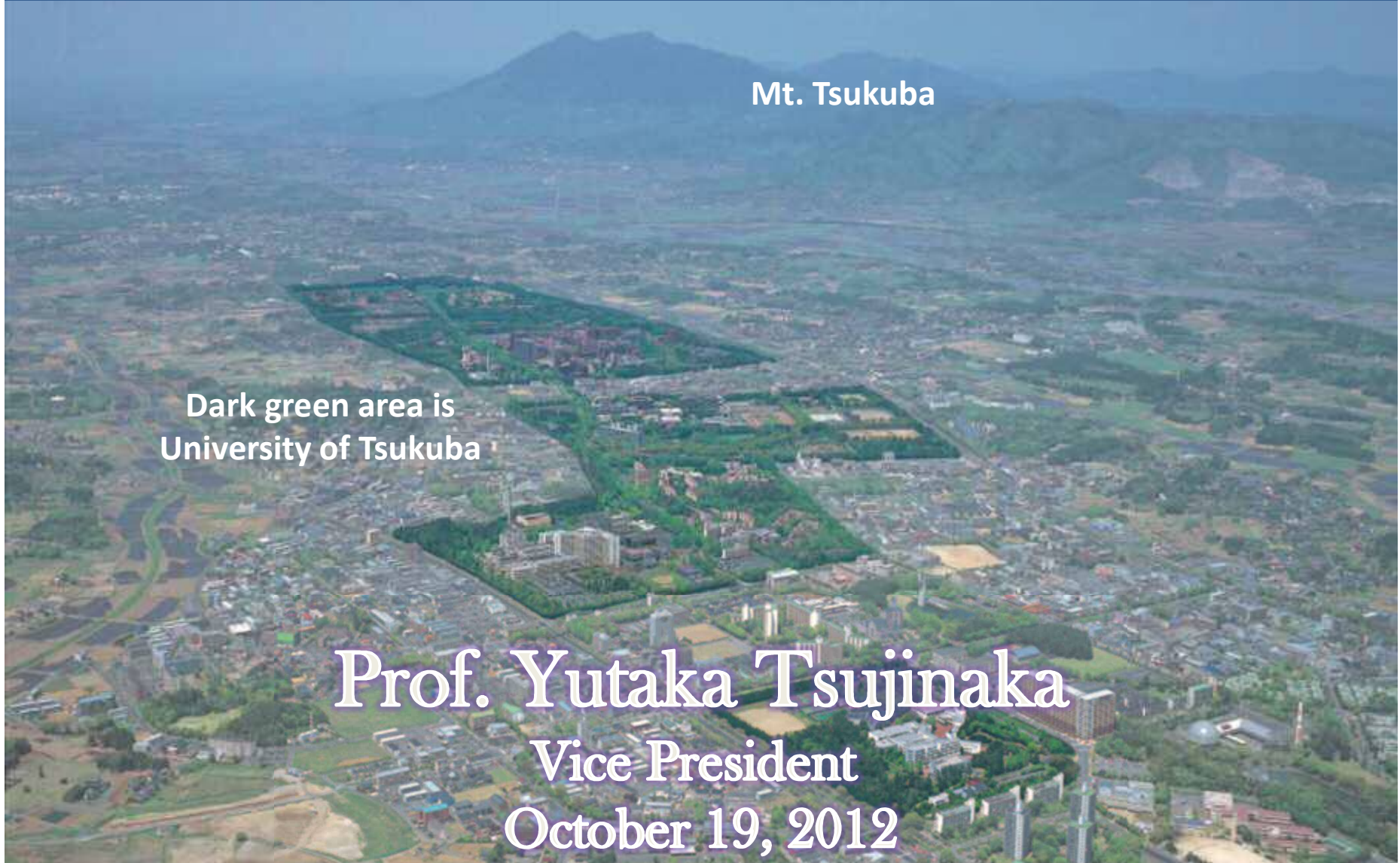


The University of Tsukuba as a New Concept University

Mt. Tsukuba

Dark green area is
University of Tsukuba

Prof. Yutaka Tsujinaka
Vice President
October 19, 2012

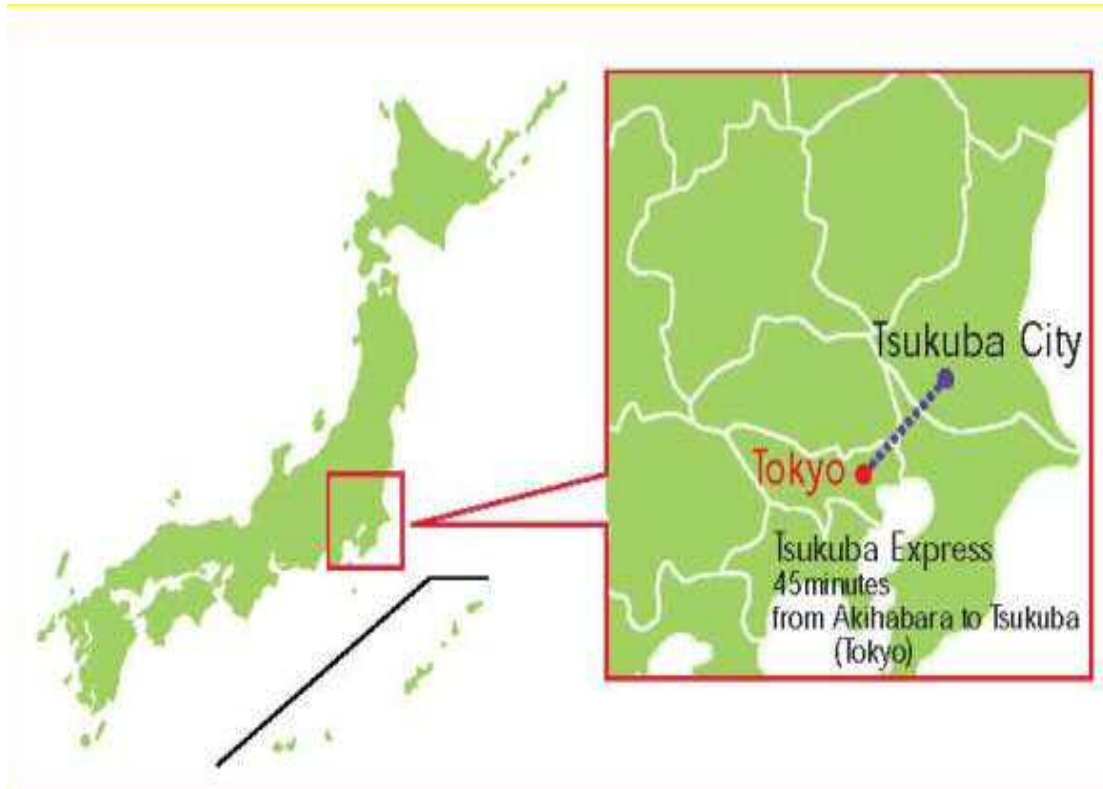


**IMAGINE
THE
FUTURE.**

Campus of the University of Tsukuba



University of Tsukuba





- 1. Introduction**
 - ① Opening Remarks and Introduction of Framework
 - ② Top Universities Under 50 – World University Rankings
 - ③ Nobel Laureates and Olympic Athletes

- 2. Main Body**
 - (1) Establishment of the University of Tsukuba as a New Concept University
 - ① Establishment of the University of Tsukuba
 - ② University of Tsukuba's 3 Founding Visions
 - (2) University of Tsukuba as a Leader of University Reform
 - ① Implementation of Self-Evaluation
 - ② Inauguration of President Leo Esaki and Establishment of TARA Center
 - ③ Incorporation of the National University
 - ④ Ceaseless Reorganization
 - Toward a New Framework for Education and Research -
 - (3) University of Tsukuba as a Research University
 - ① Tsukuba Special Zone of International Strategy
 - ② Entrepreneurship: Expansion of University-led Venture Companies
 - (4) Globalization of Education
 - ① Human Biology Degree Program
 - 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)**

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

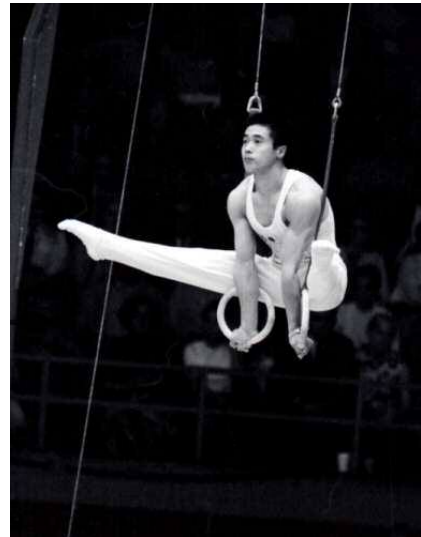


Dr. Hideki Shirakawa
(Professor Emeritus)

Olympic Medalists



Ayumi Tanimoto
Athens (2004), Beijing (2008)
2-Time Consecutive
Gold Medal Winner



Sawao Kato
《Professor Emeritus》
8 Olympic Gold Medals
12 Medals in Total



Kozue Ando & Saki Kumagai
《Current Students》
World Cup Winning Team
London (2012) Silver Medal
Nadeshiko Japan

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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① 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



©2010 University of Tsukuba

- Area Size 28,400 ha
 Newtown Area 2,700 ha
 Neighboring 25,700 ha

- Population 215,000
 (as of Oct. 2010)

- Research Institutes 172
 Public & University 32
 Private 140

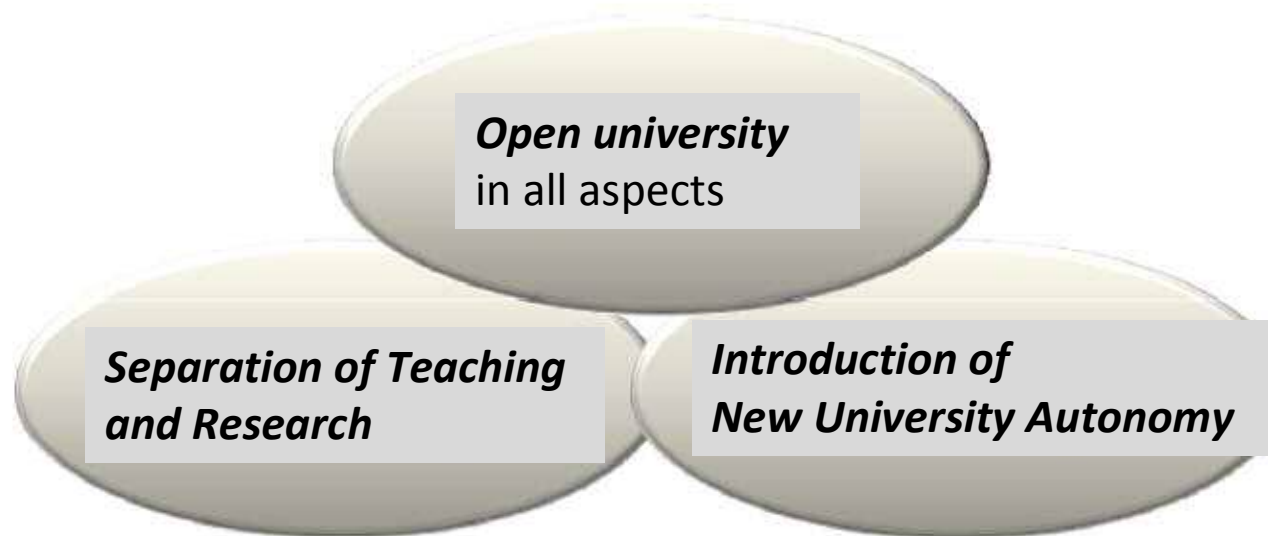
- Venture Business 231
 (as of Mar.2012)

- Researchers 20,000

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 UniversityThe 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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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.

③ 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

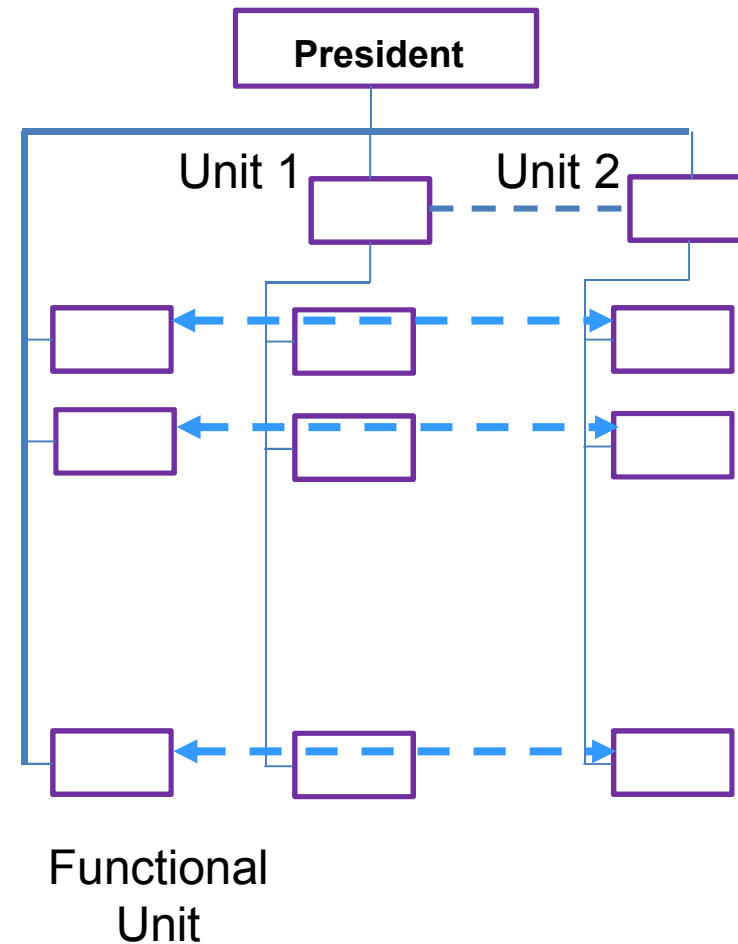
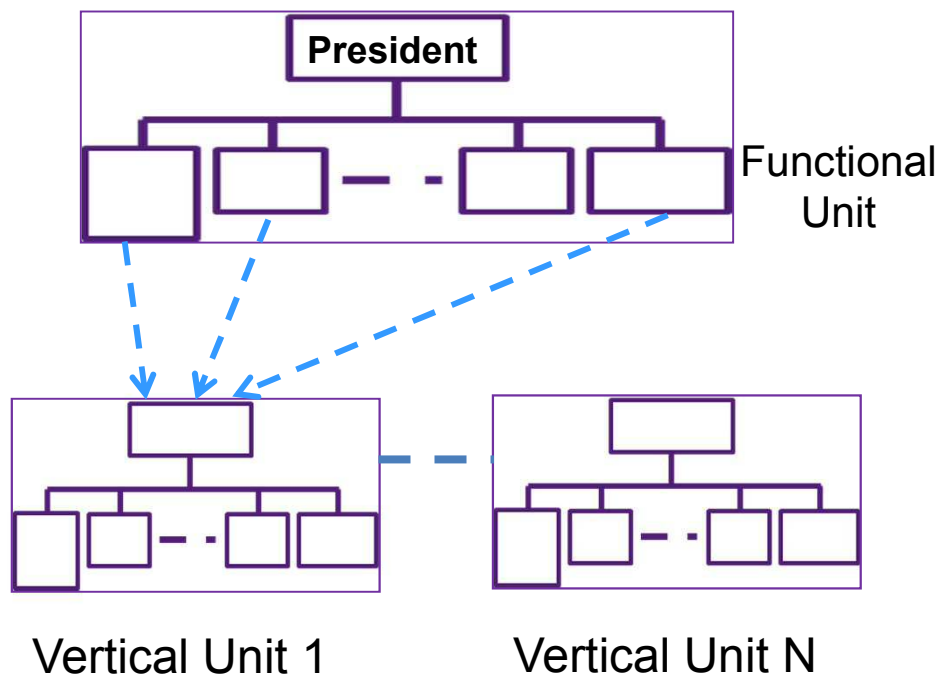
- Each university sets up a six-year mid-term objective and a mid-term plan as guidelines for university management.
- The National University Corporation Evaluation Committee will undergo a university evaluation every six years.
- Based on this evaluation, the amount of management expense grants from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

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

Vertical Model

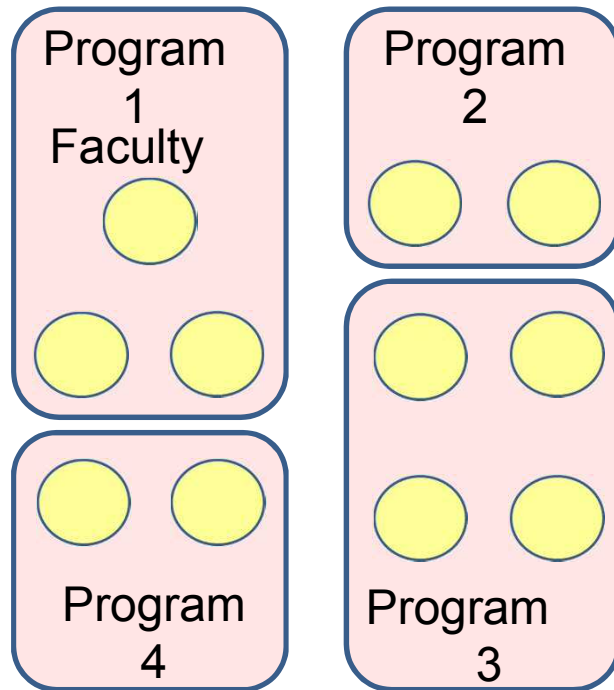


Horizontal Model



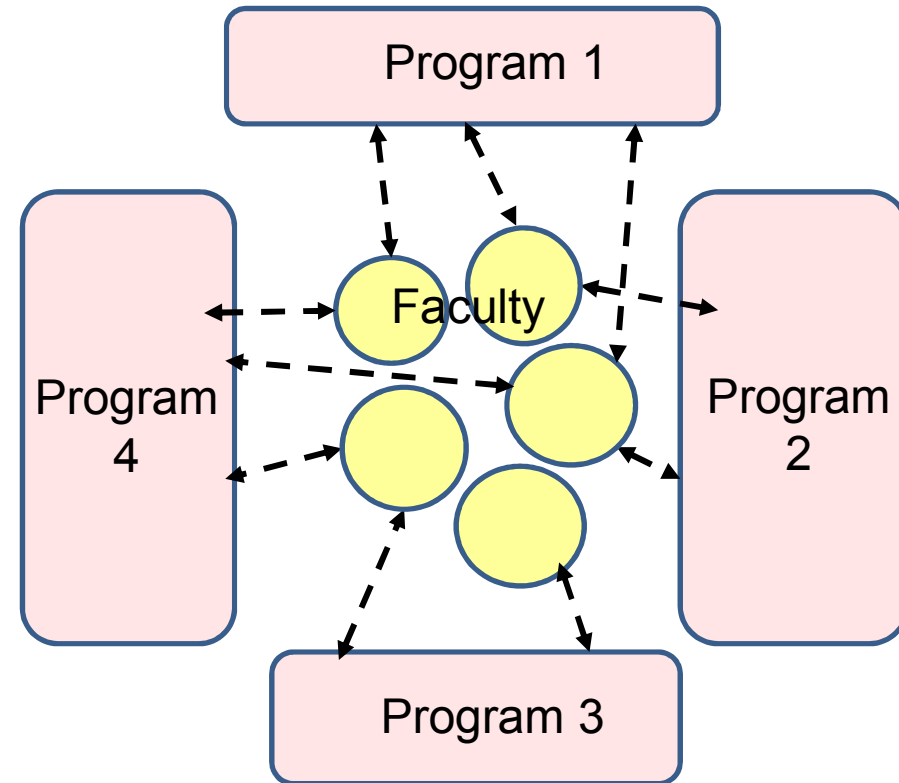
④ Ceaseless Reorganization – Toward a New Framework for Education and Research

“Vertical Model”



Little Flexibility

“Horizontal Model”



Get Most out of Faculties

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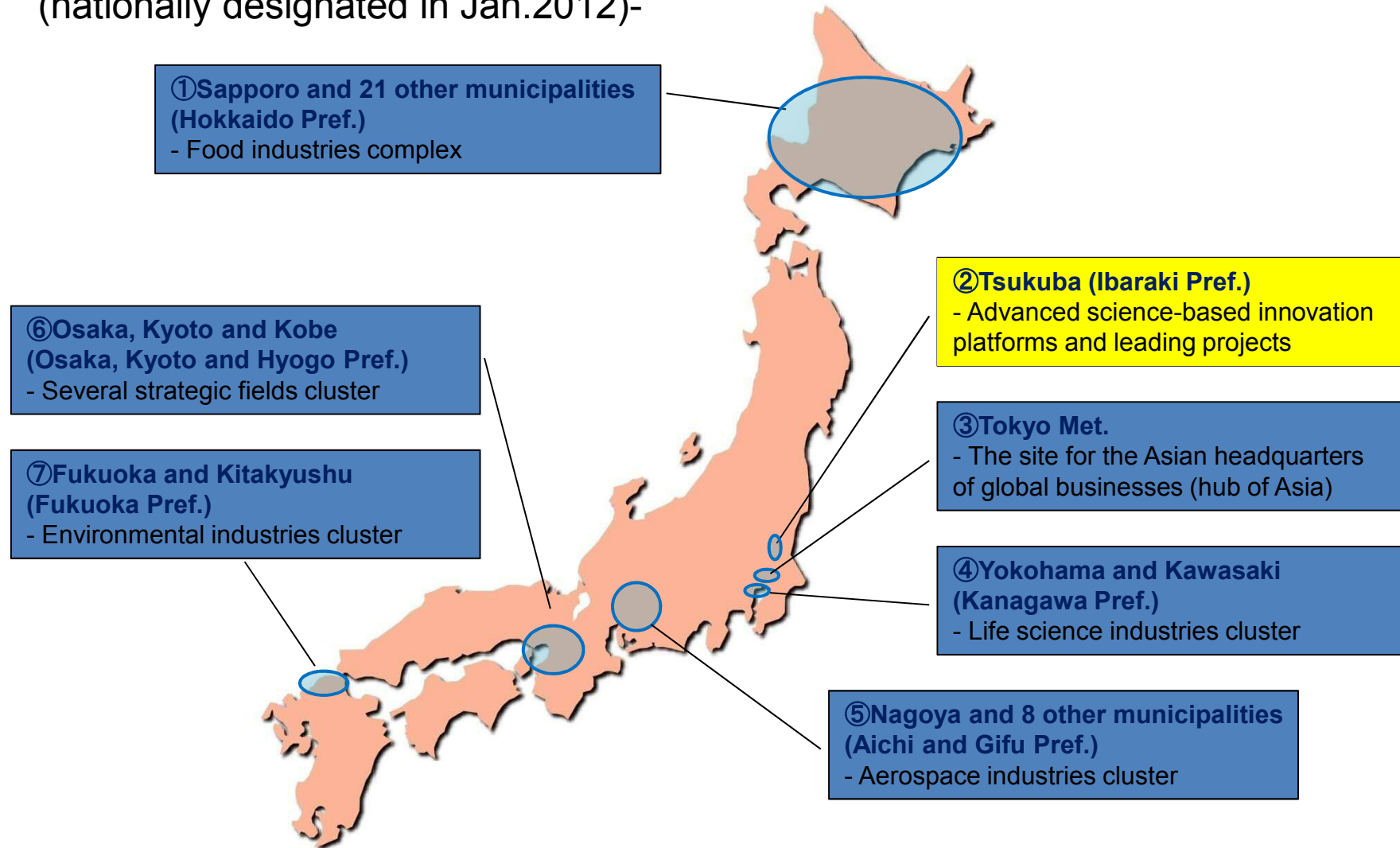
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3. Conclusion

(3) - ① Tsukuba Special Zone of International Strategy (one of the seven areas)



- "Comprehensive Special Zones for International Competitiveness Development" (nationally designated in Jan.2012)-



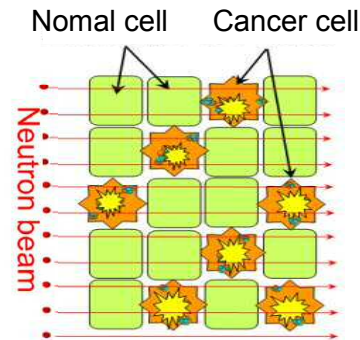
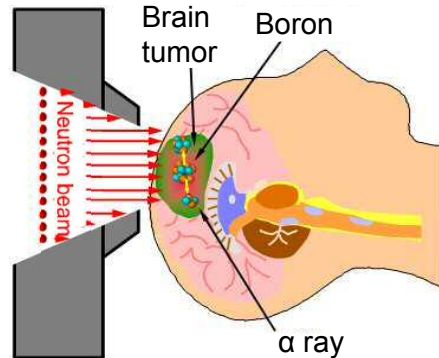


- The University of Tsukuba, along with Tsukuba City and Ibaraki Prefecture was selected as one of the 7 regions designated by the government as the “Tsukuba International Strategic Zone”.
- The “Tsukuba International Strategic Zone” is intended to form the engine of Japan’s economic growth and improve 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.



Parotid gland cancer

Before treatment

After treatment

Main Participants:

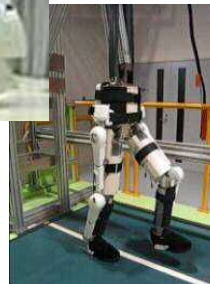
- University of Tsukuba
- High Energy Accelerator Research Organization (KEK)
- Japan Atomic Energy Agency (JAEA)
- Hokkaido University
- Ibaraki Prefecture, Companies, etc.

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.



Robot Safety Center

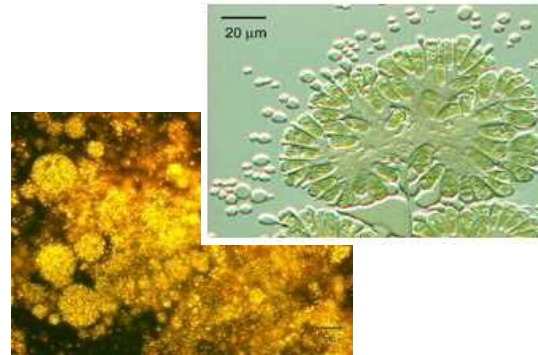
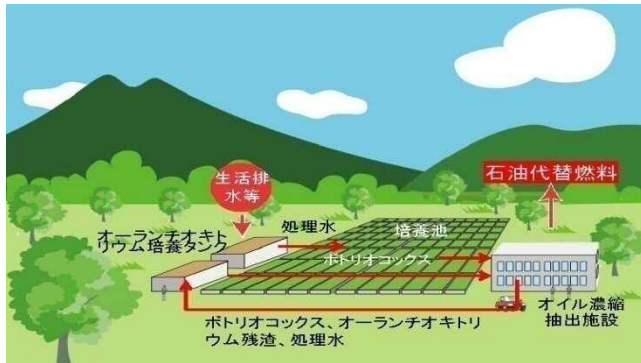


Main Participants:

- 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.



Super Clean Room, AIST



Main Participants:

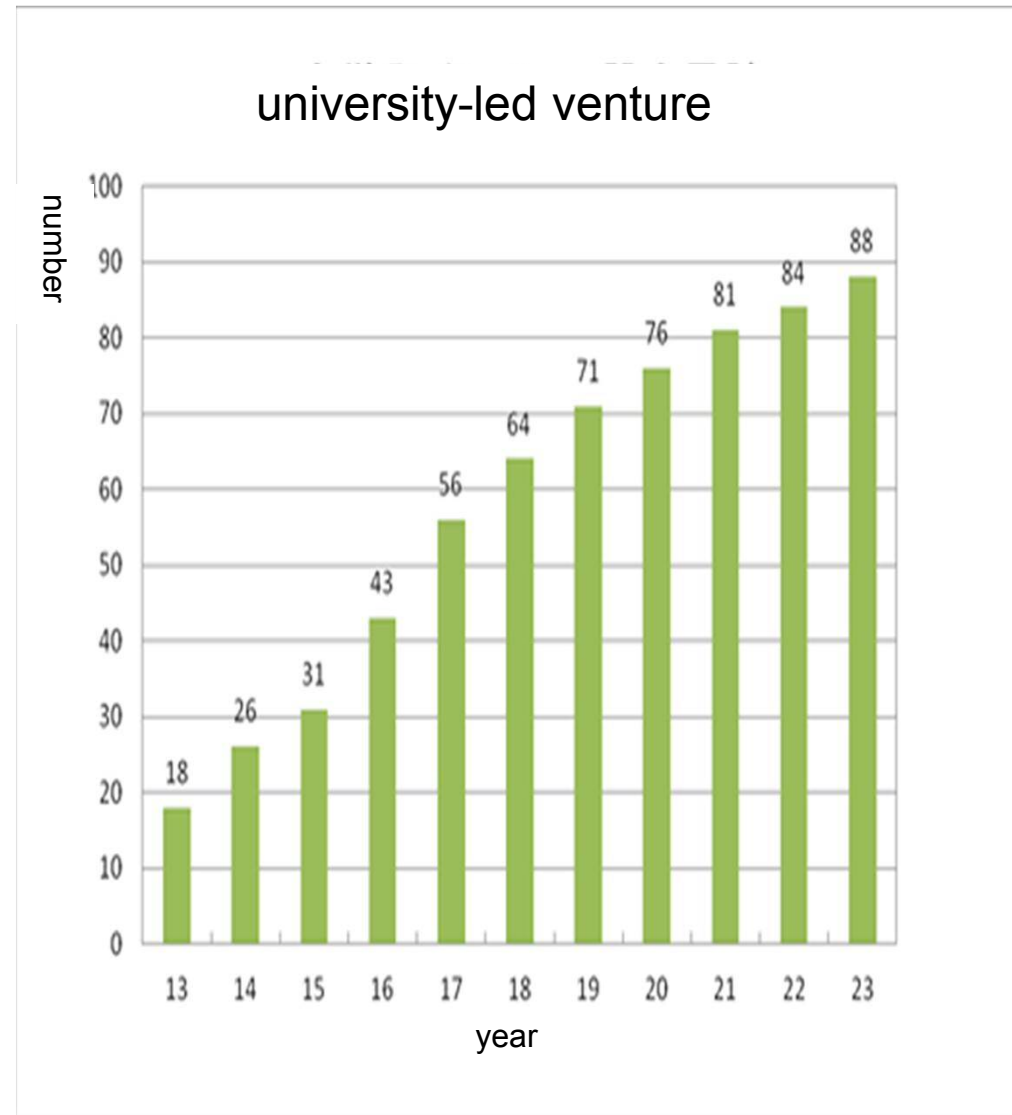
- National Institute of Advanced Industrial Science & Technology (AIST)
- National Institute for Materials Science (NIMS)
- University of Tsukuba
- High Energy Accelerator Research Organization (KEK)
- Companies, etc.



● 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.



ukuba



- “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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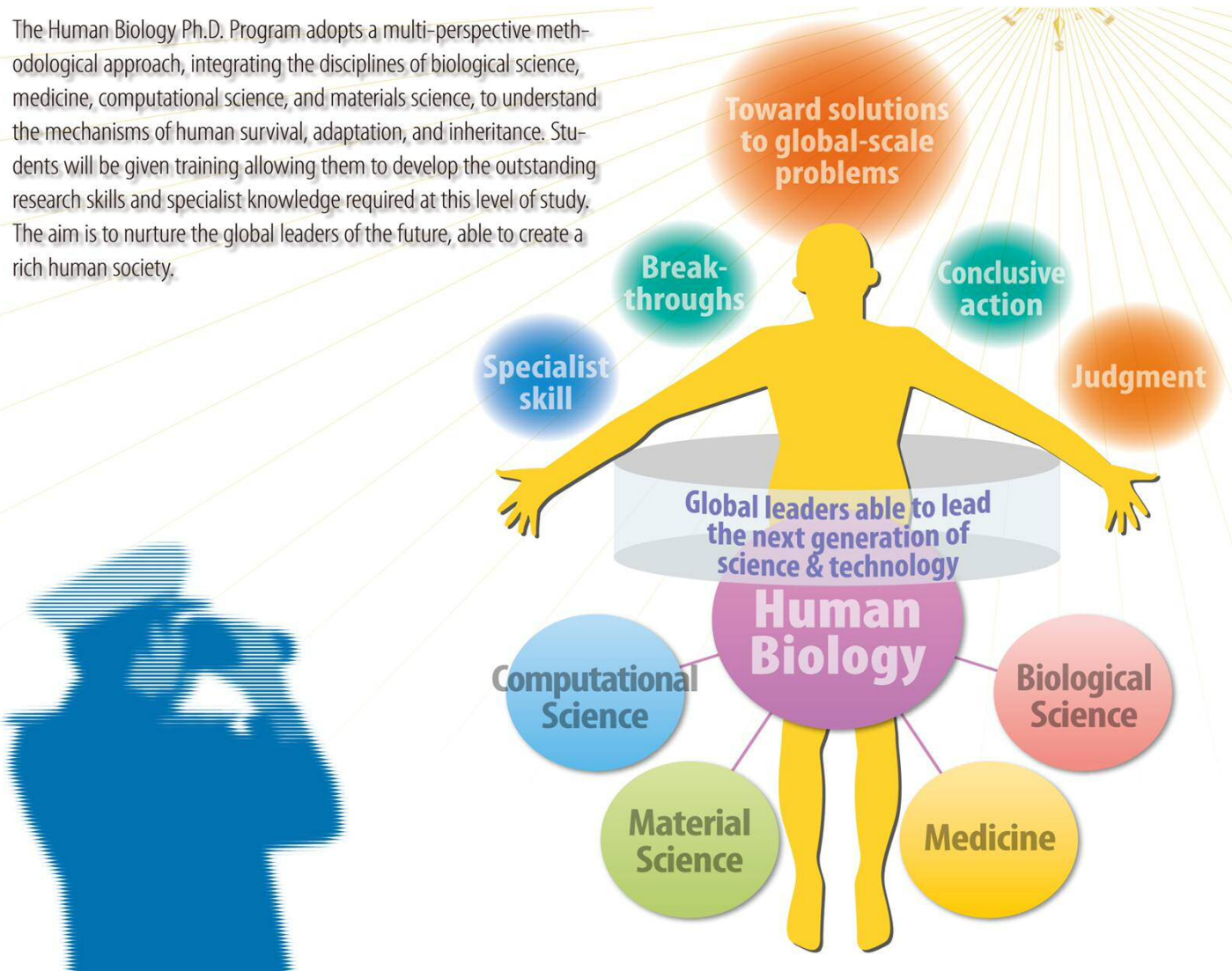
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The Human Biology Ph.D. Program adopts a multi-perspective methodological approach, integrating the disciplines of biological science, medicine, computational science, and materials science, to understand the mechanisms of human survival, adaptation, 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.



(4) – ② Global 30 Program

University of Tsukuba was selected as one of 13 universities among 89 national universities and more than 200 universities

G30 = Global 30 Program

by which the MEXT (Ministry of Education, Culture, Sports, Science, and Technology of Japan) aims to facilitate the global activity of Japanese universities.



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:

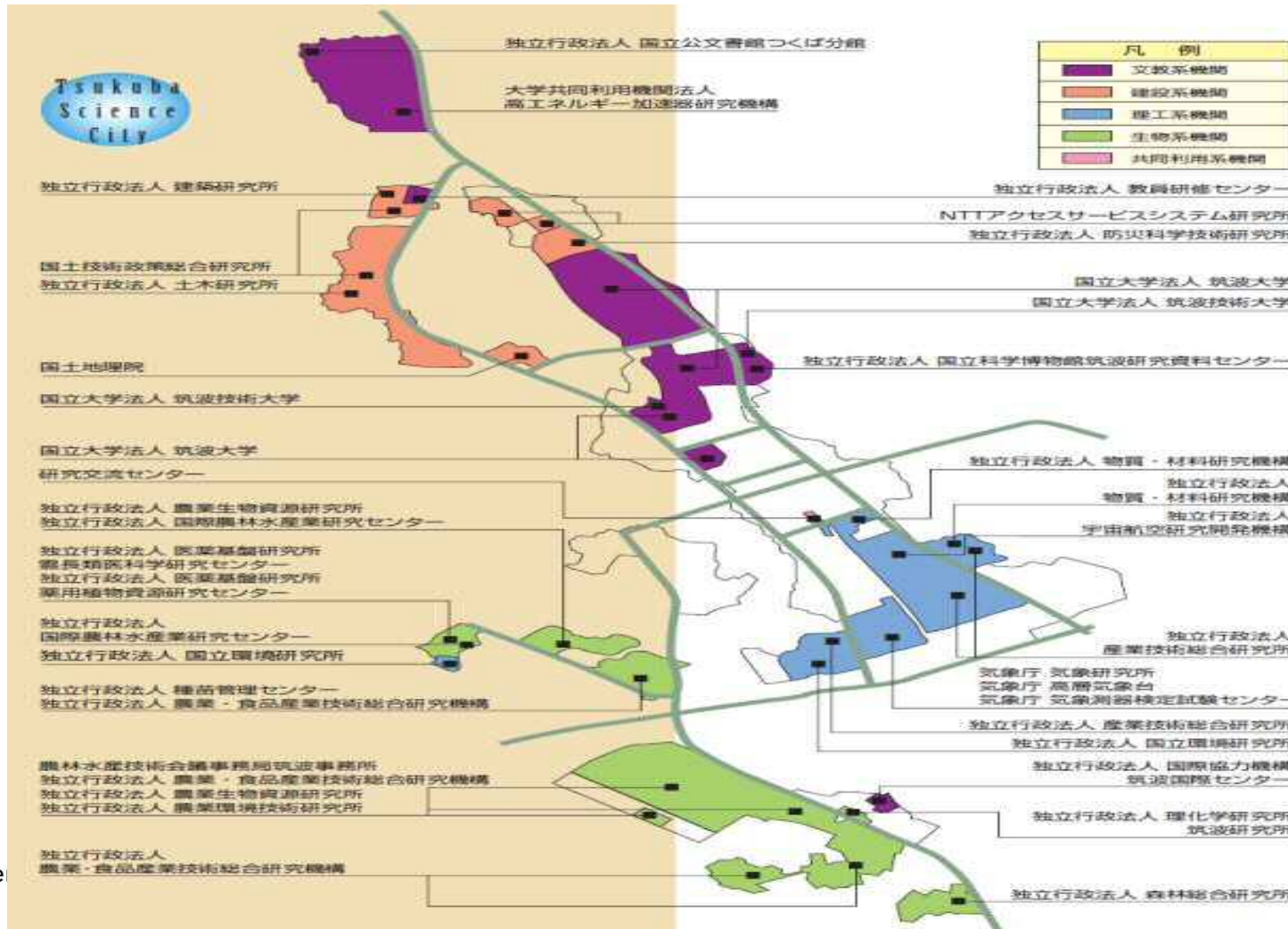
- Expand courses taught in English
- Create an environment under which students can concentrate on studying without anxiety (provide accommodation, scholarships, etc.)
- Establish overseas bases where "one-stop service" procedures will streamline the acceptance of international students

IMAGINE
THE
FUTURE.

(4) - ③ Cooperative Graduate School



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



- (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**

ADVERTISING FEATURE

Spotlight on Tsukuba

Search science jobs in Japan

This article was originally published in the journal *Nature*

TSUKUBA, JAPAN

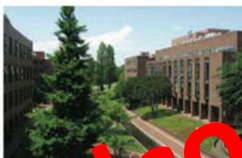
A tale of two cities

The Japanese city of Tsukuba, home of Tsukuba Science City, is a leading centre of pure research that aims to become Japan's flagship science and technology hub. **Matthew Salter** looks at the progress so far.



IMAGINE THE FUTURE.

Welcome to Tsukuba



UNIVERSITY OF TSUKUBA

Imagine the future

The University of Tsukuba is leading the way in reforming higher education in Japan. From its efforts in creating an open-style university system fit for the next generation, to its commitment to establishing a truly international centre of study, the University of Tsukuba is continually challenging the status quo.



The executive board of TIA Nano. From left to right: Sukekatsu Ushioda (president, NIMS), Tamotsu Nomaguchi (president, AIST), Teruo Kishi (president of the executive board, TIA), Nobuhiko Yamada (president, University of Tsukuba) and Ryoji Chubachi (chair, Committee on Industrial Technology, Nippon Keidanren).

UNIVERSITY OF TSUKUBA, TSUKUBA NANO

A new arena for nanotechnology

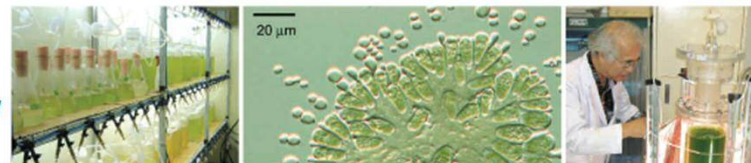
UNIVERSITY OF TSUKUBA, CYBERNETS LABORATORY AND CENTER FOR CYBERNETS RESEARCH

Cybernetics: enhancing human function



UNIVERSITY OF TSUKUBA, GRADUATE SCHOOL OF LIFE AND ENVIRONMENTAL SCIENCES

A pioneer of the new algae economy



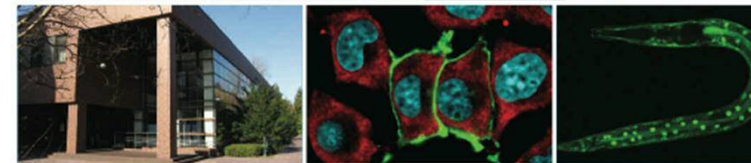
UNIVERSITY OF TSUKUBA, CENTER FOR COMPUTATIONAL SCIENCES AND INSTITUTE OF PHYSICS

In pursuit of new physics



UNIVERSITY OF TSUKUBA, TSUKUBA ADVANCED RESEARCH ALLIANCE

A new alliance for life science research



IMAGINE
THE
FUTURE.



Благодарю за внимание!
ご静聴ありがとうございました
Thank you for your attention today

