The University of Tsukuba as a New Concept University

Mt. Tsukuba

Dark green area is University of Tsukuba

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Vice President
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Campus of the University of Tsukuba
Presentation Outline

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   ② Top Universities Under 50 – World University Rankings
   ③ Nobel Laureates and Olympic Athletes

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   (4) Globalization of Education
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      ② Global 30 Program
      ③ Leading Graduate Program

3. Conclusion
② Top Universities Under 50 – World University Rankings

2012 Rankings for Universities under 50 years old

University of Tsukuba ranked 39th
(Times Higher Education)

University of Tsukuba ranked 13th
(QS World University Rankings)
Introduction

The University of Tsukuba produces both **Nobel Laureates** and **Olympic Gold Medalists**. It is the only university in Japan to do so.

### Nobel Laureates

- **Nobel Prize in Physics**
  - 1965
  - Dr. Sin-Itiro Tomonaga
  - (Former President of the Tokyo University of Education)

- **Nobel Prize in Physics**
  - 1973
  - Dr. Leo Esaki
  - (Former President of the University of Tsukuba)

- **Nobel Prize in Chemistry**
  - 2000
  - Dr. Hideki Shirakawa
  - (Professor Emeritus)
Prof. Emeritus Sawao Kato was elected as one of “25 Athletes of the 20th Century” a list chosen by international sports reporters in May 1995.
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3. Conclusion
 Establishment of the University of Tsukuba

The University of Tsukuba was reborn as a new concept university under a plan to move government research institutions to the Tsukuba area to form Tsukuba Science City in 1973.
(1) ① Tsukuba Science City’s Technology Park

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Size</td>
<td>28,400 ha</td>
</tr>
<tr>
<td>Newtown Area</td>
<td>2,700 ha</td>
</tr>
<tr>
<td>Neighboring</td>
<td>25,700 ha</td>
</tr>
<tr>
<td>Population</td>
<td>215,000 (as of Oct. 2010)</td>
</tr>
<tr>
<td>Research Institutes</td>
<td>172</td>
</tr>
<tr>
<td>Public &amp; University</td>
<td>32</td>
</tr>
<tr>
<td>Private</td>
<td>140</td>
</tr>
<tr>
<td>Venture Business</td>
<td>231</td>
</tr>
<tr>
<td>Researchers</td>
<td>20,000 (as of Mar. 2012)</td>
</tr>
</tbody>
</table>

No.1 science park agglomeration in Japan
Separation of Teaching and Research.....The University of Tsukuba abolished the academic chair system and created separate organizations for research and education. The relationship between research and education became horizontal.

Open University .....The University of Tsukuba emphasizes on the international character and openness in all aspects. Our board of advisors are consisting of experts from the political and business world shows one aspect of our openness to society.

Introduction of New University Autonomy.....The University of Tsukuba strengthened the administrative management function under the university president and vice presidents to enable for agile university-wide decision-making.
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3. Conclusion
① Implementation of Self-Evaluation

● In 1988, 15 years after the opening of the university, self-evaluation was implemented and indicators were drawn up for subsequent university reforms in order to reflect on the activities of the university for the past 15 years.
● This led to the implementation of new measures, such as performance evaluation for faculty and priority allocation for research funding.

② Inauguration of President Leo Esaki and Establishment of TARA Center (Tsukuba Advanced Research Alliance)

● Tsukuba Advanced Research Alliance (TARA) Center was established based on the belief of Dr. Esaki, a Nobel Laureate in physics who was ushered in as President in 1992, that the university should make use of the resources of industry, academia and government available from the concentration of research institutions in Tsukuba Science City.
● TARA Center holds a principle of thorough competition and has a rigorous external evaluation system, which gathers the best talent from around the world, while creating state-of-the-art research projects operating on tight timelines.
Incorporation of the National University

- In 2004, all of Japan’s national universities were incorporated under the policy of the Japanese government.
- The University of Tsukuba also restarted as the National University Corporation University of Tsukuba. It became independent from the Ministry of Education, Culture, sports, Science and Technology and able to independently operate under its own authority.

System after the Incorporation

- Each university sets up a six-year mid-term objective and a mid-term plan as guidelines for university management.
- The National University Corporation Evaluation Committee will undergo a university evaluation every six years.
- Based on this evaluation, the amount of management expense grants from the national government is increased or decreased.
(2) University of Tsukuba as a Leader of University Reform

④ Ceaseless Reorganization – Toward a New Framework for Education and Research

Vertical Model

1. President
2. Functional Unit
3. Vertical Unit 1
4. Vertical Unit N

Horizontal Model

1. President
2. Unit 1
3. Unit 2
4. Functional Unit

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(2) University of Tsukuba as a Leader of University Reform

④ Ceaseless Reorganization – Toward a New Framework for Education and Research

“Vertical Model”

```
Program 1
  Faculty
Program 2
Program 3
Program 4
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Little Flexibility

“Horizontal Model”

```
Program 1
  Faculty
Program 2
Program 4
Program 3
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Get Most out of Faculties
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3. Conclusion
"Comprehensive Special Zones for International Competitiveness Development" (nationally designated in Jan.2012)-

1. Tsukuba Special Zone of International Strategy (one of the seven areas)
   - Advanced science-based innovation platforms and leading projects
   - The site for the Asian headquarters of global businesses (hub of Asia)
   - Life science industries cluster

2. Sapporo and 21 other municipalities (Hokkaido Pref.)
   - Food industries complex

3. Tsukuba (Ibaraki Pref.)
   - Advanced science-based innovation platforms and leading projects

4. Osaka, Kyoto and Kobe (Osaka, Kyoto and Hyogo Pref.)
   - Several strategic fields cluster

5. Fukuoka and Kitakyushu (Fukuoka Pref.)
   - Environmental industries cluster

6. Nagoya and 8 other municipalities (Aichi and Gifu Pref.)
   - Aerospace industries cluster

7. Tokyo Met.
   - The site for the Asian headquarters of global businesses (hub of Asia)

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The University of Tsukuba, along with Tsukuba City and Ibaraki Prefecture was selected as one of the 7 regions designated by the government as the “Tsukuba International Strategic Zone”.

The “Tsukuba International Strategic Zone” is intended to form the engine of Japan’s economic growth and improve social vitality and sustainable development through its accumulation of science and technology resources.

Outstanding features of this Zone is that institutions have the privilege to enjoy special measures:

1. Preferential measures: **deregulation**  
   (applicable only for this region, not nationwide)
2. Assistance measures:
   a. Taxation support • • • **reduction** of corporate taxes
   b. Fiscal support • • • budgets, subsidies
   c. Financial support • • • reduction of interest rates
**PROJECT#1: Development and Commercialization of Next-generation Cancer Therapy**

- Boron neutron capture therapy (BNCT) is a noninvasive therapeutic modality, and characterized by higher QOL and less economic burden for patients.
- Tsukuba promotes the development and commercialization of BNCT, aiming at fostering competitive health care-related industries as well as establishing international standardization.

**Main Participants:**
- University of Tsukuba
- High Energy Accelerator Research Organization (KEK)
- Japan Atomic Energy Agency (JAEA)
- Hokkaido University
- Ibaraki Prefecture, Companies, etc.

**PROJECT#2: Development and Commercialization of Life Support Robots**

- Robotic technology is expected to widen and enrich people’s life and benefit society in the field such as with medical devices, rehabilitation support and labor assistance.
- Tsukuba promotes the commercialization of life support robots by establishing a comprehensive system to foster the competitive robot industry, including development, demonstration and the safety certification.

**Main Participants:**
- National Institute of Advanced Industrial Science & Technology (AIST)
- Japan Automobile Research Institute (JARI)
- University of Tsukuba
- Companies, etc.
**PROJECT#3: Development and Commercialization of Algal Biomass Energy**

- Algal biomass energy is expected to have various applications, including use as a substitute for petroleum fuel.
- Tsukuba promotes the development and commercialization of algae biomass energy, aiming at creating algae-related industries as well as contributing to resolve global energy problems.

**Main Participants:**
- University of Tsukuba
- Tsukuba City
- Companies (Algae consortium), etc.

**PROJECT#4: Development of Global Nanotechnology Research and Education Complex**

- Global nanotechnology research and education complex TIA-nano (Tsukuba Innovation Arena for nanotechnology) was launched in Tsukuba City and expected to create a common value toward global business.
- Tsukuba endeavors to develop innovative technologies, such as energy-efficient devices, as well as human resources, aiming at fostering competitive industries and contributing to solve national problems.

**Main Participants:**
- National Institute of Advanced Industrial Science & Technology (AIST)
- National Institute for Materials Science (NIMS)
- University of Tsukuba
- High Energy Accelerator Research Organization (KEK)
- Companies, etc.
As of March 2012, 231 venture companies have been born in Tsukuba Science City.

As of August 24, 2012, the total cumulative number of the University of Tsukuba-led venture companies was 91. Among those, 76 companies are actively running.

The operations of venture companies are mostly based in Japan, however, some are actively partnering with overseas companies.
“Robot Suit HAL” is a cyborg-type robot that can supplement, expand or improve physical capability.

“HAL” is currently used in hospitals, welfare facilities, private homes, for rescue support at disaster sites, and in the entertainment field.
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3. Conclusion
The Human Biology Ph.D. Program adopts a multi-perspective methodological approach, integrating the disciplines of biological science, medicine, computational science, and materials science, to understand the mechanisms of human survival, adaptation, and inheritance. Students will be given training allowing them to develop the outstanding research skills and specialist knowledge required at this level of study. The aim is to nurture the global leaders of the future, able to create a rich human society.
University of Tsukuba was selected as one of 13 universities among 89 national universities and more than 200 universities by the MEXT (Ministry of Education, Culture, Sports, Science, and Technology of Japan) aims to facilitate the global activity of Japanese universities.

G30 = Global 30 Program

(IMAGINE THE FUTURE.)
Japanese Government’s “300,000 International Student Plan”

Ministry of Education initiated “Global 30” Project (2009)
13 universities were selected to promote internationalization among Japanese universities

Selected Universities (National 7, Private 6):
Tohoku University, University of Tsukuba, The University of Tokyo, Nagoya University, Kyoto University, Osaka University, Kyushu University, Keio University, Sophia University, Meiji University, Waseda University, Doshisha University, Ritsumeikan University

Project Details:
- Expand courses taught in English
- Create an environment under which students can concentrate on studying without anxiety (provide accommodation, scholarships, etc.)
- Establish overseas bases where "one-stop service" procedures will streamline the acceptance of international students
(4) - ③  Cooperative Graduate School

28 research institutes · 204 researchers invited from companies as visiting professors
3. Conclusion

(1) Importance of constant review of the organization and university reform

(2) Advancement of academic research and promotion of university-industry cooperation & business venture development

(3) Need for global education backed by cutting-edge research

(4) Continuous funding policy to form a global education and research center
Welcome to Tsukuba
Благодарю за внимание!
ご静聴ありがとうございました
Thank you for your attention today