

## **MOND40 conference timetable for Monday, 5<sup>th</sup> June, 2023 (day 1 of 5)**

8.30 a.m. – 9 a.m. Registration  
9 a.m. – 9.10 a.m. Introduction and opening remarks (Francoise Combes as head of SOC & Indranil Banik as head of LOC)

**Chair: Francoise Combes**

### **Introduction to MOND**

9.10 a.m. – 10.10 a.m. A brief scientific biography of Jacob Bekenstein (**Robert Sanders**)  
10.10 a.m. – 10.40 a.m. Predictions and outcomes: tests of  $\Lambda$ CDM and MOND (Stacy McGaugh)

10.40 a.m. – 11.30 a.m. Break & poster session



### **Disc galaxy rotation curves**

11.30 a.m. – 12 p.m. Three ways of looking at the radial acceleration relation (Harry Desmond)  
12 p.m. – 12.30 p.m. External field effect in rotationally-supported galaxies: present results and prospects (Kyu-Hyun Chae)

12.30 p.m. – 2 p.m. Lunch



**Chair: Stacy McGaugh**

### **Emergent gravity**

2 p.m. – 3 p.m. Introduction to emergent gravity (**Erik Verlinde**)  
3 p.m. – 3.30 p.m. Gravity from transactions: fulfilling the entropic gravity program (Ruth Kastner)

3.30 p.m. – 4.15 p.m. Break & poster session



### **Elliptical galaxy dynamics**

4.15 p.m. – 4.45 p.m. Isolated and central elliptical galaxies: the MONDian perspective (Tom Richtler)  
4.45 p.m. – 5.15 p.m. The halo mass – flattening relation of elliptical galaxies in the light of MOND (Pierfrancesco Di Cintio)

5.15 p.m. – 6 p.m. Discussion (led by Francoise Combes and Stacy McGaugh)

Talks and discussion sessions will be in Lecture Theatre B in the physics and astronomy building (map reference 15); lunch will be provided in its foyer.

## **MOND40 conference timetable for Tuesday, 6<sup>th</sup> June, 2023 (day 2 of 5)**

**Chair: Benoit Famaey**

### **Relativistic MOND**

- 9 a.m. – 10 a.m. Extensions of General Relativity with a MOND and  $\Lambda$ CDM limit: Aether Scalar Tensor (AeST) theory and beyond  
(**Constantinos Skordis**)
- 10 a.m. – 10.30 a.m. Some relativistic metric MONDian extensions of gravity (Sergio Mendoza)

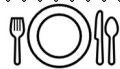
10.30 a.m. – 11.15 a.m. Break & poster session



### **Weak gravitational lensing**

11.15 a.m. – 12.15 p.m. Observational tests: constraining modified gravity and cold dark matter hypotheses (**Edwin Valentijn**)

12.15 p.m. – 1.45 p.m. Lunch



**Chair: Federico Lelli**

### **Vertical gravity of the Galaxy**

- 1.45 p.m. – 2.15 p.m. Couplings between dark matter and baryonic matter on galactic scales: the radial vs. vertical (Haixia Ma)
- 2.15 p.m. – 2.45 p.m. How "MOND-like" is Quasilinear MOND? Investigating the Vertical Acceleration Field of the Milky Way (Sofia Splawska)

2.45 p.m. – 3.30 p.m. Break & poster session



### **Galaxy groups and clusters**

- 3.30 p.m. – 4 p.m. On the orbital velocity of galaxy pairs (Riccardo Scarpa)
- 4 p.m. – 4.30 p.m. Parallel Radial Acceleration Relation and Mass-Velocity Dispersion Relation on BCG-Cluster Scales (Yong Tian)
- 4.30 p.m. – 5 p.m. Challenge in galaxy clusters: can adding additional mass help MOND? (Pengfei Li)

---

5 p.m. – 5.45 p.m. Discussion (led by Benoit Famaey and Federico Lelli)

---

## **MOND40 conference timetable for Wednesday, 7<sup>th</sup> June, 2023 (day 3 of 5)**

**Chair: Robert Sanders**

### **The Local Group**

- 9 a.m. – 9.30 a.m. Probing the strong equivalence principle with Local Group globular clusters and their stellar streams (Guillaume Thomas)  
9.30 a.m. – 10 a.m. The reports of the demise of the Planes of Satellite Galaxies Problem are greatly exaggerated (Marcel S. Pawlowski)  
10 a.m. – 10.30 a.m. Lopsidedness in Andromeda's satellite galaxy distribution: A renewed tension with  $\Lambda$ CDM simulations (Kosuke Jamie Kanehisa)

---

10.30 a.m. – 11 a.m. Break & poster session



### **Theoretical aspects of MOND**

- 11 a.m. – 12 p.m. MOND as modified inertia (**Mordehai Milgrom**)  
12 p.m. – 12.30 p.m. MOND & Retarded Gravity (Asher Yahalom)

---

12.30 p.m. – 2 p.m. Lunch



**Chair: Hongsheng Zhao**

- 2 p.m. – 2.30 p.m. Quaternionic mass quantisation (Robert Wilson)  
2.30 p.m. – 3 p.m.  $a_0$  and  $\Lambda$  from pre-canonical quantum gravity (Igor Kanatchikov)

---

3 p.m. – 3.30 p.m. Break & poster session



### **High-redshift galaxies**

- 3.30 p.m. – 4 p.m. Evidence of an accelerated evolution of the first galaxies in early JWST observations (Marco Castellano)  
4 p.m. – 4.30 p.m. Passive galaxies at the dawn of the Universe as a challenge for  $\Lambda$ CDM cosmology (Emiliano Merlin)  
4.30 p.m. – 5 p.m. Testing MOND in high-z galaxies (Federico Lelli)

---

5 p.m. – 5.45 p.m. Discussion (led by Robert Sanders and Hongsheng Zhao)

7 p.m. Wine reception and dinner in Lower College Hall (reference 44 on map), 15 minute walk east from conference venue

Talks and discussion sessions will be in Lecture Theatre B in the physics and astronomy building (map reference 15); lunch will be provided in its foyer.

## **MOND40 conference timetable for Thursday, 8<sup>th</sup> June, 2023 (day 4 of 5)**

**Chair: Luc Blanchet**

### **Tests on stellar scales**

10 a.m. – 10.30 a.m. MOND as an Alternative to the Planet Nine Hypothesis (Harsh Mathur)  
10.30 a.m. – 11 a.m. Internal kinematics of GAIA DR3 wide binaries (Xavier Hernandez)


---

11 a.m. – 11.30 a.m. Break & poster session 

---

11.30 a.m. – 12 p.m. Wide Binaries from GAIA EDR3: preference for GR over MOND? (Charalambos Pittordis)  
12 p.m. – 12.30 p.m. Strong constraints on MOND from Gaia DR3 wide binaries (Indranil Banik)  
12.30 p.m. – 1 p.m. What kind of MOND could pass the Wide Binary Test? (Hongsheng Zhao)

---

1 p.m. – 2.30 p.m. Lunch 

**Chair: Indranil Banik**

### **Dwarf galaxies**

2.30 p.m. – 3 p.m. Coma cluster ultra-diffuse galaxies as a testing ground for MOND (Jonathan Freundlich)  
3 p.m. – 3.30 p.m. Galaxy clusters in MOND: the case of ultra diffuse galaxies in the Coma cluster (Srikanth Togere Nagesh)

---

3.30 p.m. – 4.15 p.m. Break & poster session 

---

4.15 p.m. – 4.45 p.m. The distribution and morphologies of Fornax Cluster dwarf galaxies suggest they lack dark matter (Elena Asencio)  
4.45 p.m. – 5.15 p.m. Can the observation of globular clusters in low-mass galaxies exclude MOND modified gravity? (Michal Bilek)

---

5.15 p.m. – 6 p.m. Discussion (led by Luc Blanchet and Indranil Banik)

---

## **MOND40 conference timetable for Friday, 9<sup>th</sup> June, 2023 (day 5 of 5)**

Chair: Mordehai Milgrom

### **MOND-like theories**

- 9 a.m. – 10 a.m. Dipolar dark matter (**Luc Blanchet**)  
10 a.m. – 10.30 a.m. Hybrid MOND-dark matter models confronted with weak lensing data (Tobias Mistele)  
10.30 a.m. – 11 a.m. Is there an alternative to MOND? (Francoise Combes)

---

11 a.m. – 11.30 a.m. Break & poster session



### **Large-scale structure**

- 11.30 a.m. – 12.30 p.m. Twin Tests of Cosmological Gravity (**Tessa Baker**)  
12.30 p.m. – 1 p.m. Can cosmological simulations of vHDM ease the large-scale tensions in cosmology? (Alfie Russell)

---

1 p.m. – 2.30 p.m.

Lunch



---

2.30 p.m. – 3 p.m. Discussion (led by Mordehai Milgrom) and closing remarks.

---