

Welcome to

**IPMU** INSTITUTE FOR THE PHYSICS AND  
MATHEMATICS OF THE UNIVERSE

The logo for the World Premier International Research Center Initiative is located at the top of the slide. It features the text "WORLD PREMIER INTERNATIONAL RESEARCH CENTER INITIATIVE" in a bold, blue, sans-serif font with a white outline and a drop shadow. The text is enclosed in a thin red rectangular border. The background of the logo is a blue sky with white clouds and a bright sunburst effect in the upper right corner. Below the sky, there are stylized, colorful shapes representing mountains or peaks in shades of blue and red.

WORLD PREMIER INTERNATIONAL  
RESEARCH CENTER INITIATIVE

## Solicitation

- “the centers should be *“globally visible research centers”* being able to attract top-level researchers from around the world”
- “To be “globally visible,” the research center will need to have a *physical concentration (or core) of researchers* of a certain scale, one that possesses a high research level”
- *English is the official language*

# The Questions

- How did the Universe begin?
- What is the Universe made of?
- What is its fate?
- What are its fundamental laws?
- Why do we exist?

We need **new data** to address them

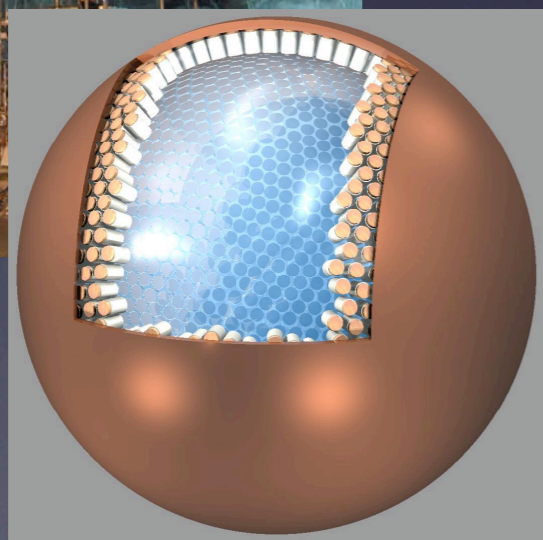
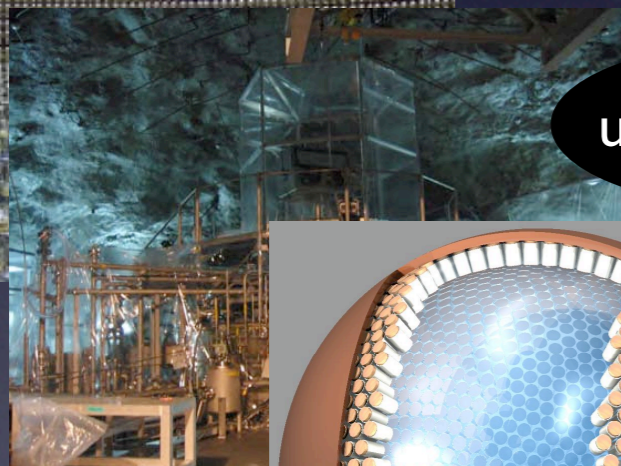
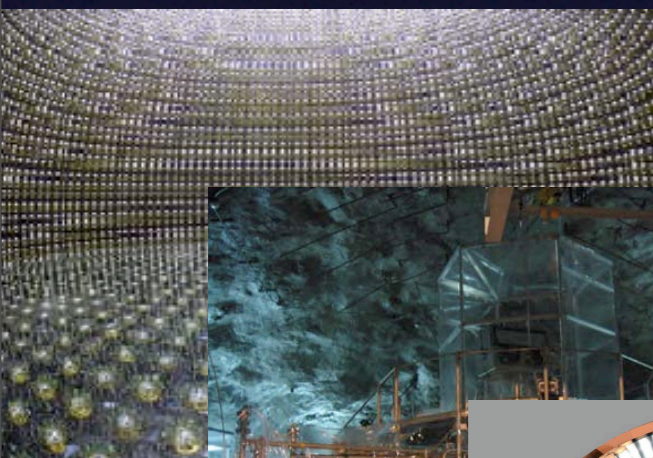
We need **new math** to formulate them

We need **new theory** to answer them

need **math**, **experiment**, **theory**, **astronomy**

# Multi-faceted attack on the universe

Together with **math** and **theory**, **unique** combination in the world!



ICRR/Tohoku

underground

Universe

accelerator

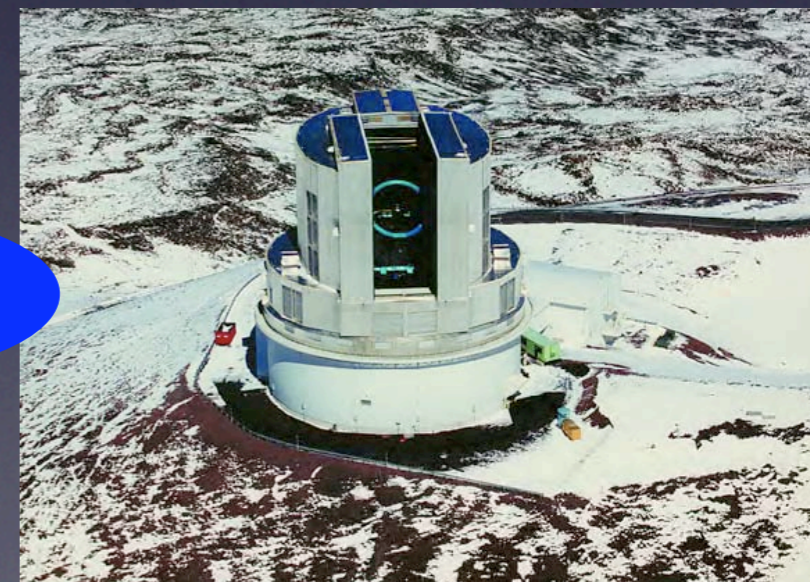


LHC (CERN)

sky



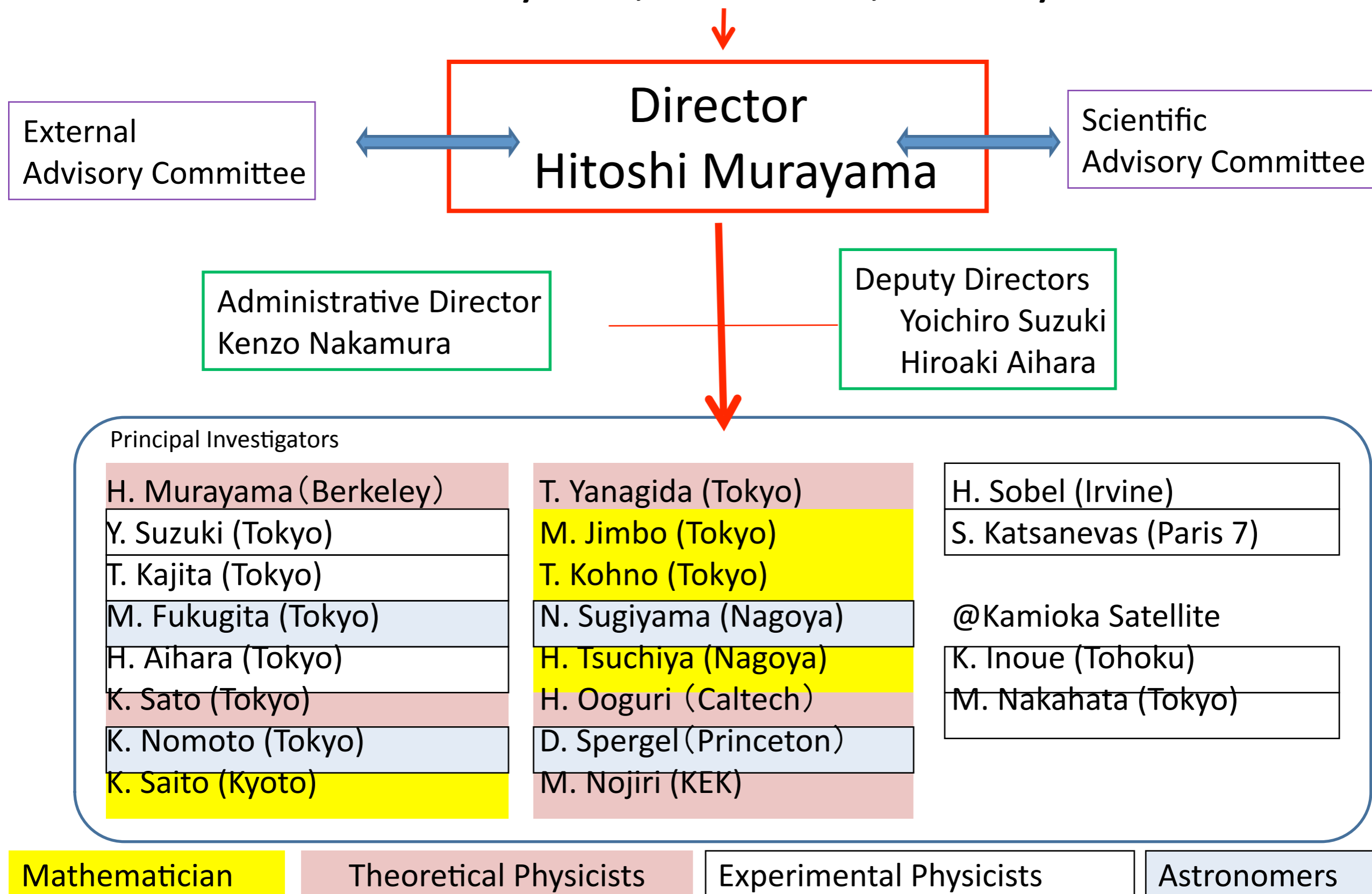
SDSS-III/BOSS



Subaru (NAOJ)

# IPMU Organization Chart

Hiroshi Komiyama, President, U. Tokyo



# Funding

\$

- Five centers, ~\$13M/year for 5+5 years
- possible extension for another 5 years
- main purpose: bring topnotch researchers to Japan
- allows for building infrastructure to attract them
- mandate: >200 staff members involved
- 60 full-time scientists, visitors, fellows, administrative and support staffs
- mandate: >30% non-Japanese (researchers)

# World-wide ads in Nov

The “Institute for the Physics and Mathematics of the Universe” (IPMU) is a new international research institute in which English is to be its official language. The goal of the institute is to discover the fundamental laws of nature and to understand the universe from the synergistic perspectives of mathematics, statistics, theoretical and experimental physics, and astronomy. We are particularly interested in candidates with broad interests to interact with people from other subfields.

We intend to appoint approximately 20 postdocs with a three-year term. We seek to build a diverse highly interactive membership. We strongly encourage female and international applicants. We have generous travel support for our postdocs.

The initial focus of the Institute includes: all areas of mathematics (e.g. algebra, geometry, analysis, and statistics); string theory and mathematical physics; particle theory, collider phenomenology, beyond the standard model physics phenomenology; cosmology and astrophysics theory; astronomy and observational cosmology (e.g. study of dark energy with HyperSuprime Cam at Subaru); particle experiments (e.g. terrestrial and extraterrestrial neutrino experiments; dark matter search experiments; proton decay experiments; LHC). However candidates working on other related areas will also be considered.

The applications should include a CV, research statement, publication list, and at least three letters of recommendation. They should be uploaded at <http://ipmu.fiw.ad.jp/>

The search is open until filled, but we will start reviewing the applications starting Dec 1.

562 applicants  
414 non-japanese

# Postdocs

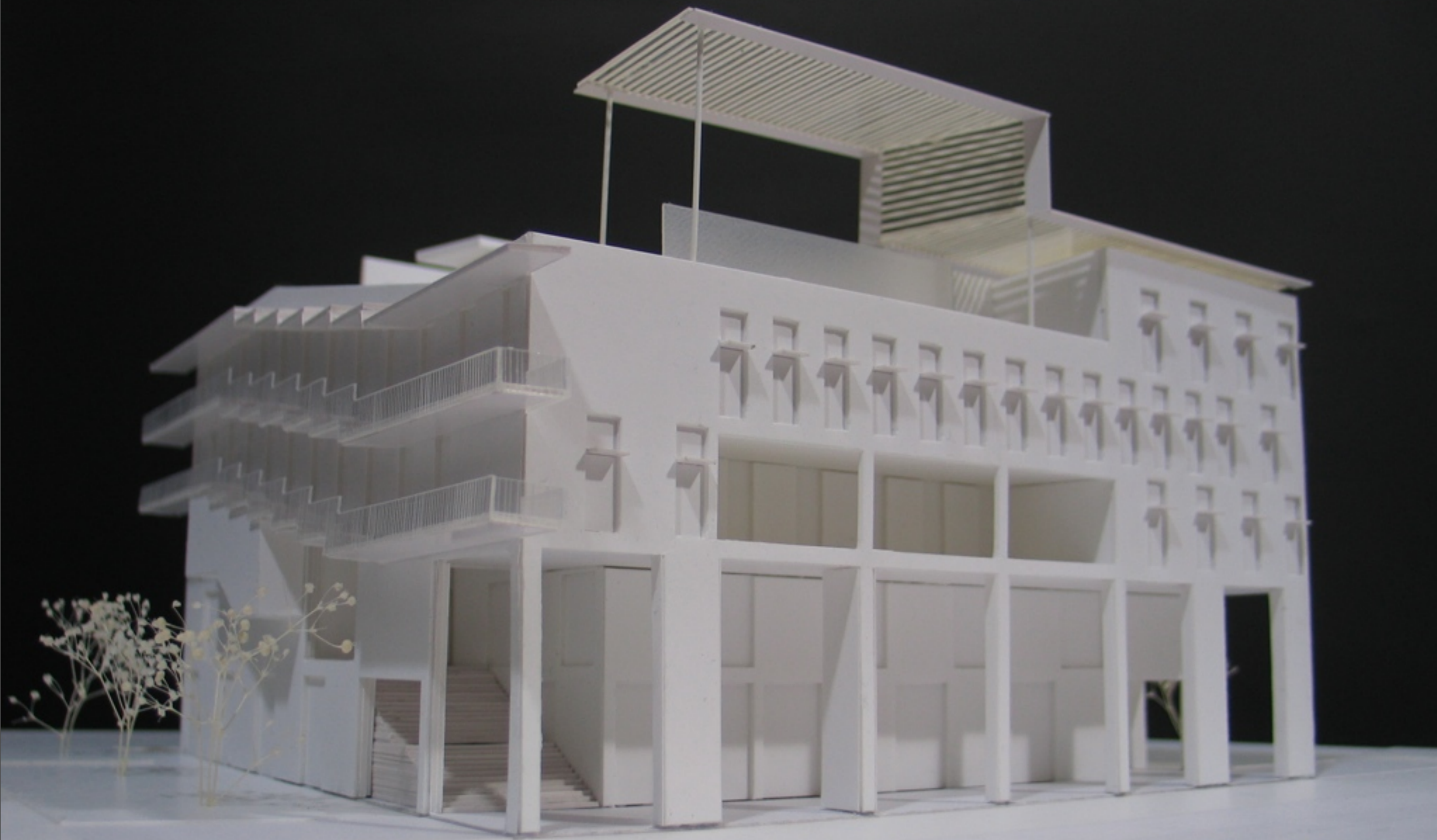
- **Quality over Quantity!**
- Made 35 offers, 18 accepted, 6 undecided
- Among 18, **13 non-Japanese**, **4 women**
- Coming from **good Ph.D. institutions**: Lyon, Southampton, Harvard, Wisconsin, Seoul, LMU München, Paris, Michigan State, Princeton, Sussex, Chicago, INFN Ferrara, Tokyo, Kyoto, Titech, Hokkaido, Tennessee
- **postdoc “sharing”** with Berkeley, similar arrangements under discussion with DESY, IHES, Caltech, Princeton, CERN, MPA



September 2009 occ



Thanks to the University  
emphasis on interaction space



# On the track to a truly intl institution

- Within just two months, we had **90 visitors, 60 from abroad**
- large international applicants pool
- four international meetings in 4 months
- **English is the official language**
- vigorously working to put support for non-Japanese scientists in place
- **New international lodge** built by university next year



# Focus Weeks

- Relaxed style of workshops
- meant for truly fruitful discussions and interactions to get to the bottom
- 2-3 full-length (on-hour) talks a day
- one day for contributed talks
- very popular with LHC pheno in Dec 07

# Some logistics

- Wireless network:
  - hidden SSID: 71IPMU, WEP key: 64941
- bus from Kashiwa Crest at 8:30
- bus departs from here at 5:30
- for ATM cards from foreign banks, go to 7/11 or post office
- informal banquet on Thursday evening with another workshop on math physics
- no talks on Friday because of the other WS
- interest in Nikko or Tsukuji tour on Fri?

Welcome to

**IPMU** INSTITUTE FOR THE PHYSICS AND  
MATHEMATICS OF THE UNIVERSE