



Woman in physics in Italy

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Promoting gender equality in physics: Barriers and opportunities

Weizmann Institute of Science-- October 27th-29th 2019

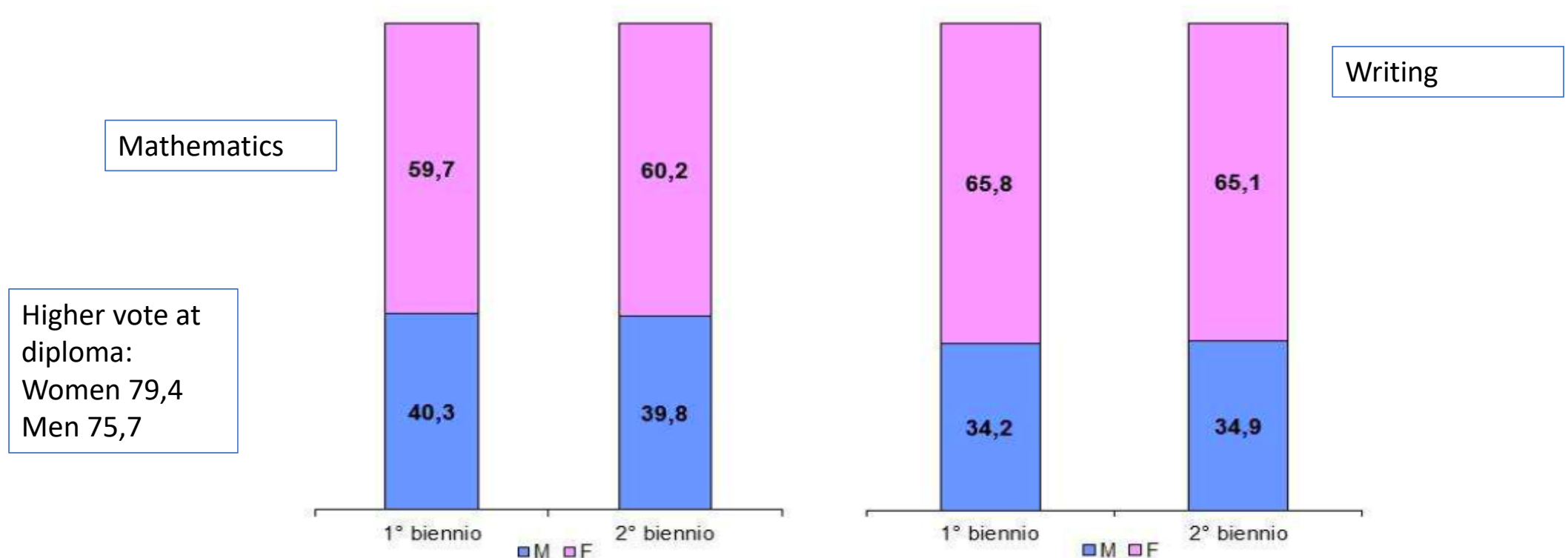
Laws, regulations and career processes in Italy

- The university is mainly public
- University paths: there are no different paths for being a researcher or a teacher
- Career paths: from doctorate to staff positions, at university and/or research institute, by means of public competitions, which could be national or local. For university they also require a national professional qualification to go the two top levels.
- The Gelmini law introduced new researcher figures (A and B), two levels, like a tenure track path, changing the way in which one can go from the entrance level to the second level (associate professor). At present we have three kinds of researchers : RU, before the Gelmini law, Researcher A (RA) and Researcher B (RB). This fact created
- In research institute we have both researchers and technologists that often do the same work. When we count researcher staff, we mean both.
- Data are coming from different repositories: it isn't possible to have all data at the same date

Is mathematic for girls??

2016/2017 annuality

Women are better in mathematics and in writing as we can see from data from high secondary school students



Higher vote at diploma:
Women 79,4
Men 75,7

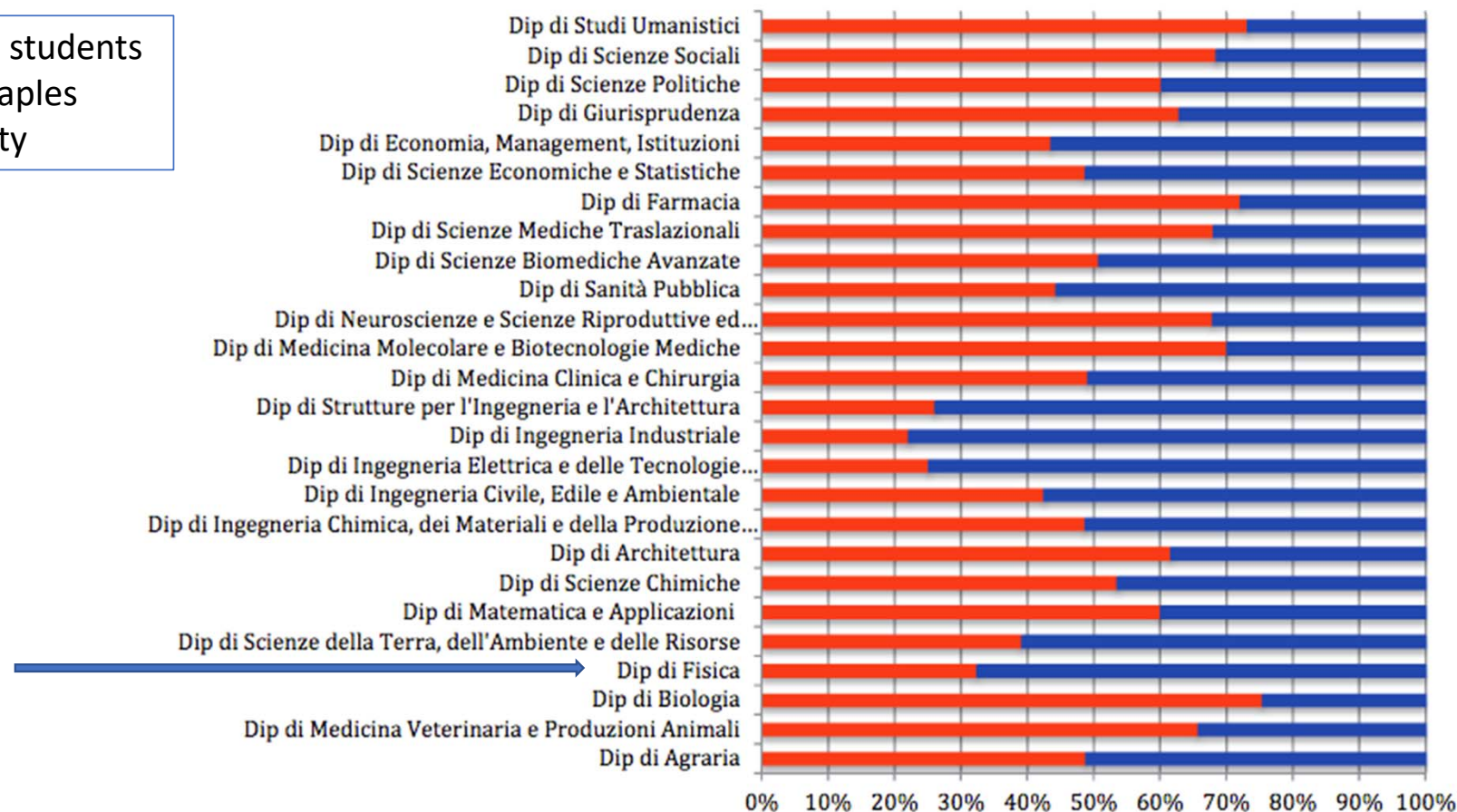
* Research and education Minister data are very similar in the years

Merit or talent

- But women are worst in mathematics , physics, ..in national competitions, like in Olympic scientific games!!!
- What happens?

Data on students from University of Naples @2014/2015

Enrolled students
at the Naples
University



The paths inside the accademy

Proportion of Women (PW) as function of scientific career and disciplines **

Vertical
segregation

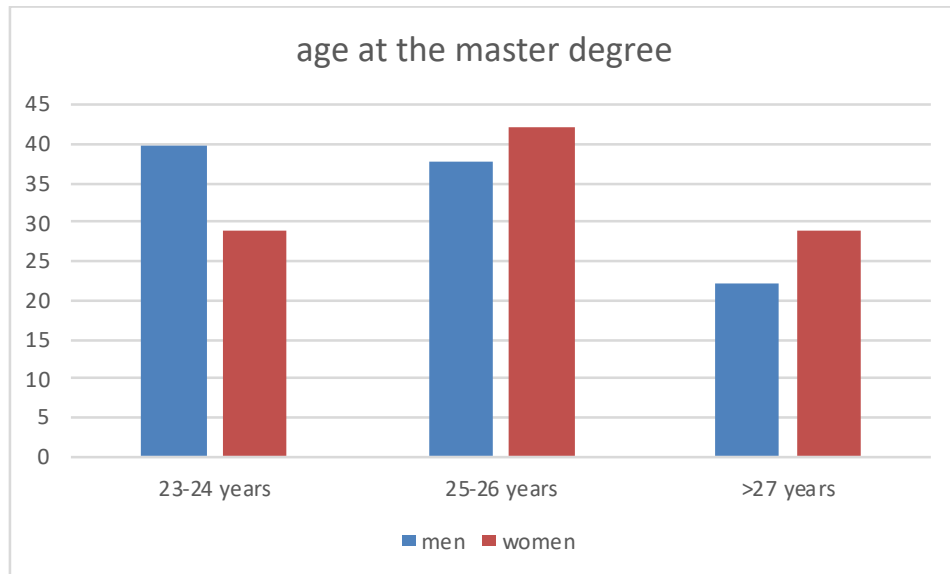
FORD	PW_{AR}	PW_{RTDA}	PW_{RTDB}	PW_{RU}	PW_{PA}	PW_{PO}	PW_{TOT}
Natural Science	50	43	38	54	40	24	43
Engineering and technology	32	27	28	31	23	13	26
Medical and health sciences	72	50	44	44	28	15	41
Agricultural and veterinary sciences	58	51	47	48	41	18	43
Social sciences	53	48	43	49	40	24	40
Humanities and the arts	61	53	52	59	51	40	52

PW_{MIN}	PW	PW_{MAX}
0	-	15
15	-	25
25	-	35
35	-	45
45	-	55
55	-	65
65	-	75
75	-	85
85	-	100

Legend color code of Table 9
(author's definition).

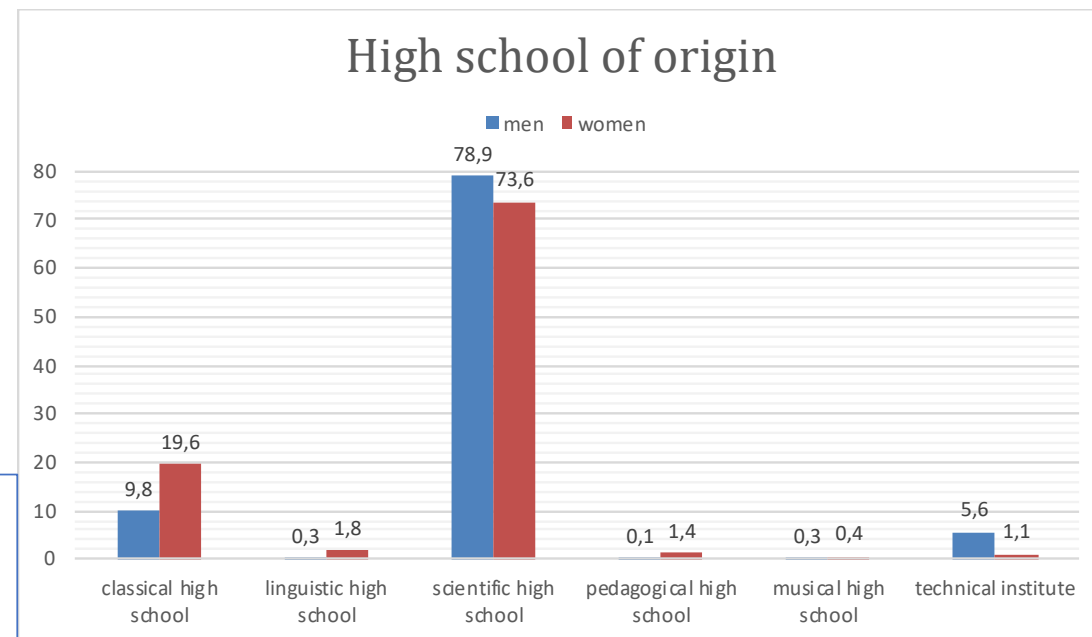
AR: PostDoc
fellowship,
RTDA: fixed term
researcher,
RTDB fixed term
researcher of II level,
PA: associate prof.,
PO: full professor

Italian data on students at university @2016 (all public universities)



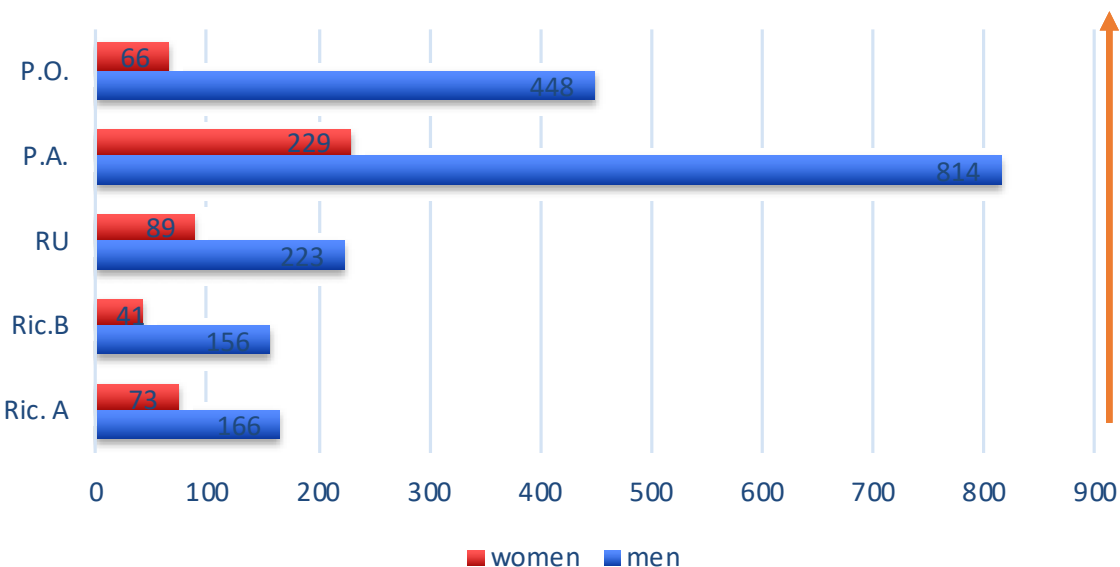
Women at master degree are older...this is due to the fact that women graduate in more years than men in the first level degree. But the average duration of studies (for master degree) is the same (2.7 years)!!!

Even if few, women are coming from different schools. The same happens also for the first level degree.



UNIVERSITY data @31.12.2018

Physics research employees



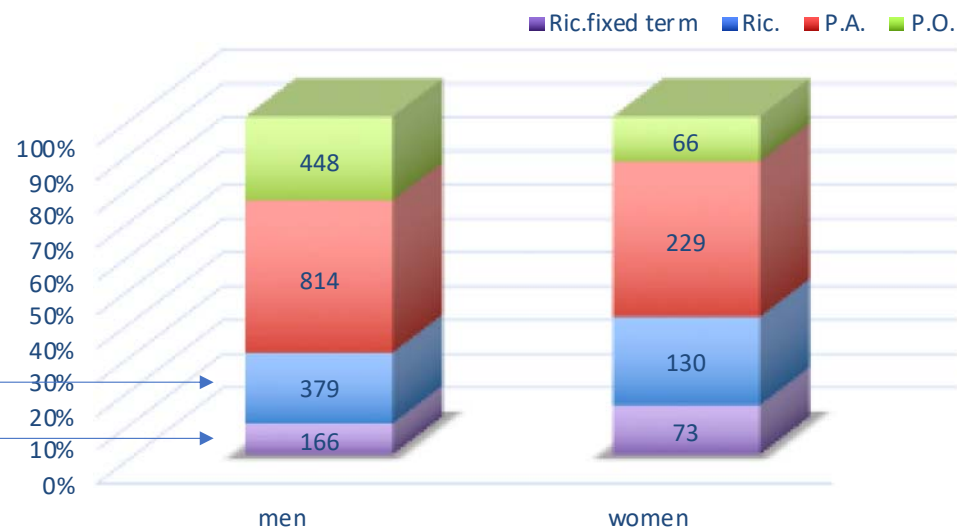
Data coming from all Italian universities

Career path, from the bottom to the top

Ru+ Ric. B = stuff researcher

Ric. A = fixed term researcher

Academy distribution

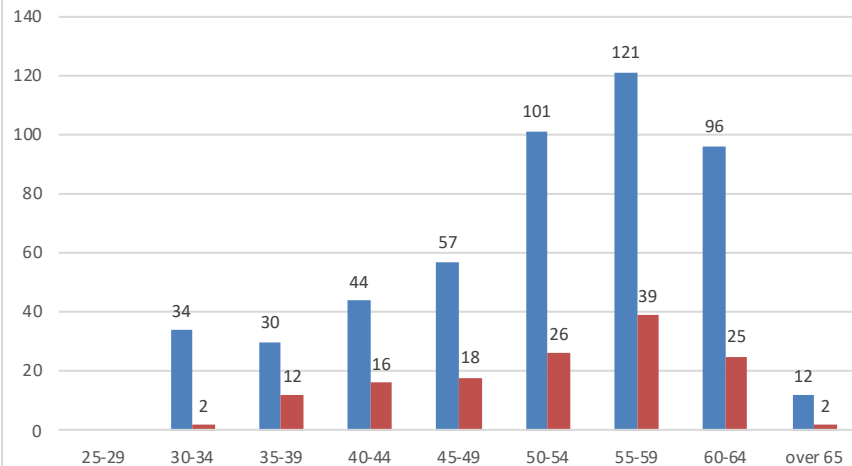


INFN data @31.12.2018

An institute of research

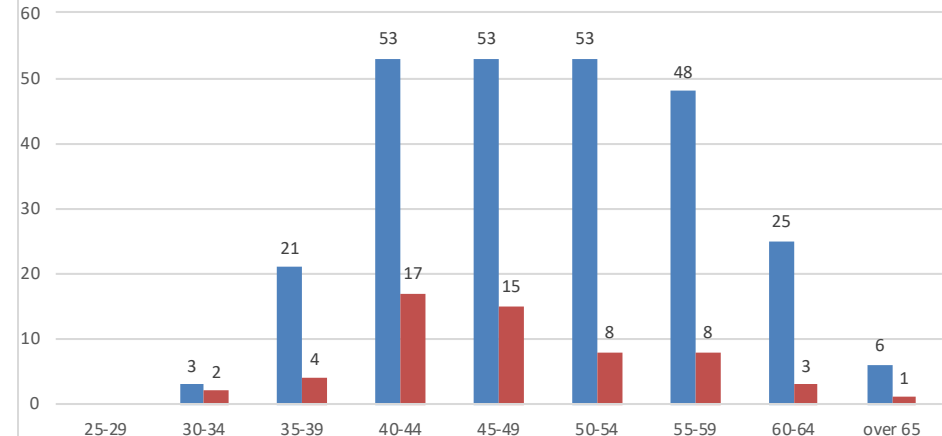
Researcher age distribution

■ Men ■ Women



Technologist age distribution

■ Men ■ Women



Level 1: director of research and of technology

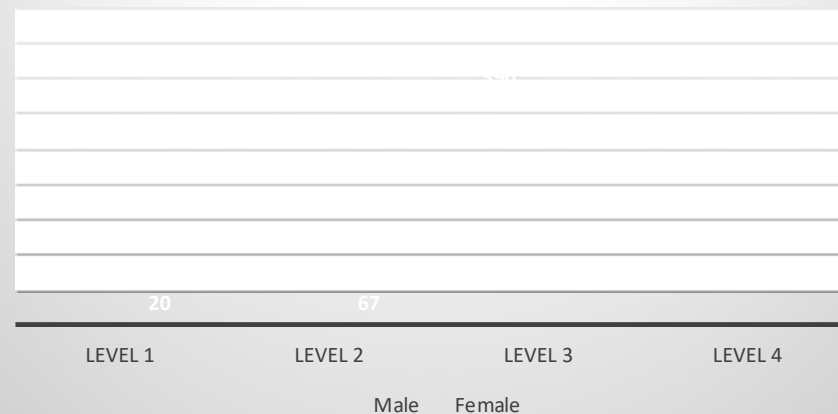
Level 2: first researcher, technologist

Level 3: researcher, technologist

Level 4: fixed-term researcher, technologist and PostDoc

Level 1,2 &3 are permanent positions

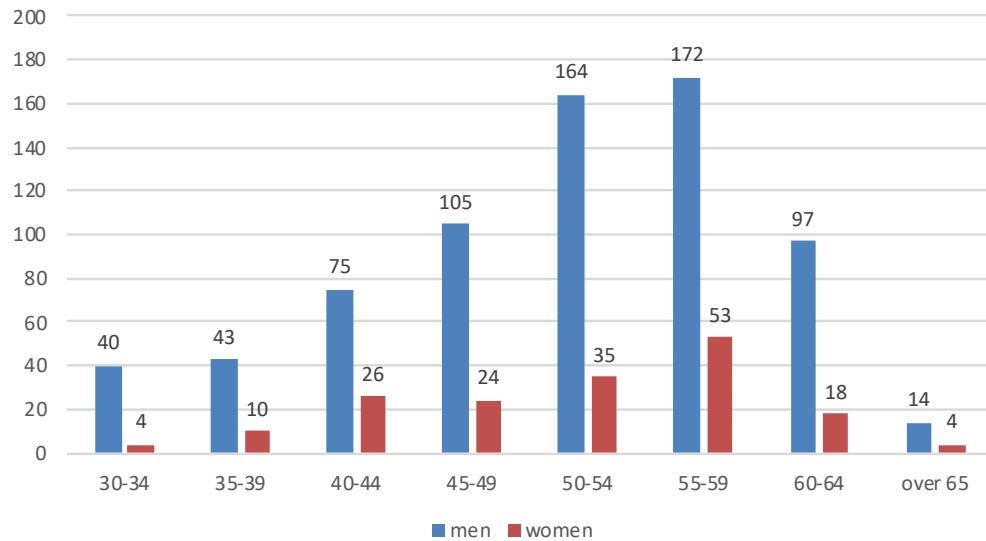
INFN- Researchers&technologists



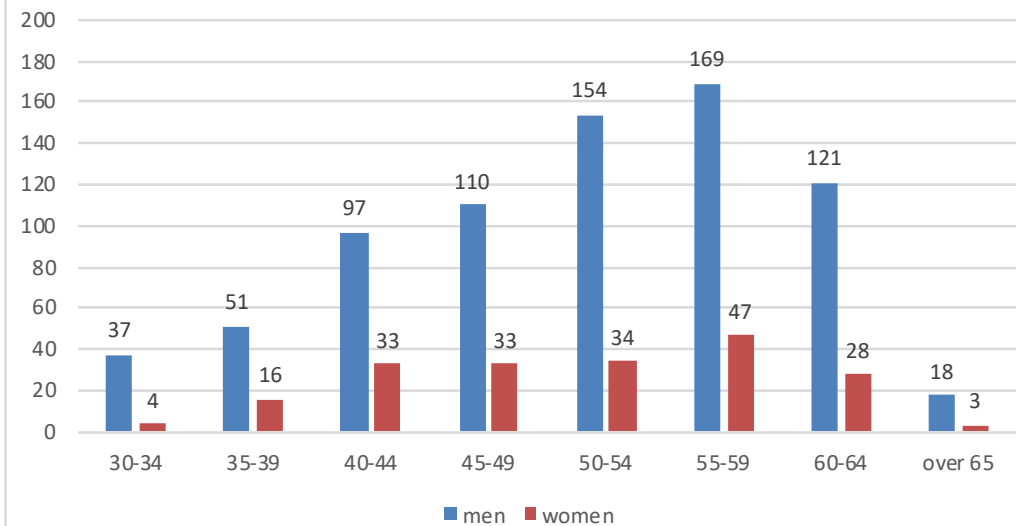
Level distribution

INFN data @2017 and 2018

Researchers&Technologists by age 2017



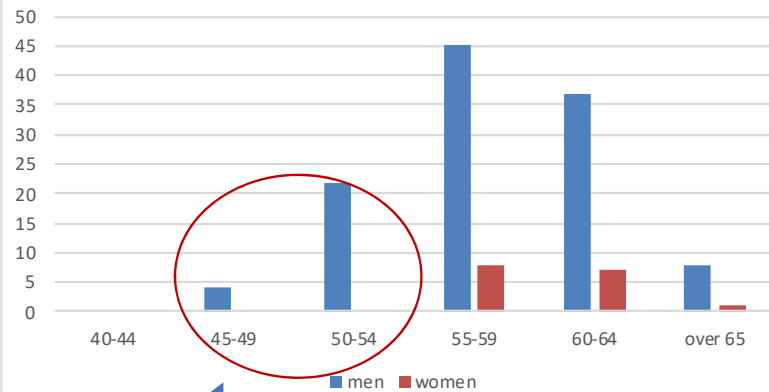
Researchers&Technologists by age 2018



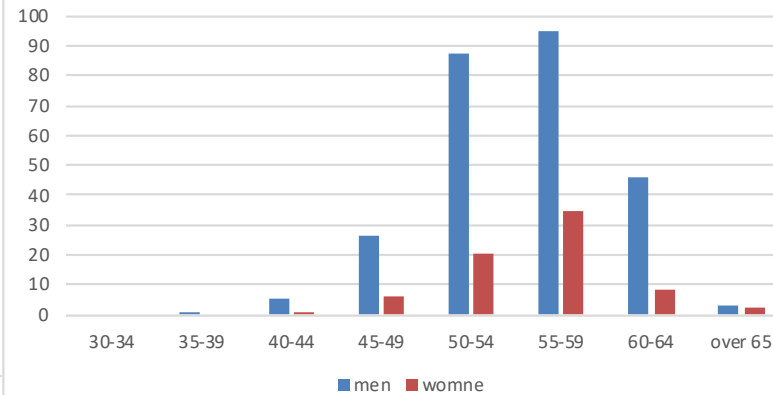
No big differences between the two years

INFN data @31.12.2017

first level



second level



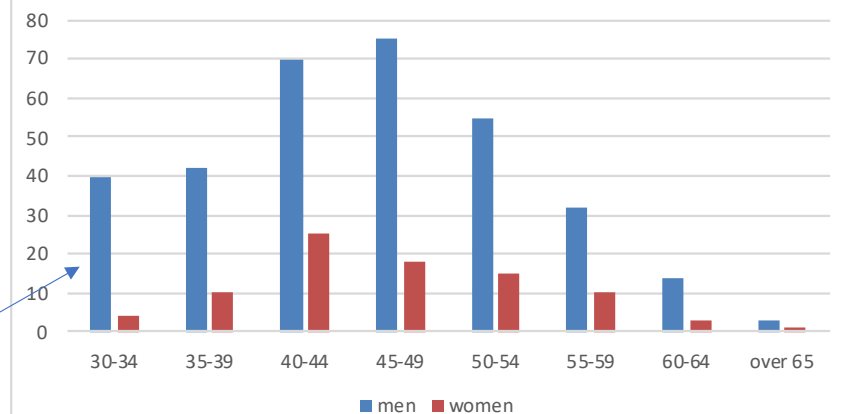
Researchers & technologists

No women here!!
Women go to the higher level when older then men !!!!

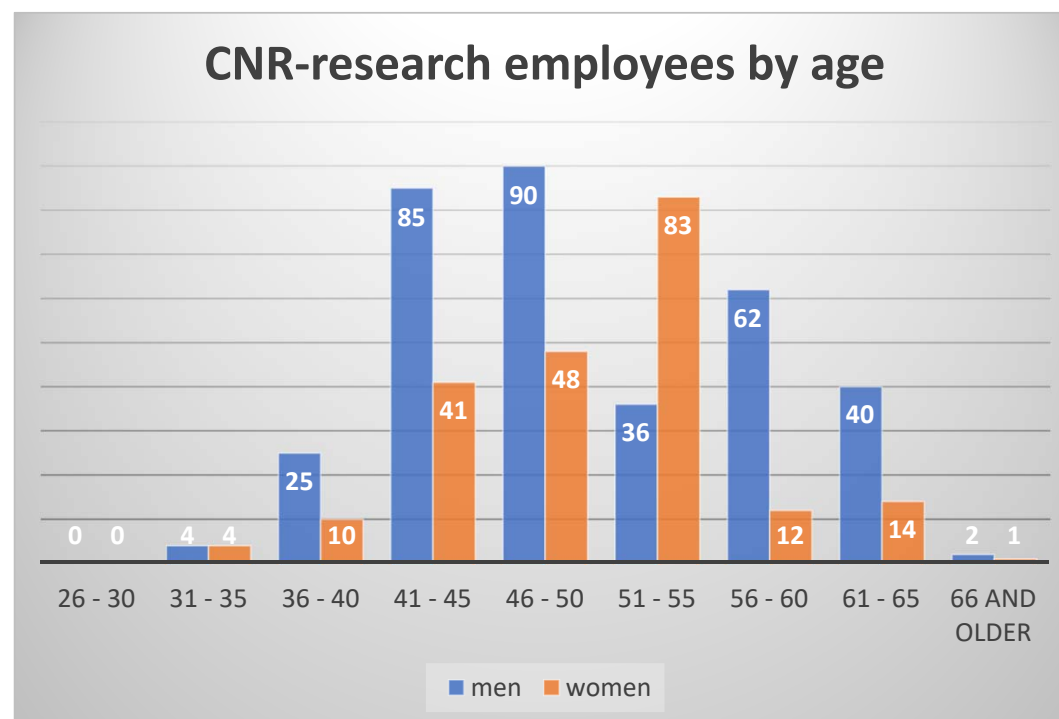
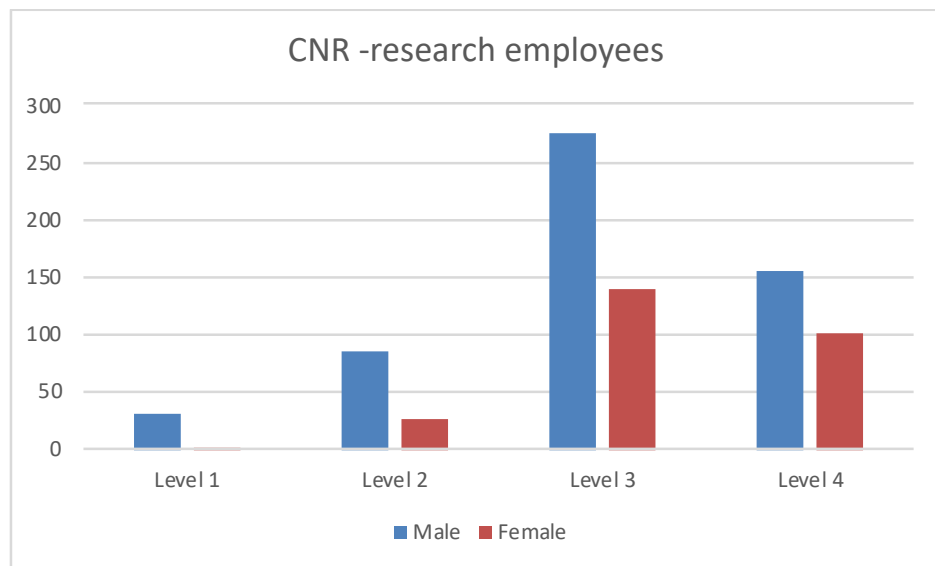
Quite similar distributions

Men are filling more the entry level !!!!

third level



CNR data @31.12.2018



A comparison looking at the w/m ratio

