

FRANCE – TAIWAN

**Scientific impact of the program ORCHID
(2006-2020)**

MESRI-DAEI / MEAE

2021

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



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GENERAL PRESENTATION OF THE PROGRAM

Creation : 2006

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

Total budget (France + Taiwan) : around 180 000 € / year

>> including budget from the French part : around 90 000 € / year

>> including budget from the Taiwan part : around 90 000 € / year

Average budget per project (France + Taiwan) : around 16 000 € / year

Number of new funded projects per year : around 11

From 2006-2020 :

506 applications submitted

178 projects funded

DATA SOURCES

Campus France (2006-2020)

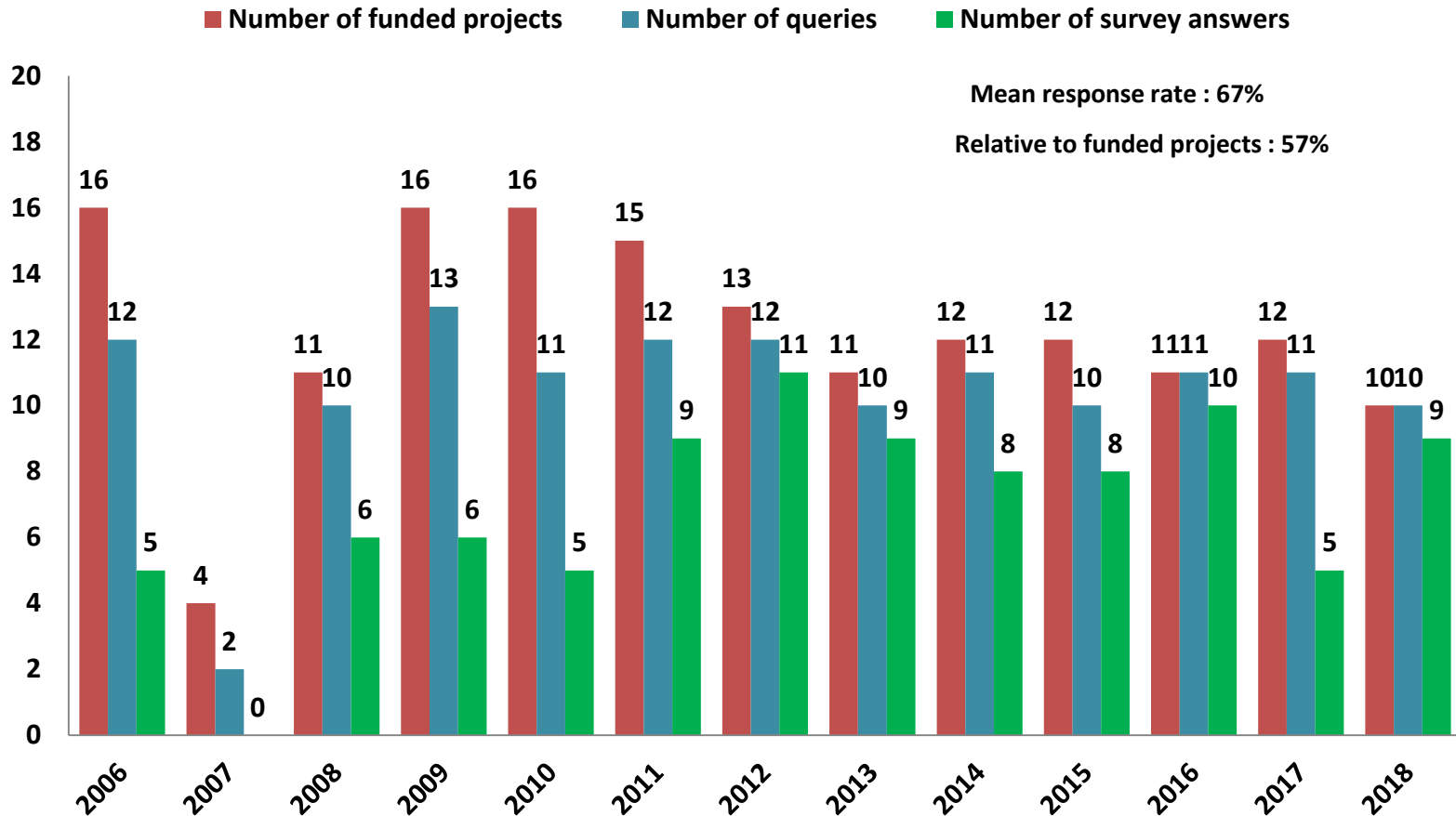
- Information about the PHC Orchid applications (projects and workshops)

Survey (2006-2018)

- Target : French Principal Investigators of selected projects between 2006 and 2018
- Survey duration : 8 weeks between November 2020 and January 2021
- **67%** response ratio (91 respondents for 135 queries)

ANSWERS TO THE SURVEY

Average response rate to the survey : **67 % (91 answers)**



159 funded projects between 2006 and 2018, 135 valid email addresses

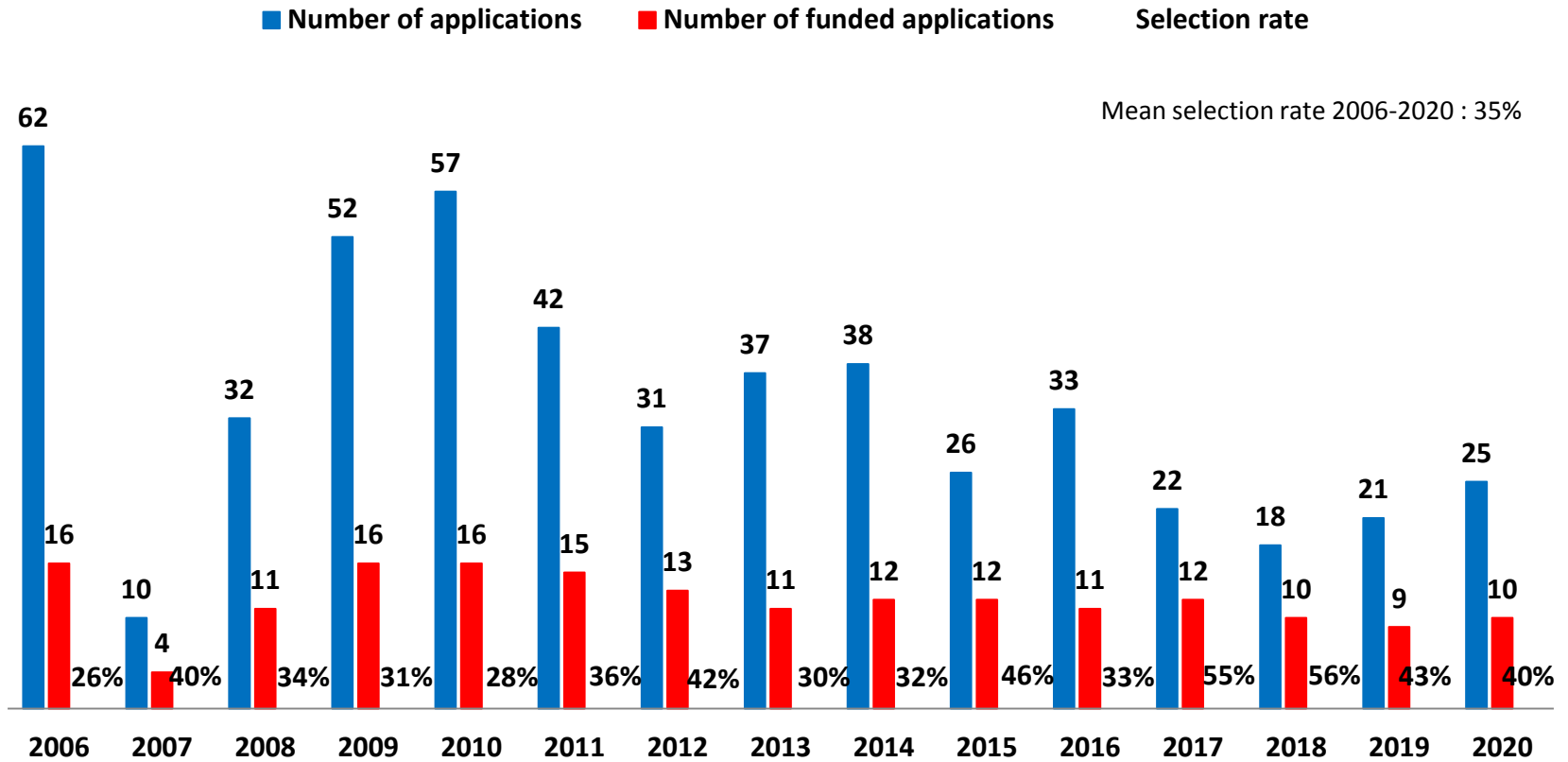
2006-2020

Key Points



NUMBER OF APPLICATIONS AND SELECTION RATE

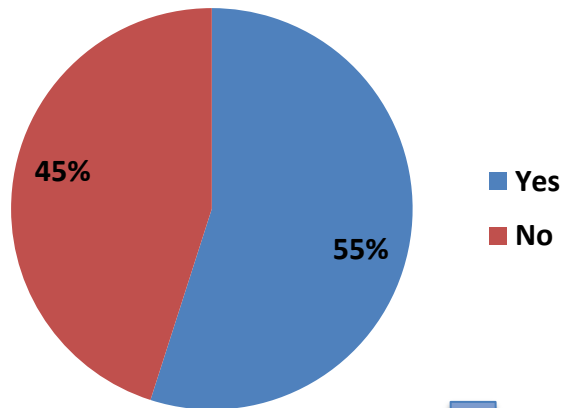
Average selection rate from 2006-2020: **35%**



The number of applications tends to decrease since 2010
No call for projects in 2007

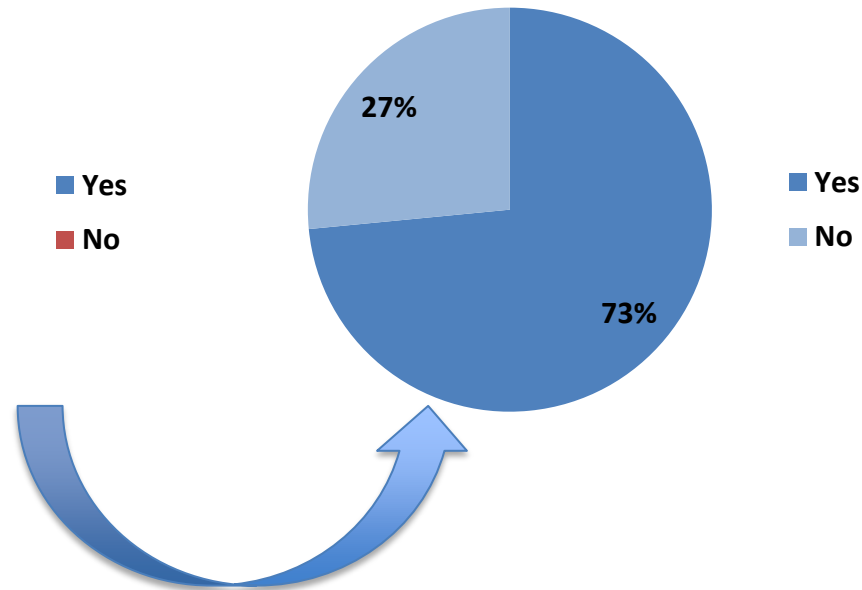
BEFORE THE ORCHID PROJECT (1/2)

Did you already cooperate with Taiwan in the past ?



Data from 91 responses

If yes, was it with the same partner?



Data from 49 responses

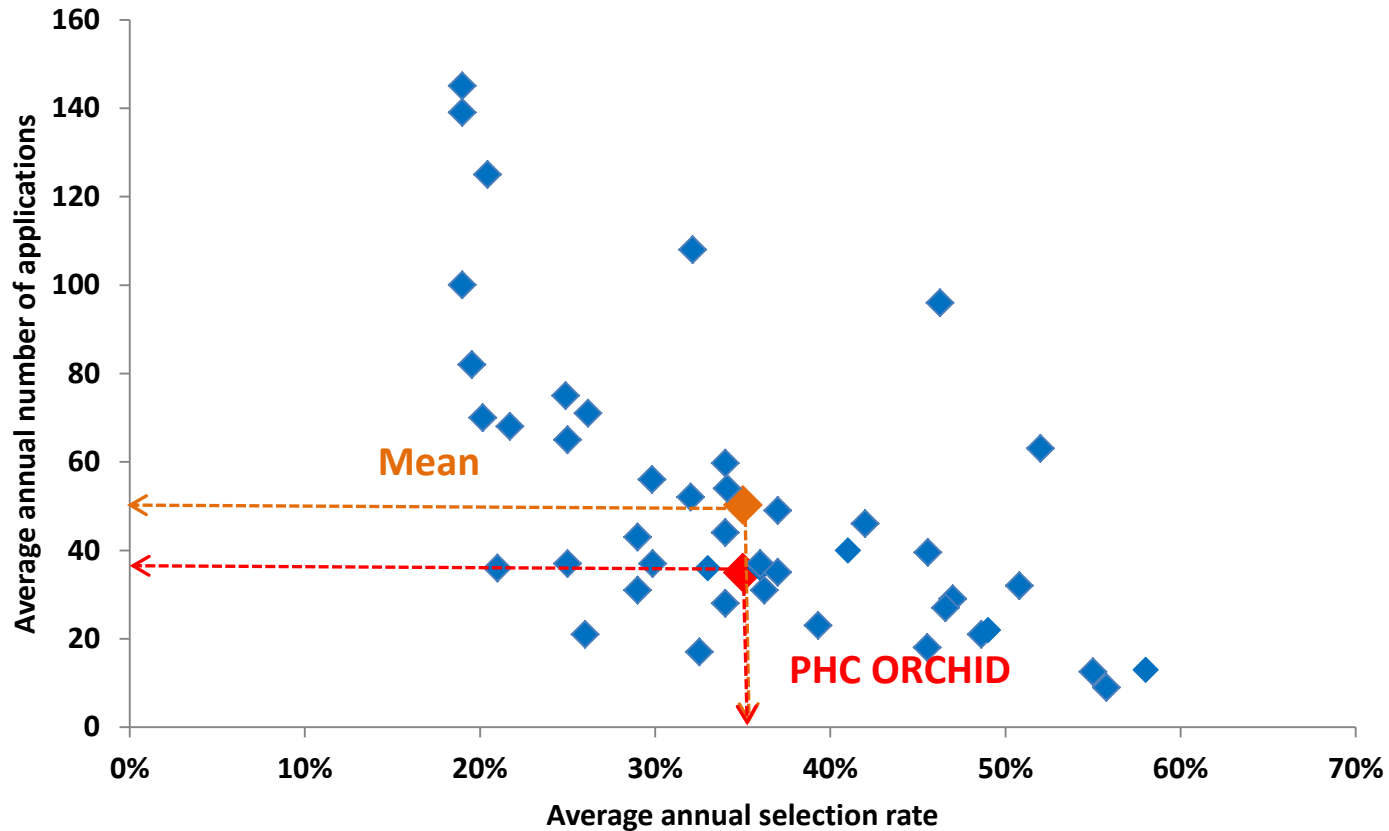
BEFORE THE ORCHID PROJECT (2/2)

| With which scientific collaboration program ? | |
|--|-----|
| PHC Orchid | 45% |
| CNRS fundings | 20% |
| French National Research Agency | 12% |
| French Government Grant | 6% |
| Co-funding with Taiwan institutions | 4% |
| Other | 14% |

Plus 60 previous cooperations based on other exchanges (co-publication, meetings, joint PhD...)

Data from 49 responses

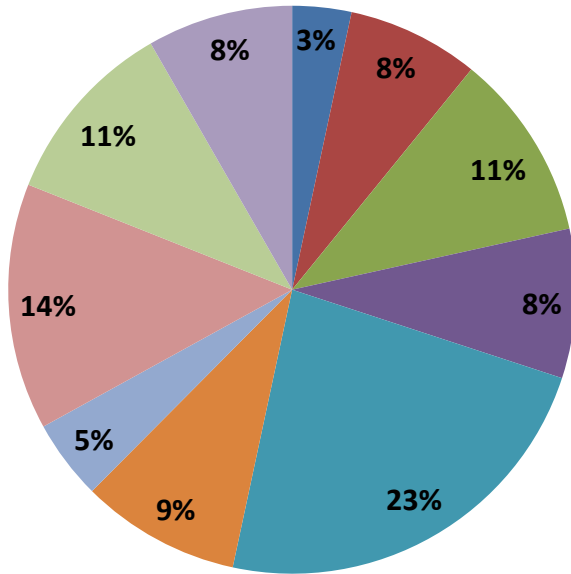
NUMBER OF APPLICATIONS VS SELECTION RATE (COMPARISON BETWEEN 46 DIFFERENT BILATERAL PROGRAMS)



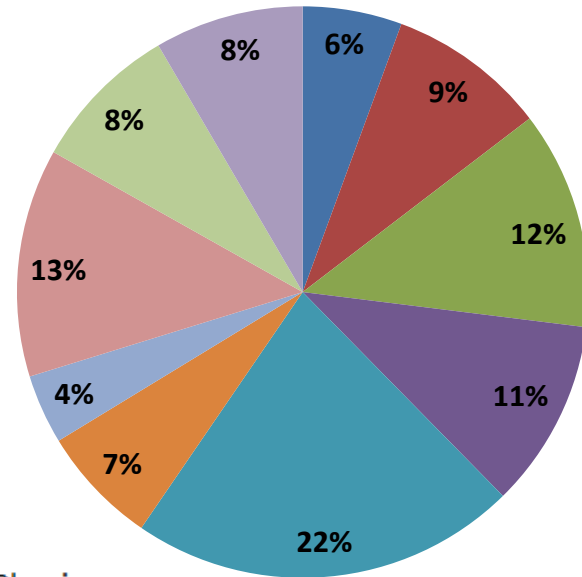
Average annual selection rate for 2006-2020 : 35% vs 36% mean
Average annual number of applications 2006-2020 : 35 vs 51 mean

SCIENTIFIC DOMAINS OF PROJECTS 2006-2020

Number of applications : **506**



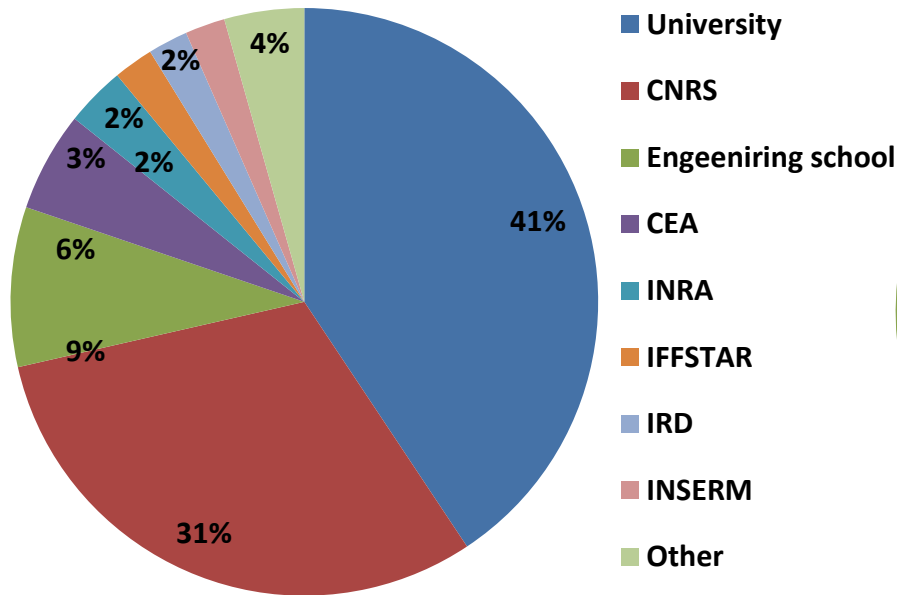
Number of funded projects : **178**



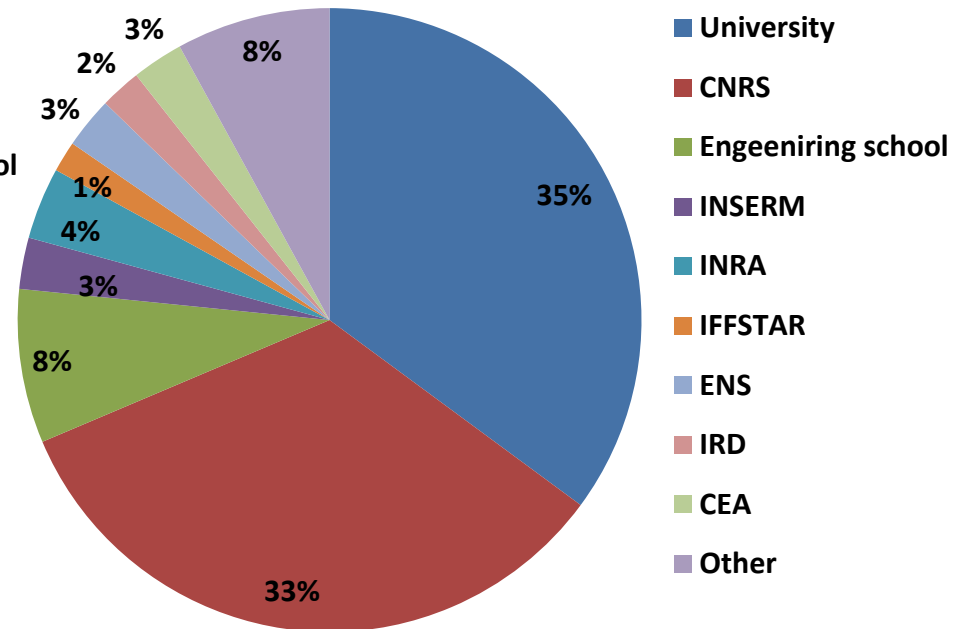
- Mathematics
- Physics
- Marine/Earth/Planet Sciences
- Chemistry
- Biology and Health
- Humanities
- Social Sciences
- Engineering Sciences
- Information Technology
- Agronomy/Ecology

FRENCH PARTICIPATING INSTITUTIONS 2006-2018

PI's employers

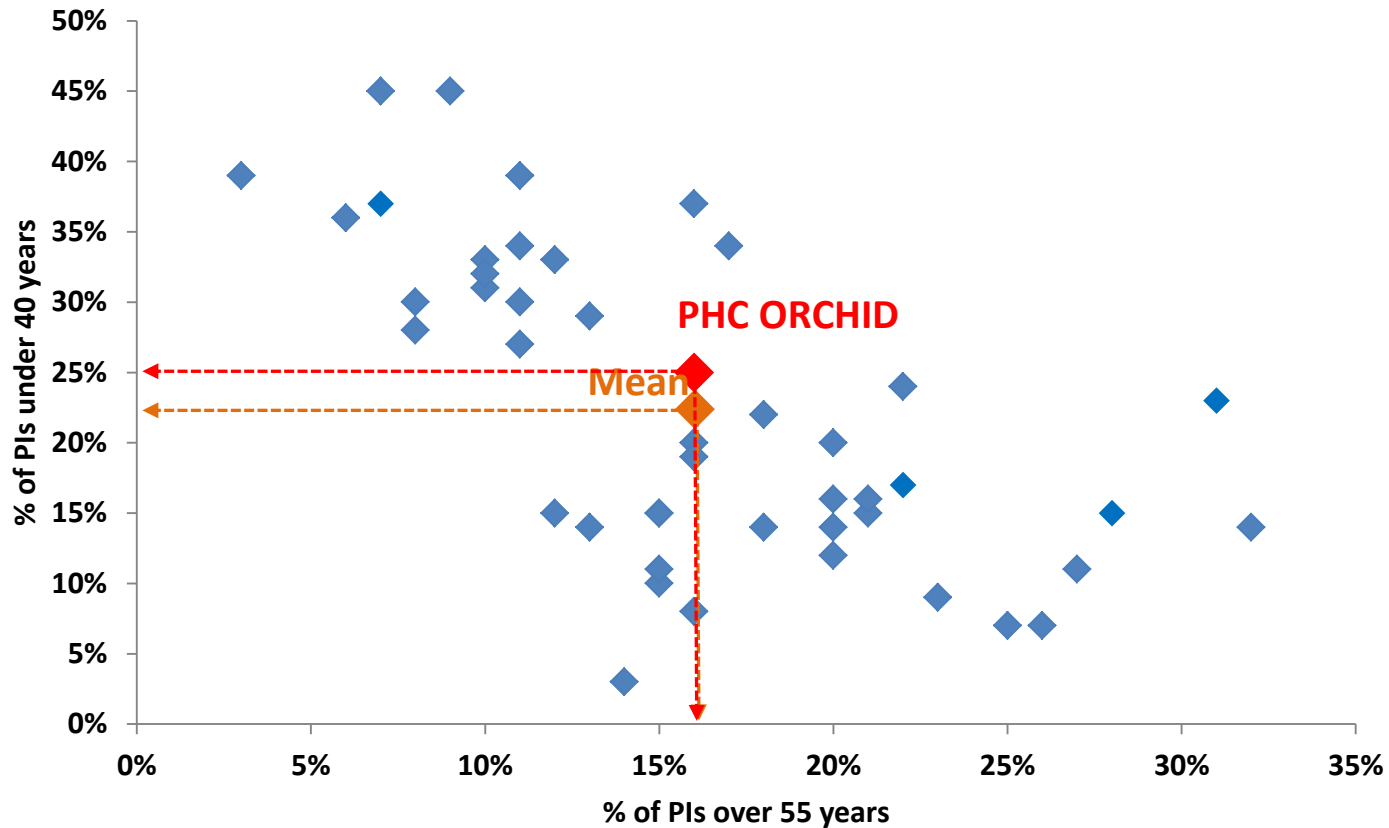


Laboratories authorities



Data from 91 responses

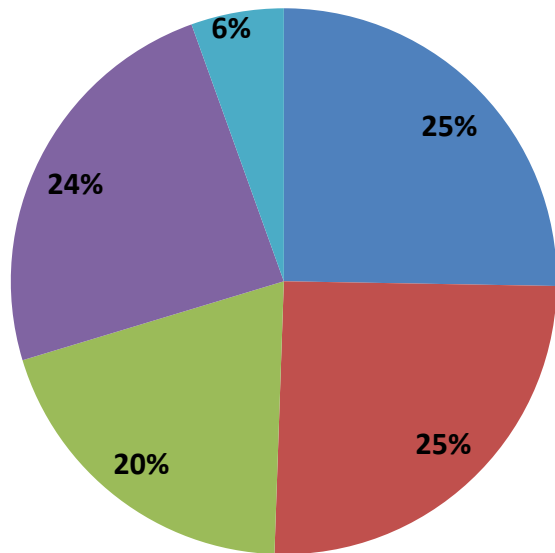
AGE OF PRINCIPAL INVESTIGATORS (PI) (COMPARISON BETWEEN 46 DIFFERENT BILATERAL PROGRAMS)



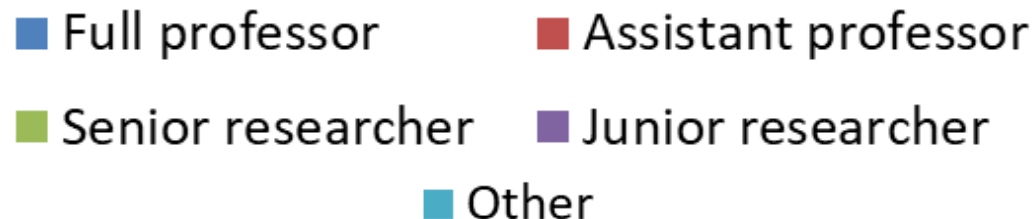
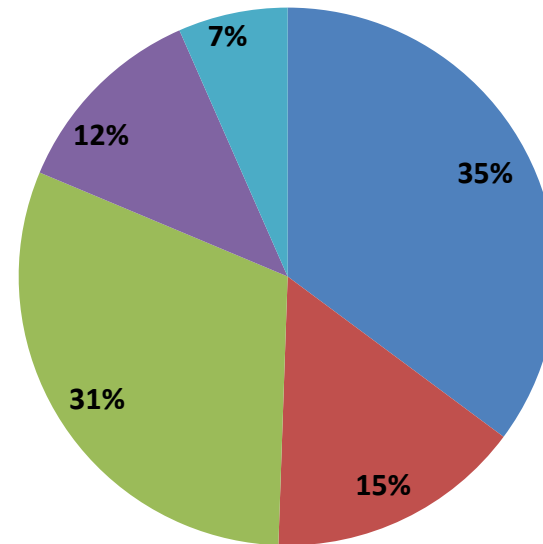
PIs under 40 years : 25% vs 22% mean
PIs over 55 years : 16% vs 16% mean
59% of the PIs are between 40 and 55 years

FRENCH PIS (PRINCIPAL INVESTIGATORS) : STATUS

Previous professional status (at the beginning of the project)



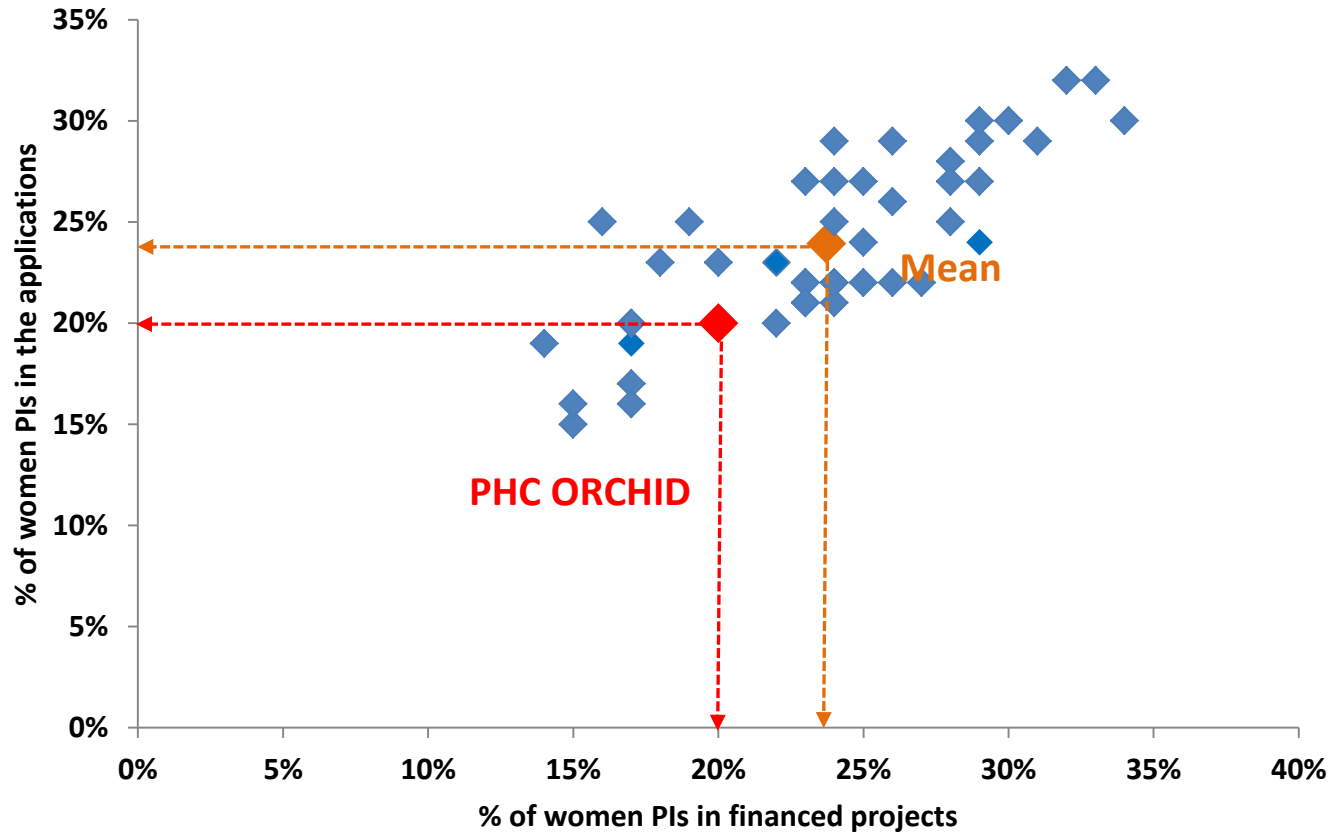
Current professional status



Data from 91 responses

IMPLICATION OF WOMEN (FRANCE)

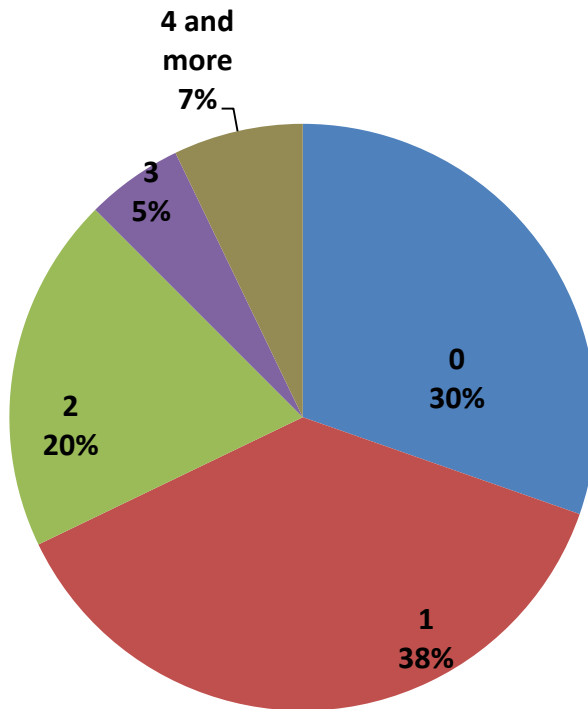
(COMPARISON BETWEEN 46 DIFFERENT BILATERAL PROGRAMS)



% of women PIs in the applications : 20% vs 24% mean
% of women PIs in the selected projects : 20% vs 24% mean

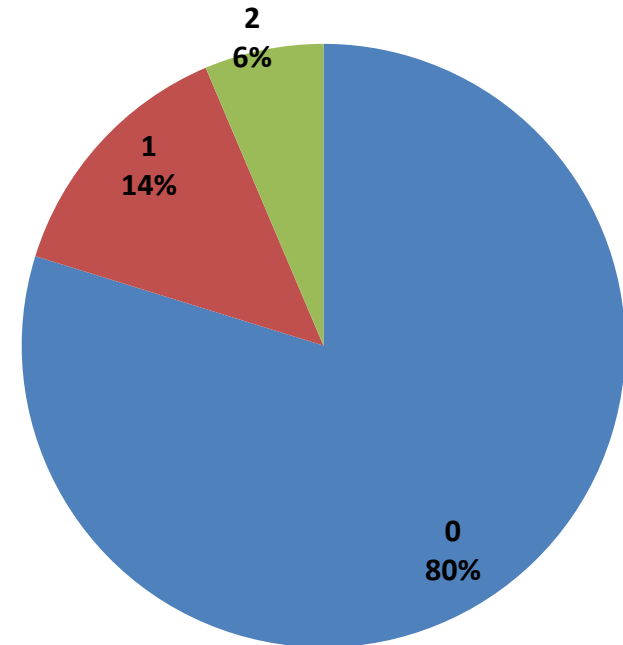
PARTICIPATION OF FRENCH YOUNG RESEARCHERS

Number of PhD students



63% of projects involve at least one PhD student

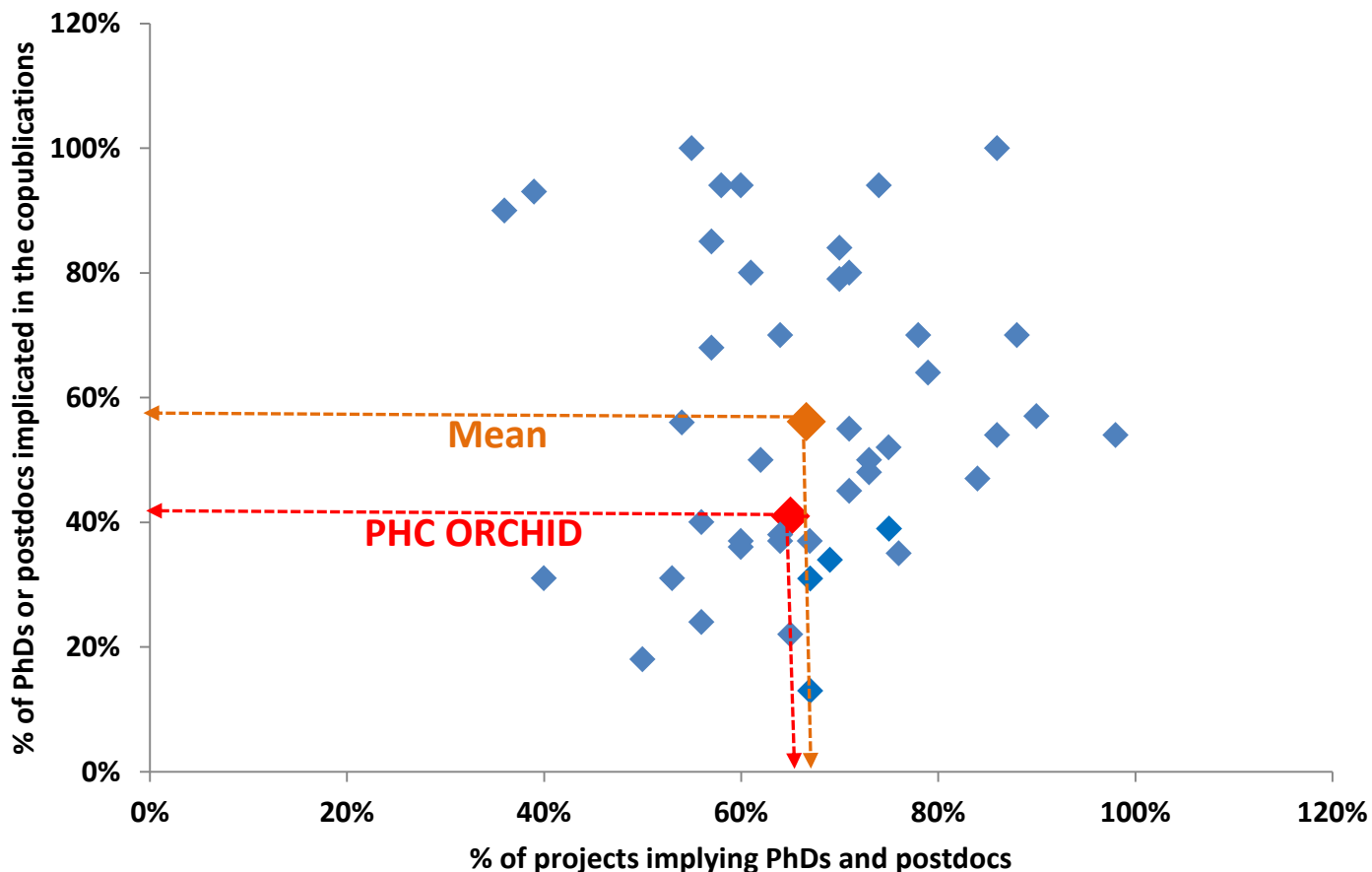
Number of post-doctoral researchers



18% of projects involve at least one post-doctoral researcher

Data from 87 responses

IMPLICATION OF YOUNG RESEARCHERS (COMPARISON BETWEEN 46 DIFFERENT BILATERAL PROGRAMS)



% of projects implying young researchers : 65% vs 67% mean
% of PhD or postdoc implicated in the copublications : 41% vs 56% mean

MOBILITY

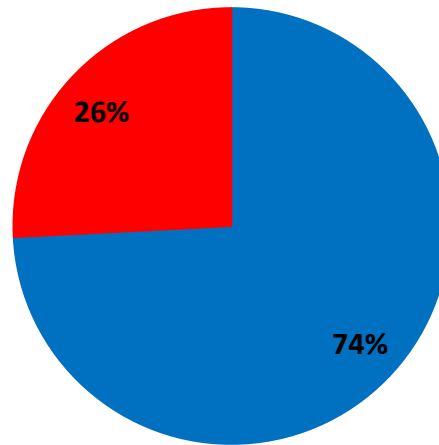


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MOBILITY : GENDER DISTRIBUTION

France → Taiwan



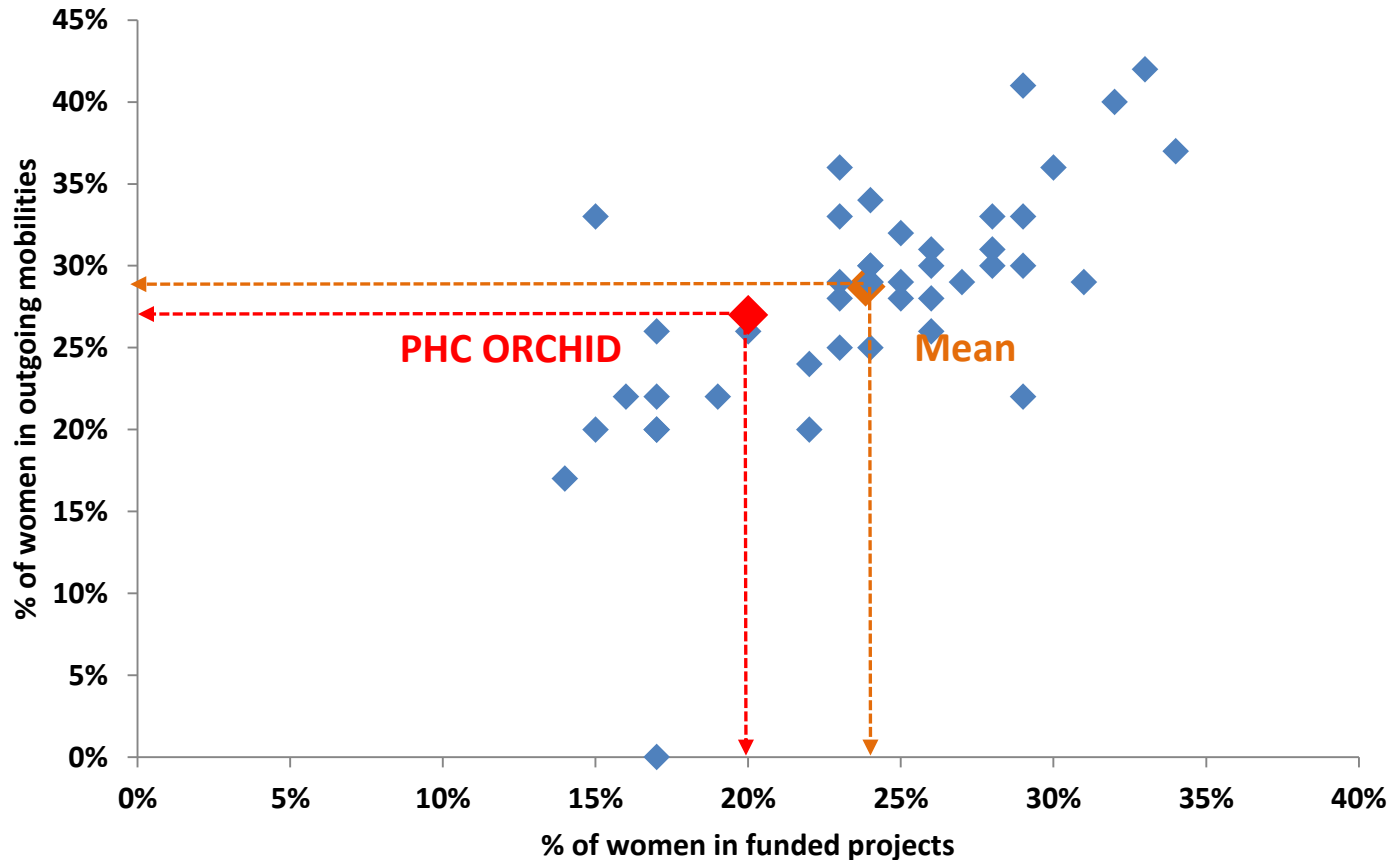
■ Men ■ Women

Data from 148 funded projects including outgoing mobilities

No data available for incoming mobilities

WOMEN MOBILITY FRANCE – TAIWAN

(COMPARISON BETWEEN 46 DIFFERENT BILATERAL PROGRAMS)

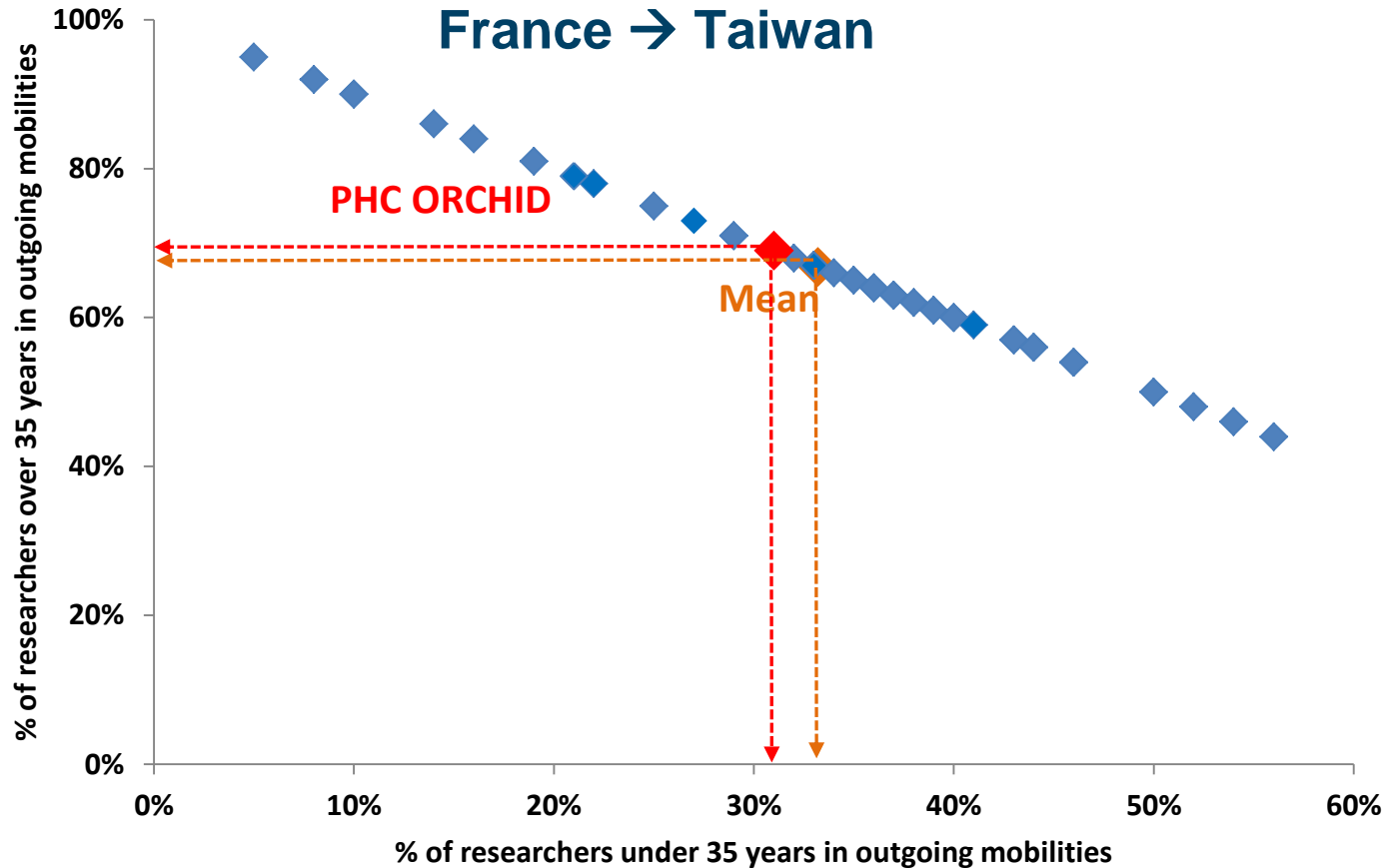


% of women researchers in the selected projects : 20% vs 26% mean
% of women researchers in outgoing mobilities : 29% vs 24% mean

YOUNG RESEARCHERS MOBILITY

FRANCE – TAIWAN

(COMPARISON BETWEEN 46 DIFFERENT BILATERAL PROGRAMS)

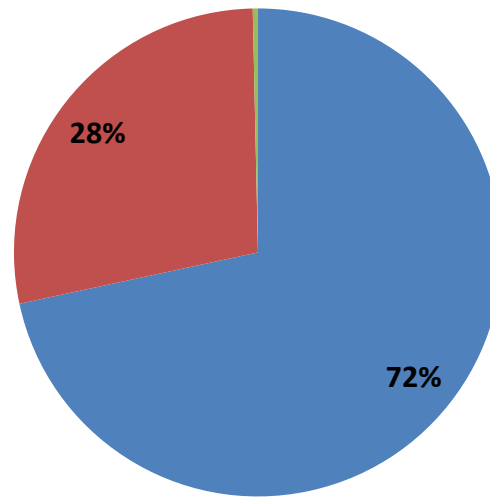


% of french young researchers in outgoing mobilities : 31% vs 33% mean

No data available for young researchers in incoming mobilities

MOBILITY : DURATION

France → Taiwan



2 mobilities more than 3 months

■ < 15 days

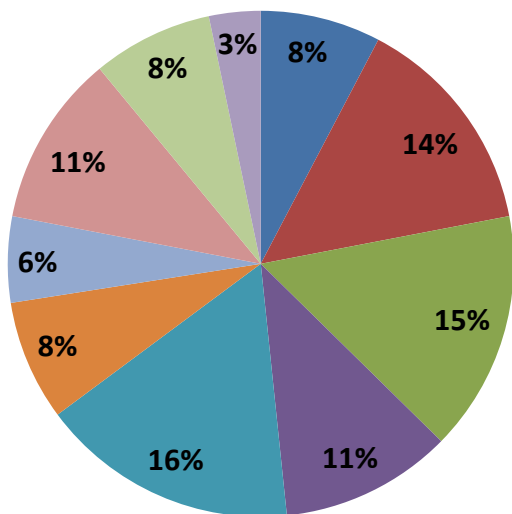
■ between 15 days and 3 months

■ > 3 months

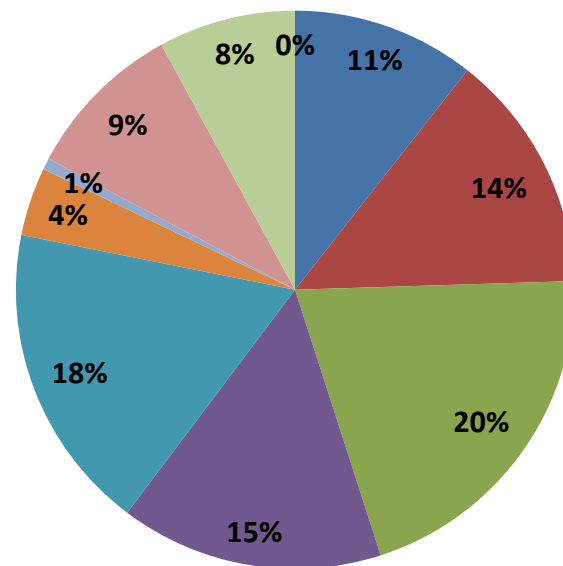
SCIENTIFIC PRODUCTION (2006-2017)

SCIENTIFIC OUTPUT (1/2)

Funded projects 2006-2017 (respondents)



Percentage of copublications



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

Data from the 91 survey responses

SCIENTIFIC OUTPUT (2/2)

Data from 91 funded projects

| | Number of financed projects in the survey | Average number of co-publications per project |
|------------------------------|---|---|
| Mathematics | 7 | 2,29 |
| Physics | 13 | 1,62 |
| Marine/Earth/Planet Sciences | 14 | 2,21 |
| Chemistry | 10 | 2,30 |
| Biology and Health | 15 | 1,80 |
| Humanities | 7 | 0,86 |
| Social Sciences | 5 | 0,20 |
| Engineering Sciences | 10 | 1,40 |
| Information Technology | 7 | 1,71 |
| Agronomy / Ecology | 3 | 0,00 |
| TOTAL | 91 | |

Overall average **annual** number of copublications per project : **0,83 vs 0,94 mean**

49% of funded projects led to one co-publication at least

46% of copublications include at least 1 PhD or PostDoc

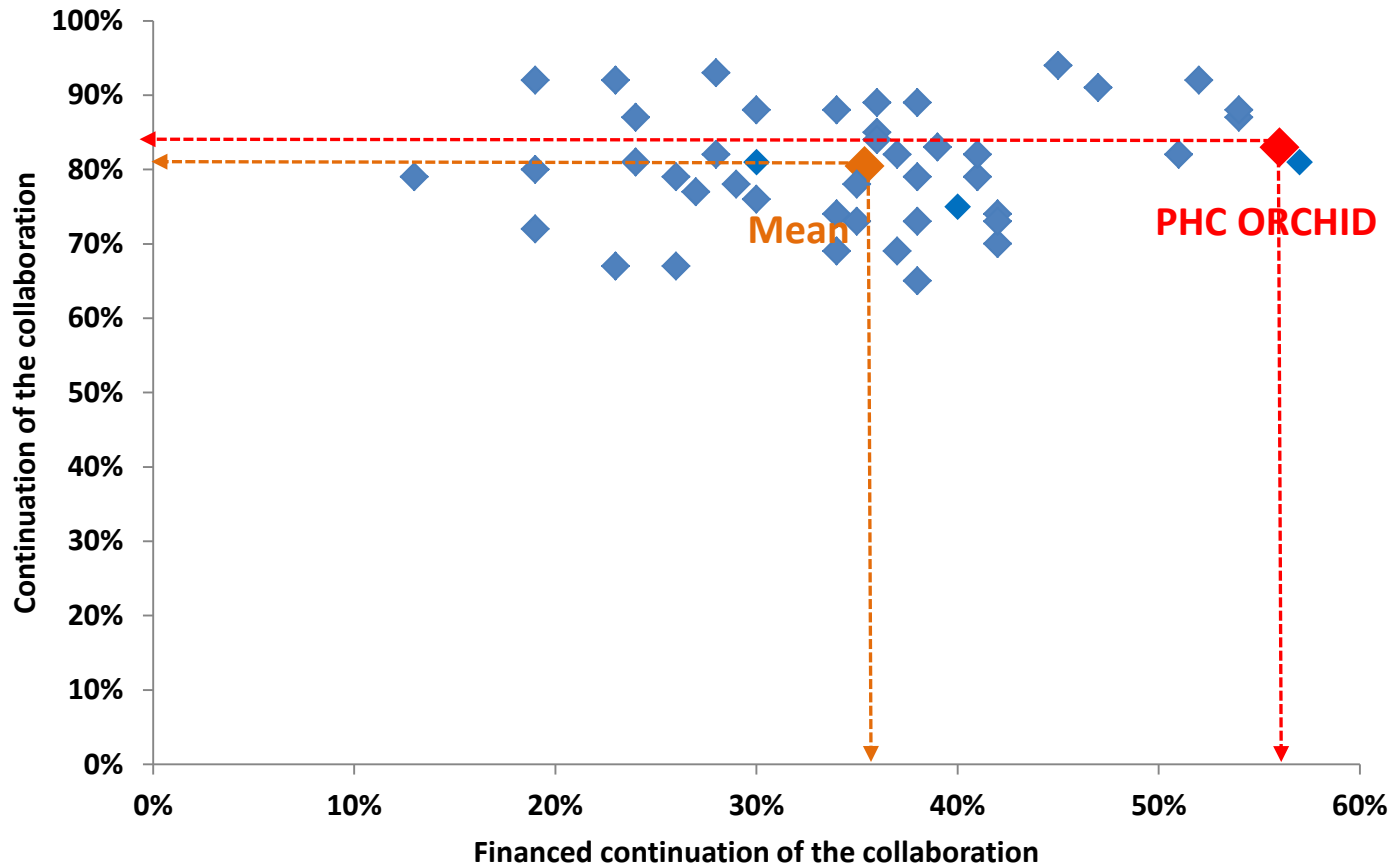
The average annual rate of publication for young researchers involved in the projects is **0,36**

Each young researcher involved in the publications has published **0,88 publication per year**

WHAT HAPPENS AFTER A ORCHID PROJECT ?



CONTINUATION OF THE COLLABORATION (1/5) (COMPARISON BETWEEN 46 DIFFERENT BILATERAL PROGRAMS)



Continuation of the collaboration : 83% vs 80% mean

Continuation of the collaboration with other sources of subvention : 56% vs 35% mean



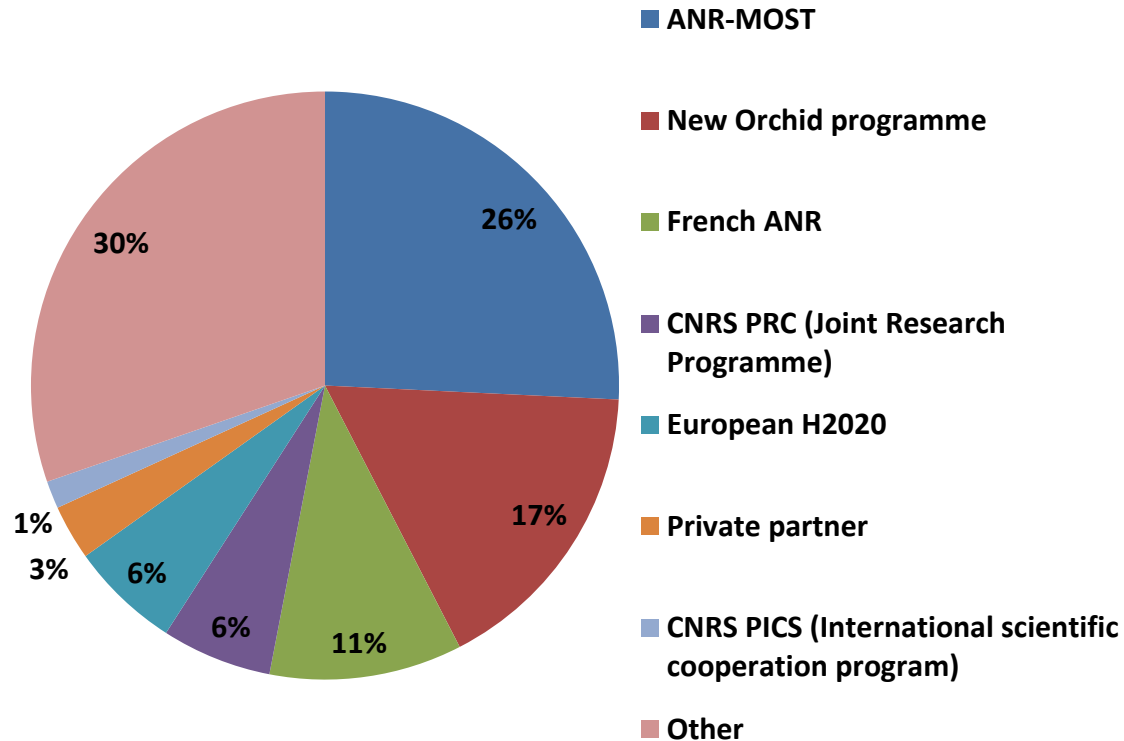
CONTINUATION OF THE COLLABORATION (2/5)

83% of the collaborations continued after the Orchid project

| Which activities? | |
|--------------------------------------|-----|
| Collaborative research | 65% |
| Researchers mobility | 63% |
| Co-publications | 43% |
| Joint participation to conferences | 36% |
| PhD mobility | 26% |
| Co-organisation of scientific events | 19% |
| Joint participation to PhD thesis | 18% |
| Joint diplomas (Master, PhD...) | 4% |
| Others | 14% |

CONTINUATION OF THE COLLABORATION (3/5)

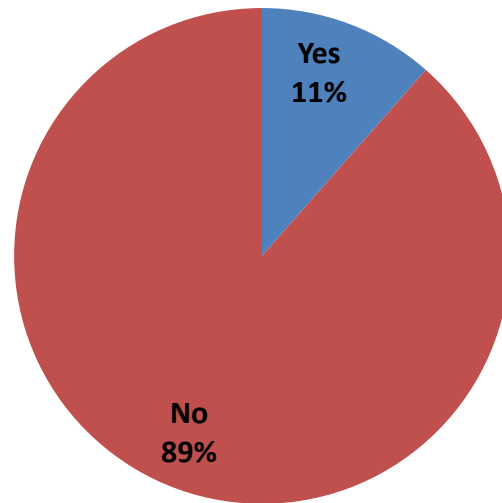
What kind of funded collaborations after the Orchid project ?



Data from 39 responses

CONTINUATION OF THE COLLABORATION (4/5)

Has the Orchid project led to the set-up of joint structures?

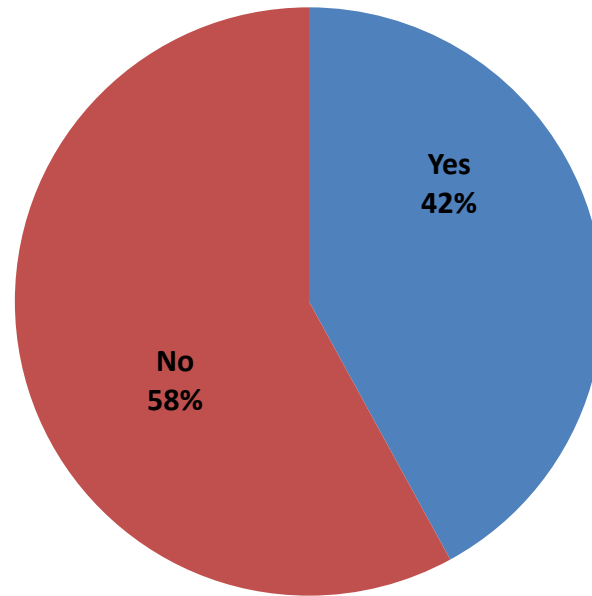


3 CNRS International Laboratories (LIA)
1 CNRS International Research Group
3 International Joint Structures

Data from 87 responses

CONTINUATION OF THE COLLABORATION (5/5)

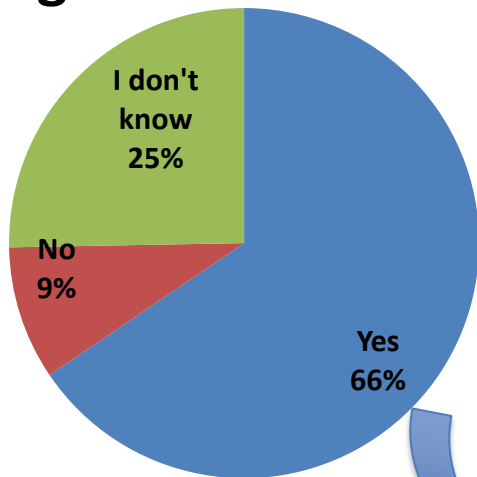
Has the French-Taiwan collaboration involved new partners?



For a total of 40 new partners from 13 different countries

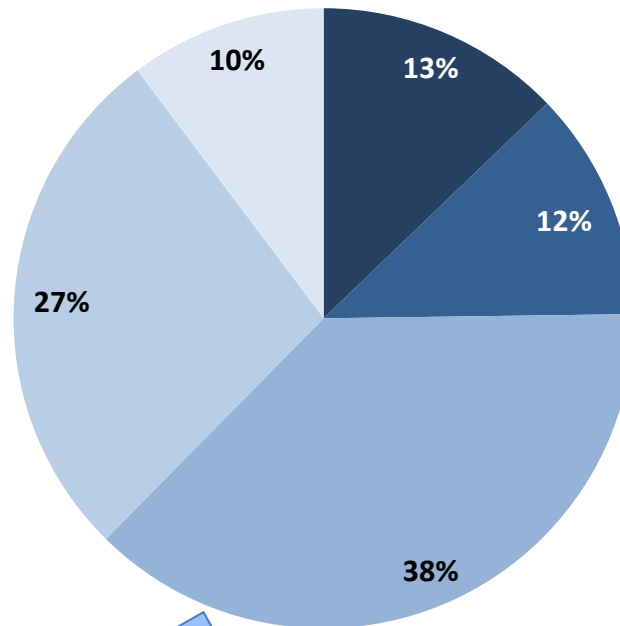
IMPACT ON YOUNG RESEARCHERS' CAREER (1/2)

Was young researchers' career impacted by the Orchid program ?



Data from 87 responses

Type of impacts

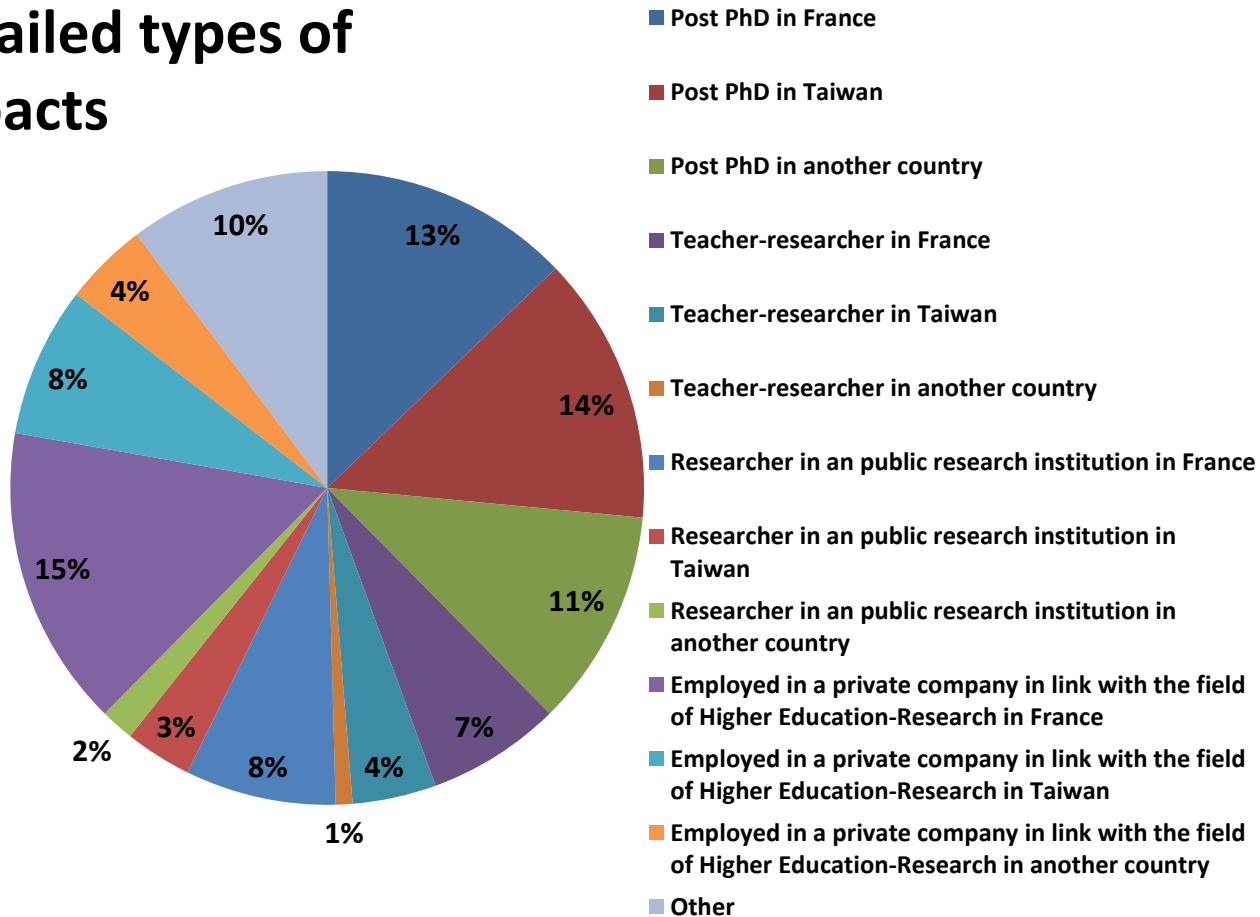


- Researcher in a public research institution (permanent position)
- Teacher/Researcher (permanent position)
- Postdoc/Teacher/Researcher (temporary position)
- Employed in a private company in link with the field of Higher Education - Research
- Other

Data from 57 positive responses for a total of 117 young researchers

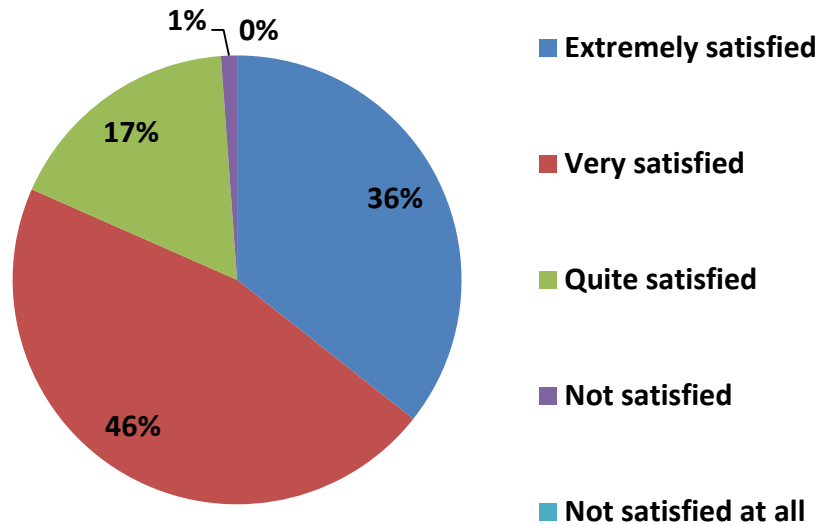
IMPACT ON YOUNG RESEARCHERS' CAREER (2/2)

Detailed types of impacts



GENERAL OPINION OF FRENCH PIS ON THE PROGRAM

99% of French principal investigators are satisfied



Data from 87 responses

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

SURVEY OF 87 FUNDED PROJECTS



| Strengths of this program | Number of occurrences (out of 530) | % (out of 87) |
|---|------------------------------------|---------------|
| Fostering an international research collaboration | 71 | 78 |
| Fostering researchers' mobility | 69 | 76% |
| Simplicity of the project application process | 57 | 63% |
| Fostering exchanges enabling scientific production | 48 | 53% |
| Easy implementation (administrative flexibility) | 47 | 52% |
| Helping to know the partner country | 44 | 48% |
| Fostering the training of the young researchers | 42 | 46% |
| Helpful to initiate other fundraising | 35 | 38% |
| Sufficient financial means for the mobility costs | 27 | 30% |
| Good scientific-added value on financial investment | 25 | 27% |
| Financial autonomy towards your institution | 22 | 24% |
| Sufficient amount of mobility time given to collaborate | 15 | 16% |
| Sufficiently long duration of the projects | 13 | 14% |
| Timetable for implementation | 8 | 9% |
| Transparency of the selection process | 7 | 8% |
| No strenght point | 0 | 0% |
| Other | 0 | 0% |
| <i>Total number of occurrences</i> | <i>530</i> | |

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

SURVEY OF 87 FUNDED PROJECTS



| Weaknesses of this program | Number of occurrences (out of) | % (out of 87) |
|--|---------------------------------|---------------|
| No funding of the operation and capital expenditures | 37 | 41% |
| Too short duration of the projects | 25 | 27% |
| Difficult to continue the collaboration | 24 | 26% |
| Lack of transparency in the selection process | 21 | 23% |
| Too short duration of mobilities | 15 | 16% |
| No weakness | 14 | 15% |
| Insufficient communication on the evaluation's results | 14 | 15% |
| Too low number of mobilities | 14 | 15% |
| Financial means insufficient for the expenditure of mobility (per diem) | 10 | 11% |
| Financial means insufficient for the expenditure of mobility (transport) | 9 | 10% |
| Heaviness of the process of applications | 6 | 7% |
| Timetable for implementation | 5 | 5% |
| Administrative heaviness of the missions management | 3 | 3% |
| Flexibility of the programme for actions co-financed with the partner | 1 | 1% |
| Financial autonomy towards your institution | 1 | 1% |
| Too long duration of mobilities | 0 | 0% |
| Other | 7 | 8 |
| Total number of occurrences | 206 | |

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”.

Better percentage of young PIs (25%) as compared to the mean of 22%

Participation of women PIs close to the the mean but could be encouraged

Implication of young researchers in the projects (63%) close to the mean (65%) but could be improved

Implication of french young researchers in the mobilities (31%) close to the mean (33%) but could be improved

High percentage of new fundings after a Orchid project (56% vs 35% mean)

Beware of the decrease in the number of applications

Orchid program initiates only 45% of new collaborations

51% of funded projects with no co-publications

Insufficient scientific production (0,83 vs 0,94)

Insufficient implication of french young researchers in the scientific production (41% vs general mean 56%)

Low average annual publication rate of young researchers (0,36)



PRELIMINARY RECOMMENDATIONS

RECOMMENDATIONS

- **Better communication of the Call for offer**
- **Promote more new cooperations**
- **Increase the publication rate**
- **Increase the participation of young researchers in the projects**
- **Encourage PIs to increase the implication of young researchers in the publications**
- **Encourage women researchers to apply**
- **Consider a “ORCHID +” program to help PIs at the end of their financing to develop new applications (Europe, International programs) ?**

French national ministries (MESRI / 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

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Thank you for your attention



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