

Women in String Theory

From COST to GenHET

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The involvement of women string theorists in gender issues started with an EU project that ran from 2013 to 2017



MPNS COST Action MP1210

The String Theory Universe

Descriptions are provided by the Actions directly via e-COST.

Although String Theory has been around for more than forty years, it has never been so important for physical reality as it is now, due to its novel outstanding applications to different areas of Physics and Mathematics.

While the Large Hadron Collider (LHC) narrows down the experimental limits on supersymmetric particles and satellite missions such as WMAP and PLANCK probe the very early Universe, this Action aims at creating a strong European Network focused on fundamental, forefront research exploring the role played by String Theory in Particle Physics, Cosmology and Condensed Matter Physics.

The large majority of European world experts in String Theory will be involved in this Action. This will ensure a top quality research output, achieved through an intense exchange of expertise, intra-European collaboration and co-organization of scientific activities.

The Action will ensure fair gender representation and simultaneously adopt specific measures for promoting the involvement of women scientists at all levels. Moreover, it will foster the active participation of junior excellent scientists.

The outcome of the Action is expected to have a positive impact on both science and society at a European level, in line with the strategic priorities of COST.

Materials, Physical and Nanosciences COST Action MP1210

Description

Parties

Management Committee

General Information*

Chair of the Action:
[Prof Silvia PENATI](#) (IT)

Vice Chair of the Action:
[Prof Yolanda LOZANO](#) (ES)

Science officer of the Action:
[Dr Fatima BOUCHAMA](#)

Administrative officer of the Action:
[Ms Milena STOYANOVA](#)

Downloads*

Action Fact Sheet
[Download AFS as RTE](#)

Memorandum of Understanding
[Download MoU as PDF](#)

Annual Progress Conference Report



“The String Theory Universe”



MP-I2IO Materials, Physics & Nanosciences
(www.cost.edu/mpns)



Chair: Silvia Penati (U. Milano-Bicocca (Italy))
Vice-chair: Yolanda Lozano (U. Oviedo (Spain))

Website: www.cost.eu/domains_actions/mpns/Actions/MP12IO

Core Group composition



S. Penati
(Milano-Bicocca)
Chair



Y. Lozano
(U. Oviedo)
Vice-Chair



J. Erdmenger
(LMP Munich)
WG1 Leader



M. Petrini
(Paris VI)
WG2 Leader



R. Emparan
(U. Barcelona)
WG3 Leader



A. Ceresole
(INFN Torino)
WG4 Leader



M. Lledó
(U. Valencia)
WG5 Leader



G. Honecker
(U. Mainz)
ESR respons.



M. Berkooz
(Weizmann I.)
WEB manager



S. Vandoren
(Utrecht U.)
Financial Rap.



R. Argurio
(UL Bruxelles)
Postdoc coordinator



N. Obers
NBI Copenhagen
Financial rapporteur

COST: Funds networking and cooperation

- Main objectives:
- Coordinate and reinforce collaborations
 - Foster cross-disciplinary activities
 - Promote knowledge transfer and scientific culture
 - Impact in Science and Society, in line with the strategic priorities of COST

All consolidated String Theory groups in Europe participated (men and women)

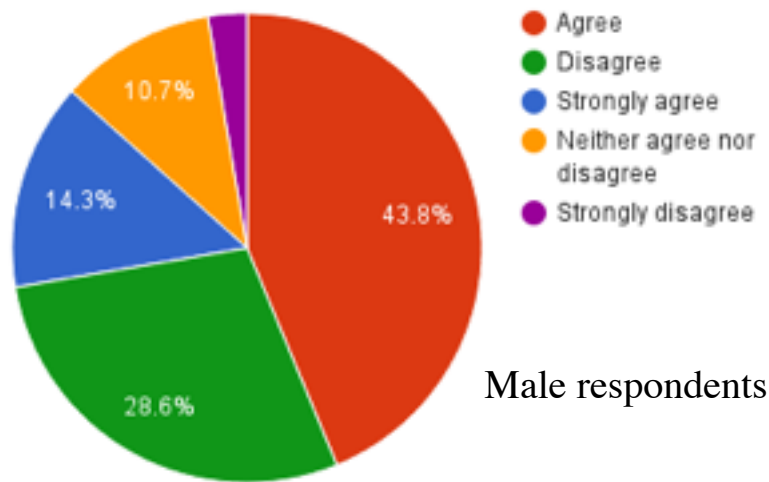
Under this Action we:

- Promoted the active participation of women (leading positions, speakers, members of scientific and organizing committees)
- Made the community aware of many important studies about women in STEM, unconscious gender bias, gender stereotypes,..
 - Gender events as part of each major scientific conference/workshop
 - “Workshops on String Theory and Gender”
- Conducted several surveys to know the opinions of the community

Surveys provided very interesting input:

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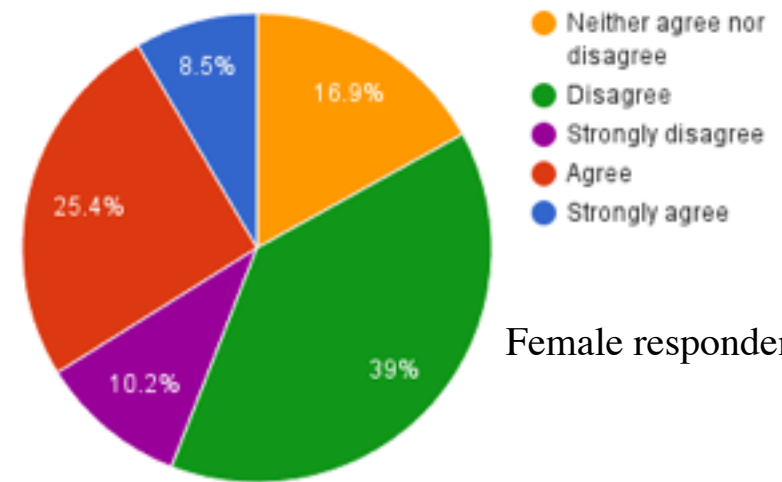
Women and men in my field have equal opportunities for career advancement



Male respondents

Male: 58.1% agree
31.3% disagree

Women and men in my field have equal opportunities for career advancement

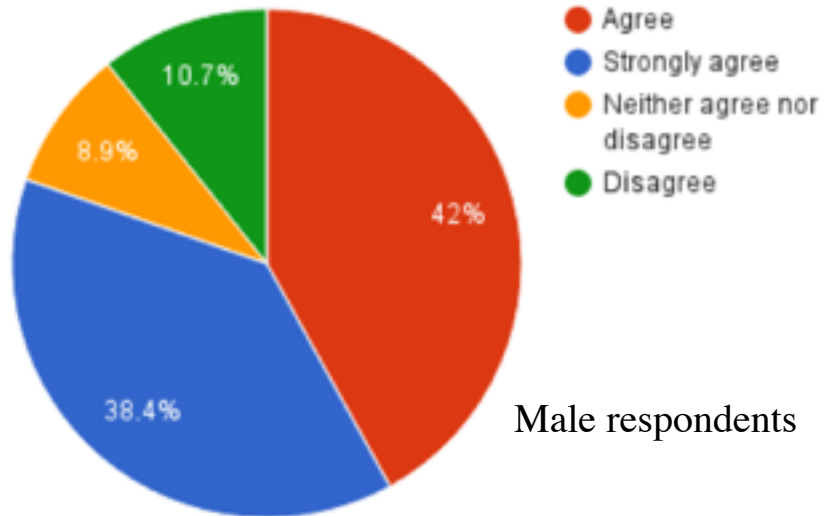


Female respondents

Female: 33.9% agree
49.2% disagree

Many respondents argue that although on paper both genders are treated equally, conscious and unconscious biases, pregnancy and childbirth, and different expectations from society about caring roles are main sources of differences. Some men perceive better opportunities for women because of specific policies to promote them

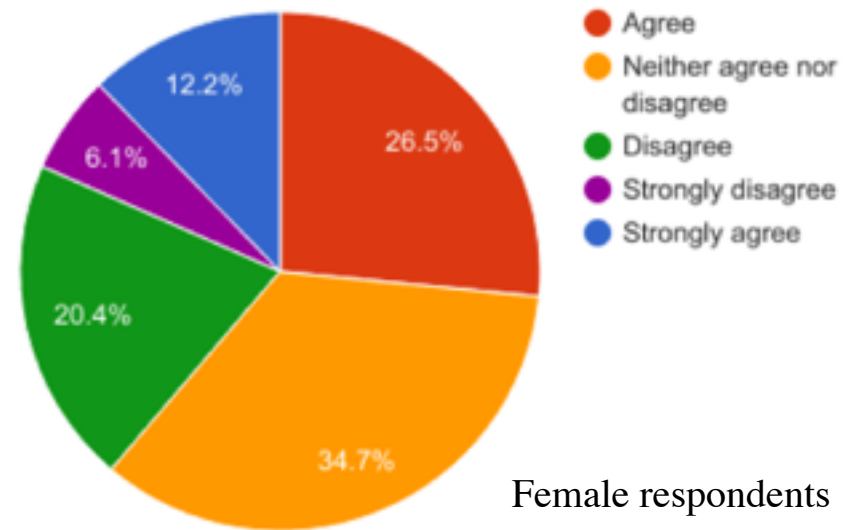
In my department, staff are treated equally regardless of gender



Male respondents

Male: 80.4% agree
10.7% disagree

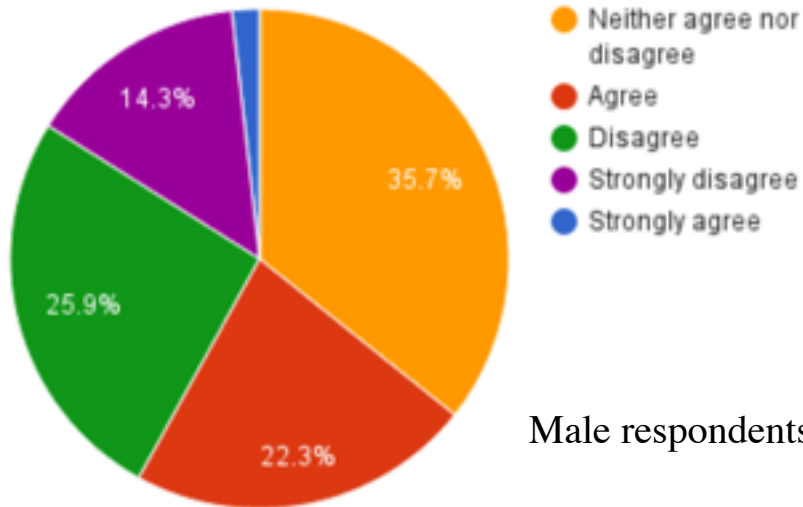
In my department, staff are treated equally regardless of gender



Female respondents

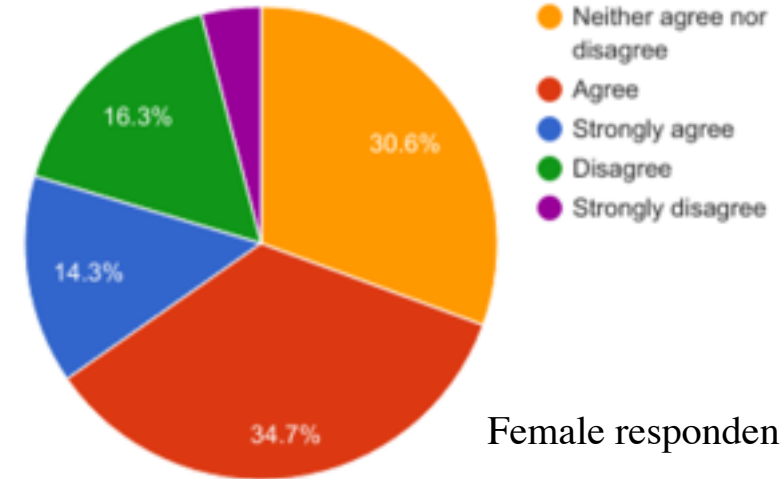
Female: 38.7% agree
26.5% disagree

The String Theory scientific environment is particularly difficult for women compared to those of other science and engineering discipli...



Male respondents

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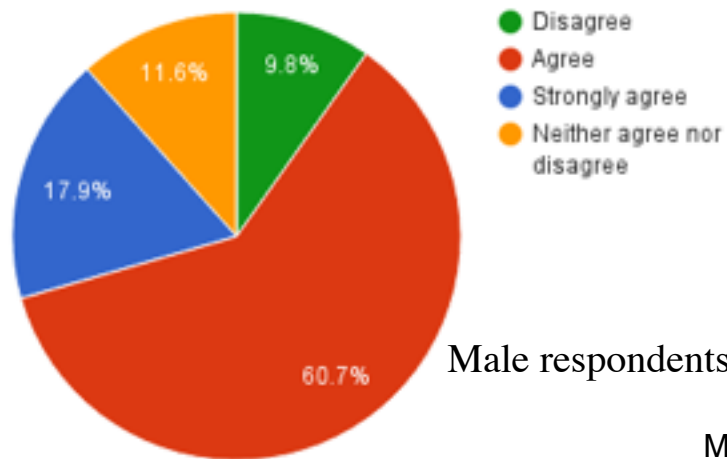
Female respondents

Male: 24.1% agree
40.2% disagree

Female: 49.0% agree
20.4% disagree

This question was intended to identify aspects of our field that could be particularly “problematic”. Respondents alluded to the already present disparity, which may psychologically disadvantage women, the long post-doc period, the lack of experimental tests in String Theory, which resonates with the unconscious bias, by associating relevant results with particular authors

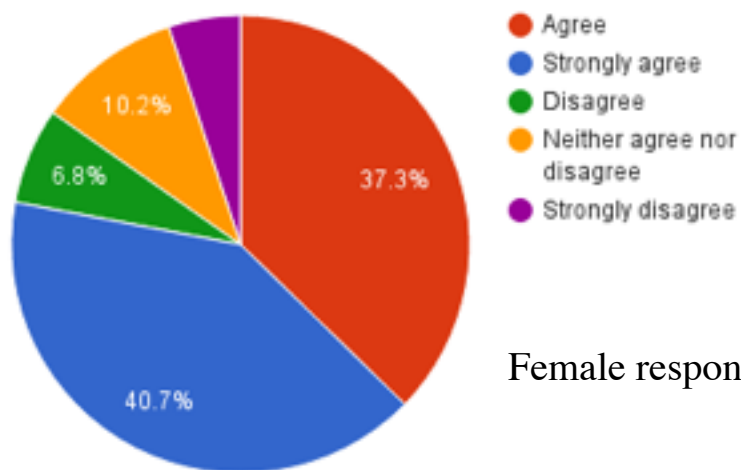
Women in my field with young families or caring responsibilities are disadvantaged in their career



Male respondents

Male: 78.6% agree
9.8% disagree

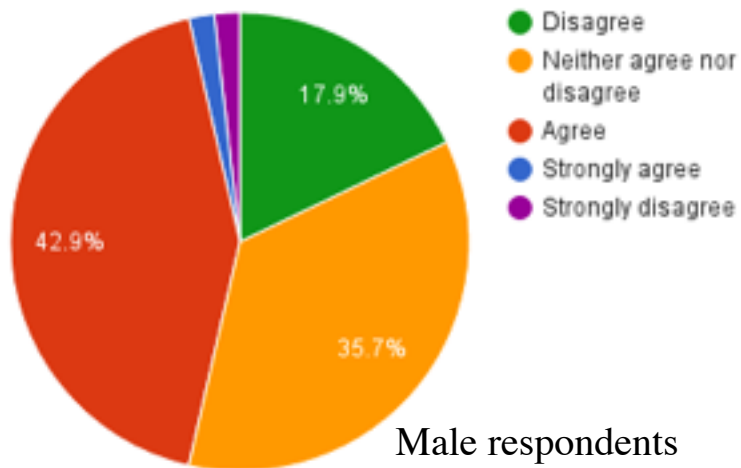
Women in my field with young families or caring responsibilities are disadvantaged in their career



Female respondents

Female: 78% agree
11.8% disagree

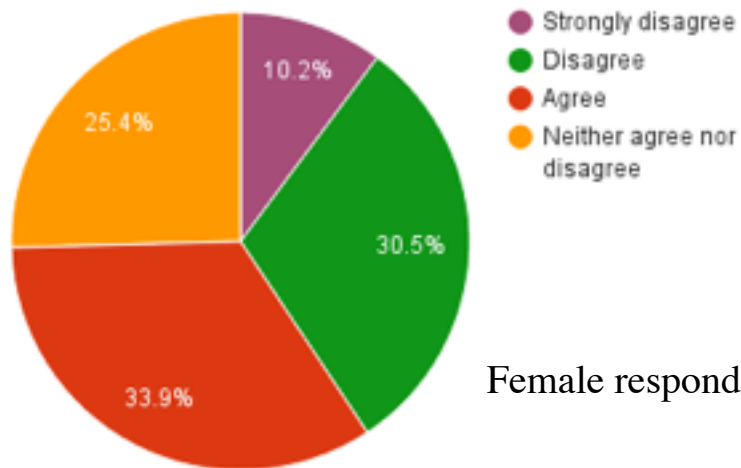
Men in my field with young families or caring responsibilities are disadvantaged in their career



Male respondents

Male: 44.7% agree
19.7% disagree

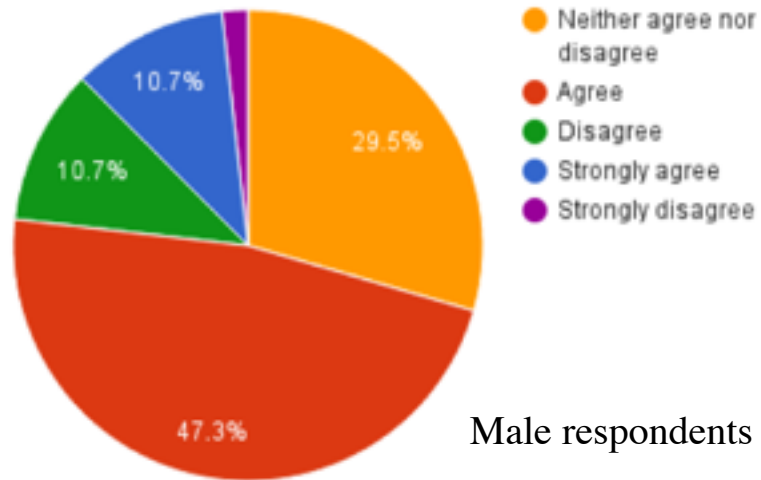
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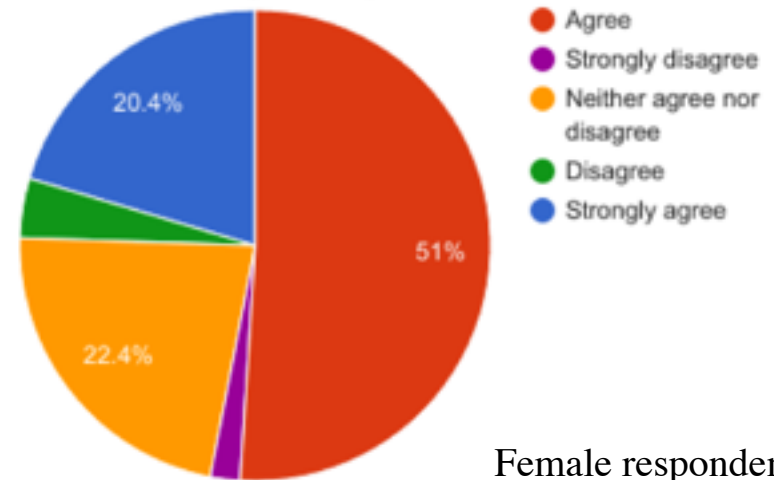
Female respondents

Female: 33.9% agree
40.7 % disagree

I believe that this COST Action has contributed significantly to addressing gender equality issues in String Theory



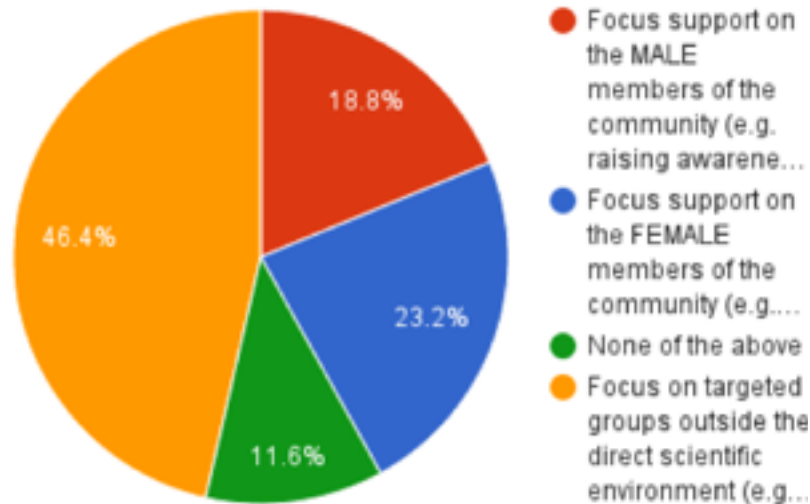
I believe that this COST Action has contributed significantly to addressing gender equality issues in String Theory



Male: 58% agree
12.5% disagree

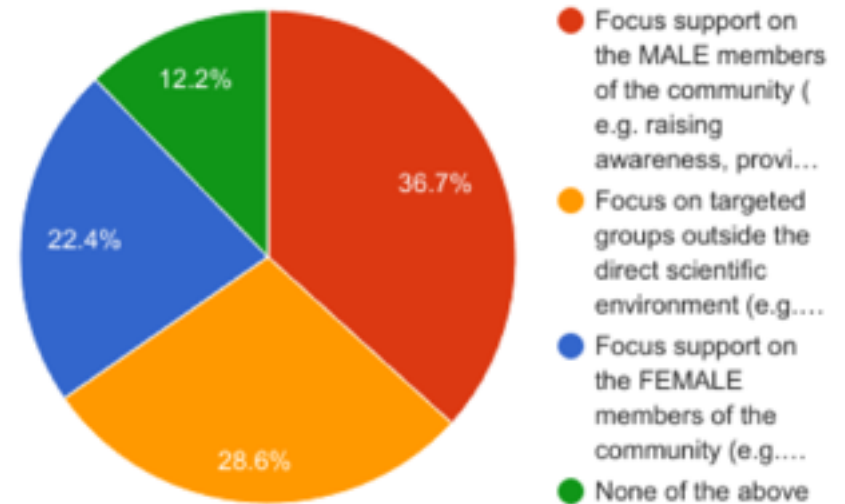
Female: 71.4% agree
6.1% disagree

If we were to focus future efforts on ONE activity to improve gender equality in String Theory, it would be



Male respondents

If we were to focus future efforts on ONE activity to improve gender equality in String Theory, it would be



Female respondents

Many women believe that the men in the community could make significant changes. Men however put the emphasis on society change.

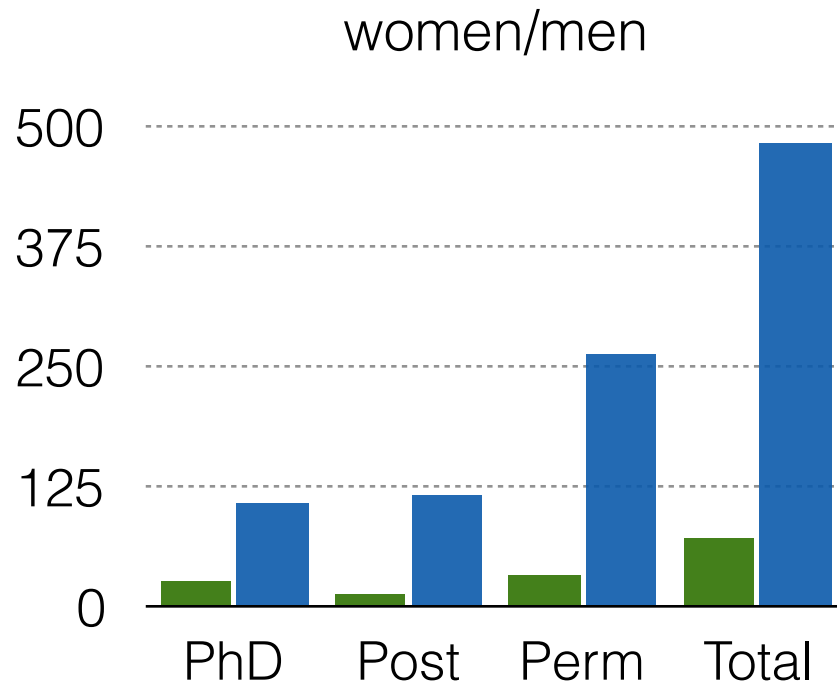
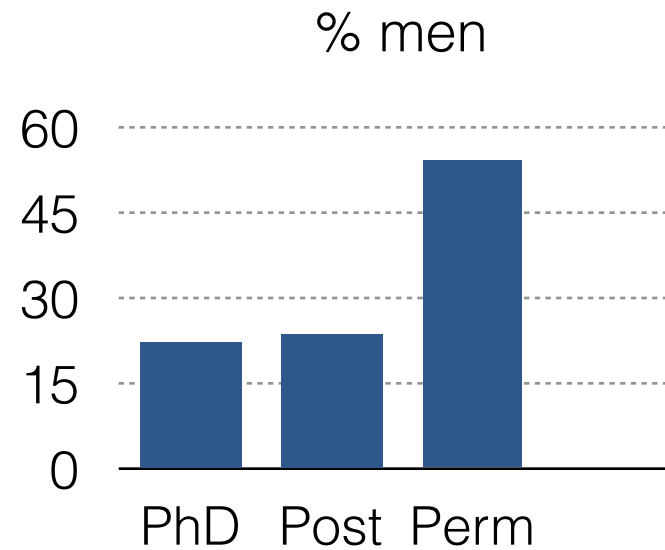
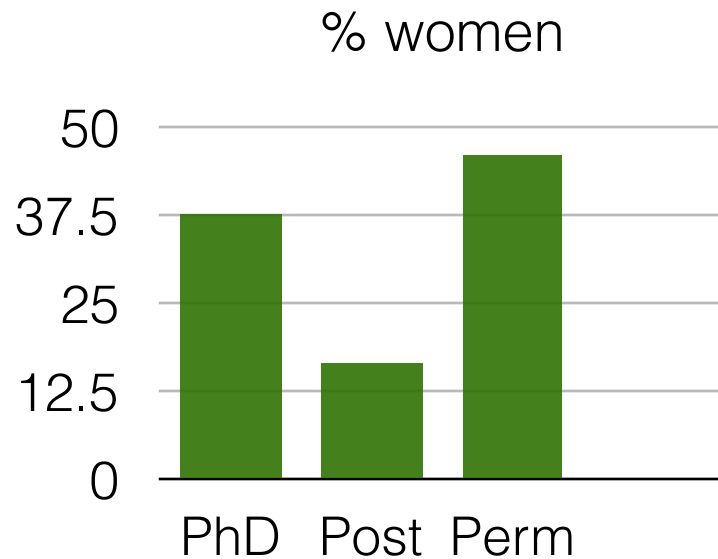
Number of respondents: 172

Male: 112

Female: 50

15 PhD students, 44 postdocs, 113 permanent

- We collected useful statistics



Data taken from composition of the
Action in 2015

Women = 72

Men = 482

PhD = 27 37.5%

PhD = 107 22.2%

Postdocs = 12 16.7%

Postdocs = 114 23.7%

Permanent = 33 45.8%

Permanent = 261 54.1%

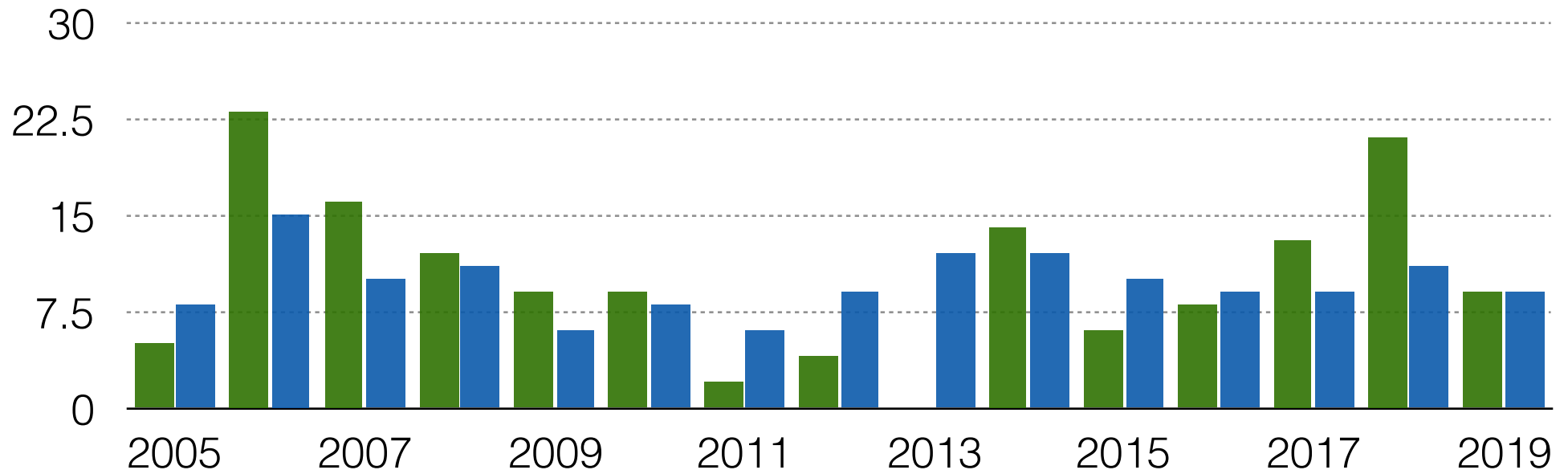
Total = 554 (Women = 13%)

PhD = 134 24.2% (Women = 20.1%)

Postdocs = 126 22.7% (Women = 9.5%)

Permanent = 294 53.1% (Women = 11.2%)

success rate women/men postdoctoral applicants



Data collected from the European Joint Postdoctoral Recruitment coordinated by A. Van Proeyen

Year	# Candidates	# Women candidates	Taken in our institutes			
			# Total taken % Total taken/ Candidates	# Women % W taken /W candidates	#Men % M taken / M candidates	% Women taken/ Total taken
2005	239	22 (9%)	18 (8%)	1 (5%)	17 (8%)	(6%)
2006	207	26 (13%)	33 (16%)	6 (23%)	27 (15%)	(18%)
2007	186	19 (10%)	20 (11%)	3 (16%)	17 (10%)	(15%)
2008	226	26 (12%)	25 (11%)	3 (12%)	22 (11%)	(12%)
2009	354	41 (12%)	24 (7%)	4 (9%)	20 (6%)	(16%)
2010	400	35 (9%)	34 (9%)	3 (9%)	31 (8%)	(9%)
2011	411	41 (10%)	25 (6%)	1 (2%)	24 (6%)	(4%)
2012	416	55 (13%)	35 (8%)	2 (4%)	33 (9%)	(6%)
2013	365	35 (10%)	40 (11%)	0 (0%)	40 (12%)	(0%)
2014	438	50 (11%)	54 (12%)	7 (14%)	47 (12%)	(13%)
2015	412	47 (11%)	39 (9%)	3 (6%)	36 (10%)	(8%)
2016	476	37 (8%)	44 (9%)	3 (8%)	41 (9%)	(7%)
2017	416	55 (13%)	40 (10%)	7 (13%)	33 (9%)	(18%)

Legacy of the COST Action

- A synergic network of women string theorists has been built
- There is more awareness in the field and the discussion has been opened
- The importance of gender issues, not only sociologically but also in our scientific environment, has been transmitted
- Contacts with gender experts have been established

The Action has produced a very useful report, that summarizes its gender activities and the conclusions reached:

The COST Action “The String Theory Universe”: A proactive approach to gender issues in Theoretical Physics

<http://www.weizmann.ac.il/stringuniverse/>

What's next?

The impact of the Action on the gender issue relies on the community's capabilities to keep alive the discussion and the various initiatives that have been taken

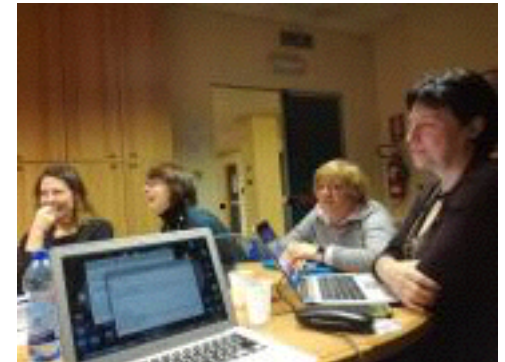
We decided to create a permanent working group that will take care of keeping up cooperative efforts on the gender issue

- Ensure that women in the field are given the right visibility
- Make available material that can help the community in dealing with gender issues
- Expand to affine areas. Compare situations



Kick-off meeting Torino
Nov 2017

GenHET



GenHET

A new working group has been created, involving **all High Energy Theorists**, supported technically and financially (partially) by CERN

This working group will deal with our previous objectives, in a wider (HET) community

This will allow us to compare the situation in different sub-fields

The kick-off meeting took place at CERN:

1st Workshop on High Energy Theory and Gender
26-28 September 2018
CERN

The success of this initiative will strongly depend on the active involvement of the community, men and women

We opened the subscription two weeks ago, and we have already received more than 160 requests of people interested in being actively involved (around 50% men and 50% women; 32% string theorists)

Strong support from the community!

What can we do?

- Open the WG to all interested people (men&women)
- Monitor and analyse gender data in our community and compare with other STEM communities.
- Encourage young women to apply for postdoctoral positions.
- Mentoring activities.
- Monitor the representation of women in selecting committees at all levels.
- Monitor the representation of women at conferences and schools (scientific boards, invited speakers...).
- Monitor the representation of women in journal editorial boards.
- Promote and coordinate the “Strings and Gender” Workshops
- Develop a web resource to collect data and exchange good practises between different countries.
- Promote active participation in EU initiatives on gender.
- Promote gender and diversity training in all institutions and for all fellowship panels.

Thanks!