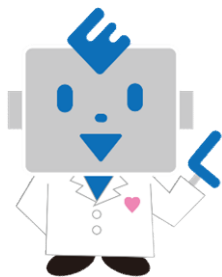


International Activities of AMED

— Seminar on AMED's Programs —

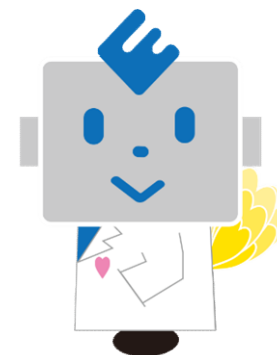
**Japan Agency for Medical Research and Development
(AMED)**



29 May 2018
NAKAMURA Hiroshi
Director, Singapore Office

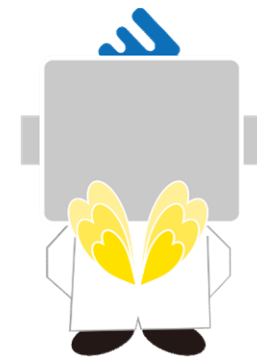
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1. What is AMED
2. Joint Research Programs
3. Other opportunities

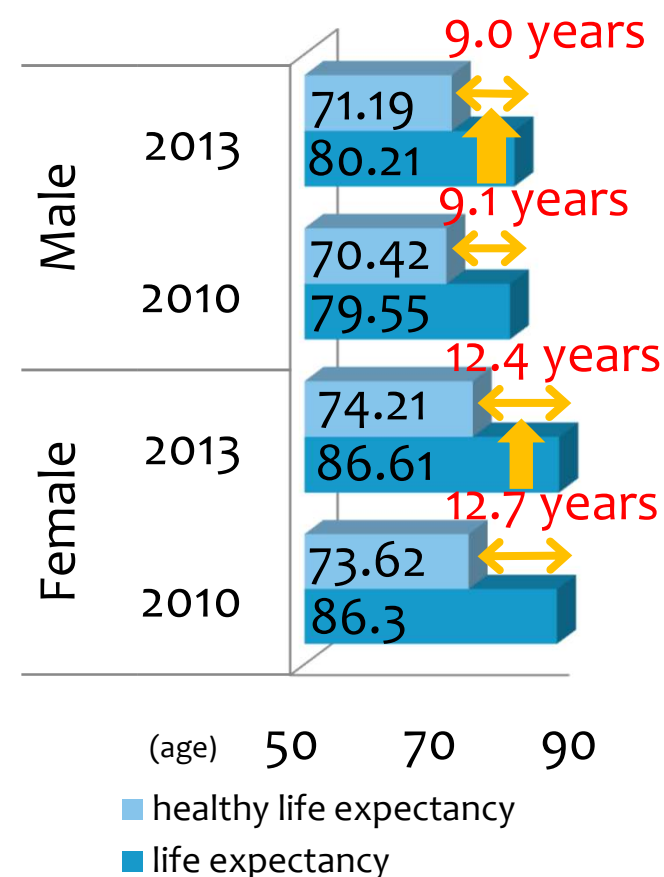
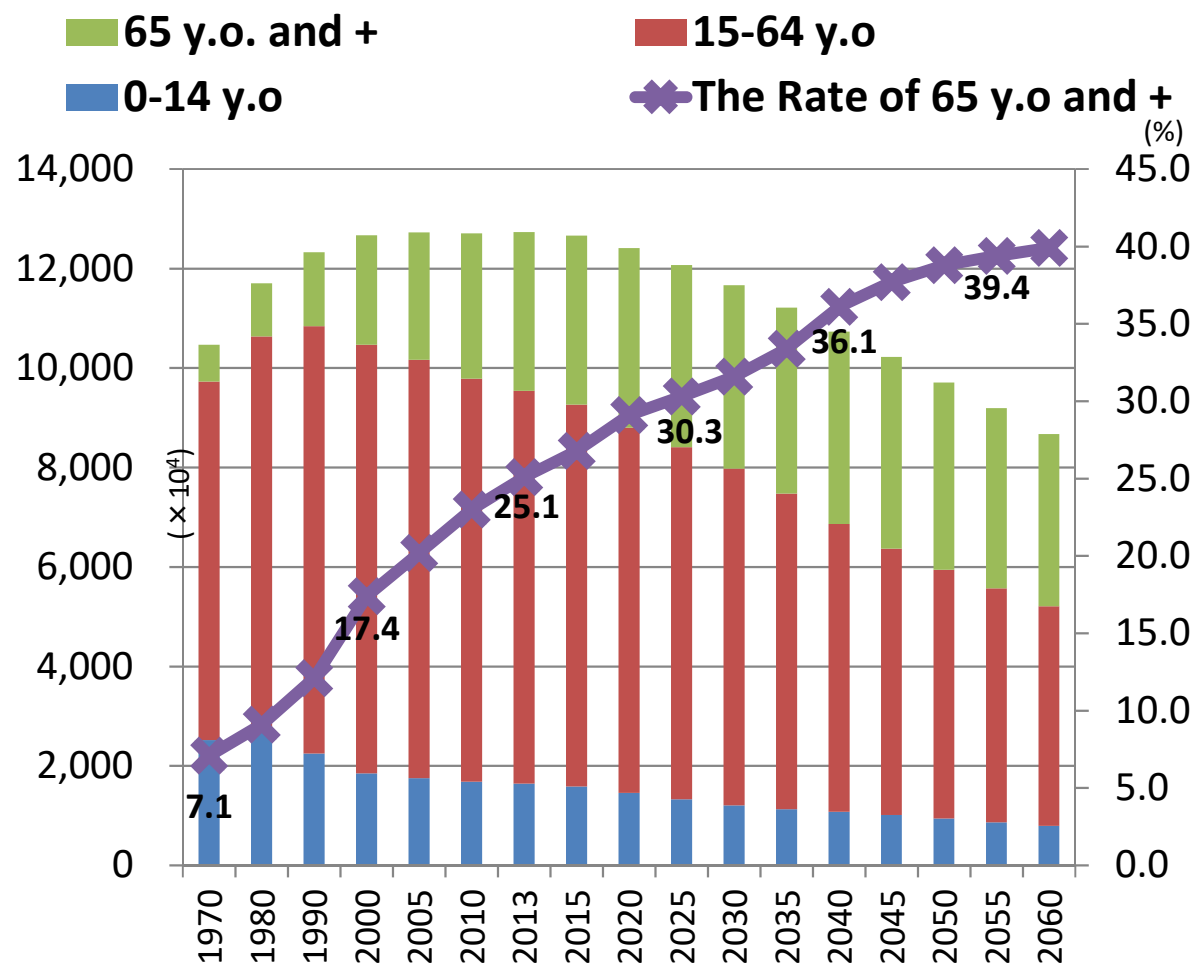


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- 
- 1. What is AMED**
 - 1-1. Organization and Role**
 - 1-2. International Activities of AMED
 - 2. Joint Research Programs
 - 3. Other opportunities



Back Ground: Trends in the Population Structure and Healthy Life Expectancy in Japan



Ministry of Health, Welfare and Labour, Japan

A national funding agency specialized for **medical R&D**



Headquarters for Healthcare Policy (HHP)

- Develop **a comprehensive plan for the promotion of medical R&D**
- Integrate medical R&D **budget requests** of relevant ministries
- Make **strategic decisions** on the allocation of promotional adjustment funds

[1] **Top down type** funding

Ministries

Advise on **Nomination of President and Auditor**

Advise on **Mid-to-Long Term Targets**

Comprehensive adjustment of budget request

Cabinet Office

内閣府
Office, Government of Japan

文部科学省
MINISTRY OF EDUCATION,
CULTURE, SPORTS,
SCIENCE AND TECHNOLOGY-JAPAN

MEXT

厚生労働省
Ministry of Health, Labour and Welfare

MHLW

経済産業省
Ministry of Economy, Trade and Industry

METI

Handle Nomination and Dismissal of AMED President and Auditor

Present Mid-to-Long Term Targets

Allocate Subsidy Operating Expense



Japan Agency for Medical Research and Development (AMED)

established on April 1, 2015

Budget concentration

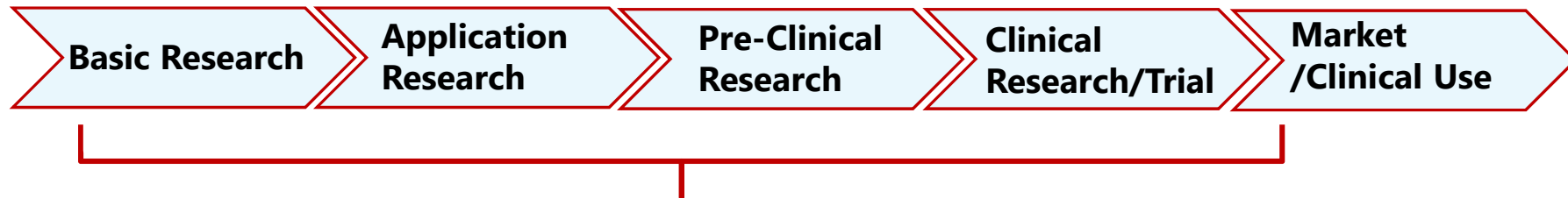
Funding

Researchers/Institutes

[3] Supports R&D **consecutively from basic research to clinical trial/research.**

[2] Provides **a unified point of contact** for funding and for application procedures.

Medical R&D areas supported by AMED



Promote and support medical R&D consecutively from basic research to clinical research/trial by funding

- ◆ Strong program management by **PD**, **PS** and **PO**.
- ◆ Improvement of the **infrastructure** for clinical research/trial
- ◆ Support for **industrialization**; bridging academia and industry
- ◆ Promotion of **International strategy**

9 interrelated Projects supported by AMED;

- | | |
|--|---|
| ① Drug Discovery & Development | ⑥ Japan Cancer Research Project |
| ② Medical Device Development | ⑦ Psychiatric and Neurological Disorders |
| ③ Translational & Clinical Research Core Centres | ⑧ Emerging/Re-Emerging Infectious diseases Project of Japan |
| ④ Japan Regenerative Medicine Project | ⑨ Rare/Intractable Diseases Project of Japan |
| ⑤ Japan Genomic Medicine Program | |

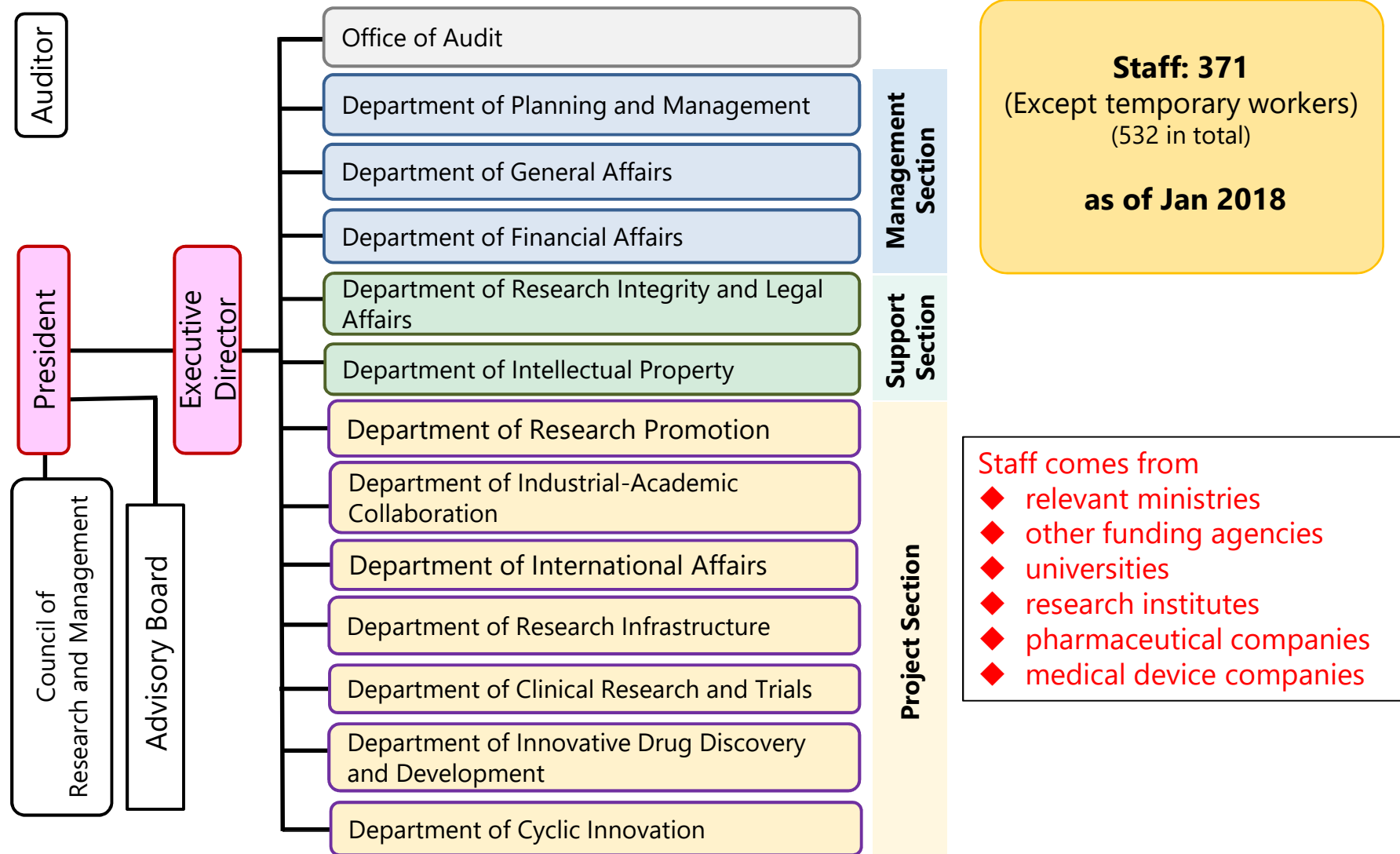
Budget for Medical R&D in FY 2018

| | FY 2018 | FY 2017 | I / D * |
|---|---|---|-------------------|
| Budget | 1.15 Billion US\$ (MEXT: 0.55, MHLW: 0.43, METI: 0.17 etc.) | 1.15 Billion US\$ (MEXT: 0.54, MHLW: 0.43, METI: 0.17 etc.) | +0.01 B US\$ |
| Drug Discovery & Development | | | 190 M US\$ |
| Medical Devices Development | | | 117 M US\$ |
| Translational & Clinical Research Core Centres | | | 78 M US\$ |
| Japan Regenerative Medicine Project | | | 143 M US\$ |
| Japan Genomic Medicine Project | | | 95 M US\$ |
| Japan Cancer Research Project | | | 145 M US\$ |
| Psychiatric and Neurological Disorders | | | 65 M US\$ |
| Emerging/Re-emerging Infectious Diseases Project of Japan | | | 48 M US\$ |
| Rare/Intractable Diseases Project of Japan | | | 113 M US\$ |

1 dollar = 110 yen

* The number in the I/D may not agree exactly with the calculation due to the fractional amounts being rounded.

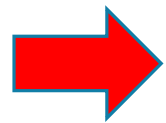
Organization Chart of AMED as of April 1, 2018



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2. Joint Research Programs

3. Other opportunities

AMED Singapore office has launched on 27 June 2016



AMED established the Singapore Office on 27 June 2016. To mark this occasion, **AMED** co-organized **an opening reception** for the Singapore Office together with the **Embassy of Japan in Singapore**.



The ASCENT Building,
where the AMED
Singapore Office is located



From left;

- Mr. Yasuo OTANI, then Executive Director, AMED
- Mr LIM Chuan Poh, Chairman, A*STAR
- Mr. Kenji SHINODA, Ambassador
- Mr. Hiroshi NAKAMURA, Director, AMED Singapore Office

About 90 people celebrated
the opening of the AMED
Singapore Office at the
reception.



Overseas Offices of AMED



★ London Office

opened on 1 February 2017



2 Science Park Drive,
#02-08/09 Ascent,
Singapore Science Park I,
Singapore 118222
Tel: +65 6352 0905
Fax: +65 6352 1213
contact@amedjp-sg.org

Singapore Office

opened on 27 June 2016.

★ Washington D. C. Office

opened on 1 November 2016

**The Singapore Office is responsible for
Asia and Oceania region**

International Research Networks



Joint Programming Initiative on Antimicrobial Resistance (jpiaamr) aligns collaboration and coordination of research programmes and designs a future research strategy on AMR areas that can benefit from joint efforts across Europe.

GloPID-R

GLOBAL RESEARCH COLLABORATION FOR
INFECTIOUS DISEASE PREPAREDNESS

New member joins the fight against global epidemics August 4, 2015 - Lyon, France
The Global Research Collaboration for Infectious Disease Preparedness (GloPID-R) welcomes the Japan Agency for Medical Research and Development (AMED) as a member into the initiative. AMED is the 13th research funding organization to join the GloPID-R members in their commitment to collaborate in research for infectious disease preparedness.



The International Rare Diseases Research Consortium (IRDiRC) was initiated by the European Commission and the US National Institutes for Health Research and launched in April 2011 to foster international collaboration in the rare diseases field. IRDiRC will team up researchers and organisations investing in rare diseases research in order to achieve two main objectives, namely to deliver 200 new therapies for rare diseases and means to diagnose most rare diseases by the year 2020.



The Global Alliance for Chronic Diseases (GACD) is a collection of the world's biggest public research funding agencies. We fund joint programmes into life-style related or chronic diseases (cardiovascular diseases, diabetes, certain cancers, lung diseases and mental health).








The mission of **the Global Alliance for Genomics and Health** is to accelerate progress in human health by helping to establish a common framework of harmonized approaches to enable effective and responsible sharing of genomic and clinical data, and by catalyzing data sharing projects that drive and demonstrate the value of data sharing.



The Clinical Data Interchange Standards Consortium (CDISC) mission is to develop and support global, platform-independent data standards that enable information system interoperability to improve medical research and related areas of healthcare.

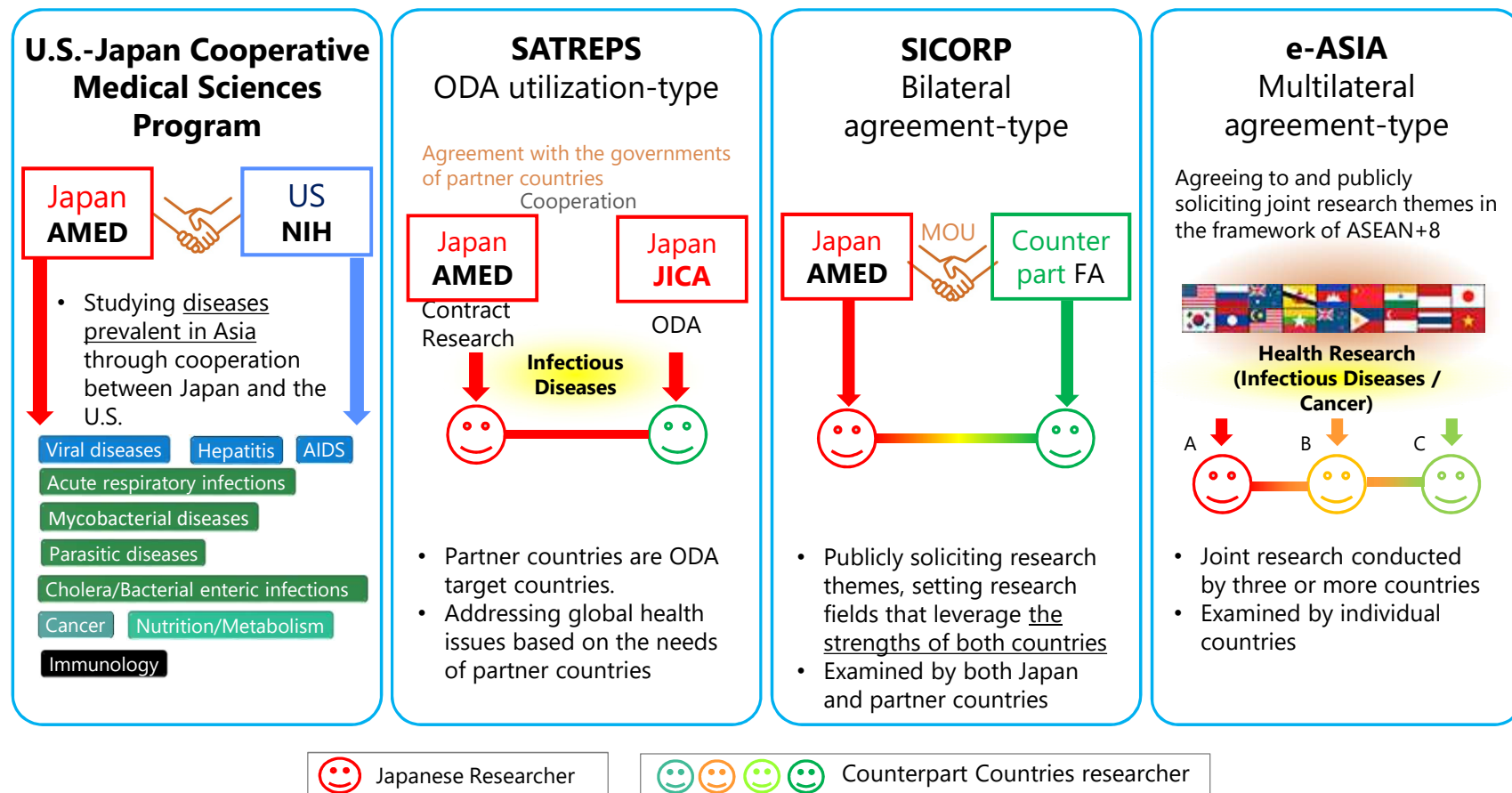
MOC signed with Organizations

| Signed on | Counterpart | Country | |
|--------------------------------------|--|-----------|---|
| Jan 12, 2016 JST (January 11 EST) | National Institutes of Health (NIH) | U.S. |  |
| Mar 16, 2016 | Agency for Science, Technology and Research (A*STAR) | Singapore |  |
| Feb 1, 2017 | Medical Research Council (MRC) | U.K. |  |
| Mar 9, 2017 | Ministry of Health | Lithuania |  |
| Apr 5, 2017 | Spain, State Secretariat for Research, Development and Innovation (SEIDI), Ministry of Economy, Industry and Competitiveness | Spain |  |

International collaborative research programs by AMED



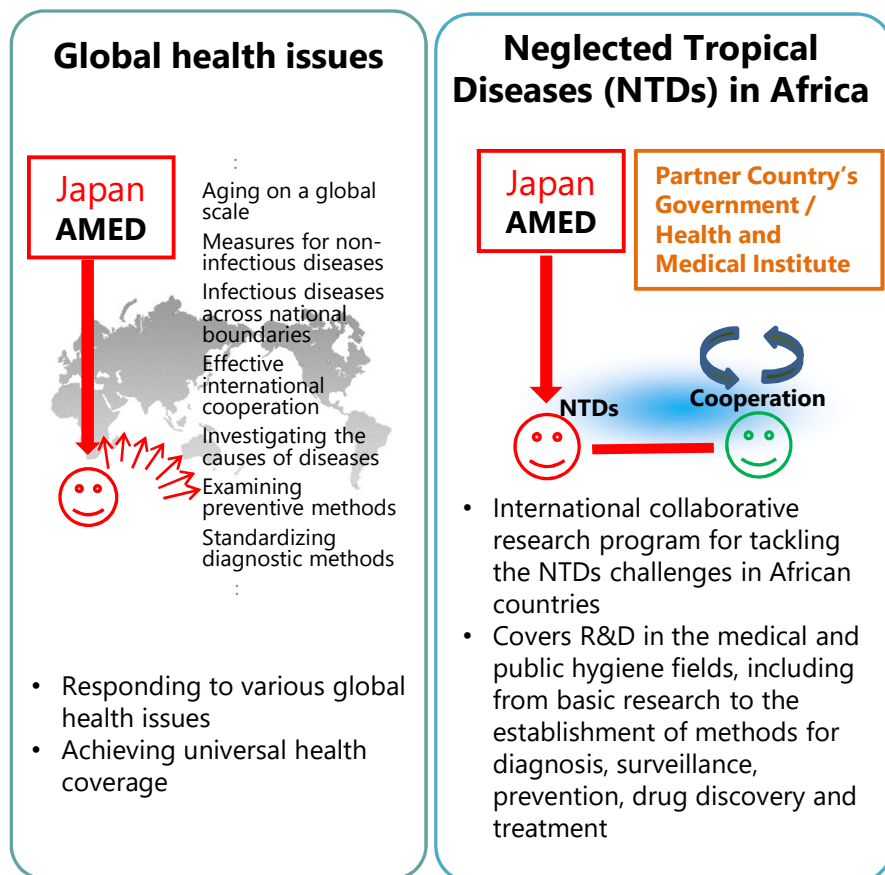
(1) Bilateral and multilateral cooperation



International collaborative research programs by AMED

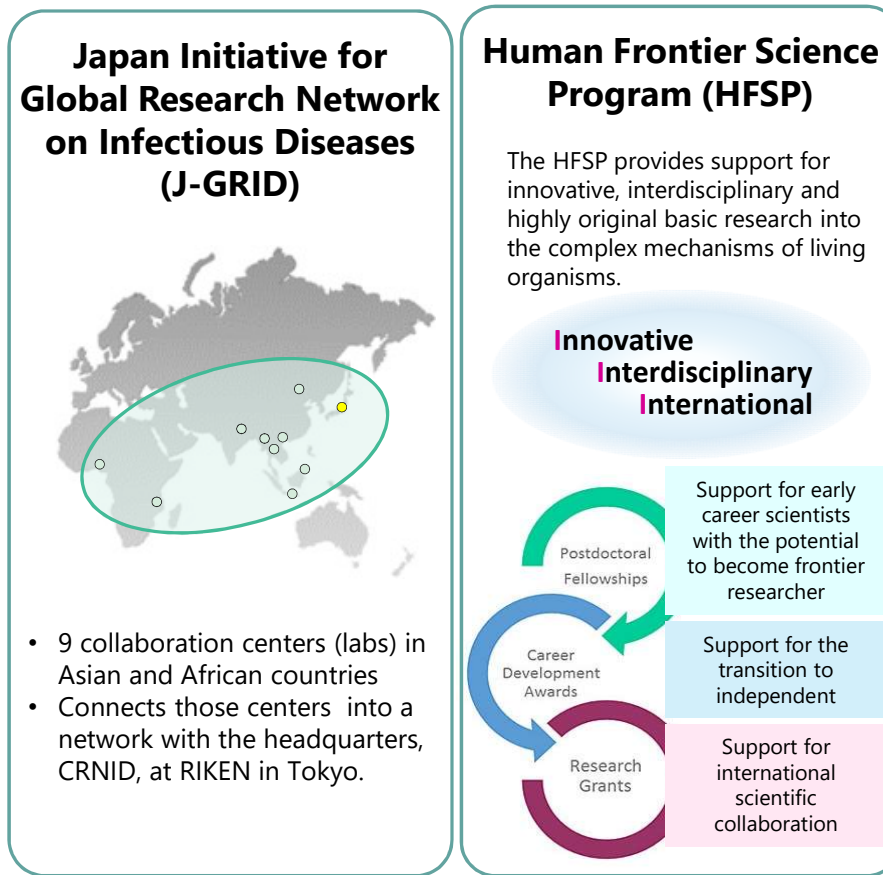


(2) Programs conducted solely by Japan



Japanese Researcher

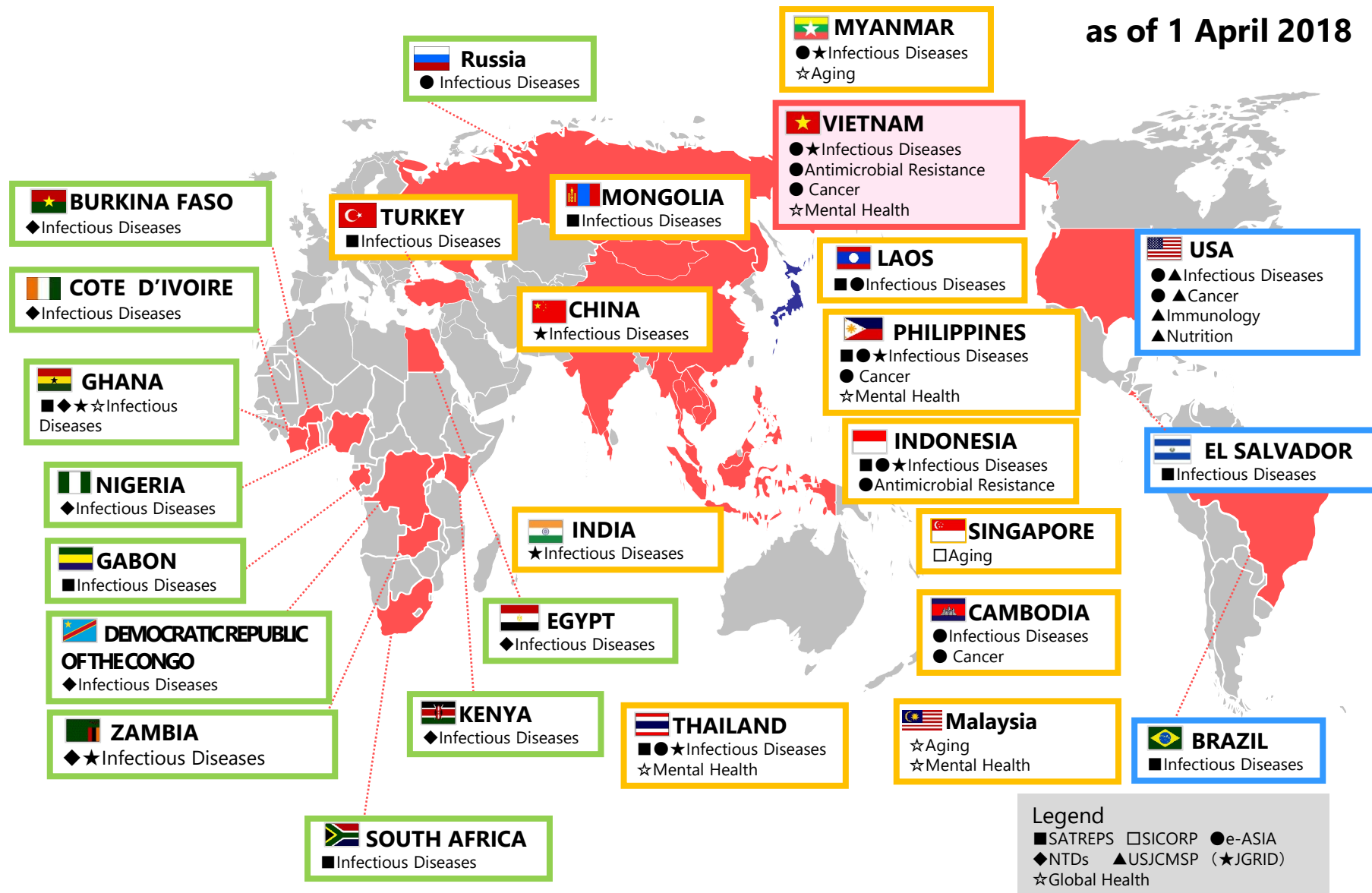
(3) Others



Counterpart Countries researcher

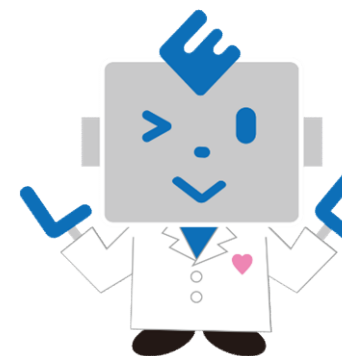
Ongoing International Projects

as of 1 April 2018



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1. What is AMED
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3. Other opportunities



AMED's programs and related programs / activities

| Programs / Activities | Type | Application from Vietnam | Participation from Vietnam | Funding agency for researchers in Vietnam | Opportunity to find overseas collaborators |
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| Exhibition | Collaboration opportunities | n/a | n/a | n/a | Yes |

Science and Technology Research Partnership For Sustainable Development

The SATREPS in **Infectious Diseases Control research area** is handled as a collaboration between **AMED** and **JICA** since April 2015.
SATREPS projects in the areas of Environment/Energy, Bioresources, and Disaster Prevention and Mitigation continue to be handled jointly by **JST** and **JICA**.

| | | | | |
|------------------------|---|-----------------------|---------------------------------|--|
| Infectious Diseases | Environment and Energy | | Bio- Resource Utilization | Disaster Prevention and Mitigation |
| | Global-scale Environmental Issues | Low-Carbon Society | | |



SATREPS aims

SATREPS is a JST/AMED and JICA program for research projects targeting global issues and involving partnerships between researchers in Japan and Developing countries

Enhancing cooperation in science & technology

Building win-win relationships between Japan and developing countries

New technology, new knowledge

Addressing global issues and advancing science

Capacity Development

Boosting self-reliant R&D capacity and sustainable research systems, training human resources and coordinating networking between researchers

Practical utilization

Expecting outcomes to make a real contribution to society

Science and Technology X Official Development Assistance

SATREPS joins and coordinates functions, activities, and capabilities that were once separate, using scientific research potential as a mediator for developmental diplomacy

Science and Technology

Promoting science and technology,
encouraging innovation

Meeting Global Needs

Resolving global issues and contributing to
the science and technology community

Japan's Capabilities

- World-leading technology, proven research capacity
- Soft power



International Cooperation

ODA, development assistance



Meeting Local Needs

Capacity development to address issues emerging
as local needs in developing countries



Developing Countries' Capabilities

- Direct experience, knowledge, and data needed for research on global issues
- Potential to contribute to the global economy through new markets and industries



Science and Technology

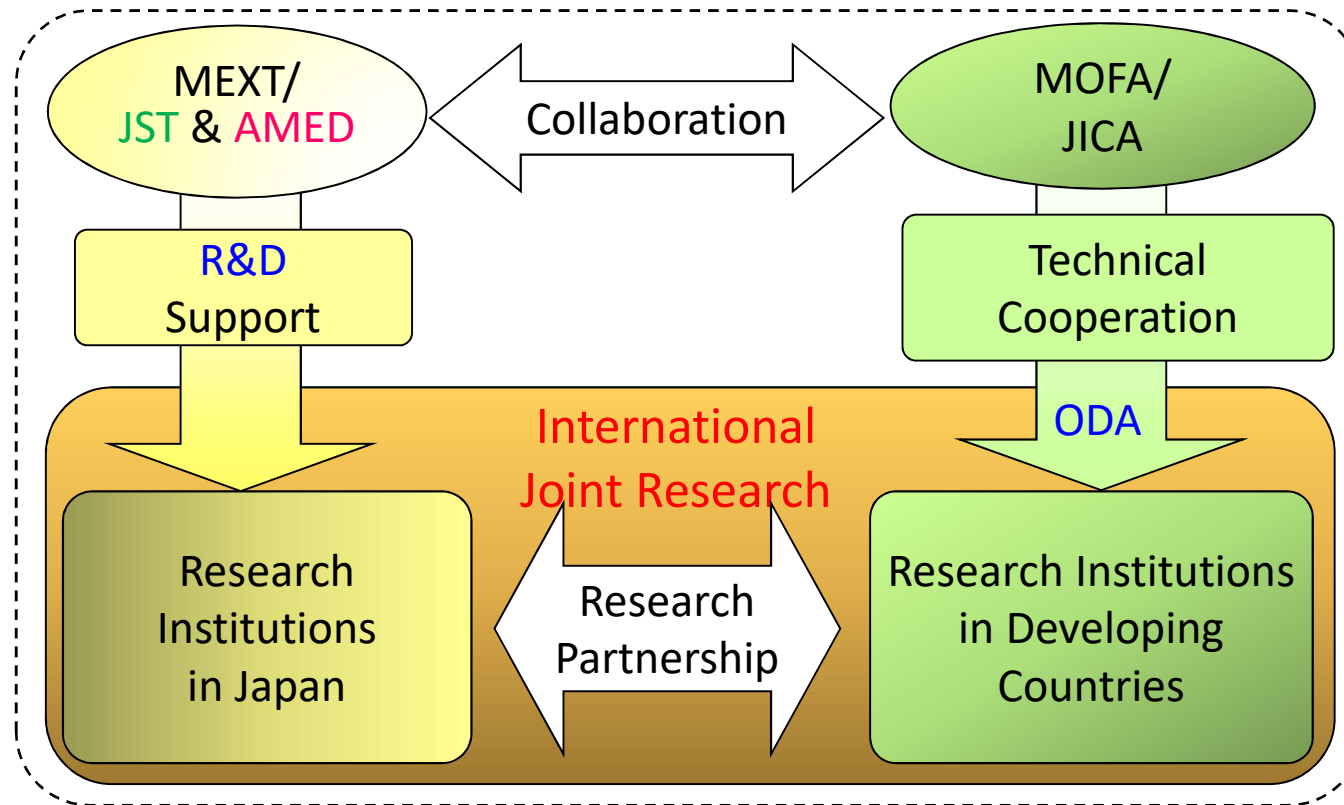
Satreps



Official Development Assistance

**For the Earth,
for the Next Generation**

SATREPS program structure



Research Period

3-5 years

Research Funding

Approx. 100 million JPY / project / year (JST/AMED + JICA total)

SATREPS Infectious Disease field

On going :
9 countries, 10 projects

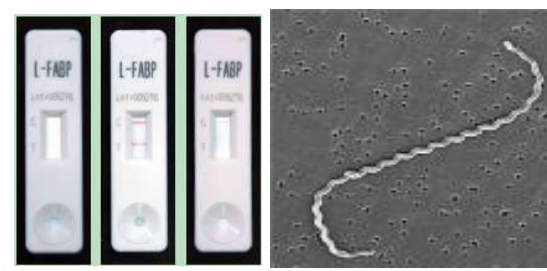
Terminated:
9 countries, 10 projects

In Preparation:
3 countries, 3 projects



Infectious Disease Control

HIV/AIDS, malaria, dengue fever, tuberculosis, highly pathogenic influenza, and other emerging and re-emerging infectious diseases can be a major impediment to social and economic development. Efforts to address infectious diseases issues in developing countries can have a direct benefit in protecting the health of individuals worldwide. Collaboration between Japan and developing countries on research in this field contributes to the control of infectious diseases on a global scale.

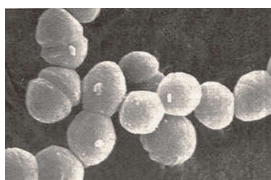


Potential collaboration topics

- ◆ Research and development relating to the control of infectious diseases such as highly pathogenic avian influenza and swine influenza that may be transmitted to humans from other species.
- ◆ Research and development on the technology of diagnostics, vaccines and therapeutics necessary to detect and control infectious diseases such as HIV/AIDS, malaria, dengue fever, tuberculosis and other emerging and re-emerging infectious diseases.

Determine the outbreak mechanisms and development of a monitoring system at food administration for multi-drug resistant bacteria

This project is the issue of food safety and multi-drug resistance bacteria between Japan and Socialist Republic of Viet Nam.



Objective

- Identify stabilizing factors of multidrug-resistant bacteria carrier's condition.
- Analyze the relationship among developmental mechanism, distribution and infectious diseases of multidrug-resistant bacteria.
- Clarify the wide spread mechanisms of multidrug resistant bacteria in a microbiological, pharmacological and anthropological manner.
- Develop a comprehensive monitoring system for antibiotics and multidrug-resistant bacteria over the process from food production to intake.

PI: Professor YAMAMOTO Yoshimasa / Osaka University Global Collaboration Center

Counterpart Country: Socialist Republic of Viet Nam

C/P Research Institutions: National Institute of Nutrition

AMED's programs and related programs / activities

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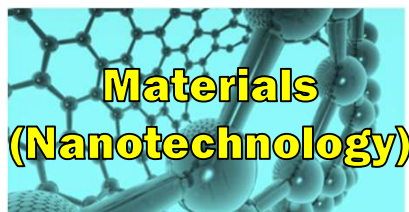
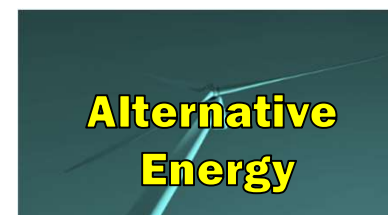
What is e-ASIA JRP?



- Formulating and supporting international joint research projects *in the East Asian Region on the multilateral basis.*
- Formally inaugurated on June 28, 2012.



7 Fields of Cooperation





Current Member Organizations

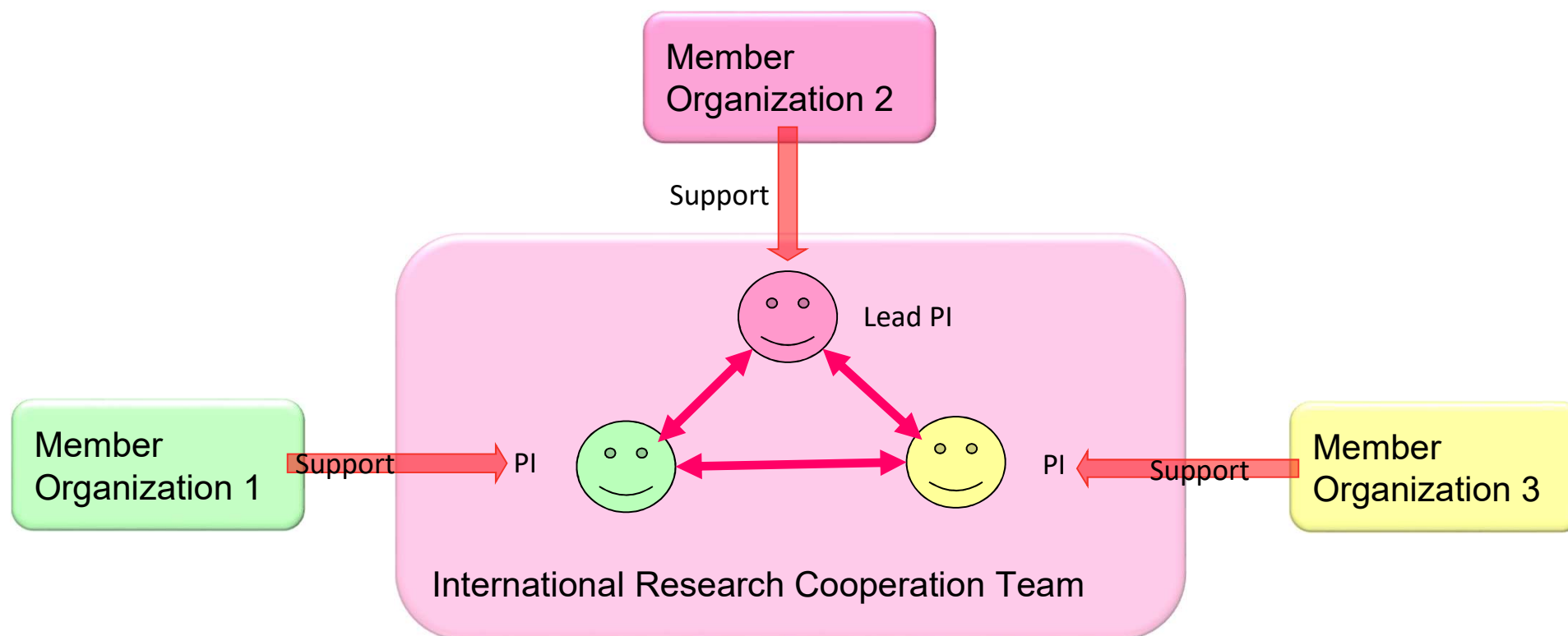


20 Member Organizations from 14 countries - *as of Feb. 2018* -

| | | | | | | |
|---|--|---|---|--|---|--|
|  Australia NHMRC |  Cambodia MOH |  Indonesia RISTEK |  Japan MEXT (JST) AMED |  Lao PDR MOST MOH |  Malaysia MOSTI* ¹ |  Myanmar MOST |
|  New Zealand HRC |  Philippines DOST |  Russia RFBR |  Sri Lanka NSF* ² |  Thailand NSTDA ARDA TCELS TRF |  USA NIAID(NIH) NCI(NIH) |  Vietnam MOST |

*¹Quasi Member, *²Guest Partner

Funding framework





The Aim of “Health Research”



- Contribute to the development of regional science
- Overcome public health and medical problems

in East Asia in the near future.



Joint Call for Research Proposal

















































- Research field
 - i) Infectious Diseases,
 - ii) Cancer Research [FY2016-]

- Project size for Japanese researchers
24 million JPY / project as direct expenses

- Research period
3 years

14 Projects on Health Research Field

| | | | | | |
|---|--|---|---|--|---|
| | | Avian influenza [2015-] | Prof. Yoshihiro Kawaoka  Prof. Chairul A. Nidom  Dr. Gabriele Neumann  | Liver fluke infection [2016-] | Prof. Kazuko Miyamoto  Deputy-Director Muth Sinuon  Vice Chief of Department Nguyen Thu Huong  |
| Influenza, Tuberculosis [2013-] | Prof. Kazuo Suzuki  Dr. Phung Thi Bich Thuy  Prof. Jaime Montoya  | Liver fluke infection [2015-] | Dr. Hisashi Narimatsu  Prof. Sopit Wongkham  Prof. Bounthome Samounry  | Collaborative fever etiology [2016-] | Prof. John A. Crump  Prof. Wan Win Htike  Prof. Mayfong Mayxay  |
| Dengue [2013-] | Prof. Futoshi Hasebe,  Dr. Thi Quynh Mai Le  Dr. Filipinas F. Natividad  | Malaria [2015-] | Prof. Kenji Hirayama  Prof. Mario Jiz  Prof. Tin Maung Hlaing  | Avian influenza [2017-] | Assoc. Prof. Masatoshi Okamatsu  Prof. Alexander Shestopalov  Dr. Duc-Huy Chu  Assoc. Prof. Falk Huettmann  |
| Tuberculosis [2015-] | Prof. Gregory Cook  Prof. Wah Win Htike  Dr. Bacht Alisjahbana  | AMR [2016-] | Prof. Itaru Hirai  Department head Bui Thi Mai Huong  Prof. Kuntaman  | Liver fluke infection [2017-] | Assoc. Prof. Taro Yamashita  Chief, Xin Wei Wang  Prof. Pham Van Thuc  |
| Vector-borne viral diseases [2015-] | Prof. Ken Maeda  Dr. Hideki Ebihara  Prof. Srihadi Agungpriyono  Prof. Worawut Rerkamnuaychoke  Prof. Emmanuel T. Baltazar  | Dengue [2016-] | Prof. Meng Ling Moi  Deputy Director General Hlaing Myat Thu  Assoc. Prof. Sujan Shrestha  | Cancer registry system [2017-] | Section Head, Tomohiro Matsuda  Head of Department, Hav Monirath  Project Director, Adriano Laudico  Director, Dung Pham Xuan  |



Special Scholarships for e-ASIA Projects



Supported by Japanese government



-Scholarship will cover

➤ Tuition Fee, etc.

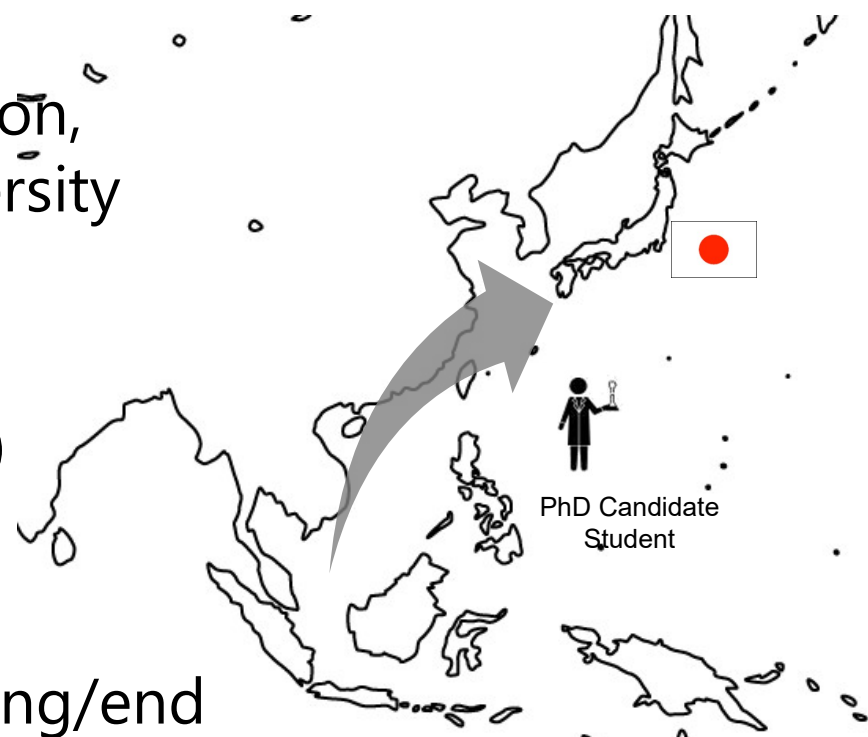
Fees for the entrance examination, matriculation, and tuition at University

➤ Living expenses

1,200 USD/month (145,000 JPY)

➤ Air fare

to and from Japan at the beginning/end of the scholarship



Dr. Kazuo Suzuki supported by AMED e-ASIA JRP was awarded the prestigious Medal for People's Health by Vietnam's Ministry of Health in 2016 in recognition of their immense contribution to the country's medical development.

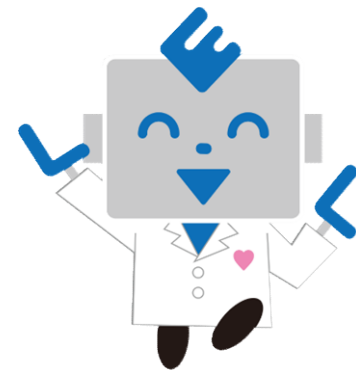
He worked on elucidating the pathological mechanism of the aggravation of influenza using specimen blocks preserved at the VNCH's pathological department, while introducing to the hospital's laboratory the immunological microassay of cytokines and chemokines related to the aggravation of influenza and providing guidance on the testing method. He also promoted the hospital's immunological and biochemical studies and technological sophistication of molecular biological testing. Subsequently, he invited a VNCH researcher, Dr. Phung Thi Bich Thuy, to the Graduate School of Medicine of Chiba University, and provided guidance for her doctoral dissertation on the pathological role of cytokines.



<https://www.amed.go.jp/en/news/seika/2016MPH.html>

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-  3. **Other opportunities**

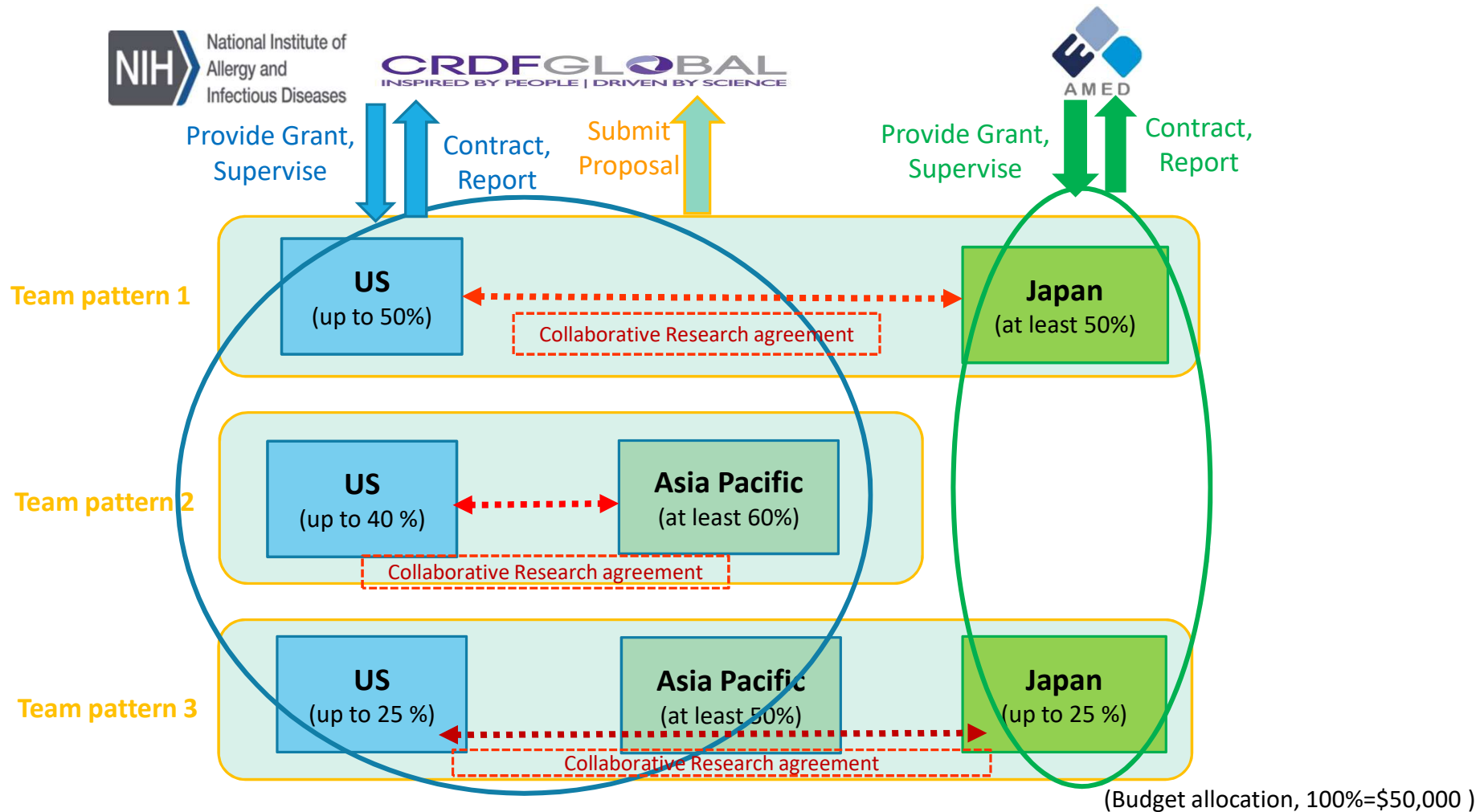


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Program scheme: USJCMSP Collaborative Award 2018



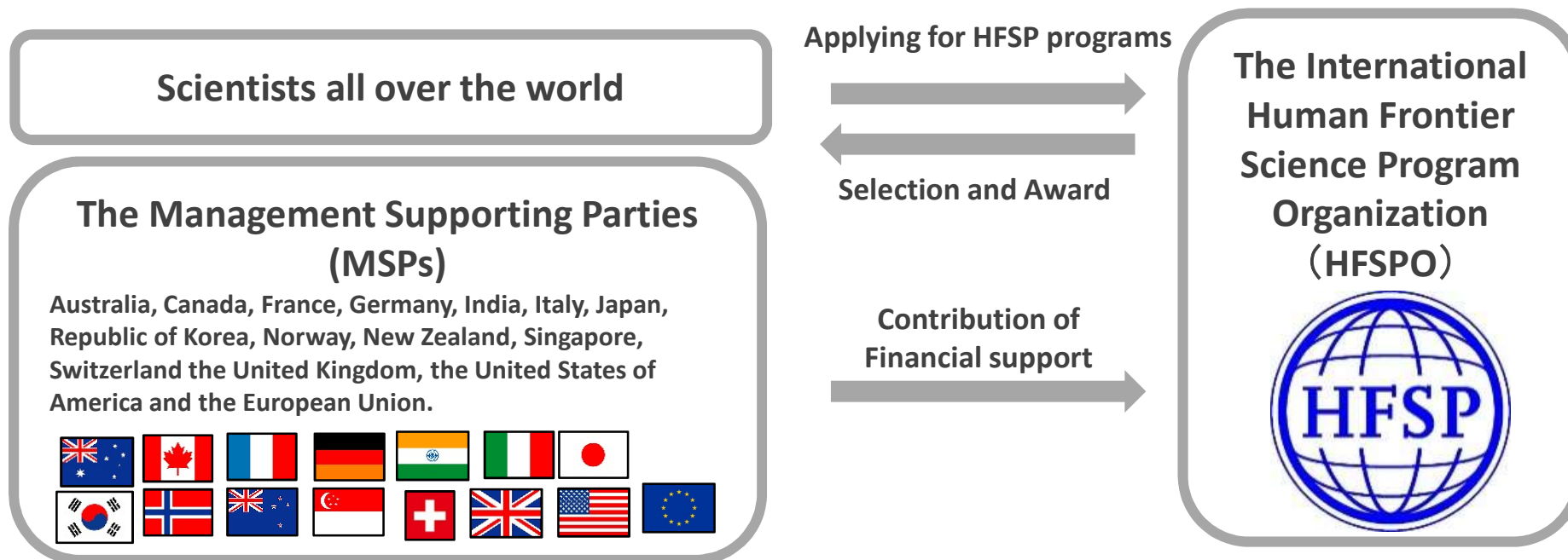
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Human Frontier Science Program

The HFSP (Human Frontier Science Program) provides support for innovative, interdisciplinary and highly original basic research into the complex mechanisms of living organisms. Topics range from molecular and cellular approaches to biological functions to systems neuroscience including cognitive functions. **Clear emphasis is placed on novel collaborative research at the cutting-edge of the life sciences, drawing on the expertise of scientists from other research areas (physics, mathematics, chemistry, computer science, engineering etc.)**



What is HFSP?

Innovative Interdisciplinary International

- HFSP funding programs are a flexible tool for supporting **international** collaboration and **novel**, ambitious, **interdisciplinary** research, with special emphasis on early career scientists.

Achievements of the Program



27 Nobel Prize winners were supported by the HFSP Research Grant program prior to receiving this prestigious award.

| | | Year of HFSP Award | Nobel Prize |
|----|--------------------------|---------------------|------------------|
| 1 | C. Nusslein-Volhard | 1993 | 1995 (Phys/Med) |
| 2 | Rolf Zinkernagel | 1994 | 1996 (Phys/Med) |
| 3 | Stanley Prusiner | 1994 | 1997 (Phys/Med) |
| 4 | John E. Walker | 1996 | 1997 (Chemistry) |
| 5 | Steven Chu | 1993 | 1997 (Physics) |
| 6 | Paul Nurse | 1994 | 2001 (Phys/Med) |
| 7 | Tim Hunt | 1992/1997 | 2001 (Phys/Med) |
| 8 | John E. Sulston | 1991 | 2002 (Phys/Med) |
| 9 | Peter Agre | 2000 | 2003 (Chemistry) |
| 10 | Linda Buck | 1995 | 2004 (Phys/Med) |
| 11 | Avram Hershko | 1998 | 2004 (Chemistry) |
| 12 | Roger Kornberg | 1990/1993/1997/2000 | 2006 (Chemistry) |
| 13 | Roger Tsien | 1995 | 2008 (Chemistry) |
| 14 | Jack Szostak | 2001 | 2009 (Phys/Med) |
| 15 | Venkatraman Ramakrishnan | 2000/2009 | 2009 (Chemistry) |
| 16 | Ada Yonath | 2003 | 2009 (Chemistry) |
| 17 | Jules Hoffmann | 1995 | 2011 (Phys/Med) |
| 18 | Ralph M. Steinman | 1996/2006 | 2011 (Phys/Med) |
| 19 | James E. Rothman | 1990/1994/2005 | 2013 (Phys/Med) |
| 20 | Randy W. Schekman | 1991/1995 | 2013 (Phys/Med) |
| 21 | Thomas C. Südhof | 1995 | 2013 (Phys/Med) |
| 22 | Martin Karplus | 2005 | 2013 (Chemistry) |
| 23 | Michael Levitt | 2008 | 2013 (Chemistry) |
| 24 | John O'Keefe | 1994 | 2014 (Phys/Med) |
| 25 | Stefan W. Hell | 2010 | 2014 (Chemistry) |
| 26 | Aziz Sancar | 1992 | 2015 (Chemistry) |
| 27 | Jeffrey Hall | 1991,2001 | 2017 (Phys/Med) |

Program



Long-Term Fellowships /Cross-Disciplinary Fellowships

Support for early career scientists with the potential to become frontier researchers through international research opportunities in excellent host laboratories in foreign country.

CDA (Career Development Award)

Support for the transition to independence

Program Grants/Young Investigator Grants

Support for international scientific collaboration

Eligibility

- The Principal Applicant representing the international team must be located in one of the member countries. **Co-Applicants can be located in any country.**
- **Young Investigator Grants (YIs)**
 - < 5 years from independent position
 - < 10 years from PhD
- **Program Grants (PGs)**
 - everyone else.

Research Grants

Objectives

- **...encouraging participation of scientists outside the life sciences** to understand the complex structures and networks that characterize the living state...*
- ...To **stimulate novel, daring ideas** and innovative approaches, **preliminary results are not required** in research grant applications...
- ...Applicants are expected to **develop new lines of research** through the collaboration....

*not applied as strictly in the Young Investigator Grants

Research Grant Teams & Funds

HFSP research grants enable scientists in different countries to collaborate on well focused projects.

Funding

- \$250,000 per year for a team of 2; \$ 350,000 for a team of 3; \$450,000 for a team of 4 or more (maximum funds) – three year grant. Penalties for team members from the same country.

Team Size

- Small is beautiful. On average only 2 or 3 teams of 5 reach the final stage each year and of these 1 is funded.

Source: Dr. Geoff Richards "Broadening your horizons -international collaboration in the life sciences"

Fellowship programs

Eligibility

* **HFSPO supporting countries:** Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus (EU part only), Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, India, Republic of Ireland, Italy, Japan, Republic of Korea, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States of America.

- A candidate who is not a national from one of the supporting countries may apply **to work only in a research institution in one of the supporting countries***.
- **PhD** or a doctoral-level degree comparable to a PhD with equivalent experience in basic must be conferred by the start of the fellowship.
- Applicants must have at least **one lead author, full-length research paper**.

Objectives

Long-Term Fellowships

Ph.D. in biology – propose different field

Cross-Disciplinary Fellowships

Ph.D. outside life sciences – biology project

Source: <http://www.hfsp.org/sites/www.hfsp.org/files/webfm/Fellows/2019%20Fellowship%20application%20guidelines.pdf>

Fellowship programs

Objectives

Provide international research opportunities

Broaden expertise / switch fields / learn new theory and methodology

Address fundamental (basic) questions in the life sciences

Facilitate research independence

A competitive fellowship application proposes a basic research project that is creative, frontier, potential to be transformative

Source: Dr. Geoff Richards "Broadening your horizons -international collaboration in the life sciences"

Fellowship programs

Conditions & Support

- Tenure up to 3 years
- Living allowance (amount depends on the country), travel and possibly child and parental leave allowances
- 3rd year can be used for repatriation to home country
- The final year can be deferred for up to two years
- Success rate ~ 10% (~80 awards per year)

Source: Dr. Geoff Richards "Broadening your horizons -international collaboration in the life sciences"

AMED's programs and related programs / activities



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Interstellar Initiative

*Aligning Young Stars of Science
to Tackle the World's Most Critical Medical Challenges*



The *Interstellar Initiative* recognizes the world's most promising Early Career Investigators (ECIs) from around the world and connects them with peers, in related but distinct disciplines, providing a platform for them to develop a solution to a major research question. ECIs will be grouped within teams of three and asked to develop a research proposal, guided by Mentors. Proposals will be developed and refined through two workshops and prepared for submission to international funding agencies.

Mentors and ECIs

Mentor

- Invite world's outstanding investigators from various research field to enhance ECI's interdisciplinary discussion.
- Show defended research question to ECIs.



Guide

ECIs

- Recruit promising researchers worldwide by open application.
(Eligibility: Have obtained their last doctoral degree within the past 10 years, etc)
- Finalize research proposal under Mentor's guide and submit it to international research grant.
- Team of three researchers, including one Japanese.



Aim of two workshops

First workshop

Develop research proposal

Team receives funding to enhance their proposal

Second workshop

Refine research proposal

Teams submit their research proposals to International funding agencies (HFSP* etc)



***HFSP** (Human Frontier Science Program)
International research grant established in 1989. Japan advocated its establishment at the Venice Summit in 1987.

Features

- **Interdisciplinary**
 - ECIs are grouped into interdisciplinary team in advance of the workshop.
 - ECI teams develop research proposal that are independent from members' background.
- **Active English communication**
 - English communication is must for the team discussion.
 - Continuous relationship by two workshops and further goal (to apply their proposal to international competitive funding)
- **Competitive**
 - Non-monetary Awards of each workshops make the event competitive and team discussion active.
- **Networking**
 - Great networking opportunity not only between ECIs, but also to see world's outstanding researchers (mentors).



2017 Interstellar Initiative



Japan Agency for Medical Research
and Development



The New York
Academy of Sciences



- **Dates**

- First WS: March 17-19, 2017
- Second WS: August 1-2, 2017

- **Venue**

- New York (Held at **The New York Academy of Sciences**, who jointly presented 2017 Interstellar Initiative with AMED)



- **Attendees**

- 16 mentors, 50 ECIs
- Number of ECIs by countries:
20 from Japan, 12 from Singapore, 10 from USA, 3 from Germany, 2 from Canada, 2 from UK, 1 from Ireland



- **Targeted Discipline**

- Cancer, Neuroscience and Regenerative medicine

Participant Feedback

“I had a great time interacting with everyone and I learned so much. Thank you for including me in this event.”

“I surely enjoyed the event very much and are grateful to be part of this amazing initiative.”

“Hope you consider the event as a success. The fellows surely enjoyed it. Hopefully, there will be another event in the future...”

“...it was certainly a great workshop and our team has already been actively working on our collaboration.” “Thanks so much for including me in this workshop. It was a great experience for me.”



August 2017 workshop



▲ Keynote lecture by mentor



▲ Remote HFSP presentation (France-NY)



▲ Team discussion with mentor



▲ Team presentation



▲ Award ceremony

Satellite Interstellar Initiative

Satellite Interstellar Initiative, which is voluntarily organized by ECIs, is held to enhance their collaboration across teams and disciplines in December 2017 at Singapore and Fukuoka, Japan.



▲ Satellite Interstellar Initiative at Singapore (Venue: A*STAR)



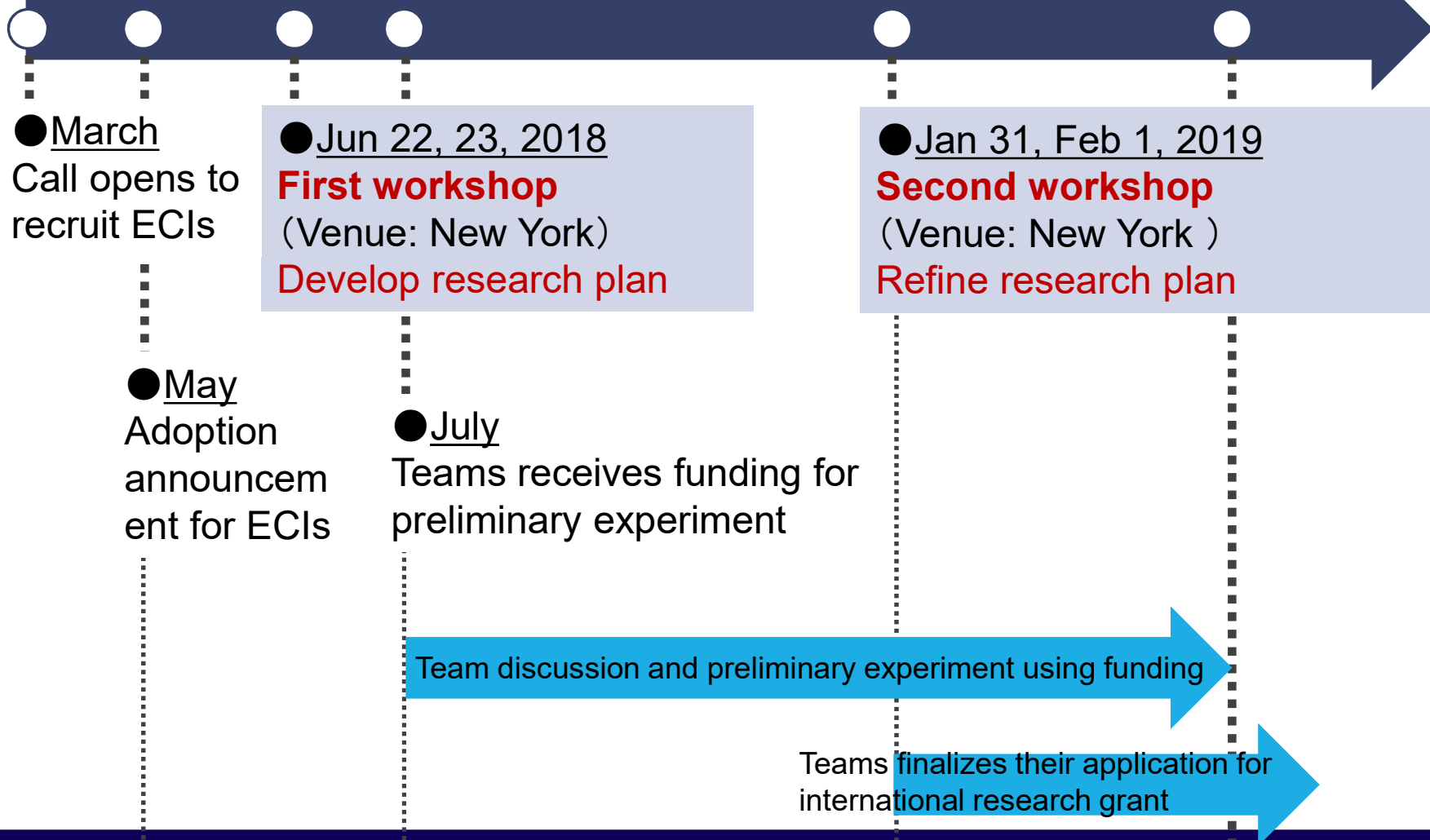
▲ Satellite Interstellar Initiative at Fukuoka (Venue: Kyushu University)

Schedule of 2018 Interstellar Initiative



2017

2018



AMED's programs and related programs / activities



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| Exhibition | Collaboration opportunities | n/a | n/a | n/a | Yes |

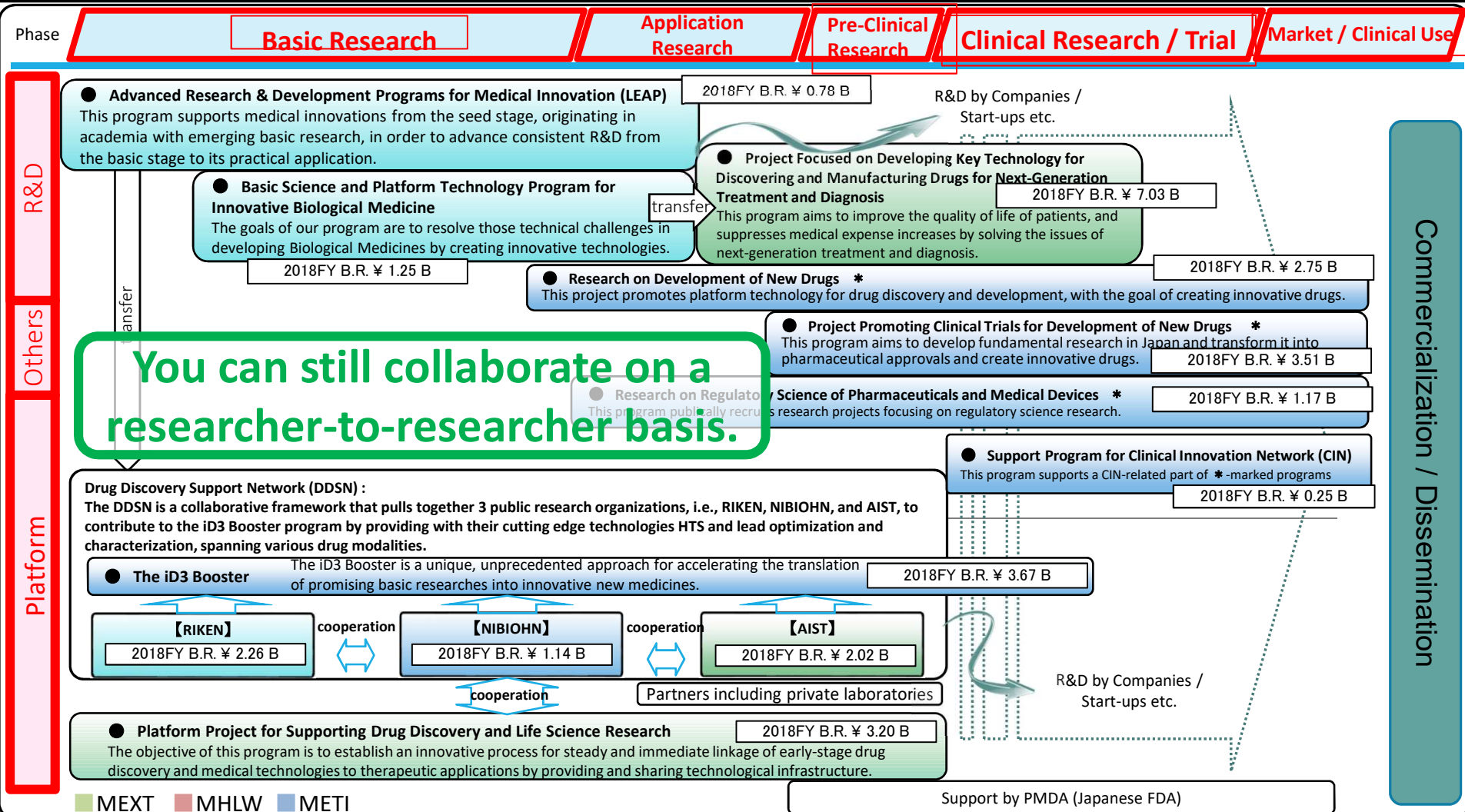
Programs for Researchers who belong to Institutions in Japan

1. DRUG DISCOVERY & DEVELOPMENT

2018FY Budgetary requests
¥ 23.6 B for AMED

2018FY Budgetary requests
¥ 5.8 B for national research institutes

Promoting the development of innovative drugs and strengthening support functions for novel discovery.



【KPIs by 2020】

○ Consultation / Seeds evaluation 1500
○ Supports for promising seeds 200

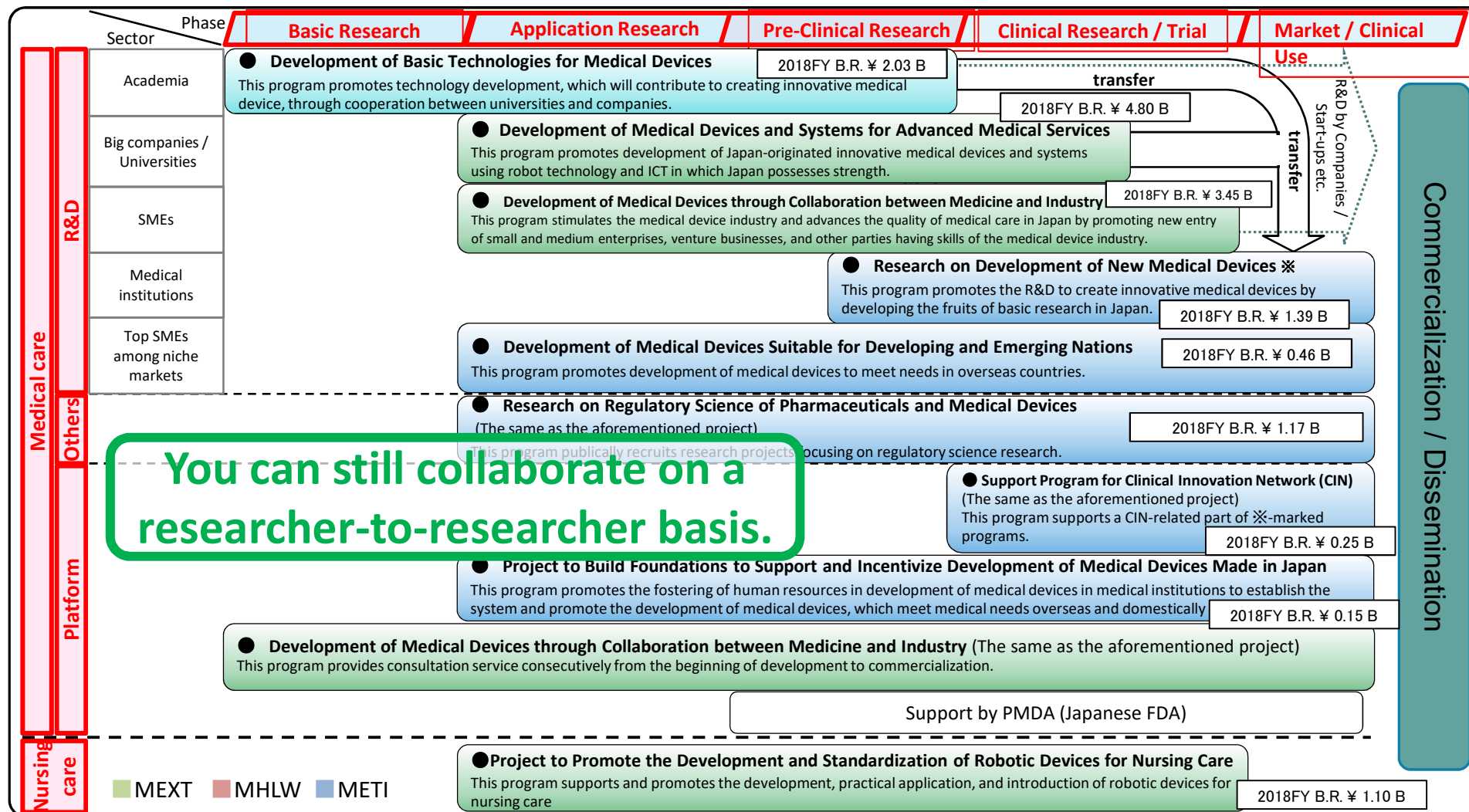
○ Licensing-out to companies 5
○ Identification of drug targets 10

Programs for Researchers who belong to Institutions in Japan

2. MEDICAL DEVICE DEVELOPMENT

2018FY Budgetary requests
¥ 14.8 B for AMED

Developing novel medical devices driven by clinical needs and supporting platforms for developers to contribute to the promotion of Japan's medical device industry.











[KPIs by 2020]

- Doubling exports of medical devices (from ¥ 500 B in 2011 to ¥ 1,000 B)
- Commercialization of innovative medical devices (more than 5 types)

- Expanding of domestic market of medical devices (¥ 3,200 B)

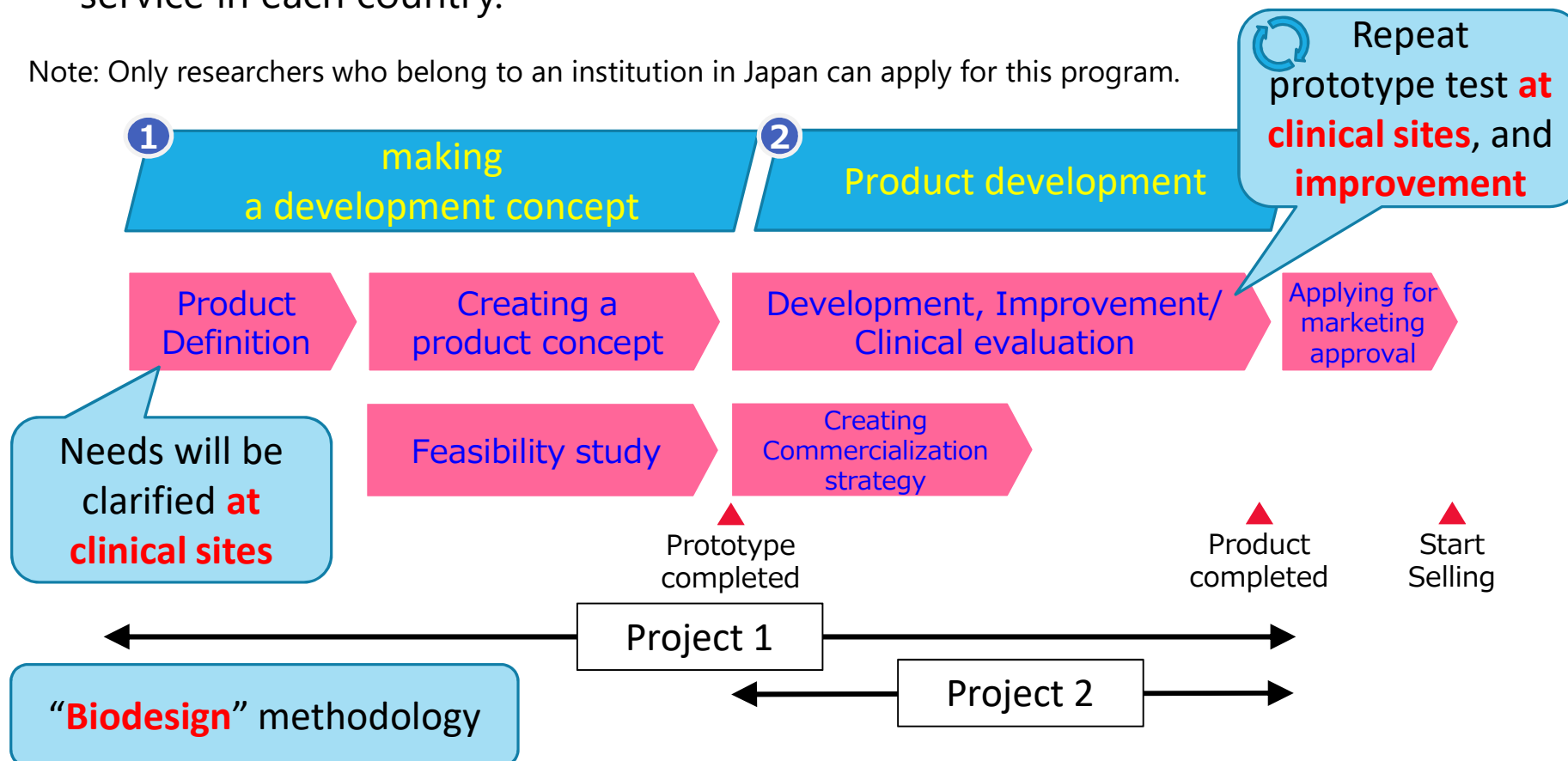
Programs for Researchers who belong to Institutions in Japan: Other Focused Areas

| | | |
|--|--|---|
| <p><u>DRUG DISCOVERY & DEVELOPMENT</u></p>  <p>Promoting the development of innovative drugs and strengthening support functions for novel discovery.</p> | <p><u>MEDICAL DEVICE DEVELOPMENT</u></p>  <p>Developing novel medical devices driven by clinical needs and supporting platforms for developers to contribute to the promotion of Japan's medical device industry.</p> | <p><u>TRANSLATIONAL & CLINICAL RESEARCH CORE CENTERS</u></p>  <p>Strengthening core center functions to achieve seamless implementation from basic research to clinical application and promoting use of innovative technology.</p> |
| <p><u>JAPAN REGENERATIVE MEDICINE PROJECT</u></p>  <p>Promoting the development of regenerative medicine from basic research to clinical studies and creation of evaluation standards.</p> | <p><u>JAPAN GENOMIC MEDICINE PROGRAM</u></p>  <p>Promoting research to realize genomic medicine and create next-generation precision medicine.</p> | <p><u>JAPAN CANCER RESEARCH PROJECT</u></p>  <p>Promoting various activities from basic research to clinical studies aimed at accelerated practical application for cancer diagnosis and treatment.</p> |
| <p><u>PSYCHIATRIC & NEUROLOGICAL DISORDERS</u></p>  <p>Promoting research and development for dementia and other psychiatric disorders.</p> | <p><u>EMERGING/RE-EMERGING INFECTIOUS DISEASE PROJECT OF JAPAN</u></p>  <p>Promoting research on emerging and re-emerging infectious diseases for effective control measures.</p> | <p><u>RARE/INTRACTABLE DISEASE PROJECT OF JAPAN</u></p>  <p>Promoting research and development to improve the treatment of rare and intractable diseases.</p> |
| <p><u>OTHER PROGRAMS</u></p>  <p>Supporting the research, development and promotion of health and medical strategies beyond the nine key fields.</p> | <p><u>CYCLIC INNOVATION FOR CLINICAL EMPOWERMENT</u></p>  <p>Promoting the establishment of infrastructure to respond to medical needs, the creation of an environment for open innovation and venture development based on industry-academia-government collaboration.</p> | |

A New Program for Medical Device Development

- ◆ The new project is to develop medical devices suited to the circumstances of other countries, including those in ASEAN.
- ◆ One of the focuses of the project is to clarify the **needs** related to medical devices from various perspectives to meet the demands for quality health care service in each country.

Note: Only researchers who belong to an institution in Japan can apply for this program.



AMED broadened applicant eligibility

Basic eligibility in Application Guidelines (公募要領)

II. 応募に関する諸条件等

1. 応募資格者

本事業の応募資格者は、以下(1)～(5)の要件を満たす **国内の研究機関等に所属し**、応募に係る研究開発課題について、研究開発実施計画の策定や成果の取りまとめなどの責任を担う能力を有する研究者とします。

From last year, the following condition is added.

なお、特定の研究機関に所属していない、若しくは **日本国外の研究機関に所属している研究者で**、研究開発代表者として採択された場合、**〇月〇日までに、日本国内の研究機関に所属して研究を実施する体制を取ることが可能な研究者も応募できます**。
ただし、〇月〇日までに、上記条件を備えていない場合、原則として、採択は取消しとなります。

Please note!

- All procedure must be done **in Japanese**.
- Applicants **must be registered to the “e-Rad”** application system **by the institution** which you are going to belong to.
(Not all institutions can follow this new rule at this moment.)

AMED's programs and related programs / activities



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International exhibitions in Singapore

AMED participated in the following exhibitions held in Singapore.

TechInnovation 2017 on 19 to 20 Sep 2017

| From | Exhibited Technology |
|--------------------------------|---|
| Kagawa University | Ultra-compact hyperspectral camera in visible-, near- and mid-infrared lights for smartphone and drone |
| Nagoya Institute of Technology | AI technology-based detecting cognitive impairment of elderly people from functional near-infrared spectroscopy (FNIRS) signals during verbal interaction |
| Kozo Keikaku Engineering Inc. | Cell culture simulation based on multi-agent computational model describing behavior of cells cultured in production of corneal epithelial cell sheet |



AMED's booth



Presentation

Phar-East 2018 on 1 to 2 Mar 2018

| From | Exhibited Technology |
|--------------------------------|---|
| National Cancer Center | HSP105 peptide vaccine |
| Mie University | Patient-Derived Xenotransplantation of Pancreatic Cancer for in vivo Screening and Precision Medicine |
| Kumamoto University | Highly immunodeficient mouse optimized for bioimaging |
| Teikyo University | New approach of Leukomycin to severe pneumonia induced with infection such as influenza virus |
| Nagoya Institute of Technology | Fluoro-thalidomide: Biological evaluation of both enantiomers using human myeloma cell line H929 and others |

Phar-East is one of the big event in Singapore for pharma industry. (The former name was BioPharma Asia.)

TechInnovation is a big technology-to-industry matching event for all industries except pharma. It is held by Intellectual Property Intermediary (IPI). About 4000 people came to the event from 160 organizations in 30 countries, in 2017, according to IPI.

Smart Cyber Operating Theater (SCOT) project supported by AMED was exhibited at **Nikkei Digitalization Forum** co-organized by NUS Enterprise "AI x Robotics Solutions for Service Innovation" on 8 May 2018.

International Exhibitions / Business Matching

AMED participates in international exhibitions and business meetings to support commercialization of research results funded by AMED.
In 2016 FY, in total 95 research results have exhibited, and done 429 business meetings.

<Business Matching/Exhibitions in 2017 FY>

● DSANJ

In Tokyo, Osaka (three times in total)

● BIO International Convention

June 19th – 22nd, 2017 in San Diego

● Tech Innovation

Sep. 13th – 15th, 2017 in Singapore

● Bio Japan

Oct. 11th – 13th, 2017 in Yokohama

● BIO Europe

Nov. 6th – 8th, 2017 in Berlin

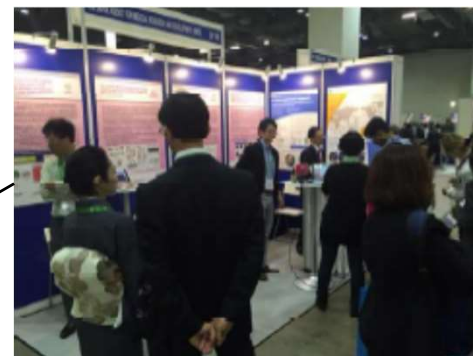
● MEDICA

Nov. 13th – 16th, 2017 in Dusseldorf

● Phar-East

Mar. 1st – 2nd, 2018 in Singapore

● Meeting for Research Accomplishment Presentation for the project “Translational and Clinical Research Core Centers” by AMED



<Tech Innovation>

More than 200 business meetings were held at AMED booths

Pacifico Yokohama, Japan

October 10 (Wed.) – 12 (Fri.), 2018

You can search Partnering Participants / Exhibitors on the following website;

<http://biojapan2017.icsbizmatch.jp/Info/en>



Today's Summary



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