

## Welcome to Mitaka Open House Day 2016 !

This annual open house showcases 4 institutes: the National Astronomical Observatory of Japan; the Astrobiology Center; the Institute of Astronomy, University of Tokyo; and the Department of Astronomical Science, School of Physical Sciences, the Graduate University for Advanced Studies (SOKENDAI).

There are many fun events, such as, public viewing of the research facilities, exhibitions, lectures, and so on. Stargazing parties will be held at the Sports Field, and exhibitors will offer goods for sale. In addition, the Mitaka Picture Book House in the Astronomical Observatory Forest will offer exhibitions. Let's enjoy the Mitaka Open House at the Mitaka Campus surrounded by nature.

# Oct. 22, 2016

## Gravitational Waves, a new Frontier of Astronomy

Detailed  
Event Information

This is available at the information corner in the rotary.

**S3** Resting Room (10:00-17:00)

**C2** Resting Space (10:00-19:00)

**N1** Resting Room for Parents and Children (10:00-16:00)

Also please feel free to use the outdoor benches.

Where can I relax?

Injury and Illness

**C2** Healthcare Room (There is nurse.)

### Mitaka Open House Day 2016 Web site

<http://www.nao.ac.jp/en/open-day/2016/>



### Instagram

**naoj\_mtk**

[https://instagram.com/naoj\\_mtk/](https://instagram.com/naoj_mtk/)

To participate in Mitaka Open House Day 2016, please post photos to Instagram. (Please use the hashtag #naojday)  
When you post to Instagram, please show it to one of the event staff who have the hashtag written on their backs. They will present you with a souvenir!

## Lecture

This year, there is a lecture in English. Please join us.

Venue: **W1** Subaru Building (Large Seminar Room)

13:00-14:10

## Listening to the Universe with Gravitational Waves

FLAMINIO, Raffaele (NAOJ Specially Appointed Professor)



September 14, 2015: one hundred years after the establishment of the theory of general relativity by Albert Einstein, scientists detected gravitational waves for the first time. This event is the achievement of more than 50 years of research by three generations of scientists around the world. It is the beginning of a new type of astronomy. But, what are gravitational waves? How are they generated? How do we detect them? In this presentation, the answers to these questions will be provided together with the many open questions that gravitational wave astronomy is attempting to answer.

## Stargazing Parties

If the weather is clear, you can participate in solar observations and stargazing.

**Weather Permitting.**



**Solar observations (Using a Solar projection board)**

10:00-15:00

**S1**

20-cm Telescope Dome



**Solar observations (Using the Solar Radio Telescope)**

10:00-12:00  
13:00-19:00

**SR**

Solar Radio Telescope



**Stargazing (Using the 50-cm Reflector)**

**N2**

50-cm Telescope for Public Outreach

12:00-16:30

**Anyone can Stargaze.**

(16:30-17:00 Stargazing pauses)

17:00-19:00

**Tickets are required.**

Tickets will be distributed starting from 16:50.  
(Venue: In front of the 50-cm Telescope dome)  
In the case of rain or clouds, tickets may not be handed out.



**Stargazing (Sports Field)**

Stargazing and Equipment Exhibition by manufacturers and dealers.

13:00-19:00

**Anyone can Stargaze.**

Restrictions. Tickets are required. Children can enjoy.

## S2 South Building

10:00-17:00 (Last entry 16:30)

### 1 Astronomy Data Center

Galaxy finding game.

Game

### 2 Center for Computational Astrophysics

You can visit up close to a computer cluster active in simulation astronomy. There is a corner to experience operating the 4-dimensional digital universe viewer "Mitaka."

Open Facilities, Exhibition

"Mitaka" Operation Experience

### 3 Petit-Library

Let's read astronomy books! There is also a display of beautiful paper cutouts. There is also an exhibition of paper cutouts in S3-Resting Room. (Production : Junko Oguri)

Open Facilities

## S4 4D2U Dome Theater

10:00-17:00 (Last entry 16:30)

### Division of Theoretical Astronomy, 4D2U Project

Researchers will lecture while you watch a 4-dimensional image of the Universe that has been created by supercomputer calculations. (Lecture requires tickets. Limited to elementary school students and older.)

Open Facilities, Exhibition, Science Cafe

Quiz

Short Lecture

## S6 Observatory History Museum

10:00-17:00 (Last entry 16:30)

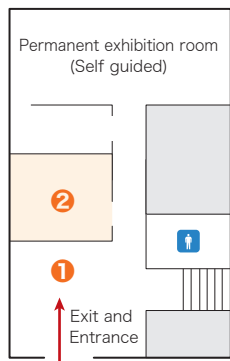
### (GF) Exhibition of authentic Historical Books

Exhibition of real Historical Books today only ! Theme: " Seasonal Terms and Calendars "

Exhibition

## W4 Exhibition Room

10:00-17:00 (Last entry 16:30)



### 1 TMT-J Project Office

Exhibition of TMT model (1/100) and mirror material.

Exhibition

Quiz

### 2 Public Relations Center

Introduction to the Outreach and Education Office and OAO\*. \* IAU Office for Astronomy Outreach

Exhibition

## UT Institute of Astronomy, University of Tokyo

10:00-17:00 (Last entry 16:30)

### Welcome to the University of Tokyo !

Introduction to "Kiso Observatory", the world's highest observatory "TAO", and submillimeter telescope "ASTE". Yuru-Chara "Tomoe-chan" will visit. This year is the last chance for the TAO large camera tour.

Open Facilities, Exhibition

Demonstration, Short Lecture

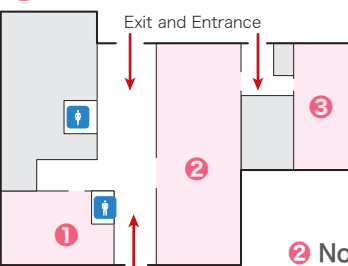
VR Experience

Quiz

Tour

## C5 Main Building (E)

10:00-17:00 (Last entry 16:30)



### 1 Mizusawa VLBI Observatory RISE Project

Introduction to Very Long Baseline Interferometry (VLBI), Research of Interior Structure and Evolution of solar system bodies.(RISE)

Exhibition

Experiment, Demonstration

### 2 Nobeyama Radio Observatory

Nobeyama is holy ground for radio astronomy. The 45-m Radio Telescope is at the forefront, even now more than 30 years after construction.

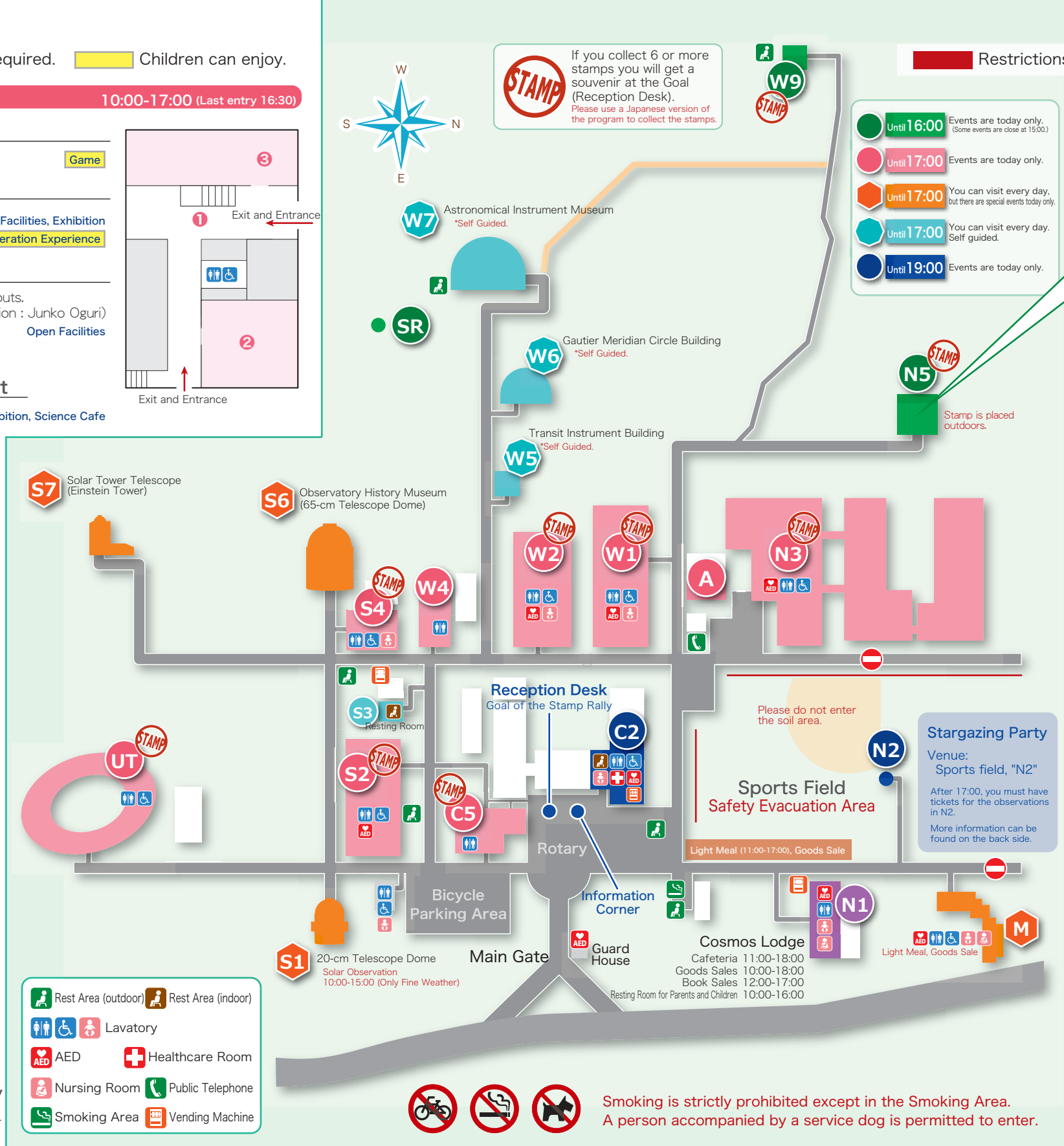
Exhibition

Handicraft Quiz, Parabolic antenna experiment with Super Balls

### 3 Center for Computational Astrophysics, 4D2U Project

Experience the 4-dimensional digital universe viewer "Mitaka" by using a head-mounted display ! (Requires tickets. Limited to 13 years of age or older.)

Mitaka VR Experience



## C2 Main Building

10:00-19:00 (All of the events will end at 19:00. Please allow time to look around.)

### 1 JASMINE Project Office

Introduction to Japan Astrometry Satellite Mission for INfrared Exploration. (JASMINE) Exhibition of the satellite model, stereoscopic vision with red and blue glasses.

Exhibition Demonstration, Experiment

### 2 Hinode Science Center

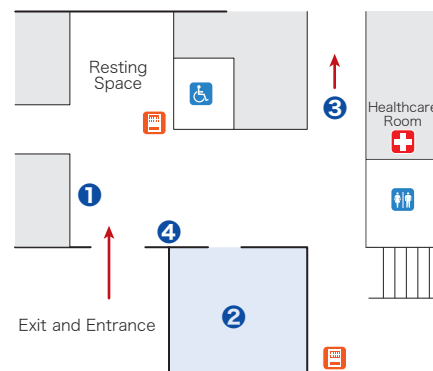
Photo exhibition of the achievements of the solar observation satellite "Hinode", which celebrated its 10th anniversary from launch. We will introduce the behind-the-scenes research through observation planning experience.

Exhibition

Observation Planning

Demonstration

Photo Exhibition



### 3 Solar Projection Mapping

[11:00-, 13:00-, 15:00-]

Solar Projection Mapping using a 2-m balloon. (15 minutes to 20 minutes at a time.)

Exhibition

### 4 Ask a Researcher!

[11:00-19:00]

Let's ask the National Astronomical Observatory of Japan and the University of Tokyo researchers!

Restrictions. Tickets are required. Children can enjoy.

## Exhibition about Gravitational Waves

### N5 300-m Laser Interferometer Gravitational Wave Antenna

10:00-16:00

### Gravitational Wave Project Office

Introduction to Laser Interferometer Gravitational Wave Antennas "KAGRA" and "TAMA300."

### Entrance Tickets are required.

Distribution of tickets

Morning admission 10:00-

Afternoon admission 12:30-

Open Facilities

Exhibition, Experiment, Demonstration

## W9 Solar Flare Telescope

10:00-16:00 (Last entry 15:30)

### Solar Observatory

Weather Permitting.

Introduction to the Solar Observatory.

"Let's play with Dr. Flare"

(Description of the telescope, Picture-Story Show, etc.)

"Quiz about the Sun."

Open Facilities, Exhibition

Quiz, Picture-Story Show

## SR Solar Radio Telescope

10:00-12:00, 13:00-15:00

### Advanced Technology Center

Weather Permitting.

Let's receive solar radio waves!

Open Facilities, Demonstration

## N3 Instrument Development Building

10:00-17:00 (Last entry 16:30)

### Advanced Technology Center

Astronomy observation equipment production sites are open for viewing. There are also exhibits on the latest projects.

Open Facilities, Demonstration

Exhibition, Experiment

## A The Astronomical Society of Japan

10:00-17:00 (Last entry 16:30)

### The Astronomical Society of Japan

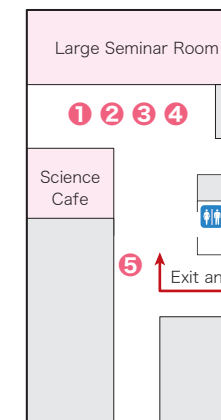
Introduction to the Astronomical Society of Japan.

Exhibition

Book Sale

## W1 Subaru Building

10:00-17:00 (Last entry 16:30)



### 1 Subaru Telescope

### 2 TMT-J Project Office

### 3 Division of Optical and Infrared Astronomy

### 4 Extrasolar Planet Detection Project Office

Introduction to Subaru Telescope and TMT(Thirty Meter Telescope). The "Andromeda Fantasy" card game celebrates its 10th anniversary this year. It will showcase the history of the cards.

Science Cafe, Exhibition

Photography Corner

Drawing, Card Game

### 5 Okayama Astrophysical Observatory

Introduction to Okayama Astrophysical Observatory and the 188-cm Reflector.

Exhibition

## W2 ALMA Building

10:00-17:00 (Last entry 16:30)

### NAOJ Chile Observatory

Introduction to the Atacama Large Millimeter/submillimeter Array. (ALMA)

Mini-lectures by researchers, 5000-m altitude ALMA site VR experience.

(Requires tickets. Limited to 13 years of age or older.)

Exhibition, Short Lecture

Experiment

Demonstration

VR Experience

## M Mitaka Picture Book House

in the Astronomical Observatory Forest 10:00-17:00 (Last entry 16:30)

### Autumn Festival 2016

Woodworking, Goods sale etc...A lot of fun events are planned ! (Autumn Festival is 11:00-16:00)

Open Facilities, Exhibition

Goods Sale

Handicraft