



# Research Field: PLANETARY SURFACE PROCESSES

## Focused Field: GROUND PENETRATING RADAR

### SHORT BIO

I obtained my B. Sc. Degree and Master Degree in Physics from Nanjing University, and the PhD degree from Department of Electrical and Computer Engineering at University of Pittsburgh, U.S. After graduation, I joined the research lab of AMD corp., Beijing as a senior researcher and worked on the field of computer architecture.

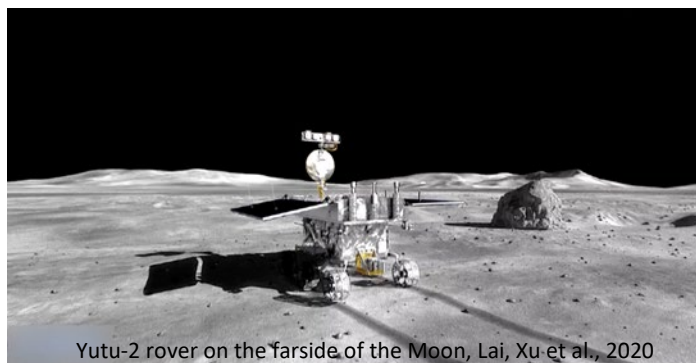
Since 2013, I have been working at the Space Science Institute/State Key Laboratory of Lunar and Planetary Science in Macao University of Science and Technology, China. My current research area is planetary surface processes and mainly focuses on subsurface stratigraphy and property inversion of subsurface materials based on the data of ground penetrating radar equipped on rover or spaceborne radar of the ongoing Chinese missions. I am also studying the geomorphologic features of landforms on Mars and Earth. I am teaching introduction to remote sensing to post-graduate students.

Prof.

Yi Xu



PhD: Electrical & Computer Engineering – University of Pittsburgh  
Masters: Microelectronics – Nanjing University  
Bachelor: Physics – Nanjing University



Yutu-2 rover on the farside of the Moon, Lai, Xu et al., 2020

### KEY PUBLICATIONS *(corresponding author)*

J. Lai, **Y. Xu**, et al., 2020.

*First look by the Yutu-2 rover at the deep subsurface structure at the lunar farside. **Nature Communications***

J. Lai, **Y Xu**, et al., 2019.

*Comparison of dielectric properties and structure of lunar regolith at Chang'e-3 and Chang'e-4 landing sites revealed by ground-penetrating radar. **Geophysical Research Letters***

R. Chen, L. Zhang, **Y.Xu**, et al., 2023.

*Martian soil as revealed by ground-penetrating radar at the Tianwen-1 landing site. **Geology***

### PROFESSIONAL EXPERIENCE

**2025 – Ongoing – Macau University of Science and Technology (Macao) –Professor**

**2021 – 2025 – Macau University of Science and Technology (Macao) – Associate Professor**

**2013 – 2021 – Macau University of Science and Technology (Macao) – Assistant Professor**

**2012 – 2013 – AMD Inc. (Beijing) – Senior Researcher**

**2007 – 2012 – University of Pittsburgh (U.S.) – Research Assistant**

### GRANTS

**FDCT (0021/2024/RIA1) – 2024.10-2027.10 – Principal Investigator**

Research on GPR Detection Technology for Lava Tubes: Implications for Lunar Base Construction

**FDCT (0089/2018/A3) – 2019.1-2022.1 – Principal Investigator**

Searching Subsurface Water Ice on Mars with Radar Data

Pre-research Project on Civil Aerospace Technologies of **CNSA (D020101) –2019.1-2022.12 – CO-PI**

Study on the main geological processes on the surface of Mars and the livability of life and environment

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