

A HATENATHON Approach Report on Promoting SciTS in Japan

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Science of Team Science 2018 Conference
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Abstract

In the past year, we have taken different approaches to promote Science of Team Science (SciTS) in Japan. For example, (1) we **conducted literature reviews and interviews** about SciTS and Transdisciplinary Research as well as disseminated those findings promptly; (2) we **made proposals** for both funding agency and R&D institution or individual researchers to help them to formulate R&D projects on SciTS; (3) we held a question driven **consensus study based on the workshop series called “Hatenathon** on promoting Science of Team Science in Japan” to identify the questions, challenges and possible solutions to incubate SciTS in Japan. By working through above approaches, we aim to introduce SciTS into Japan and stimulate discussions, potential stakeholders, knowledge and investment on SciTS actively in Japan.

In this presentation, we will give an overview on the progress of promoting SciTS in Japan first, and then a focus report on Hatathon which includes how and what kind of questions or challenges being raised from this question driven consensus workshop series.

The purpose of this paper is twofold. First, to share and develop new understandings about SciTS. Second, to obtain ideas on how to initiate SciTS in an international context.

Table of Contents

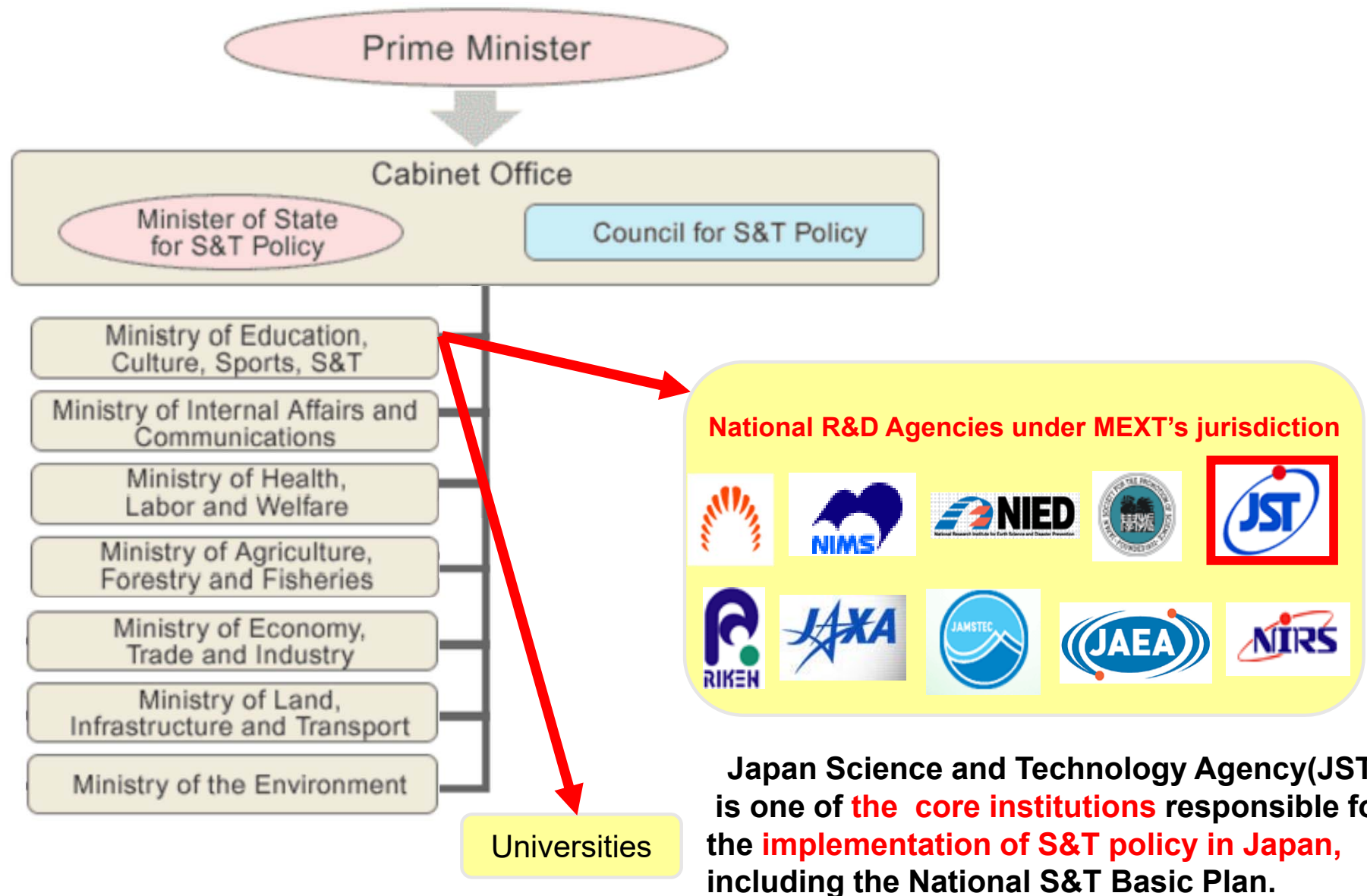
How did we start?

What did we do?

What did we find?

Future challenges.

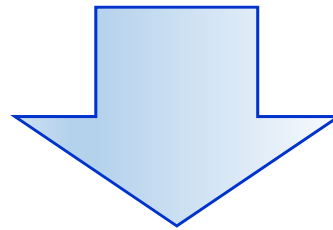
Science and Technology Administration in Japan



Adapted from http://www.jst.go.jp/kisoken/boshuu/h25/1305_document.pdf

Mission of RISTEX/JST

Funding Transdisciplinary Research in



Science of Team Science (SciTS)

Table of Contents

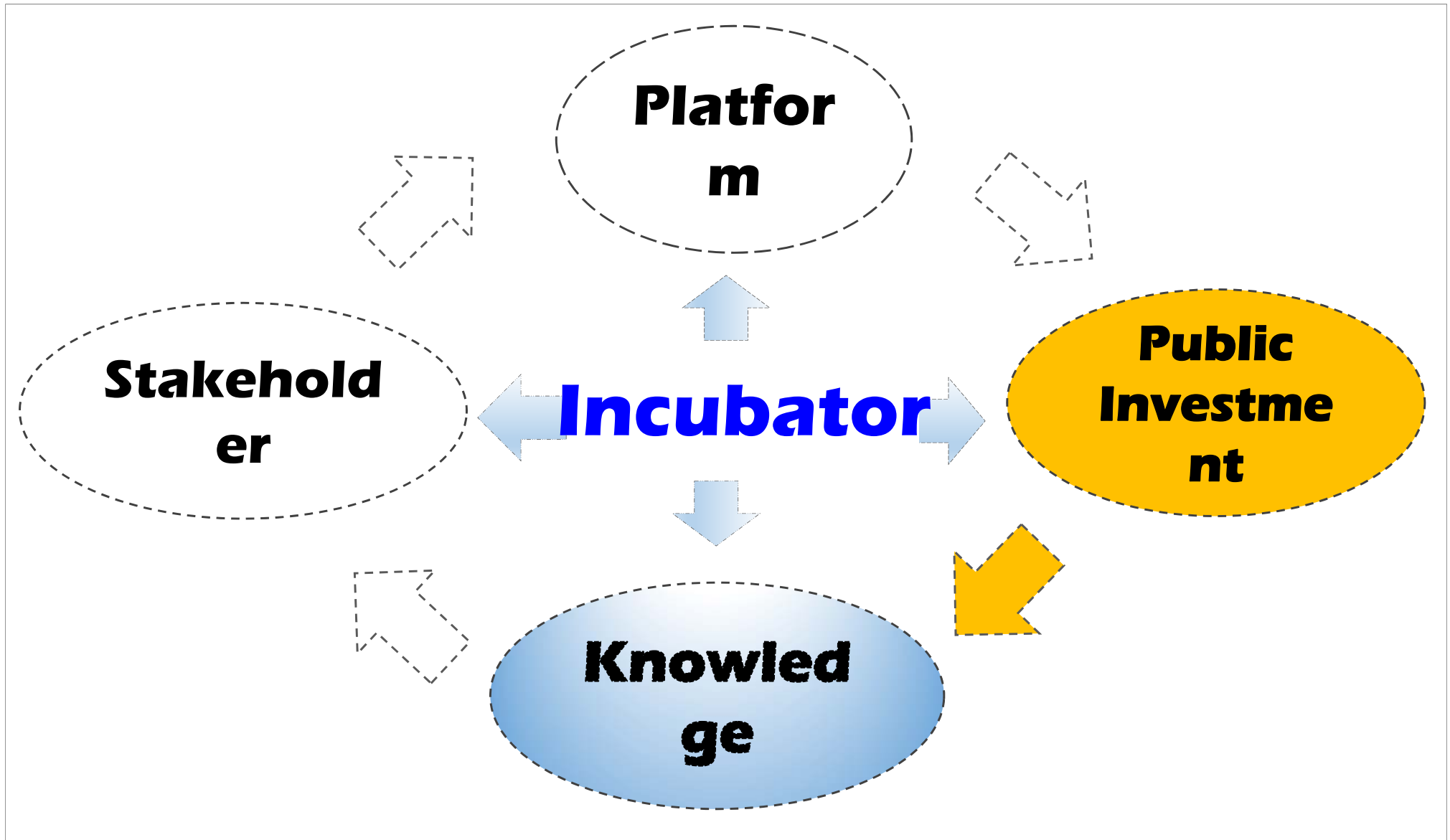
How did we start?

What did we do?

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Incubate SciTS in Japan



What did we do since 2016?

literature Study

Expert Interview

**Hatenathon
Workshop**

R&D Proposals

**Social medias, study meeting,
translations**

literature Study: Why and what is SciTS?

On what is Transdisciplinary Research in 2016.

- 1 Ge WANG (26 November 2017) **A literature study on Transdisciplinary Research's theoretical framework**, Proceeding of the 16th Conference of Japanese Society for Science and Technology Studies, Fukuoka, 198-199.
- 2 Ge WANG (26 June 2017) **What is Transdisciplinary Research: a perceptive from R&D support**, Invited speech on Research Institute for Humanity and Nature's inhouse seminar, Kyoto. (Date: 23-May-2018; http://archives-contents.chikyu.ac.jp/3793/20170626_wang.pdf)
- 3 Ge WANG (19 Dec 2016) **How to conduct R&D support on the basis of openness and evidence: a discussion based on what is Transdisciplinary Research**, The second RISTEX study meeting of Transdisciplinary Research.
- 4 Ge WANG (4 October 2016) **What we are talking about when we talk about knowledge integration**, Invited speech on Research Institute for Humanity and Nature's inhouse seminar, Kyoto.

On what is Science of Team Science in 2017.

- 1 Ge WANG, Ken-ichi SATO, Yumi MATSUO (9 March 2018) **What is Science of Team Science: A comparison with R&D Management**, Proceeding of 31st the national conference of Society of Project Management 2018, Toyo University, 378-379.
- 2 Ge WANG, Ken-ichi SATO, Yasuhisa Kondo, Yumi Matsuo (February, 2018) **First Hatathon report on promoting Science of Team Science in Japan**, Journal of Information Processing and management, 60(11), 824-827. (date: 23-May-2018, https://www.jstage.jst.go.jp/article/johokanri/60/11/60_824/_pdf/-char/en)
- 3 Ge WANG, Yumi MATSUO, Ken-ichi SATO (29 October 2017) **A trend research on Science of Team Science**, Proceeding of the 32th conference of Japan Society for Research Policy and Innovation Management, Kyoto University, 635-639.

Expert Interview: How should be SciTS in Japan?

Purpose:

- 1 Share and expand knowledge of SciTS
- 2 Get information and insight into the necessity and how to promote SciTS in Japan
- 3 Identify and connect potential stakeholders

Period: Since October 2017

Background of Experts:

- 1 Researchers in science study, psychology/management science, transdisciplinary research from universities or national R&D institutions.
- 2 Research administrators from universities, funding agency and government.
- 3 Experts in human resource from industry

Number of Interviews: 22 interviews with 23 experts

Hatenathon Workshop Series: the Consensus Workshop

Hatenathon is a newly coined word. It is a combination of a word 'hatena', which means a question mark in Japanese, and a marathon. Haténathon is a concept of **question-driven** learning. Through haténathon, teachers develop and provide a brand-new learning environment. In a co-creative and democratic atmosphere, learners collaborate intensively to learn how to produce and improve their own questions and then strategize on how to use them.

The term of Haténathon is made by our co-author Professor Ken-ichi SATO. The core process used in haténathon is based on Question Formulation Technique (QFT) developed by Dan Rothstein and Luz Santana in the Right Question Institute. (SATO, 2016)

Question Focus “Promoting SciTS in Japan”

Hatenathon Workshop Series: the Consensus Workshop

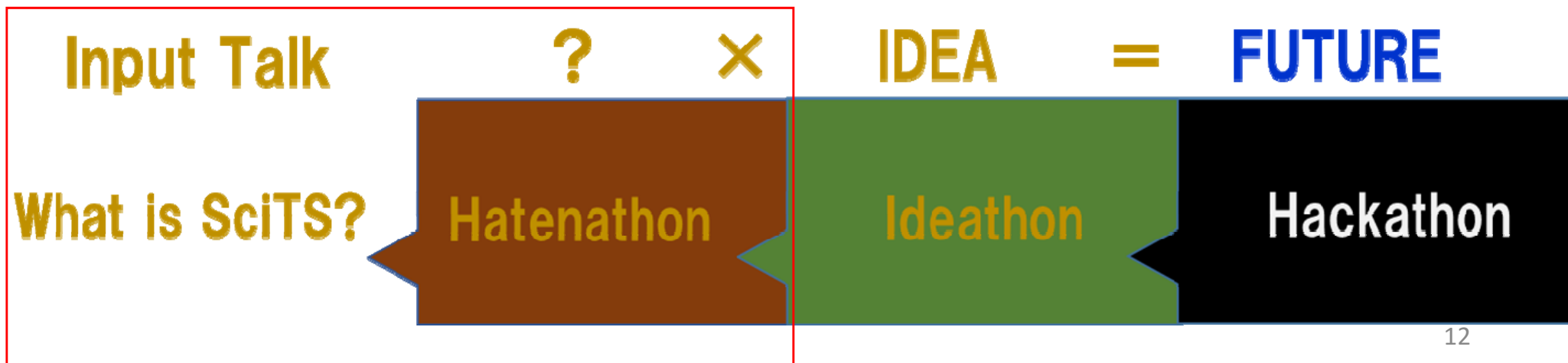
Aim of SciTS Hatathon

- 1 Share and expand knowledge on SciTS
- 2 Boost discussion and insight into the necessity and how to promote SciTS in Japan
- 3 Identify and connect potential stakeholders

Goals of SciTS Hatathon

- 1 Define and map SciTS in Japan
- 2 Ideathon workshop

Process of SciTS Hatathon



Hatenathon Workshop Series

First Hatathon report on promoting Science of Team Science in Japan

- 1 Date and Time: 29th October 2017 and two hours
- 2 Number of participants: 9

Second Hatathon report on promoting Science of Team Science in Japan

- 1 Date and Time: 29th October 2017 and 4 hours
- 2 Number of participants: 31

Third Hatathon report on promoting Science of Team Science in Japan

- 1 Date and Time: 29th October 2017 and 4.5 hours
- 2 Number of participants: 13

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Hatathon Products

- 1 Questions list (192) and important Question list,
- 2 Actions Plan,
- 3 A 12 items Questionnaire on SciTS Hatathon (e.g., I was interested in the issues being addressed by SciTS since before; SciTS is not an urgent issue for Japan to address.)
- 4 Hatathon products agreement

Questions from SciTS Hatenathon

- What's new? What's the difference from R&D management? Why need to initiate a new science or new term? What's the definition of team?
- Have there been any successful practices of SciTS? Is there any example outside medical science? What's the advantage of evidence based approach? Why focus on academic research and institution?
- Who benefits from SciTS and what are those benefits? What kind of problem or whose problem does SciTS suppose to respond? Who needs SciTS in Japan and why? How doers researcher think about SciTS? What's the competency of team scientist?
- Does Japanese culture need SciTS?
- What's the goal of SciTS as well as promoting SciTS in Japan? Is SciTS a fever?
- What's the difficulty in promoting SciTS in Japan?

Questions from SciTS Hatathon

- Is interdisciplinary team science necessary? How is the career of interdisciplinary team scientist?
- How to evaluate team science productivity? What's the different roles of individual and team respectively?
- How to evaluate the individual researcher's contribution in team science? How to assign the rights or responsibilities in team science?
- Is team science varied in culture? Does Japanese culture need it? Is there team science in Japanese culture?
- How to build a team?
- How do you know this is TD TS but not a ID TS?

R&D Proposals since June 2017

◆ Make funding proposal: underway

e.g., proposal for Science of Team Science Initiative Program

◆ Make R&D proposal: failed

e.g., Creating a Transdisciplinary Research Competency Development Program for Global Environmental Studies

◆ Help researchers formulating team science related R&D proposal: one success

A New Core Project Launched Project Leader, Dr. Yasuhisa Kondo

(http://www.chikyu.ac.jp/rihn_e/events/2018/0401_core.html)

On April 1, 2018, a new three-year Core Project Full Research "Information Asymmetry Reduction in Open Team Science for Socio-environmental Cases" was launched.

Table of Contents

How did we start?

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Changing perception in the relation of Science and Society

- : A new paradigm of science
- : A better society

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In 21 century

Worldwide investments in cross-disciplinary team science

In 1970

- : Transdisciplinarity as a unity of knowledge
- : Transdisciplinarity as societal problem solving

Current Situation in Japan

◎ **There is Team Science but there is no SciTS.**

◎ **There are growing needs and practices for
SciTS growing in many disciplines and places.**

Table of Contents

How did we start?

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Further Challenges of promoting SciTS

◆ **Need a boarder scope/definition of SciTS**

e.g., beyond health care or R&D management; what's different from European TD research approach.

◆ **Need a boarder perspective of TS Research Competency**

e.g., beyond communication (leadership or perspective)

Can TS be a discipline?

Is there a TS competency which means ability to find, understand, expand, integrate and translate knowledge from different fields?

◆ **Need more successful example of SciTS.**

◆ **Need better explanation on why SciTS is necessary or why TS is not enough.**

◆ **Three years for incubating SciTS. No public support currently.**

◆ **In 2011, SciTS was introduced by Dr. Fei-yue Wang in China in Chinese.**

References

- 1 Cummings, S., B.J. Regeer, W.W.S. Ho and M.B.M. Zweckhorst. (2013). Proposing a fifth generation of knowledge management for development: investigating convergence between knowledge management for development and transdisciplinary research. *Knowledge Management for Development Journal* 9(2): 10-36.
- 2 Kessel & Rosendield (2008) Toward transdisciplinary research: Historical and contemporary perspectives, *Am J Prev Med* 2008;35(2S):S225–S234.
- 3 SATO Ken-ichi (July 2017) A close encounter with a book “Make just on change”, our dream to make just all change “hatenathon”, ABD+QFT for unlearning and deep learning, Curiosity, Learning, and Democracy International Conference on Best Practices in the Question Formulation Technique 2017 Right Question Institution, Boston, MA.
- 4 Wang Ge. (26 November 2017) A literature study on Transdisciplinary Research’s theoretical framework, *Proceeding of the 16th Conference of Japanese Society for Science and Technology Studies, Fukuoka, 198-199.* ((In original Language:王戈(2017年11月26日)トランスディシプリナリ研究の概念的フレームワークの考察:研究支援の視点から,科学技術社会論第16回大会・九州大学,198-199.)
- 5 Wang Ge (26 June 2017) What is Transdisciplinary Research: a perceptive from R&D support, Invited speech on Research Institute for Humanity and Nature’s inhouse seminar, Kyoto. (Date: 23-May-2018; http://archives-contents.chikyu.ac.jp/3793/20170626_wang.pdf) (In original Language:王戈(2017年6月26日)TD研究とは何か—研究支援の視点に基づく検討—,総合地球環境学研究所・知の接合プロジェクト第3回研究会.)
- 6 Wang ge, SATO Ken-ichi , Kondo Yasuhisa , Matsuo Yumi (February, 2018) First Hatenathon report on promoting Science of Team Science in Japan, *Journal of Information Processing and management*, 60(11), 824-827.(date: 23-May-2018, https://www.jstage.jst.go.jp/article/johokanri/60/11/60_824/pdf-char/en) (In original Language: 王戈・佐藤賢一・近藤康久・松尾由美 (2018年2月) 集会報告 第1回 チームサイエンスの科学の日本での推進×ハテナソン,情報管理, 2018,60,no.11,824-827.)

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