

50 years of Binaries and Disks: Lubow@75
May 6 – 9, 2024, Barrick Art Museum, UNLV, NV, USA

Day 1 Morning	Chair: Gordon Ogilvie	
9:00 a.m. – 9:10 a.m.		Welcome
9:10 a.m. – 9:35 a.m.	Matthew Bate (University of Exeter)	Young protoplanetary discs
9:35 a.m. – 10:00 a.m.	Phil Armitage (CCA)	Disk winds
10:00 a.m. – 10:25 a.m.	Pawel Artymowicz (University of Toronto)	Disk scenario for the origin of JuMBOs
10:25 a.m. – 10:55 a.m.	Coffee Break	
10:55 a.m. – 11:20 a.m.	Robert D Mathieu (University of Wisconsin - Madison)	Blue Stragglers and Blue Lurkers
11:20 a.m. – 11:45 a.m.	Bill Welsh (San Diego State University)	Circumbinary Planets – The State-of-the-Art Observational Overview
11:45 a.m. – 12:10 p.m.	Eric Jensen (Swarthmore College)	Orbital alignment, from disks to planets

Day 1 Afternoon	Chair: Kaitlin Kratter	Circumbinary Disks and Dust
1:30 p.m. – 1:55 p.m.	Daniel Price (Monash University)	Tidal truncation and planet wakes in protostellar discs (aka: things Lubow got right)
1:55 p.m. – 2:20 p.m.	Jeremy Smallwood (ASIAA)	The evolution of misaligned circumbinary discs: gas and dust dynamics
2:20 p.m. – 2:45 p.m.	Jake Simon (Iowa State University)	Can dust grow to pebble sizes in Class 0/I disks?
2:45 p.m. – 3:15 p.m.	Coffee Break	
3:15 p.m. – 3:40 p.m.	Diego Muñoz (Northern Arizona University)	Searching for a New Paradigm of Binary-Disk Interaction
3:40 p.m. – 4:05 p.m.	Cheng Chen (University of Leeds)	On the orbital evolution of binaries with steady state circumbinary disks
4:05 p.m. – 4:30 p.m.	Alessia Franchini (University of Zurich)	Misaligned discs in multi-planet systems around binary stars
4:40 p.m. – 5:30 p.m.	Led by today's chairs	Discussion

6.30pm - Conference dinner at the Stratosphere

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Day 2 Morning	Chair: Zhaohuan Zhu	Warped and Circumbinary Disks/Planets
9:00 a.m. - 9:25 a.m.	Gordon Ogilvie (DAMTP, University of Cambridge)	Dynamics of warped discs in binaries
9:25 a.m. - 9:50 a.m.	Rebecca Nealon (University of Warwick)	Disc breaking in accreting supermassive black hole binaries
9:50 a.m. - 10:15 a.m.	Ian Rabago (UNLV)	Dynamics of Circumbinary Protoplanetary Disks
10:15 a.m. - 10:45 a.m.	Coffee Break	
10:45 a.m. - 11:10 a.m.	Daniel Fabrycky (University of Chicago)	CBPs and Exomoons: configurations inspired by disks in binaries
11:10 a.m. - 11:35 a.m.	Thomas Baycroft (University of Birmingham)	Circumbinary planets: a growing population from radial velocities
11:35 a.m. - 12:00 p.m.	Anna Childs (Northwestern University)	Dynamics of Circumbinary Planets with Large Mutual Inclinations and Circumbinary Disk Evolution with General Relativity
12:00 p.m. - 12:15 p.m.	Poster talks	
	Cory Padgett (Clemson University)	CI Tau: Disk Mis-Alignment and Precession Regimes
	Daniel Godines (New Mexico State University)	On the Mass Budget Problem of Planet Formation Theory: Streaming Instability and Optically Thick Regions
	Madeline Overton (UNLV)	Retrograde discs around one component of a binary
	Ted Johnson (UNLV)	Investigating the fraction of polar circumbinary disks
	Shunquan Huang (UNLV)	Excitation of Binary Eccentricity by Massive Polar-Aligned Circumbinary Disks
	Stanley A. Baronett (UNLV)	Dust–Gas Dynamics Driven by the Streaming Instability with Various Pressure Gradients

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Day 2 Afternoon	Chair: Phil Armitage	Disk Structure and Dynamical Processes
1:30 p.m. - 1:55 p.m.	Konstantin Batygin (Caltech)	Origins of Frequency Uniformity in the Inner Edges of Accretion Disks
1:55 p.m. - 2:20 p.m.	Jeffrey Fung (Clemson University)	Radiation, Gas, and Dust: Clumping and Disk Recession
2:20 p.m. - 2:45 p.m.	Ruobing Dong (University of Victoria)	From simulations to machine learning
2:45 p.m. - 3:15 p.m.	Coffee Break	
3:15 p.m. - 3:40 p.m.	Eve J. Lee (McGill University)	Identifying low-turbulence disks using dust-gas dynamics
3:40 p.m. - 4:05 p.m.	Andrew Youdin (University of Arizona)	ALMA's Dust Rings: Are they Rossby Wave Stable?
4:05 p.m. - 4:30 p.m.	Shangjia Zhang (UNLV)	Thermal Structure Determines Kinematics: Vertical Shear Instability in Stellar Irradiated Protoplanetary Disks
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Day 3 Morning	Chair: Rebecca Martin	MHD Processes and Outbursts
9:00 a.m. - 9:25 a.m.	Geoffroy Lesur (IPAG/CNRS)	Shaping discs and protoplanets via large scale magnetic fields
9:25 a.m. - 9:50 a.m.	Yan-Fei Jiang (Flatiron Institute)	How does Lubow's eccentricity excitation mechanism work with MRI turbulence?
9:50 a.m. - 10:15 a.m.	Xiao Hu (University of Florida)	Gap Opening in Non-Ideal MHD Protoplanetary Disks: Asymmetric Accretion and Observational Signatures
10:15 a.m. - 10:45 a.m.	Coffee Break	
10:45 a.m. - 11:10 a.m.	Lee Hartmann (University of Michigan)	Observational constraints for accretion outbursts
11:10 a.m. - 11:35 a.m.	Adolfo Carvalho (California Institute of Technology)	Disk cooling and massive winds in the post-outburst spectra of V960 Mon and HBC 722
11:35 a.m. - 12:00 p.m.	Stephen Lubow (STScI)	The Role of Theory in Astrophysics

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Day 4 Morning	Chair: Andrew Youdin	Companion-Disk Interaction and CPD
9:00 a.m. - 9:25 a.m.	Roman Rafikov (University of Cambridge)	Recent developments in the disk-planet interaction theory
9:25 a.m. - 9:50 a.m.	Doug Lin (University of California, Santa Cruz)	Concurrent gas accretion and migration of emerging planets in protostellar disks and embedded stars in AGN disks
9:50 a.m. - 10:15 a.m.	Callum Fairbairn (Institute for Advanced Study)	Eccentric Planet-Disc Interactions: Linear Theory and Torque Reversals
10:15 a.m. - 10:45 a.m.	Coffee Break	
10:45 a.m. - 11:10 a.m.	Kaitlin Kratter (U. Arizona)	A thermodynamic criterion for circumplanetary disk formation
11:10 a.m. - 11:35 a.m.	Avery Bailey (UNLV)	Multidimensional aspects of circumplanetary disk dynamics
11:35 a.m. - 12:00 p.m.	Zhuo Chen (Tsinghua University)	Radiation hydrodynamic simulations of circumplanetary disks
Day 4 Afternoon	Chair: Doug Lin	Exoplanets and Planet Formation
1:30 p.m. - 1:55 p.m.	Giuseppe Lodato (U. Milano)	TBD
1:55 p.m. - 2:20 p.m.	Jiayin Dong (Flatiron Institute)	Isotropic Stellar Obliquity Distribution of Hot Jupiter Systems
2:20 p.m. - 2:45 p.m.	J. J. Zanazzi (University of California, Berkeley)	Damping Obliquities of Hot Jupiter Hosts by Resonance Locking
2:45 p.m. - 3:15 p.m.	Coffee Break	
3:15 p.m. - 3:40 p.m.	Wladimir Lyra (New Mexico State University)	Evidence for streaming instability and pebble accretion in the densities of Kuiper belt objects
3:40 p.m. - 4:05 p.m.	Chao-Chin Yang (University of Alabama)	From pebbles to planets: planetesimal formation and pebble accretion
4:05 p.m. - 4:30 p.m.	Yihan Wang (UNLV)	JuMBO formation mechanisms
4:40 p.m. – 5:30 p.m.	Led by today's chairs	Discussion