



## 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.	<b>Coffee Break</b>	
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.	<b>Conference Photo and Coffee Break</b>		
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.	<b>Coffee Break</b>	
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.	<b>Poster talks</b>	
poster number: p1	Cory Padgett (Clemson University)	CI Tau: Disk Mis-Alignment and Precession Regimes
p2	Daniel Godines (New Mexico State University)	On the Mass Budget Problem of Planet Formation Theory: Streaming Instability and Optically Thick Regions
p3	Madeline Overton (UNLV)	Retrograde discs around one component of a binary
p4	Ted Johnson (UNLV)	The fraction of polar circumbinary disks
p5	Shunquan Huang (UNLV)	Excitation of Binary Eccentricity by Massive Polar-Aligned Circumbinary Disks
p6	Stanley A. Baronett (UNLV)	Dust–Gas Dynamics Driven by the Streaming Instability with Various Pressure Gradients
p7	Arturo Cevallos Soto (UNLV)	Interplay of Close-in Planets with Disk Magnetospheric Accretion



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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.	<b>Coffee Break</b>	
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
4:40 p.m. – 5:30 p.m.	Led by today's chairs	Discussion



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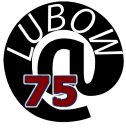
Day 3 Morning	Chair: Rebecca Martin	MHD Processes and Outbursts
9:00 a.m. - 9:25 a.m.	Geoffroy Lesur (IPAG/CNRS)	Shaping discs and protoplanets via large scale magnetic fields
9:25 a.m. - 9:50 a.m.	Yan-Fei Jiang (Flatiron Institute)	How does Lubow's eccentricity excitation mechanism work with MRI turbulence?
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.	<b>Coffee Break</b>	
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.	Jiayin Dong (Flatiron Institute)	Isotropic Stellar Obliquity Distribution of Hot Jupiter Systems
12:00 p.m. - 12:25 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.	<b>Coffee Break</b>	
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)	Dynamics of misaligned discs in binary/multiple systems
1:55 p.m. - 2:20 p.m.	Yihan Wang (UNLV)	JuMBO formation from ejections during close stellar encounters
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.	<b>Coffee Break</b>	
3:15 p.m. - 3:40 p.m.	Chao-Chin Yang (University of Alabama)	From pebbles to planets: planetesimal formation and pebble accretion
3:40 p.m. - 4:05 p.m.	Wladimir Lyra (New Mexico State University)	Evidence for streaming instability and pebble accretion in the densities of Kuiper belt objects
4:05 p.m. - 5:00 p.m.	Led by today's chairs	Discussion



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Poster Information:

You can set up your poster at any time. There will be poster boards outside the auditorium, and you are free to hang up your poster there. The side of the poster is up to A0.



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Dinner information:

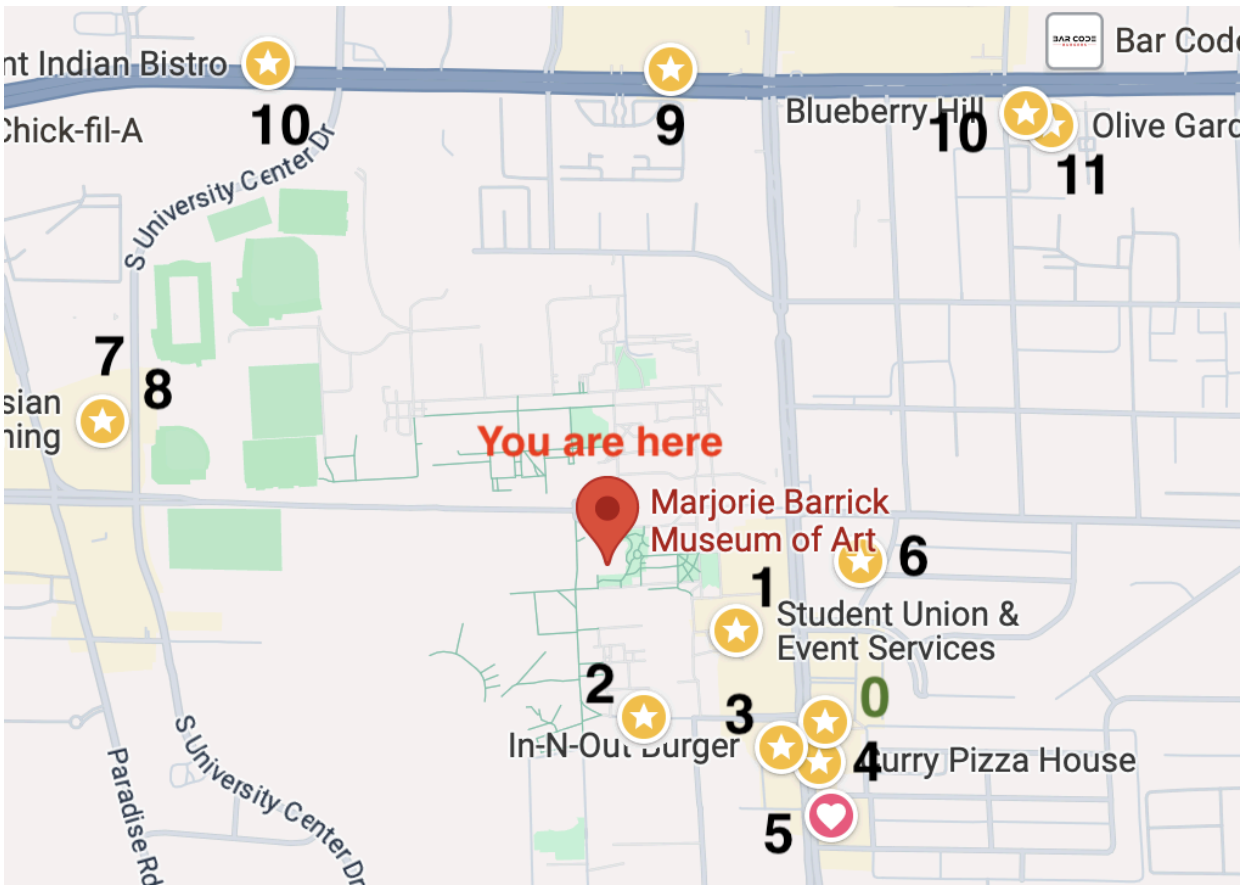
Please arrive on the 2nd floor of the Stratosphere and follow the signs to the STRAT Tower. Please try to arrive between 6.15pm and 6:30pm and let the staff know that you are here for the UNLV event. Dinner includes free rides until they close at 10:00pm.





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0. **Bowlology** - Specializes in nutritious bowls, smoothies, and juices, for **vegetarians**. 12-min walk.
1. **Student Union at UNLV** - Offers a variety of dining options within the campus, catering to diverse tastes. 6-min walk.
2. **Hazel Wilson Commons** - Another on-campus dining area known for its convenience and variety. 5-min walk.
3. **In-N-Out Burger** - A popular fast-food chain known for its burgers, fries, and shakes. 9-min walk.
4. **Curry Pizza House** - Combines Indian flavors with traditional pizza for a unique fusion experience. 12-min walk.
5. **Starbucks** - The well-known coffeehouse chain, ideal for coffee, snacks, and light meals. 15-min walk.
6. **Chao Thai** - Offers authentic Thai cuisine with a variety of dishes from mild to fiery. 8-min walk.
7. **Gangnam Asian BBQ** - Known for its Korean BBQ. 15-min walk.
8. **Sushi Sake Bar** - Provides a wide selection of sushi and sake in a sophisticated setting. 15-min walk.
9. **Raising Cane's Chicken Fingers** - Specializes in chicken fingers and is a favorite for quick comfort food. 16-min walk.
10. **Mint Indian Bistro** - Features a menu of diverse Indian dishes with both **vegetarian** and non-vegetarian options. 20-min walk.
11. **Blueberry Hill** - A family-friendly diner known for its breakfast menu and home-style meals. 20-min walk.
12. **Olive Garden Italian Restaurant** - Offers a wide range of Italian dishes including pasta, salads, and breadsticks. 20-min walk.





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