Beyond the bias and barriers
- What we have done in these 10 years in STEM field in Japan-

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Low Ratio of Female Researchers in Japan

• Numbers of Female Researchers are increasing.
  2005: 98,700 (11.9%)  →  2016: 136,000 (14.7%)
• Ratio of the female researchers are still low, because of the low ratio in the companies (8.2%).

In Order to Maximize Our Potential, We Promote Gender Equality in STEM.

ONLY 14.7% in 2016

Target is 30% in 2020

Ratio of Female Researchers in Japan

Japan’s Numerical Target: 202030
   (30% of female ratio in leading positions in all the area in society)

2. **Two Basic Plans** Every 5 years (since 2005, 2010, 2015)  
   1) The Basic Plan for **Science and Technology**  
   2) The Basic Plan for **Gender Equality**

3. **Three Programs by MEXT (2006 ~ present)**  
   1) **Supporting Activities** for Female Researchers (2006 ~)  
      **Supporting Positive Activities** for Female Researchers (2009-2011)  
      (“KASOKU-Program/Acceleration-Program”)  
   2) Restart Postdoctoral (RPD) Fellowship (2006 ~)  
   3) Support for **Female High-School Students** into Science(2006 ~)
Increase of Female Ratio of Researchers in STEM

- Equal Employment Opportunity Law
- The Basic Act on Science and Technology
- The 2nd Basic Plan for Science and Technology
- The 3rd Basic Plan for Science and Technology
- The 4th Basic Plan for Science and Technology

Megumi Sato et al., Transactions of Nihon University School of Dentistry 44, 69-75

 равнооплачиваемость равенство образовательных возможностей

Basic Law for a Gender-Equal Society

合計(理工農) 教授(理工農) 助教(理工農) 助教(理工農) 助手(理工農) 助手(理工農) 合計(全体)

年

Almost 100 Universities/Institutions have been participating in these MEXT Programs. (2006 ~ present)

1. Supporting Activities for Female Researchers (2006 ~)
   “Common Programs” among the Institutions
   “Unique self-check system” (2010 – present)
   - Ochanomizu University

   Supporting Positive Activities for Female Researchers
   “KASOKU-Program”/Acceleration-Program (2009-2011)

   Good Examples: (A kind of)
   - Kyushu University
   - Nagoya University

   “Quotas System” brought spillover effects

   “Restart from childcare leave”
Various Programs for Promoting Gender Equality

Gender Equality Office
Up-skilling Program
Work-Life Balance
On-Campus Nursery
Mentoring Program
Supporting Program
Climate Change
On-Campus Childcare
Support for Women Students
HeForShe (UN Women)

Various Programs for Promoting Gender Equality by Nagoya University

http://www.kyodo-sankaku.provost.nagoya-u.ac.jp
“Ochadai Index”, A Self-Check INDEX for leveling the field

The Ochadai Index

1. School-wide support system
   - Established or organization to support women researchers: Yes
   - Established an internal evaluation committee: No
   - Created a system likely to be fair to transparent: No
   - Created a system to objectively evaluate performance: No
   - Created a system to actively recruit women: Yes
   - Created a system to promote women to management positions: Yes
   - Created internal data to hancearn the evaluation of women researchers: No
   - Understood the role of women researchers according to their roles and job positions: No
   - Created a budget to support child-rearing: No

2. Work system
   - Institution has increased work efficiency: Yes
   - Dedicated meeting room (e.g., no meeting room or allocated past 5% p.a.): No
   - Created a use of space when staff or faculty can go home at a fixed time: No
   - Made communication known to a patient's health system has been established: Yes
   - Done some of work at home on a fixed time: No

3. Child-rearing support
   - Created a room for women to meet: Yes
   - Created a multi-purpose room or baby nursing room: Yes
   - Created a child care facility: Yes
   - Created (individually or cooperative) a day care for sick and recovering children: No
   - Created (individually or cooperative) a day care for off-campus children: No
   - Created (individually or cooperative) a day care for off-campus children: No
   - Created a flexible work schedule to support child-rearing: Yes
   - Created a reduced-hour system to support child-rearing: No
   - Created a telecommuting system from home or telecommuting system: No
   - Made known the Action Plan to Support the Development of the Next Generation: Yes
   - Created a performance evaluation system that considers children's and child-rearing: Yes
   - Created a consultation service to support child-rearing and research: No
   - Created a child-rearing scholarship system for undergraduate and postgraduate students: No
   - Have research assistant support women researchers who are raising children: No

4. Support for women researchers
   - Hold seminars (e.g., for career development of researchers) for raising children: No
   - Hold seminars, etc., for career development of researchers who are raising children: No
   - Hold seminars, etc., for career development of researchers: No
   - Hold seminars, etc., for career development of researchers: No

5. Information support (Building an Information Bank)
   - Disseminated information via websites: No
   - Created booklets to support child-rearing: No
   - Built a human resource database to support researchers who are raising children: No
   - Disseminated information on role models to support women researchers: No
   - Cooperate with other programs and institutions to support women researchers: No
   - Created a network among women researchers: Yes
   - Hold lectures on an off-campus for middle school and high school girls: No
   - Disseminated information via DVD, website, brochure on role models for school girls: No
   - Hold get-togethers for role models and middle school and high school girls: No
   - Hold seminars and other events for middle school and high school girls: No
   - Hold seminars and other events for middle school and high school girls: No

6. Data development
   - Inform all staff about support for women researchers: No
   - Hold seminars and study meetings related to child-rearing: No
   - Created measures to prevent harassment: No
   - Raised awareness among men of support for child-rearing: No
   - Raised management awareness of support for child-rearing: No
   - Raised awareness about female teleworkers: No
   - Raised awareness of the need to appreciate, etc.: No
   - Raised awareness toward realizing work-life balance: No

7. Raising awareness
   - Changed bodyweight of women researchers by gender: No
   - Changed bodyweight of women researchers by gender: No
   - Changed bodyweight of women researchers by gender: No
   - Changed bodyweight of women researchers by gender: No
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- Since 2010 ~ present
- In 2016,
  Excel Sheets to 98 institutions.
  41, recovered (41.8% recovery)
- 50 questions → 100 points
- Average score: 61.8 points
  Top: 80 points, Bottom: 17 points
- Popular items:
  ✓ Set up the Organization (e.g., GE Office)
  ✓ Offering information support via Homepage
  ✓ Taking measures to prevent sexual harassment
- Various use:
  ✓ self-check and follow changes over the years,
  ✓ data-based evidence for negotiation to the top.

http://www-w.cf.ocha.ac.jp/leader/cosmos/contents/consolidation/ochaindex/howtoochaindex/
Two steps competition are required in selection procedure.

Qualities of candidates as well as motivation of the departments are examined.

Lots of applicants from inside and outside the country.
“KASOKU-Program”/Acceleration-Program

No one could say any more “Is there any female applicants?” and so on, Such as “It is deterioration of academic level” !!

Increase of Female Faculty Members

Numbers of Female Faculty Members

Quotas

High spillover effect was observed!

by courtesy of Prof. Eriko Jotaki @ Kyushu University
Three is a magic Number!

by courtesy of Prof. Narie Sasaki @ Nagoya University
RPD*: Advancement in the past decade

Numbers of Applicants & Awardees

- Applicant
- Awardee
- Adoption rate

Numbers of Awardees Including the continued fellows

Jobs after 5 years

- RPD
- PD

- unemployed
- part-time job
- part-time researcher
- postdoc
- full-time researcher

*: Restart Postdoctoral Fellow
¥ 362,000/month for 3 yrs

https://www.jsps.go.jp/j-pd/rpd_gaiyo.html
The association of 90 academic societies in STEM (2015)

The Major Rolls

1. Large-scale surveys every 5 years
2. Proposals and Requests to the Government
3. Annual symposium every fall
4. Surveys of female ratio in each societies
5. Summer camp & Workshop for high-school girls
Visibility Surveys of Female Scientists in Scientific Societies & Scientific Meeting

Large Scale Surveys every 5 years

Analysis & Reports

Proposals & Requests

In Order to Maximize Our Potential, We Promote Gender Equality in STEM.

ONLY 14.7% in 2016

Target is 30% in 2020

Ratio of Female Researchers in Japan

Japan is well-qualified as a country that promotes scientific advancement. However, the ratio of female professionals in science, technology, engineering and mathematics (STEM) field is at only 14.7% in 2016, which is far behind other developed countries. In order to overcome these gender gaps in Japan over a long period of time, we established "The Japan Inter-Society Liaison Association Committee for Promoting Equal Participation of Men and Women in Science and Engineering (EPMEWSE)" in 2002. At present, EPMEWSE is the association of 90 academic societies in STEM field in Japan, actively working for gender equality in Japan.

Visibility of the Female Scientists in Scientific Societies

Female Ratio of the Societies (2013)

The Chemical Society of Japan

The Physical Society of Japan

The Mathematical Society of Japan

The Zoological Society of Japan

Physiological Society of Japan

Are we visible enough in the scientific societies? We see Unconscious Bias everywhere!

Speakers invited to Symposium

Organizers:

Men only

Men & Women

Homma MK., Motohashi R. and Ohtsubo H.
Genes to Cells 18(07): 529-532 (2013)

Ordinary members  Student members  President members  Directors /VPs

(10/82 have female P/VP.)

The 3rd Large-Scale Survey of Actual Conditions of Gender Equality in Scientific and Technological Professions

August 2013

81 Scientific Societies in STEM field, Survey was done in the fall of 2012
Numbers of respondents: 16,314 (Male 11,958 & Female 4,356)

Contents of the Report:

Chapter 1  Summary of Results
Chapter 2  Gender Gap in Job Positions
Chapter 3  Child and Nursing Care
Chapter 4  Limited-term Employment and Postdocs
Chapter 5  Programs and Policies
Chapter 6  Written Comments
Numbers of children in younger generation

Numbers of children

More than two children are desired, but it is difficult for younger generations.

The reasons why they do not have children

Men  financial matter
Women  difficult to maintain career and family

Heavy family responsibility to women’s side (2007)

**Hours at workplace per week**

<table>
<thead>
<tr>
<th>None</th>
<th>Pre-school</th>
<th>Elemetary School</th>
<th>Middle school</th>
<th>High-school or older</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
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**Hours for household & childcare per day**

<table>
<thead>
<tr>
<th>None</th>
<th>Pre-school</th>
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</table>

**Female < Male**

*Shorter working hours (11-14 hrs/week) in the Lab*

**Female > Male**

*Longer working hours (20 hrs/week) at home*

Childcare Leave: The rate is increasing, but...

Why Parents with Pre-school Children Did Not Take Childcare Leave!

The analysis of “The 4th Large-Scale Survey” is going on now. New data will be open in this fall, 2017.
Plan to drop goals for women roils Japanese science

Change stirs debate about how to remedy underrepresentation of women

“Targets have not had as much impact as we would like.”

Yuko Harayama, Council for Science, Technology and Innovation

“Without numerical targets we’re afraid progress could stall.”

Hisako Ohtsubo, Nihon University

Science 349 Issue 6244
p127-128, July 10, 2015
by Dennis Normile, in Tokyo

Stuck on the first rung
In Japan, women have made up a growing percentage of total faculty members but a smaller proportion is being promoted to full professorships.
References

The Large-Scale Survey:
The 3rd Large-Scale Survey of Actual Conditions of Gender Equality in Scientific and Technological Professions (Survey Report: Concise Summary)

Letters, Articles and Interviews Reports:

URLs:
Ochadai Index: http://www-w.cf.ocha.ac.jp/leader/cosmos/contents/consolidation/ochaindex/howtoochaindex/#aaa
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