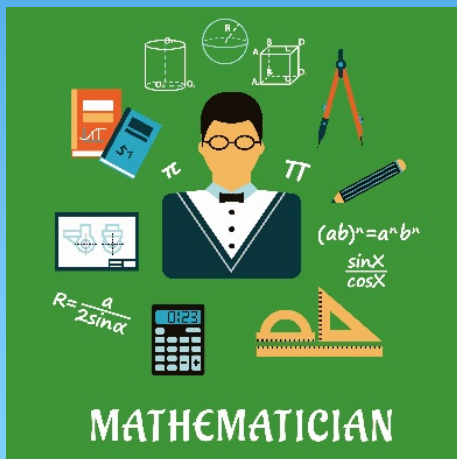


# Career Support Activities for Mathematical Students through Academic-Industrial Collaboration



Oct. 28, 2017

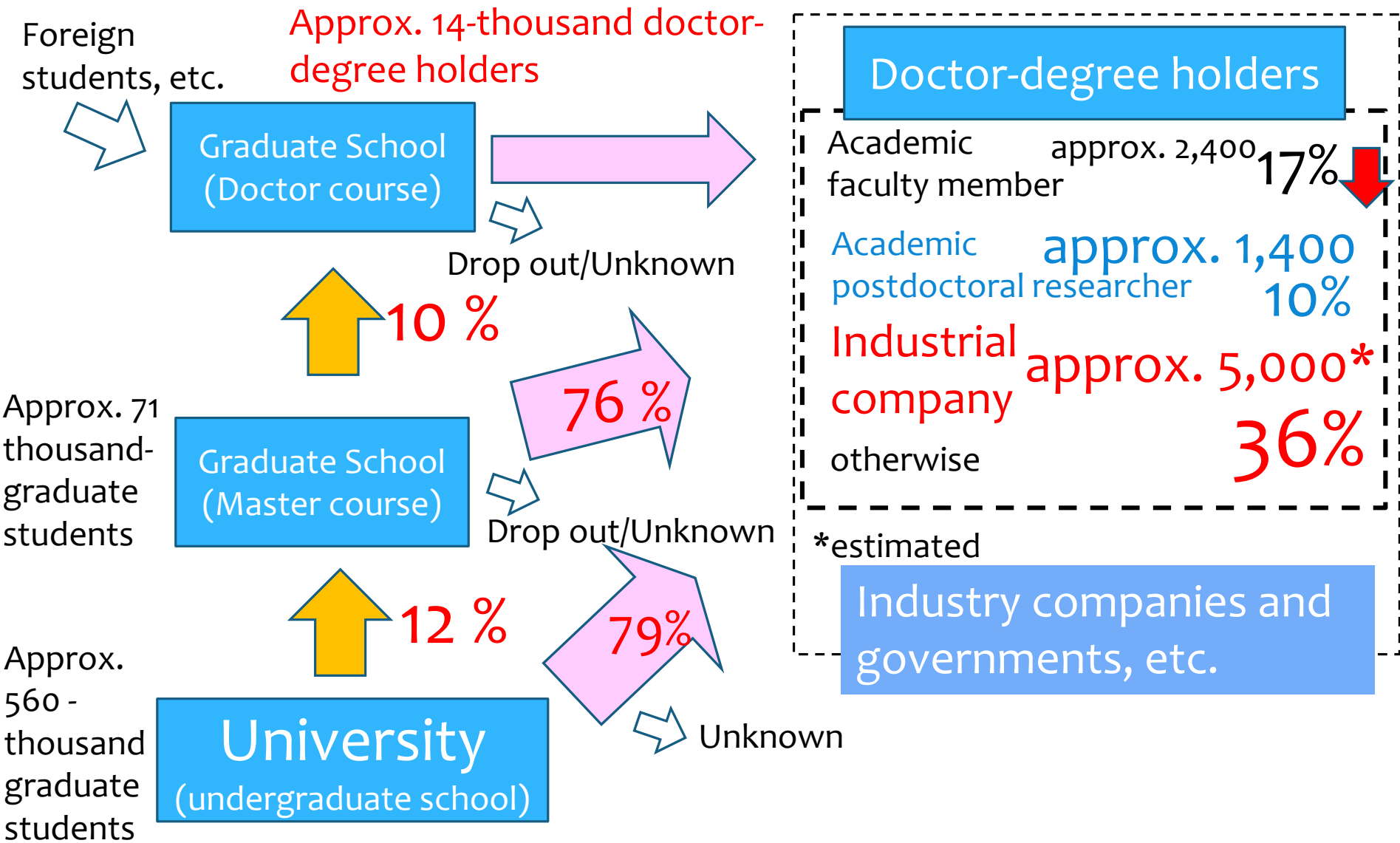
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1. Survey of course flow after graduations in Japan
2. Trend of kinds of jobs for mathematical students
3. Establishment of career support office
4. Requirements for mathematical students
5. Career support and education activities
6. Summary and remaining issues

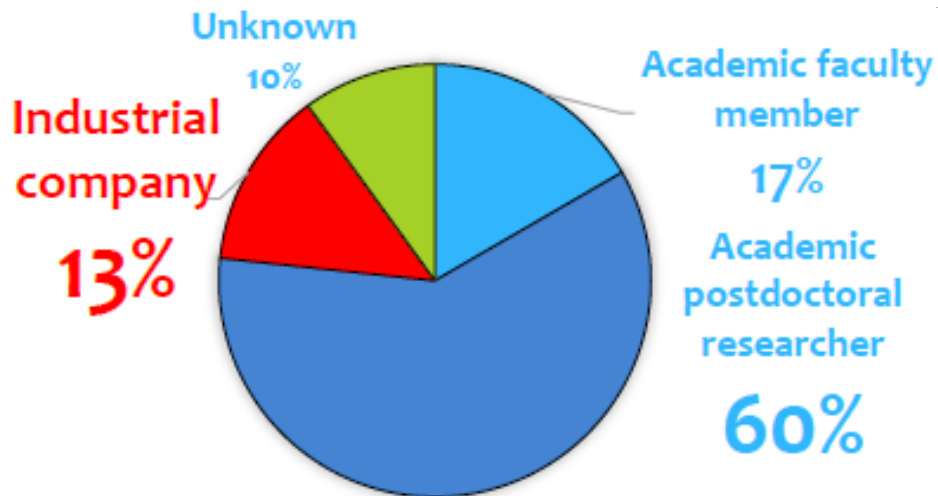
# 1. Survey of Course Flow after Graduations in Japan



Source: FY 2017 School Basic Investigation Report, Ministry of Education, Culture, Sports, Science and Technology

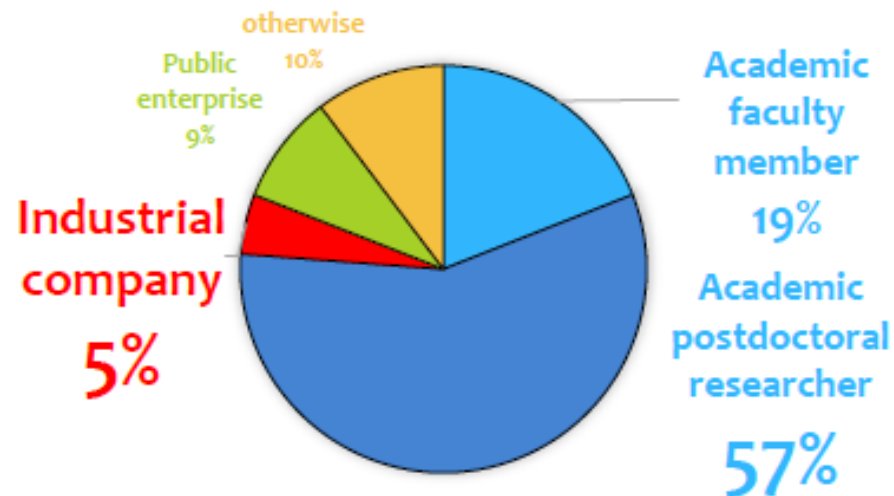
# 1. Survey of Course Flow after Graduations in Japan

Case of graduate school of mathematical sciences for the University of Tokyo



Doctor-degree holders at FY 2017: N = 30

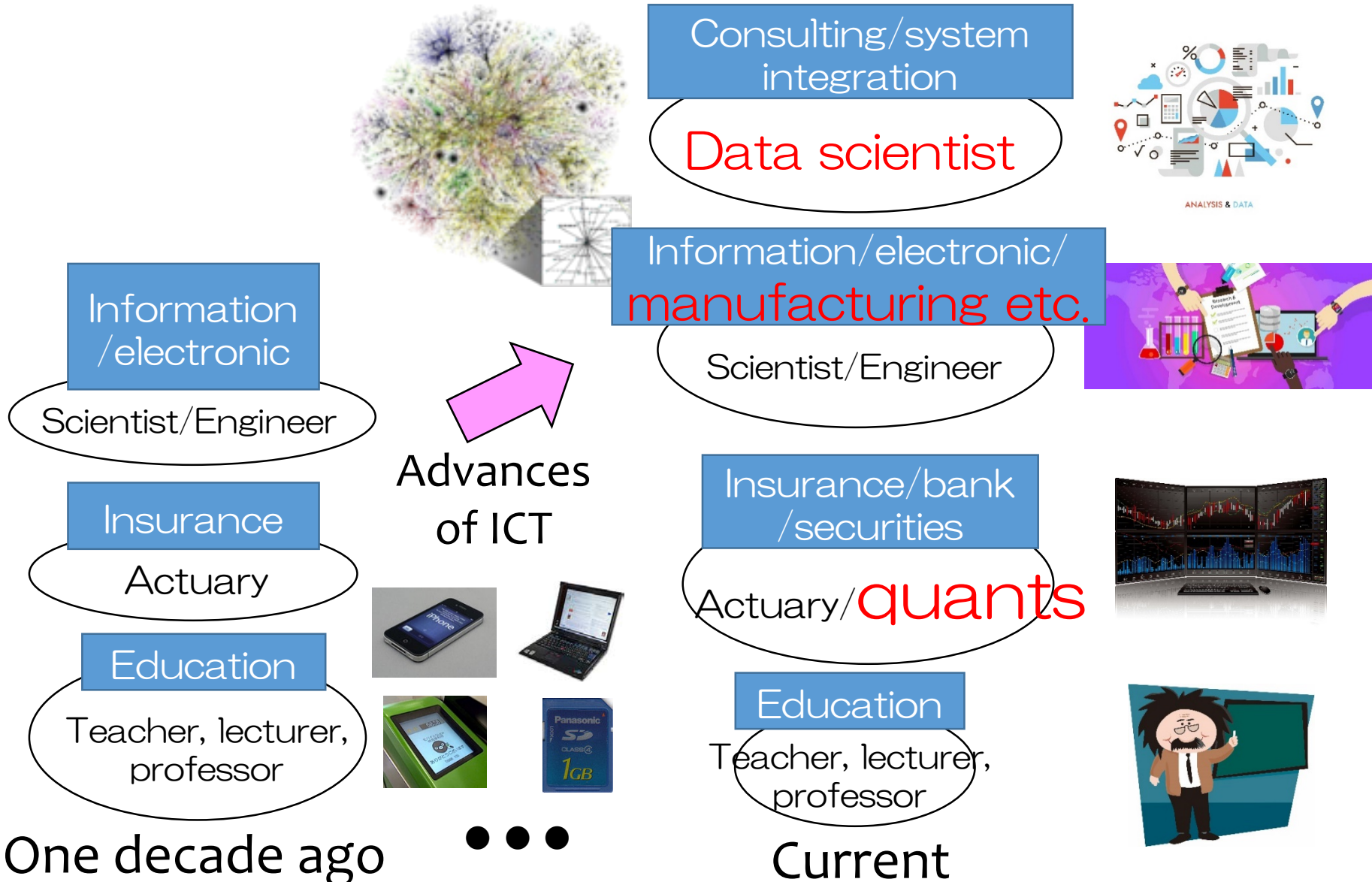
Case of graduate school of mathematical sciences in Japan



Doctor-degree holders at FY 2014: N = 140

Number of mathematical doctor-degree holders to join industrial companies is very low.

# 2. Trend of kinds of jobs for mathematical students



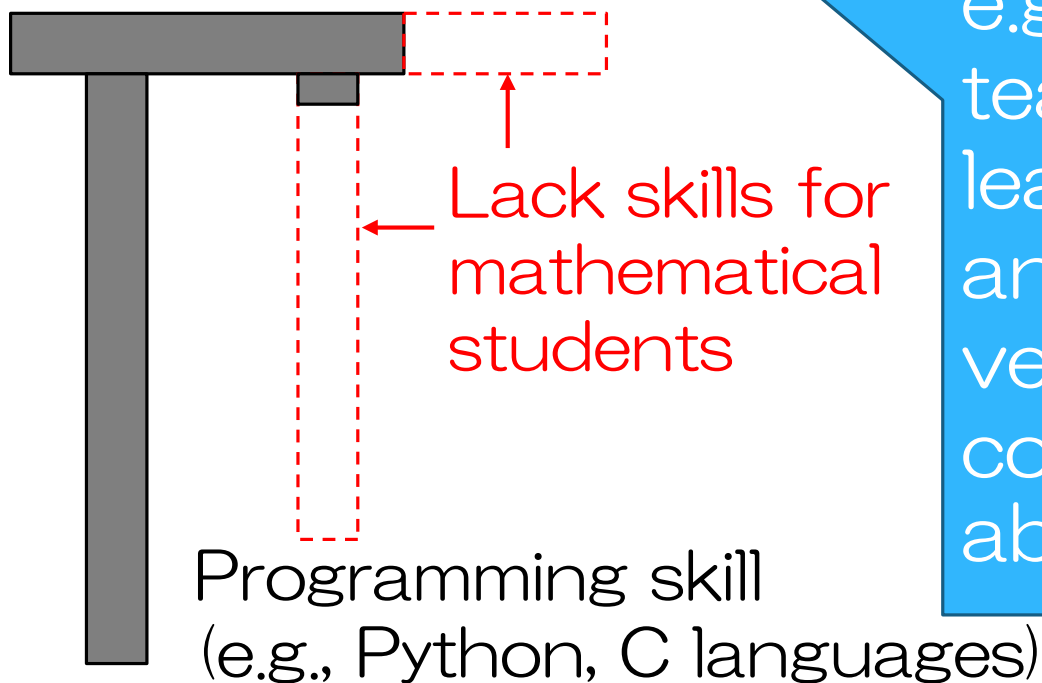
ICT: Information and Communication Technologies

### 3. Establishment of Career Support Office

- Career support office was established at Dec. 2014 in Faculty of Mathematical Sciences
- Members
  - Head: Prof. Yamamoto
  - Adviser: Takashi Ikegawa
- Main missions
  - Coach for planning career vision and/or for hunting jobs toward industrial companies,
  - Support for education through academic-industrial collaboration such as long-term internship and project/problem based learnings.

# 4. Requirements for mathematical students

## Transferable skills



skills that can be used in any jobs, e.g., team work, leadership, and verbal/written communication abilities.

## Mathematical skill

# 5. Examples career support and education activities

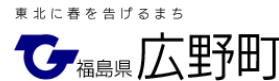
## ● long-term Internship



Research & Development etc.

## ● Project/problem based learning

- Study group: one-week collaboration activity



etc.

武田薬品工業株式会社

- Practical seminar: one-year collaboration activity



etc.



## 6. Summary and remaining issues

We showed that

- (1) from survey, the number of mathematical doctor-degree holders to join industrial companies is very low,
- (2) however, the kinds of jobs which require mathematical skills have been significantly spread with advances of ICT,
- (3) transferable skills are required to work in industrial companies, and
- (4) education and career support activities through academic-industrial collaboration to improve the transferable skills, such as long-term internship and project/problem based learnings, are performed.

Remaining issues include  
evaluation of effect of our activities.

ICT: Information and Communication Technologies