The Research Center for Advanced Science and Technology shall aim to contribute to the development of science and technology by expeditiously taking on new challenges arising from the advancement of science and changes in society thereby exploring new areas of advanced science and technology for humankind and society.

Article 2,

Rules for the Research Center for Advanced Science and Technology, the University of Tokyo

"Inspiration comes not only from just words."

01 RCAST

– Continuing to Embrace the Challenge of Unprecedented Fields –

About RCAST

Director
Research Center for Advanced Science
and Technology, The University of Tokyo

Ryohei Kanzaki

Director's Message

The benefits and costs of science and technology: where is the power to transcend this contradiction?

The term “human-centered” is now being advocated once again. Placing people at the center and wishing for their peace and well-being seems to be an excellent goal at first glance. However, seen from the large framework of nature, humans are also one part. It is necessary to step away once from the conventional viewpoint, switch over to a large framework of a nature that also encompasses human beings, and redefine what it means to be human-centered.

Originally, organisms have instinctively worked at harmony and coexistence with nature, but by acquiring language (logic and symbols) and evolving the intellectual capabilities to think about things logically, human beings have come to understand nature and create science and technology for its optimal control. From this science and technology, our orientation has become human-centered and we have enjoyed great benefits. On the other hand, as the cost, our original relationship of harmony and co-existence with nature is being lost.

Poetry, music, painting and other arts have inevitably arisen from seeking this harmony and co-existence with nature that is being lost. And “impression” is born from the harmony caused by the interaction between people and nature. “Impression” strengthens the bonds between humans and nature.

RCAST was founded for the purpose of pioneering revolutionary science and technology to construct an inclusive and sustainable society. An inclusive society is a world that even encompasses nature, and where diverse people can feel empathy and become happy. From a nature-centered perspective of the harmony which comes from interaction with nature and leads to coexistence, aiming at a human-centered perspective is essential for building an inclusive future society. I think this is the mission that has been given to humankind, and to RCAST.

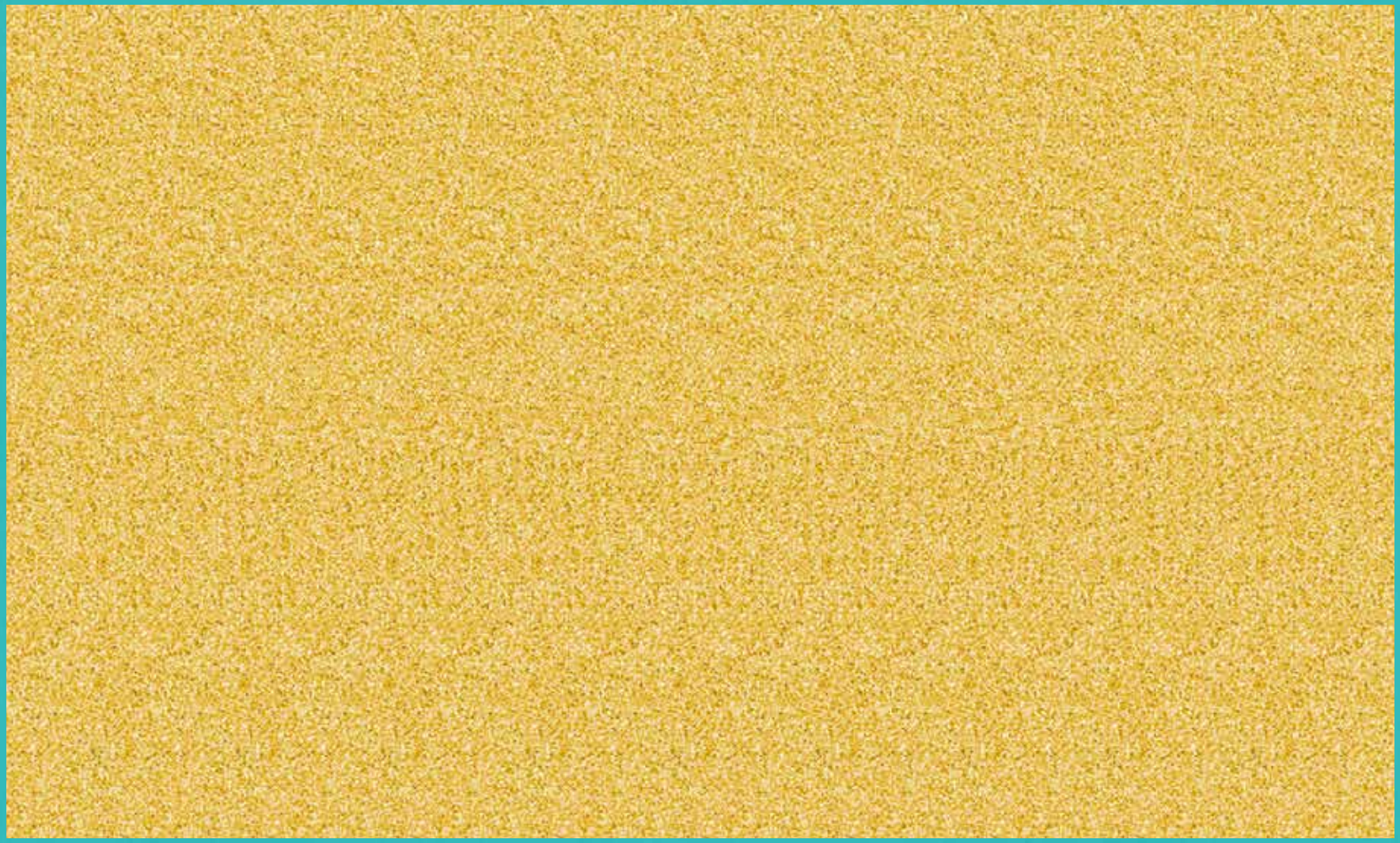
RCAST now integrates the diverse fields of hard sciences including engineering, information science, physical science and medical science, the humanities including social science, as well as barrier-free studies, art, and design. We create science and technology that brings forth “wonder” with high reverence and morality as humans from diverse perspectives including science, art, philosophy, and religion, work toward harmony and coexistence with nature, and lead the construction of an inclusive and sustainable society.

Research Center for Advanced Science and Technology (RCAST),The University of Tokyo

Established in 1987, RCAST is the newest affiliated research center of the University of Tokyo. With our four mottos: interdisciplinary approach, mobility, international perspective, and openness, right from the start, RCAST actively develops research activities across fields, transcending the boundaries of the humanities and the sciences.

The Research Center for Advanced Science and Technology shall aim to contribute to the development of science and technology by expeditiously taking on new challenges arising from the advancement of science and changes in society thereby exploring new areas of advanced science and technology for humankind and society.

Article 2,
Rules for the Research Center for Advanced Science and Technology,
the University of Tokyo



“ Can you find something hidden behind?”

02 Thirty Years of Interdisciplinary Research and a 15-year Focus on Inclusivity

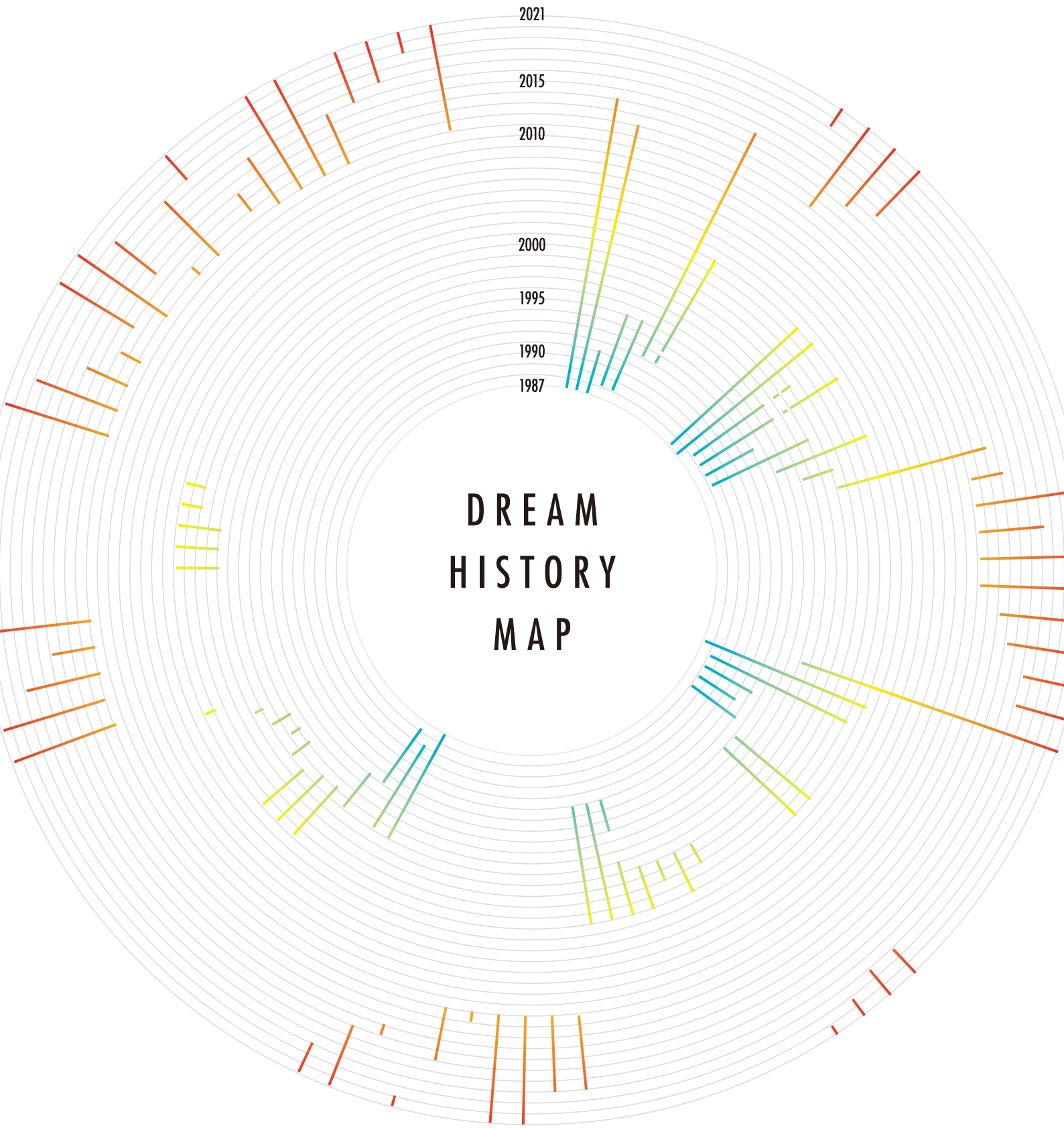
Culture

Solving increasingly complex social issues requires fresh perspectives. Since RCAST was founded over 30 years ago, science and engineering, which advance science and technology, have co-existed with the humanities and social sciences, which deal with ethics, thought, and social systems, and we advance fields where there is no prior research. In barrier-free studies which were established more than 15 years ago, tojisha-kenkyu has been conducted by researchers who have disabilities themselves, and research has been caried out using technologies to overcome human and social barriers. In 2020, a new field was established fusing science and technology with art and design.

A community where renowned researchers and world-famous artists gather

©2010 kumamoto pref. kumamon

At RCAST, we are proud to be joined by top researchers from around the world. We also have researchers with disabilities, artists, and athletes. Coming into contact with such a diverse range of values prompts us to question things taken for granted in our own narrow world. In June 2018, Kumamon, the popular bear mascot of Kumamoto Prefecture, joined RCAST's research team. Since the establishment of the Advanced Art Design Lab, our ties with artists have been expanding even further.



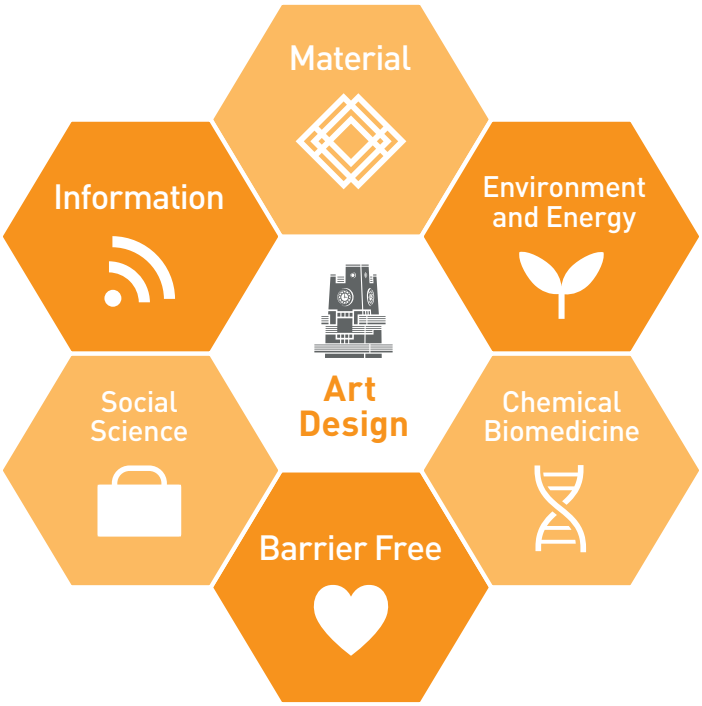
The Trajectory of Researchers' Dreams

Our aim is to contribute to the development of science and technology by expeditiously taking on new challenges arising from the advancement of science and changes in society thereby exploring new areas of advanced science and technology for humankind and society.

03 Research Fields

Field-specific-laboratory structure Numerous cross-disciplinary projects

At RCAST, science and engineering research fields, which advance science and technology, co-exist with humanities and social sciences research fields, which deal with ethics, thought, and social systems. By fusing interdisciplinary science and technology that is rare worldwide with art and design, we research our true future where people and nature coexist, and aim at an inclusive society.



Material

4 Field
- Micro Device Engineering
- Quantum Information Physics and Engineering
- Theoretical Chemistry
- High Performance Materials

Environment and Energy

6 Field
- New Energy
- Climate Science Research
- Co-Creative Community Planning, Design, and Management
- Energy System
- Global Climate Dynamics
- Energy and Environment

3 Social Cooperation Research Departments
- Renewable Fuel Global Network
- The Suburban Future Design Lab
- The Next Generation of Energy Distribution System

1 Facility
- Academic-Industrial Joint Laboratory for Renewable Energy

Chemical Biomedicine

7 Field
- Bioorganic Chemistry
- Metabolic Medicine
- Integrative Nutriomics and Oncology
- Structural Biology
- Genome Science & Medicine
- Chemical Biotechnology
- Synthetic Biology

2 Social Cooperation Research Departments
- Department of Inflammology
- Genome Science & Medicine

Barrier Free

4 Field
- Barrier-Free
- Assistive Technology
- Tojisha-Kenkyu
- Inclusive Design Laboratory

Social Science

5 Field
- Intellectual Property Law
- Political Administrative System
- Religion and Global Security
- Policy Research on Science and Technology
- MOT (Management of Technology)

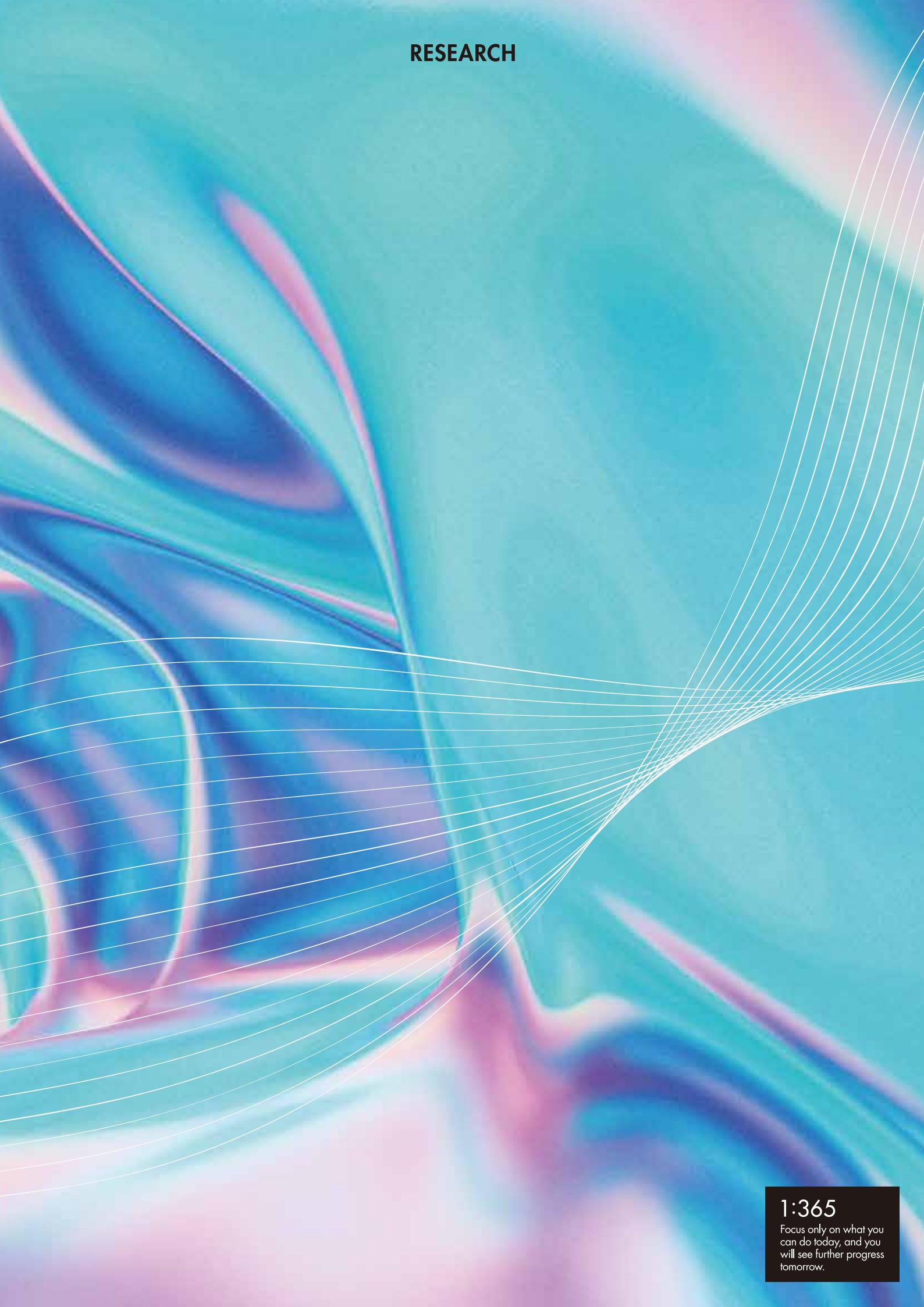
Information

10 Field
- Artificial Intelligence
- Information Devices
- Intelligent Cooperative Systems
- Mathematical Physics of Emergent Systems
- Photon based Advanced Manufacturing Science
- Information Somatics
- Communication Science
- Biological Data Science
- Networked Biophotonics and Microfluidics
- Advanced Art Design

3 Social Cooperation Research Departments
- Insect Controlled Space Design
- MobilityZero
- Advanced Art Design Laboratory

1 Corporate Sponsored Research Programs
- Progressive Logistic Science

[As of April 1, 2021]



1:365

Focus only on what you can do today, and you will see further progress tomorrow.

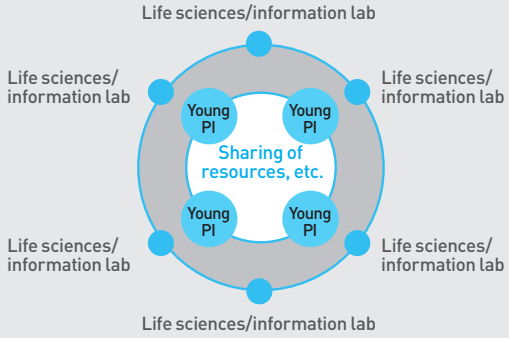
04 Projects

Advanced open laboratory continues to take on bold challenges

UTokyo - Research Alliance for Information and Life Sciences

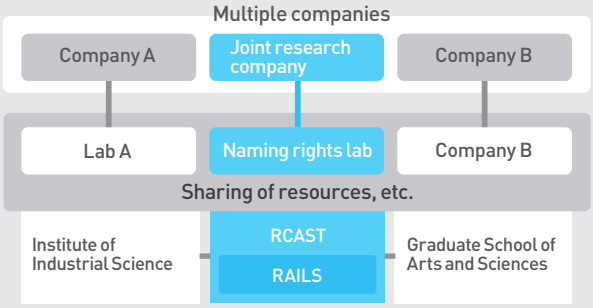
This project, centered on young researchers, combines quantitative life science with data science to address major issues in contemporary life science, such as cancer progression and disease control. RAILS has been energetically expanding its activities ever since it's foundation in FY2017. In 2020 it also opened RCAST's first naming rights laboratory "K2-CORE" which introduced automation technology to the flexible core facility system for the joint use of expensive measurement equipment at the Komaba II campus. RAILS is pursuing next-generation science with no barriers, and further accelerating research.

Research Alliance for Information and Life Sciences



Communication function

K2-CORE



Innovative laboratory linked
with the UTokyo Komaba II Campus and company model zone

Related laboratories: Networked Biophotonics and Microfluidics, Integrative Nutriomics and Oncology, Biological Data Science, etc.

UTokyo RCAST Open Laboratory for Emergence Strategies (ROLES)

ROLES was established in 2020 centered on RCAST's Religion and Global Security Division. It broadly gathers together the latest knowledge regarding international relations and security and disseminates this in Japan and overseas as a truly open laboratory removing all barriers such as inside and outside the university, domestic and foreign, and researchers and practitioners. ROLES uses outside funds raised independently from government organs and private-sector companies for most of its operating budget. It is an attempt to redefine and strengthen its role in society as a university think tank.

Subsidy Scheme for Research Project on Japan's Choices in the Era of Inter-Regime Competition subsidized by the Japan Ministry of Foreign Affairs

The RCAST Open Laboratory for Emergence Strategies is independently conducting the "Research Project on Japan's Choices in the Era of Inter-Regime Competition: Policy Proposals and Information Sharing based on Long-term Scenario Planning in Search of a Proactive Role in the Emergence of the New International Order" subsidized by the subsidy scheme for study/research on foreign policy and security of the Japan Ministry of Foreign Affairs starting from fiscal 2020.

Study Forum for the Middle East

RCAST and Impex Solutions, Ltd. have jointly established the Study Forum for the Middle East under the guidance of Professor of Religion and Global Security Satoshi Ikeuchi, using the academic guidance system of the University of Tokyo established in fiscal 2020. The Forum provides a venue for the proposal of new forms of social contribution in the humanities through ties with industry.

GSI Caravan Project "Field Studies and Interactive Surveys on the International Political Dynamics among the Major Middle Eastern Powers and Other Foreign Powers"

This project aims to understand the impact of changes in the age of global great power competition on political circumstances in the Middle East, the rise of regional powers, as well as the broader implications for regional and international relations. The project involves dialogues and exchanges with experts from prominent research institutions in Egypt, Israel, and Turkey to understand regional circumstances by focusing on changes in the Middle Eastern regional order through ideological and religious contexts.

Related laboratory: Religion and Global Security


Which seeds to choose is up to you.

05 Projects

Ties with communities
Creating new social systems and value

Climate change actions with co-creation powered by regional weather information and E-technology (ClimCORE)

Under collaboration with the Japan Meteorological Agency (JMA) and the UTokyo Information Technology Center, we conduct regional atmospheric reanalysis, in which state-of-the-art modeling and satellite and radar measurements are unified, to construct high-resolution meteorological data that reproduces atmospheric conditions over Japan and the surrounding maritime area four-dimensionally over recent decades. As a fundamental dataset for designing society into the future, it is used for assessing climate change and past meteorological risks for individual regions of Japan.
Our ultimate goal is to create collaboration systems among academia, industry, government and communities as “co-creation platforms” where regional meteorological data can be used strategically and organically for social innovations in a variety of communities and industries, including energy, transportation/logistics, urban development, agriculture, forestry and fisheries, manufacturing, information, disaster prevention and mitigation, medical care/welfare, insurance and finance.

Enhanced linkage between data production and users

Target 1
Production of meteorological Big Data

- Conducting “regional atmospheric reanalysis around Japan”
- Improve the framework for data distribution and collaboration that is difficult by JMA and national institutes alone and promote the usage of existing regional meteorological data
- Develop human resources suitable for industry-academia-government-community collaboration to produce data in accordance with user needs.

Target 0
Development of co-creation platforms

- Construct co-creation platforms that organically link Targets 1 and 2, under scientific and strategic management.
- Arrange data archives, sharing, and release (DIAS, mdx, SINET, data jacket).
- Legislation regarding data use
- Arrange data visualization, promotion of data use, etc.

Target 2
Research promotion for social applications

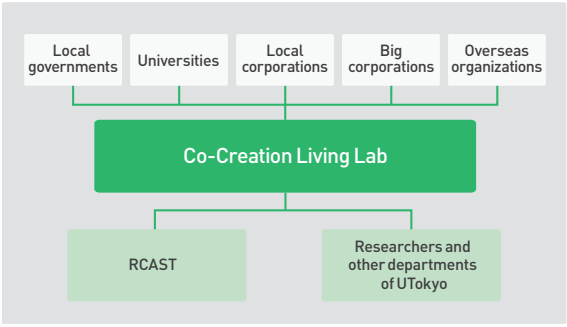
- Draft inclusive disaster prevention and mitigation strategies aiming to safe and secure urban development
- Promote the use and upgrade meteorological data toward highly accurate corporate activity strategies
- Develop human resources suitable for the use of meteorological data
- Promote ties with overseas

Flow of funds and feedback of knowledge and requests

Project Leader: Professor Hisashi Nakamura
Collaborating Labs and Organizations: In addition to collaboration among all the research labs in RCAST, collaboration with other faculties and research institutes of UTokyo, Japan Meteorological Agency, other universities and research organizations, private companies, and local governments

Co-Creation Living Lab

RCAST’s knowledge of cutting-edge science and technology combined with solution known-how accumulated through regional collaboration networks built up over many years enable us to conceive strategies and tools pinpointing regional issues and to design the sustainable regional communities of the future. From regional industry revitalization activities utilizing research seeds, disaster recovery, community revitalization, research exchange making use of knowledge, experience and capabilities, and human resources development to empirical experiments on new workstyles, we are achieving more flexible and closer collaboration with local governments and regions.



Related laboratories: Co-Creative Community Planning, Design, and Management, Political Administrative System, Information Somatics, Academic-Industrial Joint Laboratory for Renewable Energy, etc.


Your difference makes
all the difference.

06 Removing the barriers that restrict people

Projects

DO-IT Japan

This project fosters future leaders among youth with disabilities by supporting young people with disabilities or diseases in their advance to higher education and subsequent transition to employment. Through industry-academia collaboration, it develops and provides programs that offer various opportunities to participants (university life experience and internships, overseas training, and exchanges with people who have diverse values through participation in the DO-IT community, etc. with support in using technology as the main axis). The participating pupils and students who have disabilities learn to acquire self-determination and self-advocacy, and gain learning opportunities to enhance their leadership of future social inclusion. In 2011, the DO-IT Japan received the 42nd Hakuho Award (special needs education category) and the Minister of Education, Sports, Science and Technology Encouragement Award.

Related laboratory: Assistive Technology

IDEA Project

The IDEA Project works to create flexible workstyle employment systems so that persons with diverse disabilities can take an active part at worksites. The project has developed an ultra-short working hours model so they can work with roles at normal workplaces for as little as 15 minutes or one hour per week. The project is conducting joint research with local government bodies and corporate groups in each region on realizing and implementing workstyles that can boost workplace productivity and include diverse people.

Related laboratory: Assistive Technology

LEARN

This is a new project launched in June 2021, taking over from the ROCKET project for discovering talents which has given society a new way of learning for children who refuse to attend school or otherwise have difficulties adapting to school education. The project removes children coming up against various barriers from their existing organizations and facilitates their learning in a new environment, and offers venues for various researchers to gather and discuss, propose and verify dynamic education models of the future. LEARN is developing diverse activity programs ranging from programs for eager children with exceptional talents to programs for children who presently dislike or have no interest in studying, as well as a program for scholarships (LEARN ONE) given regardless of grades or disabilities. The programs created at LEARN are not rigid, but rather are constantly changing.

LEARN

東京大学先端科学技術研究センター
人間支援工学分野主催

Related laboratory: Assistive Technology

“Any sufficiently advanced technology is indistinguishable from magic.”

– Arthur Clarke

“Genius is 1 percent inspiration and 99 percent perspiration.”

– Thomas Edison

07 Projects

A new approach to the future by academia

Advanced Art Design

This project gathers the diverse viewpoints of RCAST's scientific and technological wisdom, the acuity of leading Japanese corporations, and global top-level art design practitioners who are the pride of the Advanced Art Design Lab to address the complex problems of contemporary society. We believe that it is impossible to resolve these problems with a way of thinking born from a single sense of values, and that by fusing many different perspectives with the Japanese spirit of harmony, we can move toward the realization of a harmonious world with no one left behind. The project invites artists who are active globally as our advisors, and together with our partner corporations will rapidly implement the ideas and give them back to society.

Adviser

Oko Arai
Stefania Bandini
Stefano Giovannoni
Ashley Hall
Norihiko Harada
Yutaka Hasegawa
Joe Hisaishi
Vincenzo Iavicoli
Ryunin Inui
Kyoichi Ishimaru
Manabu Kawata
Yoichiro Kawaguchi
Kengo Kuma
Birgit Lohmann
Ikuo Maeda
Rossella Menegazzo
Jeff Mills
Akihiro Nagaya
Youji Nobutou
Snichi Onuma
Yuki Otaki
Marc Sadler
Keiko Sato
Tadasuke Shiomi
Takaaki Soeda
Shigehiko Sugiura
Kotaro Tameda
Nobuyuki Tsujii
Patricia Urquiola
Kazuki Yamada
Miyako Yoshida
Francesco Zurlo

※Alphabetical order by sir name without honorifics

Collaborated organizations

Koya Town and Koyasan Shingon Sect Main Temple Kongobu-ji, Wakayama Prefecture
Koyasan University
Koya Town
The University of Milano-Bicocca
Politecnico di Milano
Tokyo Philharmonic Orchestra

Partner private corporations in Social Corporation Programs

Shiseido Company, Limited
Sumitomo Corporation
Sony Corporation
Japan Tobacco Inc.
Mazda Motor Corporation
Yamaha Corporation
Yamaha Motor Co., Ltd.
Recruit Holdings Co., Ltd.
BLBG Co., Ltd.

Partner private corporations in Joint Research

Toppan Inc.

Director General of Research

Ryohei KANZAKI
Professor

Member

Setsu ITO
Project Professor

Kaoru KONDO
Project Professor

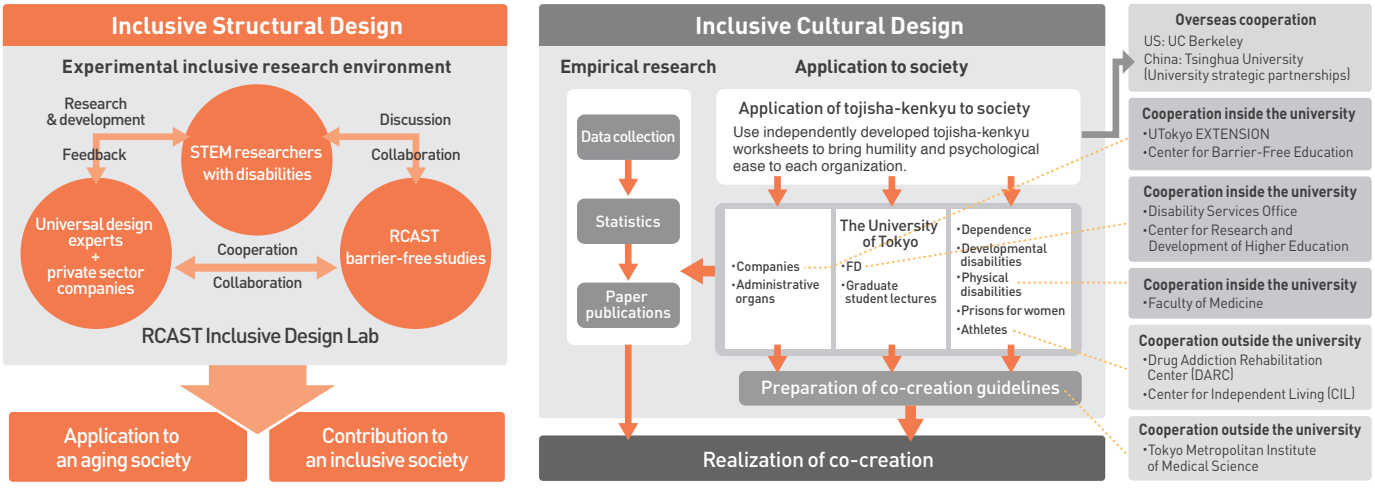
Shinobu ITO
Project Associate Professor

Hideki YOSHIMOTO
Project Associate Professor

Related labs: all RCAST research areas and disciplines

Inclusive Academia Project

Japan's STEM research sites have experiment and measurement devices, analysis systems, and other equipment crammed into small spaces, and are by no means an ideal environment for researchers with physical disabilities. In this project, experts in universal design, inclusive environment research and development with participation from private-sector companies, researchers with disabilities, and RCAST barrier-free studies formed a single team, and began working toward the preparation of an environment where careers are not cutoff by disabilities. The project aims not only to create the ideal research environment for all researchers, but also to promote the application of the technologies developed to the aging society and realize an inclusive campus with no one left behind.



Related laboratories: Tojisha-Kenkyu, Inclusive Design Lab.

Creating a new wind for the future.

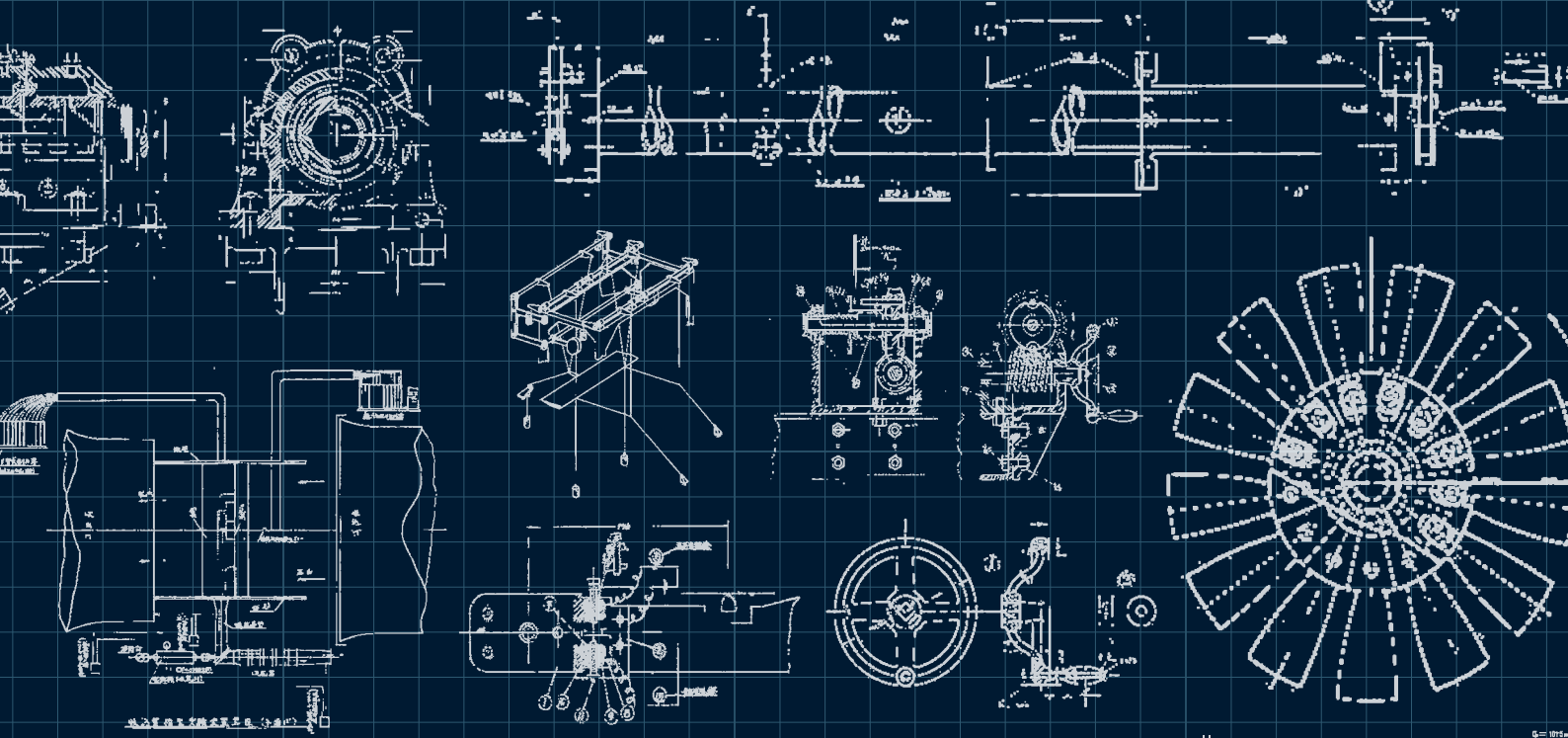
08 Expectations of Research Capabilities and Researchers' Accomplishments

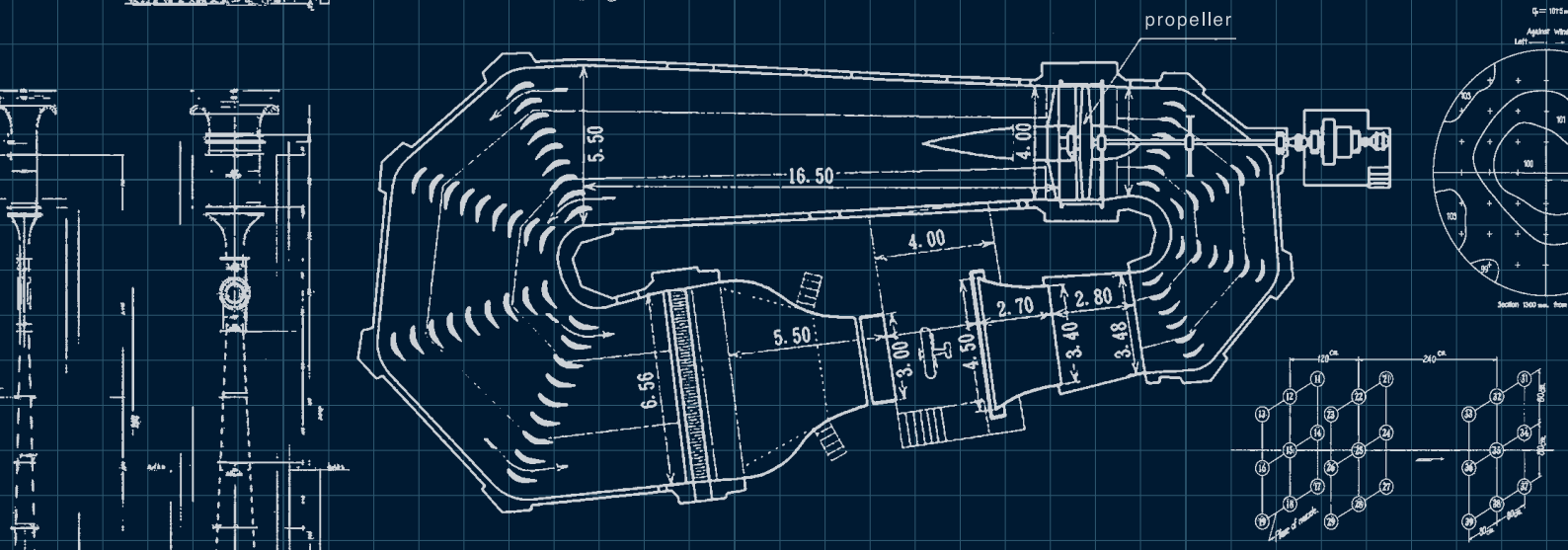
Public Funded Research

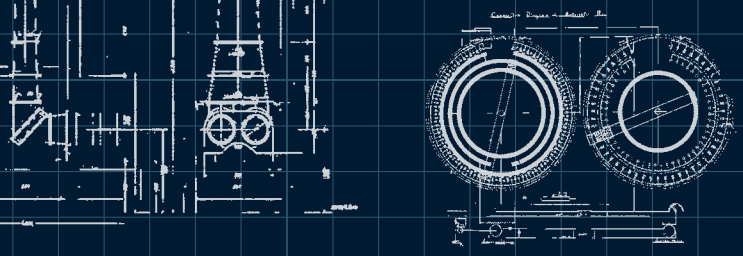
Publicly Funded Research

[As of April 1, 2021]

Project Title	Research Director	Support Organization
Climate change actions with CO-creation powered by Regional weather information and E-technology Open innovation platform for industry academia co creation	Hisashi NAKAMURA	Japan Science and Technology Agency (JST)
JIZAI Body Strategic Basic Research Programs (ERATO)	Masahiko INAMI	Japan Science and Technology Agency (JST)
Macroscopic Quantum Machines Strategic Basic Research Programs (ERATO)	Yasunobu NAKAMURA	Japan Science and Technology Agency (JST)
Crowd control adaptive to individual and group attributes JST-Mirai program	Katsuhiro NISHINARI	Japan Science and Technology Agency (JST)
Integrated Electrochemical Systems for Scalable CO2 Conversion to Chemical Feedstocks Moonshot Research and Development Program	Masakazu SUGIYAMA	New Energy and Industrial Technology Development Organization (NEDO)
Concept learning and multimodal recognition Moonshot Research and Development Program	Tatsuya HARADA	Japan Science and Technology Agency (JST)
Research on time series prediction and estimation of the causality measure Moonshot Research and Development Program	Yusuke MUKUTA	Japan Science and Technology Agency (JST)
Corpus development for semantic understanding Moonshot Research and Development Program	Yusuke KUROSE	Japan Science and Technology Agency (JST)
Creation of topological integrated photonic devices Strategic Basic Research Programs (CREST)	Satoshi Iwamoto	Japan Science and Technology Agency (JST)
High-dimensional networked measurement for studying heterogeneity and dynamics of extracellular vesicles Strategic Basic Research Programs (CREST)	Sadao Ota	Japan Science and Technology Agency (JST)
Cognitive Mirroring: Assisting people with developmental disorders by means of self-understanding and social sharing of cognitive processes Strategic Basic Research Programs (CREST)	Shinichiro KUMAGAYA	Japan Science and Technology Agency (JST)
Behavior change and harmonious collaboration by experiential supplements Strategic Basic Research Programs (CREST)	Masahiko INAMI	Japan Science and Technology Agency (JST)
Multiwavelength light sources for molecular imaging Strategic Basic Research Programs (CREST)	Shinji YAMASHITA	Japan Science and Technology Agency (JST)
Construction of High-accurate Prediction Model from Limited Supervised Data Strategic Basic Research Programs (AIP Accelerated Program)	Tatsuya HARADA	Japan Science and Technology Agency (JST)
Dveloping Sensory Editing Interface using Percutaneous Electrical Stimulation Strategic Basic Research Programs (PREST)	Kazuma AOYAMA	Japan Science and Technology Agency (JST)
Computational Perception Design: Designing perceptual experiences using a data-driven approach Strategic Basic Research Programs(PREST)	Shigeo YOSHIDA	Japan Science and Technology Agency (JST)
Development of foundational technology for the implementation of highly accurate quantum operations Strategic Basic Research Programs (PREST)	Takanori SUGIYAMA	Japan Science and Technology Agency (JST)
Operation support and health monitoring service for artificial satellites Program for Creating STart-ups from Advanced Research and Technology	Takehisa YAIRI	Japan Science and Technology Agency (JST)
Research project on the provision of textbook digital data	Takeo KONDO	Ministry of Education, Culture, Sports, Science and Technology (MEXT)
Research project on efficient production system of accessible textbooks	Takeo KONDO	Ministry of Education, Culture, Sports, Science and Technology (MEXT)



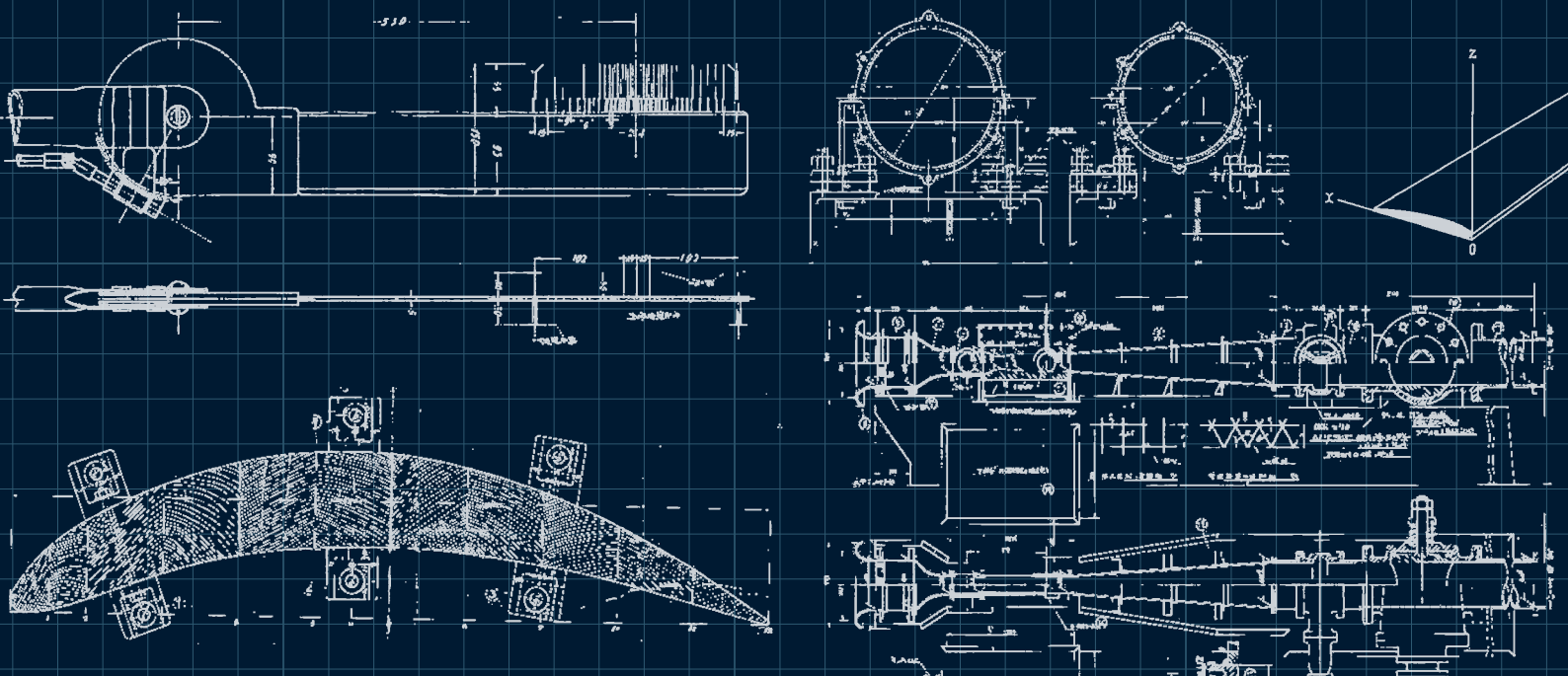




Experimental Facilities

Wind Tunnels

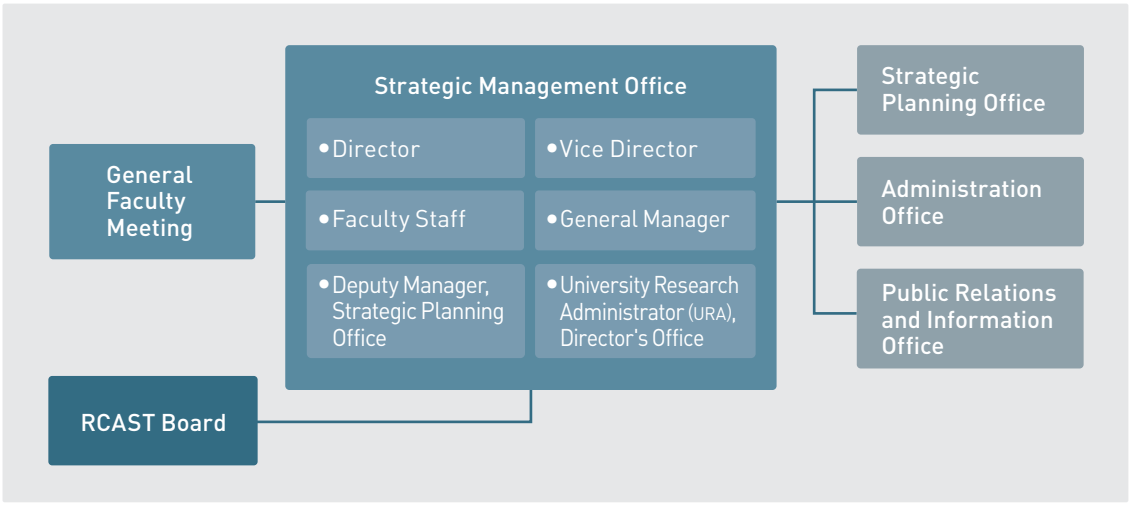
Building 1 houses a wooden wind tunnel (called the 3m Wind Tunnel, which was used for experimentation beginning in 1930) that was the first facility built after the Aeronautical Research Institute was relocated to Komaba. This wind tunnel is an extremely important part of Japan’ s aviation history, used in the design of aircraft such as the KOKENKI, long-range research aircraft, which broke the world record for long-distance flight, and the YS-11 domestic passenger airplane.



09
Organization and Management

A unique system of organization management that enables prompt decisions to address new challenges

Since its inception, RCAST has maintained a system of organization management that separates research from administration. As the decision-making unit, the Strategic Management Office deliberates internal organizational streamlining, staffing proposals, budget allocation, and other important matters, and swiftly moves on to execution. The system reduces the amount of time researchers spend on administrative issues and ensures time for their research and education activities.



Rigorous evaluation of RCAST's management strategies "RCAST Board" external evaluation committee

Chieko ASAKAWA
IBM Fellow／Chief Executive Director, Miraikan

Noriko OSUMI
Vice President, Tohoku University

Takashi ONISHI
Emeritus Professor, The University of Tokyo

Hideaki KOIZUMI
Honorary Fellow, Hitachi, Ltd.Advisor
Distinguished Fellow, The Engineering Academy of Japan

Tsuneo KOMATSUZAKI
Former Advisor of SECOM CO., LTD.

Yoichi NISHIMURA
Managing Director, The Asahi Shimbun Company

Akira HIRUMA
President and CEO, Hamamatsu Photonics K.K.

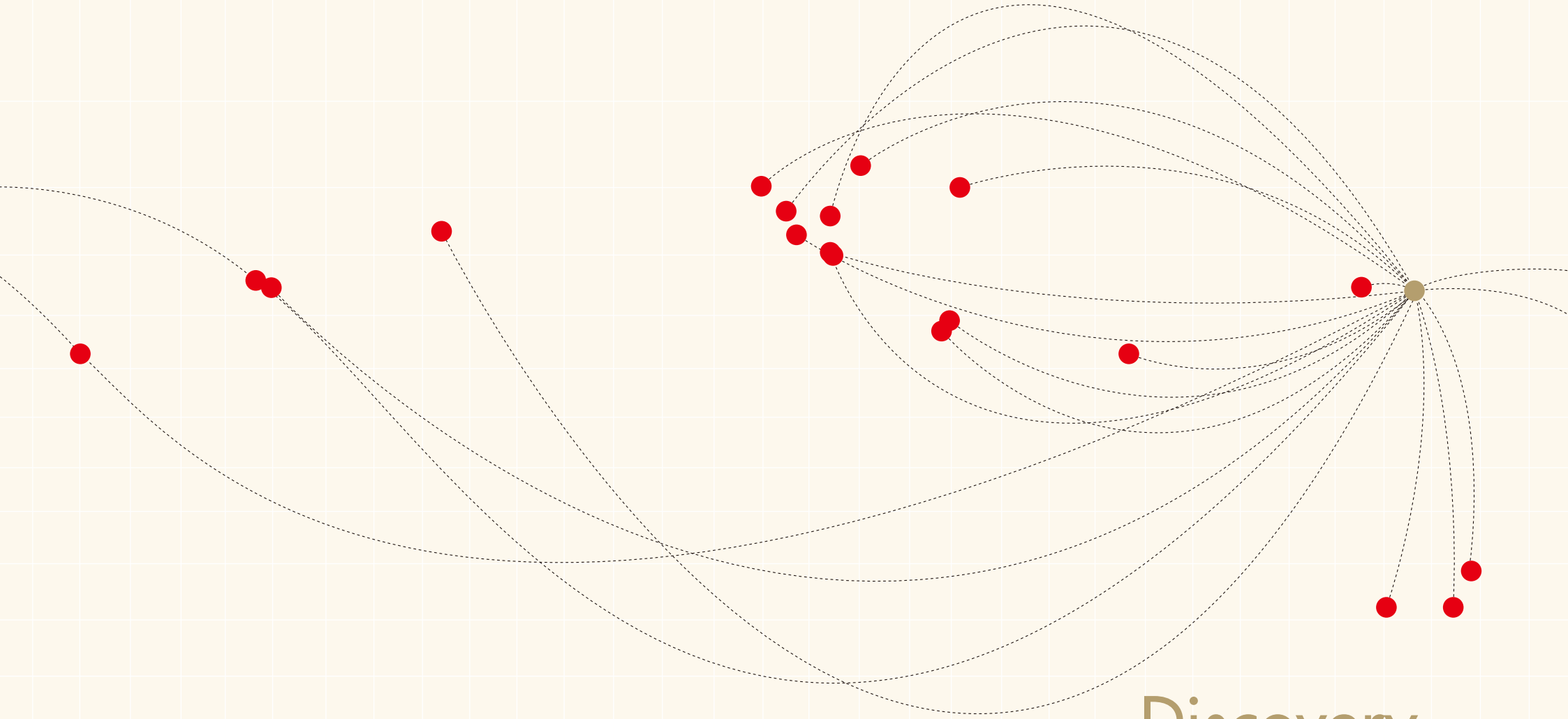
Hiroya MASUDA
Representative Executive Officer, President & CEO, Japan Post Holdings Co., Ltd.

Toshiro MUTOH
Honorary Chairman, Daiwa Institute of Research Ltd.

[As of June 1, 2021]

Researchers and administrative staff are the twin pillars of RCAST.

The Strategic Planning Office, which reports with complete support to the Strategic Management Office placed directly under the Director, and the administration office closely collaborate and support RCAST's speedy and flexible operations system in both administration and research practice.



Discovery
comes from
connecting.

10 Collaboration Cooperation

Forming organic connections among researchers across disciplines

We are building a global organization network including the establishment of satellite offices at collaborating institutions. Domestically, based on the experience of a partnership agreement with Ishikawa Prefecture that has led to a very advanced example of joint industry creation by the university and the prefecture, we are pursuing forms of co-creation that go beyond industry-academia-government cooperation together with local governments and communities participating in the Co-creation Living Lab.

International collaboration

1. Stockholm University (Sweden)
2. Clare Hall, University of Cambridge (UK)
3. University of Glasgow (UK)
4. Arizona State University, LightWorks (USA)
5. Centre National de la Recherche Scientifique (CNRS) (France)
6. The University of New South Wales (Australia)
7. Advanced Institutes of Convergence Technology (AICT), Seoul National University (South Korea)
8. University of Kassel (Germany)
9. The University of Adelaide(Australia)
10. Queensland University of Technology (Australia)
11. The Moshe Dayan Center for Middle Eastern and African Studies (MDC), Tel Aviv University (Israel)
12. Council of Scientific & Industrial Research (CSIR) (India)
13. The Hebrew University of Jerusalem (Israel)
14. Centre for Research in Photonics, The University of Ottawa (Canada)
15. University of California, Berkeley (USA)
16. Center on Disability Studies, University of Hawaii at Mānoa (USA)
17. The University of Milano-Bicocca (Italy)
18. Politecnico di Milano (Italy)
19. The University of Bordeaux (France)
20. Moscow State Institute of International Relations (Russia)
21. Institute for Security and Development Policy (ISDP)
22. École Polytechnique (France)

※Order by agreement execution [As of September1, 2021]

Agreements with local governments

Cooperation with domestic educational institutions

Agreements with local governments(Domestic)

1. Ishikawa Prefecture and Ishikawa Sunrise Industries Creation Organization
2. Obuse Town, Nagano Prefecture
3. Kumamoto Prefecture and Kumamoto University
4. Karuizawa Town, Nagano Prefecture and Shinshu University Research Center for Social Systems
5. Iwaki City, Fukushima Prefecture
6. Shiraoi Town, Hokkaido Prefecture
7. Wakayama Prefecture
8. Eiheiji Town, Fukui Prefecture
9. Nanyo City, Yamagata Prefecture
10. Kobe City, Hyogo Prefecture
11. Iki City, Nagasaki Prefecture
12. Kaminokuni Town,Hokkaido Prefecture
13. Setagaya City, Tokyo
14. Koya Town and Koyasan Shingon Sect Main Temple Kongobu-ji, Wakayama Prefecture
15. Kobayashi City, Miyazaki Prefecture

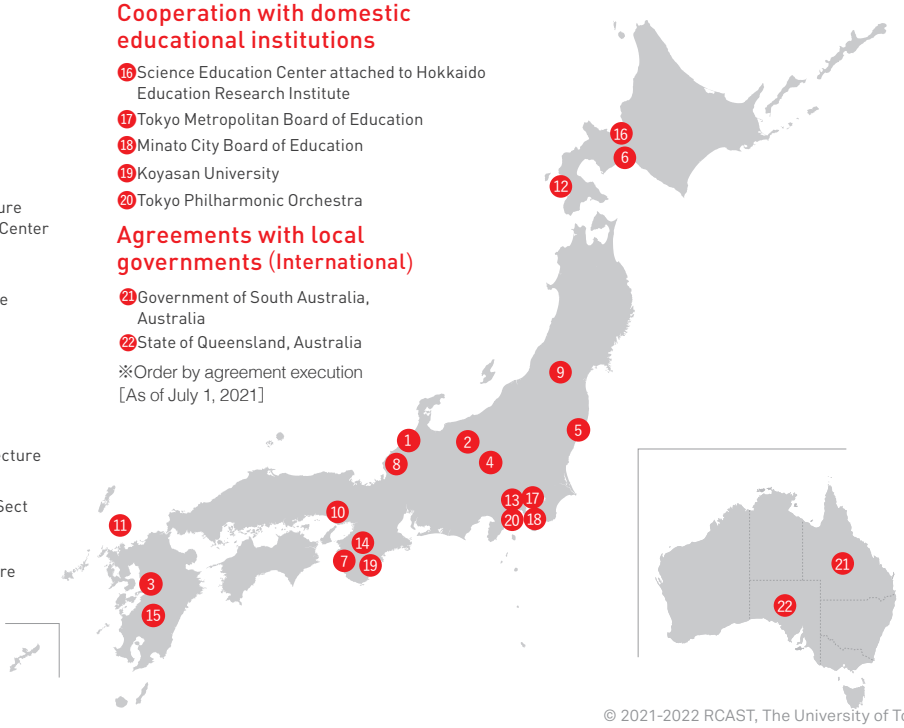
Cooperation with domestic educational institutions

16. Science Education Center attached to Hokkaido Education Research Institute
17. Tokyo Metropolitan Board of Education
18. Minato City Board of Education
19. Koyasan University
20. Tokyo Philharmonic Orchestra

Agreements with local governments (International)

21. Government of South Australia, Australia
22. State of Queensland, Australia

※Order by agreement execution [As of July 1, 2021]



Disassembly and
combination of thoughts
create something new.

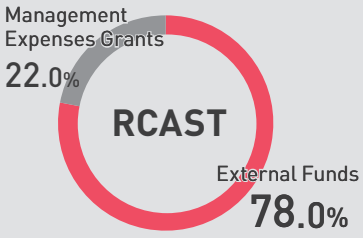
11 RCAST at a glance

RCAST Facts

Financial Statement

Nearly 80 percent of RCAST's operating expenses are covered by external funding. This reflects recognition of RCAST's far-sighted research and the results that it has produced, and a line-up of researchers capable of securing their own funding.

External Funding Ratio

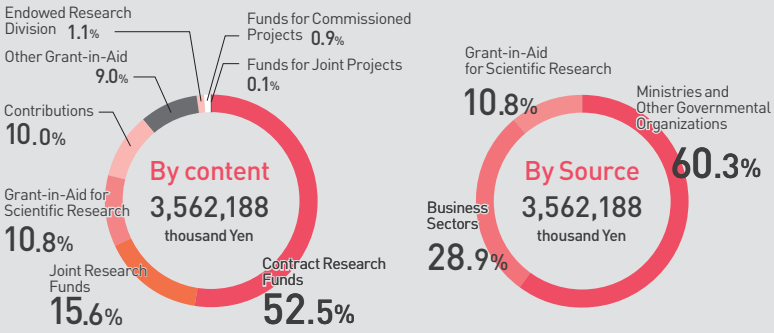


UTokyo

Management Expenses Grants	External Funds
48.3%	51.7%

[FY2020]

External funds



Indirect expenses excluded

Management Expenses Grants		External Funds		Grand Total
1,219,668 thousand Yen	+	3,562,188 thousand Yen	=	4,781,856 thousand Yen

[FY2020]

Faculty and Staff

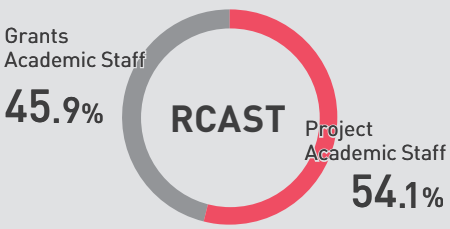
With external funding, RCAST has created the Project Researcher/Faculty System enabling unique, high-quality human resources to be employed by RCAST on a project basis. This system, originated by RCAST, can make a huge difference in research competency.

The ratio of Project Academic Staff

	Grants Academic Staff	Project Academic Staff	
Professors	25名	4名	13.8%
Associate Professors	15名	18名	54.5%
Lecturers	4名	13名	76.5%

[As of April 1, 2021]

Composition ratio of Academic Staff



[As of April 1, 2021]

The member of Faculty and Staff

The ratio of Research Staff

[As of April 1, 2021]

Academic Staff	**387名**	**Administrative Staff**	**53名**
Grant Staff	56名	Grant Administrative Staff	24名
Project Staff	66名	Project Specialists	29名
Researchers*	265名		

Students	**312名**		
Graduate Students	288名	AIS Students	103名
Undergraduate Students	24名		

*Researchers: Project Researchers, Visiting Research Fellows, Co-operative Research Fellows, UTokyo Research Fellows, Joint Research Fellows

[As of April 1, 2021]

ACCUMULATE WISDOM

12 Research Community

Making research and education activities broad, deep, and new
Network of researchers inside Japan and overseas

We welcome individuals who belong to domestic or overseas educational, research, and other organs with deep knowledge or outstanding accomplishments as RCAST Fellows, and bring an international expanse to RCAST's activities. We also grant the title of Senior Research Fellow to those researchers who previously worked at RCAST who have outstanding academic or educational accomplishments and are recognized as promoting RCAST's research and education activities, even after their retirement, and grant the title of Research Advisor to individuals linked to our present research activities, and we are expanding our global network of researchers.

RCAST Fellow

Texas A&M University
Louis & Elizabeth Scherck Chair in Oceanography
Ping CHANG

National Institute of Standards and TechnologyUniversity of Maryland
Jacob M TAYLOR

University of Milano-Bicocca
Stefania BANDINI

Foundation Fellow, Clare Hall, University of Cambridge
David COPE

University of California San Diego
Shang-Ping XIE

University of Regensburg
Joerg WUNDERLICH

Toin University of Yokohama
Tsutomu MIYASAKA

UTokyo Emeritus Professor
Toshiro FUJITA

Science and Technology Advisor to the Minister for Foreign Affairs
Teruo KISHI

Honorary Fellow, Hitachi, Ltd.
Executive Vice President, The Engineering Academy of Japan
Hideaki KOIZUMI

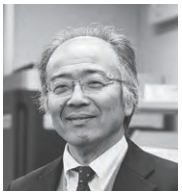
President Emeritus, Academia Sinica, Taiwan
Yuan Tseh LEE

UTokyo Emeritus Professor
Director, Member of the Board, Suntory Holdings Limited
Takashi MIKURIYA

IBM Fellow
Chief Executive Director, Miraikan
Chieko ASAKAWA

UTokyo Emeritus Professor
Tadatsugu TANIGUCHI

Senior Research Fellow



Hiroyuki ABURATANI

Adviser

Yasunori BABA

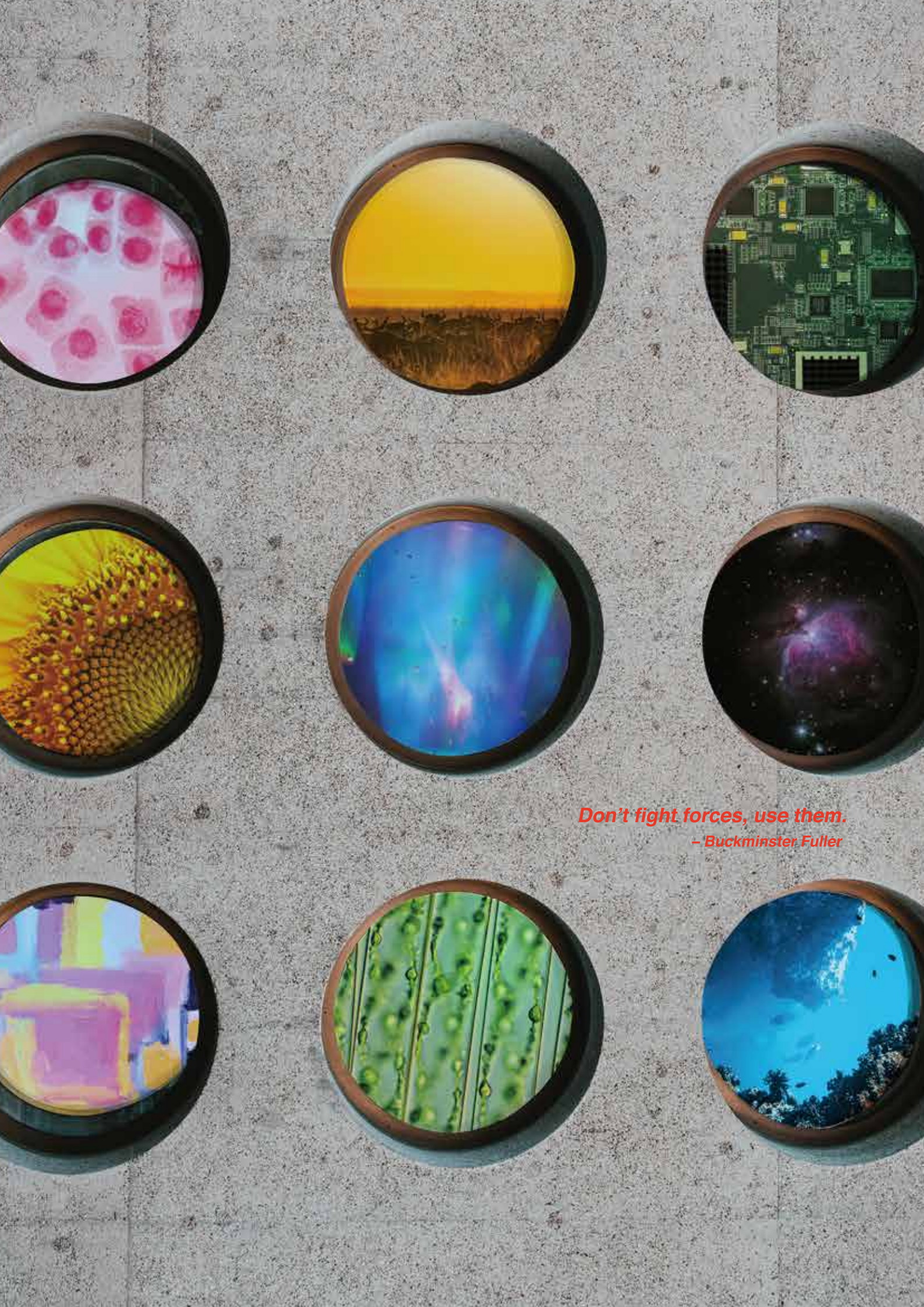
Kiyoshi NISHIOKA

Mariko FUJII

Hikaru KOBAYASHI

Tohru IFUKUBE

※Honorific titles are omitted［As of April 1, 2021］



Don't fight forces, use them.

– Buckminster Fuller

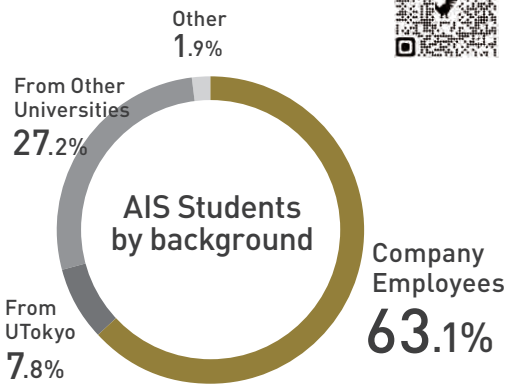
13 Education

Bringing diversity especially to education in both graduate school and fostering the next generation

Cases where a doctorate degree is required for corporate researchers and specialist personnel are increasing. Universities not only enable in-depth study of a chosen field, but also develop a systematic understanding and broad overview of science and technology. Furthermore, in recent years, the needs for university researchers to provide support to primary and secondary education have been dramatically increasing. RCAST aims to provide new value in both higher education at graduate schools and outreach to primary and secondary education.

The only doctoral course at a UTokyo affiliated research institute

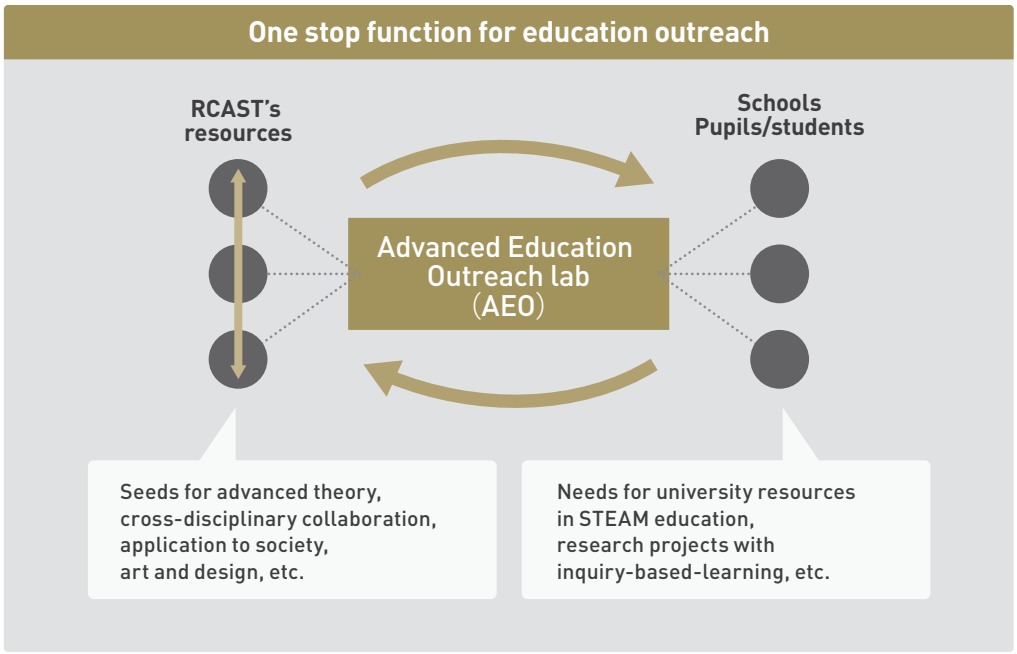
The University of Tokyo Graduate School of Engineering Department of Advanced Interdisciplinary Studies was established in 1992 as a doctorate only program. Under RCAST's characteristic interdisciplinary environment, we foster individuals with the will to pioneer unique new fields, without being restricted by conventional, common-sense frameworks. This program opens the door not only to corporate researchers and engineers, but also to corporate managers and government policymakers with knowledge in the field of advanced science and technology. Upon completion, students can receive either the Doctor of Engineering or the Doctor of Philosophy degree.



[As of April 1, 2021]

Advanced Education Outreach lab (AEO) launched April 2021

In addition to the efforts to date by each laboratory, while unifying and making RCAST's education outreach activities more visible, AEO supports next-generation development by creating and providing cross-disciplinary programs utilizing RCAST's strengths that integrate the humanities and the sciences in collaboration with schoolteachers. AEO also proposes a new value axis fusing arts and sciences and implements it.

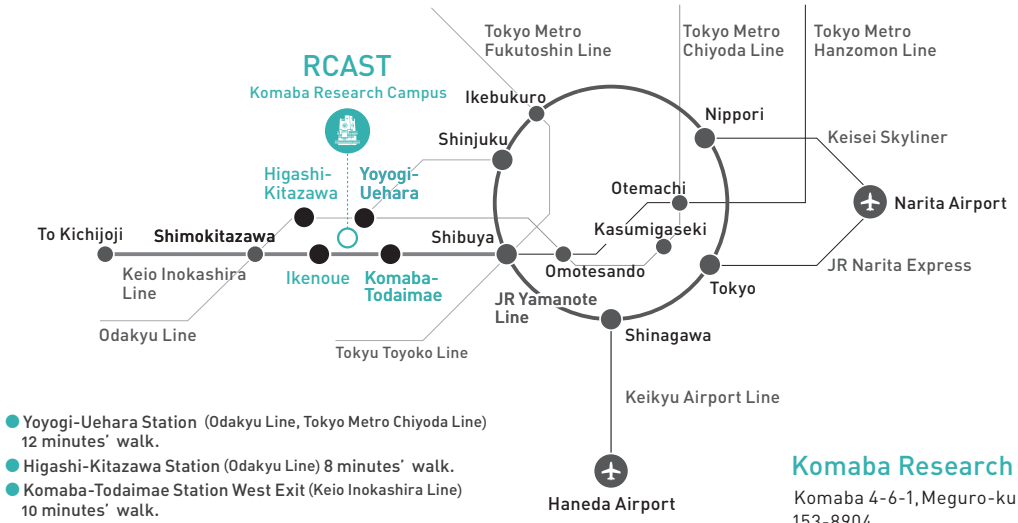


We Love

14 Campuses filled with greenery are the city's secret gardens

Maps and Direction

ACCESS



- Yoyogi-Uehara Station (Odakyu Line, Tokyo Metro Chiyoda Line) 12 minutes' walk.
- Higashi-Kitazawa Station (Odakyu Line) 8 minutes' walk.
- Komaba-Todaimae Station West Exit (Keio Inokashira Line) 10 minutes' walk.
- Ikenoue Station (Keio Inokashira Line) 10 minutes' walk.

Komaba Research Campus

Komaba 4-6-1, Meguro-ku, Tokyo, 153-8904

Komaba Research Campus

Research Center for Advanced Science and Technology


Building 13


Building 1


Building 3


Building 3 South


Building 4


Building 14

Financial support for research challenges

RCAST is aiming at new frontiers in every research field and taking on the challenge of solving the many problems that face society today. Your support is needed to further advance the research and accelerate the pace of solving social issues.

東京大学 THE UNIVERSITY OF TOKYO

東京大学 先端科学技術研究センター
Research Center for Advanced Science and Technology
The University of Tokyo

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