

Innovative Universities Global Webinar

Event starts at 5PM CET
Please stand by!



November 2, 2023

Welcome to Innovative Universities Global Webinar

**In Pursuit of Excellence with
focus on Okinawa Institute of
Science and Technology**

November 2, 2023

Moderators



**Prof. Dr.
Isak Frumin**

Head of Observatory of
Higher Education
Innovations at
Constructor University,
Fellow of the International
Academy of Education



Dara Melnyk

Strategic transformation
consultant, speaker, PhD
candidate at
Maastricht University,
Netherlands

Construction of the webinar



60 min: 15-min presentation + discussion



Live: every second Thu @5PM CET



Recordings: available on YouTube + impressions sharing via [#InnovativeUniversities](#)



Moderators

for the 2023-2024 season:
Isak Frumin and Dara Melnyk



The Steering Committee:

Phil Altbach, Jules Coleman,
Daniel Kontowski, Attila Paustis,
Jamil Salmi, Po Yang

Invited expert

In Pursuit of Excellence



**Prof. Dr.
Ken Peach**

Professor Emeritus at Oxford,
Honorary Professor at Edinburgh

Preface - 1

- **As academics, we want to be excellent** (or at least an authority)
 - **in something!**
- **We are driven by curiosity**
 - **which drives innovation and discovery.**
- **There is pressure to be excellent**
 - **from colleagues**
 - **from the institution**
 - **from funders and government**
- **and rewards**
 - **prestige, prizes, excellent students...**
 - **... and satisfaction – a sense of achievement**
- **and we want to be in an excellent environment**
 - **group, department, faculty, institution**

Questions

- **How to achieve Excellence?**
- **How to measure Excellence?**

Preface - 2

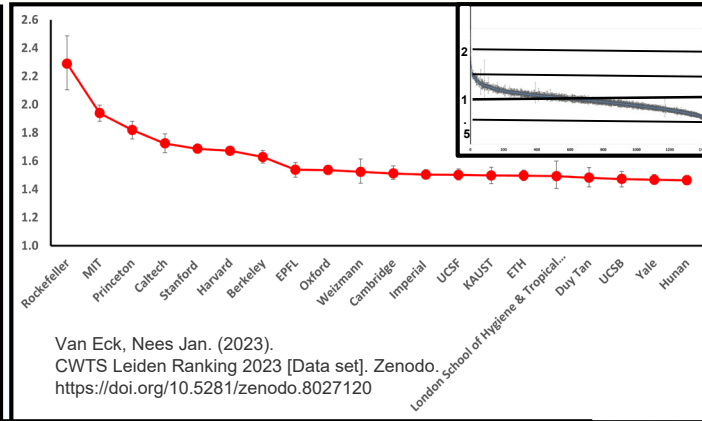
- **What about University rankings?**
 - **University ranking is a big industry**
 - Times Higher, QS, Shanghai, Nature Index...
 - These try to define Excellence by Algorithm
 - All methods flawed!

Example:

Top 20 Universities (Leiden Ranking[†])
MCNS* Ranked, 2018-2021

(* Citations per paper divided by
citations per paper, Average
normalized by Year & Field)

[
Leiden ranking used because
(a) they include an uncertainty,
(b) they have several metrics, allowing cross-checks
(c) They fully publish the information
]



We need to define our own criteria

if the commercial rankings agree, fine

if not, we will know that we are right

but we must understand why they are wrong

[†] Leiden prefer the fraction of papers in the top 10% for ranking

A Recipe for Excellence?

- **Excellence in Everything that is done**

- Research, Teaching, Administration, Technology, Outreach...

- ... Campus Design, Architecture, Facilities, Services...

- (but not necessary to do everything – “critical mass” effect)



Leadership!

- **Recruit the Best**

- Clear Criteria (research, seniority, other things)

- Strict standards

- Healthy Risk Appetite

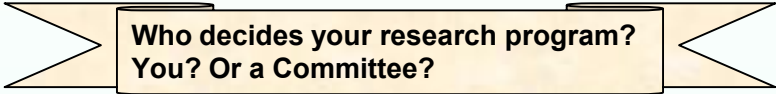


Self-Discipline

- **Research Freedom**

- High Trust Funding*


- Fund people not projects [*Fellowships* rather than *Grants* – although need both]



Who decides your research program?
You? Or a Committee?

- **Regular Rigorous External Review**

- Expect most research judged Outstanding or Excellent



Honesty

- **Stable Funding**

- “Outstanding” takes time to deliver (need time to fail)



Understanding
Sponsors

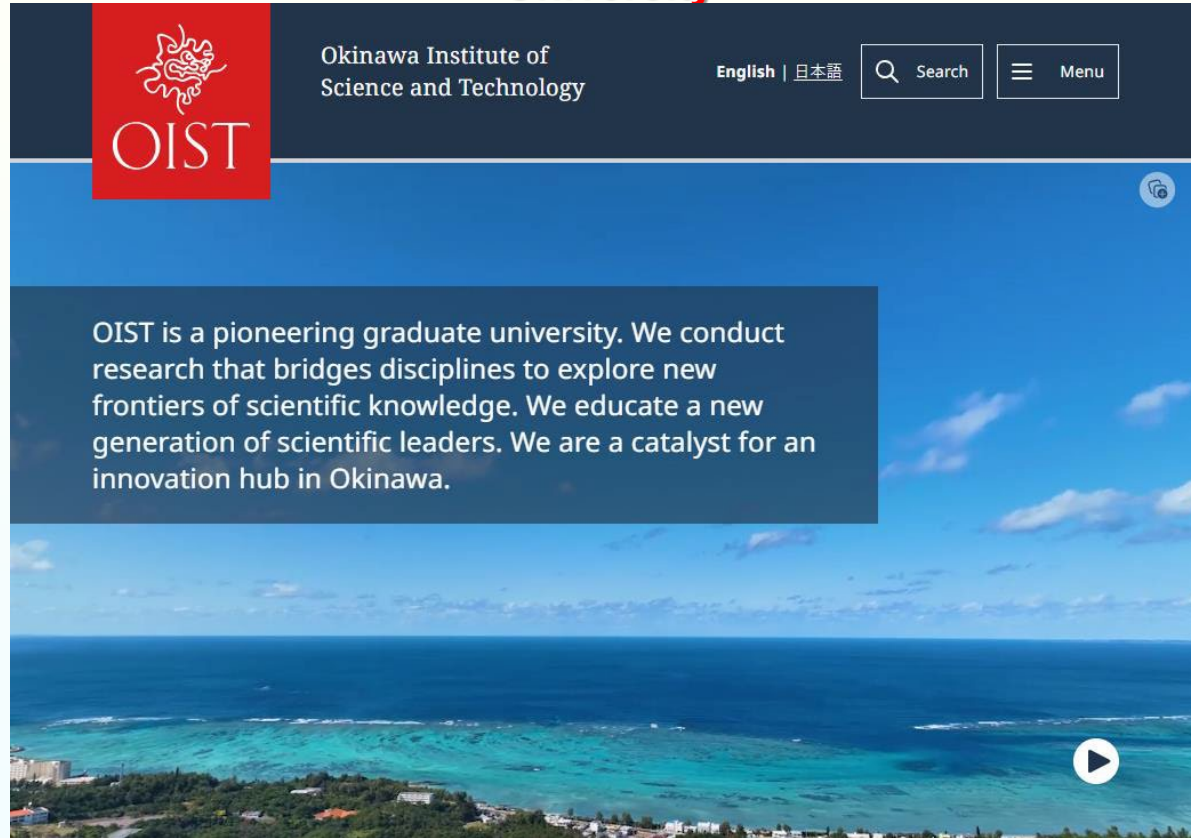
OIST as an Example

* Peter Gruss’s term

What is OIST?

Okinawa Institute of Science and Technology Graduate University

<https://www.oist.jp>



The screenshot shows the OIST website homepage. At the top left is the OIST logo, a red square with a white stylized tree and the text 'OIST'. To its right is the text 'Okinawa Institute of Science and Technology'. Further right are language options 'English | 日本語', a search box with a magnifying glass icon and the text 'Search', and a menu icon with the text 'Menu'. Below the header is a blue banner with a white text box containing the following text: 'OIST is a pioneering graduate university. We conduct research that bridges disciplines to explore new frontiers of scientific knowledge. We educate a new generation of scientific leaders. We are a catalyst for an innovation hub in Okinawa.' The background of the banner is a scenic view of a tropical coastline with turquoise water and a blue sky with clouds. A play button icon is visible in the bottom right corner of the banner area.

OIST: A Short History

- OIST's genesis was in the margins of the 2000 G8 Summit in Okinawa



- Koji Omi was Minister of Science and Minister for Okinawa (later Finance)**

- Okinawa is the poorest Japanese prefecture – average income ~70% Japanese average
 - Japanese Universities slipping down the international league

- with **Akito Arima (former President of Tokyo University)**



- Put these two “problems” together and proposed OIST

A world-leading international English language research-intensive graduate University
Demonstrate what was possible in Japan
Use OIST to catalyze a new high-technology, high-value-added industry
» Transform the Okinawa economy

- During 2001, assembled a high-level International Group of Nobel Laureates

- Sidney Brenner, Jerry Friedman, Yuan T Lee, Torsten Wiesel, Tim Hunt
 - Susumu Tonegawa, ... & others (Martin Rees, Hiroko Sho, Kiyoshi Kurokawa, ...)



- Developed a Framework in 2003 & Blueprint 2008

- 2009 “Schools Corporation Act” creates OIST

- 2004: OIST Research Institute: first 4 research units created

- November 2011, OIST inaugurated

- Jonathan Dorfan, 1st President

- September 2012, first students

- 2017 Peter Gruss, 2nd President

- February 2018, first graduation

- January 2020, first Strategic Plan

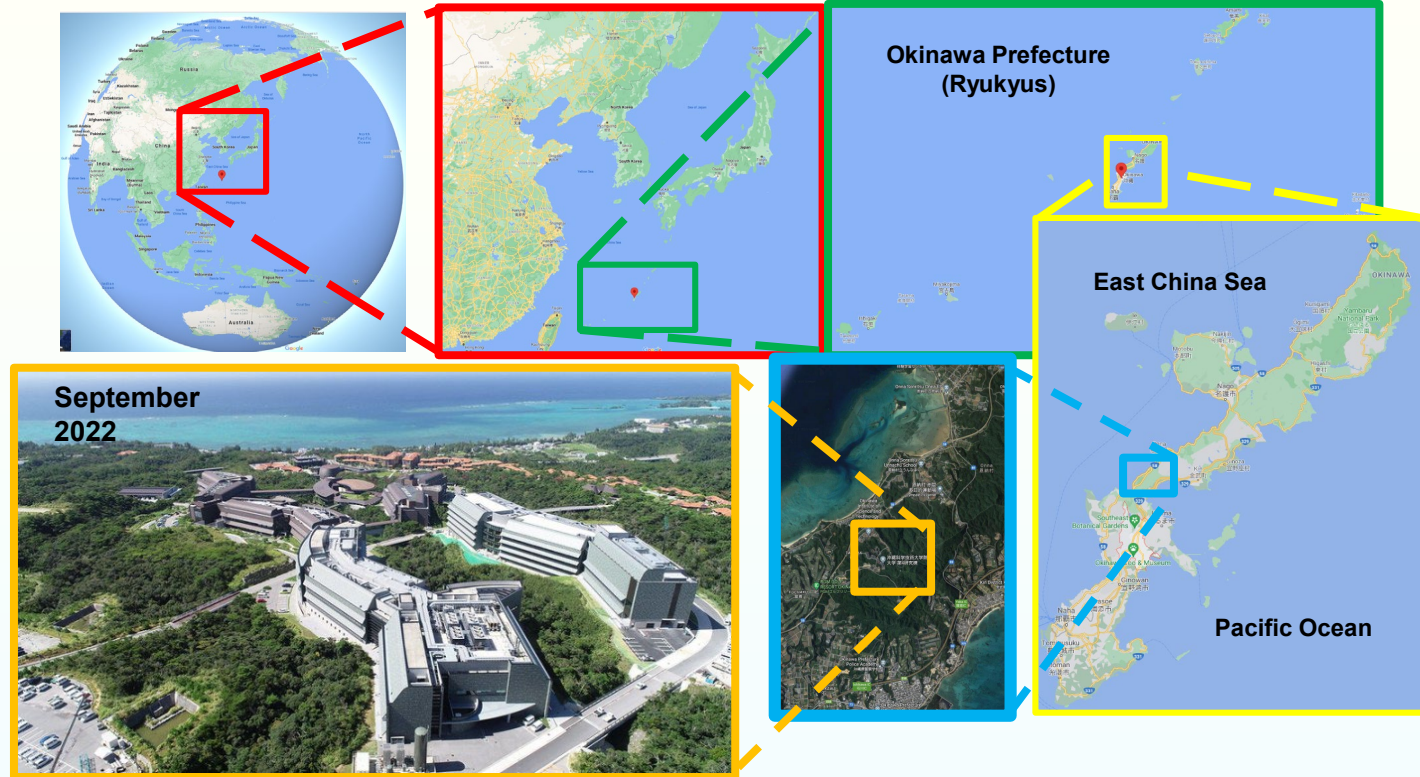
- June 2023

- Karin Markides, 3rd President

Framework (2003)	Blueprint (2008)	Schools Act (2009)
<p style="text-align: center;">30 November 2003</p> <p style="text-align: center;">PROPOSED FRAMEWORK OF THE UNIVERSITY (Revised Draft)</p> <p>1. Reasons for establishing the university in Okinawa</p> <p>1.1 The need for a new graduate university</p> <p>1.1.1 The need for integrative research</p> <p>Today's science and technology is making a rapid progress that every nation wishes to be at the forefront of science and technology and that means technology(2) irrespective in the global market. It faced with a need to improve its national educational and research system.</p> <p>Most of the rapidly expanding science and technology are rapidly multidisciplinary or transdisciplinary, calling for integrative research of various disciplines. Many of the global problems that mankind face today are also multidisciplinary and integrative approaches are required to solve them.</p> <p>In these fields of research, the traditional boundaries between basic and applied research tend to be blurred and appropriate research in other areas closely related to industry and the societal perspective of a region.</p> <p>One of a number of such multidisciplinary or transdisciplinary problems is understood the mechanism of life. It is one of the keys to solving a major health problem of mankind as well as global environment and food problems, and some major questions in the world are being raised which require an effective cooperation of disciplines in the life sciences.</p>	<p style="text-align: center;">Blueprint of the New Graduate University</p> <p style="text-align: center;">新大学院大学の青写真</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">Aims</p> <ul style="list-style-type: none"> Best in the World Flexible International Global Networking Collaboration with Industry Graduate only </div> <p style="text-align: center;">The Board of Governors The Okinawa Institute of Science and Technology Promotion Corporation</p> <p style="text-align: center;">独立法人 沖縄科学技術研究振興推進機構 運営委員会</p>	<p style="text-align: center;">Schools Corporation Act (Revised)</p> <p style="text-align: center;">沖縄科学技術大学院大学設置法 Okinawa Institute of Science and Technology School Corporation Act (Revised)</p> <p style="text-align: center;">(平成二十一年法律第六十号)</p> <p style="text-align: center;">(Act No. 60 of 2009)</p> <p>目次 Table of Contents</p> <p>第一章 総則 (第一節)</p> <p>Chapter I General Provisions (Articles 1-1)</p> <p>第二章 沖縄科学技術大学院大学 (第二節 第一至十二条)</p> <p>Chapter II Okinawa Institute of Science and Technology School Corporation (Articles 2-13)</p> <p>第三章 施設 (第三節 第十三条)</p> <p>Chapter III Miscellaneous Provisions (Articles 14-22)</p> <p>第四節 附則 (第二十二條 第一、二各款)</p> <p>Chapter IV Final Provisions (Articles 23, 24)</p> <p>附則 Supplementary Provisions Chapter I General Provisions</p> <p>第一章 総則</p> <p>第二章 目的</p> <p>第一条 目的 沖縄科学技術大学院大学は、科学技術の発展に貢献し、国際社会において最先端の学術研究を推進し、高度な専門知識と技術を持つ人材を養成することを目的とする。</p> <p>Article 1 The purpose of this Act is to promote the scientific activities necessary for the establishment and operation of the Okinawa Institute of Science and Technology as a research-intensive graduate university, to advance the development of science and technology, to cultivate highly qualified human resources, and to contribute to the promotion and development of Okinawa and to the development of science and technology worldwide.</p>

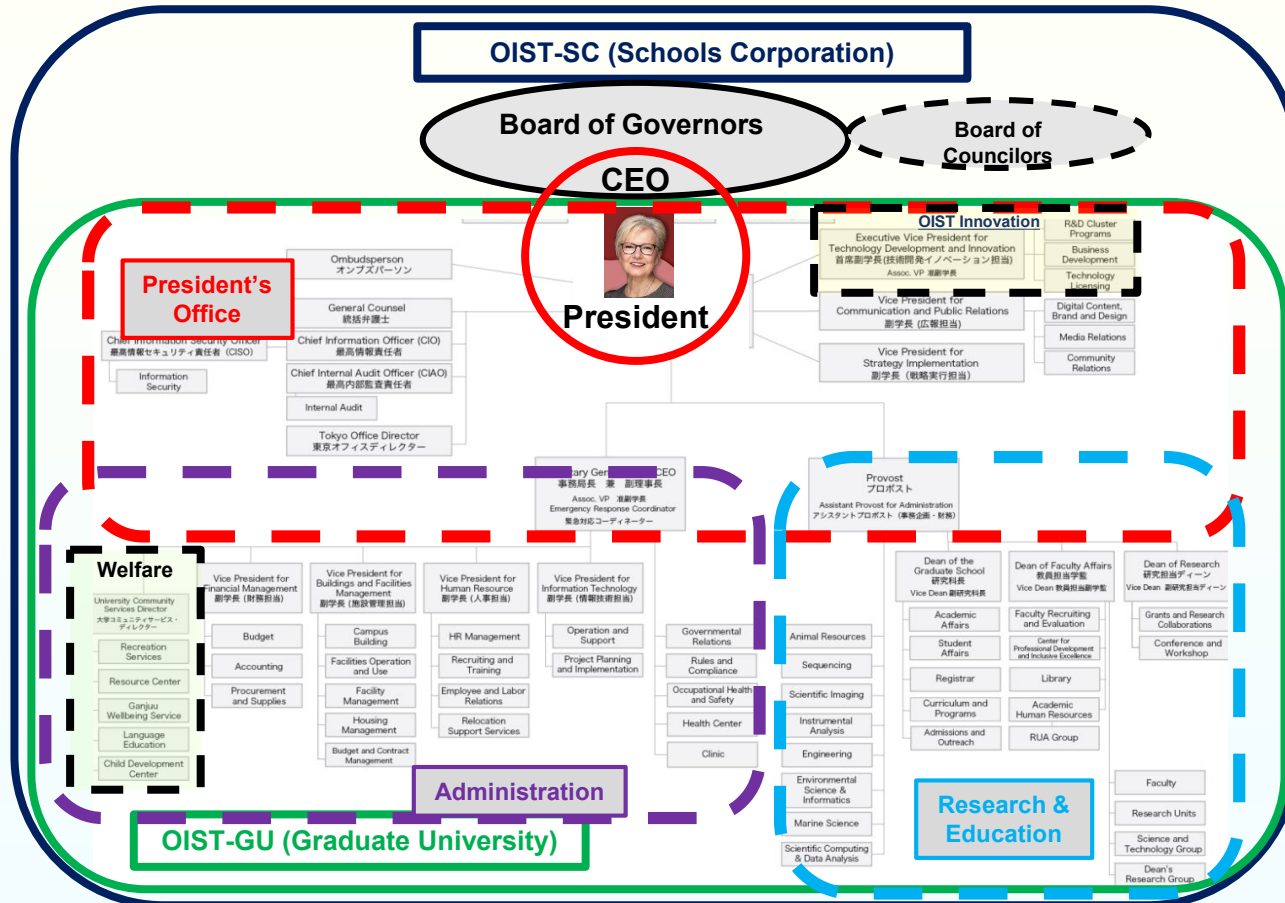
OIST is, by any definition, an Innovative University

Where is Okinawa anyway?

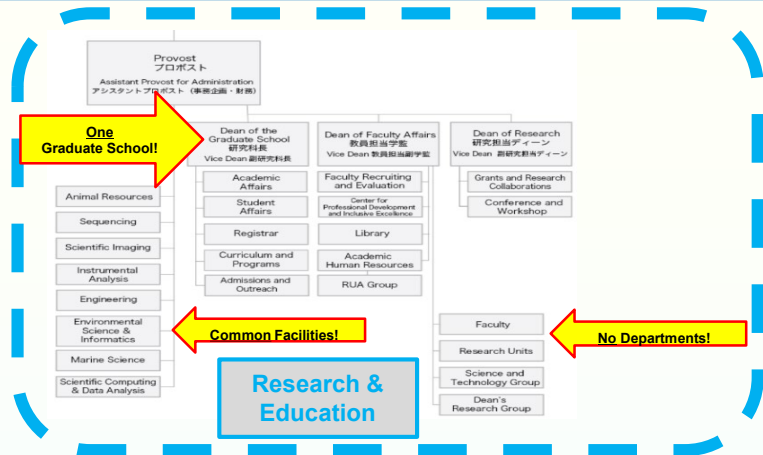


- Isolation is a challenge ... and an opportunity
- Special features – marine ecology, “blue zone” ...

OIST Governance Structure (simplified)



OIST - status

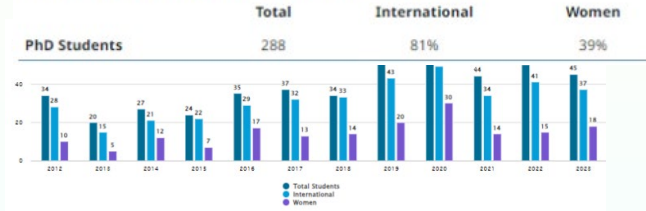


As of September 2023, OIST has 1,092 employees from 64 countries and territories.

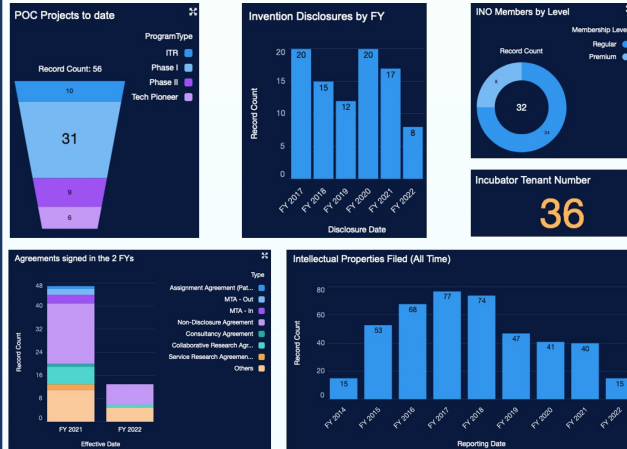
	Total	International	Women
Faculty	90	57 (63%)	17 (19%)
Research Unit Staff	481	320 (67%)	183 (38%)
Research Support Staff	84	37 (44%)	30 (36%)
Administrative Staff	437	82 (19%)	317 (73%)
Total	1,092	496 (45%)	547 (50%)

PhD Students

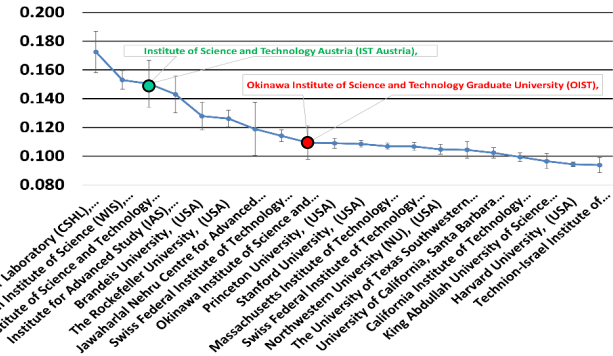
As of September 2023, OIST has 288 PhD students from 53 countries and territories (including students enrolling in September 2023).



Technology Transfer



Nature Index Normalized FC 2018



OIST Research Areas

- **While OIST does not have Departments**
 - **it does have research themes***
 - Engineering & Applied Sciences,
 - Ecology, Environment, & Marine
 - Life Sciences
 - Materials & Chemistry
 - Maths & Computer Science
 - Neuroscience
 - Physics
 - Quantum
- **Assistant[†], Associate[†], & Full Professors**
 - **Each head their own research unit**
 - ~ 4/6/8 research staff, 3 graduate students, 1 administrator

* Themes self-assemble and have no organizational function; faculty can belong to as many themes as they wish

† Assistant and Associate Professors do not “assist” and are not “associated with” any other Professor

Multidisciplinarity

- Not only does OIST not have *Departments*
 - it does not have dedicated *Buildings*
 - Each building has an *incoherent** mix of disciplines
- Aim to lower the barriers to collaboration
 - The creation of a true “collegiality”
 - “Coffee Conversations”
- Supported by the “Common equipment”
 - No access barrier to advanced instrumentation
- Graduate Training Program
 - 5-year Ph.D. *in Science*.
 - Year 1: Course work + three “Rotations” in different labs
 - At least one “out of field”
 - Year 2: Advanced course work plus writing thesis proposal
 - Year 3-5: Research

* “Incoherent” means that there is no strategy to co-location – space is allocated as needed and as it becomes free

Excellence in Everything

- **The Founders**

- Koji Omi + OIST Promotion Corporation Board of Governors
(Akito Arima, Robert Baughman, Sydney Brenner, Jerry Friedman, Tim Hunt, Yuan-Tseh Lee, Kiyoshi Kurokawa, Martin Rees, Hiroko Sho, Susumu Tonegawa, Torsten Wiesel)

defined & created OIST



- **Updated to the Guiding Principles†**



Recognized as World-leading

Destination of Choice

Partner of Choice

We want to be globally recognized for world-leading cross-disciplinary research that benefits humanity.

We want to be the destination of choice to work, learn and collaborate, linking science to education leading to innovation and entrepreneurship, supported by an efficient administration.

We want to be the partner of choice for innovation and a catalyst in Okinawa, promoting economic growth and sustainable benefits, addressing problems important to Japanese and global society.

†From the “OIST Strategic Plan 2020-2030” (2020)

* From the “Blueprint of the New Graduate University” (2008)

Recruitment ...

- is usually done by *Departments*
 - » *Faculty and Graduate Students*
- OIST: no Departments, so at *University Level*
 - **Advantages**
 - Several (5-15) positions advertised together
 - Flexibility (discipline, seniority, diversity...)
 - All students follow the same path
 - **Common standards and processes**

Two questions for a Recruitment Panel*

1) Is the candidate “appointable”? (Are the criteria satisfied?)

No appointable candidate? No appointment!

2) Of the appointable candidates, which is best?

“Best”? Research, Diversity, Teaching, Outreach etc.

At some point in the process, only the first question can be answered

At OIST, this happens when the file goes to the Board of Governors

- **Rigorous Tenure and Promotion Evaluation**
 - **Same standards and criteria as for appointment**

* Mutatis mutandis for student selection

High Trust Funding

- **Each Research Unit has 5-year funding**
 - **Free to pursue their own research**
 - Allows innovation and risk-taking
 - **Encouraged to apply for Individual Grants**
 - OIST supports broader external research programs
 - 85-90% of OIST's income comes from Government
 - » A “Publicly Owned Private University”
- **Rigorous External Review each 5 years**
 - **Five experts in the field**
 - **Extensive Documentation + Site visit**
 - Meet students & postdocs, see facilities
 - **Rate the work**
 - Outstanding/Excellent/Good/Satisfactory/Poor
 - At least Excellent expected
 - **Next 5-year funding dependent on outcome**

More External Peer Review

- **Apart from 5-year Faculty Reviews**
 - **Periodic (~ 5 year) Review of OIST**
 - *Example: The 2019 External Peer Review of OIST had 2 Nobel Laureates, 4 former University Presidents, 4 Institute Directors, 2 University Vice-Presidents*
 - **Ad hoc reviews of Research Support**
 - **IP proposals**
 - **New Research Directions**
- **OIST, like others, “officially” reviewed**
 - **Commissioned by “The Ministry” or equivalent**
 - **Nominally Independent**
 - **Key question is “who drafted the report?”**
 - **The Panel or the Secretariat?**

(My worry) Concern about “independence” if the Secretariat involved in drafting

Stable Funding

- **Stability of funding is almost as important as the level of funding**
 - **Allows the development of the right intellectual environment for success**
 - **Allows time for novel and innovative research, taking risks [and sometimes failing]**
 - “easy stuff” already done

The most important of my discoveries have been suggested to me by my failures
Sir Humphrey Davy (1778-1829)

- **Challenge: find funding that understands the importance of freedom**
 - **One of my favourite questions.**
 - **Is it better to achieve an easy goal or just fail an ambitious one?**
- **At OIST**
 - **Most of the budget comes from the Government**
 - through the Okinawa Promotion Budget
 - **This is an annual allocation, with no guarantees about future years***
 - In practice this year is a lot like last year
plus sometimes a modest increase
 - This is a significant management challenge
 - **The ideal would be something like a 3-5 year “rolling” budget**
 - Fixed for the current year
 - Estimates for the following year (preferably two) with a high probability of realization
 - Indicative for the subsequent year or two
 - Updated Annually

* This is the Japanese system

Summary and Conclusions

- **The pursuit of Excellence is Noble**
 - **It Encourages and Motivates**
- **It is a challenge for Science Managers**
 - **Accountability** **versus** **Effectiveness**
 - **Control** **versus** **Freedom**
- **Key Drivers:**
 - **Excellence in Everything**
 - **Recruit the Best**
 - **Allow Freedom**
 - **Review Rigorously**
 - **Adequate and Stable Funding**

Thank you!

**Perfection is not attainable,
but if we chase perfection,
we can catch excellence.**

Vince Lombardi (Football Coach, 1913-1970)

Panel Discussion

Save the date:

**Thursday, November 16,
5PM CET**

Stay updated for details!



**Prof. Dr. Joanne
Roberts**

President and Professor of Social
Sciences (Economics) at
Yale-NUS College

**Have a great evening and
follow us with
[#InnovativeUniversities](#)**