

# Lunar Samples Arrive in Hong Kong: HKU Geologists Set to Unveil the Mysteries of the Moon's Volcanic History

月球樣本抵港：

香港大學地質學家成功領取樣本  
或將揭開月球火山歷史之謎



- ❖ **This marks the first time that lunar samples have arrived in Hong Kong for research purposes**
- ❖ **月球樣本首次作為科研樣本來到香港**
- ❖ **The HKU team will analyse the samples for understanding the lunar geological and thermal history**
- ❖ **港大團隊將分析月球樣本以了解月球的地質和熱歷史**
- ❖ **Accelerate lunar and planetary science development and enhance deep space innovation in Hong Kong**
- ❖ **促進香港在月球和行星科學領域的發展，提高香港在深空探測方面的創新能力**
- ❖ **Deepen ties between Hong Kong and the nation in deep space exploration**
- ❖ **加強香港與內地在深空探測領域的合作**





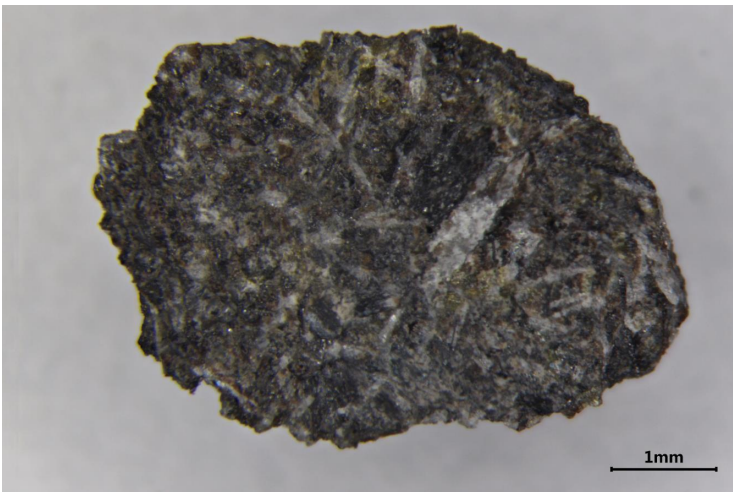
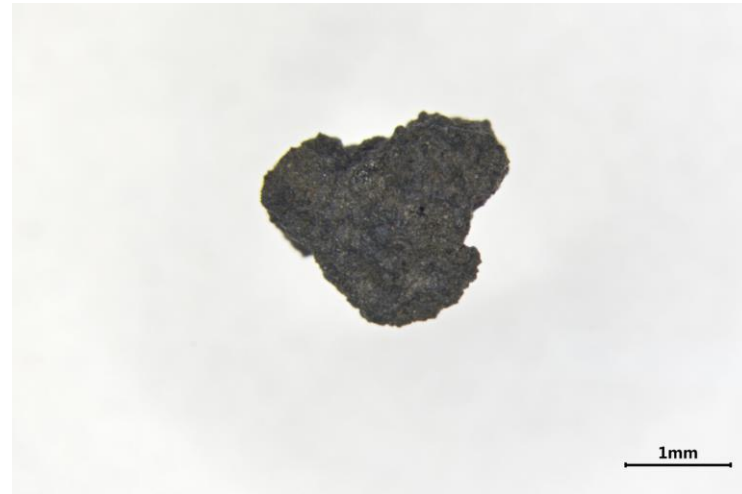
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 Mass 質量: 400 mg



Sample No. 樣本編號: CE5C1000  
 Mass 質量: 400 mg

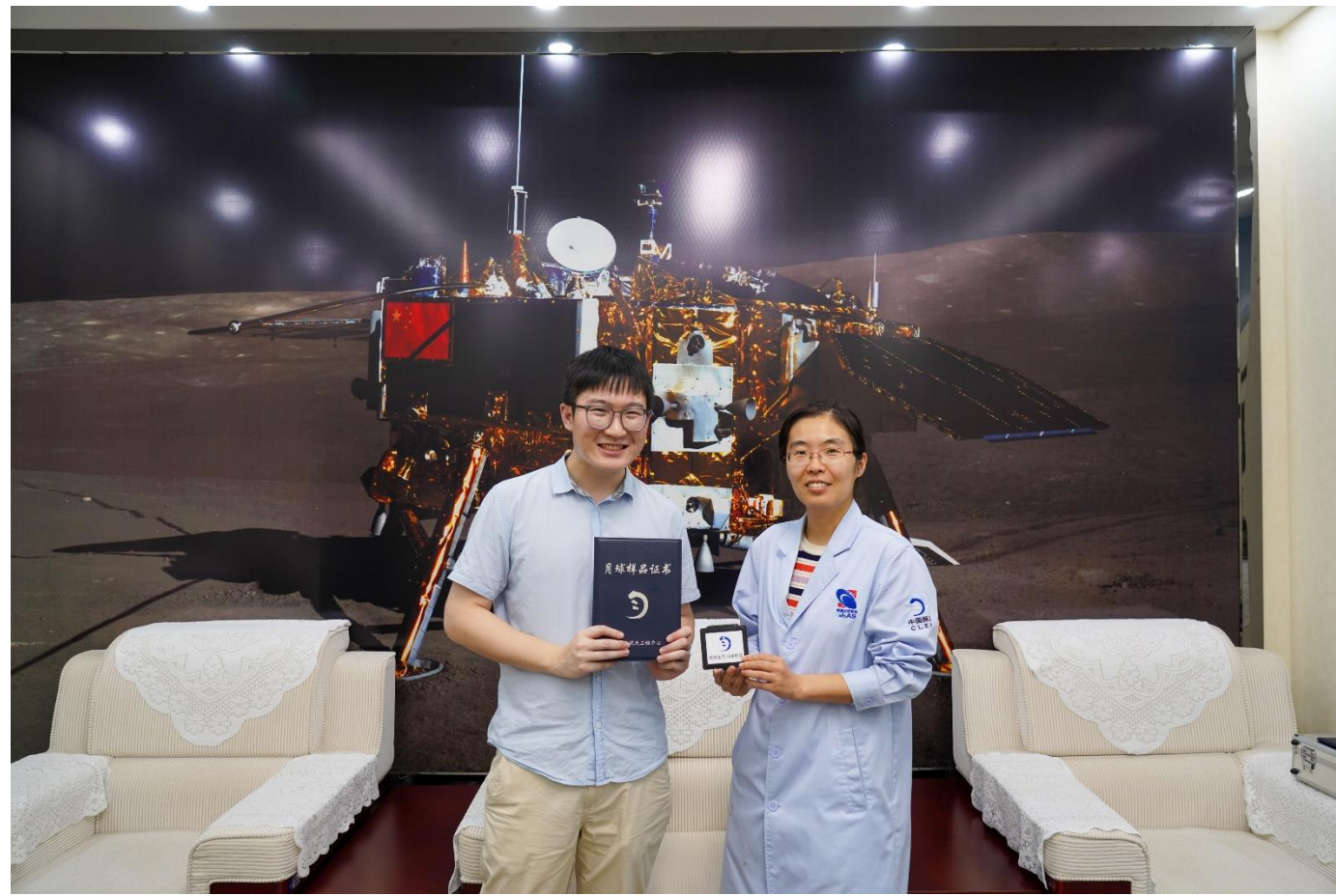


Sample No. 樣本編號: CE5C0800YJYX005GP  
 Mass 質量: 16.6 mg

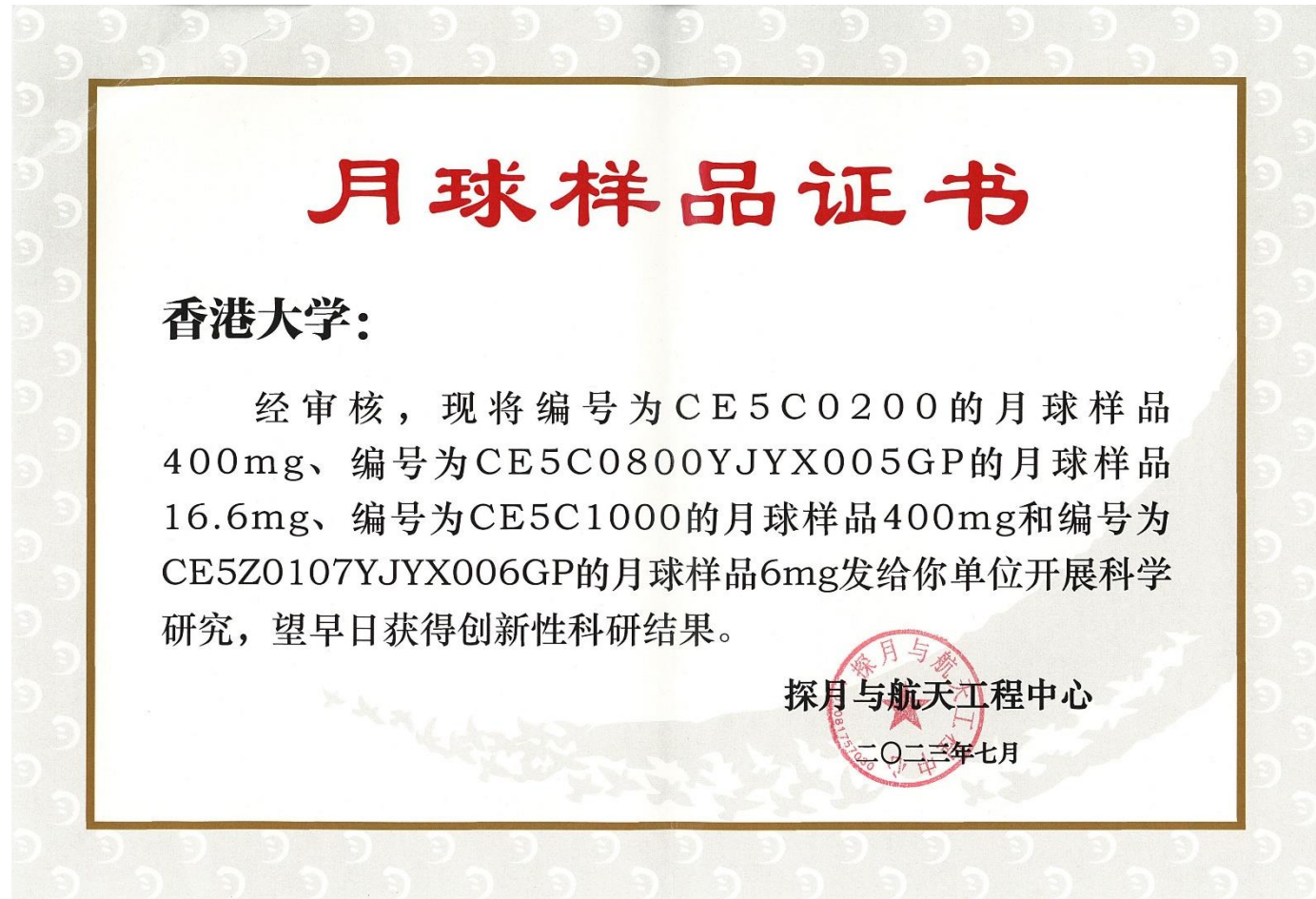


Sample No. 樣本編號: CE5Z0107YJYX006GP  
 Mass 質量: 6 mg

**Weigh 822.6 mg  
 in total**



**Lunar Sample Collection at  
 National Astronomical  
 Observatories  
 在中國科學院國家天文台  
 領取月球樣本**

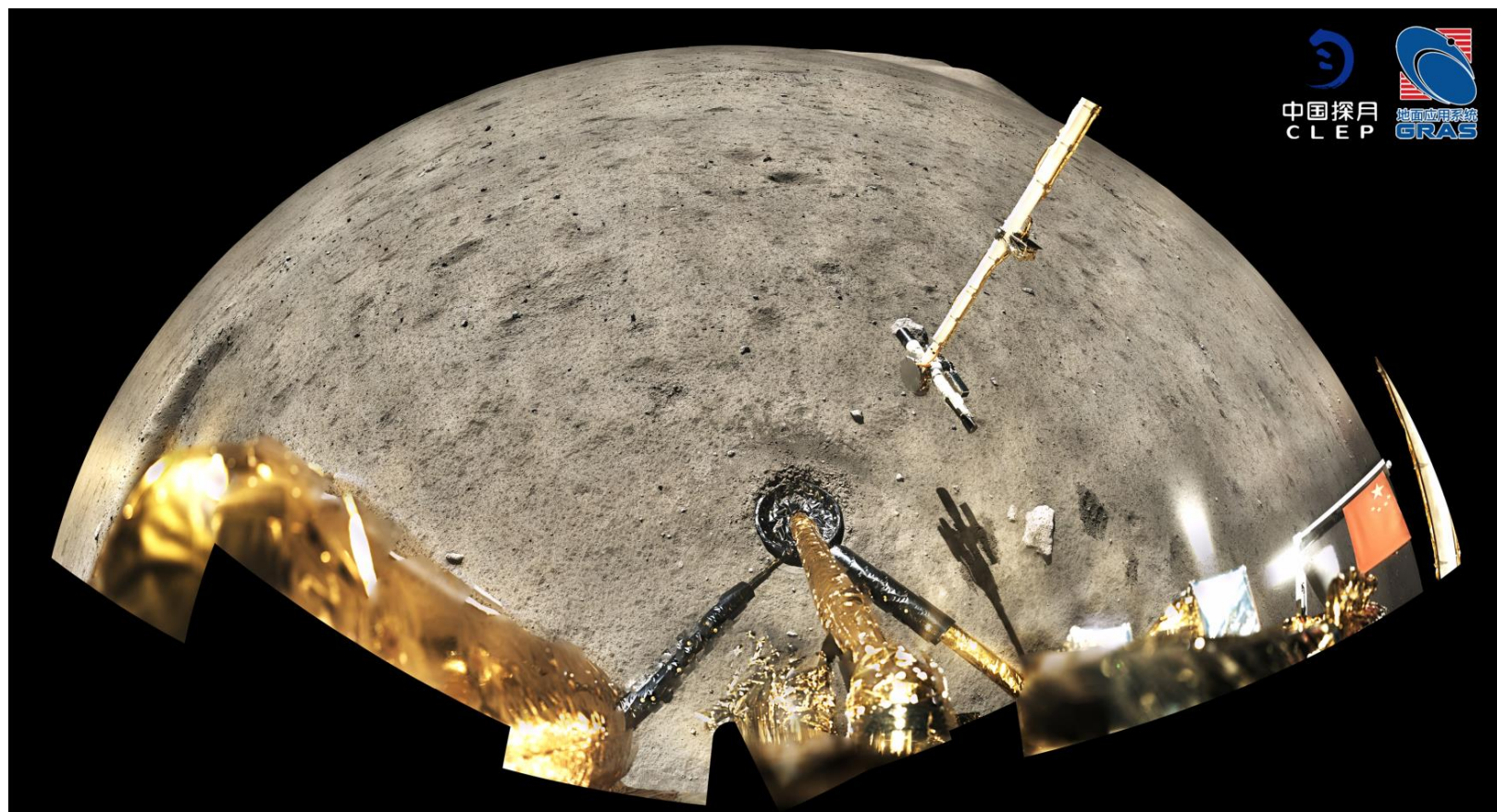
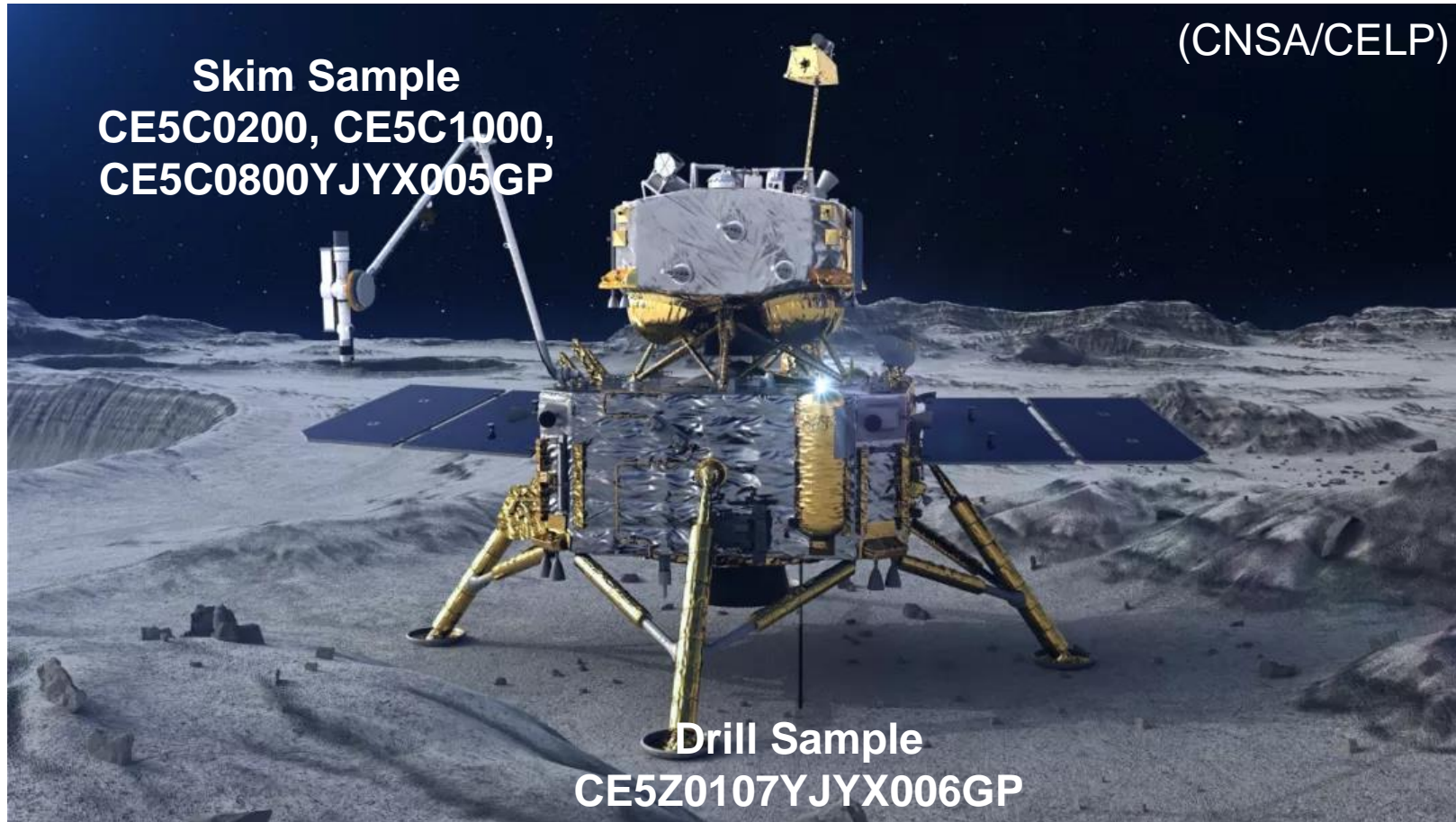


**Lunar Sample Certificate  
 from Lunar Exploration  
 and Space Engineering  
 Center  
 探月與航天工程中心頒發的  
 月球樣品證書**



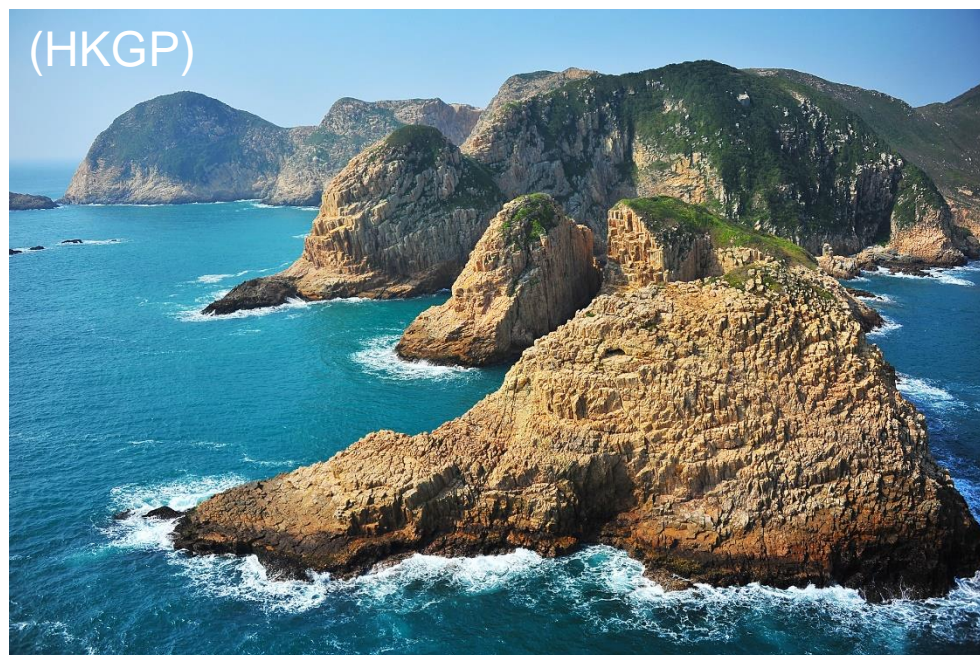


# Chang'e-5 Lunar Sample Return Mission 嫦娥五號月球採樣返回任務

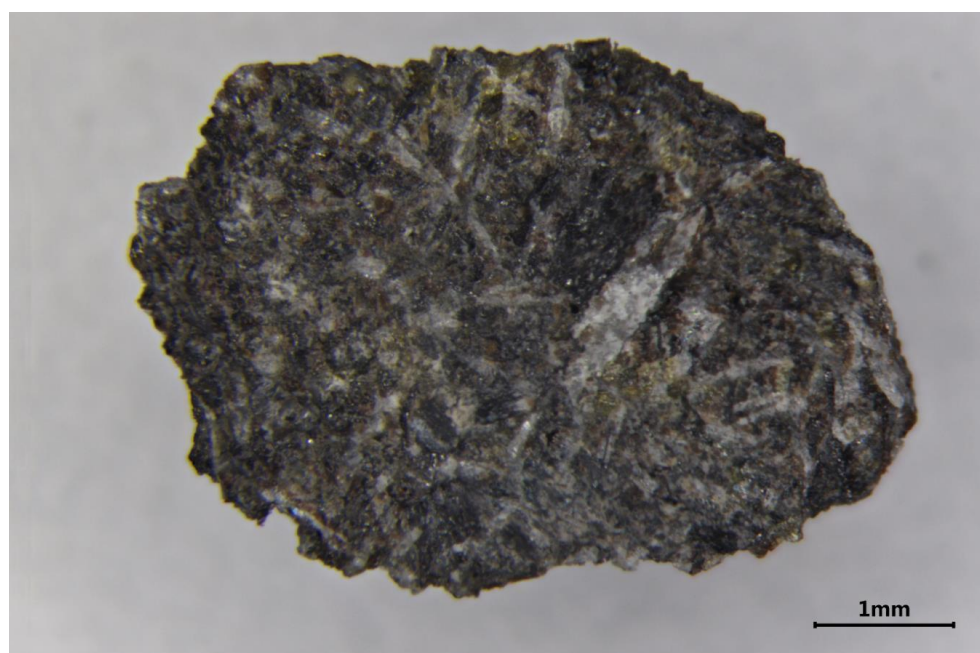


- ❖ Chang'e-5 is China's first lunar sample return mission, launched on Nov. 24, 2020, and landed in the Procellarum KREEP Terrane on Dec. 1.
- ❖ 嫦娥五號是中國首次執行月球採樣返回任務，於2020年11月24日發射，12月1日著陸於風暴洋克里普地體內部。
- ❖ Previous studies by Dr Qian predicted the Chang'e-5 landing site contains one of the youngest lunar basalts with significant scientific meanings and proposed Chang'e-5 to land there.
- ❖ 錢博士早前的研究提出嫦娥五號著陸點擁有月球上最年輕的玄武岩之一，具有非常重要的科學價值，他因而建議在該地區進行著陸。
- ❖ Laboratory studies proved Chang'e-5 basalt is almost 1 billion years younger than any previous returned lunar basalts, raising the question of how those young basalts originated.
- ❖ 經實驗室研究證實，嫦娥五號採集的玄武岩比任何以往採集的月球玄武岩年輕近10億年。由於這個發現，科學家們開始探究這些年輕玄武岩的起源問題。

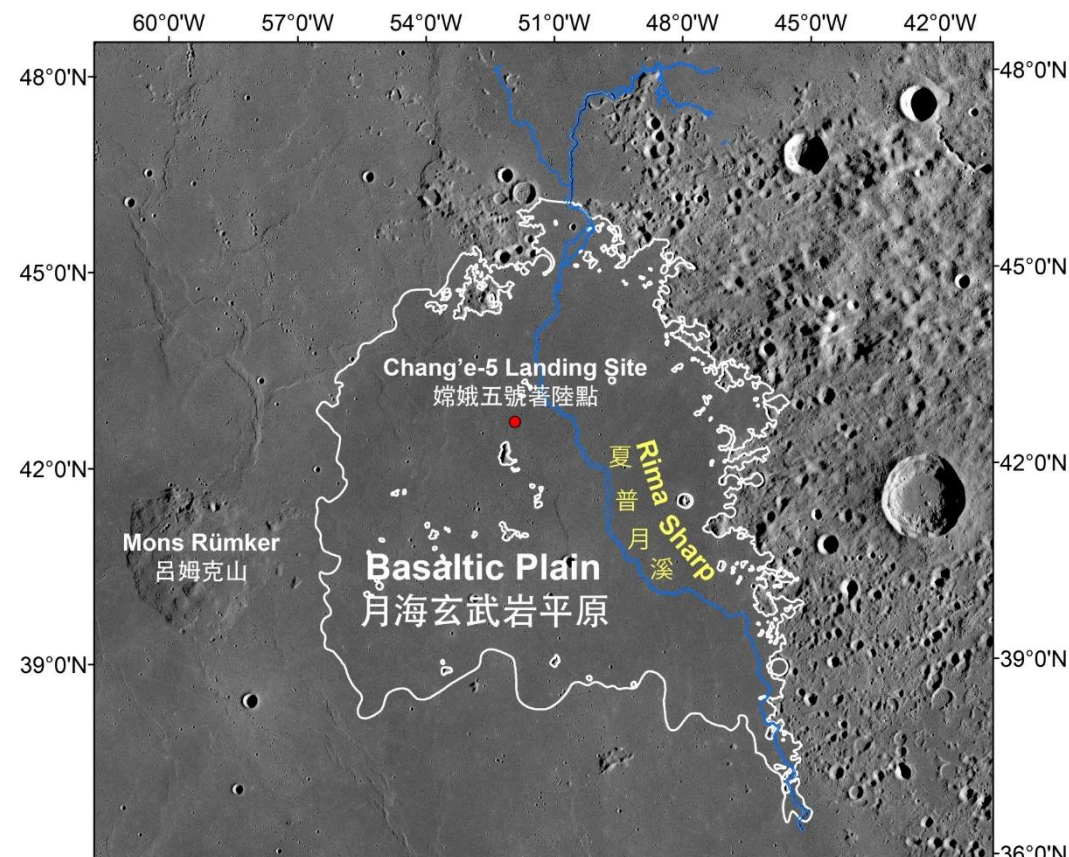




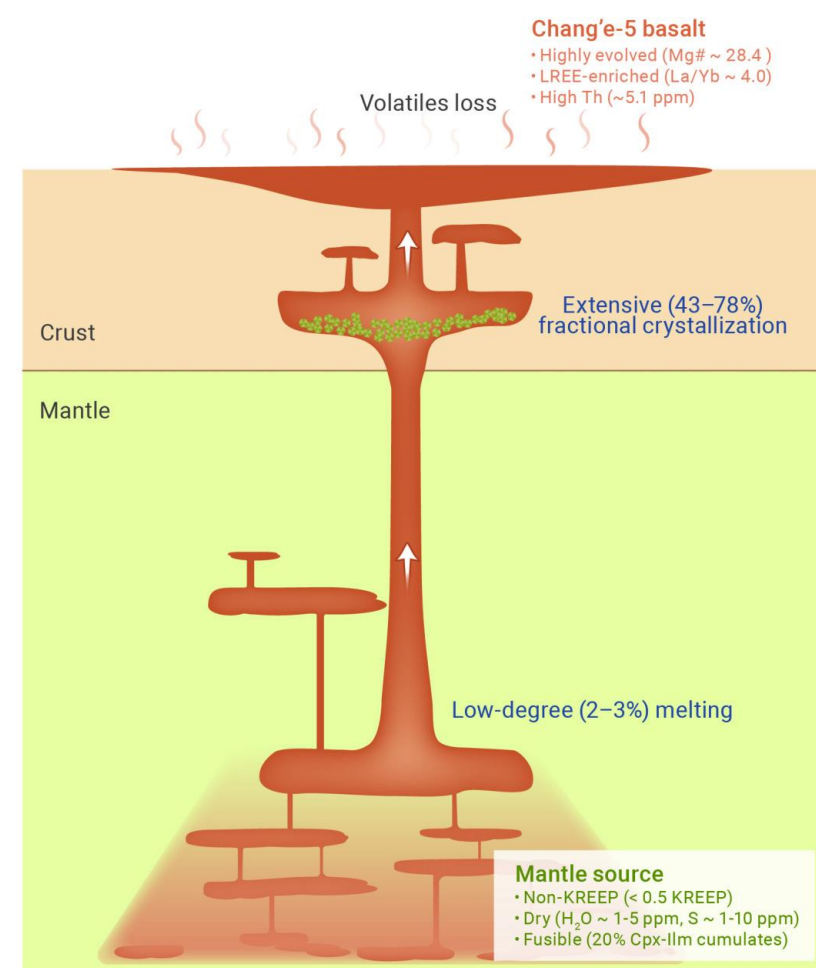
Basalt Island in Hong Kong  
 火石洲島



Lunar Basalt  
 月球玄武岩



Geological Background of the Landing Site  
 嫦娥五號著陸點地質背景



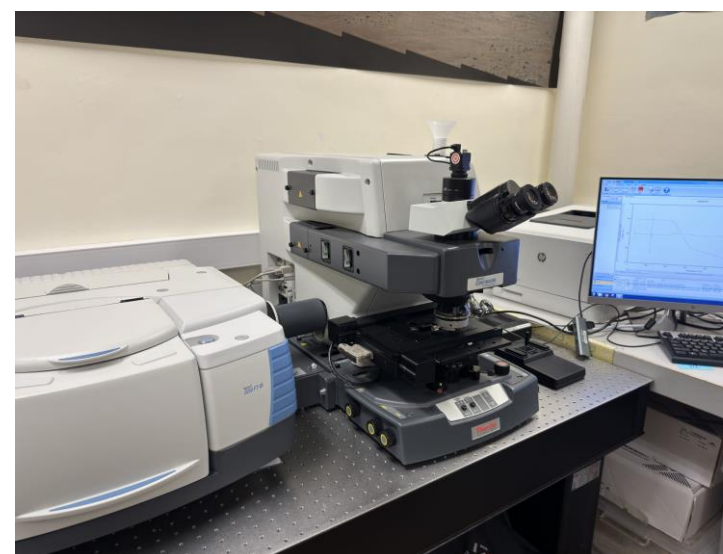
Origin of the Chang'e-5 Lunar Basalt  
 嫦娥五號月球玄武岩的起源



EMPA 電子探針



SEM 掃描電鏡



FTIR 傅立葉紅外光譜儀



Raman 拉曼光譜儀

Utilise the most advanced instruments available at the university and cutting-edge methods (mineralogy, petrology and geochemistry) developed by HKU scientists to construct a complete picture of magma eruption at the Chang'e-5 landing site 利用香港大學最先進的儀器和開發的方法（礦物學、岩石學、地球化學）重建嫦娥五號著陸點岩漿噴發過程



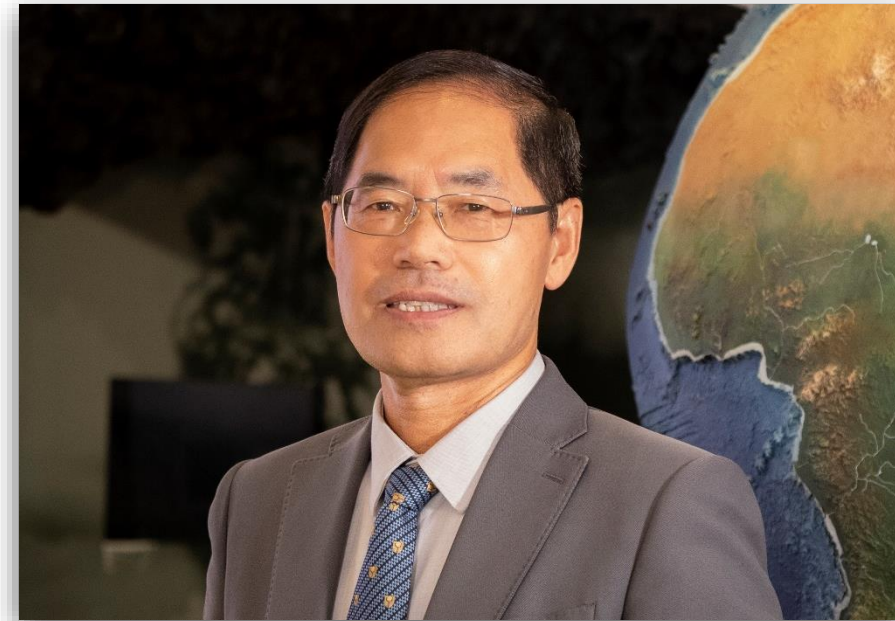
# The Lunar Sample Team 「月壤團隊」



PI of the Sample  
Postdoctoral Fellow Yuqi QIAN  
(Lunar Science, HKU)  
樣品申請人錢煜奇  
博士後研究員 (月球科學, 港大)



Associate Professor  
Joseph MICHALSKI  
(Martian Science, HKU)  
(火星科學, 港大)



Chair Professor Guochun ZHAO  
(Early Earth Science, HKU)  
趙國春講座教授 (早期地球科學, 港大)



Assistant Professor Weiran LI  
(Volcanology, HKU)  
李蔚然助理教授 (火山學, 港大)



Professor Min SUN  
(Geochemistry & Petrology, HKU)  
孫敏教授 (地球化學及岩石學, 港大)



Professor Jian ZHANG  
(Earth Science, HKU)  
張健教授 (早期地球科學, 港大)



Associate Professor Yiliang LI  
(Astrobiology, HKU)  
李一良副教授 (天體生物學, 港大)



Professor Long XIAO  
(Planetary Geology, China University  
of Geosciences)  
肖龍教授 (行星地質學, 中國地質大學)





**SHKU** FACULTY OF SCIENCE  
**Science** THE UNIVERSITY OF HONG KONG  
 香港大學理學院

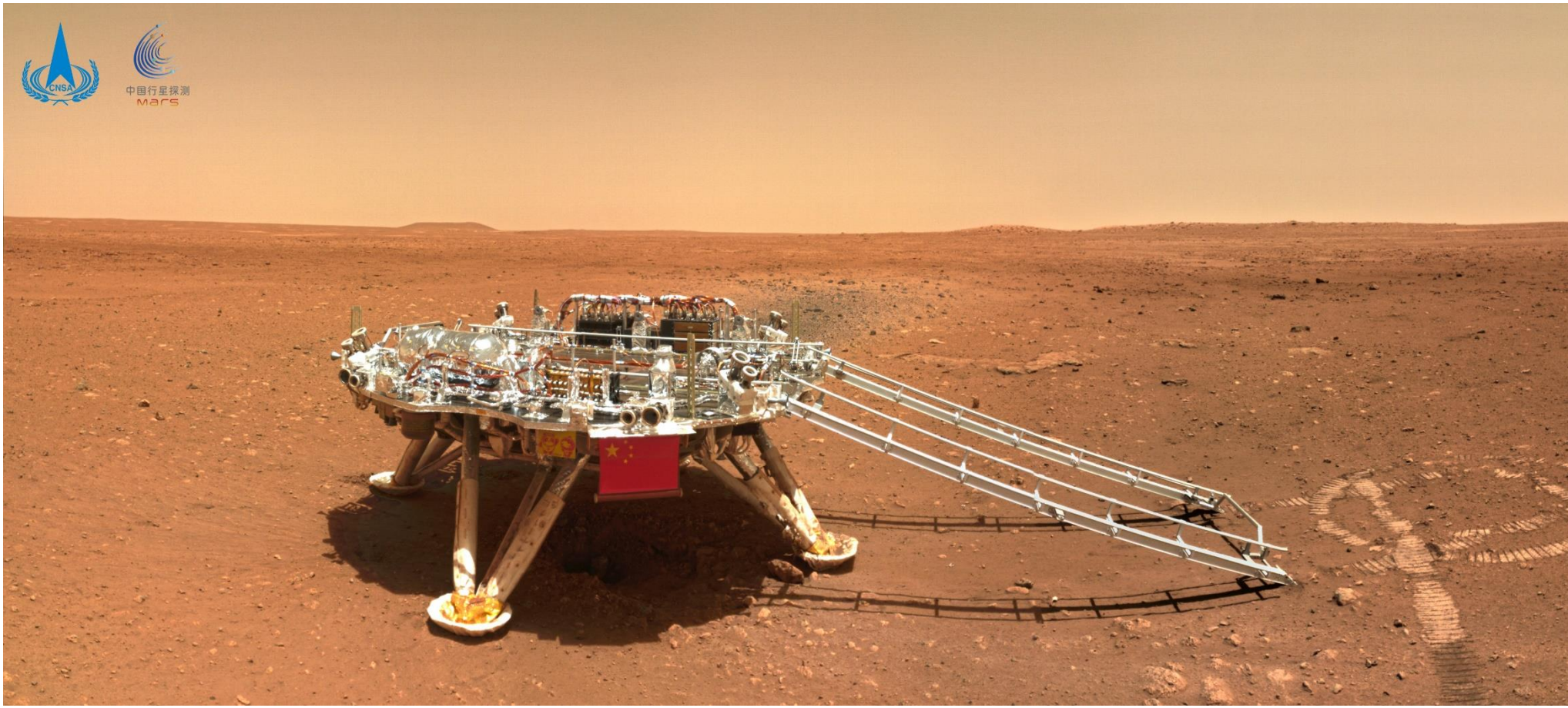
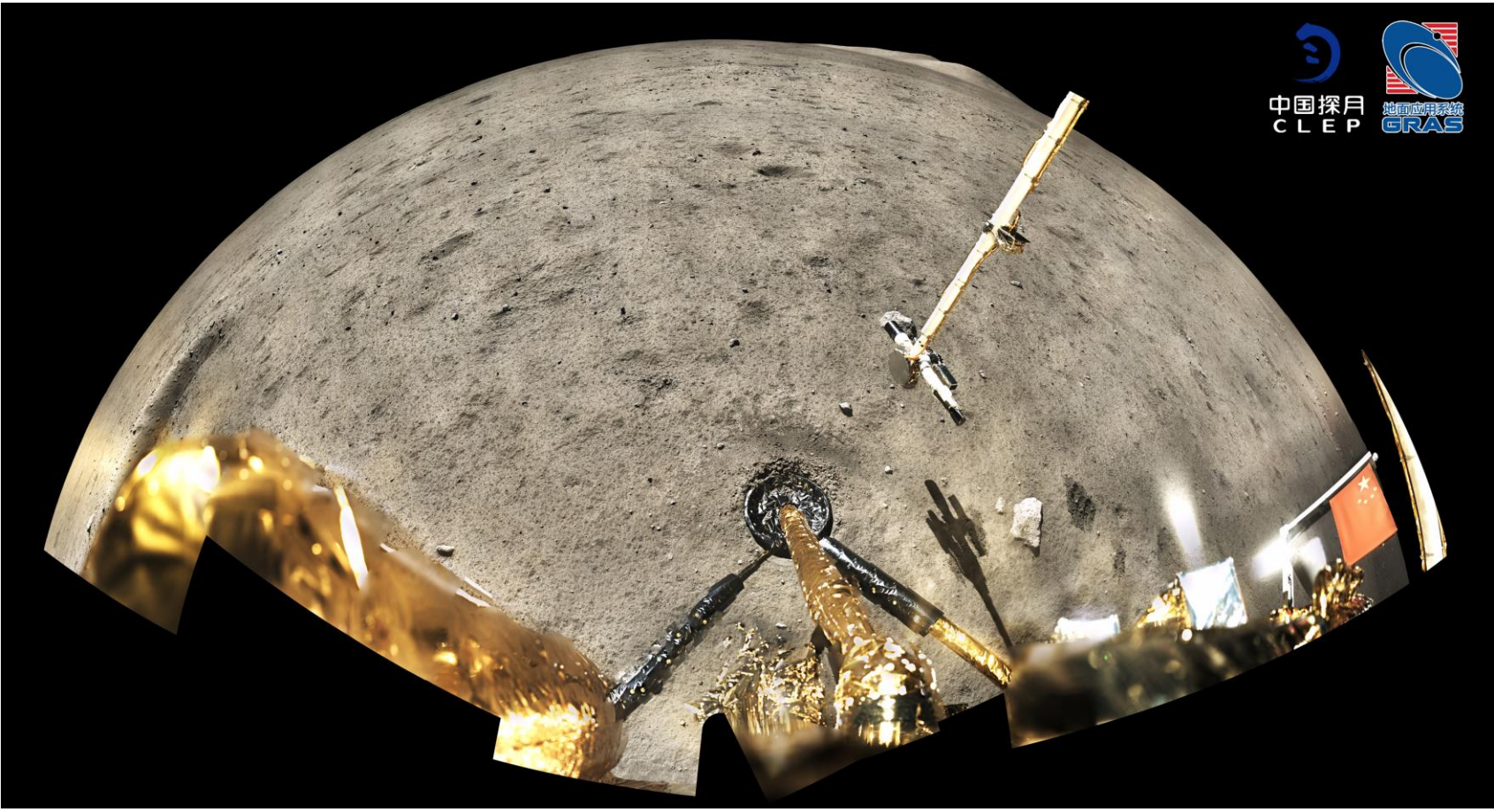
Director 總監  
 Professor Quentin Parker

Deputy Director 副總監  
 Dr Joseph Michalski



香港大學太空實驗室  
**Laboratory for Space  
 Research**

Actively Participate in China's Lunar and Planetary Missions 積極參與中國月球與深空探測任務



Lunar Landing Sites (Chang'e-5 & Chang'e-6): Yuqi QIAN  
 月球著陸區 (嫦娥五號、嫦娥六號) : 錢煜奇

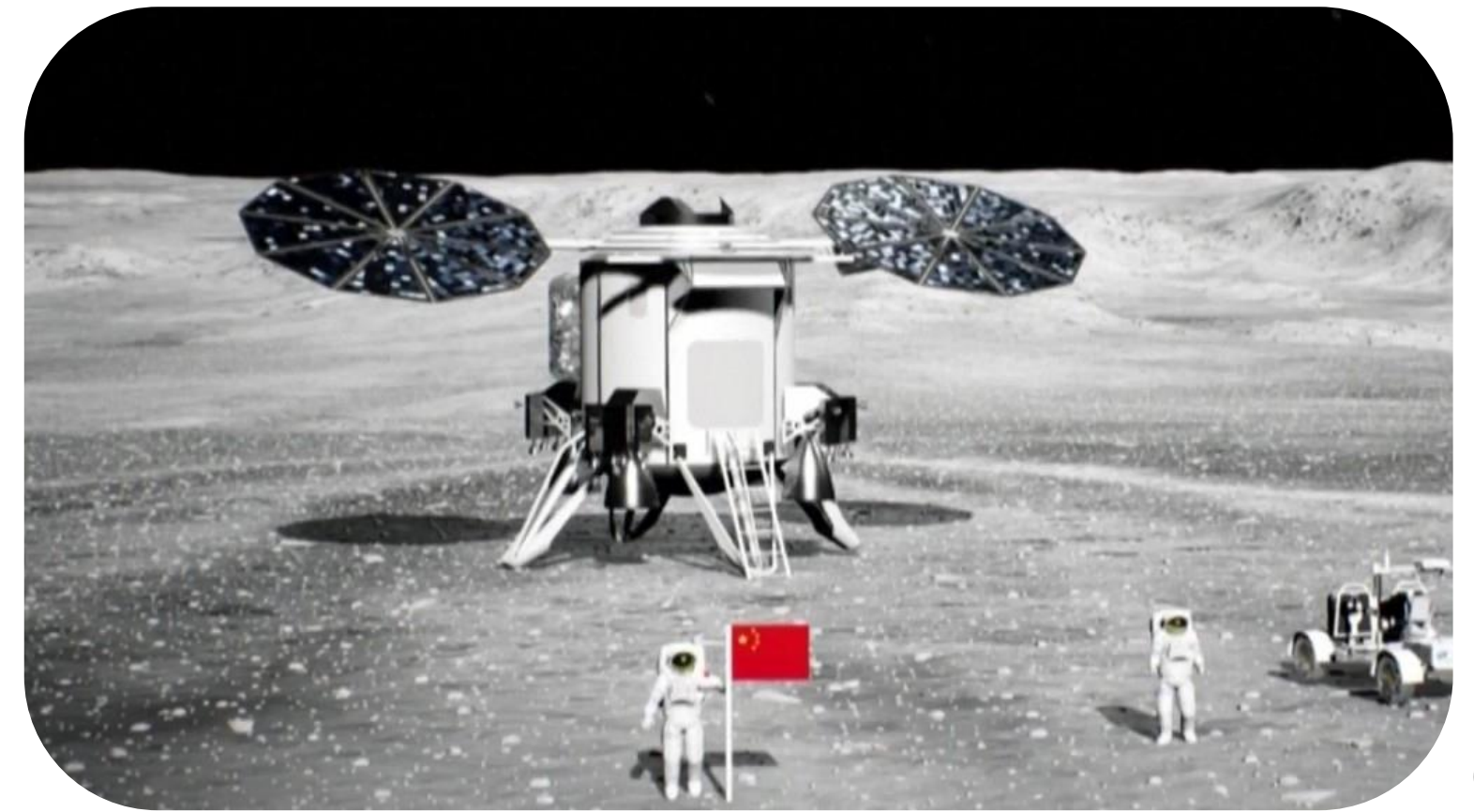
Martian Landing Sites (Tianwen-1 & Tianwen-3): Joseph MICHALSKI,  
 Yiliang LI, Jiacheng LIU, Binlong YE 火星著陸區 (天問一號、天問三號) : Joseph Michalski、李一良、劉嘉成、葉斌龍





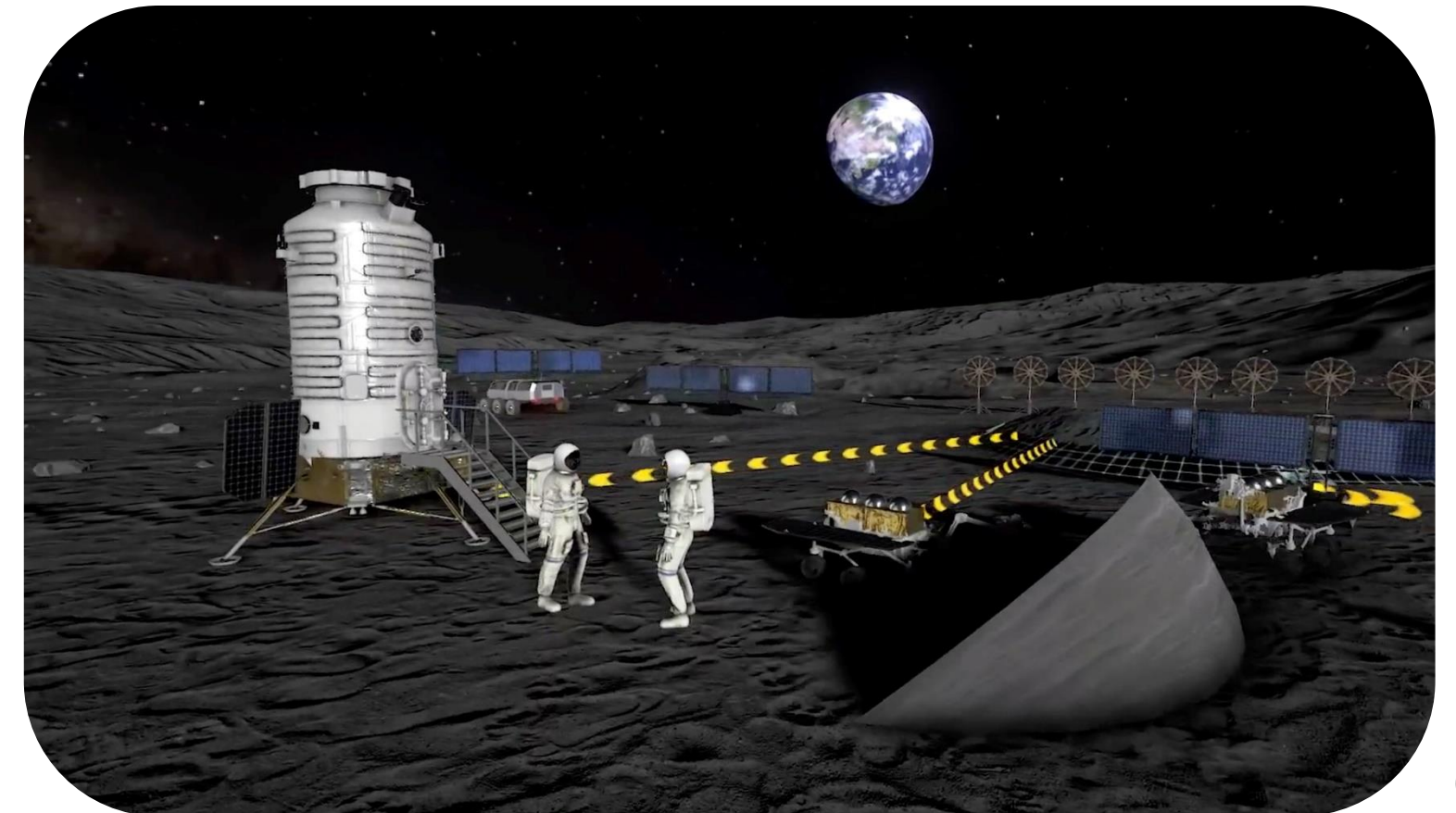
## 中國月球探測工程 China's Lunar Exploration Program

Flown missions 2004–2020						Missions in development 2020–2030			Robotic and manned exploration
CE-1	CE-2	CE-3	CE-5T	CE-4	CE-5	CE-6	CE-7	CE-8	
2007	2010	2013	2014	2018	2019	2024	2026	2028	
Orbiter	Orbiter	Lander/rover	Orbiter/Earth returner	Relay/lander rover	Sampling return	Sampling return	Lander/station	Lander/station	
200-km-high orbit	100-/15-km high orbit	Mare Imbrium	Earth-Moon orbit	Von Kármán crater	Oceanus Procellarum	South Pole	South Pole	?	
Global survey	High-resolution global survey	Lunar surface survey	High-speed Earth return	Far-side surface survey	Lunar sample	Lunar polar samples	Lunar scientific research	Lunar scientific research	
						嫦娥六號	嫦娥七號	嫦娥八號	



(CNSA)

China First Crewed Lunar Mission (Before 2030)  
 中國首次載人登月任務 (2030年前)



(CNSA)

China-lead International Lunar Research Station (2030s)  
 國際月球科研站 (21世紀30年代)

- ❖ **Build up capabilities at HKU to participate in China's lunar exploration missions and keep pace with the country's progress in deep space exploration** 持續提升參與中國月球探測工程的能力，與內地在深空探測領域同步發展
- ❖ **Continue to work on China's lunar missions, including landing site characterisation, data and sample analysis** 持續參與中國月球探測任務，包括著陸點研究、數據和樣品分析