

# G7 Environment

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Universities for Sustainable Development



**G7** 2017  
ITALIA



MINISTERO DELL'AMBIENTE  
E DELLA TUTELA DEL TERRITORIO E DEL MARE

# Sustainability Science Education for SDGs

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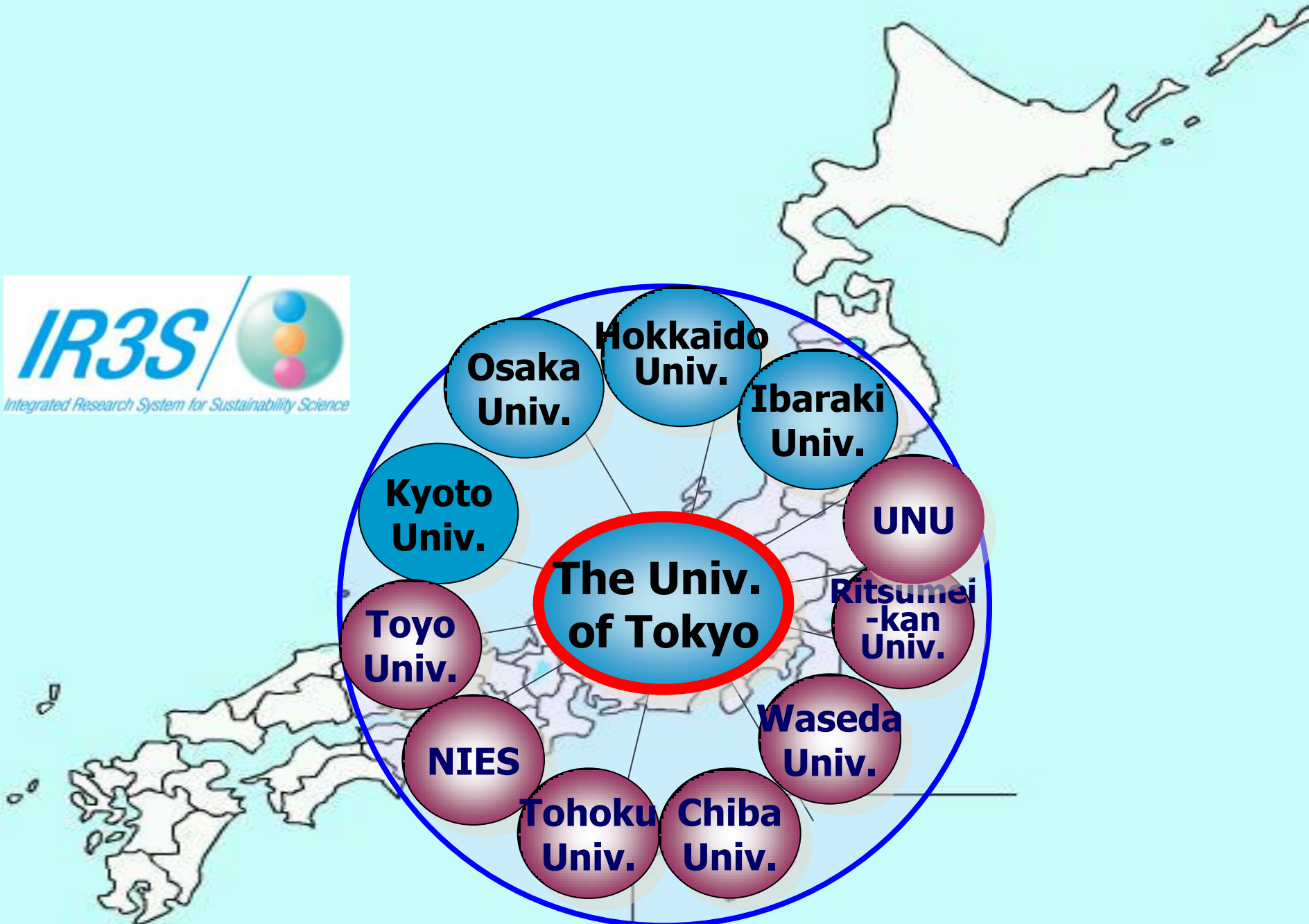
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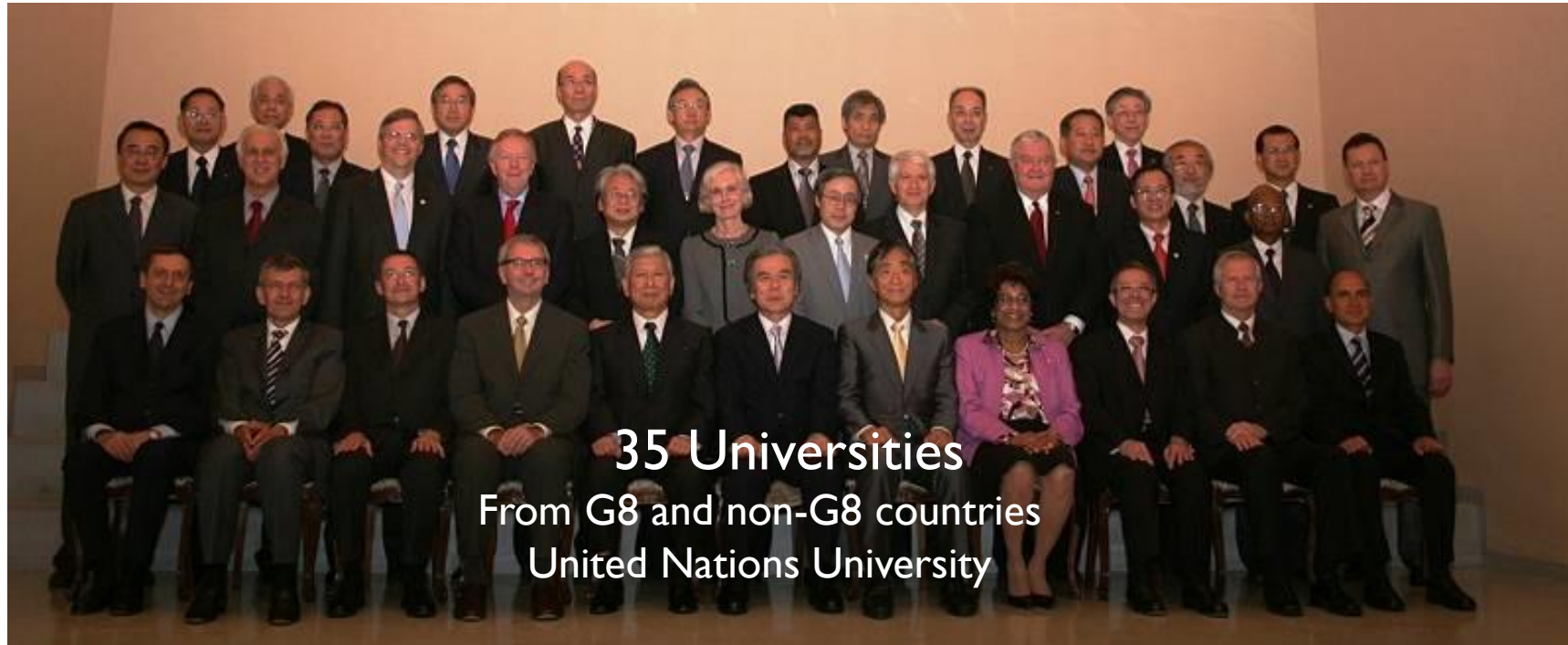
VISITING PROFESSOR, UNITED NATIONS UNIVERSITY INSTITUTE FOR THE ADVANCED STUDY OF SUSTAINABILITY

# Introduction of Sustainability Science

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# G8 University Summit (2008)

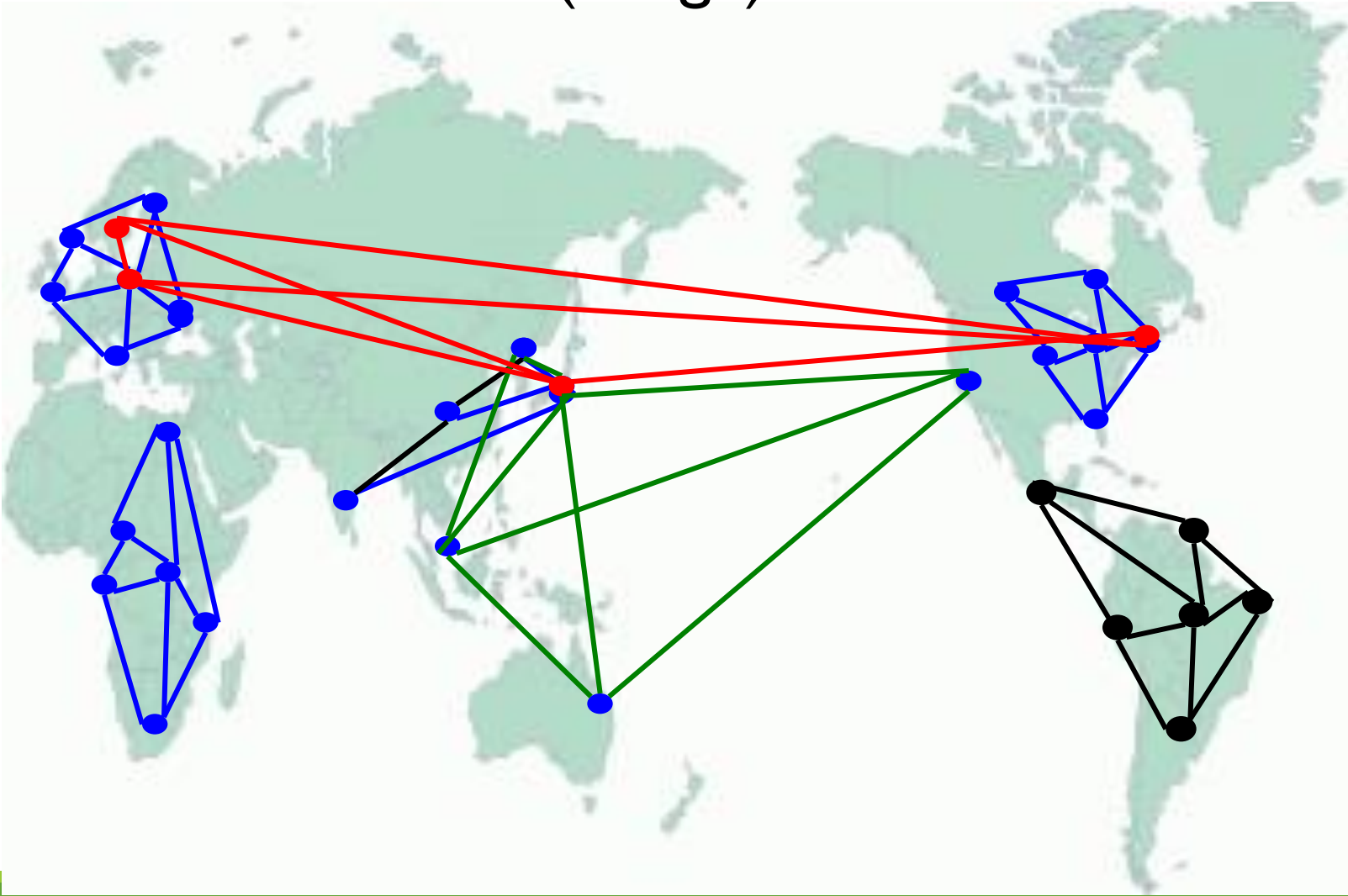


35 Universities  
From G8 and non-G8 countries  
United Nations University

## Sapporo Sustainability Declaration



# From Network to Network of Networks (NNs) (Image)





# Meetings organized by Sustainability Science

International Conference on Sustainability Science: ICSS

2009 Tokyo, 2010 Rome, 2012 Tempe, 2013 Marseille, 2015 Tokyo, 2016 Stellenbosch, 2017 Stockholm

Initiated by G8 University summit



**International Conference on  
Sustainability Science**



International Conference on Sustainability Science in Asia: ICSS-Asia

2009 at Bangkok, 2011 at Hanoi, 2012 at Jakarta, 2013 at Canberra, 2014 at Maldives

Linking between academia and practice (aid agencies)

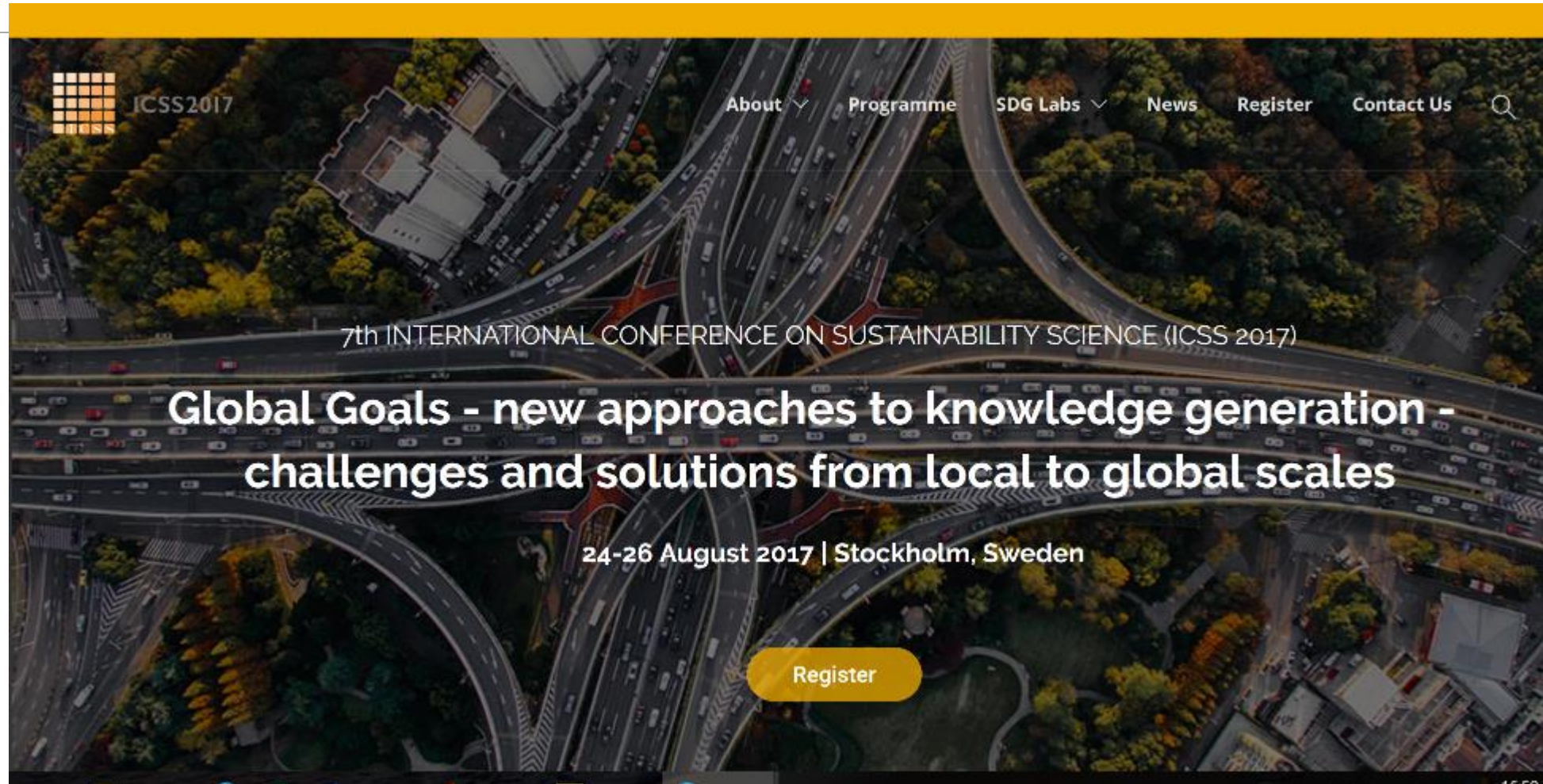


**International Conference on  
Sustainability Science in Asia**



# ICSS2017 at Stockholm

Collaboration with Resilience Society and Future Earth



ICSS2017

About Programme SDG Labs News Register Contact Us

7th INTERNATIONAL CONFERENCE ON SUSTAINABILITY SCIENCE (ICSS 2017)

**Global Goals - new approaches to knowledge generation -  
challenges and solutions from local to global scales**

24-26 August 2017 | Stockholm, Sweden

Register



# Publication

- Journal: Sustainability Science (2007~)



ISI (Thomson Reuters) **Impact Factor: 2.494 (2015)**

Editor-in-chief: Kazuhiko Takeuchi

The journal *Sustainability Science* offers insights into interactions within and between nature and the rest of human society, and the complex mechanisms that sustain both. The journal promotes science based predictions and impact assessments of global change, and seeks ways to ensure that such knowledge can be understood by society and be used to strengthen the resilience of global natural systems (such as ecosystems, ocean and atmospheric systems, nutrient cycles), social systems (economies, governments, industry) and human systems at the individual level (lifestyles, health, security, and human values).

# Textbook series

Sustainability Science book series (UNU Press)---Discontinued



# Characteristics of Sustainability Science in education

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Sustainability Science's nature is the transformation of scientific field **to practice community-based, interactive, or participatory approaches** which enable to tackle real-world complex agendas (Wiek et al, 2011 and Lang et al, 2012).

Sustainability Science developed into a new research field in environmental system by **integrating various academic fields through concepts in social ecological system, knowledge system, stakeholder analyses, and decision making** (Kajikawa, 2013)

- ❑ The first comprehensive 5 years graduate program for sustainability science in Japan and Asia leading to Master's and PhD Degrees
- ❑ Diverse students from all over the world with “tailor-made” study plan according to each student's academic interests
- ❑ Different types of field seminars, studios and internships to practically learn contemporary issues in sustainability in the world
- ❑ Various partner institutions on the campus, in Japan, and in the world



## GPSS Global Leadership Initiative

**Holistic**

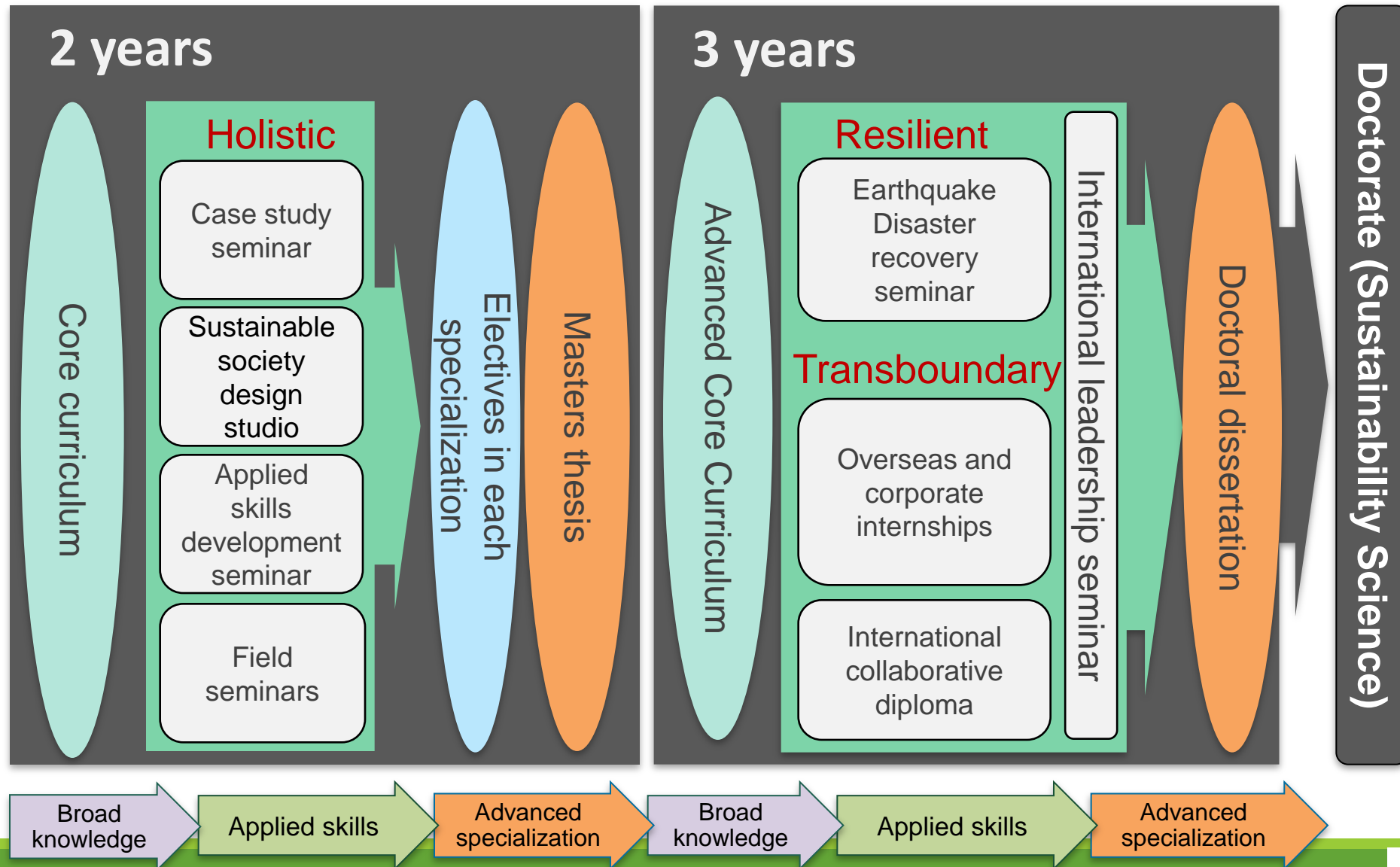
In-depth understanding and a broad, overarching perspective on technologies and institutions

**Resilient**

Flexibility in process governance that enables both long-term risks (e.g. climate change) and short-term risks (e.g. natural disasters) to be addressed concurrently

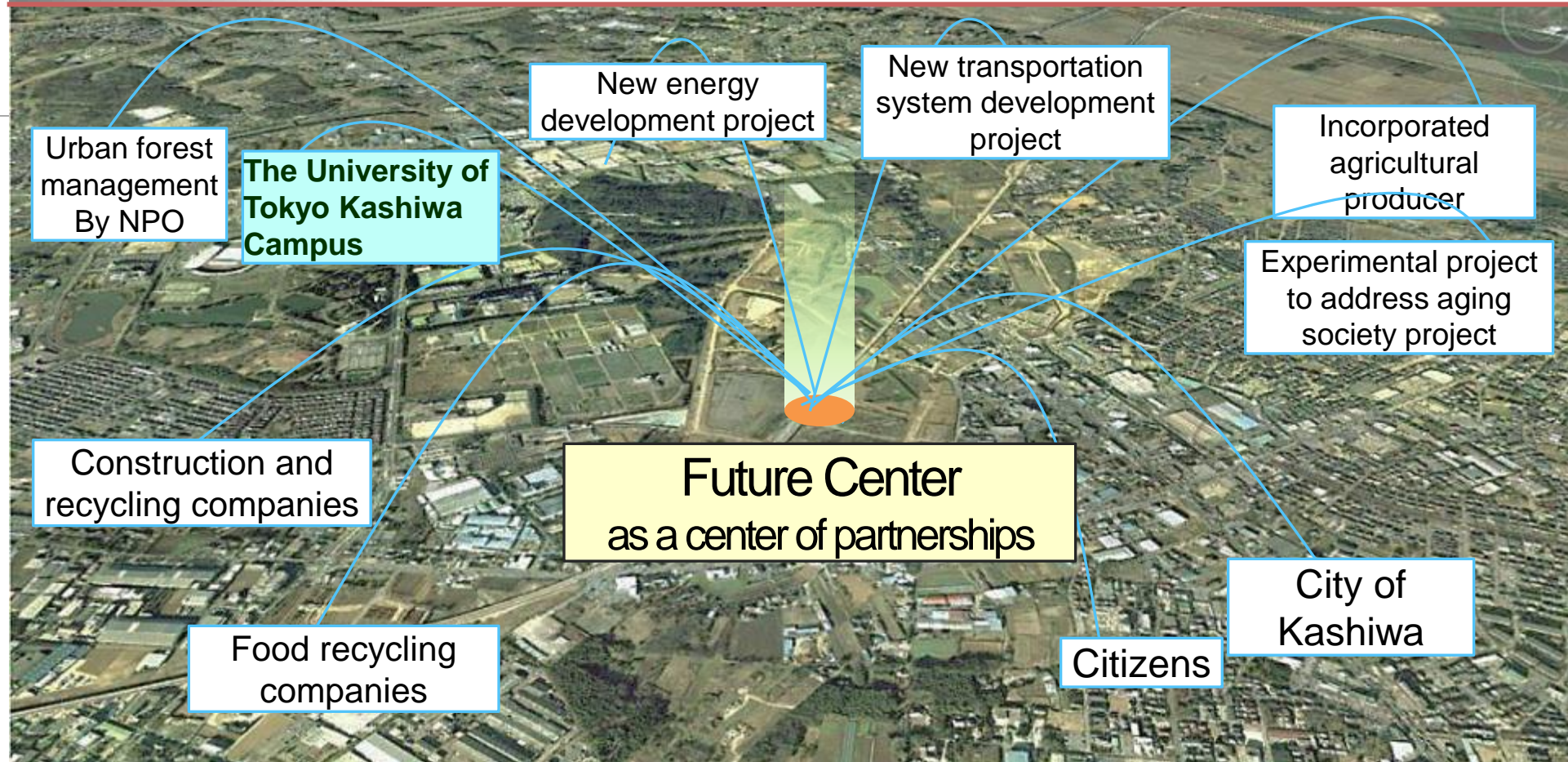
**Transboundary**

Comparative approach from a global perspective bringing diverse peoples together to jointly address environmental and social issues



# Holistic

Learning from social partnerships, social experiments, and corporate partnerships



- ❑ Corporate partnership in experimental social project centered on the Future Center
- ❑ International dissemination of a model used to resolve issues in Kashiwa, which include a diverse mixture of rural, suburban, and urban elements



# Resilient

## Learning from earthquake disaster recovery

### Addressing short-term risks

Proposal of a vision of local recovery and renewal to create cities and towns that are resilient to disaster

### Addressing long-term risks

Proposal of an ecological vision of regional renewal that makes efficient use of vernacular resources in response to the low-carbon imperative and global climate warming

### Building a system

which seamlessly integrates local issues and global perspectives

Creation of resilient societies





# Transboundary

Learning from international seminars and partners

Existing and Expanding



## INSS

International Network of Sustainability Science: Rome, Arizona State, Lund, etc.

Seminars by a global network of sustainability science



Existing and Expanding



## APIEL

Field seminars on Asian environmental issues



## United Nations University

International internships and collaborative diplomas with U.N.U. and international partner organizations



UNITED NATIONS UNIVERSITY



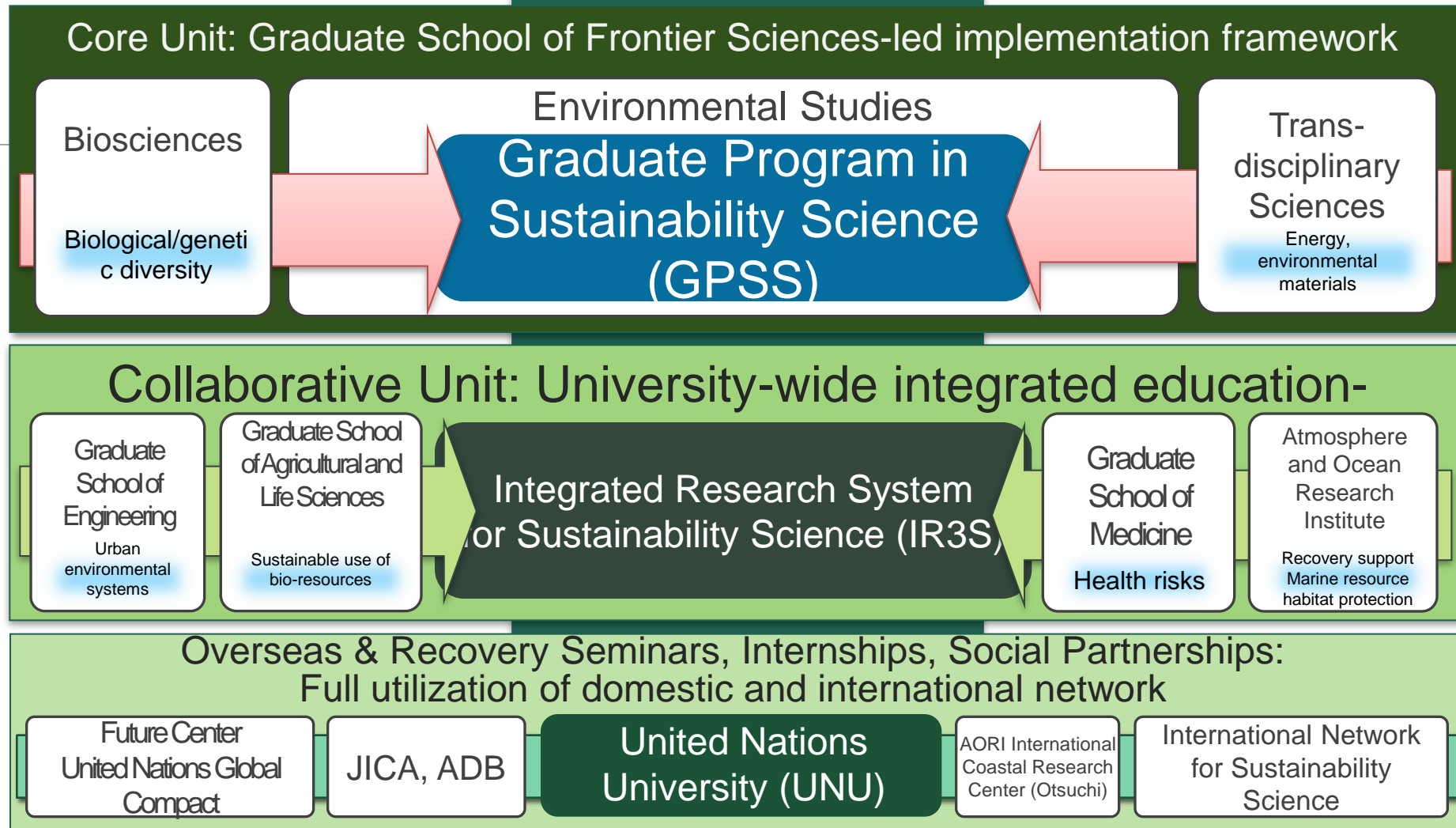
## ESD Africa

Joint educational programs with African partner universities: Cape Town, Ibadan, Kenyatta, Zambia, etc.

## Arizona State University

International collaborative diplomas





Global leadership to promote sustainability

# Education for Sustainable Development (ESD): relationship with SDGs



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

- 4.1 complete free, equitable and quality primary and secondary education
- 4.2 access to quality early childhood development, care and pre-primary education
- 4.3 equal access for affordable and quality technical, vocational and tertiary education
- 4.4 increase the number of youth and adults who have relevant skills
- 4.5 eliminate gender disparities in education
- 4.6 achieve literacy and numeracy
- 4.7 all learners acquire the knowledge and skills needed to promote sustainable development
- 4.a Build and upgrade education facilities
- 4.b expand globally the number of scholarships available
- 4.c increase the supply of qualified teachers



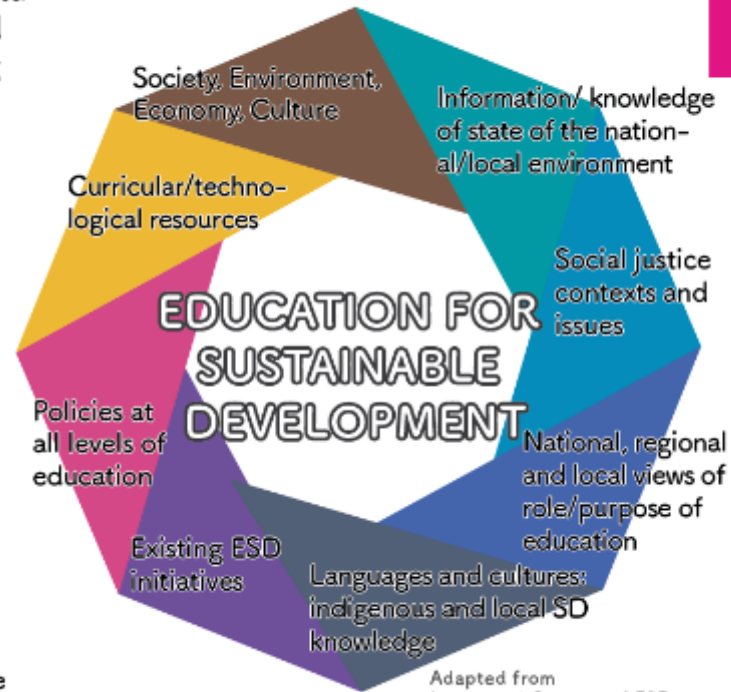
6.a expand international cooperation and capacity-building support in water- and sanitation-related activities and programmes



8.6 reduce the proportion of youth not in employment, education or training



9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors  
9.b Support domestic technology development, research and innovation



Adapted from Integrated Context of ESD (UNESCO, 2010)



10.2 empower and promote the social, economic and political inclusion of all



5.b Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment



14.a Increase scientific knowledge, develop research capacity and transfer marine technology



13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning  
13.b Promote mechanisms for raising capacity for effective climate change-related planning and management



17.9 Enhance international support for implementing effective and targeted capacity-building  
17.18 enhance capacity-building support to increase the availability of high-quality, timely and reliable data  
17.19 build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries

# SDGs at UTokyo

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- SDGs promotion is one of three major pillar of university activity under current President
- Re-organize activities of research and education with SDGs
- Develop a unit to integrate activities of research and education and to lead a larger activities
- Educate leaders and followers to promote SDGs in the society