US), [Stephen Murray Distinguished Lecture at CfA](#);

2015 – [C] Birmingham (UK), [XXL Scaling relations meeting](#); [C] Firenze (It), [CLASH-VLT consortium meeting](#); [C] London (UK), [Accurate astrophysics. Correct cosmology](#); [C] Mljet (Cr), [XXL Annual Meeting](#); [I] Mondello (It), [Multifrequency Behaviour of High Energy Cosmic Sources](#); [S] Observatory in Geneva (Ch); [S] Observatory in Meudon (Fr); [C] Paris (Fr), [workshop on XXL](#);

2014 – [I] Pasadena (US), [Colloquium at JPL](#); [C] Madrid (Sp), [Cosmology with Galaxy Clusters in the XXI century](#); [C] Napoli (It), [CLASH-VLT Workshop](#); [C] Garching (Ge), [MIAPP Workshop: Cosmology after Planck](#); [I] Sesto (It), [Building the Euclid Cluster Survey Workshop](#); [I] Vulcano (It), [Vulcano Workshop on Frontier objects in Astrophysics and Particle Physics](#)

2013 – [I] Paris (Fr), [IHP-GRAVASCO Workshop](#); [C] Bonn (Ge), [XXL consortium meeting](#); [I] Sesto (It), [Tracing Cosmic Evolution with Clusters of Galaxies](#); [I] Snowbird (UT, USA), [SnowCLUSTER – Physics of Galaxy Clusters](#);

2012 – [I] Ringberg (Ge), [Workshop on galaxy clusters as cosmological probes](#); [C] Mykonos (Gr), [Half a century of X-ray astronomy](#); [S] HEAD lunch talk & Galaxy clusters meeting talk, Harvard-Smithsonian, Center for Astrophysics, Cambridge (MA, US); [I] Sesto (It), [Beyond \$\Lambda\$ CDM: from dark matter halos to large-scale structures](#); [S] Michigan State University, Physics and Astronomy Department, Lansing (MI, US); [C] Cervia (It), [Missing Baryons in the Local Universe](#); [I] Madrid (Sp), [Galaxy Clusters as Giant Cosmic Laboratories](#); [I] Roma (It), [Athena Italian Day](#);

2011 – [C] Garmisch-Partenkirchen (Ge), [First eROSITA International Conference](#); [C] Huntzville (US), [Cosmology with X-ray and Sunyaev-Zeldovich Effect Observations of Galaxy Clusters](#); [S] Dark Cosmology Centre, University of Copenhagen (Dk); [I] Sesto (It), [A New Generation of Galaxy Clusters Surveys](#); [C] Marseille (Fr), [The Cosmic Odyssey of Baryons](#); [I] Garching (Ge), [1st Workshop on Athena](#); [I] Meudon (Fr), [Workshop CIAS on Warm dark matter in galaxies](#); [C] Santa Barbara (US), [workshop on Galaxy Clusters: the Crossroads of Astrophysics and Cosmology](#); [S] University of Michigan, Department of Astronomy, Ann Arbor (Mi, US); [I] Rome (It), [IXO Science Meeting](#);

2010 – [C] Garching (Ge), [Galaxy clusters: observations, physics and cosmology](#); [I] Bremen (Ge), [38th COSPAR, event E17](#); [I] Sesto (It), [The Future of Cosmology with Large-Scale Surveys](#); [C] Kashiwa (Japan), [CL J2010+0628: from Massive Galaxy Formation to Dark Energy](#); [C] Utrecht (NI), [High-resolution X-ray spectroscopy: past, present, and future](#);

2009 – [I] Bologna (It), [The Wide Field X-Ray Telescope workshop](#); [C] Potsdam (Ge), [Splinter meeting on Recent advances in cosmology](#); [I] Sesto (It), [WFXT Collaboration Meeting](#); [C] Paris (Fr), [Invisible Universe](#); [I] Leiden (NI), [The Chemical Enrichment of the IGM/ICM](#); [I] Marseille (Fr), [CosmoClusters](#); [C] Roma (It), [AHEAD: Toward a Proposal for FP7](#);

2008 – [S] Institut für Astrophysik Un. of Innsbruck (Au); [C] Sydney (As), [OZ Lens 2008](#); [I] Garching (Ge),

Cluster Weighing Workshop; [I] Sesto (It), *Sesto Workshop on Modelling the Evolution of Cosmic Structure*; [I] Cambridge (UK), *Putting gravity to Work*; [C, P] Granada (Sp), *The X-ray Universe*; [C] New York (US), *The Warm & Hot Universe*;

2007 – [P] San Diego (US), *The Suzaku X-ray Universe*; [I] Copenhagen (Dk), *Dark Matter Workshop*; [I] Sesto (It), *Tracing Cosmic Evolution with Clusters of Galaxies*; [C] Bilbao (Sp), *BICOS 2007*; [C] London (UK), *XEUS: Visions of the Extreme Universe*; [C] London (UK), *Outstanding questions for the standard cosmological model*;

2006 – [S] ETH Zurich (Ch); [C] Kyoto (J), *The Extreme Universe in the Suzaku Era*; [C] Garching (Ge), *Heating vs. Cooling in Galaxies and Clusters of Galaxies*; [C] Valencia (Sp), *Bernard's cosmic stories*;

2005 – [S] Un. of Trieste (It); [C] El Escorial (Sp), *The X-ray Universe 2005*; [C] Bologna, mini-workshop on *Luminous and dark matter in galaxies and clusters of galaxies*; [C] Kona (Hawaii, US), *The Future of Cosmology with Clusters of Galaxies*;

2004 – [S] IRA-CNR Bologna (It); [S] Un. of Trieste (It); [S] Institut für Astrophysik Un. of Innsbruck (Au); [C] Paris (Fr), *35th COSPAR - Clusters of Galaxies: New Insights from XMM-Newton, Chandra and INTEGRAL*; [C] Ringberg (Ge), *Japanese-German Workshop on X-ray galaxy clusters and deep surveys*;

2003 – [S] Obs. of Bologna (It); [S] National Astronomical Obs. Beijing (Ch); [I] Santiago (Ch), ESO fellow symposium; [I] Shanghai (Ch), *Beyond the Milky Way: Progress in Extragalactic X-Ray Astronomy with Chandra and XMM-Newton*; [C] Mykonos (Gr), *Multiwavelength Cosmology*; [C] Trieste (It), SAIt 2003; [I] Ringberg (Ge), *Testing Cosmological Models with Galaxy Clusters*; [P] Pasadena (US), *Clusters of galaxies: probes of cosmological structure and galaxy evolution*;

2002 – [C] Roma (It), National Cosmological Meeting; [C] Porto (Po), JENAM 2002; [C] Les Arcs (Fr), *The Cosmological Model*;

2001 – [S] Darwin College, Cambridge (UK); [S] Obs. of Brera-Merate (It); [P] Noordwijk (NL), *New Visions of the X-ray Universe*; [C] Sesto (It), *Tracing cosmic evolution with galaxy clusters*; [I] Vulcano (It), *Chemical Enrichment of ICM and IGM*; [C] Hilo (Hawaii, US), *Astrophysical Ages and Time Scales*;

2000 – [S] ESO Garching (Ge); [S] Un. of Bologna (It); [S] Un. of Padova (It); [C, P] Palermo (It), *X-ray Astronomy 2000*; [P] Paris (Fr), *Constructing the Universe with Clusters of Galaxies*; [C] Leicester (UK), *UK X-ray Astronomy*;

1999 – [S] Un. of Roma 3 (It); [S] Telespazio Roma (It); [P] Santorini (Gr), *Large-scale-structure in the X-ray Universe*; [C] Marseille (Fr), *Clustering at high redshift*; [C] Birmingham (UK), *Workshop on Scaling Relations in Galaxies and Clusters*; [C] Ringberg (Ge), *Diffuse Thermal and Relativistic Plasma in Galaxy Clusters*; [P] Tokyo (Ja), *4th ASCA Symposium*;

1998 – [S] MPE Garching (Ge); [S] CNR Milano (It); [P] Noordwijk (NL), *Science with XMM*; [P] Garching (Ge), *Highlights in X-ray Astronomy*;

1997 – [C] Amsterdam (NL), EADN 10th Summer School on *X-ray Spectroscopy*; [P] Ruidoso (New Mexico, US), *Clusters of galaxies at different redshifts*; [C] Southampton (UK), *NAM 97*;

1996 – [S] IoA Cambridge (UK); [C] Roma (It), *X-ray probing of complex gravitational systems*

SCIENTIFIC PUBLICATIONS (October 2024)

Number of *published papers* (“only articles” in ADS): 388

Number of *refereed papers* (“All refereed articles” in ADS): 276 (normalized: 56; as 1st author: 48)

Number of *research monographs and chapters in collective volumes*: 9

Total *citations in refereed papers* (ADS): 15,060 (as 1st author: 2,480)

Number of papers with >100 citations: 45 (as 1st author: 10)

h-index: 70 (as 1st author: 26); *m-index*: 2.3

Citation Metrics in ADS: all refereed papers; as 1st author

Other bibliometrics available at *Google Scholar*, *ORCID*, *ResearcherID*, *Scopus Author Id*, *AMiner*

Listed in the top Italian scientists of the *Virtual Italian Academy*

(a) Papers in refereed journals

246. [The Three Hundred project: Estimating the dependence of gas filaments on the mass of galaxy clusters](#)
S. Santoni et al. (including **S. Etori**), 2024, A&A in press (arXiv:2405.17239)
245. [CHEX-MATE: Dynamical masses for a sample of 101 Planck Sunyaev-Zeldovich-selected galaxy clusters](#)
M. Sereno et al. (including **S. Etori**), 2024, A&A in press (arXiv:2410.18165)
244. [CHEX-MATE: the intracluster medium entropy distribution in the gravity-dominated regime](#)
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243. [Euclid preparation. Exploring the properties of proto-clusters in the Simulated Euclid Wide Survey](#)
Euclid Collaboration; H. Böhringer et al. (including **S. Etori**), 2024, A&A in press (arXiv:2407.19919)
242. [Euclid. I. Overview of the Euclid mission](#)
Euclid Collaboration; Y. Mellier et al. (including **S. Etori**), 2024, A&A in press (arXiv:2405.13491)
241. [Prospects for \$\gamma\$ -ray observations of the Perseus galaxy cluster with the Cherenkov Telescope Array](#)
K. Abe et al. (including **S. Etori**), 2024, JCAP, 10, 004 (arXiv:2309.03712)
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239. [Can the splashback radius be an observable boundary of galaxy clusters?](#)
T. Lebeau, **S. Etori**, N. Aghanim, J.G. Sorce, 2024, A&A, 689, 19 (arXiv:2403.18648)
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237. [CHEX-MATE: CLUster Multi-Probes in Three Dimensions \(CLUMP-3D\). I. Gas analysis method using X-ray and Sunyaev-Zel’dovich effect data](#)
J. Kim et al. (including **S. Etori**), 2024, A&A, 686, 97 (arXiv:2307.04794)
236. [CHEX-MATE: Robust reconstruction of temperature profiles in galaxy clusters with XMM-Newton](#)
M. Rossetti et al. (including **S. Etori**), 2024, A&A, 686, 68 (arXiv:2402.18653)
235. [CHEX-MATE: A LOFAR pilot X-ray – radio study on five radio halo clusters](#)
M. Balboni et al. (including **S. Etori**), 2024, A&A, 686, 5 (arXiv:2402.18654)
234. [Mapping the Intracluster Medium in the Era of High-resolution X-ray Spectroscopy](#)
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229. [A full reconstruction of two galaxy clusters intra-cluster medium with strong gravitational lensing](#)
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228. [CLASH-VLT: The inner slope of the MACS J1206.2–0847 mass density profile](#)
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226. [CHEX-MATE: X-ray absorption and molecular content of the interstellar medium toward galaxy clusters](#)
H. Bourdin et al. (including **S. Ettori**), 2023, A&A, 678, 181
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224. [Redshift evolution of the baryon and gas fraction in simulated groups and clusters of galaxies](#)
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223. [CHEX-MATE: Constraining the origin of the scatter in galaxy cluster radial X-ray surface brightness profiles](#)
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219. [CHEX-MATE: Pressure profiles of six galaxy clusters as seen by SPT and Planck](#)
F. Oppizzi, F. De Luca, H. Bourdin, P. Mazzotta, **S. Ettori** et al., 2023, A&A, 672, 156 (arXiv:2209.09601)
218. [The Planck clusters in the LOFAR sky. III. LoTSS-DR2: Dynamic states and density fluctuations of the intracluster medium](#)
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214. [Constraints on dark matter self-interaction from the internal density profiles of X-COP galaxy clusters](#)
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211. [The gravitational field of X-COP galaxy clusters](#)
D. Eckert, **S. Ettori**, E. Pointecouteau, R. F. J. van der Burg, S. I. Loubser, 2022, A&A, 662, 123 (arXiv:2205.01110)
210. [The Three Hundred project: The GIZMO-SIMBA run](#)
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209. [The XXL Survey - XLVIII. X-ray follow-up of distant XXL clusters: Masses, scaling relations and AGN contamination](#)
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207. [HSC-XXL: Baryon budget of the 136 XXL Groups and Clusters](#)
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D. Wittor, **S. Ettori**, F. Vazza, K. Rajpurohit, M. Hoeft, P. Domínguez-Fernández, 2021, MNRAS, 506, 396 (arXiv:2106.08351)
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196. [Iron in X-COP: tracing enrichment in cluster outskirts with high accuracy abundance profiles](#)
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194. [Comparing different mass estimators for a large subsample of the *Planck*-ESZ clusters](#)
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K. Umetsu et al. (including **S. Ettori**), 2020, *ApJ*, 890, 148 (arXiv:1909.10524)
182. [XXL Survey groups and clusters in the Hyper Suprime-Cam Survey. Scaling relations between X-ray properties and weak lensing mass](#)
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