

**July 15-18, Winchester UK.****Sponsors: University of Southampton, STAG.**

Information for Presenters

Invited (I) and Review (R) talks are 25+5 minutes, and Solicited (S) talks at 17+3 minutes. The primary distinction in form is that review speakers have been requested to tune their talks more towards pedagogical overviews that can accommodate non-expert audiences. Contributed talks are 12+3 minutes.

Posters will be displayed throughout the workshop on the walls in the coffee/lunch space. The venue is better suited to portrait (vertical) orientation and A1 size, though other sizes and orientations can also be accommodated. Please get in touch with us if you have any questions in this regard.

A 1-minute oral presentation slot has been allocated for all poster presenters. These will be divided between two sessions: on the Monday and the Wednesday.

All poster presenters are requested to send us PDF versions by July 14, which can be advertised online in advance. And we similarly request that talks be sent to us over the course of the workshop.

Invited Speakers and Discussion Leaders

Kevork Abazajian (UCI) • Didier Barret (IRAP) • Alexey Boyarsky (SRON) • Graziella Branduardi-Raymont (UCL) • Massimo Cappi (INAF) • Maria Diaz-Trigo (ESO) • Chris Done (Durham) • Andrew Fabian (IoA) • Liyi Gu (Tokyo) • Craig Heinke (Alberta) • Jelle Kaastra (SRON) • Erin Kara (MIT) • Taiki Kawamuro (NAOJ) • Julia Lee (Harvard) • Misaki Mizumoto (JAXA) • Makoto Tashiro (Saitama) • Randall Smith (Harvard) • Francesco Tombesi (Roma) • Masahiro Tsujimoto (JAXA) • Yoshihiro Ueda (Kyoto)

18:00-20:00

Day 0: July 14 (Sun)
Informal Evening Drinks at The Bishop on the Bridge

Day 1: July 15 (Mon)

09:30-09:33	Welcome	
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Current state-of-the-art, Plasma Physics and Dark Matter searches.

Morning Chair: M. Guainazzi

09:35-10:05	A. Fabian (I)	<i>Hitomi</i> results of the Perseus Cluster observations and related cosmological implications
10:05-10:20	C. Pinto	X-ray-solving AGN feedback in cluster of galaxies
10:20-10:35	K. Makishima	How do Galaxies Interact with Intra-Cluster Medium?
10:35-11:00	Tea/Coffee/Poster viewing	
11:00-11:30	J. Kaastra (R)	Atomic Data and Models: a Primer for high resolution X-ray spectroscopy
11:30-11:45	L. Stofanova	A new cooling curve due to the updates of collisional excitation processes in the plasma code SPEX
11:45-12:00	C. Bambi	Powerful Sound Waves from AGN Jets
12:00-14:00	Lunch/Poster viewing	

Afternoon Chair: K. Makishima

14:00-14:30	K. Abazajian (R)	Sterile Neutrinos
14:30-14:45	B. Williams	Lab astrophysics needs for <i>XRISM</i> and beyond
14:45-15:00	H. Ulbricht	Proposal to detect dark matter by a mechanical oscillator
15:00-15:15	Poster talks	
15:15-15:45	Tea/Coffee/Poster viewing	

15:45-16:30	Discussion Session 1 (Liyi Gu, Alexey Boyarsky)	
16:30-17:30	M. Tsujimoto & M. Mizumoto (I)	<i>Hitomi</i> hackathon

Day 2: July 16 (Tue)

Future state-of-the-art

Morning Chair: A. Pollock

09:30-10:00	M. Tashiro (I)	<i>XRISM</i> : Mission History and Status
10:00-10:30	D. Barret (I)	The <i>Athena</i> Mission: Status and Community Preparation
10:30-11:00	Tea/Coffee/Poster viewing	
11:00-11:15	R. Smith	<i>Arcus</i> : The Soft X-ray Grating Spectroscopy Explorer
11:15-11:30	C. Reynolds	The <i>Lynx</i> X-ray observatory
11:30-11:45	F. Panessa	The SKA and <i>Athena</i> synergy on AGN
11:45-12:05	G. Branduardi-Raymont (S)	Solar System Science possibilities at High Spectral Resolution
12:05-14:00	Lunch/Poster viewing	

ISM and IGM

Afternoon Chair: F. Panessa

14:00-14:30	J. Lee (R)	Cosmic Dust Studies at High Spectral Resolution
14:30-14:45	J. Liu	X-ray signatures of the polar dust in AGN
14:45-15:00	S. Katsuda	High-resolution X-ray spectroscopy of southeastern knots in Tycho's SNR with XMM-Newton/RGS
15:00-15:30	Tea/Coffee/Poster viewing	
15:30-16:00	F. Nicastro (R)	Inter Galactic Medium at high spectral resolution
16:00-16:15	J. Nevalainen	Searching for the hot WHIM
16:15-16:30	T. Kawamuro	A Chandra and ALMA Study of X-ray-irradiated Gas in the Central ~100 pc of the Circinus Galaxy

16:30-17:15	Discussion session 2 (M. Cappi, R. Smith)
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Day 3: July 17 (Wed)

Compact Objects and Feedback

Morning Chair: M. Nowak

09:30-09:50	C. Heinke (S)	Neutron Stars
09:50-10:10	C. Done (S)	Winds from Binaries
10:10-10:25	K. Mukai	Density of the boundary layer in non-magnetic cataclysmic variables
10:25-10:40	R. Tomaru	The thermal-radiative disc wind in the low mass X-ray binary H 1743-322
10:40-11:10	Tea/Coffee/Poster viewing	
11:10-11:25	P. Hemphill	Accretion in Ultracompact X-ray Binaries: A Unified Picture of 4U 1626-67
11:25-11:40	A. Pollock	Long-Term Investments in the Winds of Massive Stars
11:40-12:10	F. Tombesi (I)	AGN Feedback
12:10-14:00	Lunch/Poster viewing	
14:00-14:15	K. Fukumura	Confronting UFO Models with Correlations from Magnetic View

Afternoon Feedback Session Chair: M. Middleton

14:15-14:30	R. Boissay-Malaquin	The extreme velocities of the Ultra-fast Outflow components in the Quasar PDS 456
14:30-14:45	M. Mizumoto	The origin of UFOs in AGN
14:45-15:00	Poster talks	
15:00-15:30	Tea/Coffee/Poster viewing	

Compact Objects: Reflection

Reflection session chair: G. Lansbury

15:30-16:00	Y. Ueda (I)	Revealing the nature of the AGN torus with X-ray reflection spectroscopy
16:00-16:15	J. Garcia	High-Resolution X-ray Reflection Spectroscopy in the next Decade
16:15-16:30	M. Balokovic	Constraints on AGN Torus and Outflow Geometry from High-resolution X-ray Spectroscopy
16:30-17:15	Discussion session 3 (M. Diaz-Trigo, T. Kawamuro)	
19:00-21:00	Dinner at Winchester Cathedral Annex	

Day 4: July 18 (Thu)

Compact Objects: Continued

Morning Chair: D. Walton

09:30-10:00	E. Kara (I)	Tidal Disruption Events
10:00-10:15	M. Brightman	Uncovering and studying neutron stars powering ultraluminous X-ray sources with high resolution X-ray spectroscopy
10:15-10:30	J. Svoboda	Steep X-ray reflection emissivity profiles in AGN as the result of radially structured disc ionization
10:30-11:00	Tea/Coffee/Poster viewing	
11:00-11:15	E. Behar	X-ray Emission Lines in AGN and What They Can Tell Us About The BLR
11:15-11:30	S. Bianchi	Evidence for radiation pressure compression in the X-ray narrow-line region of Seyfert galaxies
11:30-12:00	Final community discussion and summary (SOC)	
12:00	End of Workshop	
12:00-18:00	Excursion to Stonehenge	

Poster Programme: displayed all days; talks on listed days

S. Dyda	Viscous Effects on Misaligned Disc Precession	Mon
J. Ineson	IC vs. ICM: distinguishing between X-ray emission from radio galaxy lobes and their host galaxy groups	Mon
P. Kosec	A highly ionised disc wind in Hercules X-1	Mon
D. Savchenko	Surface brightness profile of the 3.5 keV line in the Milky Way halo	Mon
E. Sokolova-Lapa	X-rays from neutron star atmospheres at low accretion rates	Mon
S. Waters	Photoionisation modelling of the emission line regions in the nucleus of NGC 7469	Mon
P. Boorman	New Insights Into AGN Obscuration with XRISM	Wed
A. Luminari	Unveiling the physics and the geometry of X-ray outflows with the WINE model	Wed
S. Nampalliwar	eXtreme gravity with X-rays	Wed
M. Nowak	The Hunt for UFOs with Chandra-HETGS	Wed
C. Taylor	Modelling the Black Hole Reflection Spectrum with Fenrir	Wed
D. Walton	An extreme ultrafast outflow in the Seyfert 2 galaxy IRAS 00521-7054	Wed

Poster abstract submission remains open until 2019 July 10:
<http://www.astro.soton.ac.uk/xcal2019/>