

# Stefano Etori

Primo Ricercatore at INAF–Astrophysics and Space Science Observatory in Bologna

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## RESEARCH ACTIVITY

I work on the formation and evolution of Groups and Clusters of Galaxies, focusing my activities 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: • **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; • CLUster Multi-Probes in Three Dimensions (**CLUMP-3D**), will exploit rich data-sets to infer unbiased measurements of mass distribution, the intrinsic shape and the equilibrium status of galaxy clusters; • **XMM Heritage Cluster Project**, that, with 3 Msec *XMM-Newton* observing time obtained in the 2017 call (PI: M. Arnaud & S. Etori), will analyze the ultimate sample of 118 *Planck* SZ-selected objects, comprising an unbiased census of both the population of clusters at the most recent time ( $z < 0.2$ ) and the most massive objects to have formed thus far in the history of the Universe, to study the culmination of cosmic structure formation.

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## EMPLOYMENT

<b>2016-present</b>	Primo Ricercatore at INAF-OAS, Bologna (It)
<b>2008-present</b>	Research Associate at INFN, Gruppo 4 – <i>INDARK</i> , Bologna (It)
<b>2017-2023</b>	Italian Scientific Qualification/Habilitation as Full Professor
<b>2004-2016</b>	Researcher at INAF-OA, Bologna (It)
<b>2013-2019</b>	Italian Scientific Qualification/Habilitation as Associate Professor
<b>2001-2004</b>	Fellow at ESO, Garching (Germany)
<b>1998-2001</b>	Research Associate at IoA, Cambridge (UK)
<b>1995-1998</b>	PhD student at Institute of Astronomy, Cambridge (UK)
<b>1994-1995</b>	<i>Associate</i> for 10 months at ESO, Garching (Germany)
<b>1993</b>	one-year Civil Service at the cultural association <i>ARCINOVA</i> in Milano, involved particularly in the activity of the literary agency <i>ICRA</i>
<b>1987-1994</b>	tutor of high-school students in Mathematics, Physics and Chemistry

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## EDUCATION

<b>Ph.D.</b>	1995-98	Institute of Astronomy and Churchill College, Cambridge (UK)
<b>Degree</b>	1993	Physics
<b>University</b>	1989-93	Physics, State University of Milano (Italy)
	1986-88	Electronic Engineering, Polytechnic of Milano (Italy)
<b>Diplome</b>	1986	Humanities Studies (Liceo Classico) <i>G. Berchet</i> , Milano (Italy)

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## AWARDS, HONORS & VISITS:

- **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).

## PROFESSIONAL ACTIVITY

### INTERNATIONAL COLLABORATIONS:

- *Athena* (ESA Large) mission, [co-chair of the Topical Panel SWG 1.2](#) on “Astrophysics of galaxy groups and clusters”; member of the *X-IFU* Science Advisory Team (2018-present); member of the ESO-*Athena* Synergy Team ([EAST](#)); previously, responsible for galaxy clusters science for *EDGE-Xenia* (ESA Medium) mission
- *Euclid* (ESA Medium) mission, member of Clusters Science Working Group
- *X-COP*, col;
- *CLASH-VLT*, col; [CLASH](#), external collaborator;
- *CLUMP-3D*, col;
- *XXL*, member
- *SKA*, co-author of the White Papers
- 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:

- Time Allocation Committees (TAC): panel chair for *Chandra* (2017, 2014); panel member for *XMM-Newton* (4 times), *Chandra* (4 times), *ESO* (2 times); external Reviewer for *Subaru* (2 times) and *TNG*
- Review panel member for: NASA Astrophysics Data Analysis Program (2015, 2014: Chair; 2013: external panelist); NASA Postdoctoral Program (2016-present); Austrian Science Fund; GIF German-Israeli Foundation for Scientific Research and Development; Estonian Research Council; Israel Science Foundation
- Scientific Organizing Committees (SOC): organizer of [Preparing the science of galaxy clusters & WHIM with Athena](#), the meeting of the *Athena* SWG1, Sesto (It), January 8-12 2018; member at [Galaxy Clusters across cosmic time](#), June 10-13 2017; organizer of [CLUSTER1](#), the 1st Italian meeting on galaxy clusters, Torino (It), February 27-March 1, 2017; director of the PhD School of Astrophysics *Francesco Lucchin on The Hot and Energetic Universe through high-resolution spectroscopy*, Bertinoro (It), September 18-23, 2016; chair & organiser of the [Symposium S06](#) on “Exploring the outskirts of galaxy clusters” at EWASS 2016; chair & organiser of [The mass profiles of galaxy clusters from the core to the outskirts](#), Madonna di Campiglio (It), 2013; member at [Cosmology with Galaxy Clusters in the XXI Century](#), Madrid (Sp), 2014; member at *Half a century of X-ray Astronomy*, Mykonos (Gr), 2012
- Referee for scientific journals (A&A, AJ, ApJ, Ap&SS, MNRAS, PASJ, MDPI-Universe)
- Editor of a special issue of the journal “Galaxies” on [“Exploring the Outskirts of Galaxy Clusters”](#) (2016)
- Member of the Editorial Board of [Galaxies](#) journal (2017-present)
- Member of the Editorial Board of *ISRN Astronomy and Astrophysics* journal (2010-2012)
- Member of the International Astronomical Union (2006-present; Division D and J)
- Member of Ph.D. thesis committees (2014: Universidad Autónoma de Madrid, Sp; 2011: University of

Copenhagen, Dk)

- Member of committees selecting 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 steering committee (“Consiglio di Struttura”) at INAF-Observatory Bologna (2016-2018)
- Organizer of the “Thursday Seminars” at the Observatory/University in Bologna (2005-2010)
- Book reviewers 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:**

- tutor for INAF AstroFIt (fellow: C. Fedeli, 2013-2015); responsible for Post-Docs at OABo (present: Dr. M. Roncarelli, Dr. M. Sereno; past: Dr. A. Baldi, Dr. A. Donnarumma, Dr. F. Gastaldello, Dr. M. Gitti, Dr. E. Rasia, Dr. J.C. Waizmann)
- primary advisor for 4 PhD students (2015-now: Vittorio Ghirardini, as awarded INAF PhD 2015; 2008-2012: Cristiano De Boni; 2007-2009: Annamaria Donnarumma; 2006-2008: Andrea Morandi); and for undergraduate students (3 in 2006, 1 in 2008, 1 in 2011, 2 in 2012, 2 in 2014, 2 in 2017) 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 (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:** 9 hrs [PI, Winter 17]; **XMM-Newton:** 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:** 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:** 31h [col, Cycle 27]; 57h [col, Cycle 26].

## FUNDING:

National and local PI of national and international programs funded with more than 945,000 Euros.

- *2018 Call for financial support to organize Team meetings at the International Space Science Institute (ISSI) (28 kCHF): Team-leader* of an international collaboration working on *XMM Heritage Cluster Project*
- *ASI-INAF n.2017-14-H.0 (2017: 60.0 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: 24.0 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: 33.0 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: 57.0 kEUR; col)* to support the analysis of archival data from *NuSTAR*
- *PRIN-INAF (2012: 151.0 kEUR; local PI)* on *A unique dataset to address the most compelling open questions about X-ray Galaxy Clusters* proposing to exploit an unprecedented wealth of data targeting several unresolved questions in cluster physics;
- *PICS (2012: 15.0 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);
- *2010 Call for financial support to organize Team meetings at the International Space Science Institute (ISSI) (25 kCHF): Team-leader* of an international collaboration working on *Astrophysics and Cosmology with Galaxy Clusters: the X-ray and Lensing view* that has obtained full financial support within the activities at ISSI in Bern (CH);
- *contract ASI-INAF I/023/05/0 & I/009/10/0 (2005: 147.0 kEUR, 2006: 70.0 kEUR, 2010: 143.0 kEUR; local PI)* on *Clusters of Galaxies in X-rays* focusing on: (i) a detailed study of the physics of the ICM in nearby clusters; (ii) the study of average cluster properties and their evolution with redshift;
- *contract ASI I/088/06/0 (2007: 60.0 kEUR, 2008: 90.0 kEUR, 2009: 75.0 kEUR; national PI)* on *Tracing the evolution of the physical properties in X-ray galaxy clusters* aiming to exploit the great deal of information contained in the Chandra and XMM-Newton archives to provide a consistent general picture of the physics of the ICM and its evolution with the cosmic time;
- *PRIN-INAF (2009: 75.0 kEUR; col)* on *Weighing galaxy clusters with strong and weak lensing* proposing to carry out an extensive study on the mass distribution in galaxy clusters from the outskirts to their inner regions;
- *Chandra Archival Proposal AO11 (2009: 55.0 kUSD; col)* on *What are those clusters that do not have a radio halo?* in which we propose to analyze Chandra archival data of  $\sim 30$  X-ray luminous clusters between  $z = 0.2 - 0.4$  that constitute our GMRT radio halo survey; the grant supported a post-doc at CfA for 6 months that completed the work published in Cassano, Ettori et al. (2010 ApJL 721 L82);
- *PRIN-INAF (2006: 50.0 kEUR; local PI)* on *Observing and Modelling the Properties of Diffuse Baryons in Clusters of Galaxies* with the main objective to perform a comprehensive study of the physical properties of the ICM in a cosmological context;
- *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  $0.1 < z < 0.7$* ; this grant supported a post-doc at CfA for 6 months that completed the work published in Baldi, Ettori et al. 2007 ApJ 666 835);
- *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):

2018 –

- [I] Sesto (It), [Multiphase AGN Feeding & Feedback](#);
- [I] Guntersville (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), [High Energy Phenomena Seminar, 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 Clus-](#)

ters: *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 (May 2018)

Number of *published papers* (“only articles” in ADS): 266

Number of *refereed papers* (“All refereed articles” in ADS): 167 (as 1st author: 40)

Number of *research monographs and chapters in collective volumes*: 5

Total number of citations for *refereed papers* (ADS): 7572 (normalized: 1566; as 1st author: 1876)

Number of papers with > 100 citations: 19 (as 1st author: 6)

*h-index*: 46 (normalized: 20; as 1st author: 22)

Other bibliometrics available at [Google Scholar](#), [ORCID](#), [ResearcherID](#)

Listed in the top Italian scientists of the [Virtual Italian Academy](#)

### (a) Papers in refereed journals

158. “Gravitational lensing detection of an extremely dense environment around a galaxy cluster”  
M. Sereno, Carlo Giocoli, Luca Izzo, Federico Marulli, Alfonso Veropalumbo, Stefano Ettori, et al.,
157. “The XXL Survey: XXIII. The Mass Scale of XXL Clusters from Ensemble Spectroscopy”  
A. Farahi, V. Guglielmo, A. E. Evrard, B. M. Poggianti, C. Adami, **S. Ettori** et al., 2018, A&A in press (arXiv:1711.07066)
156. “The XXL Survey: XXII. The XXL-North spectrophotometric sample and galaxy stellar mass function in X-ray detected groups and clusters”  
V. Guglielmo, B.M. Poggianti, B. Vulcani, C. Adami, F. Gastaldello, **S. Ettori** et al., 2018, A&A in press (arXiv:1710.04667)
155. “Radio-continuum surveys with SKA and LOFAR: a first look at the perspectives for radio mini-halos”  
M. Gitti, G. Brunetti, R. Cassano, **S. Ettori**, 2018, A&A in press (arXiv:1806.05751)
154. “New Interpretation of the mass–temperature relation and mass calibration of galaxy clusters based on the fundamental plane”  
Y. Fujita, K. Umetsu, **S. Ettori**, E. Rasia, N. Okabe, M. Meneghetti, 2018, ApJ in press (arXiv:1804.05070)
153. “Probing Cosmology with Dark Matter Halo Sparsity Using X-ray Cluster Mass Measurements”  
P.S. Corasaniti, **S. Ettori**, Y. Rasera, M. Sereno, S. Amodeo, M.-A. Breton, V. Ghirardini, D. Eckert, 2018, ApJ in press (arXiv:1711.00480)
152. “CLUMP-3D: Three-dimensional Shape and Structure of 20 CLASH Galaxy Clusters from Combined Weak and Strong Lensing”  
I.-N. Chiu, K. Umetsu, M. Sereno, **S. Ettori**, M. Meneghetti, J. Merten, J. Sayers, A. Zitrin, 2018, ApJ, 860, 126 (arXiv:1804.00676)
151. “The Projected Dark and Baryonic Ellipsoidal Structure of 20 CLASH Galaxy Clusters”  
K. Umetsu, M. Sereno, S.-I. Tam, I.-N. Chiu, Z. Fan, **S. Ettori**, et al., 2018, ApJ, 860, 104 (arXiv:1804.00664)
150. “CLUMP-3D. Testing  $\Lambda$ CDM with galaxy cluster shapes”  
M. Sereno, K. Umetsu, **S. Ettori**, J. Sayers, I.-N. Chiu, M. Meneghetti, J. Vega-Ferrero, A. Zitrin, 2018, ApJ, 860L, 4 (arXiv:1804.00667)
149. “The XMM Cluster Outskirts Project (X-COP): Thermodynamic properties of the Intracluster Medium out to  $R_{200}$  in Abell 2319”  
V. Ghirardini, **S. Ettori**, D. Eckert, S. Molendi, F. Gastaldello, E. Pointecouteau, G. Hurier, H. Bourdin, 2018, A&A, 614, 7 (arXiv:1708.02954)
148. “Shaken Snow Globes: Kinematic Tracers of the Multiphase Condensation Cascade in Massive Galaxies, Groups, and Clusters”

- M. Gaspari, M. McDonald, S. L. Hamer, F. Brighenti, P. Temi, M. Gendron-Marsolais, J. Hlavacek-Larrondo, A. C. Edge, N. Werner, P. Tozzi, M. Sun, J. M. Stone, G. R. Tremblay, M. T. Hogan, D. Eckert, **S. Ettori**, H. Yu, V. Biffi, S. Planelles, 2018, ApJ, 854, 167 (arXiv:1709.06564)
147. “Mass distribution in the core of MACS J1206: robust modeling from an exceptionally large sample of central multiple images”  
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