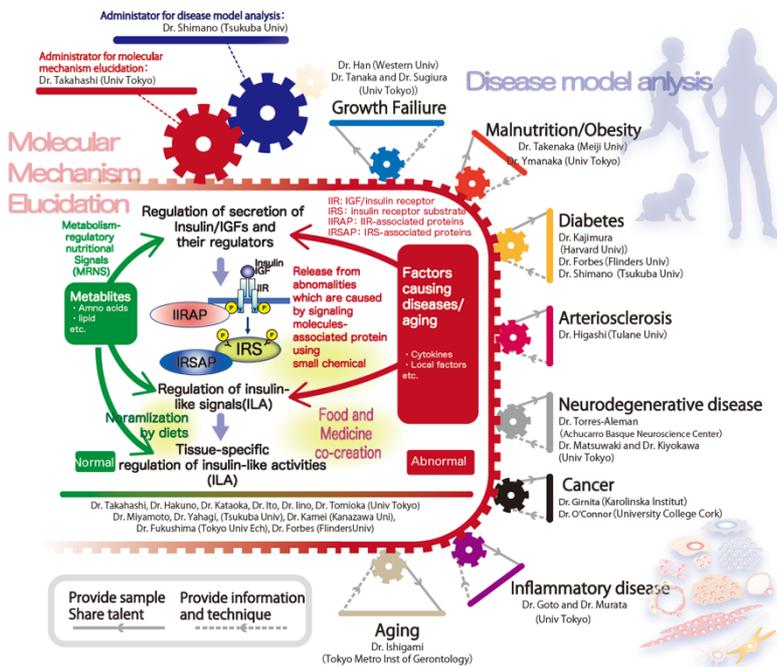


# PROGRAM & ABSTRACT, Q&A BOOK

## Kick-off Symposium of “International Research on Regulation of Insulin-Like Activities for Extension of Health Life Span” & “Creation of Next-Generation Food Supply Industrial Chains for Natural Capitalism Society”

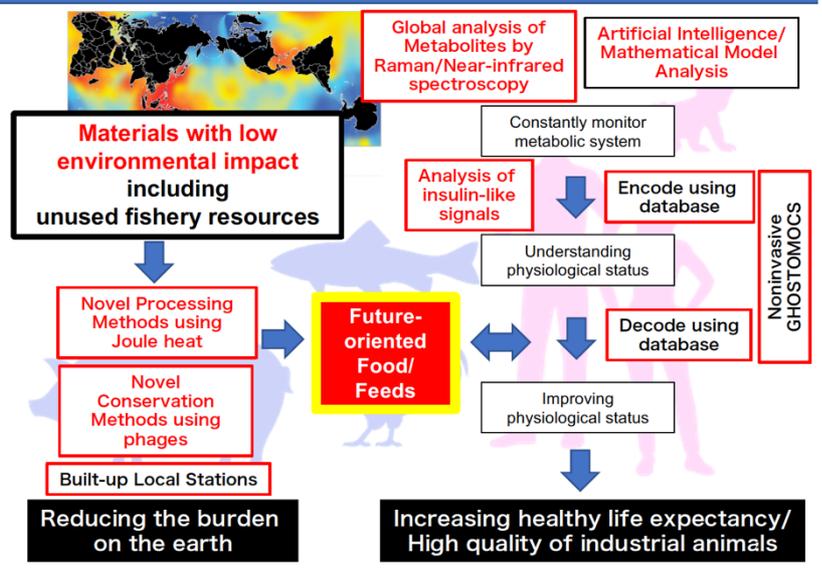
20<sup>th</sup> to 22<sup>nd</sup>. Sep. 2021  
 20:00-23:00 (Japan Time)



*Core-to-Core International  
 Collaboration  
 supported by JSPS*

*Moonshot Agriculture,  
 Forestry and Fisheries  
 Research and Development  
 Program supported by  
 BRAIN*

### Our Future Goals of DX Nutrition by the Moonshot Program



## PREFACE

Animals including us are heterotrophs that must depend on other organisms on the Earth for energy to survive. However, human beings have given so much priority to economic profit and enriching our lives that we have caused great damage to other organisms and to the Earth itself. Extreme weather conditions caused by human activities, loss of biodiversity, as well as resource depletion and pandemics, are piling up daily on the planet, threatening the survival of humanity. Many scientists believe that the survival of the human race depends on the resolution of these issues and have pointed out that the survival of the human race depends on solving these problems, and that it will be fatal if we do not take the right course in the next decade.

How do we need to live for the future of humanity? We can't stop living the convenient life, so we have to reduce the burden of our activities as much as possible and find a way to coexist with other living things. For this purpose, the Department of Animal Resource Sciences, Graduate School of Agricultural and Life Sciences, The University of Tokyo would like to promote research to maintain the lifelong health of animals, including humans, and to eliminate the waste of animals by humans in their daily lives, and to return the results to society. In order to achieve this goal, it is necessary to unravel the mechanisms of the complex and diverse life phenomena of animals and to explore the possibilities for their application.

Based on this background, our department decided to propose “International research core on regulation of insulin-like activities for extension of healthy life span” to Core-to-Core Program Supported by JSPS and this grant was adopted (Fiscal year 2021-2025).

In addition, in 2017, our graduate school started “One Earth Guardians Development Program.” The Guardians are a network of scientists who will take actions aimed at securing the future of the Earth for the next 100 years as a place where all living beings, including humans, coexist in harmony. In this activity to develop realistic solutions, we proposed “Creation of Next-Generation Food Supply Industrial Chains for a Natural Capitalism Society” to Moonshot Agriculture, Forestry and Fisheries Research and Development Program supported by BRAIN and this grant was also approved as a feasible study.

We have decided to hold this symposium in order to introduce each other's research and to create new opportunities for collaboration among the participants of these two grants. We hope that this symposium will be a good opportunity for us to start new joint research projects that will help us to solve the problems of our planet.

Shin-Ichiro Takahashi, Ph.D.

### **Time difference of each country**

<b>Japan</b>	<b>Australia</b>	<b>Spain</b>	<b>Sweden</b>	<b>Irland</b>	<b>Canada</b>	<b>USA</b>
20:00	20:30	13:00	13:00	12:00	7:00	6:00
21:00	21:30	14:00	14:00	13:00	8:00	7:00
22:00	22:30	15:00	15:00	14:00	9:00	8:00

## PROGRAM

(Red; Speakers from core-to-core program, Blue; Speakers from Moonshot program, Black; speakers belonging to both programs, and number; the page of the abstract)

### 20<sup>th</sup> September

#### **Opening Remark:**

20:00-20:10

**Nobuhiro Tsutsumi** (Dean, Graduate School of Agriculture and Life Sciences, The University of Tokyo)

#### **Introduction of the Symposium:**

20:10-20:30

Shin-Ichiro Takahashi (Representative of both programs, The University of Tokyo)

#### **Part I**

#### **Head Core of Japan (Department of Animal Resource Sciences) for Core-to-Core Program:**

20:30-20:50 Fumihiko Hakuno (Animal Cell Regulation)

Presentation #1: Metabolic Regulatory Amino Acid Signals

20:50-21:10 **Koji Sugiura** (Applied Genetics)

Presentation #2: Regulation of ovarian function in mammals

21:10-21:30 **Yasuyuki Goto** (Molecular Immunology)

Presentation #3: Immunopathology of experimental visceral leishmaniasis

21:30-21:50 **Yukihisa Murata** (Animal Radiology)

Presentation #4: Elucidation of the role of bioactive lipids in various types of diseases

21:50-22:10 **Yasushi Kiyokawa** (Veterinary Ethology)

Presentation #5: Relief provided by conspecific: Social buffering

22:10-22:30 **Naoyuki Kataoka** (Cellular Biochemistry)

Presentation #6: Regulation of insulin-like activities through alternative splicing regulation of insulin receptor pre-mRNA

#### **Part II**

#### **Japanese Participant Researchers for Core-to-Core Program 1:**

22:30-22:50 **Asako Takenaka** (Meiji University)

Presentation #7: Effect of protein deficiency on regulators of lipid metabolism

22:50-23:10 **Hiroyasu Kamei** (Kanazawa University)

Presentation #8: Hypoxia/reoxygenation-induced redox signal facilitates embryonic catch-up growth.

## **21<sup>st</sup> September**

### **Part III**

#### **International Cores:**

20:00-20:30 **Briony Forbes** (Flinders University, Australia)

Presentation #9: Understanding insulin-like peptide action through the study of receptor binding and activation

20:30-21:00 **Leonard Girnita** (Karolinska Institute, Sweden)

Presentation #10: Unbiasing signaling at IGF1R/GPCR interface

21:00-21:30 **Rosemary O'Connor** (University College of Cork, Ireland)

Presentation #11: Insulin-like actions in Diseases of Ageing with focus on Cancer

21:30-22:00 **Ignacio Toress-Aleman** (Achucarro Basque Center for Neuroscience, Spain)

Presentation #12: ILPs and neurodegeneration

22:00-22:30 **Victor Han** (The University of Western Ontario, Canada)

Presentation #13: Paracrine Regulation of Fetal and Placental Growth: Translating Animal Models to Human Fetal Growth Restriction and Long-term Adverse Outcomes

22:30-23:00 **Yusuke Higashi** (Tulane University, USA)

Presentation #14: IGF-1 and Atherosclerosis

*(This talk was postponed to the first session of 22<sup>nd</sup> September)*

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## **22<sup>nd</sup> September**

### **Part IV**

#### **Japanese Participant Researchers for Core-to-Core Program 2:**

20:00-20:20 **Toshiaki Fukushima** (Tokyo Institute of Technology)

Presentation #15: Regulation of Placenta Development by NRK, a “Newcomer” in the Modulation of Growth Factor Signaling

20:20-20:40 **Masahiro Tomioka** (The University of Tokyo)

Presentation #16: Functions of insulin-like peptide signaling in the *C. elegans* nervous system

20:40-21:00 **Akihiro Ito** (Tokyo University of Pharmacy and Life Sciences)

Presentation #17: Function and regulation of novel lysine acyl modifications

### **Part V**

#### **Japanese Researchers for Moonshot Project**

21:00-21:20 Takafumi Miyamoto (University of Tsukuba)

Presentation #18: Challenges for Next-generation Lipid Research

21:20-21:40 **Longzhu Cui** (Jikei Medical University)

Presentation #19: Development of gene-targeted antimicrobials

21:40-22:00 **Yutaka Hanazono** (Jichi Medical University)

Presentation #20: Swine for Biomedical Research

22:00-22:20 **Makoto Kuro-o** (Jichi Medical University)

Presentation #21: Aging and chronic kidney disease viewed from the FGF-Klotho endocrine system

#### **Conclusion of the Symposium:**

22:20-22:40 **Hideki Ushio** (The University of Tokyo)

#### **Brief Discussion for the Future Direction**

22:40-22:50

#### **Closing by Moonshot Program Director**

22:50-23:00 **Kazuhiro Chiba** (President, Tokyo University of Agriculture and Technology)

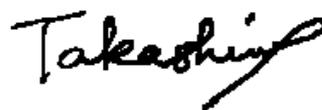
## APPRECIATION

Dear all,

This symposium had 109 registrants and the maximum number of attendees was 89. Thanks to all of you, we were able to have interesting presentations and lively discussions. I would like to express my sincere gratitude. We sincerely hope that this will be an opportunity to start new collaborative research. We would like to plan such a symposium in the very near future, this time in person. We would like to thank everyone for their participation and cooperation in this event.

I look forward to working with you again very soon.

Shin Takahashi

A handwritten signature in black ink, appearing to read 'Takahashi' with a stylized flourish at the end.

7<sup>th</sup> of October 2021

## Acknowledges to

JSPS supporting the Core-to-Core International Collaboration on  
“International research on regulation of insulin-like activities for  
extension of health life span”

&

Brain supporting Moonshot Research & Development Program on  
“Creation of Next-Generation Food Supply Industrial Chains for  
Natural Capitalism Society”

### **Representative:**

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