

**FRANCE – MIT**

**Scientific impact of the program  
(2008-2018)**

**MESR-DAEI / MEAE**

**2021**

**<http://www.enseignementsup-recherche.gouv.fr>**

# GENERAL PRESENTATION OF THE PROGRAM

**Creation : 2001**

**The purpose of this program** is to develop excellence scientific and technological exchanges between the French and MIT laboratories, by promoting new scientific collaborations and integrating in the projects young researchers and PhD students.

**Total budget (France + MIT) : around 126 000 € / year**

Average budget per project (France + MIT) : around 25 000 € / year

**Number of new funded projects per year : from 4 to 8**

**From 2008-2018 :**

**216** applications submitted

**75** projects funded

# DATA SOURCES

## Data base (2008-2018)

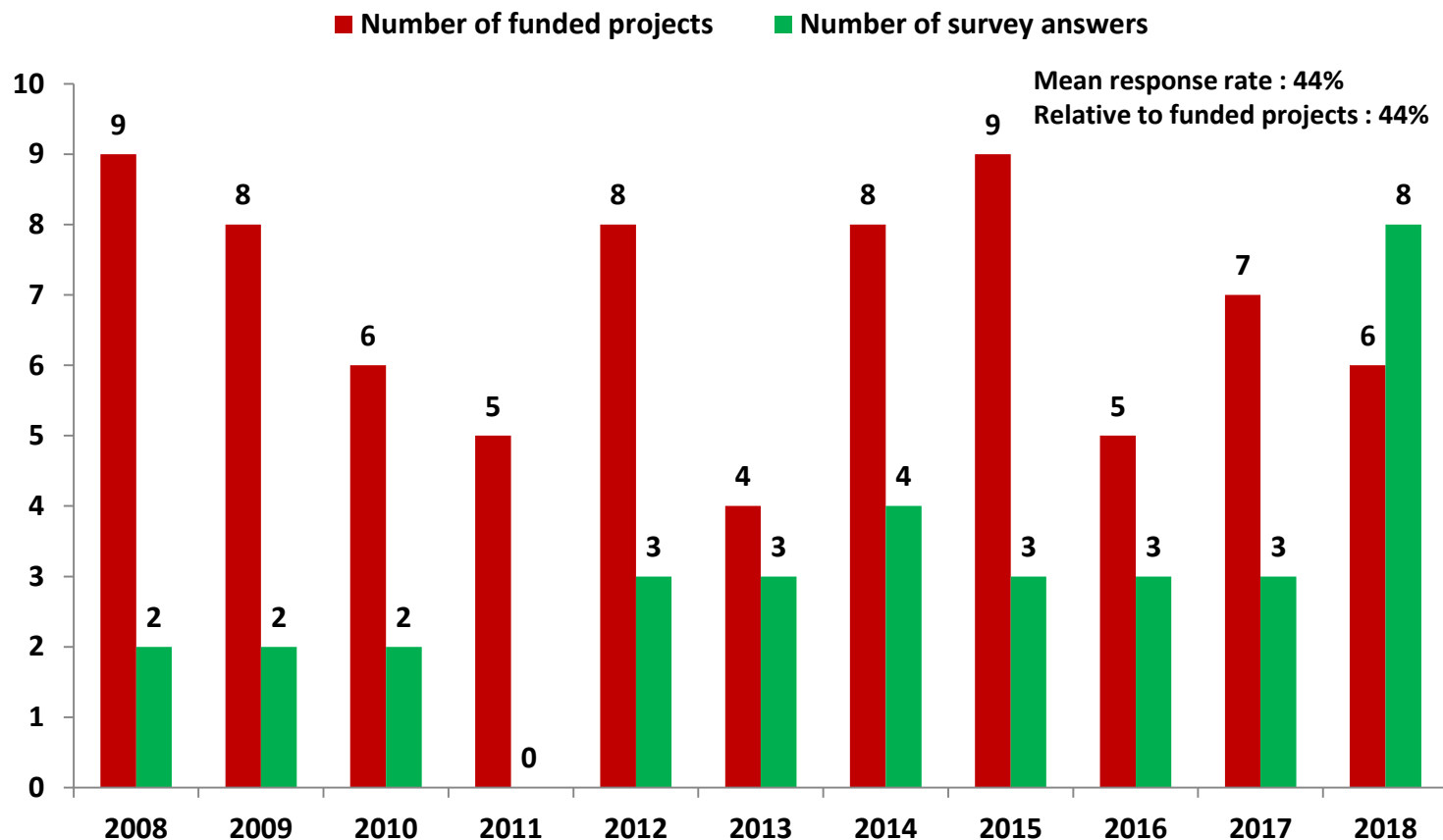
- France-MIT applications
- Scientific mobilities

## Survey (2008-2018)

- Target : **French** Principal Investigators of selected projects between 2008 and 2018
- Survey duration : *from February 11 to May 16, 2020*
- **44%** response rate (*33 respondents for 75 queries*)

# SURVEY RESPONSES

Average response rate to the survey : **44 % (33 answers)**



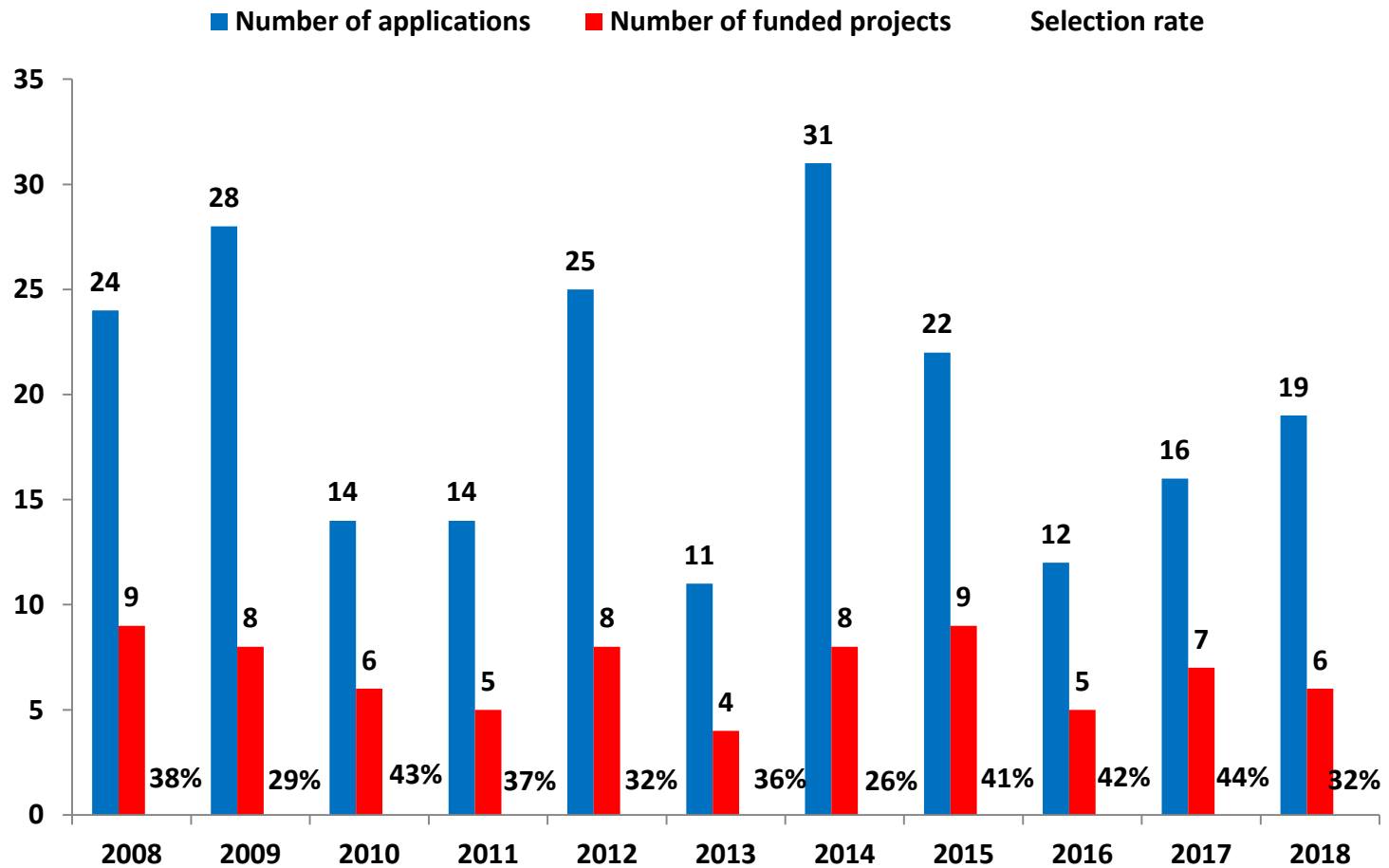
75 funded projects between 2008 and 2018

# 2008-2018

## Key Points

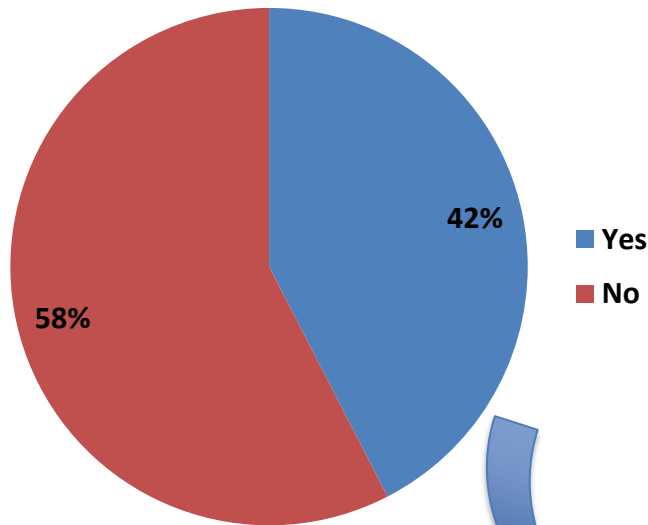
# NUMBER OF APPLICATIONS AND SELECTION RATE

Average selection rate from 2008-2018: **37%**



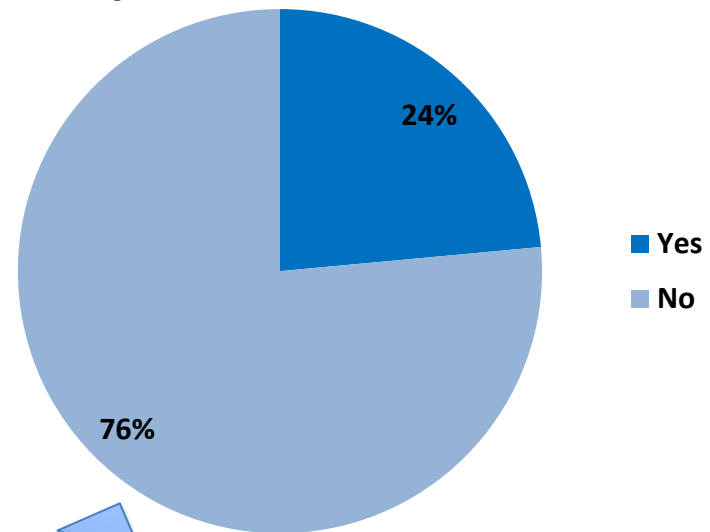
# BEFORE JOINING THE FRANCE MIT PROJECT (1/2)

**Did you already cooperate with USA in the past ?**



Data from 33 responses

**If yes, was it with the same partner?**



Data from 17 responses

# BEFORE JOINING THE FRANCE MIT PROJECT (2/2)

## With which of scientific collaboration program ?

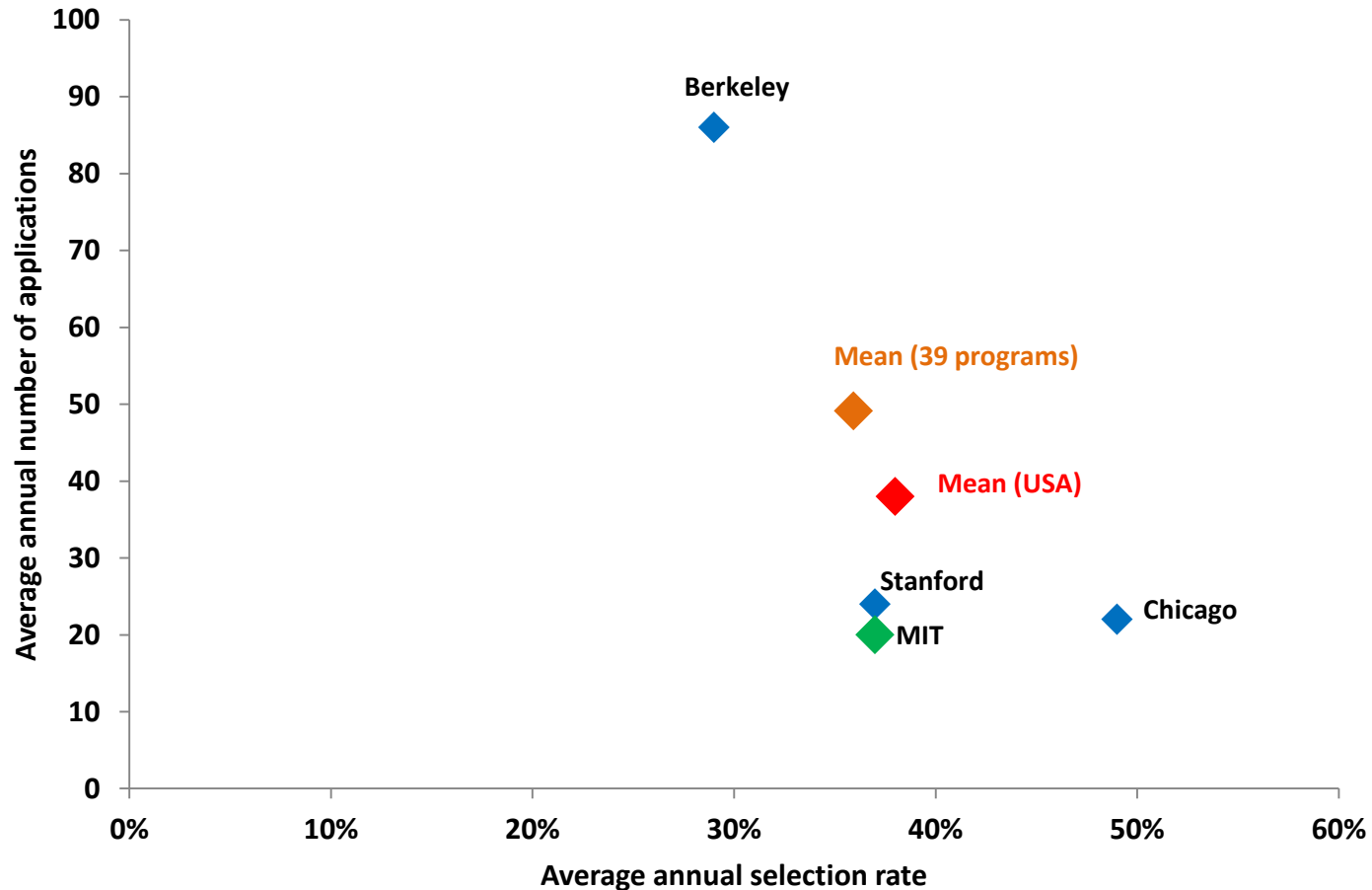
France - Berkeley Funds	25%
France – Chicago Funds (FACCTS)	19%
Chateaubriand	13%
France - Stanford Funds	6%
Other	38%

Others : CNRS PICS/LIA, Visiting Scientists position, INRIA associated teams...

Data from 15 responses

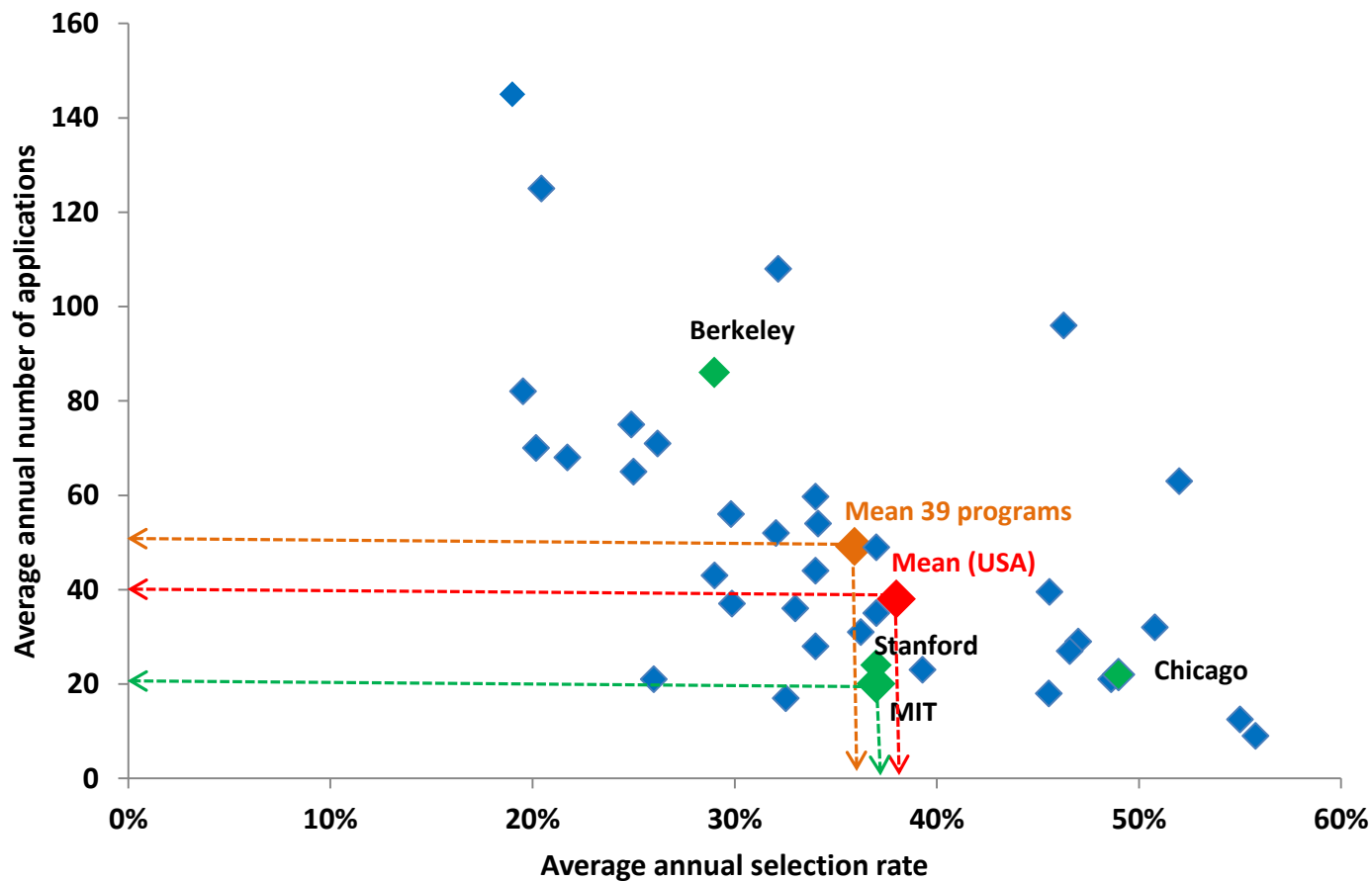


# NUMBER OF APPLICATIONS VS SELECTION RATE (COMPARISON BETWEEN 39 DIFFERENT BILATERAL PROGRAMS)



**Average selection rate for 2008-2018 : 37% vs 38% mean USA and 36% general mean**  
**Average number of applications 2008-2018 : 20 vs 38 mean USA and 49 general mean**

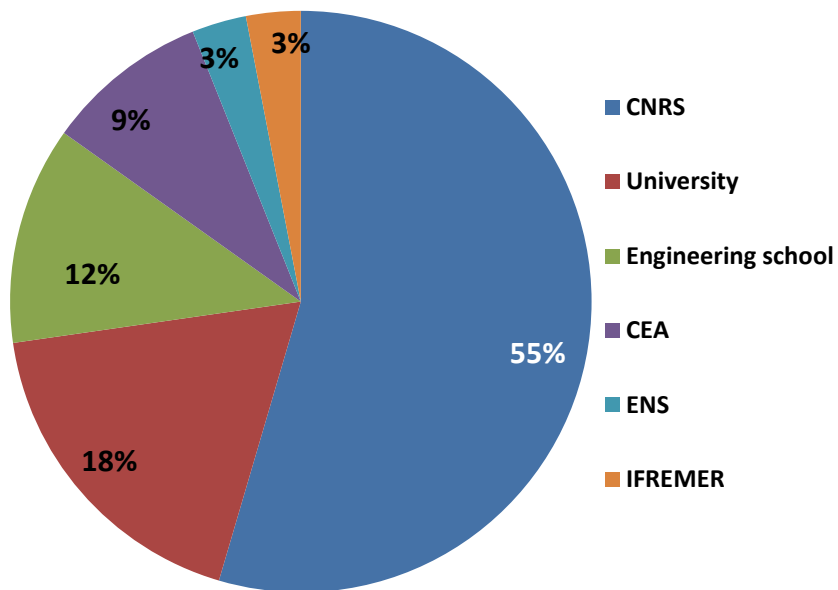
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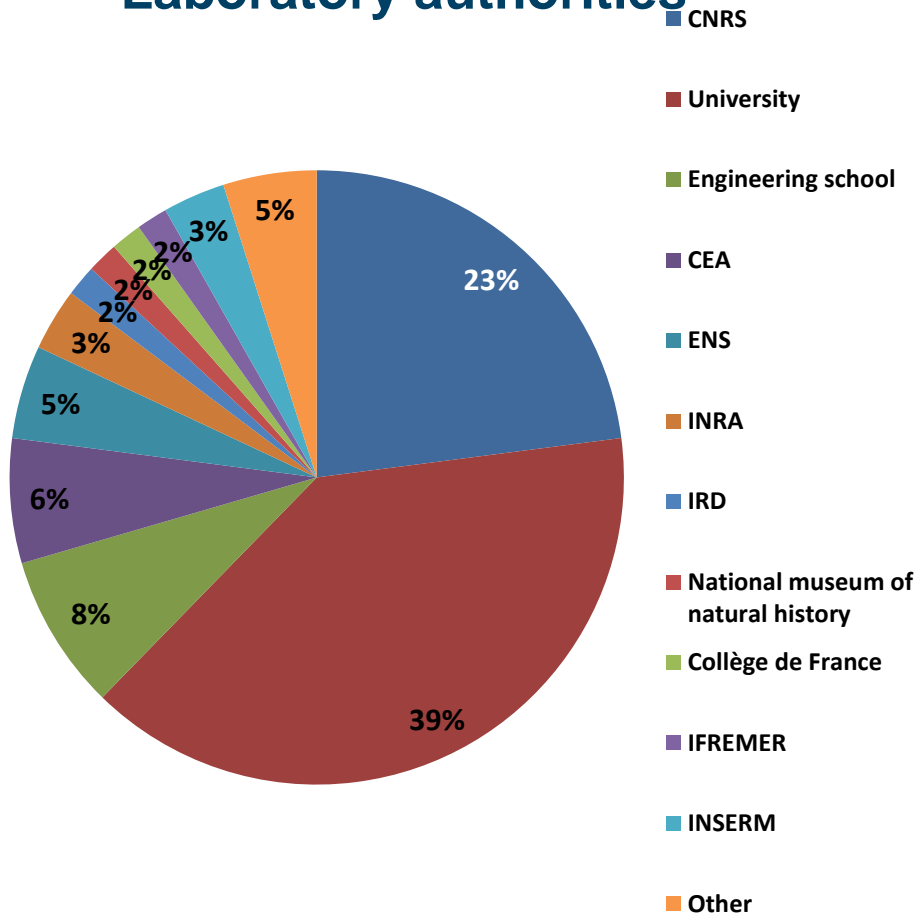
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# FRENCH PARTICIPATING INSTITUTIONS

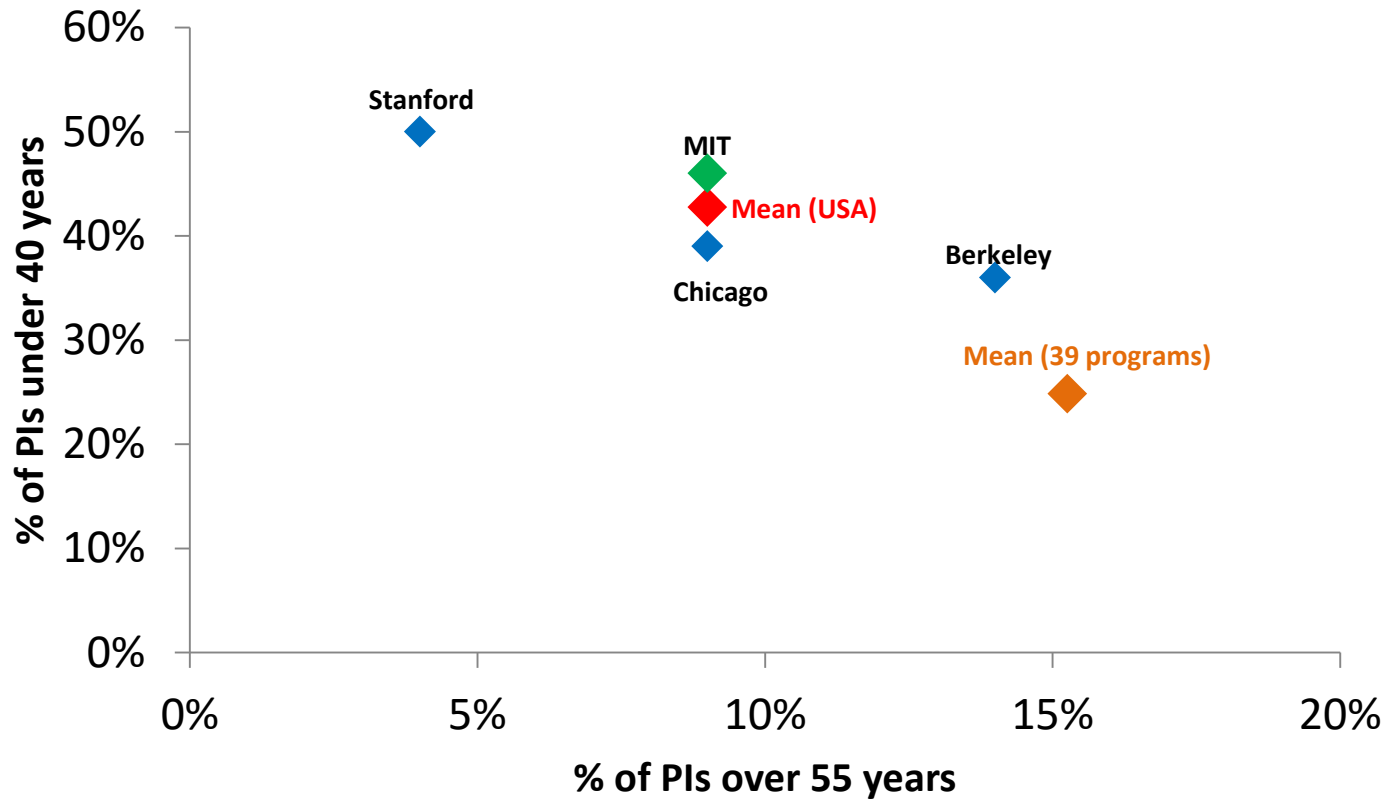
## PI's employers



## Laboratory authorities

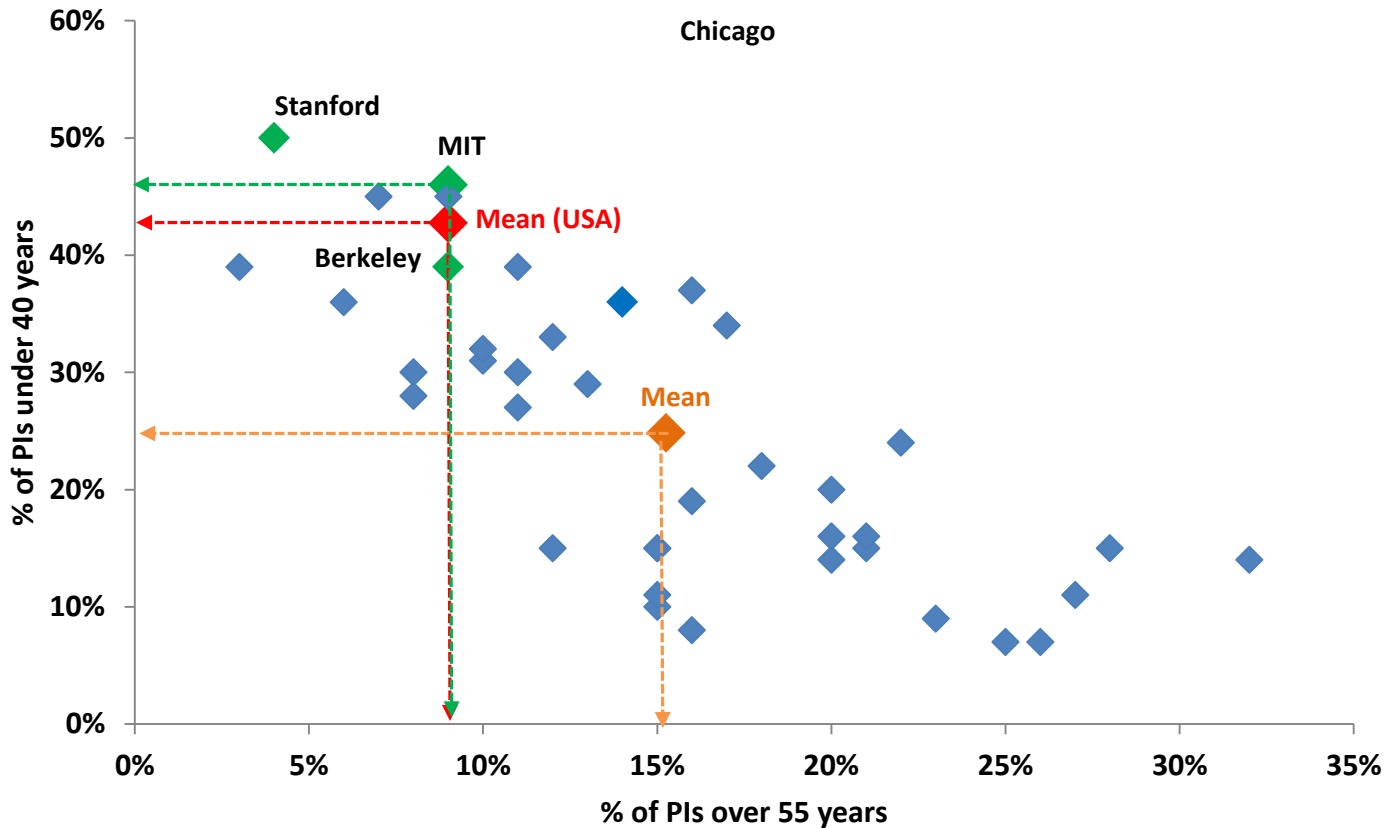


# AGE OF PRINCIPAL INVESTIGATORS (PI) (COMPARISON BETWEEN 39 DIFFERENT BILATERAL PROGRAMS)



**PIs under 40 years old : 46% vs 43% mean USA and 25% general mean**  
**PIs over 55 years old: 9% vs 9% mean USA and 15% general mean**  
**45% of the PIs are between 40 and 55 years old**

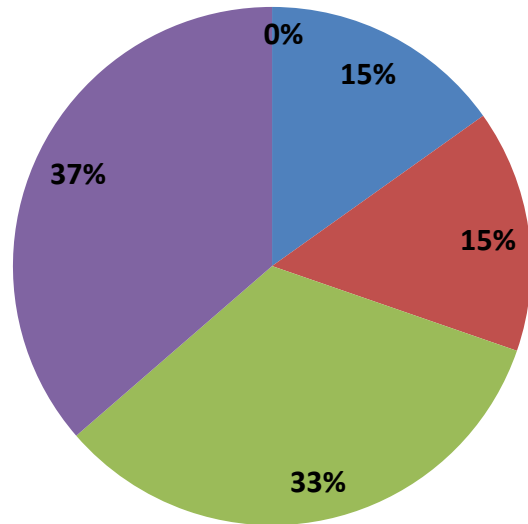
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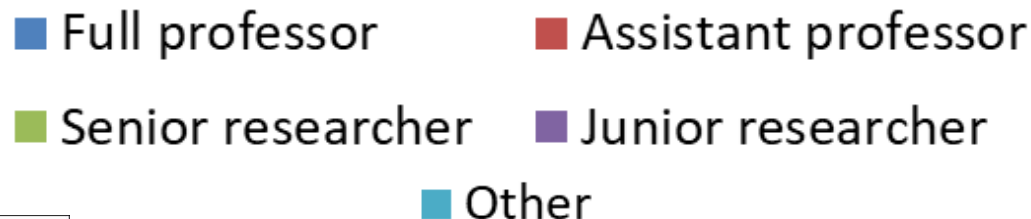
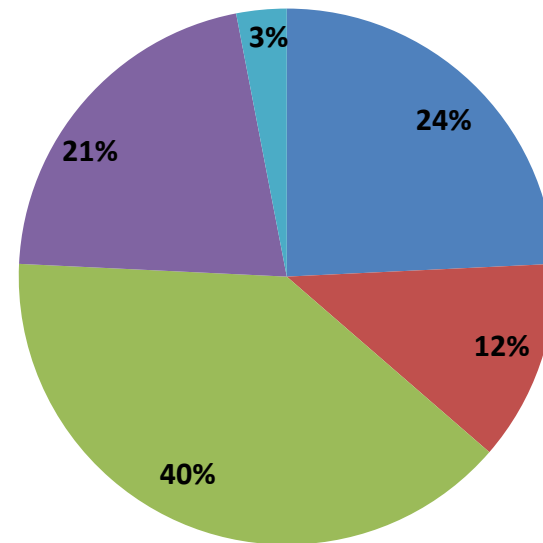
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# PROFESSIONAL FUNCTION OF FRENCH PRINCIPAL INVESTIGATORS

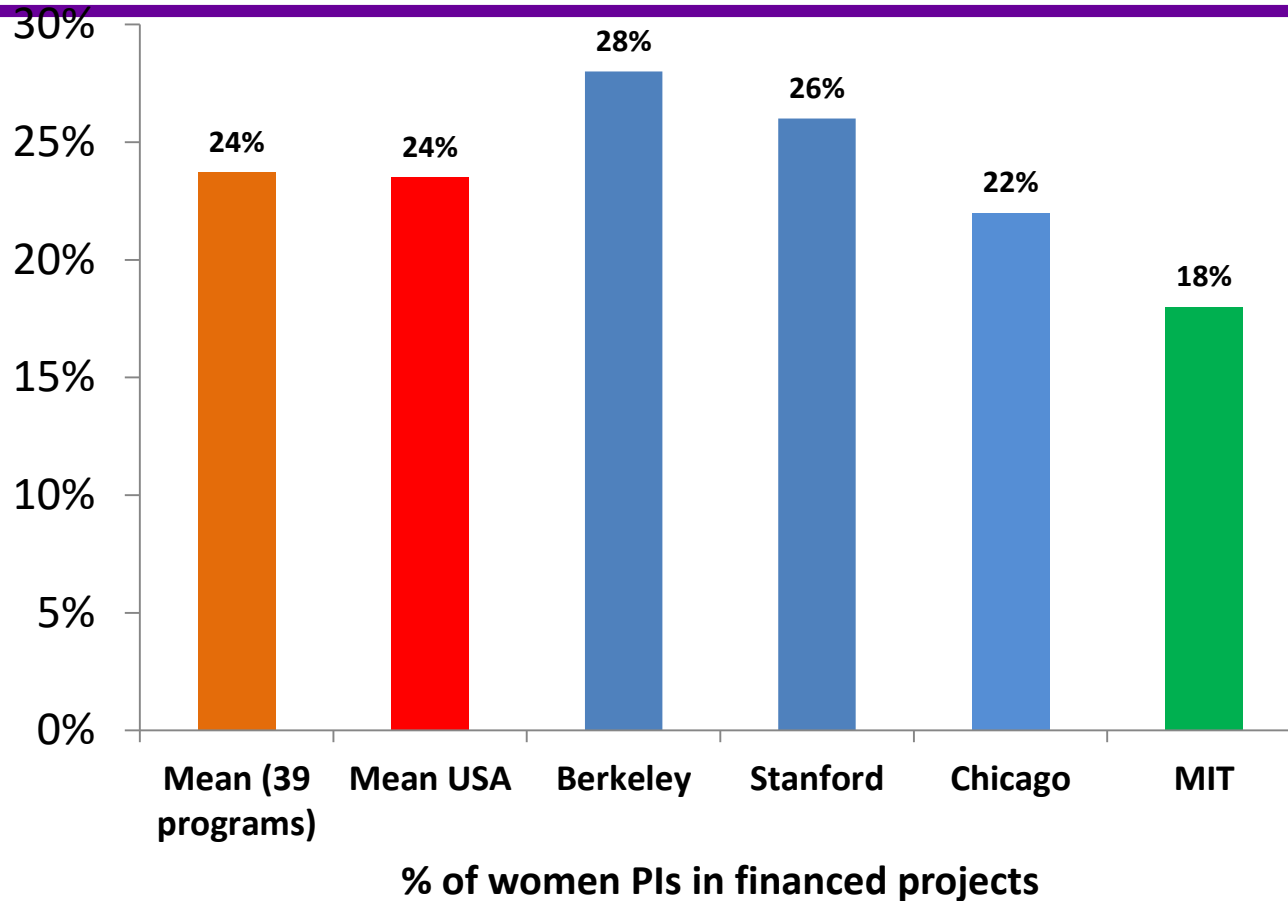
Previous professional status  
(at the beginning of the project)



Current professional status



# IMPLICATION OF WOMEN (FRANCE) (COMPARISON BETWEEN 39 DIFFERENT BILATERAL PROGRAMS)

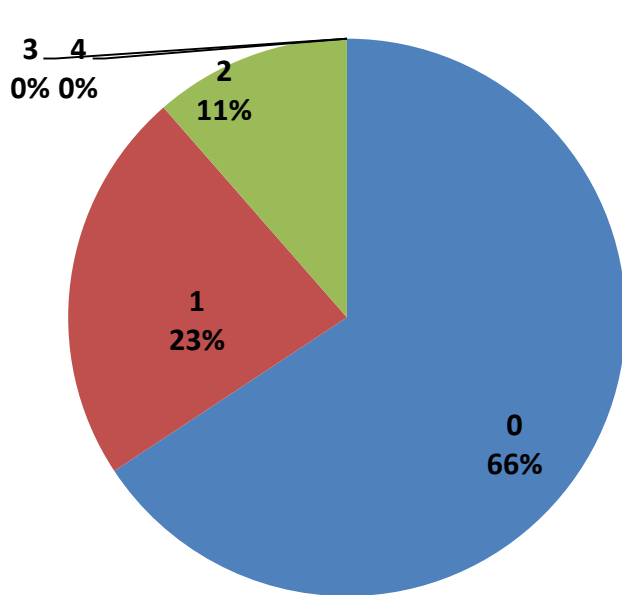


**% of women PIs in the applications : NOT AVAILABLE**

**% of women PIs in the selected projects : 18% vs 24% mean USA and general mean**

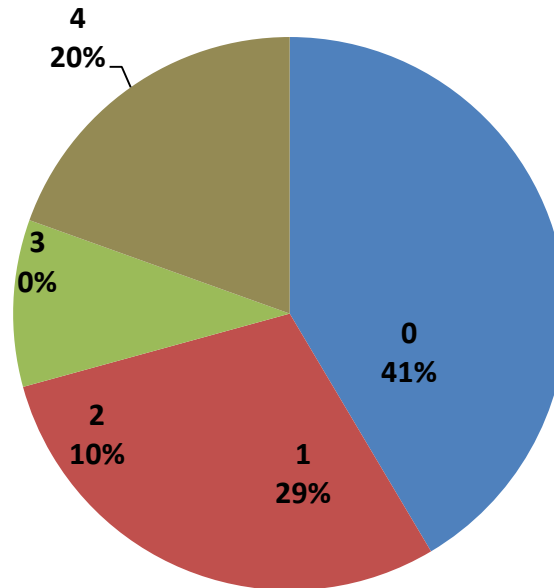
# PARTICIPATION OF FRENCH YOUNG RESEARCHERS

## Number of Masters



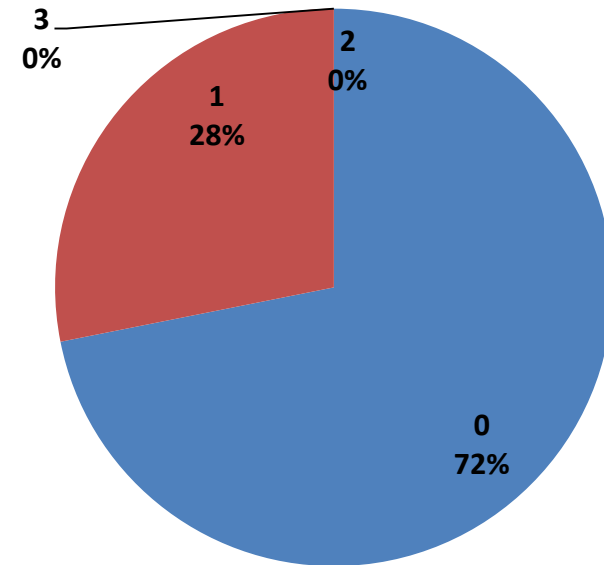
**30%** of projects involve at least one Master student

## Number of PhDs



**48%** of projects involve at least one PhD student

## Number of post-doctoral researchers

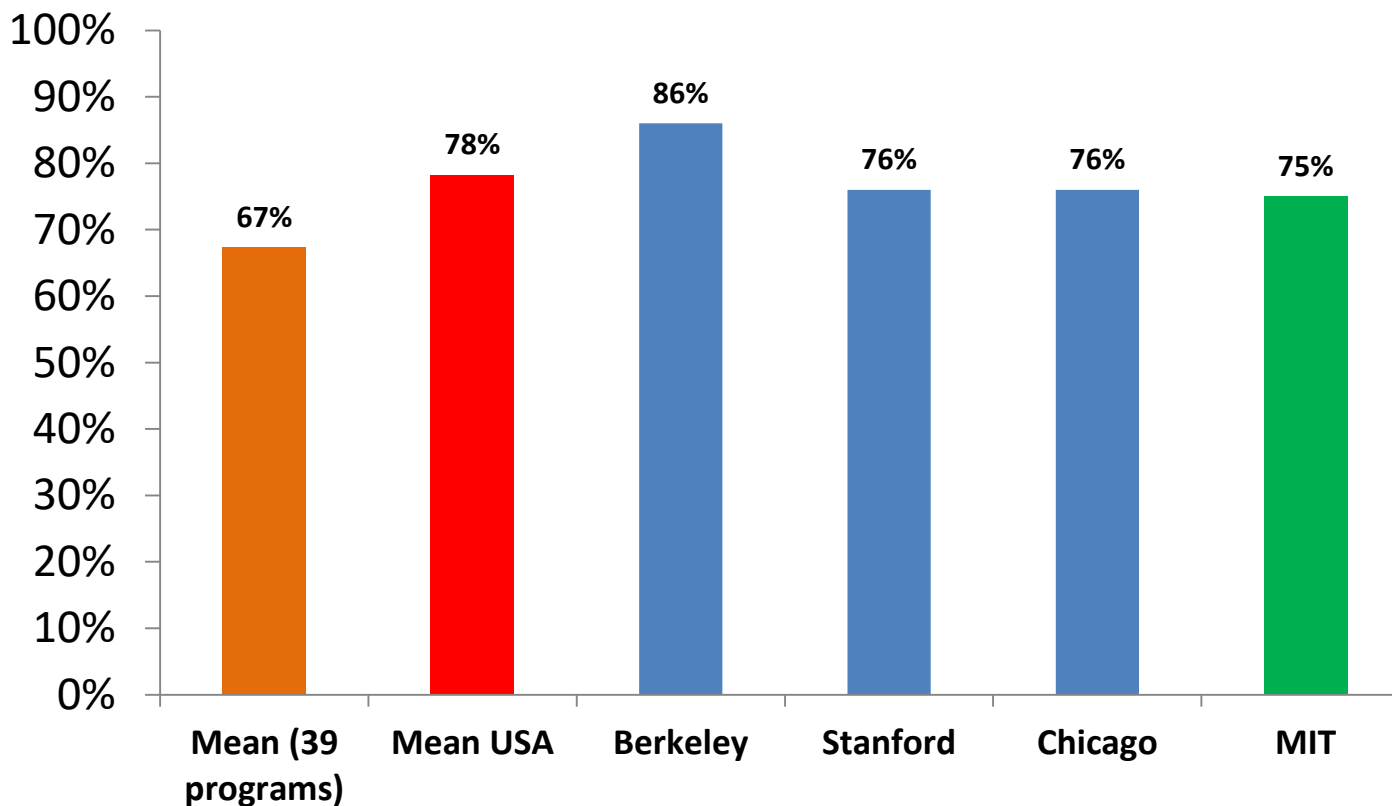


**30%** of projects involve at least one post-doctoral researcher

Data from 33 responses



# IMPLICATION OF YOUNG RESEARCHERS (COMPARISON BETWEEN 39 DIFFERENT BILATERAL PROGRAMS)



**% of projects implying PhDs and postdocs**

**% of projects implying young researchers : 75% vs 78% mean USA and 67% general mean**

**% of PhD or postdoc implicated in the copublications : NOT AVAILABLE**

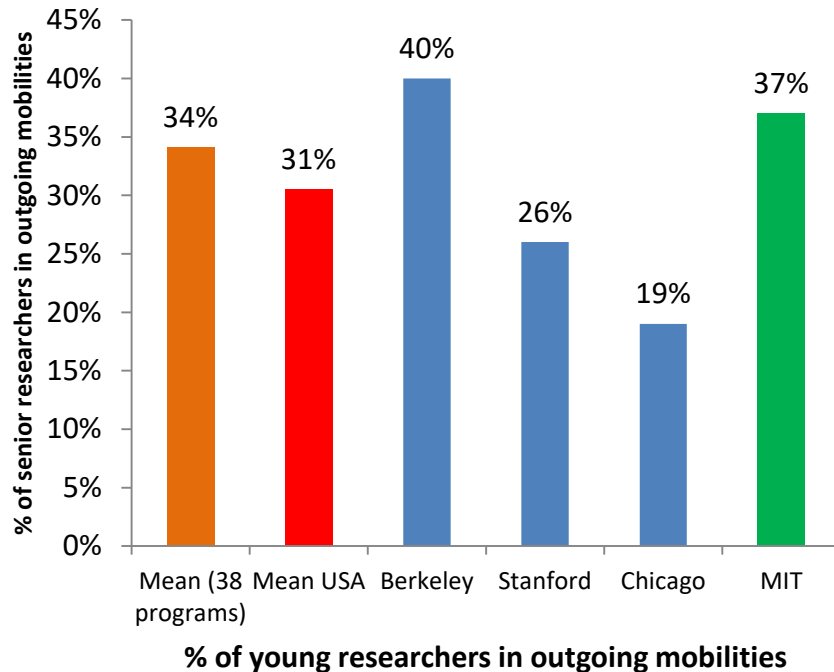


# MOBILITY

# YOUNG RESEARCHERS MOBILITY 2017-2019

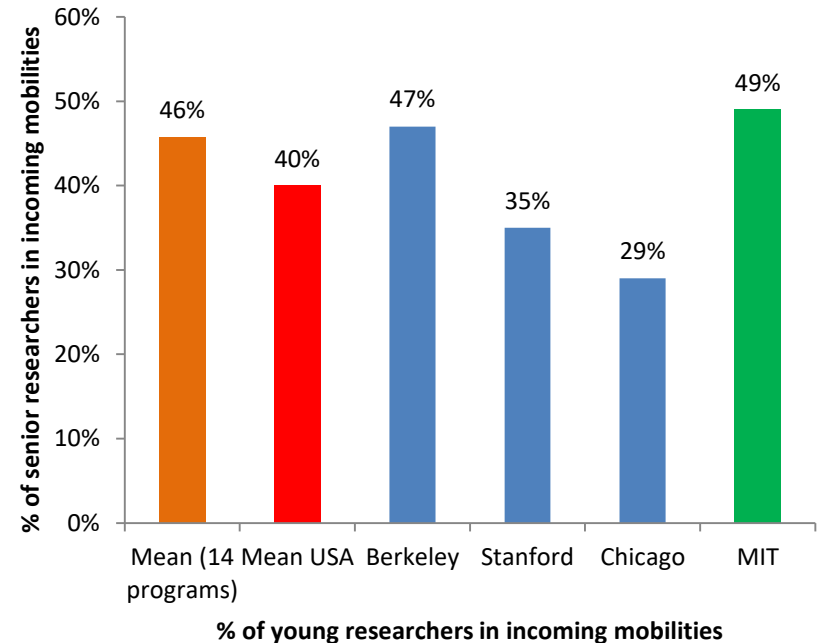
## France → USA

### Comparison between 38 bilateral programs



## USA → France

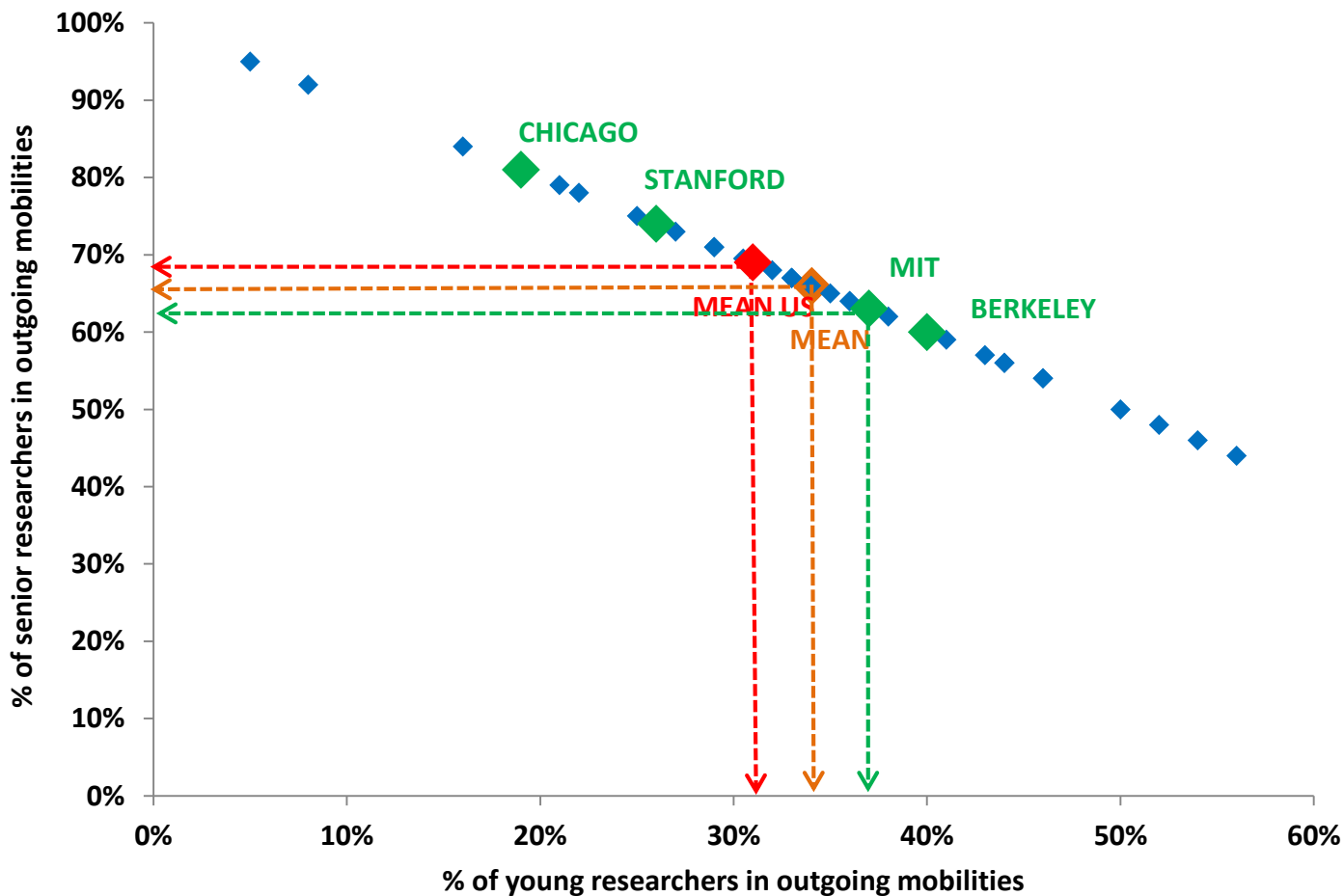
### Comparison between 14 bilateral programs



**% of french young researchers in outgoing mobilities : 37% vs 31% mean USA and 34% general mean**  
**% of american young researchers in incoming mobilities : 49% vs 40% mean USA and 46% general mean**

# FRENCH YOUNG RESEARCHERS MOBILITY 2017-2019

France → USA  
Comparison between 38 bilateral programs



**% of french young researchers in outgoing mobilities : 37% vs 31% mean USA and 34% general mean**

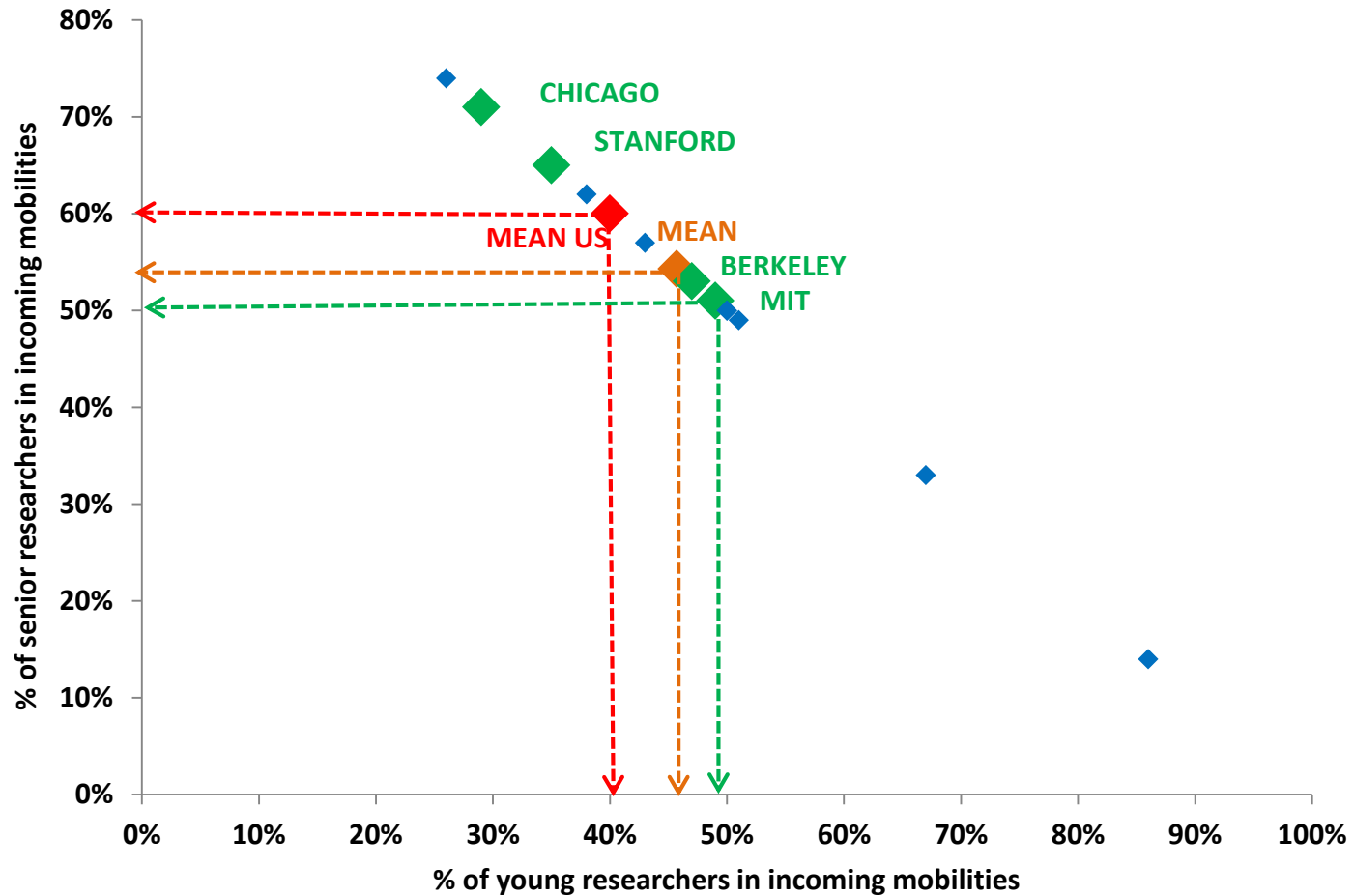


MINISTÈRE  
DE L'ENSEIGNEMENT SUPÉRIEUR,  
DE LA RECHERCHE  
ET DE L'INNOVATION

Data received from 33 funded projects including mobilities

# AMERICAN YOUNG RESEARCHERS MOBILITY 2017-2019

USA → France  
Comparison between 14 bilateral programs

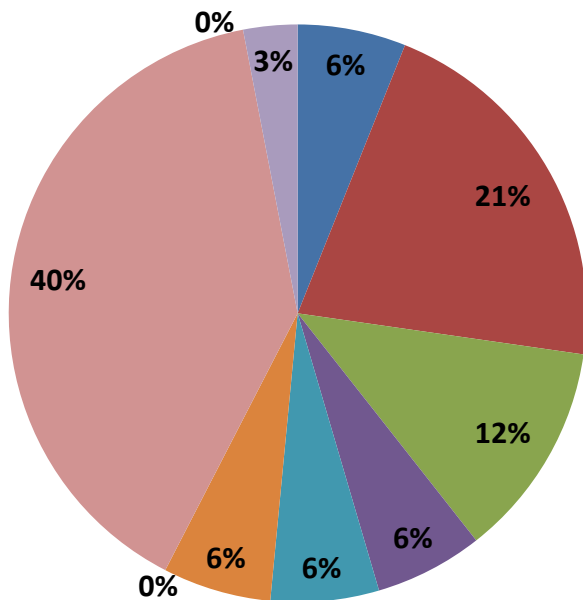


**% of american young researchers in incoming mobilities : 49% vs 40% mean USA and 46% general mean**

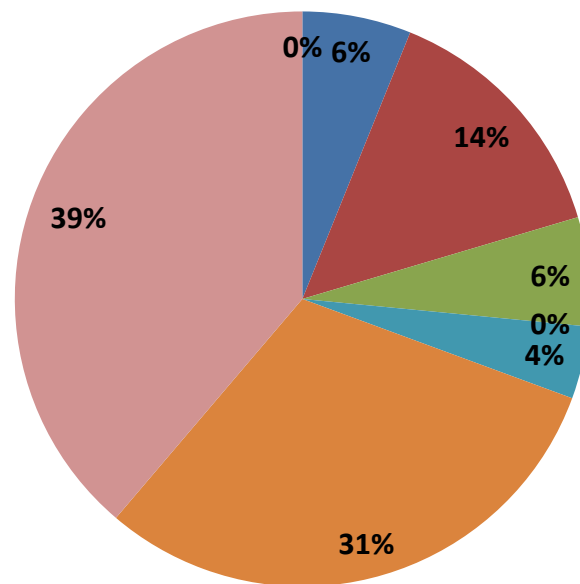
# SCIENTIFIC PRODUCTION (2008-2017)

# SCIENTIFIC OUTPUT (1/2)

Number of funded projects (survey): **33**



Percentage of co-publications



- Mathematics
- Marine/Earth/Planet Sciences
- Biology and Health
- Social Sciences
- Information Technology
- Physics
- Chemistry
- Humanities
- Engineering Sciences
- Agronomy/Ecology

# SCIENTIFIC OUTPUT (2/2)

## Data from 25 funded projects

	Number of financed projects in the survey	Average number of co-publications per project
Mathematics	2	1,5
Physics	6	1,2
Marine/Earth/Planet Sciences	1	3,0
Chemistry	1	0,0
Biology and Health	2	1,0
Humanities	2	7,5
Social Sciences	0	-
Engineering Sciences	10	1,9
Information Technology	0	-
Agronomy / Ecology	1	0,0
<b>TOTAL</b>	<b>25</b>	<b>2,0</b>

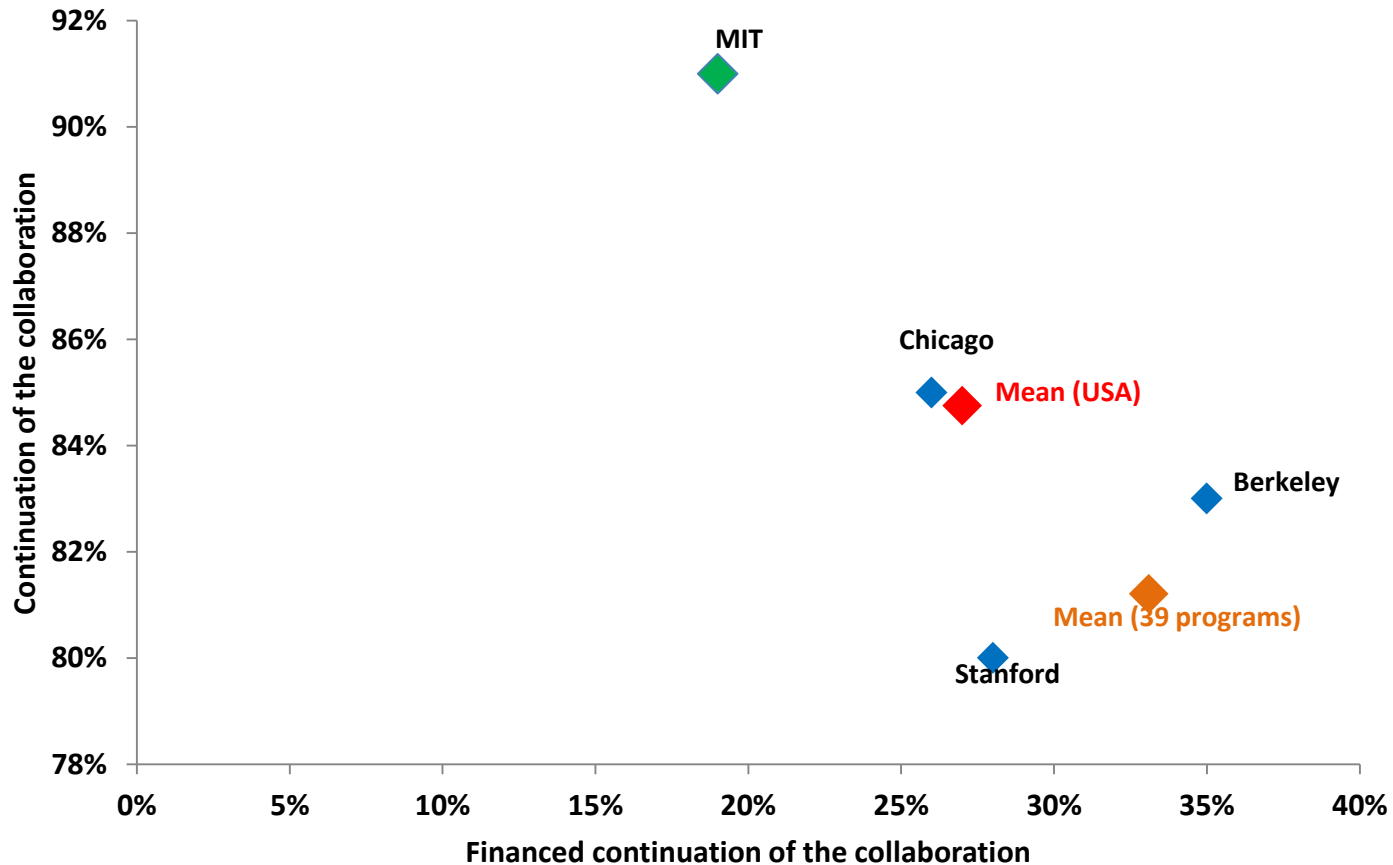
Overall average **annual** number of co-publication per project : **2,0 vs 0,90 general mean**

**54%** of funded projects led to one co-publication at least



# WHAT HAPPENS AFTER JOINING THE FRANCE-MIT PROGRAM?

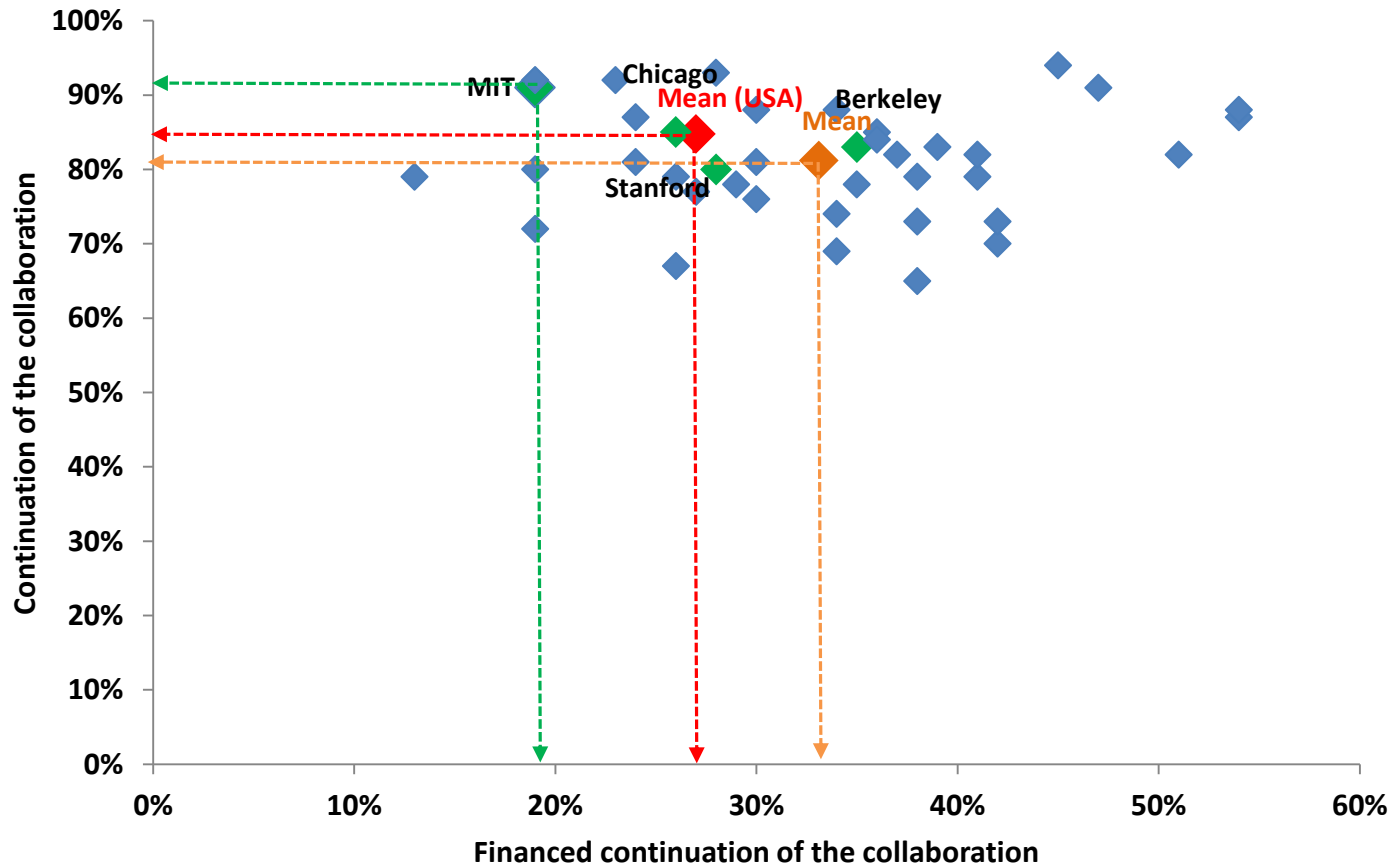
# CONTINUATION OF THE COLLABORATION (1/6) (COMPARISON BETWEEN 39 DIFFERENT BILATERAL PROGRAMS)



**Continuation of the collaboration : 91% vs 85% mean USA and 81% general mean**  
**Continuation of the collaboration with other grants: 19% vs 27% mean USA and 33% general mean**

# CONTINUATION OF THE COLLABORATION (2/6)

## (COMPARISON BETWEEN 39 DIFFERENT BILATERAL PROGRAMS)



**Continuation of the collaboration : 91% vs 85% mean USA and 81% general mean**  
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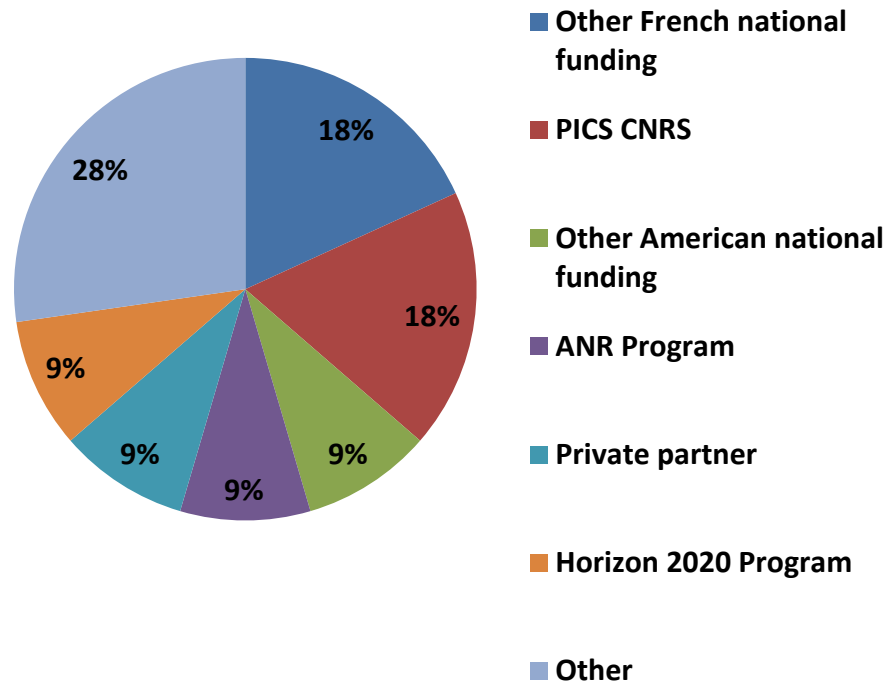
# CONTINUATION OF THE COLLABORATION (3/6)

**91%** of the collaborations continued after the France-MIT project

Which activities?	
Collaborative research	87%
Mobility of researchers	37%
Co-publications	37%
Joint participation in symposia or conferences	33%
Mobility of PhD students	30%
Co-organisation of scientific events	23%
Mobility of Master's students	23%
Co-directed PhDs	7%
Other	7%

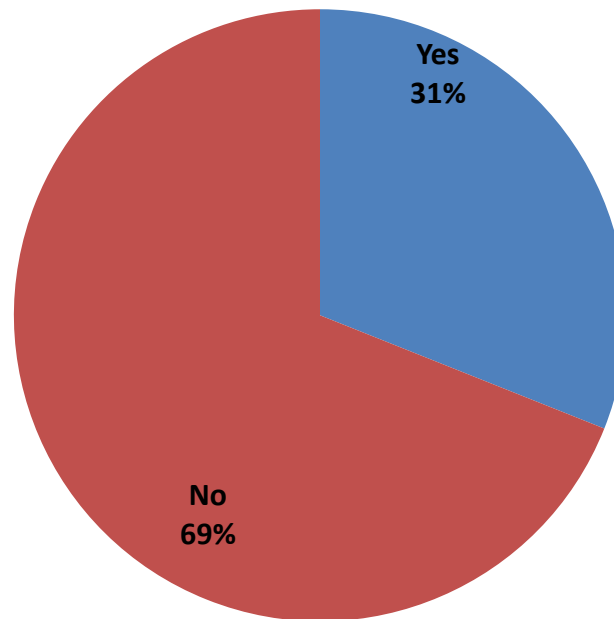
# CONTINUATION OF THE COLLABORATION (4/6)

What kind of funded collaborations after the France-MIT project ?



# CONTINUATION OF THE COLLABORATION (6/6)

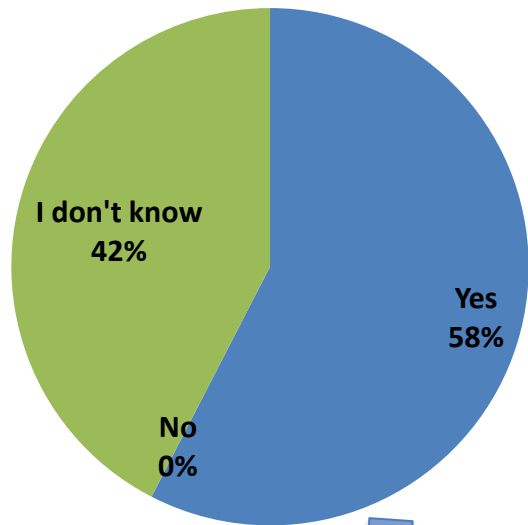
Has the French-US collaboration involved new partners?



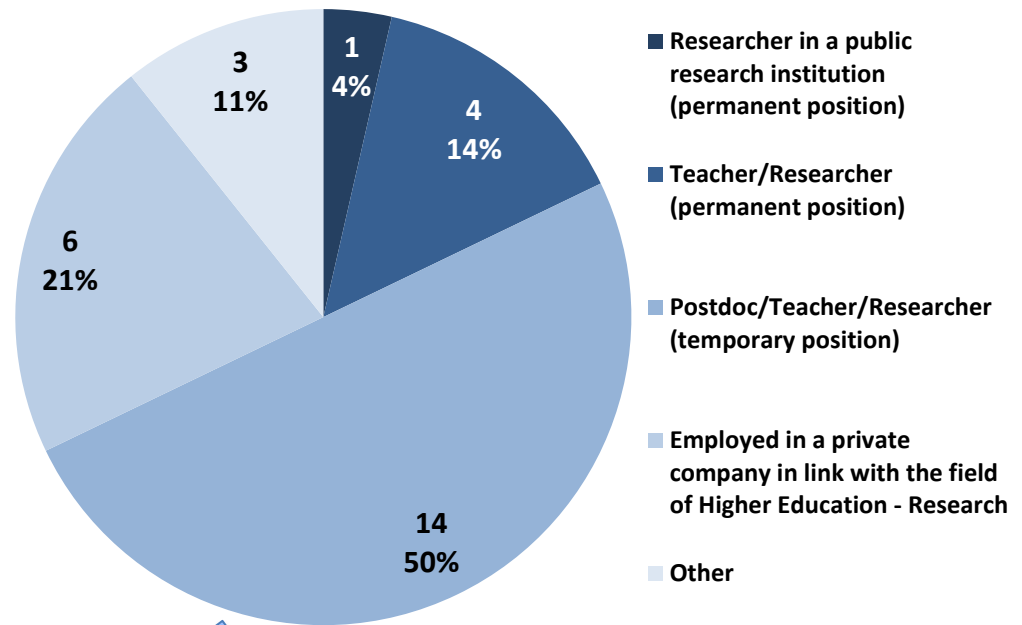
For a total of 7 new partners from 3 different countries

# IMPACT ON YOUNG RESEARCHERS' CAREER (1/2)

Was young researchers' career impacted by the France-MIT program ?



Type of impacts

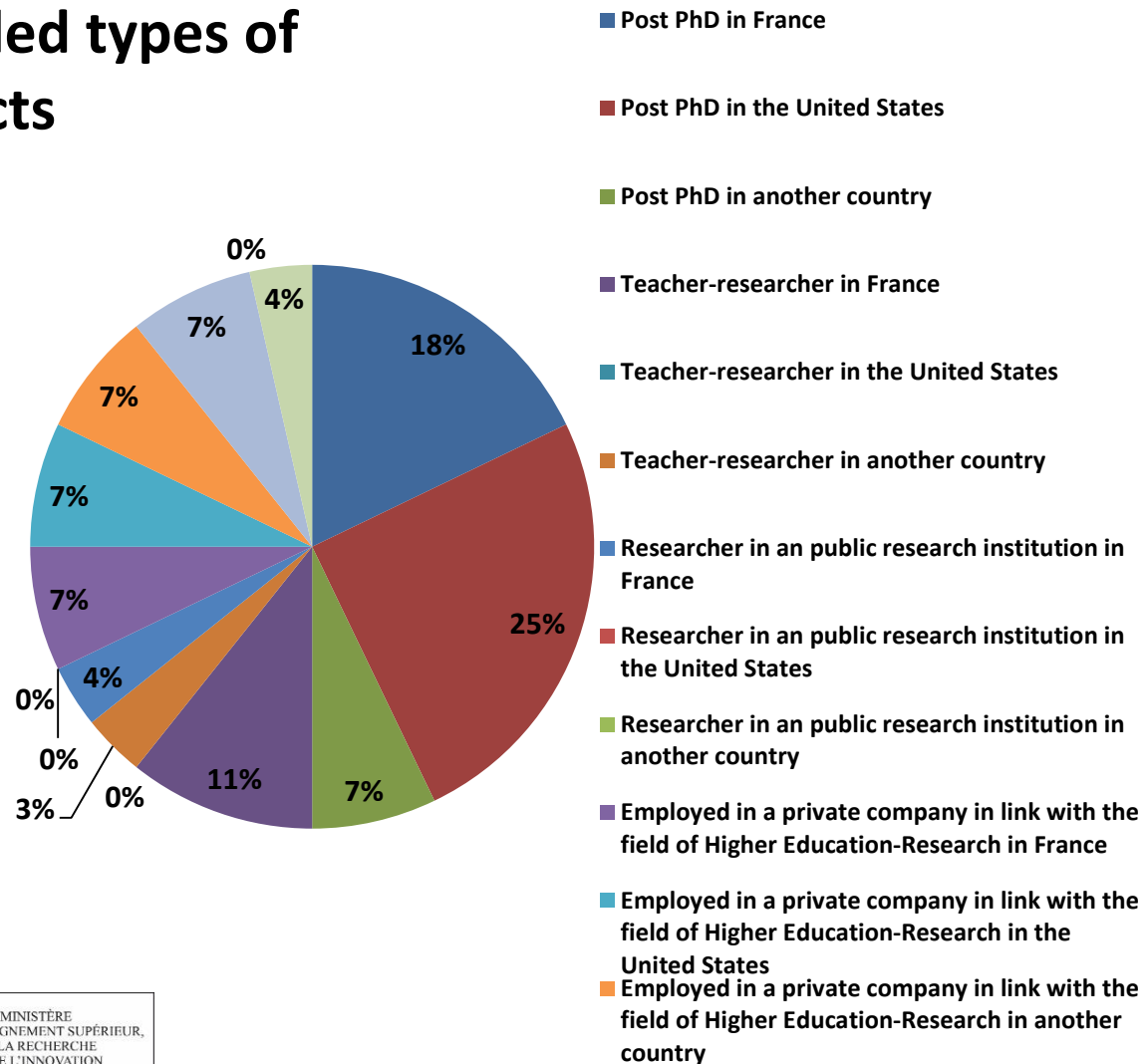


Data from 33 responses

Data from 19 positive responses for a total of 28 young researchers

# IMPACT ON YOUNG RESEARCHERS' CAREER (2/2)

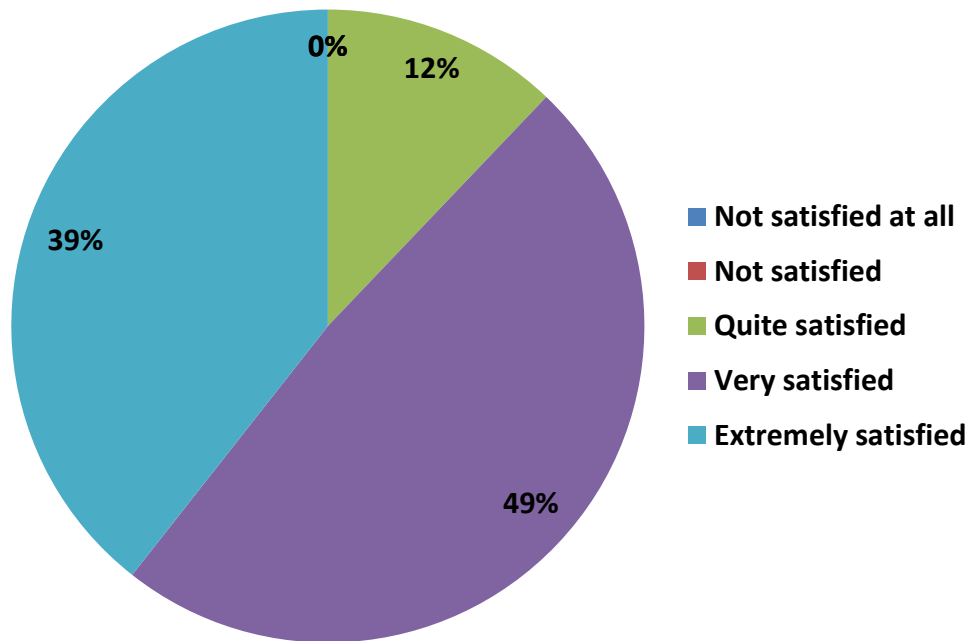
## Detailed types of impacts





# GENERAL OPINION OF FRENCH PIS ON THE PROGRAM

**100%** of French principal investigators are satisfied



Data from 33 responses

# GENERAL OPINION OF FRENCH PIS ON THE PROGRAM (2/3) POSITIVE COMMENTS

## SURVEY OF 33 FUNDED PROJECTS



Strengths of this program	Number of occurrences (out of 152)	% (out of 33)
Simplicity of the project application process	29	88%
Fostering an international research collaboration	24	73%
Easy implementation (administrative flexibility)	21	64%
Fostering researchers' mobility	18	55%
Fostering exchanges enabling scientific production	15	45%
Fostering the training of the young researchers	13	39%
Sufficient financial means for the mobility costs	12	36%
Helpful to initiate other fundraising	5	15%
Transparency of the selection process	4	12%
Helping to know the partner country	4	12%
Good scientific-added value on financial investment	4	12%
Sufficient amount of mobility time given to collaborate	2	6%
Sufficiently long duration of the projects	1	3%
Other	0	0%
<i>Total number of occurrences</i>	<i>152</i>	

# GENERAL OPINION OF FRENCH PIS ON THE PROGRAM (3/3) NEGATIVE COMMENTS

## SURVEY OF 33 FUNDED PROJECTS



Weaknesses of this program	Number of occurrences (out of 48)	% (out of 33)
Length of support too short	12	36%
Difficult to continue the collaboration	9	27%
Lack of transparency in the selection process	6	18%
Financial means insufficient for the expenditure of mobility (transport)	5	15%
Financial means insufficient for the expenditure of mobility (per diem)	5	15%
Insufficient financial means to cover a project	5	15%
Too short duration of mobilities	0	0%
Administrative heaviness of the missions management	0	0%
Too low number of mobilities	0	0%
Insufficient communication on the evaluation's results	0	0%
Heaviness of the process of applications	0	0%
Too short duration of the projects	0	0%
Other	6	18%
<i>Total number of occurrences</i>	<i>48</i>	

# PRELIMINARY CONCLUSIONS

Preliminary conclusions suggest that the funding scheme has efficiently contributed to create (or to maintain) fruitful and long-term cooperation, despite the relatively low financial support, which is to be considered as “seed money”.

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France-MIT program initiates 58% of new collaborations

Good percentage of young PIs in the selected projects (46%)

Correct implication of “young researchers” (Masters, PhDs, Postdoctorates) in the projects (75%) and the mobilities (37% in outgoing mobilities and 49% in incoming mobilities) as compared to the means

Average scientific production better than the mean (1,70 vs 0,90)

Good percentage of continuation of the cooperation (91%)

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Decrease in the number of applications since 2014

Weak implications of women PIs in the selection

Low implication of PhDs in the projects (48% vs general mean : 67%)

Insufficient financing during continuation of the projects (19% vs 27% mean USA and 33% general mean)

59% of the funded projects producing no co-publications (data from the survey)

Capacity of involving new partners during continuation of the cooperation (only 31% of the projects)

# PRELIMINARY RECOMMENDATIONS FOR FRENCH PIS

## **RECOMMENDATIONS**

- *Find means to increase the number of applications*
- *Foster the selection of women PIs*
- *Increase the participation of PhD students in the projects*
- *Increase the co-publications*
- *Increase the funding per project*
- *Propose virtual seminars gathering laureates and potential laureates*
- *Equilibrate the number of French/US experts in the final selection committee*
- *Secure an additional funding to reinforce France position in this program*

French national ministries (MESR / MEAE) will provide a complete analysis of the survey. It will be sent to the recipients of the funding and participants in this symposium.

## CONTACTS

robert.gardette@recherche.gouv.fr  
nadine.van-der-tol@recherche.gouv.fr  
christophe.delacourt@recherche.gouv.fr

*Thank you for your attention*