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# Project acronym TRIGGER

# Project title: TRansforming Institutions by Gendering contents and Gaining Equality in Research

# Seventh FRAMEWORK PROGRAMME Specific programme 'Capacity' Work programme 'Science in Society'

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Deliverable D. 4.10.

# Report on women's publishing activities

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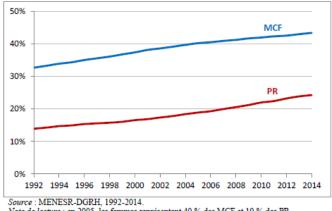
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PU	Public	х					
PP	Restricted to other programme participants (including the Commission Services)						
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In 2009, 41% of teachers-researchers of University Paris-Diderot (UPD) were women. In 2015, their number stays up to 41 %. If we look at the sex distribution according to the hierarchical position, this share can be quite different: it dwindles as we go up the hierarchy. But we can notice that he proportion of women in the highest position (professor) increases from 27.1 % in 2009 to 28.4 % in 2015<sup>1</sup>.

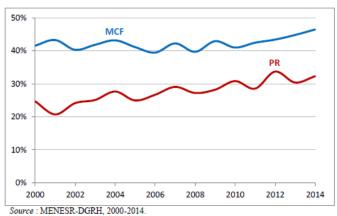
**Graph1**: Sex distribution of teachers-researchersbetween 1992 and 2014 in France



Note de lecture : en 2005, les femmes représentent 40 % des MCF et 19 % des PR

This glass ceiling phenomenon is not only a UPD problem. Even though in France the proportion of women among the teacher-researchers is increasing (10 points between 1992 and 2014), they only represent 43 % of assistant-professors<sup>2</sup> and 24 % of professors<sup>3</sup> in 2014<sup>4</sup> (Graph1).

**Graph2**: Sex repartition of teachers-researchers recruitment between 2000 and 2014 in France



Note de lecture : en 2005, les femmes représentent 41 % des MCF et 25 % des PR recrutés.

Regarding the recruitment in France, it's slightly increasing to reach 47 % of women among assistantprofessors in 2014 and 32 % of women among professors (Graph.2).

However, assistant-professor women with the Accreditation to Supervise Research (ASR) outnumber those who apply for a University professor position (34 % and 31 %). This could reveal a selfcensorship from women regarding their career evolution.

<sup>3</sup> In French: Professeur.e (PR)

<sup>&</sup>lt;sup>1</sup> Sources : Social Reports of 2009 and 2015 (Contains a mandatory overall analysis of all the staff and students of UPD)

<sup>&</sup>lt;sup>2</sup> In French : Maître.sse de conférence (MCF)

<sup>&</sup>lt;sup>4</sup> « Analyse quantitative de la parité entre les femmes et les hommes parmi les enseignants-chercheurs universitaires », DGRH A1-1, septembre 2016

Graph3: Sex distribution of the PhD's students and the habilitation certificate (ASR) in France

Year		PhD's st	tudents		Habilitation Certificate (ASR)					
	Women	Men	%W	%M	Women	Men	%W	%M		
2011-2012	30 066	32 400	48,1%	51,9%	474	935	33,8%	66,4%		
2012-2013	29 524	31 639	48,3%	51,7%	464	873	34,7%	65,3%		
2013-2014	29 231	31 104	48,4%	51,6%	481	891	35,1%	64,9%		
2014-2015	28 649	30 698	48,3%	51,7%	451	863	34,3%	65,7%		
2015-2016	28 202	30 233	48,3%	51,7%	441	793	35,7%	64,3%		

Source: Les carrières des enseignantes-chercheuses dans l'Enseignement Supérieur, SNE SUP FSU (Syndicat national de l'enseignement supérieur Fédération syndicale unitaire) 2 janvier 2017

Hopefully the increase of women with the ASR between 2011 and 2016 (Graph.3) will encourage more women to consider applying for a professor position.

#### Introduction

The first deliverable in 2014<sup>5</sup> focused on 3 laboratories of UPD (biology, physic and linguistic) and the ratio of women in their refereed articles (ie articles with the greatest impact) according to the ratio of women in the laboratory and their position. For the physics laboratory, interviews were done with four female assistant-professors and four male of the same position. It appears in the results of the deliverable that the identification of specific attitudes which lead to specific positions is essential. A recommendation at the end of it is to conduct further interviews, especially when figures are unavailable as in the physics laboratory. Another recommendation was to gain access to the composition of reading committees of refereed journals and the possibility to talk with some of their members. two pieces of information Also, emerge from it:

- Publication habits can be very different from one field to another
- There is no complete database of UPD publications.

The availability of the publications and the mention of the glass ceiling effect make us rethink our methodology. Because of this, it seemed interesting to see if differences in the publishing activity exist between men and women and if this could explain some career differences. The previous deliverable was focusing on the ratio of women among authors in comparison to the ratio of women working in laboratories.

One of the results was that women are under-represented in the higher positions. We decided to focus on this subject and look for another way to collect the publications of assistant-professors and professors. First we are now wondering whether there is a different publishing activity according to men and women. Then, if this proves to be the case, does it have consequences on women's careers once they have reached a very high level (assistant professors/professors)?

The first deliverable dealt with the publication activities through three laboratories of UPD. Regarding to this we wanted to expand the number of publications we can obtain. The idea was to have another access to publications. First we thought of Curriculum Vitae and then where to find

<sup>&</sup>lt;sup>5</sup> D4.4 Report on the 1st annual survey on women's publishing activities.

them. The Contests Office<sup>6</sup> was contacted because they receive CV when people apply for assistant-professor and professor positions.

With their help, we took all the CVs received from 2014 to 2016. A whole month was necessary for the statistician of our team to recover the CVs. The first week she went directly at the Office to learn and proceed with the application procedure, then she got through the process at the PEFH office. We then discussed further to determine what variables we were going to use for this deliverable (see the annex for more details). However, this database had to be produced "by hand" and we were running out of time. As a result, we decided to create the database only for the latest year in our possession: 2016. The data integration was carried out by two members of our team between early May and mid-October. This work took us 150 hours to produce an 806 input and 43 variables Excel file. It took two weeks for one of us to carry out the analysis, and another week to write the report.

To sum up, this deliverable takes a larger number of publications than the last one. It's because of the access to the data. The list of publications was taken in the CVs of assistant-professors and professors who have sent them for contest's recruitments at UPD in 2016. This way of data gathering made possible for us to take a look at a subject raised not only in the last deliverable but in our society: why women are under-represented in the highest positions? The context of the contest seemed to be a good way to look at this issue. In order to do that, we have decided not to observe the publications at a paper level (if the authors are women or men), but at an individual level: how many publications the author presented. For the last deliverable, knowing the sex of the author was very difficult. Here, we can make sure of this information with documents sent with the CV.

The CV from 2014 and 2015 are in possession of the PEFH, and we think that enlarging the database with this information could enhance the content and the conclusions of this report. An analysis of the changes over time can be done and would be interesting for the next years to come.

We chose to take only the person who directly responds to the competition and not the few ones joining it through a transfer for example. Is there a significant difference between men and women, which could explain why few women hold the highest positions?

We think that different pieces of information in the candidate's CVs are not always exhaustive. For example, some of the professors' candidates wrote "selection" before their publications and/or scientific events lists. We may think that they are not the only ones to make a selection of their work but some may not write it as clear as the others. So they may present only a selection of their work. Accordingly, we chose to use the word "presented" when we talk about publications and scientific events.

## I- Analysis of the contest's participants by age and amount of publications

Contrary to what we did in the first deliverable, we didn't choose to observe how many men and women where the authors of the same publication. Instead, we chose to analyze the position of the

<sup>&</sup>lt;sup>6</sup> The Contest Office is the support structure and management to the recruitment of all the civil servant staff (teacher-researcher and personnel administrative staff) of UPD. They ensure compliance legality of the legislative texts and the applications.

authors in the publications: first, second, more or unspecified. We counted the publications for the last 3 years and for the rest of the publications. While writing last year deliverable, we learned that each field has its own publication habits. Here, the data are presented according to the field of research.

<u>Table I.1</u>—Average and median age for women and men applying for competitive examinations

	Assistant-	-professor	Profe	essor
	Average	Median	Average	Median
Women	34	33	43	43
Men	33	31	44	42

In the traditional belief, women apply later in their lives for the highest position (professor) because they first have to take the Accreditation to Supervise Research (ASR) and they are too busy in their personal lives to plan it early in their careers (they have children to look after). However, as we can see here, men and women apply at the same age for the competitive examinations (Table I.1). Even one year earlier for women.

<u>Table I.2</u>—Average and median age for women and men applying for competitive examinations by field

tield									
		Ass	istant-profe	ssor		Professor			
		Sample Size	Average	Median	Sample Size	Average	Median		
Chemistry	Women	18	31	30	1	1	1		
Chemistry	Men	43	31	30	/	/	/		
Intercultural Studies and	Women	11	37	36	1	1	1		
Applied Languages	Men	15	37	37	/	/	/		
Daveh conclutio Studios	Women	52	38	34	/	/	/		
Psychoanalytic Studies	Men	32	40	40	/	/	/		
Geography, History,	Women	21	31	31	11	40	38		
Economy and Society	Men	31	34	33	19	43	42		
Computer Science	Women	10	32	30	1	1	1		
Computer Science	Men	19	30	29	/	/	/		
University Technology	Women	1	1	1	1	51	51		
Institute	Men	/	/	/	3	48	51		
Literature, Art and	Women	41	37	35	4	49	48		
Cinema	Men	15	35	33	2	50	50		
Eastern Languages and	Women	15	36	35	2	48	48		
Civilizations	Men	9	36	34	5	50	51		
Mathematics	Women	49	29	28	13	39	38		
iviathematics	Men	177	31	29	13	39	38		
Medicine	Women	6	35	35	1	1	1		
- Wedicine	Men	8	35	34	/	1	1		
Physics	Women	10	34	32	3	41	42		
Pilysics	Men	30	33	32	6	40	40		
Life Sciences	Women	53	34	34	/	1	1		
Life Sciences	Men	49	35	35	/	1	1		
Earth, Environmental and	Women	3	31	31	1	1	1		
Planetary Sciences	Men	16	31	31	1	1	1		
Social Studies	Women	1	/	/	1	49	49		
Social Studies	Men	/	/	/	3	60	61		

If we take a look of the same data by field (Table I.2), we can make exactly the same analysis. There is no field where women or men are way younger than men or the other way around. The largest gap is 3 years in Geography, History, Economy and Society (GHES) and University Technology Institute (UTI). Women in GHES apply younger than the men and vice versa in UTI.

We can see an eleven-year-gap in Social Studies, but this has to be looked at in context since there is only one women applying for this position.

This confirms that there is no important age gap between men and women applying for assistant-professors and professors contests. Women and men are approximately the same age in each field.

Table I.3-Publications by gender and rank (assistant-professor and professor)

		Average	Median	Minimum	Maximum
Assistant-	Women	8.94	7	0	40
professor	Men	8.06	6	0	53
Duefeese	Women	33.95	26.5	0	105
Professor	Men	30.04	26	2	88

Regarding the amount of publications, there is no doubt: the average difference is tiny (Table I.3). Yet, women are presenting more publications than men, especially for the highest position of professor. However, as we've pointed out earlier, the lack of women in the highest positions could be due to their lower number of publications in comparison to men's publications.

Statistically, the amount of publications does not seem to explain why less women access the highest positions. As a consequence, their applications should be considered, on that point, equally to the men.

Table I.4-Publications by gender, field and rank

			Women	Men
	Assistant-	Number	18	43
Chemistry	Professor	Average	7.11	10.05
	Professor	Total	128	432
Intercultural Studies and	Assistant-	Number	11	15
Applied Languages	Professor	Average	9.09	11.13
Applied Laliguages	FIUIESSUI	Total	100	167
	Assistant-	Number	52	32
Psychoanalytic Studies	Professor	Average	11.46	10.56
	110163301	Total	596	338
	Assistant- Professor	Number	11	19
		Average	22.55	26.58
Geography, History,	110163301	Total	248	505
Economy and Society	Professor	Number	21	31
		Average	5.33	8.52
		Total	112	264
	Assistant-	Number	10	19
Computer Science	Professor	Average	9	6.42
	110103301	Total	90	122
University Technology		Number	1	3
Institute	Professor	Average	77	42
mstitute		Total	77	126
Literature, Art and		Number	4	2
Cinema	Professor	Average	57.75	27
Cinema		Total	231	54

			Women	Men
	Assistant	Number	41	15
	Assistant- Professor	Average	12.17	16.8
	Professor	Total	499	252
		Number	2	5
	Professor	Average	32.5	31.6
Eastern Languages and		Total	65	158
Civilizations	Assistant-	Number	15	9
	Professor	Average	8.27	15.75
	Professor	Total	124	142
		Number	0	13
	Professor	Average	0	21.77
Mathematics		Total	0	283
iviatilematics	Assistant- Professor	Number	49	177
		Average	4.53	4.63
	FIUIESSUI	Total	222	819
	Assistant-	Number	6	8
Medicine	Professor	Average	12.17	7.63
		Total	73	61
	Professor	Number	3	6
		Average	28	35.33
Physics		Total	84	212
Pilysics	Assistant-	Number	10	30
	Professor	Average	12.5	13.33
	FIGUESSOI	Total	125	400
	Assistant-	Number	53	49
Life Sciences	Professor	Average	9.36	9.67
	FIUIESSUI	Total	496	474
Earth, Environmental and	Assistant-	Number	3	16
Planetary Sciences	Professor	Average	6.67	6.69
Traffetally Sciences	1 10163301	Total	20	107
		Number	1	3
Social Studies	Professor	Average	42	64.67
		Total	42	194

A closer observation by field shows a total average of a difference of 7 publications and it goes for each field from 1 publication to 35 (Table I.4). However, if we withdraw the positions where there were fewer applications (ten, or less from women or men), then the average difference is only of 2.5 publications.

## II- Analysis by rank in the contest

Let's see now how often women get the position when applying for the UPD 2016 competitions in regard to the amount of publications.

Table II.1—Publications by gender, field, rank and position in the contest

	, 0	, ,	•					
		Finalists		Admissible		Candidates		
			Women	Men	Women	Men	Women	Men
		Number		1	1		17	42
Chamista	Assistant- Professor	Average		17	12		7	10
Chemistry		Med		17	12		5	9
		Min		17	12		0	0

			Final	ists	Admis	sible	Candid	ates _
			Women	Men	Women	Men	Women	Men
		Max		17	12		15	33
		Number	1		2	3	8	12
Intercultural		Average	13		6	12	9	11
Studies and	Assistant-	Med	13		6	7	5	10
Applied	Professor	Min	13		4	5	0	2
Languages		Max	13		8	24	29	21
		Number	3	1	6	1	43	30
		Average	12	3	10	4	12	11
Psychoanalytic	Assistant-	Med	12	3	10	4	10	9
Studies	Professor	Min	5	3	1	4	3	3
		Max	18	3	18	4	28	26
		Number		1		2	21	28
		Average		5		13	5	8
	Assistant-	Med		5		13	4	6
Geography,	Professor	Min		5		8	1	1
History,		Max		5		17	17	27
Economy and		Number		1	2	2	9	16
Society		Average		40	27	47	22	23
· · · · · ·	Professor	Med		40	27	47	22	22
		Min		40	26	39	0	2
		Max		40	27	55	52	52
Computer Science		Number		1	2	4	8	14
		Average		7	13	7	8	6
	Assistant-	Med		7	13	5	8	7
	Professor	Min		7	7	2	3	2
		Max		7	18	15	15	19
University		Number		1	10	1	1	1
		Average		41		45	77	40
Technology	Professor	Med		41		45	77	40
Institute		Min		41		45	77	40
		Max		41		45	77	40
		Number		1	4	2	77	12
		Average		11	19	31	37	15
	Professor	Med		11	17	31	11	10
		Min		11	5	9	9	4
Literature, Art		Max		11	36	52	0	48
and Cinema		Number			3		40	2
		Average			65		1	27
	Assistant-	Med			46		37	27
	Professor	Min			43		37	14
		Max			105		37	40
		Number	2		2	4	11	5
		Average	14		12	19	7	14
	Professor	Med	14		12	17	5	10
		Min	11		11	7	3	4
Eastern		Max	17		12	34	13	35
Languages and		Number		3	2	1		1
Civilizations		Average		33	33	2		39
	Assistant-	Med		23	33	20		39
	Professor	Min		18	20	20		39
		Max		58	45	20		39
		Number	1	2	7	9	41	166
Mathematics	Professor	Average	5	5	3	6	5	5
							-	

			Final	ists	Admis	sible	Candid	ates
			Women	Men	Women	Men	Women	Men
		Med	5	5	3	6	4	3
		Min	5	3	1	1	0	0
		Max	5	6	5	11	23	23
		Number						13
		Average						22
	Assistant- Professor	Med						15
	Professor	Min						5
		Max						83
		Number		1			6	7
		Average		6			12	8
Medicine	Assistant-	Med		6			10	9
	Professor	Min		6			0	2
		Max		6			35	11
		Number		2		5	10	23
		Average		21		17	13	12
	Professor	Med		21		13	6	8
		Min		8		8	2	0
Dharatas		Max		34		32	39	53
Physics		Number		1	2	1	1	4
	Assistant-	Average		55	21	29	42	32
	Assistant- Professor	Med		55	21	29	42	33
	Professor	Min		55	17	29	42	20
		Max		55	25	29	42	42
		Number		2	6	4	45	43
		Average		13	9	6	9	10
Life Sciences	Assistant- Professor	Med		13	7	6	7	9
	Professor	Min		6	3	3	0	0
		Max		19	18	9	37	29
		Number		1	1	2	45	13
Earth,	A:-tt	Average		18	9	9	9	6
Environmental	Assistant-	Med		18	9	9	7	4
and Planetary	Professor	Min		18	9	7	0	2
Sciences		Max		18	9	10	37	13
		Number	1					3
		Average	42					65
Social Studies	Professor	Med	42					76
		Min	42					30
		Max	42					88

Out of ten positions obtained by women, six have an amount of publications equal to or above the other candidates (Table II.1). For men, out of 19 positions, 7 have an amount of publications equal to or above the other candidates. If we expressed this out of ten, this would amount to only 4 men.

We can conclude that women who obtain the positions have to present an outstanding scientific and academic background. The amount of publications in the CV of women seems to have a bigger impact than the men's. As the publications have less impact for men, we can wonder if other factors as the network are more significant for them.

Table II.2—Publications compared to participation of women (all candidates)

Amount of publications										
Amount o	of	None	1-5	6-10	11-30	31-50	51-89	+90	Total	

participation in scientific event									
None	Number	4	11	8	4	1	0	0	28
	Percent	1.29 %	3.54 %	2.57 %	1.29 %	0.32 %	0 %	0 %	9 %
1-5	Number	0	20	6	7	0	0	0	33
	Percent	0 %	6.43 %	1.93 %	2.25 %	0 %	0 %	0 %	10.61 %
6-10	Number	1	28	15	16	0	0	0	60
	Percent	0.32 %	9 %	4.82 %	5.14 %	0 %	0 %	0 %	19.29 %
11-30	Number	2	49	49	49	6	0	0	155
	Percent	0.64 %	15.76 %	15.76 %	15.76 %	1.93 %	0 %	0 %	49.84 %
31-50	Number	0	3	8	10	3	1	0	25
	Percent	0 %	0.96 %	2.57 %	3.22 %	0.96 %	0.32 %	0 %	8.04 %
51-99	Number	0	2	0	2	2	1	1	8
	Percent	0 %	0.64 %	0 %	0.64 %	0.64 %	0.32 %	0.32 %	2.64 %
+100	Number	0	0	0	1	1	0	0	2
	Percent	0 %	0 %	0 %	0.32 %	0.32 %	0 %	0 %	0.64 %
Total	Number	7	113	86	89	13	2	1	311
	Percent	2.25 %	36.33 %	27.65 %	28.62 %	4.18 %	0.64 %	0.32 %	100 %

Table II.3-Publications compared to participation of men (all candidates)

				Amou	nt of publica	itions <sup>7</sup>		
Amount of participation in scientific event		None	1-5	6-10	11-30	31-50	51-89	Total
None	Number	3	21	12	5	0	0	41
None	Percent	0.61 %	4.24 %	2.42 %	1.01 %	0 %	0 %	8.28 %
1-5	Number	1	21	18	9	0	0	49
1-5	Percent	0.2 %	4.24 %	3.64 %	1.82 %	0 %	0 %	9.9 %
6.10	Number	4	41	36	23	1	0	105
6-10	Percent	0.81 %	8.28 %	7.27 %	4.65 %	0.2 %	0 %	21.21 %
11 20	Number	6	80	75	53	8	2	224
11-30	Percent	1.21 %	16.16 %	15.15 %	10.71 %	1.62 %	0.4 %	45.25 %
21 50	Number	2	15	6	16	5	4	48
31-50	Percent	0.4 %	3.03 %	1.21 %	3.23 %	1.01 %	0.81 %	9.7 %
F1 00	Number	0	3	4	11	4	2	24
51-99	Percent	0 %	0.61 %	0.81 %	2.22 %	0.81 %	0.4 %	4.85 %
.100	Number	0	0	1	1	1	1	4
+100	Percent	0 %	0 %	0.2 %	0.2 %	0.2 %	0.2 %	0.81 %
Total	Number	16	181	152	118	19	9	495
Total	Percent	3.23 %	36.57 %	30.71 %	23.84 %	3.84 %	1.82 %	100 %

As we can see in Tables II.2 and II.3, women and men have almost the same results again. 36 % of men and women presented between one and five publications. Also, 50% of the women and 47% of the men participated in 11 to 30 events. 47 % of women and 42 % of men presented between 11 and 30 events and 1 and 30 publications. Here again, there are no significant differences between the candidates.

Table II.4-Publications compared to participation of women (finalists)

	Amount of publications <sup>8</sup>			
Amount of participation in scientific	1-5	11-30	31-50	Total

 $<sup>^{7}</sup>$  There is no men who have more than 89 publications.

 $<sup>^{\</sup>rm 8}$  There is no women who have 6 to 10 or 51 to 99 publications, so we didn't put it in this chart.

event <sup>9</sup>					
6-10	Number	0	1	0	1
0-10	Percent	0 %	10 %	0 %	10 %
11-30	Number	2	5	0	7
11-30	Percent	20 %	50 %	0 %	70 %
21.50	Number	0	1	0	1
31-50	Percent	0 %	10 %	0 %	10 %
.100	Number	0	0	1	1
+100	Percent	0 %	0 %	10 %	10 %
Total	Number	2	7	1	10
Total	Percent	20 %	70 %	10 %	100 %

Table II.5-Publications compared to participation of men (finalists)

	Amount of publications						
Amount of participation in scientific event <sup>10</sup>		1-5	6-10	11-30	31-50	51-99	Total
None	Number	0	1	0	0	0	1
None	Percent	0 %	5.26 %	0 %	0 %	0 %	5.26 %
0-5	Number	0	2	0	0	0	2
0-5	Percent	0 %	10.53 %	0 %	0 %	0 %	10.53 %
11-30	Number	3	2	4	1	1	11
11-30	Percent	15.79 %	10.53 %	21.05 %	5.26 %	5.26 %	57.89 %
31-50	Number	0	0	1	1	1	3
21-20	Percent	0 %	0 %	5.26 %	5.26 %	5.26 %	15.79 %
51-99	Number	0	0	1	0	0	1
21-33	Percent	0 %	0 %	5.26 %	0 %	0 %	5.26 %
+100	Number	0	0	0	1	0	1
+100	Percent	0 %	0 %	0 %	5.26 %	0 %	5.26 %
Total	Number	3	5	6	3	2	19
Total	Percent	15.79 %	26.32 %	31.58 %	15.79 %	10.53 %	100 %

As we can see, among the female finalist women, 50 % presented between 11 and 30 scientific events and between 11 and 30 publications. 20 % presented between one and five publications and between 11 and 30 scientific events (Table II.4). For men, the distribution of those categories is respectively 21 % and 16 % (Table II.5).

<u>Table II.6</u> – Participation of scientific events by Gender and position in the contest

		Assistant-	professor	Profe	essor
		Women	Men	Women	Men
	Number	9	13	1	6
	Average	20	18	166	49
Finalists	Median	16	18	166	45
	Min	6	0	166	16
	Max	42	37	166	106
	Number	31	36	9	5
Admissible	Average	17	21	35	45
	Median	15	16	30	52

<sup>&</sup>lt;sup>9</sup>There is no men who have 50 to 99 participations in scientific events.

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<sup>&</sup>lt;sup>10</sup> There is no men who have 6 to 10 scientific events.

	Min	0	0	13	24
	Max	39	69	69	64
	Number	249	395	12	39
	Average	15	15	29	35
Candidates	Median	12	12	28	27
	Min	0	0	0	0
	Max	100	143	70	152

If we break down the results of participation by position in the competitive examination, we can see that for the assistant-professors finalists, women and men presented almost the same average of events, even if a man did not present any (Table II.6). For the professors finalists, only one woman got the position so the comparison is difficult to make. But, this only woman presented more events than the man with the highest number of participations.

Regarding the eligible assistant-professors, the gap is about four percentage points for the average: Men have presented more scientific events than women. However, 50 % of the women presented more than 15 events versus 16 for the men. For the professors, men presented a lot more events than women: approximately a 10 percentage points gap.

If we take a look at the assistant-professors candidates, both the average and the median are equal between women and men. Yet for the professors, the average of men is 6 points higher than the average of women while the median is only one point higher. We can explain this gap because the maximum of events is much higher for men.

Finally, we can say that apart from data dealing with eligible professors, there are only a few discrepancies between men and women according to the number of scientific events they claim to participate in. Furthermore, the gap between the eligible candidates and the finalists assistant-professors is very thin. Finally, among the eligible candidates and the finalists men professors, if we look at the median, we can point out that the finalists attended less events.

So, the network is not a statistical data that can allow to explain a difference between men and women regarding their position in the examination.

### III- Analysis of the contest's results

If we look at the information above, we may think that men and women have a statistically equal chance to get the assistant-professors and professors positions.

Table III.1 – Proportion of attendees by Gender and position in the contest

		Professor		Assistant	-Professor
		Women	Men	Women	Men
	Candidate	/	/	1	0
Chemistry	Admissible	/	/	17	42
	Finalist	/	/	0	1
Intercultural	Candidate	/	/	2	3
Studies and	Admissible	/	/	8	12
Applied Languages	Finalist	/	/	1	0
Psychoanalytic Studies	Candidate	/	/	6	1
	Admissible	/	/	43	30
Studies	Finalist	/	/	3	1

		Prof	essor	Assistant	-Professor
		Women	Men	Women	Men
Geography,	Candidate	2	2	21	28
History, Economy	Admissible	9	16	0	2
and Society	Finalist	0	1	0	1
	Candidate	/	/	2	5
Computer Science	Admissible	/	/	8	14
	Finalist	/	/	0	1
University	Candidate	0	1	/	/
Technology	Admissible	1	1	/	/
Institute	Finalist	0	1	/	/
Libereture Aut and	Candidate	3	0	4	2
Literature, Art and	Admissible	1	2	37	12
Cinema	Finalist	0	0	0	1
F4	Candidate	2	4	2	4
Eastern Languages	Admissible	0	1	11	5
and Civilizations	Finalist	0	3	2	0
	Candidate	0	0	7	9
Mathematics	Admissible	0	13	41	166
	Finalist	0	0	1	2
	Candidate	/	/	0	0
Medicine	Admissible	1	/	6	7
	Finalist	/	/	0	1
	Candidate	1	4	0	5
Physics	Admissible	2	1	10	23
·	Finalist	0	1	0	2
	Candidate	/	/	6	6
Life Sciences	Admissible	1	/	45	43
	Finalist	1	1	2	2
Earth,	Candidate	/	/	1	2
Environmental and	Admissible	/	/	2	13
Planetary Sciences	Finalist	1	/	0	1
	Candidate	0	0	/	/
Social Studies	Admissible	0	3	/	1
	Finalist	1	0	/	/
Total candidates	Total candidates		54	289	447
% of women		29 %		39 %	
% of women candida	ites	26 %		38 %	
% of women admissi	ble	50 %		58 %	
% of women finalists		14 %		41 %	

Women represent 39 % of all the applications for the assistant-professor position, 58 % of the applications selected for the oral part are women but only 41 % of the chosen ones to hold the positions are women. The optimistic part is that the percentage of women chosen for the final position is higher than the percentage of women who applied. Also, they represent more than half of the people selected for the oral part.

However, the further you go up the hierarchy, the less women are in the highest positions. They only represent 29 % of the candidates for the professor's positions. 50 % of the selected candidates for the oral are women but only 14 % of those who will the position are women. Conversely, it's the opposite phenomenon as for the assistant-professors: even less represented as candidates, women are even less selected to fulfill the highest position. Even then they represent the half of the selected for the oral.

#### **Conclusion**

There is nothing in our data that can really explain why there are no more women recruited for the highest position of professor. None of their age, amount of publications or scientific event can distinguish a men from a women CV.

It seems that a similar amount of men and women arrived at the oral part. So, there is a remaining question: Does the jury have quotas for the oral? This could explain the distribution of men and women at this stage. But there are no quotas and it shows that men and women have equally good and interesting CVs. So something must be happening during the oral examination, and unfortunately, we can't analyze this part statistically. We can suggest further investigation to conduct interviews with the jury to see how they choose the finalist.

Another question can be raised from that analysis. Since 2015, the only obligation has been to have at least 40 % of a gender in the jury (with derogations for some fields). Several new research questions can therefore be raised:

- Before 2015, what was the composition of the jury and are there a lot of differences for the choice of gender of the admissible and finalists?
- Does a better gender repartition of the jury leads to more women finalists?

Another possible future line of approach can be to investigate whether people are married and/or have children. The interesting part of this new data collection is that there is a double standard for men and women regarding children. Catherine Marry in "Women Engineer, a respectful uprising" teaches us that marriage and children obstruct women's carreers but consolidate men's<sup>11</sup>.

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<sup>&</sup>lt;sup>11</sup> Marry C. Les femmes ingénieures, une révolution respectueuse, Paris, Ed. Belin, 2005, p232 et 236

#### ANNEX: Variables used for the data analysis

After consideration, we chose to separate the publications in two categories. The first is the one published less than three years ago and the other ones. Those two categories have been also subdivided: This subdivision is about the "place" of the author in the publication, is he/she is the first, second or third and more author of the publication. We also decided to differentiate between the articles, the books, the chapters of books and the translation. We also made a "to appear" section.

Of course, a gender and date of birth section is on this file. We also added if the person as the ASR and a bounty, the "Ph.D. and Research Supervising Bonus". The amount of students supervising (for thesis or else), the amount of scientific events (organized or attended) and to finish, the amount of publications in English, French and in other languages, the first and last year of publications and the median year of publications.

Even if we didn't use all this resources for this deliverable, we think that it is important to understand that statistically, none of these are relevant to conclude on a difference between men and women competing for the posts. This last acknowledgement can be observed in this correlation matrix (Table C.1) where there is no correlation between the field, the gender, the fact of being selected as a finalist and all the other variables.

Table C.1

Field of Research	Finalist	Gender
-0,07	-0,02	-0,06
-0,06	0,13	-0,03
0,10	-0,09	-0,03
1,00	0,05	0,06
0,05	1,00	-0,08
0,06	-0,08	1,00
0,09	-0,01	0,11
-0,19	0,16	-0,13
-0,08	-0,01	0,00
0,06	0,10	0,04
-0,21	0,07	0,05
-0,09	-0,02	-0,10
0,04	-0,08	-0,02
0,10	0,04	0,00
-0,07	0,02	0,05
-0,07	0,03	0,03
-0,05	0,08	-0,01
-0,09	0,06	0,09
0,03	0,03	0,07
0,03	0,05	-0,04
-0,05	-0,03	-0,03
-0,04	0,06	-0,05
-0,04	0,10	-0,08
0,02	0,06	-0,01
-0,02	0,07	-0,04
0,02	0,04	0,02
0,14	0,02	-0,02
0,07	0,02	0,01
-0,04	0,03	0,00
0,00	0,00	-0,03
-0,03	0,08	-0,08
-0,01	0,15	-0,02