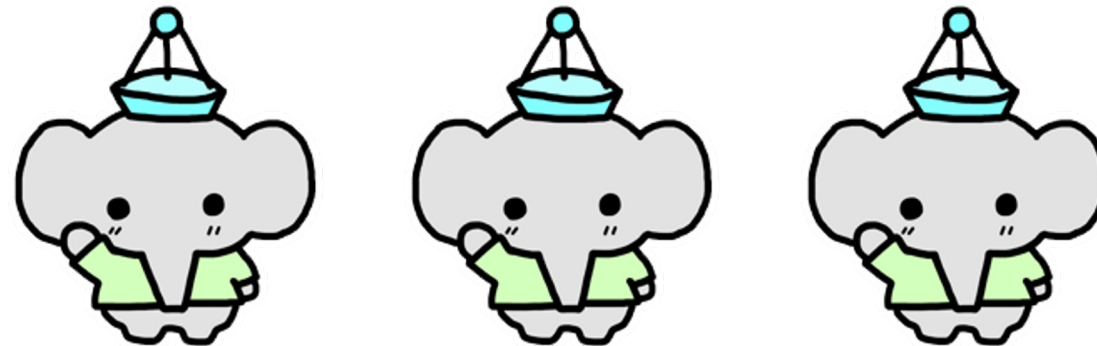


The 42nd Virtual UNISEC-Global Meeting

UNISON **Japan**
Keigo Mutsuo



Activities in UNISON JAPAN

UNISON is the organizer of the CanSat competition ARLISS and also provides financial support for operational costs as a sponsor to the following domestic and international competitions.

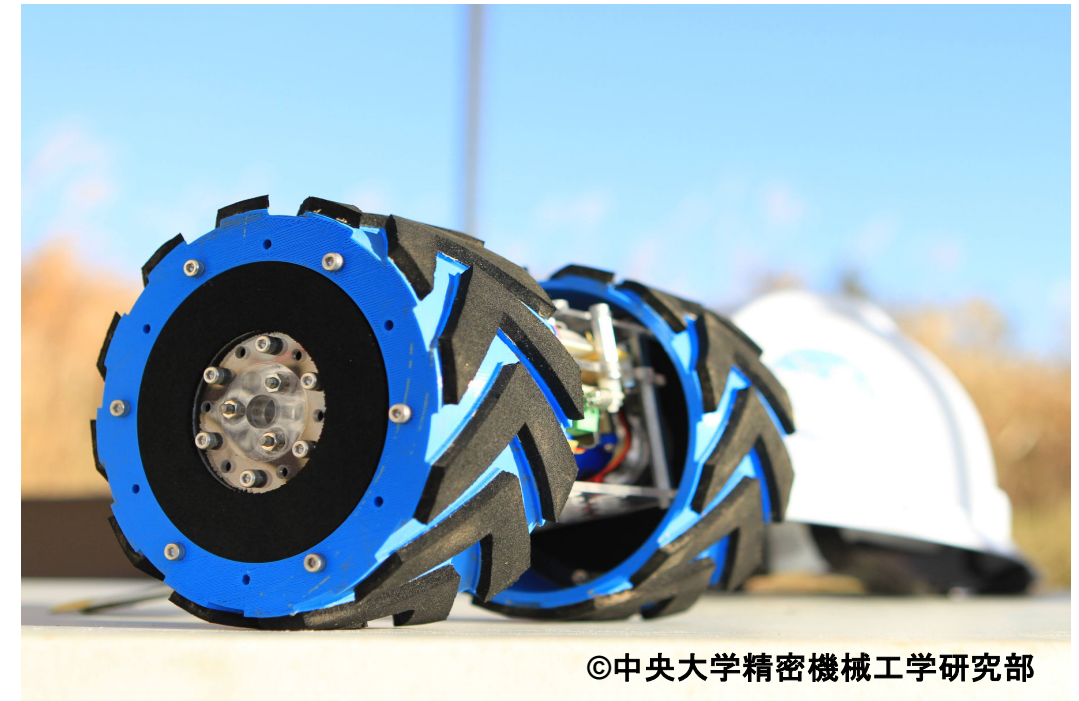
	Event Name	Location	Date
1	Noshiro Space Event	Akita	August
2	ARLISS	U.S.A	September
3	Kada Space Event	Wakayama	September & March
4	Izu Isrand Space Event	Tokyo	November & March
5	UNISEC Rover Challenge	Tottori	March

Why did we decide to do this competition?

- Changes in the Meaning of CanSat Production

部品と構体

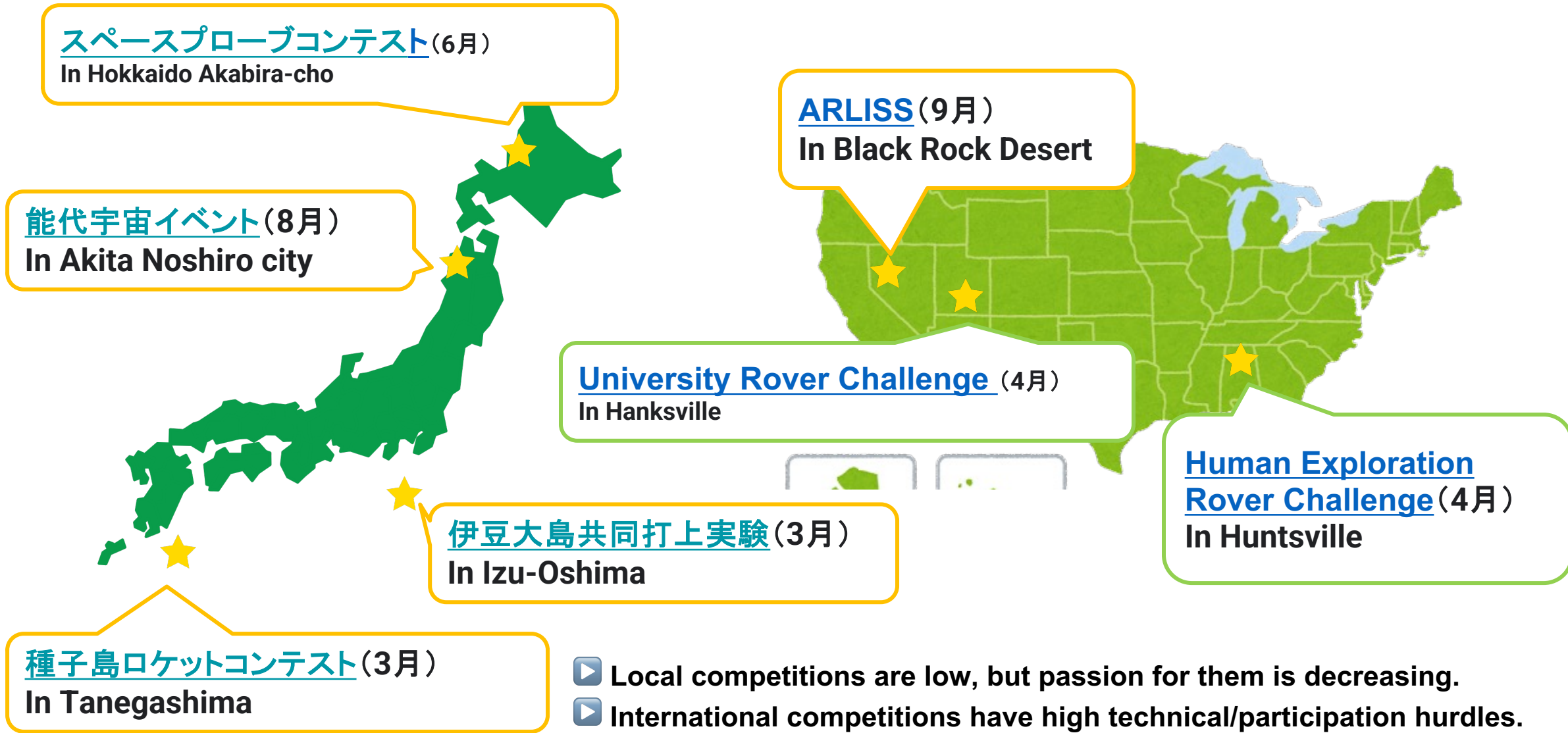
CanSat #002



- ◆ Initially aims to "develop CubeSat
- ◆ Directly learn the know-how of satellite development. (Forms directly related to the development of satellites in the future)

- ◆ The development of the rover became the main focus with the appearance of the open class.
- ◆ Learning of project management and systems engineering

Local and international CanSat and rover competitions



Environmental differences



1 Noshiro

▶ Hard grassy fields
(water pool)



2 ARLISS

▶ Dry desert



3 Tanegashima

▶ Soft grassy field



4 Izu-Oshima

▶ Scoria
Volcanic Plume

Remaining environment ▪ ▪ ▪ is

Sand Desert (like the moon)

We found ... ! !

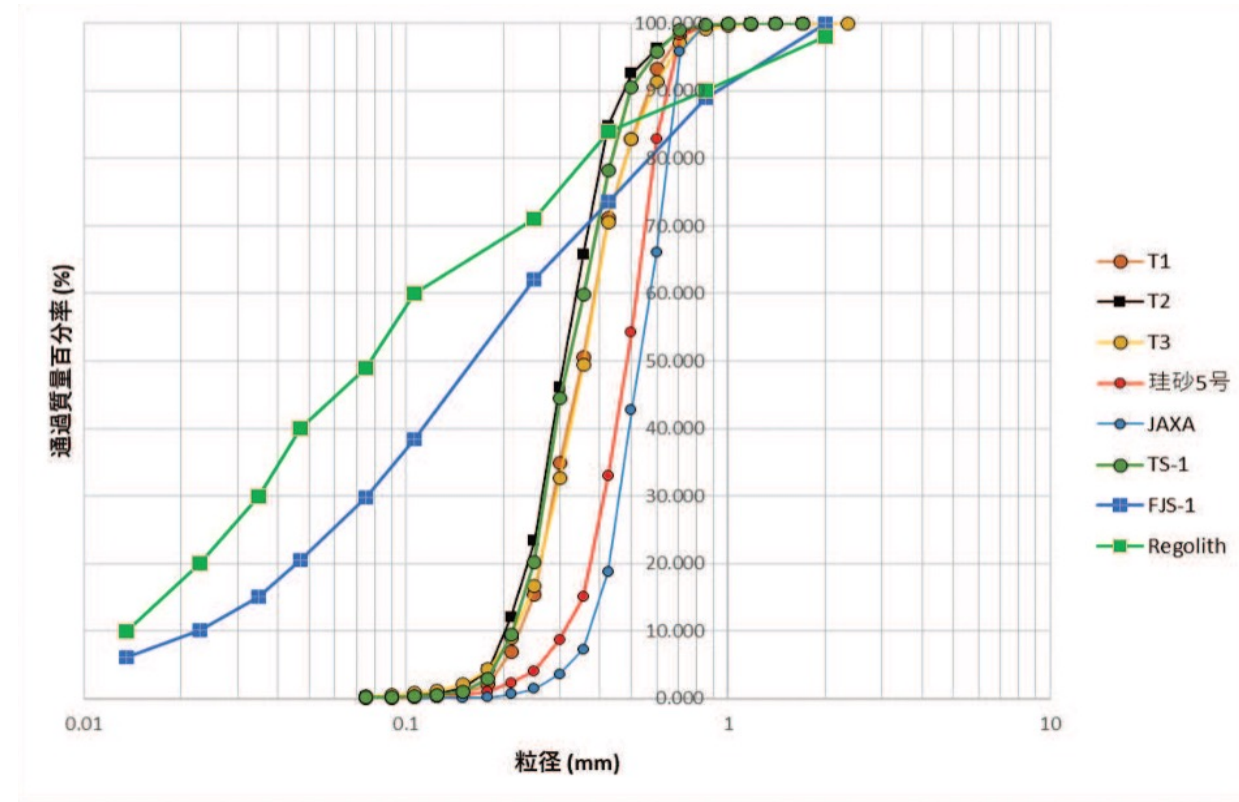
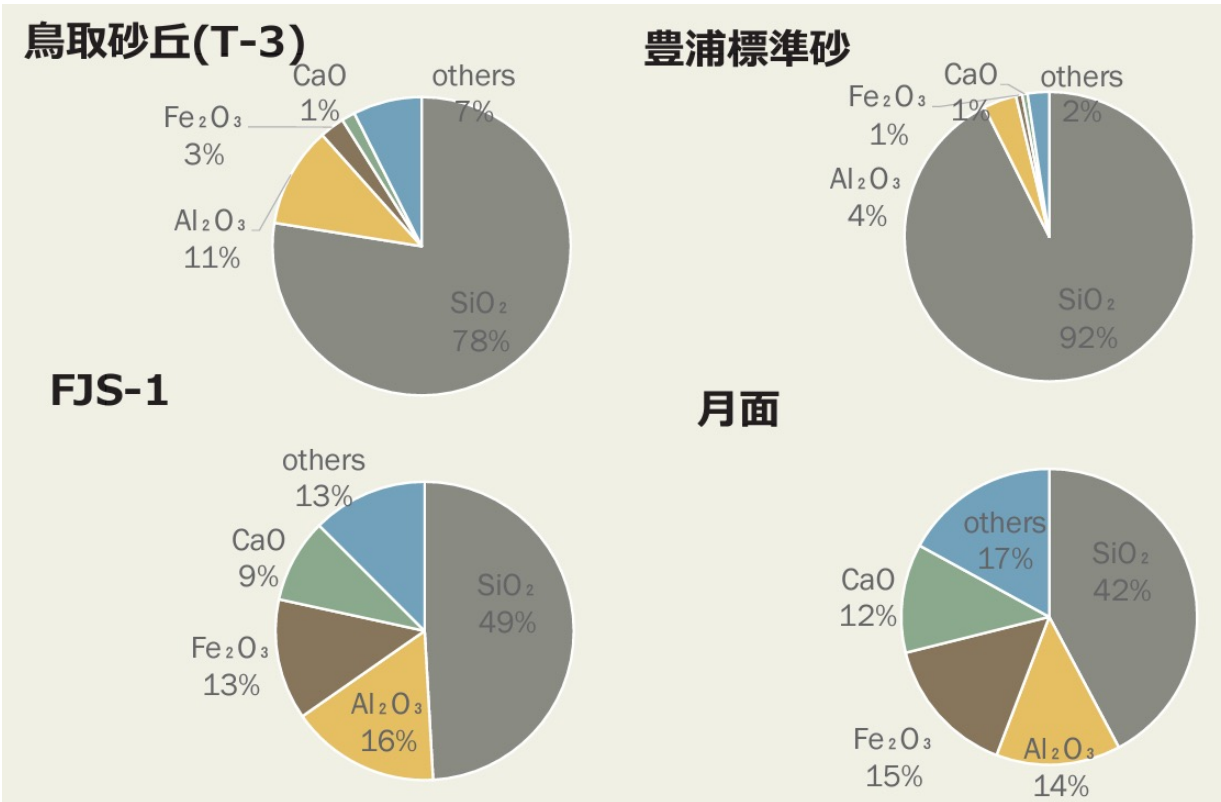
鳥取砂丘月面実証フィールド『ルナテラス』



2023年7月7日
オープン



Luna Terrace Geologic Review



引用 : <https://www.pref.tottori.lg.jp/302515.htm>

引用 : <https://www.pref.tottori.lg.jp/302515.htm>

Although the area is limited on the lunar surface,
it was found to have **similar topographic features** and **sand strength**.

Launch of integrated experimentation

Date : March 2-3

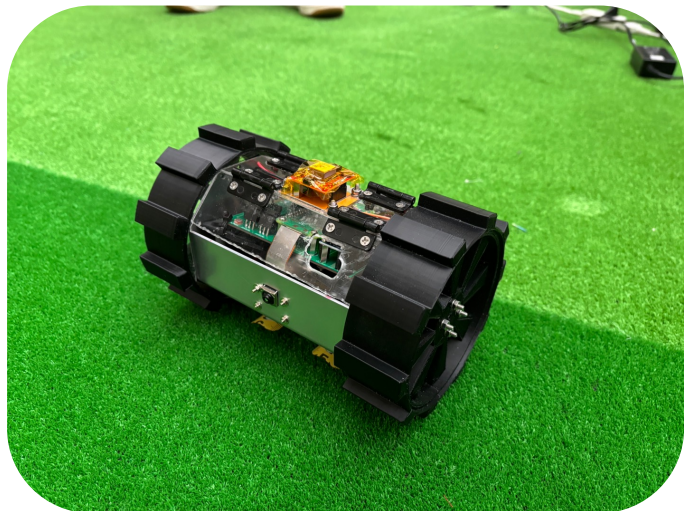
Location : Tottori Prefecture

Join team :

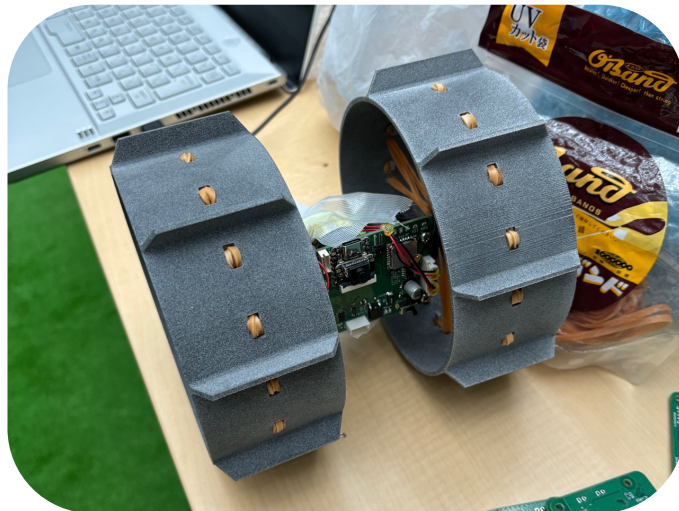
- Nagoya University
- Muroran Institute of Technology
- Shizuoka University
- University of Tokyo (ISAS members)
- Social team (company)



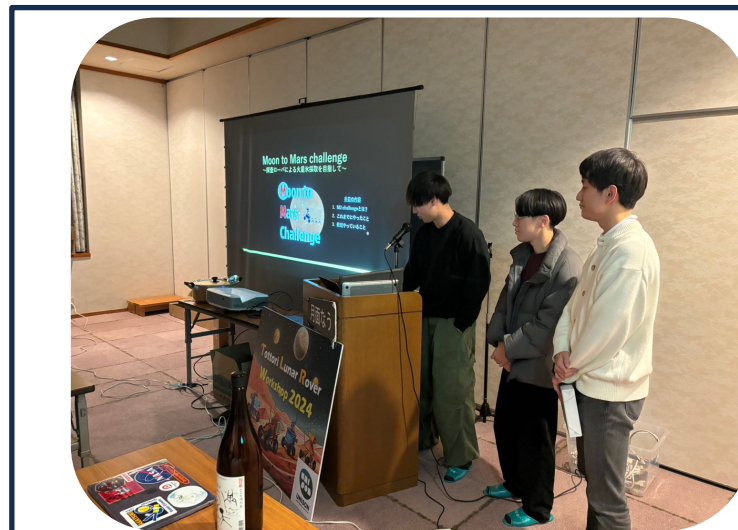
Type of Team



< CanSat Class >



< Rover Class >



< Science >

View on the day of the event....



10:47 (a.m)



10:50 (a.m)

View on the day of the event...



10:55 (a.m)

Problems of current Cansat



Problems of current Cansat



Rover type



Summarize

<Cansat>

- A lot of them are designed to be run on grasses and cannot be run on sandy fields.
- PWM control is the standard, but rapid torque often makes hole boring.

<Rover>

- Large tire diameter allows for travel over rough surfaces.
- Technical knowledge is low, so experiments need to be continued in the future.

Announcement

- Tottori Prefecture has decided to hold the event as a competition **from March of next year.**
- UNISON-Japan plans to cooperate in the management of the event and the creation of regulations.

Will contact you
when details are available !!

鳥取砂丘で月面探査車の性能競う 学生向けの の全国大会開催へ

02月09日 10時10分



鳥取県は、宇宙分野の実証実験を行う鳥取市の鳥取砂丘にある拠点施設で、月面探査車の性能を競う学生向けの全国大会を、来年春ごろに開催することになりました。

鳥取県は、アメリカで毎年開かれている「ユニバーシティ・ローバー・チャレンジ」の日本版の大

会を目指して、宇宙分野の実証実験を行う鳥取砂丘にある拠点施設「ルナテラス」で、月面探査車の全国大会を開きます。

県によりますと、砂丘を月面に見立てて、学生たちが自分たちで開発した月面探査車を走らせて、砂を採取し成分を分析するなどのミッションを、どれだけ達成できるかを競う大会にするということです。

鳥取県は、来年3月ごろの開催に向け、ルール作りなどを進めることにしています。大会を開催するための費用として1000万円を盛り込んだ鳥取県の新年度の当初予算案は、2月21日に開会する県議会に提案されます。

鳥取県産業未来創造課は「大会を開催することで、鳥取県が宇宙産業の創出に力を入れていることを発信し、ルナテラスを月面ローバー界の“聖地”にするとともに、将来的に宇宙ビジネスを手がける人材とのつながりをつくりたい」としています。



月面なう

Tottori Lunar Rover
Workshop 2024

UNISON

MISUMI

amazon

Thank you for listening !!