

ガムリ

— BUTSURI —

ISSUE 4

Wednesday, July 12th

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Examination -First Day - EXPERIMENT



Ukraine:
KONDRACHUK Yaroslav

I think this experimental exam was really exciting and interesting. I really enjoyed it very much. It was a good experience for me, because it's really different from the exam of our national physics olympiad. I will probably enjoy the theoretical exam the day after tomorrow, but now I am not so optimistic.

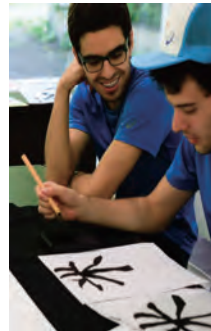


Singapore: TAN Pin Che

Today's test was difficult and quite challenging with a lot of equipment involved. I think I am OK with my results in the end. I hope I will be able to get a good score with some prize at the end of the competition.



Cultural Experience Events



About the Japanese cultural experience event, we tried a little bit of string weaving, which turned out to be a lot of difficult to follow the video, but we got a bit of a way doing fun and trying something fun.

Denmark: RASMUSSEN Benjamin Olander



Japanese calligraphy writing is beautiful, fun and interesting and I love the way you guys write. It was very tough to master how to exactly keep the brush and stick, but I managed to do it.

India: GOYAL Raghav



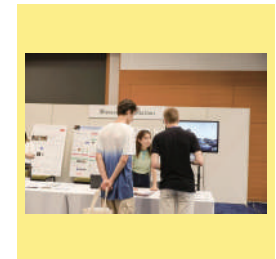
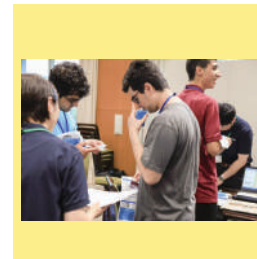
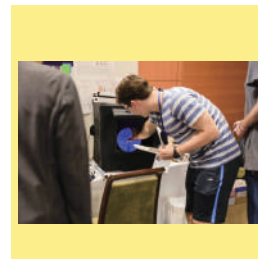
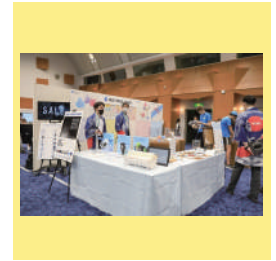
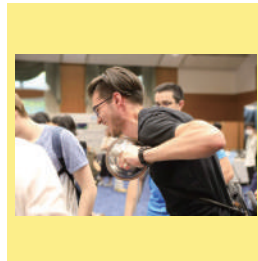
I'm currently trying to experience a wood Japanese game called kendama. It consists of something like a hammer and a stringed wooden ball; you have to get the ball to land on the top of the hammer. It is really hard. I've never seen it before so it's new to me.

Kenya: CAESAR Iman



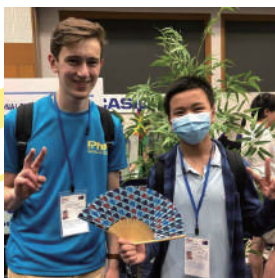


Scientific Experience Events



I saw a lot of very high-quality experiments here. I really enjoyed the piano experience. After I played the piano, I got to see what I played on the screen. That was very beautiful and interesting because I had never seen anything like that before. I liked it.

Georgia: UGULAVA Irakli



The CASIO's booth was really fun when I watched their performance. They tanked up a machine and threw the machine to the ground. It's interesting to see how they work in a factory. They have a lot to show us. I think it is really cool. They showed us how to apply theory and knowledge of the pressure to real-life things found in industries.

Australia: MURPHY Alastair & CHAN Kelvin

ASAKUSA

There is a large lantern at Kaminarimon, the entrance to Sensoji Temple. One of the most famous sightseeing spots in Asakusa, or rather Tokyo. It is 3.9 meters high, 3.3 meters wide, and weighs 700 kilograms. The paper used to make the lantern is about five times thicker than newspaper, making it very durable.



YOKOHAMAA

Since its opening in 1859, Yokohama has been Japan's leading international trading port, and was one of the first to introduce Western culture and industrial technology. The production and sale of ice cream, the installation of gas lamps, the opening of the railway, the telephone business, and the publication of newspapers... all of these are originated in Yokohama! Yokohama still keeps a lot of historical architecture that recalls the port's history. Furthermore, the city offers state-of-the-art tourist facilities and the world's largest Chinatown!

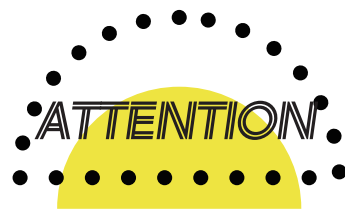


ODAIBA

The name "Odaiba" came from the place for gun batteries when American black ships commanded by Perry appeared. Since the government built batteries in many places, Japan had many Odaibas in the past. This Odaiba has two statues as a commemoration of goodwill agreements between Japan and France. One is a replica of the Statue of Liberty built in 1998, leading to the Rainbow Bridge. The other is the Flame of Liberty donated by France in 2000.



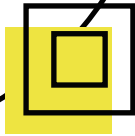
Excursion information



- During the excursion you are not allowed to deviate from the pre-determined courses.
- You must follow the leader's directions during the excursion. Don't leave your group; don't wander around alone.

While staying at NYC (National Olympics Memorial Youth Center) you are not allowed to go out from NYC without permission; going out by yourselves can be subject to disqualification.

The Origin of Manga



Manga (and anime) may be one of the best-known Japanese (sub-) cultures. You may be wondering if we can trace the roots of manga art. One potent candidate is 鳥獸戯画絵巻 (Cho-Ju Giga Emaki --- Bird and Beast Caricature Picture Scroll) which was produced in the 12th to 13th century and has been passed down in Kozan-ji temple in Kyoto as a national treasure.

In one of the most famous scenes, a flog and a rabbit wrestle each other. Spectator flogs are applauding and laughing at seeing their peer manage to throw the rabbit down.



鳥獸戯画絵巻 (Cho-Ju Giga Emaki)



北斎漫画 (Hokusai manga)

In the early 19th century, KATSUSHIKA Hokusai, the artist who later created the famous "Red Fuji" (the image reproduced on the IPhO2023 medals), produced a series of books containing drawings of people of various occupations. They came to be known as 北斎漫画 (Hokusai manga) and continue to be a rich source of imagination for artists who want to capture human postures and body language.



Series "Pioneers of Modern Physics in Japan"



Kotaro Honda
(1870-1954)

Permanent magnets are indispensable materials in materials science. The performance of a magnet is determined by its residual magnetic flux density (the magnetic flux density remaining when the magnetic field strength is returned to zero) and coercive force (the magnetic field strength required to reduce the residual flux density to zero).

In 1917, Kotaro Honda, a professor at Tohoku University, and his collaborator Hiromu Takagi invented the world's highest-performance permanent magnet with a holding power three to four times greater than the strongest magnet of the time. The magnet was an iron alloy containing cobalt, tungsten, chromium, and carbon.

At that time, World War I broke out, making it difficult to import high-performance magnets, so it became necessary to develop a new permanent magnet in Japan, and research was conducted with the donation of research funds from the Sumitomo conglomerate. Therefore, the permanent magnet discovered was named KS steel after the initials of the donor, Kichizaemon Sumitomo. In 1933, Honda and his collaborators also discovered a new permanent magnet (new KS steel) (an alloy composed of cobalt, nickel, titanium, and iron) with the highest performance in the world.

As a student at the University of Tokyo, Honda studied the temperature variation of the magnetic susceptibility of metallic materials. He also studied abroad in Germany and England, where he measured the magnetic susceptibility of elements and left precise experimental results.

Honda was famous as a "demon for experiment" who devoted all his time to experiments. He became a professor of physics at Tohoku University in 1911, the first director of the Institute for Materials Research at Tohoku University in 1922, and president of Tohoku University from 1931 to 1940, laying the foundation for Tohoku University to become a center of materials science. In 1937, he was awarded Japan's first Order of Culture.

As can be seen from the discovery of KS steel, his contribution to the industry was significant, and he placed great importance on the utilization of the results of science in industry, as he said, "Where there is learning, technology grows; where there is technology, industry develops; the industry is the dojo for learning. "

SCHEDULE

TODAY



27°C
36°C

Wednesday, July 12th

Students

7:15-8:00	Breakfast	NYC
9:00-14:00	Half-day Tokyo Excursion	
16:00-19:00	Cultural/Scientific Experience Events	NYC
18:00-19:00	Dinner	NYC

Leaders&Observers

7:00-8:00	Breakfast	NSH
9:00-12:30	Board meeting	NSH
12:30-14:00	Lunch	NSH
14:00-18:00	Board Meeting	NSH
18:00-19:30	Dinner	NSH
19:30-23:00	Board Meeting	NSH

NYC: National Olympics Memorial Youth Center
NSH: Nippon Seinenkan Hotel

TOMORROW



27°C
36°C

Thursday, July 13th

Students

7:15-8:00	Breakfast	NYC
8:30	Meet at the Exam Room	NYC
9:00-14:00	Exam (Theory)	NYC
14:30-15:30	Lunch (light meal)	NYC
16:00-19:00	Cultural/Scientific Experience Events	NYC
18:00-19:00	Dinner	NYC

Leaders&Observers

7:00-8:00	Breakfast	NSH
9:00-15:00	Half-day Tokyo Excursion	
18:00-19:30	Dinner	NSH



The Physical Society of Japan



Japan Society of Applied
Physics



The Physics Education
Society of Japan



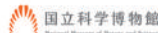
The Biophysical Society of
Japan



Japan Science and
Technology Agency (JST)



National Institution for Youth
Education (NIYE)



National Museum of Nature
and Science



Japan Arts Council



Tokyo National Museum



The University of Tokyo



Tokyo University of Science



Tokyo City University



Tokyo University of Foreign
Studies



International Christian
University



Sophia University



INTERNATIONAL PHYSICS OLYMPIAD
2023 TOKYO JAPAN



<https://ipho2023.jp/en/>



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