

# **1st Sino-European Workshop on Lunar-based Gravitational Waves Detection**

**April 27-30, 2024**

**Beijing, China**

**Co-organizers:**

**Institute of Mechanics, Chinese Academy of Sciences**

**Peking University**

**National Space Science Center of the Chinese Academy of Sciences**

**Gran Sasso Science Institute, Italy**

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## General Information

It's our great pleasure to welcome you to the workshop on Lunar-based Gravitational Waves Detection (<https://swlgwd2024.scimeeting.cn>) in Beijing, China. For the success of the workshop, please carefully read the following:

### Venue

Auditorium of No.1 Building at the Institute of Mechanics, CAS  
No.15 Beisihuanxi Road, Beijing, China

**北京市海淀区北四环西路 15 号，中国科学院力学研究所一号楼礼堂**

### Registration

The registration and enquiries desk is located in the auditorium of No. 1 building.

Registration Desk Opening time:

April 27 (Saturday) 14:00-17:00    April 28 (Sunday) 7:30-8:30

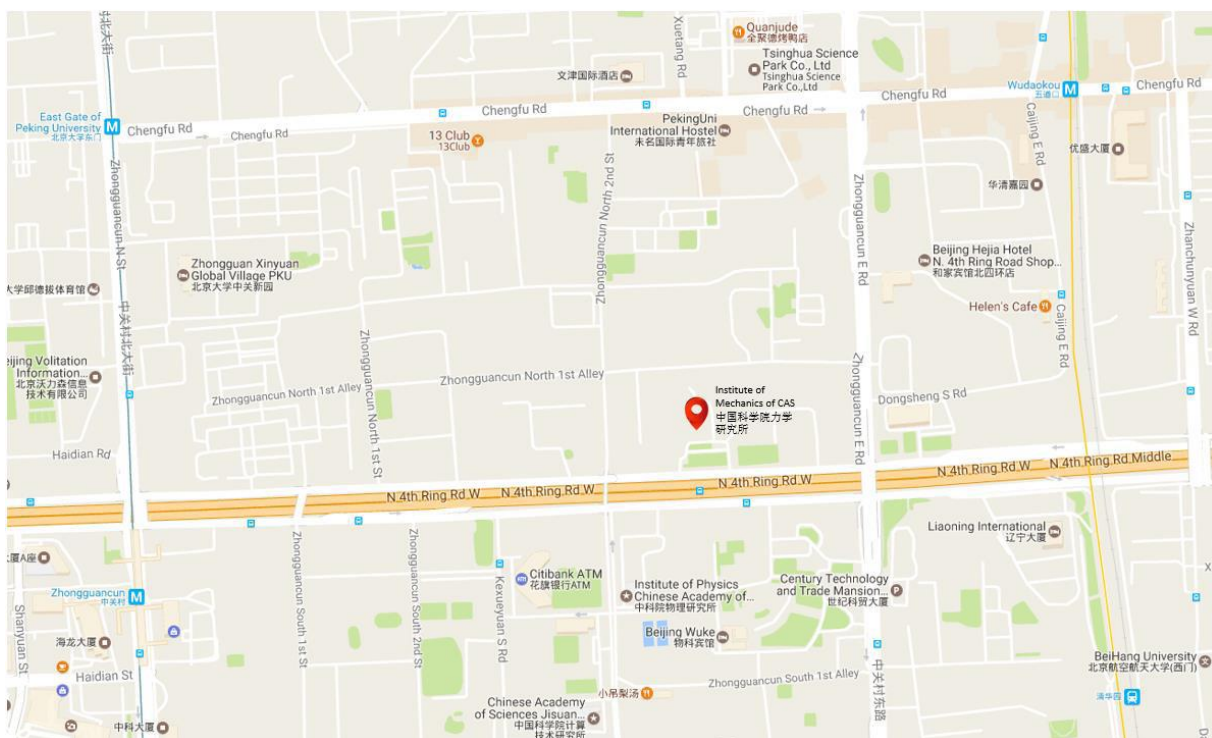
### Online Link (Zoom)

Zoom Number: 860 5284 3869

Passwd: 066066

[Zoom Link](#)

### Map to reach the Institute of Mechanics, CAS.



## Program

APR 27, Day 0 (Auditorium, Building 1, Institute of Mechanics, Haidian District, Beijing)				
Registration				
APR 28, Day 1 (Auditorium, Building 1, Institute of Mechanics, Haidian District, Beijing)				
8:30~8:45	Opening Speech			Dapeng Gao and Sai Huang
8:45~9:00	Take photos			
9:00~10:30 Peng Xu	Mission Concepts	Lunar Gravitational-wave Antenna	Jan Harms	9:00~9:30
		Concept of CIGO Program	Xiaomin Zhang	9:30~10:00
		Overview of GW Detection in Space	Wei-Tou Ni	10:00~10:30
10:30~10:45	Tea break			
10:45~12:00 Jan Harms	Gravitational Waves Astronomy and Cosmology (I)	Decihertz GW Detection & Electromagnetic Warnings	Lijing Shao	10:45~11:10
		A Next-generation Lunar Experiment LILA	Karan Jani (online)	11:10~11:35
		Detecting Dark Matter with Intermediate Mass-ratio Inspirals	Wenbiao Han (online)	11:35~12:00
12:00~13:00	Lunch			
13:30~16:00 Wei-Tou Ni	Gravitational Waves Astronomy and Cosmology (II)	The Lunar Gravitational Wave Antenna: Studies and Science cases	Andrea Melandri	13:30~13:55
		Application of Radio Range and Range-Rate on Detecting Gravitational Waves in Earth-Moon Space	Wenxiao Li	13:55~14:20
		The Last Dance of Dying Stars: Probing Type Ia Supernova progenitors with LGWA/dHz detectors	Nando Patat (online)	14:20~14:45
		Astrophysical Gravitational Wave Sources in the Milli-Hertz and Deci-Hertz Bands	Alejandro Torres Orjuela (online)	14:45~15:10
		Above the khz gravitational waves generation and detection.	Sichun Sun	15:10~15:35
		Multiband Gravitational Wave Observations at the Low to Middle and High Frequencies	Yuetong Zhao	15:35~16:00
16:00~16:15	Tea Break			
16:15~18:20 Xiaomin Zhang	Lunar Science	LGWA Lunar Science	Marco Olivieri	16:15~16:40
		Marsquakes and Martian Interior Structures from Seismology	Weijia Sun	16:40~17:05
		Seismic Environment of the Moon	Taichi Kawamura (online)	17:05~17:30
		Danuri/PolCam Mission and the Space Weathering on the Lunar Surface	Sungsoo S. Kim	17:30~17:55
		The Lunar Crustal Density Structure Revealed by the Spherical Coordinate-Based Gravity Inversion Method	Jing Yang	17:55~18:20
18:30~20:30	Banquet			

APR 29, Day 2 (Auditorium, Building 1, Institute of Mechanics, Haidian District, Beijing)				
8:30~10:10 Xiaodong Peng	Payload Developments (I)	Inertial Sensor Developments in IMECH	Ziren Luo	8:30~8:55
		Space Ultra Stable Laser for Gravitational-wave Detection	Dijun Chen	8:55~9:20
		Possible Detection of Gravitational Waves with Seismometers on the Lunar Nearside	Mengyao Wang	9:20~9:45
		Superconducting Acceleration Sensing	Xing Bian	9:45~10:10
10:10~10:25	Tea Break			
10:25~12:30 Xian Chen	Sensitivity, Analyzing and Data Processing	Spaceborne Gravitational Wave Detection system simulation	Yuzhu Zhang	10:25~10:50
		Artificial Intelligence for Gravitational-Wave Parameter Estimation	Minghui Du	10:50~11:15
		Toward a Consistent Calculation of the Lunar Response to Gravitational Waves	Han Yan	11:15~11:40
		Damping Separation of Finite Open Systems in Gravity-related Experiments in the Free Molecular Flow Regime	Houqiang Teng	11:40~12:05
		The Response of the Moon to Gravitational Wave	Xiaoming Bi	12:05~12:30
12:30~14:00	Lunch			
14:00~15:40 Marco Olivieri	Payload Developments (II)	Chang'E-7 Lunar Seismograph and Future Extension	Jinhai Zhang	14:00~14:25
		The Payload of The Lunar Gravitational-Wave Antennas	Joris van Heijningen (online)	14:25~14:50
		Fabrication and Characterization of NbN Superconducting Actuators for GW Detection	Meenakshi Sharma (online)	14:50~15:15
		Laser Energy Transmission for LGWA and Other Space Research Missions	Pan Li	15:15~15:40
15:40~16:00	Tea Break			
16:00~16:50 Xing Bian	Lunar Environment	Lunar Environmental Effects and Experimental Techniques	Yuxin Zhao	16:00~16:25
		Dusty Plasma Environment in the Vicinity of the Moon	Minghui Cai	16:25~16:50
16:50~17:00	Closing		Ziren Luo	
17:10~18:00	Closed-door Meeting			
17:30~20:00	Dinner			

## Other Remarks

### Hotel reservation

#### Liaoning International Hotel (辽宁大厦)

Address: No.2a North 4th Ring West Road, Haidian District, Beijing

#### Park Plaza Beijing Science Park(丽亭华苑酒店)

Address: 25 Zhichun Lu , Haidian District , Beijing

#### National Space Science Center Kongke Hotel (国家空间科学中心空科宾馆)

Address: No.1, Zhongguancun South 2nd Street, Haidian District, Beijing (Inside the National Space Science Center)

✚ Conference organization will book the hotel room according your require. The room fee of your booking would be paid when you check in the Hotel in the period of the Workshop. If you encounter any problems with your hotel reservation, please feel free to contact the workshop secretary.

### Cafeteria & Banquet

#### Wuke Restaurant(物科餐厅)

In the Institute of Physics, CAS.

Address: No.8, 3rd South Street, Zhongguancun, Haidian District.

### Contact us

#### Workshop Chairs:

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