Emanuele Nardini

Curriculum Vitae

Personal and Contact Details

Date and Place of Birth: 21 September 1980, Firenze (Italy)

Nationality: Italian

Present Address: INAF – Arcetri Astrophysical Observatory, Largo Enrico Fermi 5, 50125 Firenze, Italy

E-mail: enardini@arcetri.astro.it

Telephone: +39 055 2752234

Current Position

Marie Skłodowska-Curie Fellow at INAF – Arcetri Astrophysical Observatory, under the Horizon 2020 Marie Skłodowska-Curie Actions COFUND programme *AstroFIt2* *(since 1 December 2016)*

Research Interests

• High-energy processes associated to supermassive black hole accretion in Active Galactic Nuclei • Determination of the physical properties and structure of the AGN environment through time- and space-resolved X-ray spectroscopy • X-ray reflection, relativistic features, and black-hole spin measurements • AGN outflows and feedback • AGN/starburst interplay and evolutionary trends • Galaxy mergers, Ultraluminous Infrared Galaxies, identification of Compton-thick AGN candidates

Research Experience and Education

- STFC Post-doctoral Research Associate – Astrophysics Group, School of Physical and Geographical Sciences, Faculty of Natural Sciences, Keele University, UK *(November 2012–November 2016)*
- Smithsonian Astrophysical Observatory Post-doctoral Fellow – High Energy Astrophysics Division, Harvard-Smithsonian Center for Astrophysics, USA *(April 2011–September 2012)*
- Internship as visiting Ph.D. student – X-ray Astronomy Group, Institute of Astronomy, University of Cambridge, UK *(February–November 2010)*
- INAF Collaboration Grants – Extragalactic Group, Arcetri Astrophysical Observatory, Italy *(March–August 2007, February–March 2011)*
- Ph.D. in Astronomy – Università degli Studi di Firenze, Italy *(11 March 2011)*

  Topic: *Reprocessing of AGN radiation: from galactic to accretion disc scales*
  Advisor: Dr. Guido Risaliti **Supervisor:** Prof. Alessandro Marconi

- Master degree in Physics – Università degli Studi di Firenze, Italy *(23 January 2007)*

  Topic: *The energy source of ultraluminous infrared galaxies*
  Advisor: Dr. Guido Risaliti **Supervisor:** Prof. Franco Pacini

Scientific Activities

- Member of the Science Working Groups 3.2 *(AGNs)* and 4.2 *(Strong gravity)* for the ESA M4 mission candidate *XIPE* – X-ray Imaging Polarimetry Explorer *(since 2015)*
- *Chandra X-ray Observatory* cycle 17 Peer Review, *AGN & surveys* panel *(23–24 June 2015)*

- Member of the Science Working Groups 2.3 *(Feedback in local AGN and star forming galaxies)* and 2.4 *(The close environments of supermassive black holes)* for the selected ESA L2 mission *Athena* – Advanced Telescope for High-ENergy Astrophysics *(since 2015)*
- Referee for *Astronomy & Astrophysics*, *The Astrophysical Journal* and *Monthly Notices of the Royal Astronomical Society* *(since 2010)*

Publications

• 31 papers on journals with peer-review process, of which 12 as lead author and 5 as second author • 684 peer-reviewed citations • 9 papers with >25 citations • *h-index* = 13, first-author *h-index* = 8.

Accepted Proposals

As Principal Investigator

- A broad iron-K emission line and an outflow at $z \sim 1$?, *XMM–Newton* cycle 16, 120 ks *(2016)*
- Nuclear obscuration in the AGN merger NGC 6240, *NuSTAR* cycle 1, 3×20 ks *(2014)*
- Probing the nature of the X-ray continuum in the quasar MR 2251−178, *XMM–Newton* cycle 14, joint programme with *NuSTAR*, 4×25 ks *(2014)*
- The contribution of Compton-thick AGN/ULIRGs to the X-ray background, NASA Astrophysics Data Analysis Program, 29000 USD *(2012)*
- The physical structure of Compton-thick AGN/ULIRGs, *Suzaku* cycle 7, 150 ks *(2011)*

As co-Investigator (most recent only)

• The first X-ray view of Ton 28, *XMM–Newton* 85 ks (PI: Lusso, 2016) • The variability of the intrinsic continuum and disk wind in the luminous quasar PDS 456, *Swift* 40×3 ks (Braito, 2016) • Communicating the energy: coupling nuclear power and molecular gas in PDS 456, *ALMA* 7.2 hr (Piconcelli, 2016) • The hard X-ray view of the prototype disk wind quasar PDS 456, *NuSTAR* 180 ks (Reeves, 2015) • Solving the origin of the hard X-ray excess in the narrow lined Seyfert 1, Ton S180, *NuSTAR* 120 ks + *XMM–Newton* 30 ks (Matzeu, 2015) • Extreme reflection in the Complex narrow line Seyfert 1 AGN PG 1535+547, *NuSTAR* 150 ks + *XMM–Newton* 100 ks (Walton, 2015) • UV to hard X-ray spectroscopy of the prototype disk wind quasar, PDS 456, *XMM–Newton* 2×80 ks + *HST* 2 orbits (Reeves, 2015)

Talks, Seminars, Teaching and Outreach (selection)

• *Discovery of transient iron fluorescence in the bare Seyfert Ark 120*, Breaking the Limits – Super-Eddington accretion onto compact objects, 19–23 September 2016, Arbatax (contributed talk) • *PDS 456: Looking at the onset of AGN feedback*, Demographics and environment of AGN from multi-wavelength surveys, 21–24 September 2015, Chania (contributed talk) • *Winds and feedback from Active Galactic Nuclei*, British Astronomical Association Autumn Weekend Meeting, 5 September 2015, Rutherford Appleton Laboratory (invited lecture) • Interview in the Radio3 Scienza episode *Hole of Fame*, 20 February 2015 • *FHEQ Level 4 Maths tutorials*, Keele University, 2014–2016 • *Observational evidence of general relativity effects in AGN*, Heraeus Summer School *Space, Time and Gravitation: the case of Active Galactic Nuclei*, 1–6 September 2014, Padova (invited lecture) • *High energy processes around SMBHs: an X-ray view*, 4 July 2014, Observatoire Astronomique de Strasbourg (invited seminar) • *The powerful black hole wind in the luminous quasar PDS 456*, The Unquiet Universe, 2–7 June 2014, Cefalù (contributed talk) • *AGN structure at sub-pc scales from X-ray absorption variability*, 7 November 2013, University of Bristol (invited seminar)

Languages

Italian (native), **English** (fluent)