



- RAY ASTRONOMY 2019

Current Challenges and New Frontiers in the Next Decade

8-13 September 2019

CNR/INAF Research Area, Bologna, Italy

SUNDAY, SEPTEMBER 8TH

18.00-20.00 Welcome cocktail - "Sala Tassinari" of Palazzo d'Accursio

MONDAY, SEPTEMBER 9TH

08.30-10.30 Registration and welcome coffee

10.30-11.00 Welcome

11.00-11.20 Opening talk - **G. Hasinger**

MULTI-MESSENGER AND TRANSIENT ASTRONOMY

Chair: G. Ghirlanda

11.20-11.50 **A. Sesana (R)** - *From neutron stars to supermassive black holes: the gravitational wave view of compact binaries*

11.50-12.15 **E. Troja (I)** - *Gamma-ray bursts in the multi-messenger era*

12.15-12.30 **C. Ferrigno (C)** - *INTEGRAL follow-up of the gravitational wave events*

12.30-12.45 **R. Serafinelli (C)** - *Searching for sub-pc supermassive black hole binary candidates in the hard X-rays*

12.45-13.00 **A. Rao (C)** - *Astrometry of Black Hole X-ray Binaries with Gaia DR2: Implications for their formation and evolution*

LUNCH (13.00-14.30)

MULTI-MESSENGER AND TRANSIENT ASTRONOMY

Chair: P. Evans

14.30-14.55 **S. Van Velzen (I)** - *Multi-wavelength observations of tidal disruption flares*

14.55-15.10 **R. Saxton (C)** - *Fast spectral evolution in a new tidal disruption event*

15.10-15.25 **N. Webb (C)** - *Transient sources in the XMM-Newton catalogue*

15.25-15.40 **F.M. Vincentelli (C)** - *Fast IR/X-ray observations from the MAXI new black-transients*

COMPACT AND DIFFUSE SOURCES IN GALAXIES & IN THE GALACTIC CENTER

Chair: S. Mereghetti

15.40-16.10 **G. Ponti (R)** - *X-raying the Milky Way Center*

16.10-16.25 **A. Goldwurm (C)** - *Sgr A* recent past activity from the X-ray echoes propagating in the Central Molecular Zone*

COFFEE BREAK (16.25-16.55)

16.55-17.25 **J. Malzac (R)** - *Accreting black holes in X-ray binaries*

17.25-17.40 **A. Zezas (C)** - *The demographics and formation rate of X-ray binaries in nearby galaxies*

17.40-17.55 **L. Sidoli (C)** - *Investigating Supergiant Fast X-ray Transients within the XMM-Newton EXTraS project*

17.55-18.10 **T. Roberts (C)** - *A new detection of pulsations from an old ULX*

18.10-18.25 **A. Belfiore (C)** - *Diffuse X-ray emission around an ultraluminous X-ray pulsar*

TUESDAY, SEPTEMBER 10TH

**COMPACT AND DIFFUSE SOURCES IN GALAXIES &
IN THE GALACTIC CENTER**

Chair: T. Di Salvo

09.00-09.15 **D. Walton (C)** - *The unusual broadband X-ray continuum variability seen from Ultraluminous X-ray Sources*

09.15-09.30 **M. Middleton (C)** - *Super-critical accretion - the case for jetted ULXs*

09.30-09.45 **P.-O. Petrucci (C)** - *An Accretion-Ejection paradigm for compact objects*

09.45-10.00 **V. Grinberg (C)** - *X-raying stellar winds in high mass X-ray binaries*

10.00-10.15 **P. Kosec (C)** - *A highly ionised disc wind in Hercules X-1*

10.15-10.30 **B. Lehmer (C)** - *X-ray Binary Luminosity Function Scaling Relations for Local Galaxies Based on Subgalactic Modeling*

10.30-10.45 **F. Fornasini (C)** - *Connecting the metallicity dependence and redshift evolution of HMXBs*

10.45-11.00 **J. Svoboda (C)** - *Green Peas - the X-ray brightest star forming galaxies?*

COFFEE BREAK (11.00-11.30)

Chair: V. Sguera

11.30-11.55 **A. Bamba (I)** - *Recent progress on X-ray study of supernova remnants as remnants of supernovae*

11.55-12.10 **V. Dwarkadas (C)** - *Investigating the X-ray Emission from high X-ray Luminosity Supernovae*

12.10-12.35 **K. Mukai (I)** - *X-ray emission from accreting white dwarfs*

12.35-12.50 **D. Rogantini (C)** - *High-resolution X-ray spectroscopy of the interstellar dust*

LUNCH (12.50-14.20)

HOT AND DIFFUSE BARYONS

Chair: M. Gitti

14.20-14.50 **J. Sanders (R)** - X-ray observations of the physics in galaxy clusters

14.50-15.05 **M. Rossetti (C)** - X-raying the Planck legacy: X-ray properties of SZ-selected galaxy clusters

15.05-15.20 **D. Wik (C)** - Heating and Acceleration at Galaxy Cluster Shocks: Insights from NuSTAR

15.20-15.35 **S. Randall (C)** - Exploring the Virialization Region of Merging Galaxy Clusters

15.35-15.50 **A. Botteon (C)** - Shocking news from the ICM

15.50-16.05 **E. O'Sullivan (C)** - Galaxy groups in the local universe: results from a complete sample

COFFEE BREAK (16.05-16.30)

Chair: C. Jones

16.30-17.00 **S. Ettori (R)** - Cosmology with galaxy clusters: the role of X-rays

17.00-17.25 **R. Overzier (I)** - Probing cluster formation from cosmic noon to cosmic dawn

17.25-17.40 **S. Pellegrini (C)** - Hot ISM in early-type galaxies with stellar and AGN feedback: X-ray diagnostics of the origin and evolution of the hot gas

17.40-17.55 **D. Barnes (C)** - Quantitatively defining consistent relaxed galaxy cluster samples for precision cosmology with impending surveys

17.55-18.10 **D.-W. Kim (C)** - Hot Gaseous Halos in Early Type Galaxies

18.10-18.25 **V. Ghirardini (C)** - Mapping the outer regions of high-z clusters combining X-ray and SZ observations

WEDNESDAY, SEPTEMBER 11TH

HOT AND DIFFUSE BARYONS

Chair: A. Finoguenov

09.00-09.25 **F. Nicastro (I)** - *Inter Galactic Medium at high spectral resolution*

09.25-09.40 **T. Connor (C)** - *X-rays from the Cosmic Web: The Case of Abell 133*

09.40-09.55 **M. Li (C)** - *Supernovae-driven Galactic Outflows and the X-ray Emission and Absorption of Hot Circumgalactic Medium*

09.55-10.10 **A. Kolodzig (C)** - *Searching for the hot and diffuse baryons in the Universe via surface brightness fluctuations of cosmic X-ray background*

ACTIVE GALACTIC NUCLEI: I- ACCRETION AND EJECTION PHYSICS

Chair: A. De Rosa

10.10-10.40 **A. Fabian (R)** - *Physics of AGN*

10.40-10.55 **G. Lanzuisi (C)** - *First measurement of coronal properties in two luminous, high-z QSOs*

COFFEE BREAK (10.55-11.25)

11.25-11.40 **J. Kaastra (C)** - *X ray obscurers: bridging the gap between warm absorbers and ultra-fast outflows*

11.40-11.55 **S. Bianchi (C)** - *Evidence for radiation pressure compression in the X-ray narrow-line region of Seyfert galaxies*

11.55-12.10 **F. Panessa (C)** - *Water maser emission in hard X-ray selected AGN*

12.10-12.35 **E. Kara (I)** - *Mapping the disc-corona geometry in accreting black holes*

12.35-12.50 **B. De Marco (C)** - *X-ray variability of Seyfert galaxies during transient obscuration events: the case of NGC 3783*

12.50-13.05 **M. Dovciak (C)** - *Modeling the thermal reverberation in AGN*

LUNCH (13.05-14.30)

ACTIVE GALACTIC NUCLEI: I- ACCRETION AND EJECTION PHYSICS

Chair: E. Torresi

14.30-14.45 **G. Chartas (C)** - Size of the ISCO and hot corona from gravitational lensing

14.45-15.00 **W. Ishibashi (C)** - AGN radiative feedback: the effective Eddington limit for dusty gas

15.00-15.15 **G. Miniutti (C)** - Extraordinary X-ray variability from an intermediate-mass black hole

15.15-15.30 **M. Mehdipour (C)** - Relation between winds and jets in radio-loud AGN

15.30-15.45 **A.L. Longinotti (C)** - Dissecting AGN feedback: the extraordinary multi-phase outflow in the Narrow Line Seyfert 1 IRAS17020+4544

15.45-16.00 **E. Costantini (C)** - The UV-X-ray high-resolution view of outflowing winds in AGN: the case of I Zwicky 1

COFFEE BREAK (16.00-16.20)

ACTIVE GALACTIC NUCLEI: II- DEMOGRAPHY AND COSMIC EVOLUTION

Chair: M. Brusa

16.20-16.50 **D.M. Alexander (R)** - Cosmic X-ray surveys of active galactic nuclei

16.50-17.05 **M. Jones (C)** - A universal model of black hole accretion uncovering AGN in the Cosmic X-ray background

SOCIAL DINNER AT PALAZZO RE ENZO

THURSDAY, SEPTEMBER 12TH

ACTIVE GALACTIC NUCLEI: II- DEMOGRAPHY AND COSMIC EVOLUTION

Chair: M. Brusa

09.15-09.30 **F. Shankar (C)** - Dissecting black hole-galaxy co-evolution from de-biased scaling relations

09.30-09.45 **E. Lusso (C)** - Tension with the LCDM model from a Hubble diagram of quasars

09.45-10.00 **J. Buchner (C)** - Model-independent limits on the abundance of SMBH

10.00-10.15 **L. Zappacosta (C)** - The realm of hyperluminous quasars

10.15-10.30 **M. Gupta (C)** - Comparing radio-loud Swift/BAT AGN with their radio-quiet counterparts

10.30-10.45 **A. Foord (C)** - Quantifying the rate of dual-AGN with BAYMAX

COFFEE BREAK (10.45-11.15)

Chair: F. Carrera

11.15-11.40 **C. Ricci (I)** - Absorption and accretion properties of local Active Galactic Nuclei

11.40-11.55 **P. Boorman (C)** - Resolving X-ray Obscuration Biases with Isotropic AGN Selection - First Results from the NuLANDS Legacy Survey

11.55-12.10 **T. Kawamuro (C)** - A Chandra and ALMA Study of X-ray-irradiated Gas in the Central ~100 pc of the Circinus Galaxy

12.10-12.25 **F. Salvestrini (C)** - Unveiling the intrinsic AGN strength in a 12 micron-selected Seyfert 2 sample

12.25-12.40 **R. Arcodia (C)** - The disk-corona interplay in radiatively-efficient broad-line AGN

12.40-12.55 **V. Masoura (C)** - The dependence of star formation on AGN activity and absorption

12.55-13.10 **O. Gonzalez-Martin (C)** - X-ray variability plane revisited: Role of obscuration

LUNCH (13.10-14.30)

ACTIVE GALACTIC NUCLEI: III – THE COSMIC FRONTIER

Chair: F. Civano

14.30-15.00 **J. Aird (R)** - Formation and growth of the earliest supermassive black holes

15.00-15.15 **N. Cappelluti (C)** - Searching for high-z AGN with Chandra and with future facilities

15.15-15.40 **F. Vito (I)** - High-redshift accreting SMBHs in the X-rays

15.40-15.55 **R. Nanni (C)** - The X-ray properties of the $z \sim 6$ quasars

COFFEE BREAK (15.55-16.25)

FUTURE MISSIONS

Chair: A. Ptak

16.25-16.50 **N. Schartel (I)** - 20 Years XMM-Newton: Scientific Achievements and Perspectives

16.50-17.15 **B. Wilkes (I)** - 20 years of Chandra Science, and a Look Forward to new Science Prospects

17.15-17.35 **A. Merloni (S)** - eROSITA on SRG

17.35-17.50 **L. Burderi (C)** - The HERMES Project: probing space-time quantum foam and hunting for gravitational wave electromagnetic counterparts

17.50-18.05 **K. Mori (C)** - The FORCE mission: a future Japan-lead mission for broadband X-ray imaging spectroscopy with high-angular resolution

18.05-18.20 **K. Hayashida (C)** - Multiple Image X-ray Interferometer Modules (MIXIM) and their scalable mission plans from sub-arcsecond to subsub-arcsecond resolution X-ray images

FRIDAY, SEPTEMBER 13TH

FUTURE MISSIONS

Chair: M. Cappi

09.00-09.20 **K. Nandra (S)** - Athena

09.20-09.40 **M. Tashiro (S)** - XRISM: mission status

09.40-10.00 **M. Weisskopf (S)** - The Imaging X-ray Polarimetry Explorer

10.00-10.20 **L. Amati (S)** - The Transient High-Energy Sky and Early Universe Surveyor (THESEUS)

10.20-10.35 **C. Pinto (C)** - Understanding AGN feedback with XRISM and ATHENA

COFFEE BREAK (10.35-11.00)

11.00-11.20 **A. Valinia (S)** - Future NASA X-ray Astronomy Missions and Concepts

11.20-11.40 **S.N. Zhang (S)** - Current Status and Plan of the enhanced X-ray Timing and Polarimetry (eXTP) Observatory

11.40-12.40 **Round table discussion -**

A. Comastri, C. Kouveliotou (chairs)

G. Fabbiano, F. Fiore, P. Gandhi, C. Norman, A. Simionescu

12.40-13.10 **M. Elvis (I)** - Concluding remarks

21.00 (Public conference - in Italian)

Raggi X dal Cosmo: l'Universo violento

Gabriele Ghisellini

-Oratorio San Filippo Neri-

via Manzoni, 5, 40121 Bologna

