

國立臺灣師範大學 天文與重力中心

Center of Astronomy and Gravitation, National Taiwan Normal University

[近地太空與太陽系探索－任務概念、設計、開發和部署] 工作坊

A Workshop on **Geospace and Solar System Exploration**

– Mission Concept, Design, Development, and Deployment

Day 1 (2025 Feb 10, Mon)		第一天（114年2月10日，星期一）	
Venue /地點：5 th fl. Auditorium, Sci. Edu. Bldg./科教大樓五樓演講廳			
9:00 – 9:45	Registration 註冊報到		
9:45 – 10:00	Opening remarks 大會開幕致詞 Welcome remark by Vice President Kwun-Min Chen (NTNU) 來賓致詞：陳焜銘副校長（師範大學）		
10:00 – 11:00	Plenary talk (I) 大會講演 (I) <i>The Distant Past and Far Future of the Saturnian System</i> Wing Ip 葉永烜 (NCU) Chair: Yi-Jehng Kuan (管一政)		
11:00 – 11:20	Group photo 與會來賓團體照		
11:20 – 12:20	Session 1A 議程 1A Chair: Ying Liao (廖瑩) Outer Solar System (I)		
1A.1 (30min) 11:20 – 11:50	On the age of Saturn's rings and a possible future mission to Saturn's rings	Ryuki Hyodo 兵頭龍樹	ELSI/Space Data, Japan
1A.2 (30min) 11:50 – 12:20	An investigation of Io's dynamical atmosphere with SMA's broadband observations	Wei-Ling Tseng 曾瑋玲	NTNU
12:20 – 13:40	Lunch break 午餐		
13:40 – 15:40	Session 1B 議程 1B Chair: Ying Liao (廖瑩) Space Engineering		
1B.1 (30min) 13:40 – 14:10	The Criticality of System Engineering in Space Program (online)	Dan-Kai Liu 劉登凱	NASA JPL
1B.2 (30min) 14:10 – 14:40	The Current Development of Space Laser Optical Communication (OCT)	Liang-Tang Chen 陳亮棠	TASA
1B.3 (30min) 14:40 – 15:10	The challenges of commercial lunar missions	Hao-En Julian Chang 張浩恩	Astrobotic, USA
1B.4 (30min) 15:10 – 15:40	Gamma-ray Transients Monitor (GTM) onboard Formosat-8B (original Talk 3B.1)	Hsiang-Kuang Chang 張祥光	NTHU
15:40 – 16:00	Coffee break 茶敘		
16:00 – 17:00	Session 1C 議程 1C Chair: Jung-Chen Tung (董容辰) Geospace (I)		
1C.1 (30min) 16:00 – 16:30	A Mission Design for GNSS Remote Sensing Constellation in Taiwan	Yung-Fu Tsai 蔡永富	TASA
1C.2 (30min) 16:30 – 17:00	A novel concept to prolong the forecasting time of space weather: HENON Project	Gilbert Pi 畢可為	Charles Univ Czech
17:00 – 17:30	Forum F1 論壇 F1 How to form a mission concept?		
F1 (30 min) 17:00 – 17:30	Round table discussion -- Chair: Wing Ip (葉永烜)	all participants	
18:00 – 20:00	Welcome reception 歡迎茶會		

Day 2 (Feb 11, Tue)		第二天（2月11日，星期二）	
Venue /地點：5 th fl. Auditorium, Sci. Edu. Bldg./科教大樓五樓演講廳			
10:00 – 11:00	Plenary talk (II) 大會講演 (II) <i>OSIRIS-REx Returned a Piece of the Early Solar System</i> Jason Dworkin (NASA/GSFC)		Chair: Yueh-Ning Lee (李悅寧)
11:00 – 12:10	Session 2A 議程 2A Chair: Yueh-Ning Lee (李悅寧) Near-Earth and Inner Solar System		
2A.1 (30min) 11:00 – 11:30	Introducing AstroLab: from Cutting-edge Multi-disciplinary Innovations to Solar System Origins	Hsien Shang 尚賢	ASIAA
2A.2 (30min) 11:30 – 12:00	The Surface-Bounded Lunar Exosphere	Ian-Lin Lai 賴彥霖	NCU
2A.3 (20min) 12:00 – 12:20	Studies on Mercury's Dynamic Sodium Exosphere: Simulations and Observations	Chen-Yen Hs 許臻謙	NCU
12:20 – 13:30	Lunch break 午餐		
13:30 – 14:30	Plenary talk (III) 大會講演 (III) <i>Science Drivers for Cometary Sample Return</i> Steven Charnley (NASA/GSFC)		Chair: Yo-Ling Chuang (莊幼玲)
14:30 – 15:30	Session 2B 議程 2B Chair: Yo-Ling Chuang (莊幼玲) Geospace (II)		
2B.1 (30min) 14:30 – 15:00	History, current status, and future plan of Taiwan meteorological satellite missions	Wen-Hao Yeh 葉文豪	TASA
2B.2 (30min) 15:00 – 15:30	Responses of the upper atmosphere to the gravitational force of the relative positions between the Sun, the Moon, and the Earth	Jann Yenq Liu 劉正彥	NCU
15:30 – 16:00	Coffee break 茶敘		
16:00 – 17:00	Session 2C 議程 2C Chair: Li-Ching Huang (黃立晴) Interplanetary		
2C.1 (30min) 16:00 – 16:30	Exploring the Oceanity of the Dwarf Planet Ceres	Yo-Ling Chuang 莊幼玲	ASIAA
2C.2 (30min) 16:30 – 17:00	Spacecraft missions of planetary gravity	Ben Chao 趙丰	ASIES
17:00 – 17:30	Forum F2 論壇 F2 How to design and develop a mission?		
F2 (30 min) 17:00 – 17:30	Round table discussion – Chairs: Jason Dworkin & SBC	all participants	
18:30 – 21:00	Banquet 大會晚宴		

Day 3 (Feb 12, Wed)		第三天（2月12日，星期三）	
Venue /地點：5 th fl. Auditorium, Sci. Edu. Bldg./科教大樓五樓演講廳			
10:00 – 11:00	Plenary talk (IV) 大會講演 (IV) <i>Europa Clipper Science and Mission Overview</i> (online) Robert Pappalardo (NASA/JPL)		Chair: Wei-Ling Tseng (曾瑋玲)
11:00 – 11:50	Session 3A 議程 3A Chair: Wei-Ling Tseng (曾瑋玲) Outer Solar System (II)		
3A.1 (30min) 11:00 – 11:30	Submillimeter Spectral Study of an Icy Ocean World	Yi-Jehng Kuan 管一政	NTNU
3A.2 (20min) 11:30 – 11:50	A Numerical Simulation of the Neutral Atmospheric outflow and Loss Processes of the Jovian Moon, Europa	Meng Tse Yang 楊孟澤	NCU
11:50 – 13:10	Lunch break 午餐		
13:10 – 15:00	Session 3B 議程 3B Chair: Hung-Yi Pu (卜宏毅) Earth Orbital and Astronomy		
3B.1 (20min) 13:10 – 13:30	Application of Plasma Simulation in Studying the Interaction Between Space Plasma and Spacecraft/Scientific Payload: A Case Study with the Multi-Needle Langmuir Probe (original Talk 1B.4)	Chun-Sung Jao 饒駿頌	NCKU
3B.2 (30min) 13:30 – 14:00	Revealing the Origin of the Excess Optical Extragalactic Background Light: The VERTECS CubeSat Mission	Tomo Goto	NTHU
3B.3 (20min) 14:00 – 14:20	Modelling Pseudodisk Structures in Star Forming Envelopes using the GPU code Astaroth	Miikka S. Väisälä 韋米卡	ASIAA
3B.4 (20min) 14:20 – 14:40	Characterizing the Physical Properties of T Tauri Stars with Multiband Optical Photometry and Spectroscopy from Multiple Facilities	Chia-Lung Lin 林家龍	NCU
3B.5 (20min) 14:40 – 15:00	The Formosa Lunar UV Telescope Experiment (FLUTE): Status of the project	Albert Kong	NTHU
15:00 – 15:30	Forum F3 論壇 F3 Space mission deployment: things to consider?		
F3 (30 min) 15:00 – 15:30	Round table discussion – Chair: Ben Chao (趙丰)	all participants	
15:30 –	HAPPY LANTERN FESTIVAL! Departure 元宵節快樂！ 賦歸		