

**Monday October 21**

**The Future of X-ray Timing**

**CONFERENCE PROGRAMME**

**8.30 – 9.30**      **Registration**

**9.30 – 10:45**      **Session 1 – Chair: Anna Watts**

**9.30 – 9.50**      Introduction by Phil Uttley

**9.50 – 10.30**      Diego Altamirano - *Looking forward, looking back...*

**10:30 – 10.45**      Erik Kuulkers - *X-ray astronomy with Apollo 15 & 16*

**10.45 – 11.30**      **Coffee break (45 min)**

**11.30 – 13.00**      **Session 2 – Chair: Anna Watts**

**11.30 – 12.00**      Sharon Morsink - *Modelling spacetimes around neutron stars: impact on EOS inference*

**12.00 – 12.15**      Wenfei Yu - *Narrowing down the regime of neutron star EOS with simultaneous millihertz and kHz quasi-periodic oscillations in NS LMXBs*

**12.15 – 12.45**      Slavko Bogdanov - *Measuring the neutron star equation of state with NICER*

**12.45 – 13.00**      Andrea Maselli - *Quasi-periodic oscillations as a probe of the neutron star equation of state*

**13.00 – 14.00**      **Lunch (1 hour)**

**14.00 – 15.30**      **Session 3 – Chair: Rudy Wijnands**

**14.00 – 14.15**      Frederick Lamb - *Constraining the equation of state of high-density cold matter using nuclear and astronomical measurements*

**14.15 – 14.45**      Duncan Galloway - *X-ray bursts and burst oscillations*

**14.45 – 15.00**      Anna Bilous - *Revisiting the fractional amplitudes of type I thermonuclear burst oscillations in the RXTE legacy dataset*

**15.00 – 15.15**      Yuri Cavecchi - *Type I bursts 3D instabilities*

**15.15 – 15.30**      Jérôme Chenevez - *Thermonuclear bursts longer than usual*

**15.30 – 16.00**      **Coffee break (30 min)**

**16.00 – 17.30**      **Session 4 – Chair: Rudy Wijnands**

**16.00 – 16.15**      Włodek Kluźniak - *Neutron Star Mass and Radius may be accurately determined from atmospheric oscillations*

**16.15 – 16.30**      Michael Zingale - *Simulations of Burning Fronts in X-ray Bursts*

**16.30 – 17.00**      Deepto Chakrabarty - *NICER studies of accreting neutron stars*

**17.00 – 17.30**      Colleen Wilson-Hodge - *STROBE-X: X-ray Timing & Spectroscopy on Dynamical Timescales from Microseconds to Years*

## Tuesday October 22

### 9.30 – 11.00 Session 1 – Chair: Rob Fender

- 9.30 – 10.00 Jeroen Homan - *NICER studies of accreting black holes*  
10.00 – 10.15 Holger Stiele - *Timing studies of black hole X-ray binaries with NICER*  
10.15 – 10.30 Virginia Cúneo - *NICER look at the low-luminosity state transitions seen in MAXI J1535-571*  
10.30 – 10.45 Guobao Zhang - *Bright mini-outburst ends the 12-year long activity of the black hole candidate Swift J1753.5-0127*  
10.45 – 11.00 Gabriel Török - *Determination of the mass of accreting compact objects based on observations of quasiperiodic oscillations*

### 11.00 – 11.30 Coffee break (30 min)

### 11.30 – 13.00 Session 2 – Chair: Rob Fender

- 11.30 – 12.00 Adam Ingram - *Low frequency QPOs and their origin*  
12.00 – 12.15 Bei You - *Modelling Quasi-Periodic-Oscillation in Lense-Thirring precession*  
12.15 – 12.45 Simone Scaringi - *Timing beyond the power spectrum*  
12.45 – 13.00 Kavitha Arur - *A study of the inclination dependence on the non-linear properties of QPOs from black hole binaries.*

### 13.00 – 14.00 Conference photo followed by Lunch (1 hour)

### 14.00 – 15.25 Session 3 – Chair: Ralph Wijers

- 14.00 – 14.40 Shuang-Nan Zhang - *Results of the Insight-HXMT X-ray Satellite and the future eXTP mission*  
14.40 – 14.55 Jakob van den Eijnden - *Subsecond spectral variability in MAXI J1820+070 with NICER*  
14.55 – 15.10 Edward Nathan - *NICER+NuSTAR phase-resolved spectroscopy of quasi-periodic oscillations in the X-ray binary GRS 1915+105*  
15.10 – 15.25 Nick Kylafis - *A quantitative explanation of the Type-B QPOs in BHTs*

### 15.25 – 16.00 Coffee break (35 min)

### 16.00 – 18.00 Session 4 – Chair: Ralph Wijers

- 16.00 – 16.30 Gianluca Israel - *Pulsating ultraluminous X-ray sources*  
16.30 – 16.45 Rajath Sathyaprakash - *A new detection of pulsations from an old ULX*  
16.45 – 17.00 Matteo Bachetti - *The timing behavior of the first Ultraluminous pulsar M82 X-2*  
17.00 – 17.30 Ersin Gogus - *Magnetars in the vicinity and far away*  
17.30 – 17.45 Yongquan Xue - *A magnetar-powered X-ray transient as the aftermath of a binary neutron star merger*  
17.45 – 18.00 Tsubasa Tamba - *The hard-tail properties of the magnetar SGR 1900+14 unveiled by NuSTAR and XMM-Newton observations*

## Wednesday October 23

### 9.30 – 11.05 Session 1 – Chair: Abigail Stevens

- 9.30 – 10.00 Dipankar Bhattacharya - *Results on compact objects from ASTROSAT*  
10.00 – 10.20 Tomaso Belloni - *Black hole fast timing: new results and old stories*  
10.20 – 10.35 Aastha Parikh - *An unusual very hard spectral-timing state exhibited by neutron star low-mass X-ray binaries*  
10.35 – 11.05 Alessandro Patruno - *Accreting and transitional millisecond pulsars*

### 11.05 – 11.30 Coffee break (25 min)

### 11.30 – 13.00 Session 2 – Chair: Abigail Stevens

- 11.30 – 11.45 Wim Hermsen - *Timing three mode-switching pulsars in radio and X-rays: three puzzles*  
11.45 – 12.00 Amruta Jaodand - *Long-term X-ray timing of millisecond pulsars*  
12.00 – 12.15 Juri Poutanen - *Millisecond pulsars as laboratories for studying dense matter*  
12.15 – 12.30 Manuel Linares - *X-ray timing meets transitional millisecond pulsar*  
12.30 – 12.45 Paul Ray - *Searching for and Timing X-ray Pulsations from Millisecond Pulsars with NICER*  
12.45 – 13.00 Tuomo Salmi - *Mass and radius constraints for rotation-powered millisecond pulsars with particle heated atmospheres*

### 13.00 – 14.00 Lunch (1 hour)

### 14.00 – 15.30 Session 3 – Chair: Mariano Mendez

- 14.00 – 14.15 Lucien Kuiper - *NICER monitoring observations paving the way for (soft) gamma-ray detections of energetic radio quiet pulsars AX J1838.0-0655, PSR J1846-0256 and IGR J18490-0000*  
14.15 – 14.30 Erlin Qiao - *Hot accretion flow around neutron stars*  
14.30 – 14.45 Chin-Ping Hu - *Tracking the Superorbital Period Excursion and the Spin Period Evolution of SMC X-1*  
14.45 – 15.00 Pablo Reig - *Distinguishing accretion regimes in X-ray pulsars from timing (HMXBs)*  
15.00 – 15.15 Sanhita Kabiraj - *Pulse profiles of persistent accreting X-ray pulsars observed at different accretion torque*  
15.15 – 15.30 Juhani Mönkkönen - *Power spectral shape as a probe of the magnetic field strength and structure in X-ray pulsars*

### 15.30 – 16.00 Coffee break (30 min)

### 16.00 – 17.30 Session 4 – Chair: Mariano Mendez

- 16.00 – 16.30 Ed Cackett - *X-ray reverberation mapping across the mass and accretion rate scale*  
16.30 – 16.45 Mayukh Pahari - *A quantitative analysis of the flux-dependent X-ray reverberation spectral modelling: evidence for fast changing corona*  
16.45 – 17.00 Guglielmo Mastroserio - *Mass Measurement with X-ray Reverberation*  
17.00 – 17.15 Kevin Alabarta Jativa - *Spectral-Timing properties of MAXI J1727-203 using NICER*  
17.15 – 17.30 Yanan Wang - *Anonymous X-ray flares discovered in MAXI J1820+070 with Insight-HXMT*

### 19:00 Conference Dinner at Restaurant-Café In de Waag

## Thursday October 24

### 9.30 – 11.05 Session 1 – Chair: Tod Strohmayer

- 9.30 – 9.50 Mariano Mendez - *The phase lag spectrum of the kHz QPO*  
9.50 – 10.05 Peggy Varniere - *RWI in disks around high spin black hole: how does it impact the observables*  
10.05 – 10.20 Valentina Peirano Bastías - *Phase Lags on High Frequency Quasi-Periodic Oscillations in the transient source XTE 1701-462*  
10.20 – 10.35 Pavel Abolmasov - *Global weather forecast simulations on top of neutron stars: kilohertz QPOs as spreading-layer inertial modes*  
10.35 – 10.50 Peter Bult - *Stochastic variability in accreting millisecond pulsars: how we can use QPO-pulse interactions to study the accretion geometry*  
10.50 – 11.05 Ali Alpar - *QPOs and Disk-Neutron Star Interactions*

### 11.05 – 11.30 Coffee break (25 min)

### 11.30 – 13.00 Session 2 – Chair: Tod Strohmayer

- 11.30 – 11.45 Konstantinos Karpouzas - *The corona of the low mass X-ray binary 4U 1636-53 through its lower kHz quasi periodic oscillations*  
11.45 – 12.15 Piergiorgio Casella - *Multiwavelength variability from X-ray binary jets*  
12.15 – 12.30 John Paice - *Rapid Timing Correlations and the Resolving of Jet Base Activity in MAXI J1820+070 - Results from HiPERCAM and NICER*  
12.30 – 12.45 Hiromitsu Takahashi - *Hard X-ray polarimetric observations of Cygnus X-1 by PoGO+*  
12.45 – 13.00 Ayan Bhattacharjee - *Can the Spectral and Timing Properties of Neutron Stars be Explained by the TCAF Paradigm?*

### 13.00 – 14.00 Lunch (1 hour)

### 14.00 – 15.30 Session 3 – Chair: Chryssa Kouveliotou

- 14.00 – 14.30 Alexandra Veledina - *Multiwavelength variability from X-ray binary accretion flows*  
14.30 – 15.00 Alexander Tchekhovskoy - *Simulations of black hole and neutron star accretion and jet formation*  
15.00 – 15.15 Debora Lancova - *Global GRMHD simulation of thin accretion disk*  
15.15 – 15.30 Joanna Rankin - *Pair-Plasma Source Changes Configure the Radio/X-ray Bright and Quiet Modes of Pulsar B0823+26*

### 15.30 – 16.00 Coffee break (30 min)

### 16.00 – 17.45 Session 4 – Chair: Chryssa Kouveliotou

- 16.00 – 16.30 Daniela Huppenkothen - *Bayesian and machine learning approaches to variability*  
16.30 – 16.45 Peter Jonker - *Late-time X-ray variability of tidal disruption events*  
16.45 – 17.00 Stefania Carpano - *Time variability of X-ray sources with eROSITA instrument*  
17.00 – 17.15 Wenda Zhang - *Probing the Bardeen-Petterson effect in TDEs with iron line reverberation mapping*  
17.15 – 17.30 Dheeraj Pasham - *Entering an era of detecting X-ray QPOs from cosmological supermassive black holes with tidal disruption events*  
17.30 – 17.45 Haiwu Pan - *Detection of a Possible X-Ray Quasi-periodic Oscillation in the Active Galactic Nucleus 1H 0707-49*

## Friday October 25

### 9.30 – 11.00    Session 1 – Chair: Tomaso Belloni

- 9.30 – 10.00    Chris Fragile - *Variability from numerical simulations of accretion flows*  
10.00 – 10.15    Ananda Deepika Bollimpalli - *X-ray variability studies from GRMHD simulations*  
10.15 – 10.30    Alexander Mushtukov - *Propagating mass accretion rate fluctuations in X-ray binaries under the influence of viscous diffusion*  
10.30 – 11.00    Matthew Liska - *GPU simulations of accretion flows and their variability*

### 11.00 – 11.30    Coffee break (30 min)

### 11.30 – 13.00    Session 2 – Chair: Tomaso Belloni

- 11.30 – 12.00    Barbara De Marco - *X-ray spectral-timing of black hole X-ray binaries*  
12.00 – 12.15    Stefano Rapisarda - *Modelling the timing properties of black hole X-ray binaries*  
12.15 – 12.30    Yi-Jung Yang - *Insight-HXMT detection of the hard-to-soft state transition in the black hole candidate EXO 1846-031*  
12.30 – 12.45    Arkadip Basak - *The evolution of X-ray time lags in MAXI J1820+070 from NICER*  
12.45 – 13.00    Chichuan Jin - *How Does Dust Scattering Change the Spectral-timing Properties of X-ray Binaries*

### 13.00 – 13.15    Thanks & wrap-up (15 minutes)

### 13.15 – 14.00    Lunch (45 min)

16.00            **Valedictory lecture by Michiel van der Klis in the Old Lutheran Church**  
*To be followed by a reception and buffet dinner*

**END OF CONFERENCE**

## List of participants

Pavel Abolmasov	<i>University of Turku</i>
Kevin Alabarta	<i>University of Groningen / University of Southampton</i>
Ali Alpar	<i>Sabanci University</i>
Diego Altamirano	<i>University of Southampton</i>
Kavitha Arur	<i>Texas Tech University</i>
Matteo Bachetti	<i>INAF-OAC</i>
Arkadip Basak	<i>University of Amsterdam</i>
Tomaso Belloni	<i>INAF-OAB</i>
Ayan Bhattacharjee	<i>S. N. Bose National Centre for Basic Sciences</i>
Dipankar Bhattacharya	<i>IUCAA</i>
Anna Bilous	<i>University of Amsterdam</i>
Slavko Bogdanov	<i>Columbia University</i>
Ananda Deepika Bollimpalli	<i>Nicolaus Copernicus Astronomical Center</i>
Soren Brandt	<i>DTU Space - National Space Institute</i>
Qingcui Bu	<i>Institute of High Energy Physics, CAS</i>
Peter Bult	<i>NASA/GSFC</i>
Sergei Bykov	<i>Space Research Institute (IKI)</i>
Ed Cackett	<i>Wayne State University</i>
Stefania Carpano	<i>MPE</i>
Piergiorgio Casella	<i>INAF-OAR</i>
Yuri Cavecchi	<i>University of Southampton / Princeton University</i>
Deepto Chakrabarty	<i>MIT</i>
Frank Chambers	<i>University of Amsterdam</i>
Koushik Chatterjee	<i>University of Amsterdam</i>
Jérôme Chenevez	<i>DTU Space - National Space Institute</i>
Virginia Cúneo	<i>Instituto de Astrofísica de Canarias</i>
Pushpita Das	<i>University of Amsterdam</i>
Barbara De Marco	<i>Nicolaus Copernicus Astronomical Center</i>
Nathalie Degenaar	<i>University of Amsterdam</i>
Marta Dziełak	<i>Nicolaus Copernicus Astronomical Center</i>
Rob Fender	<i>University of Oxford</i>
Marco Feroci	<i>INAF/IAPS</i>
Chris Fragile	<i>College of Charleston</i>
Duncan Galloway	<i>Monash University</i>
Federico Garcia	<i>University of Groningen</i>
Ersin Gogus	<i>Sabanci University</i>
Wim Hermsen	<i>SRON</i>
Jeroen Homan	<i>SRON / Eureka Scientific</i>
Jiri Horak	<i>Astronomical Institute, Czech Academy of Sciences</i>
Chin-Ping Hu	<i>Kyoto University</i>

Daniela Huppenkothen	<i>University of Washington</i>
Adam Ingram	<i>University of Oxford</i>
Gianluca Israel	<i>INAF-OAR</i>
Amruta Jaodand	<i>Caltech</i>
Chichuan Jin	<i>National Astronomical Observatories, CAS</i>
Peter Jonker	<i>SRON / Radboud University</i>
Sanhita Kabiraj	<i>Raman Research Institute &amp; Indian Institute of Science</i>
Konstantinos Karpouzias	<i>University of Groningen</i>
Włodek Kluźniak	<i>Nicolaus Copernicus Astronomical Center</i>
Chryssa Kouveliotou	<i>George Washington University</i>
Lucien Kuiper	<i>SRON</i>
Erik Kuulkers	<i>ESA/ESTEC</i>
Nick Kylafis	<i>University of Crete</i>
Eleonora Veronica Lai	<i>Nicolaus Copernicus Astronomical Center</i>
Frederick Lamb	<i>University of Illinois at Urbana-Champaign</i>
Debora Lancova	<i>Silesian University in Opava</i>
Manuel Linares	<i>UPC-GAA, Barcelona</i>
Matthew Liska	<i>Harvard-Smithsonian Center for Astrophysics</i>
Matteo Lucchini	<i>University of Amsterdam</i>
Brian Luff	<i>University of Southampton</i>
Xiang Ma	<i>Institute of High Energy Physics, CAS</i>
Anwesh Majumder	<i>SRON / University of Amsterdam</i>
Andrea Maselli	<i>Sapienza University of Rome</i>
Guglielmo Mastroserio	<i>University of Amsterdam</i>
Mariano Mendez	<i>University of Groningen</i>
Simone Migliari	<i>ESAC/ESA</i>
Juhani Mönkkönen	<i>University of Turku</i>
Sharon Morsink	<i>University of Alberta</i>
Sara Motta	<i>University of Oxford</i>
Alexander Mushtukov	<i>Leiden Observatory</i>
Gibwa Musoke	<i>University of Amsterdam</i>
Edward Nathan	<i>University of Oxford</i>
Özgür Can Özüdoğru	<i>Middle East Technical University</i>
Mayukh Pahari	<i>University of Southampton</i>
John Paice	<i>University of Southampton</i>
Haiwu Pan	<i>National Astronomical Observatories, CAS</i>
Aastha Parikh	<i>University of Amsterdam</i>
Dheeraj Pasham	<i>MIT</i>
Alessandro Patruno	<i>Institute of Space Sciences- CSIC</i>

## List of participants

Valentina Peirano Bastías	<i>University of Groningen</i>
Oliver Porth	<i>University of Amsterdam</i>
Juri Poutanen	<i>University of Turku</i>
Erlin Qiao	<i>National Astronomical Observatories, CAS</i>
Joanna Rankin	<i>University of Vermont</i>
Stefano Rapisarda	<i>Shanghai Astronomical Observatory (SHAO)</i>
Paul Ray	<i>NRL</i>
Pablo Reig	<i>Institute of Astrophysics (FORTH)</i>
Tuomo Salmi	<i>Tuorla Observatory, University of Turku</i>
Andrea Santangelo	<i>University of Tübingen</i>
Rajath Sathyaprakash	<i>Durham University</i>
Simone Scaringi	<i>Texas Tech University</i>
Eva Sramkova	<i>Silesian University in Opava</i>
Luigi Stella	<i>INAF-OAR</i>
Abigail Stevens	<i>Michigan State University / Univ. of Michigan</i>
Holger Stiele	<i>National Tsing Hua University, Hsinchu</i>
Tod Strohmayer	<i>NASA/GSFC</i>
Hiroimitsu Takahashi	<i>Hiroshima University</i>
Tsubasa Tamba	<i>University of Tokyo</i>
Alexander Tchekhovskoy	<i>Northwestern University</i>
Gabriel Török	<i>Silesian University in Opava</i>
Phil Uttley	<i>University of Amsterdam</i>

Jakob van den Eijnden	<i>University of Amsterdam</i>
Edward van den Heuvel	<i>University of Amsterdam</i>
Michiel van der Klis	<i>University of Amsterdam</i>
Marieke van Doesburgh	<i>University of Amsterdam</i>
Peggy Varniere	<i>APC - Université Paris 7</i>
Alexandra Veledina	<i>NORDITA</i>
Yanan Wang	<i>Strasbourg Astronomical Observatory</i>
Anna Watts	<i>University of Amsterdam</i>
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Wenfei Yu	<i>Shanghai Astronomical Observatory (SHAO)</i>
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Yuexin Zhang	<i>University of Groningen</i>
Michael Zingale	<i>Stony Brook University</i>