

# ISSI-DISKS-50 Workshop

## “Accretion disks: the first 50 years”

### 17-21 June 2024

**MONDAY 17 June, 2024**

*Notice: All presentation slots include 5'-10' of questions*

08:50-09:00	Registration in ISSI, Hallerstrasse 6, 1 <sup>st</sup> floor	
09:00-09:20	Introduction to ISSI and workshop objectives	Maurizio Falanga Alexandra Veledina
<b>Session 1</b>	<b>Accreting binaries: black holes and white dwarfs</b>	<b>Chairperson: Maurizio Falanga</b>
09:20-10:00	[First steps in accretion disks studies]	Rashid Sunyaev
10:00-10:30	<i>Coffee break</i>	
10:30-11:05	The soft state of black-hole X-ray binaries and implications for the spin	Andrzej Zdziarski
11:05-11:40	Rapid multi-wavelength variability in accreting black holes	Tom Maccarone
11:40-12:15	Polarimetry-timing of black hole X-ray binaries	Adam Ingram
12:15-13:30	<i>Lunch</i>	
		<b>Chairperson: Alexandra Veledina</b>
13:30-13:55	X-ray binaries in outbursts: what about semi-analytical models?	Greg Marcel
13:55-14:30	Accretion Disk Behaviour in 3 Remarkable BH X-ray Transients: Swift J1357.2-0933, V404 Cyg & MAXI J1820+070	Phil Charles
14:30-15:05	The thermal-viscous disc instability model forty years later	Jean-Pierre Lasota
15:05-15:35	<i>Coffee break</i>	
15:30-15:55	Physical Parameter Astro-tomography: developing a new methodology for understanding irradiated accretion discs	Bailey Tetarenko
15:55-16:30	Mapping accretion modes through variability from accreting white dwarfs	Simone Scaringi
16:30-17:00	Discussion: WDs and BH binaries	Led by Omer Blaes
17:30	<i>Welcome reception</i>	

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**TUESDAY 18 June, 2024**

#### **Session 2      Active galactic nuclei**

**Chairpaerson: Chris Done**

09:00-09:35      Spectroscopy and polarimetry of X-ray coronae

Giorgio Matt

09:35-10:10      The impact of winds on AGN accretion flows

Shane Davis

10:10-10:40      *Coffee break*

10:40-11:15      The X-ray View of AGN

Chris Reynolds

11:15-11:40      Understanding AGN variability and Structure

Scott Hagen

11:40-12:10      **Discussion: AGN**

Led by Adam Ingram

12:10-13:25      *Lunch*

13:25-14:00      Accretion disc winds in X-ray binaries: the hot phase

Gabriele Ponti

14:00-14:35      Accretion disc winds in X-ray binaries: the cold phase

Teo Munoz-Darias

14:35-15:00      Accretion disc winds in X-ray binaries: tests of driving mechanisms, and in a new era of high resolution from XRISM

Ryota Tomaru

**Photo**

15:00-15:30      *Coffee break*

#### **Session 3      Winds**

15:30-16:05      A look at accretion disc winds and atmospheres of dipping X-ray binaries with high resolution X-ray spectroscopy

Maria Diaz Trigo

16:05-16:40      Line-Driven Accretion Disk Winds

Christian Knigge

16:40-17:05      Polarization from accretion disk winds

Anagha Nitindala

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**WEDNESDAY 19 June, 2024**

<b>Session 4</b>	<b>Accreting neutron stars</b>	<b>Chairperson: Sara Motta</b>
9:00-09:35	X-ray polarimetric view of accreting neutron stars	Juri Poutanen
9:35-10:10	Knowns and unknowns about (a)periodic X-ray variability in NS	Diego Altamirano
<i>10:10-10:40 Coffee break</i>		
10:40-11:05	The highs and lows of transitional millisecond pulsars	Cristina Baglio
11:05-11:35	Discussion: winds and NSs	Led by Christian Knigge
11:35-12:05	Overall book structure	
<i>Lunch</i>		
<b>Free afternoon</b>		
<i>19:00 Social dinner offered by ISSI (Restaurant Rosengarten)</i>		

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**THURSDAY 20 June, 2024**

<b>Session 5</b>	<b>Sub-Eddington accretion</b>	<b>Chairperson: Greg Marcel</b>
09:00-09:35	Precessing and wobbling accretion disk in Her X-1 in M.N.Pavlinsky ART-XC telescope observations (online)	Konstantin Postnov & Nikolai Shakura
09:35-10:10	Thermal and viscous instabilities	Omer Blaes
10:10-10:40	<i>Coffee break</i>	
10:40-11:15	Energy release in accretion disks	Andrei Beloborodov
11:15-11:40	How Black Holes Accrete and Eject	Bart Ripperda
11:40-12:55	<i>Lunch</i>	
		<b>Chairperson: Simone Scaringi</b>
12:55-13:30	Strongly magnetized hot accretion flows	Jason Dexter
13:30-14:05	Dynamics of non-planar and non-circular discs	Gordon Ogilvie
14:05-14:30	The evolution of truncated accretion disks	Gibwa Musoke
14:30-15:00	<i>Coffee break</i>	
15:00-15:35	Accretion Disk Variability in GRMHD Simulations (online)	Chris Fragile
15:35-16:10	(online) TBD	Alexander Tchekhovskoy
16:10-16:45	Observations confront simulations: How X-ray polarisation can put observational limits on large scale ordered magnetic fields in the accretion flow	Chris Done
16:45-17:15	<b>Discussion: disk structure</b>	<b>Led by Alexandra Veledina</b>

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**FRIDAY 21 June, 2024**

<b>Session 6</b>	<b>Super-Eddington accretion and ULXs</b>	<b>Chairperson: Phil Charles</b>
09:00-09:35	Precession of super-Eddington discs	Matthew Middleton
09:35-10:10	1D models of the super-Eddington accretion on black holes and neutron stars	Galina Lipunova
<i>10:10-10:40 Coffee break</i>		
10:40-11:15	Why do we need slim disks	Marek Abramowicz
11:15-11:50	Numerical Simulations of super-Eddington flows around BHs and magnetized NSs	Ken Ohsuga
11:50-12:20	Discussion: ULXs and super-Eddington accretion	Led by Chris Done
12:20-12:40	Overall book structure	

End of Workshop