

SHORT CURRICUUM VITAE OF CRISTIAN VIGNALI

POSITIONS

- Sept. 2014-now: Associate Professor, University of Bologna
- Jan. 2005-Sept. 2014: researcher, University of Bologna
- June 2004-Jan. 2005: post-doctoral fellow, University of Bologna
- April 2003-May 2004: post-doctoral fellow, Osservatorio Astronomico di Bologna
- April 2001-March 2003: post-doctoral scholar, The Pennsylvania State University
- Dec. 2000-March 2001: post-doctoral fellow, Osservatorio di Bologna
- Feb. 2001: PhD in Astronomy, University of Bologna
- July 1996: Laurea Degree in Astronomy, University of Bologna (110/110 cum laude)

SUPERVISION OF STUDENTS, POST-DOC FELLOWS & TEACHING

- Supervisor of about 40 master thesis students since 2013; supervisor/co-supervisor of about 10 PhD students and one postdoc.
- Lecturer for Active Galaxies (2020); High-energy Astrophysics (2009-2019); Winter School in X-ray data analysis at Fudan University (Shanghai, Jan. 2018); Astrophysics Laboratory (since 2005);
- Assistance in lab for Physics for Biology (2014-2020); Physics Experiments II (2004-2010); Physics Experiments I (2011); Calculation for Astronomy (2009); Programming elements I (2008); Programming elements III (2007); Elements of computer Science (2006).
- Professionalizing activities (2011-2015, 2020).

INSTITUTIONAL RESPONSIBILITIES

- Member of the committee for the evaluation of bachelor degree in Astronomy for about 10 years.
- Member of the committee for the evaluation of 2nd Cycle degree (Laurea Magistrale) in Astrophysics and Cosmology since 2017.
- Member of the PhD Council in Astrophysics.
- Member of the committee for the evaluation of the Erasmus student program.
- Member of the committee for the evaluation of the admissions of students to the Laurea Magistrale in Astrophysics and Cosmology.
- Member of the "Giunta" of the Physics and Astronomy Department (2015-2017).
- Member of the School of Science at the University of Bologna (2016-2017).
- Organizer of the internal seminars (2009-2016).

COMMISSIONS OF TRUST (peer reviewer + telescope/numerical time)

- Regular referee for ApJ, AJ, MNRAS, A&A, New Astronomy, EXPA.
- Referee for X-ray (XMM-Newton, Chandra, NuSTAR) and optical (OPTICON, GTC) proposal evaluation.
- Referee for FIRB proposals, for the Flanders Research Foundation post-doctoral fellowships, for the FONDECYT post-doctoral fellowships, and for the Rita Levi Montalcini fellowships.
- Member of the "High-redshift Universe" panel for the NASA mission Constellation-X.

- Among the co-Is of the XEUS proposal for the ESA Cosmic Vision (future missions) and then for Athena+ proposal.
- Member of the science WGs on "Formation and early growth of black holes" and "Accretion through cosmic time" in Athena.
- Member of the Euclid Science WP8 ("Multi-wavelength synergies") and WP9 ("Type 1 and 2 AGN").
- Member of the Lynx WG on large-scale structure and High-redshift Universe.
- Italian AGN deputy of the XMM-XXL Survey, and co-chair of the XXL AGN WG; member of the XXL-HSC joint WG
- Co-chair of the TWP2 SPICA package on "Synergies with Athena".
- Member of the MOONS collaboration and LISA consortium.
- Member of the committee for the definition of the regulations for the newly born DIFA in 2012.
- Member of the committee for the evaluation of PhD candidates in Astrophysics in Bologna (twice).
- Member of the committee for the final evaluation of PhD students at the Universitat de Barcelona (2019).
- Member of the committee for the final evaluation of PhD students in Florence (2019).
- Member of the committee for evaluation of PhD candidates in Physics at Ferrara (2017).
- Member of the committee for a tenure-track position at Roma Tre University (2017).
- Member of the committee for the final evaluation of PhD students in Milano-Bicocca (three times).
- External referee for PhD thesis for the Rome Tre University (three times).
- External referee for PhD thesis for the University of Florence (once).
- External referee for PhD thesis for Roma Tor Vergata University (twice).

ORGANISATION OF SCIENTIFIC MEETINGS

- Co-chair of the SOC for "X-ray Astronomy 2019. Current Challenges and New Frontiers in the Next Decade" (Bologna, Sept. 2019).
- Co-chair of the LOC for "Views on the Interstellar Medium in galaxies in the ALMA era" (Bologna, Sept. 2019).
- Member of the SOC for the EWASS 2019 SS7 "Dual Nuclei in Late Stage Galaxy Mergers and their Effect on Galaxy Evolution" (Lyon, June 2019).
- Co-organizer of the Workshop at the Lorenz Center "The Quest for Multiple Supermassive Black Holes: A Multi Messenger View" (Leiden, Nov. 2017).
- Member of the SOC for the XXL 2017 meeting (St-Jakut, Oct. 2017).
- Member of the SOC for the EWASS 2016 SS05 "A multi-messenger view of mergers and multiple SMBHs" (Athens, July 2016).
- Member of the SOC for the conference "Hot spots in the XMM sky: cosmology from X-ray to radio" (Mykonos, June 2016).
- Member of the SOC for the XXL 2016 meeting (Mykonos, June 2016).
- Member of the SOC for the XXL 2015 meeting (Mljet, June 2015).
- Member of the LOC for the NuSTAR meeting 2015 (Bologna, March 2015).
- Member of the SOC for the XXL 2014 meeting (Sexten, June 2014).
- Member of the LOC for the Workshop "Whereabouts, Physical State and Metallicity of the Missing Baryons in the Local Universe" (Cervia, May 2012).

- Member of the LOC for the 9th AGN conference "Black Hole and Revelation" (Ferrara, May 2010).
- Member of the SOC+LOC for the "X-ray Astronomy 2009. Present status, multi-wavelength approach and future perspectives" (Bologna, Sept. 2009).
- Organizer of internal cycles of seminars for PhD students: "Physical properties of AGN", 2010; "Missing baryons", 2011; "Accretion onto compact objects and its role in shaping galaxies", 2013; "The high-redshift Universe, and the role of galaxies and AGN to cosmic reionization", 2015; "A multi-wavelength view of the Galactic Center, 2017".
- Member of the LOC for the PhD School of Astrophysics "Francesco Lucchin" held in Bertinoro (Sept. 2016).

NATIONAL AND INTERNATIONAL GRANTS

- PRIN INAF 2019: "Piercing through the clouds: a multiwavelength study of obscured accretion in nearby supermassive black holes" (██████████).
- PRIN MIUR 2017: "Black hole winds and the baryon life cycle of galaxies: the stone-guest at the galaxy evolution supper" (██████████).
- ASI grant Studi di Astrofisica delle Alte Energie e di Fisica Astroparticellare (2019): "Supermassive Black Hole Winds in X-rays" (██████████); "Looking for Super Massive Black Hole Binary systems" (██████████).
- ASI grant for SPICA Phase A study (██████████).
- ASI-NARO18 (NuSTAR): "Constraining the disk-corona and nuclear absorption properties in AGN with NuSTAR" (██████████).
- ASI grant Studi di Astrofisica delle Alte Energie e di Fisica Astroparticellare (2017-2018): "STAR-X: the next generation of X-ray imaging surveys" (██████████); "Probing AGN feedback in the most luminous QSOs at cosmic noon" (██████████); "Quasars at High-Redshift: Physics and Cosmology" (██████████).
- Bando SKA-CTA 2016: "Probing particle acceleration and Gamma-ray propagation with CTA and its precursors" (██████████); FORMation and Evolution of Cosmic STRUCTures (FORECaST) with Future Radio Surveys" (██████████).
- ASI-NARO16: "An unprecedented look at AGN by NuSTAR broad-band X-ray spectroscopy" (██████████).
- ASI-NARO15: "Fire under ice: the central engine of the most luminous, dust-obscured AGN" (██████████).
- PRIN INAF 2014: "Windy black holes probing galaxy evolution" (██████████).
- ASI grant: "Probing the X-ray absorber structure in Mrk915 through fast spectral variability" (██████████).
- NASA grant for Cycle 15 Chandra accepted proposal as PI.
- FARB 2012: "Osservazioni radio Bologna-Tokyo per lo studio dei SMBH nei nuclei delle galassie attive" (██████████).
- PRIN 2010: "The dark Universe and the cosmic evolution of baryons: from current surveys to Euclid" (██████████).
- PRIN-INAF 2011: "Black hole growth and AGN feedback through cosmic time".
- ASI grant: "IXO in the Cosmic Vision".
- ASI-INAF I/009/10/0: "Physics and morphology of Active Galactic Nuclei" (unit coordinator).

- ASI-INAF I/088/06/0: "Accretion processes in nearby and distant radio-quiet AGN and QSOs" (unit coordinator).
- ASI-INAF I/23/05/0: "Accretion and ejection in AGN" (unit coordinator).
- ASI-INAF COFIS: "Analisi dati nel contesto dello studio di cosmologia di strutture formate".
- PRIN 2006: "L'evoluzione cosmologica, le proprietà fisiche e la demografia dei buchi neri supermassicci".
- PRIN 2003: "La storia dell'accrescimento nell'Universo studiata nella banda X".
- NASA financial support for two Chandra approved programs as PI (2000-2011).
- PRIN 2000: "Oscureamento e riprocessamento nella storia cosmica dei nuclei galattici attivi".

BRIEF OUTLINE OF RESEARCH ACTIVITY

As August, 2021:

- 330 referred papers (24 as first author), 23 referred proceedings (4), 78 proceedings (21).
- About 17500 citations, H-index=68.
- 54 oral contributions (nine as invited).
- Many successful proposals as PI, mostly in X-rays.
- Main expertise (including multi-wavelength data reduction, analysis and interpretation) in the following fields:
 - Properties of high-redshift AGN and their evolution across cosmic time.
 - X-ray spectral studies and characterization of local AGN and investigation of their multi-wavelength properties.
 - Search for obscured AGN through X-rays, mid-IR and optical diagnostics.
 - Bolometric luminosity, Eddington ratio and BH mass estimates in Type 1 and Type 2 AGN.
 - Spectral energy distributions of AGN: accretion vs. star formation. Properties of the obscuring medium.
 - Feedback in AGN: the role of X-ray outflowing winds.
 - Dual and multiple AGN systems at low and high-redshift.