

Contact Information	INAF-Osservatorio Astronomico di Trieste Via G. Tiepolo, 11 34131 Trieste - Italy	<i>Tel:</i> +39-040-3199-159 <i>E-mail:</i> jsantos@oats.inaf.it
Personal Data	Date of Birth: January 28th 1980 Nationality: Portuguese	
Current Position	<b>Oct. 2008 - present</b> Post-doctoral researcher at INAF - Osservatorio Astronomico di Trieste, Italy, in the group of galaxy evolution and cosmology. Supervisor: Dr. Paolo Tozzi.	
Education	<p><b>Sept. 2005 - Sept. 2008</b> <i>Doctor rerum naturalium</i> obtained at the Ludwig-Maximilians Universität and the Max Planck Institut fuer Extraterrestrische Physik (MPE), München, Germany, (<i>magna cum laude</i>), within the scope of the International Max Planck Research School in Astrophysics. <i>Dissertation Title:</i> The baryonic content of distant X-ray galaxy clusters <i>Thesis supervisors:</i> Prof. Dr. Hans Böhringer (MPE), Dr. Piero Rosati (ESO)</p> <p><b>Sept. 2001 - July 2002</b> <i>Erasmus</i> study program, Facultat de Fisica da la Universitat de Barcelona, Spain</p> <p><b>Sept. 1997 - July 2002</b> Degree in Physics, Faculdade de Ciências da Universidade de Lisboa (FCUL), Portugal</p>	
Research Interests	<p><i>X-ray &amp; Optical Studies of Distant Galaxy Clusters - Galaxy Formation &amp; Evolution</i></p> <ul style="list-style-type: none"> <li>• Team member of the <i>XMM-Newton Distant Cluster Project</i>. Main task: optical follow-up of cluster candidates (observe at the ESO/NTT and reduce optical/NIR imaging data)</li> <li>• Team member of the proposed mission <i>Wide Field X-ray Telescope</i>. Main task: perform simulations of clusters using the cloning technique</li> </ul>	
Professional Experience	<p><b>Oct. 2003 - Sept. 2005 at ESO</b>, Garching, Germany Traineeship in Adaptive Optics. Participation in the integration, assembly and testing of the Multi Conjugate Adaptive Optics Demonstrator (MAD), to be operated at the ESO/VLT.</p> <p><b>Oct. 2002 - Sept. 2003 at FCUL</b>, Lisboa, Portugal Scientific Research Grant to perform optical system studies for the project <i>Construction and validation of the CAMCAO camera for the ESO/VLT</i>.</p>	
Publications	<p><b>2010 J.S.Santos</b>, P.Tozzi, P.Rosati, H. Böhringer, <i>The evolution of cool core clusters</i>, A&amp;A, in press</p> <p><b>2010</b> V. Strazzullo, P.Rosati, M. Pannella, R. Gobat, <b>J.S.Santos</b>, M. Nonino, R. Demarco, C. Lidman, M. Tanaka, C. R. Mullis, C. Nunez, A. Rettura, M. J. Jee, H. Boheringer, R. Bender, R. J. Bouwens, K. Dawson, R. Fassbender, H. Ford, M. Franx, M. Postman, , <i>Cluster galaxies in XMMU J2235-2557: galaxy population properties in most massive environments at <math>z \sim 1.4</math></i>, ApJ, in press</p> <p><b>2010</b> R.Fassbender; J.Kohnert; <b>J.S.Santos</b>; G.W.Pratt; H.Boehringer; P.Rosati; G.Lamer; A.Schwope; <i>Global Multiwavelength properties of the massive galaxy cluster XMMU J1230.3+1339 at <math>z=0.975</math></i>, submitted to A&amp;A</p>	

- 2010** A.D. Schwobe; G. Lamer; A. de Hoon; J. Kohnert; H. Böhringer; J.P. Dietrich; R. Fassbender; J. Mohr; M. Muehleger; D. Pierini; G.W. Pratt; H. Quintana; P. Rosati; **J.S. Santos**; and R. Suhada; *XMMUJ100750.5+125818: A strong lensing cluster at  $z = 1.082$* , A&A, 513, 10
- 2009** P.Rosati; P.Tozzi; R.Gobat; **J.S.Santos**; M.Nonino; R.Demarco; C.Lidman; C.R.Mullis; V.Strazzullo; H.Böhringer; R.Fassbender; M.Tanaka; K.Dawson; J.Jee; H.Ford; G.Lamer; A.Schwobe; *Multi-wavelength study of XMMU J2235.3-25575: the most massive cluster at  $z > 1$* , A&A, 508, 583
- 2009 J.S.Santos**; P.Rosati; R.Gobat; C.Lidman; K.Dawson; S.Perlmutter; H.Boehringer; I.Balestra; C.R.Mullis; R.Fassbender; J.Kohnert; G.Lamer; A.Rettura; C.Rite; A.Schwobe; *Multiwavelength observations of a rich galaxy cluster at  $z \sim 1$ : The ACS colour-magnitude diagram*, A&A, 501, 49S
- 2009** R.Giacconi; S.Borgani; P.Rosati; P.Tozzi; R.Gilli; S.Murray; M.Paolillo; G.Pareschi; G.Tagliaferri; A.Ptak; A.Vikhlinin; K.Flanagan; M.Weisskopf; A.Bignamini; M.Donahue; A.Evrard; W.Forman; C.Jones; S.Molendi; **J.S.Santos**; Voit, G.; *Galaxy clusters and the cosmic cycle of baryons across cosmic times*, Science White Paper submitted to the US Astro2010 Decadal Survey
- 2008 J.S.Santos**, P.Rosati, P.Tozzi, H. Böhringer, S.Ettori, A.Bignamini, *Searching for Cool Core Clusters at High redshift*, A&A, 483, 35
- 2008** R.Fassbender, H.Böhringer, C.R.Mullis, P.Rosati, A.Schwobe, J.Krohnert, **J.S.Santos**, *Indications for 3 Mpc-scale large-scale structure associated with an X-ray luminous cluster of galaxies at  $z=0.95$* , A&A, 481, L73-L77
- 2008 J.S.Santos**, P.Rosati, P.Tozzi, H.Böhringer, S.Ettori, A.Bignamini, *Cool Core Clusters at redshift  $z > 0.7$ , in the Proceedings of 1st Subaru International Conference: Panoramic Views of Galaxy Formation and Evolution, Hayama, Japan*
- 2007** R. Fassbender, H.Böhringer, **J.S.Santos**, P.Schuecker, G.Lamer, A.Schwobe, C.R.Mullis, J.Krohnert, P.Rosati, H.Quintana, *The XDCP Prospects of Finding Cooling Core Clusters at Large Lookback Times*, in Proceeding of *Heating versus Cooling in Galaxies and Clusters of Galaxies, ESO Astrophysics Symposia, ISBN 978-3-540-73483-3, p. 54*
- 2005** E. Marchetti, R. Brast, B. Delabre, R. Donaldson, E. Fedrigo, C. Frank, N. Hubin, J. Kolb, M. Le Louarn, J.-L. Lizon, S. Oberti, F. Quiros-Pacheco, R. Reiss, **J. Santos**, S. Tordo, E. Vernet, R. Ragazzoni, C. Arcidiacono, P. Bagnara, A. Baruffolo, E. Diolaiti, J. Farinato, M. Lombini, *MAD: practical implementation of MCAO concepts*, in *Comptes Rendus de l'Academie des Sciences, Volume 6, Issue 10, December 2005, pp. 1118-128*

Conferences &  
Astronomy Schools

- 2010** *The future of cosmology with large-scale surveys*, Sesto center for Astrophysics, Italy, (oral contribution)
- 2009** *The Wide Field X-ray Telescope*, Sesto center for Astrophysics, Italy, (oral contribution)
- 2009** *Ibericos - cosmology in Portugal & Spain*, CSIC, Madrid, Spain (oral contribution)
- 2008** *The Cool, Cooler and Cold - Cluster Cooling Flows in a New Light*, Leiden Center, Leiden, The Netherlands (oral contribution)
- 2008** *Modelling the evolution of cosmic structure*, Sesto center for Astrophysics, Italy (oral contribution)
- 2008** *Warm & Hot Universe*, Columbia University, New York, U.S.A. (poster)
- 2007** *1st Subaru International Conference: Panoramic Views of Galaxy Formation and Evolution*, Hayama, Japan (poster)

	<p><b>2007</b> <i>Tracing Cosmic evolution with galaxy clusters</i>, Sesto, Italy (poster)</p> <p><b>2006</b> <i>Heating and Cooling in Galaxies and Clusters</i>, Garching, Germany (poster), LOC</p> <p><b>2006</b> Summer School <i>Galaxy formation and Evolution</i>, Bad Honnef, Germany</p> <p><b>2006</b> Spring School <i>Observing the X-ray sky</i>, Cargese, France (poster)</p> <p><b>2005</b> <i>Distant galaxy clusters</i>, Ringberg Castle, Germany</p> <p><b>2005</b> <i>Open questions in cosmology</i>, MPE/MPA/ESO, Garching, Germany</p>
Seminars	<p><b>2009</b> <i>The cold cores of X-ray Galaxy Clusters</i>, CAUP - Porto and CENTRA - Lisboa, Portugal</p> <p><b>2009</b> <i>The galaxy population of XMM1229 at <math>z \sim 1</math>: the ACS colour-magnitude diagram</i>, INAF-Osservatorio Astronomico di Trieste, Institute seminar, Italy</p> <p><b>2007</b> <i>Investigating the Cool Core fraction at redshift <math>&gt; 0.7</math></i>, Schwerpunkt Meeting (Deutsche Forschungsgemeinschaft), Bonn, Germany</p> <p><b>2007</b> <i>Searching for Cool Core Clusters at high redshift</i>, Frauenwörth Cluster Workshop, Germany</p> <p><b>2006</b> <i>Cloning X-ray galaxy clusters</i>, MPE Theory Group Meeting, Ringberg Castle, Germany</p> <p><b>2005</b> <i>Multi Conjugate Adaptive Optics: A Portuguese traineeship at ESO</i>, Centro de Astrofisica da Universidade do Porto, Portugal</p> <p><b>2004</b> <i>Multi Conjugate Adaptive Optics Demonstrator: Assembly, Integration and Testing</i>, Research &amp; Training Network (RTN) meeting on Adaptive Optics, Lund Observatory, Sweden.</p>
Observational experience	<p><b>2010</b> ESO/La Silla Obs., 4 nights, optical/NIR imaging with EFOSC/SOFI at the NTT</p> <p><b>2007</b> ESO/La Silla Obs., 3 + 4 nights, optical/NIR imaging with EMMI/SOFI at the NTT</p> <p><b>2005</b> Calar Alto Obs., 5 nights, NIR imaging with OMEGA2000 at the 3.5 m telescope</p>
Accepted proposals	<p><b>2010</b> PI of Chandra Cycle 12 program of CLJ1415 at <math>z=1.0</math>, 280 ksec</p> <p><b>2009</b> PI of ESO/SINFONI IFU spectroscopy of XMM2235 at <math>z=1.4</math>, 8 hr</p>
Service	Peer reviewer for Astronomy & Astrophysics since 2009
Software Skills	<p>Programming languages: IDL, Matlab</p> <p>Data analysis: XSPEC, IRAF, MVM, GIM2D, SExtractor, FTools, CIAO</p> <p>Data reduction: X-ray, optical and near-infrared imaging</p>
Language Skills	Portuguese (native), English (fluent), Spanish (fluent), Italian (intermediate)