

Women Researchers Report

CSIC Commission for Women and Science

2023

July



GOBIERNO
DE ESPAÑA

MINISTERIO
DE CIENCIA
E INNOVACIÓN



CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS



HR EXCELLENCE IN RESEARCH



COMISIÓN DE MUJERES
Y CIENCIA DEL CSIC

CMyC

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INTRODUCTION TO THE REPORT "Women Researchers 2023"

Women Researchers Report 2023 provides disaggregated data by sex regarding the distribution of research staff, access and promotion, scientific activity and training in CSIC from December 31st, 2022. This report highlights the analysis of the scenario for women who belong to scientific categories, because in this group evidence suggest an important gender gap that still continues to be accused despite the passage of time, already **more than 20 years since the collection of first data**.

The distribution of staff shows a slightly majority of women in pre-doctoral stage (51%). Nevertheless, as progress was made in the scientific career, the percentage of them who achieves to become Tenured Scientists does not exceed 43% and only 26% become Research Professors, the highest in the scientific career. In some knowledge sub-areas, such as Science and Physical Technologies, and, specially, in Natural Resources, data is very striking, because percentages of women in Research Professors category is even lower, 16% and 12% respectively.

CSIC scientific women carry out a research activity of the same magnitude, extension, impact and funding as their male counterparts. For this reason, CSIC presidency has commissioned a research team in scientific and gender policies of *Instituto de Bienes y Políticas Públicas* of our own institution, a detailed analysis to properly dimension the problem and identify the causative factors of this gap and its resistance.

The commitment of this Presidency with gender equality of this and other CSIC groups of women is firm and, in all cases, a deep analysis must be carried out to describe this situation accurately.

In particular, the analyses of the Women and Science Commission and the results of the aforementioned Intramural Special Project "Gender analysis of the promotion of CSIC scientific categories" provide us with evidence to support the Commission's proposals and to implement institutional decisions and positive action policies that counter the slow evolution of the figures.

Eloísa del Pino

CSIC President

President of CSIC Commission for Women and Science

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DATA SOURCES, NEWS AND ACKNOWLEDGMENTS

The present "Women Researchers" annual report of the CSIC Commission for Women and Science (CMyC) is made with disaggregated data by sex of staff and their research activity in force on December 31st, 2022. These data have been provided by the Human Resources Deputy General Secretariat (Chapters 1 and 2), the Deputy Vice-Presidency for Knowledge Transfer (Chapter 3: Transfer), Deputy Vice-Presidency for Knowledge Planning (Chapter 3: National Projects), Vice-Presidency for International Affairs (Chapter 3: International Projects) Unit of Information Resources for Research (URICI) (Chapter 3: Publications), Postgraduate and Specialization Department (Chapter 4: Training, Mentorship) and Deputy Vice-Presidency for Scientific Culture (Chapter 4: Dissemination) without whose cooperation the collection of all this information would be impossible.

The information is organized into four general headings: STAFF, ACCESS AND PROMOTION, RESEARCH ACTIVITY and TRAINING. In 2021, the integration of National Research Centres (INIA, IGME, IEO) began at CSIC, and the 2022 Women Researches Annual Report (IMI 2022) reflected the data separately, in order to keep the historical line of information. In the present 2023 report, data is already submitted as a whole encompassing all the staff grouped under GLOBAL RESEARCH AREAS, known as SOCIETY (that correlates univocally with the former Humanities and Social Science Area, currently sub-area), LIFE (which includes the following sub-areas: Biology and Biomedicine, Natural Resources, Agricultural Sciences, Food Science and Technology) and MATERIA (formed by the following sub-areas: Physical Science and Technology, Materials Science and Technology and Chemical Science and Technology). It should be noted that these global areas have very different sizes, with the global area LIFE having the largest number of research staff, both permanent and temporary. One part of the staff is not assigned to any of these areas and is represented as "without area".

The present report includes all available disaggregated data from the research staff: executive staff, distribution by category, sub-areas, pre and postdoctoral recruited staff. It includes a study about access and promotion within the research career and a section with data about research activity (projects and transference) with news about scientific productivity with 2021 data. There are also new developments in the Training section that, apart from the usual doctoral thesis data, also includes disaggregated data about JAE grants, Dissemination and Mentoring at CSIC. The report also includes in ANNEX I an overview of the development of the institution in the form of disaggregated data during the last 20 years, which we consider of great interest to open up reflection and debate.

CMyC would like to thank all the teams and the different vice-presidencies for its collaboration in the data preparation, analysis and discussion. Also, we would like to thank all CSIC staff for reading this report and any future contributions they may make to it, as experience has shown us that careful observation of the staff makes the report being corrected and improved every year.

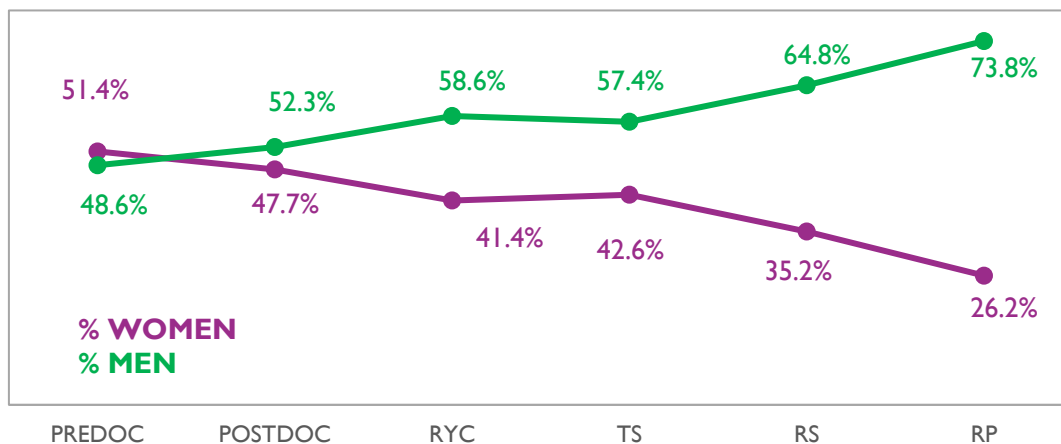
Finally, we express our gratitude to the Delegate Committee for Equality for its work in drafting, implementing and evaluating the III CSIC Equality Plan. Through their diagnostic and evaluation efforts and the development of ambitious targets and indicators for effective equality within the CSIC, they have succeeded in becoming a benchmark in the European Research Area for equality plans in research organisations.

EXECUTIVE SUMMARY

The present report Women Researchers 2023 (IMI 2023) presents sex-disaggregated data from the Spanish National Research Council (CSIC) on the distribution of research personnel, access and promotion, scientific activity, and training as of December 31, 2022. It also provides a vision of the evolution over time, with a special annex that includes the evolution of most of this information over the last 20 years. **This allows for a snapshot of the current situation on gender equality and the gender gap in 2022, as well as a reflection on the temporal evolution of this equality over the last 20 years, demonstrating that progress towards equality in an institution like the CSIC has been slower than expected.**

Chapter I: PERSONNEL shows that the CSIC has a globally gender-balanced distribution between men and women. However, **the proportion of women is higher among temporary staff (53.8%) and lower among civil servants (47.1%) and permanent staff (39.5%). Regarding research personnel, the proportion of women reaches 43.2% if postdoctoral and predoctoral researchers are included, while women in permanent positions account for only 37.6% of the total.** The distribution of research personnel by scale reflects what is known as the "scissor graph," with a slight majority of women in the predoctoral stage (51.4%), which decreases as they progress in their scientific careers. Only 42.6% of Senior scientists are women, reaching the lowest percentages in the scale of Research Professors, with only 26.2% women.

CSIC SCISSORS GRAPH OF RESEARCH STAFF (2023)



CSIC scissors chart of research staff in 2022. (Data of 31/12/2022 Source: SGARH)

The Glass Ceiling Index (GCI) is 1.44. This situation is very similar to that of the CSIC ten years ago (23.3% female Research Professors and GCI of 1.46 in 2012), indicating that progress is very slow. The same information can be obtained from the study of the staffing levels of the different sub-areas of knowledge, and the report provides new 2022 scissor graphs as well as the evolution of the **GCI over time (in the Annex).**

Thus, it can be observed that the sub-areas with the highest equality indices are Food Science and Technology and Materials Science and Technology, while sub-areas such as Physical Sciences and Technologies, and especially Natural Resources, present worrying gender gap data in which women in the highest scale of Research Professors are very much in the minority (16.3% and 11.5% respectively).

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The CSIC Women and Science Committee shares with all the research staff the interest and concern for knowing the data on Access and Promotion, therefore, despite the fact that the selection processes with the definitive appointments have not been completely concluded, information has been gathered, based on the published data in the Official State Bulletin (BOE) and internal data on the selection processes corresponding to the Public Employment Offer of 2019, 2020, and 2021, presented in **Chapter 2: ACCESS AND PROMOTION.**

The percentage of women who will enter the scale of Senior Scientists by open access will be 42.6%, and the percentage of women who will access the scales of Research Scientists and Research Professors by internal promotion is 37.9% and 29.8% respectively, which indicates that the distribution of staff reflected in next year's scissor graph will not present great improvements compared to the data in this report. In fact, the glass ceiling index may even worsen by taking the data on open access to Research Professors, where only 16.0% of those approved were women. Completing this analysis by profiles, the data show that women have better results in general profiles, and there are also profiles in which the percentage of approved women is less than 20%, corresponding to the two areas with the highest glass ceiling index in the CSIC, namely, Natural Resources and Physical Sciences and Technologies, which does not contribute to improving the inequality gap that both areas suffer from. It is also worth mentioning the difficulty for women researchers to gain free access to the scale of Scientific Researchers and Research Professors in the area of Society, and by internal promotion to Research Professors in Social Sciences.

The research activity of CSIC women is studied in **Chapter 3: RESEARCH ACTIVITY**, where the **presence of women inventors in priority patent applications (35.5%) and principal investigators in national (36.2%) and international projects (32.7% in H2020 and 43.1% in Horizon Europe) is calculated, i.e., in the range of presence of women researchers, indicating that they have a degree of activity comparable to that of their male colleagues.** Regarding the funding obtained, in the case of national projects, it is very similar to the percentage of principal investigators (35.2%), but slightly lower in the case of European projects (30.1% in H2020 and 37.8% in Horizon Europe), which could indicate that women generally lead projects that request less funding. However, **it should be noted the success of female researchers in European projects with funding over 2 million euros, which have been led by women in 44.4% and obtained 42.3% of the funding.** In the case of ERC calls, the percentage of principal investigators is very similar to the funding obtained (30.6% and 31.5%, respectively).

The study of the authorship of scientific publications by CSIC personnel (in 2021) shows that the percentage of female authors (understood as a woman who has published at least one publication) and first authors in relation to the total number of authors is above the proportion of female researchers at the CSIC, including pre- and postdoctoral researchers. In general, productivity is higher in the higher scales, due to the size and influence of research groups and networks.

Finally, in **Chapter 4: TRAINING**, of the 780 doctoral theses completed in 2022 at CSIC, 48.2% were completed by women, with areas such as Physical Sciences and Technologies where only 26.3% were women doctoral students and 17.9% were women thesis supervisors. The overall staff of the CSIC shows great participation in outreach activities, with slightly higher female participation than the average of the total CSIC staff. It should be noted that **women are a majority in the staff exclusively dedicated to Science Culture. Regarding the CAMINO mentoring program, the applicants and participants of this program are mostly women, above the average presence of female predoctoral researchers, and women are also the majority among the scientific personnel who apply and subsequently participate in the program as mentors.**

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In **CONCLUSION**, it is demonstrated that female scientists at the CSIC carry out research activity of the same magnitude, scope, impact, and funding as their male colleagues. However, the gender gap continues at higher scales, and the scissor graph does not show an improving trend. The results of selection processes do not seem to indicate great advances in improving the percentage of Scientific Researchers and Research Professors, especially in some sub-areas of knowledge. The CSIC Women and Science Commission presents this report as a starting point for a deep analysis and study of the situation, to contribute to the elaboration of positive measures and actions that counteract the slow evolution of the figures, and as aid to sub-areas that require special support to reverse the gap they present and contribute to improving the overall data related to the presence of female researchers at the Spanish National Research Council.

CHAPTER I: STAFF

Executive staff

Executive staff by sex

POSITION	MEN	WOMEN	% WOMEN
PRESIDENCY		1	100.0%
PRESIDENT'S OFFICE		1	
ADVISORY MEMBERS	3	2	40.0%
VICE-PRESIDENCY	3	0	0%
GENERAL SECRETARIAT	1		0,0%
INSTITUTIONAL COORDINATION	6	7	53.8%
SCIENTIFIC AND TECHNICAL COORDINATION	6	3	33.3%
DEPUTY VICE-PRESIDENCY	1	5	83.3%
DEPUTY SECRETARY GENERAL	0	4	100.0%
TOTAL EXECUTIVE STAFF:	20	23	53.5%
INSTITUTE MANAGEMENT	105	37	26.1%

Sex distribution by sex and employment relationship

	MEN	WOMEN	% WOMEN
CIVIL SERVANTS	3287	2921	47.1%
PERMANENT STAFF	560	366	39.5%
TEMPORARY STAFF	3055	3700	54.8%
TOTAL	6902	6987	50.3%

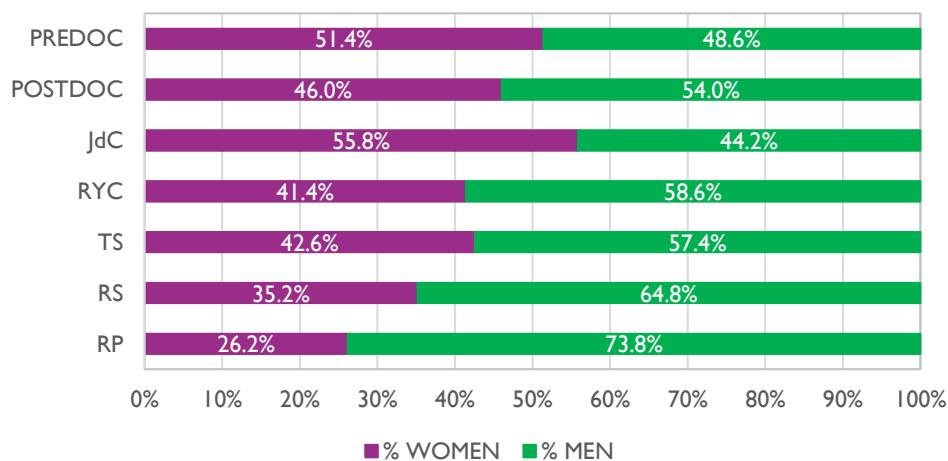
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Distribution of scientific staff by category and sex

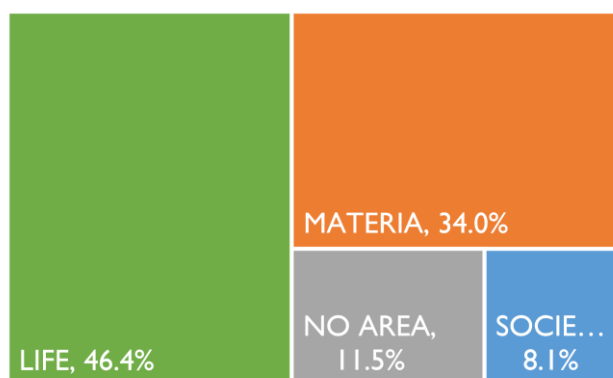
CATEGORIES	MEN	WOMEN	TOTAL	%WOMEN
PREDOCTORAL	746	789	1535	51.4%
POSTDOCTORAL	395	337	732	46.0%
JUAN DE LA CIERVA	68	86	154	55.8%
RAMÓN Y CAJAL	58	41	99	41.4%
TENURED SCIENTISTS	1037	769	1806	42.6%
RESEARCH SCIENTISTS	599	325	924	35.2%
RESEARCH PROFESSORS	428	152	580	26.2%

CSIC

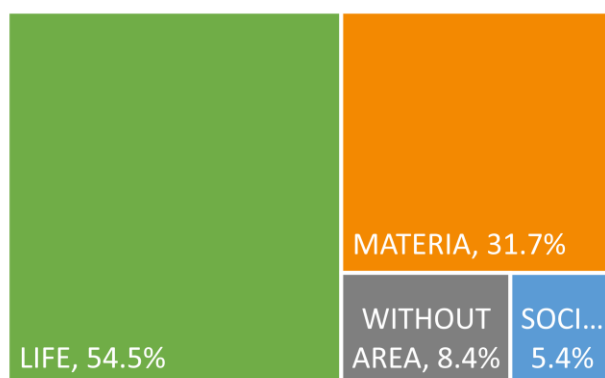


Distribution of researchers from the different professional categories in CSIC

PERMANENT RESEARCHERS BY AREA



NON PERMANENT RESEARCHERS BY AREA



Distribution of permanent researchers (TS, RS, RP) and temporary researchers (RyC, JdC, POSTDOC, PREDOC) in the global research areas.

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Permanent scientific staff by sub-areas

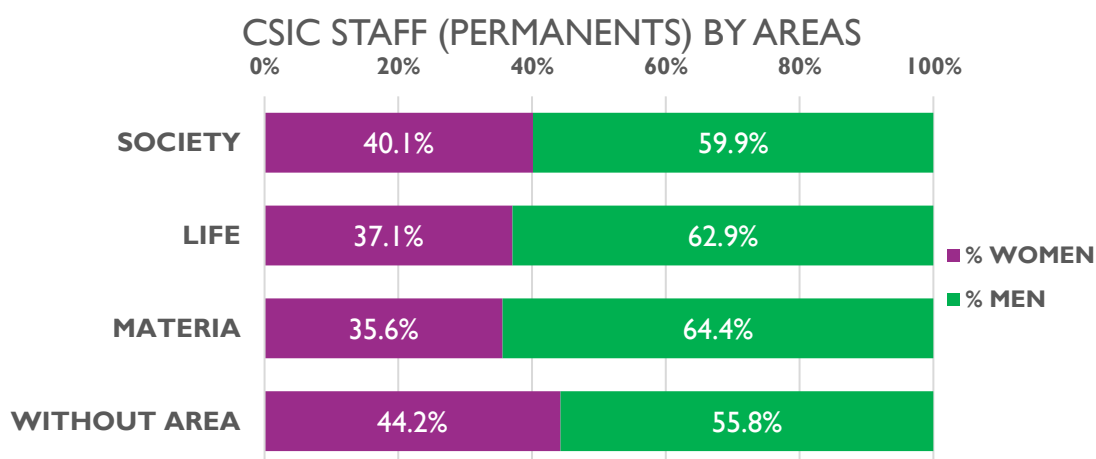
SUB-AREA	MEN	WOMEN	TOTAL	%WOMEN
HUMANITIES AND SOCIAL SCIENCES	161	108	269	40.1%
BIOLOGY AND BIOMEDICINE	310	165	475	34.7%
NATURAL RESOURCES	323	118	441	26.8%
AGRICULTURAL SCIENCES	240	162	402	40.3%
PHYSICAL SCIENCE AND TECHNOLOGY	322	92	414	22.2%
MATERIALS SCIENCE AND TECHNOLOGY	219	146	365	40.0%
FOOD SCIENCE AND TECHNOLOGY	93	124	217	57.1%
CHEMICAL SCIENCE AND TECHNOLOGY	183	162	345	47.0%
WITHOUT AREA	213	169	382	44.2%
TOTAL	2064	1246	3310	37.6%

CSIC Permanent Researchers



Permanent scientific staff by research sub-areas.

Permanent scientific staff by areas

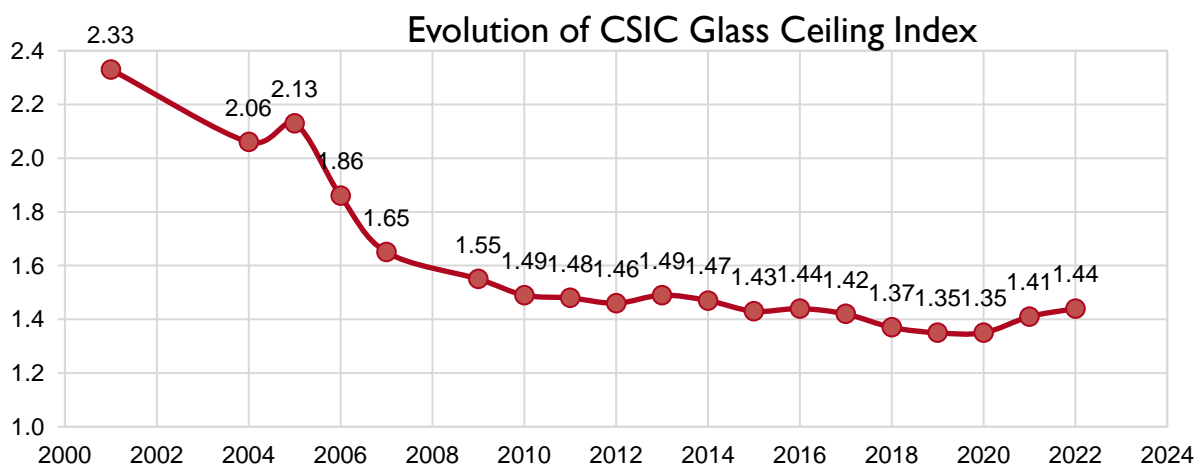
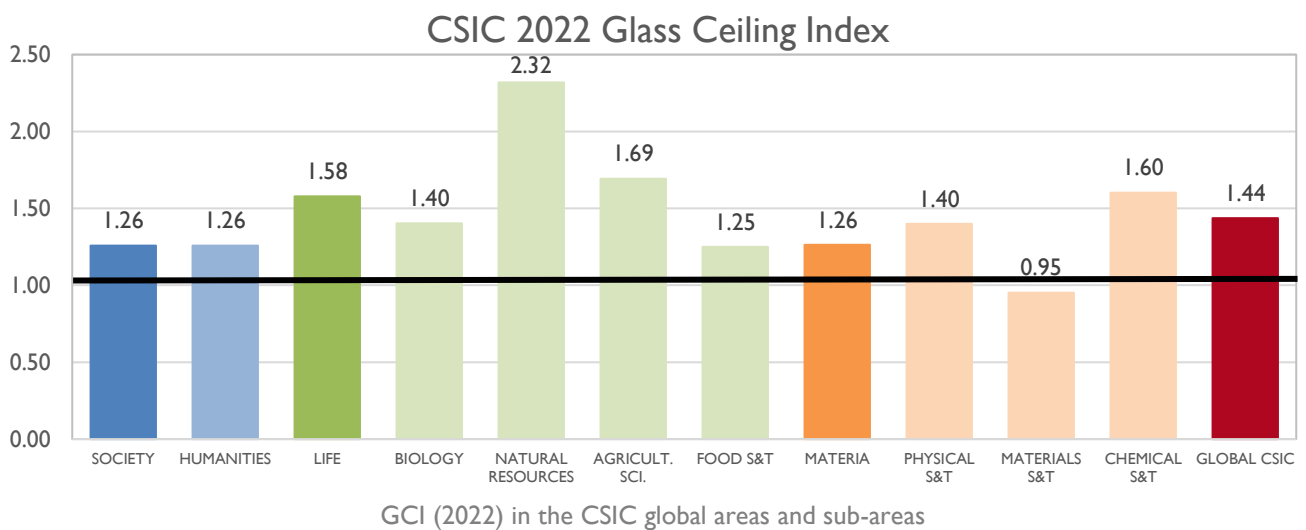


Permanent scientific staff by sex and area

Glass Ceiling Index

The **Glass Ceiling Index (GCI)** is a relative index that is calculated on the basis of a comparison of the proportion of women in the three research categories with regard to the Research Professors category. In 2020, the glass ceiling index for research staff was 1.35. An index of 1 would indicate an absence of inequality, an index above 1 means the existence of a glass ceiling for female scientists. GCI values equal to 1 would indicate the absence of inequality, while GCI values higher to 1 indicate the existence of glass ceiling index for researchers. In the scientific staff, the glass ceiling index is 1.44 in 2022, although there are large differences between the different areas and sub-areas.

$$\text{Glass ceiling index} = \frac{\frac{\text{women (TS + RS + RP)}}{\text{total (TS + RS + RP)}}}{\frac{\text{women RP}}{\text{total RP}}}$$



CSIC GCI evolution 2000-2022

In 2022, the CSIC GCI reaches the value of 1.44, after the observed minimum in 2019 and 2020, effect that, as previously indicated in the IMI2022 Report, cannot be associated with the incorporation of National Centres. This rise is associated with the GCI increase in LIFE area, being the global area with the highest number of staffs. It is important to highlight the good evolution of MATERIA GLOBAL AREA even though it began from a worse situation than the other areas, although large differences exist in the evolution of sub-areas. (see Annex I).

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Distribution by age and sex in the scientific career and retirement age of scientific staff.

Distribution of permanent scientific staff by sub-areas of investigation and age

	26-45		46-55		56-65		>65		TOTAL	
	M	F	M	F	M	F	M	F	M	F
HUMANITIES AND SOCIAL SS.	20	10	45	47	72	41	24	10	161	108
BIOLOGY AND BIOMEDICINE	23	17	97	46	151	89	39	13	310	165
NATURAL RESOURCES	21	10	110	51	161	49	31	8	323	118
AGRICULTURAL SCIENCES	25	13	88	62	109	78	18	9	240	162
PHYSICAL S&T	39	12	129	41	128	33	26	6	322	92
MATERIALS S&T	27	20	81	56	92	60	19	10	219	146
FOOD S&T	8	18	26	52	54	53	5	1	93	124
CHEMICAL S&TS	19	10	70	66	79	72	15	14	183	162
WITHOUT AREA	33	24	91	81	85	56	4	8	213	169
TOTAL	215	134	737	502	931	531	181	79	2064	1246
PERCENTAGE OF WOMEN	38.4%		40.5%		36.3%		30.3%		37.6%	

Average retirement age of scientific staff by category and sex

	WOMEN		MEN	
	Retired	Average Age	Retired	Average Age
RESEARCH PROFESSORS	11	68.4	22	69.7
RESEARCH SCIENTISTS	10	68.2	12	67.9
TENURED SCIENTISTS	10	68.0	17	67.6
TOTAL	31	68.2	51	68.6

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Contracted Postdoctoral Research Staff

Post-doc calls

	MEN	WOMEN	TOTAL	%WOMEN
RAMÓN Y CAJAL	58	41	99	41.4%
JUAN DE LA CIERVA	68	86	154	55.8%
OTHERS	395	337	732	46.0%
Total	521	464	985	47.1%

Ramón y Cajal contracts by sub-areas

SCIENTIFIC AREA	MEN	WOMEN	TOTAL	%WOMEN
HUMANITIES & SOCIAL SS	6	1	7	14.3%
BIOLOGY AND BIOMEDICINE	9	6	15	40.0%
NATURAL RESOURCES	15	12	27	44.4%
AGRICULTURAL SCIENCES	9	5	14	35.7%
PHYSICAL S&T	11	6	17	35.3%
MATERIALS S&T	6	4	10	40.0%
FOOD S&T	-	-	-	-
CHEMICAL S&TS	1	6	7	85.7%
WITHOUT AREA	1	1	2	50.0%
TOTAL	58	41	99	41.4%

Juan de la Cierva contracts by sub-areas

SCIENTIFIC AREA	MEN	WOMEN	TOTAL	%WOMEN
HUMANITIES & SOCIAL SS	12	5	17	29.4%
BIOLOGY AND BIOMEDICINE	12	10	22	45.5%
NATURAL RESOURCES	17	26	43	60.5%
AGRICULTURAL SCIENCES	7	13	20	65.0%
PHYSICAL S&T	5	14	19	73.7%
MATERIALS S&T	4	5	9	55.6%
FOOD S&T	1	4	5	80.0%
CHEMICAL S&TS	6	8	14	57.1%
WITHOUT AREA	4	1	5	20.0%
TOTAL	68	86	154	55.8%

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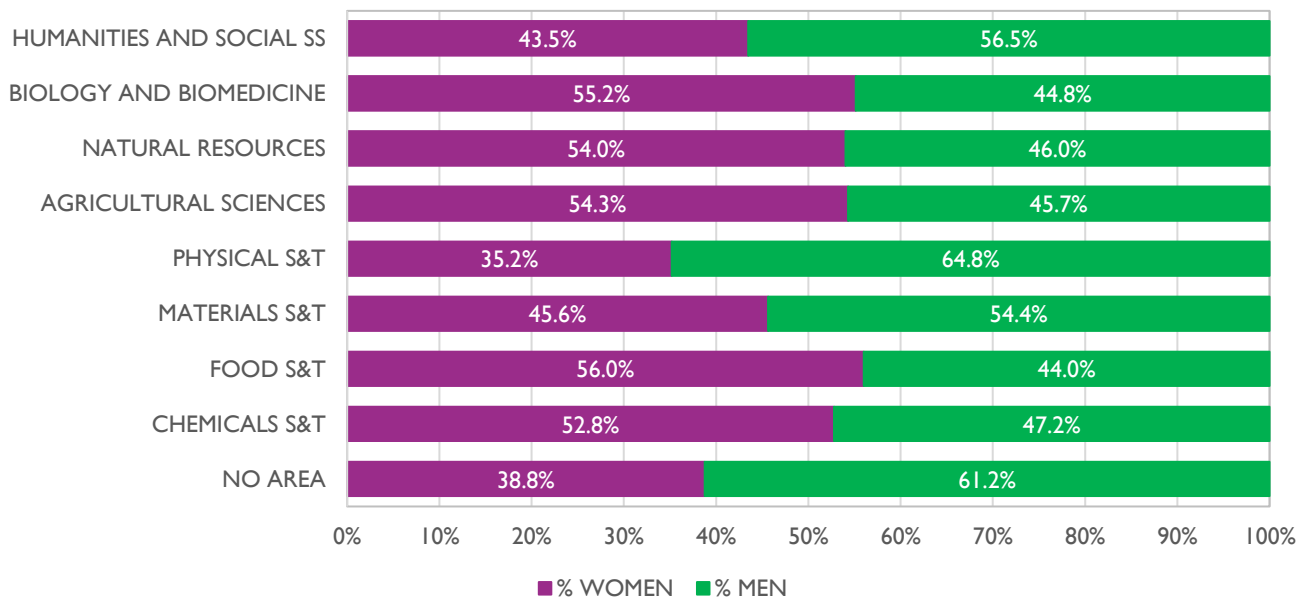
Other post-doc contracts by sub-areas*

	MEN	WOMEN	TOTAL	%WOMEN
HUMANITIES & SOCIAL SS	33	29	62	46.8%
BIOLOGY AND BIOMEDICINE	65	85	150	56.7%
NATURAL RESOURCES	71	89	160	55.6%
AGRICULTURAL SCIENCES	23	33	56	58.9%
PHYSICAL S&T	94	51	145	35.2%
MATERIALS S&T	25	22	47	46.8%
FOOD S&T	11	14	25	56.0%
CHEMICAL S&T	33	32	65	49.2%
WITHOUT AREA	108	68	176	38.6%
TOTAL	463	423	886	47.7%

(*)**INCLUDED:** CONTRACT WITH CHARGE TO RESEARCH PROJECT, INTERNSHIP CONTRACTS (Juan de la Cierva Doctors, Youth Guarantee, and under calls), SPECIFIC WORK OR SERVICE CONTRACTS, CONTRACTS FOR POSTDOCTORAL TRAINING, INDEFINITE, RESEARCHER (EU)

Global distribution of postdoctoral researchers by sub-areas

DOCTORS BY SUB-AREAS



Distribution of postdoctoral researchers by sub-area

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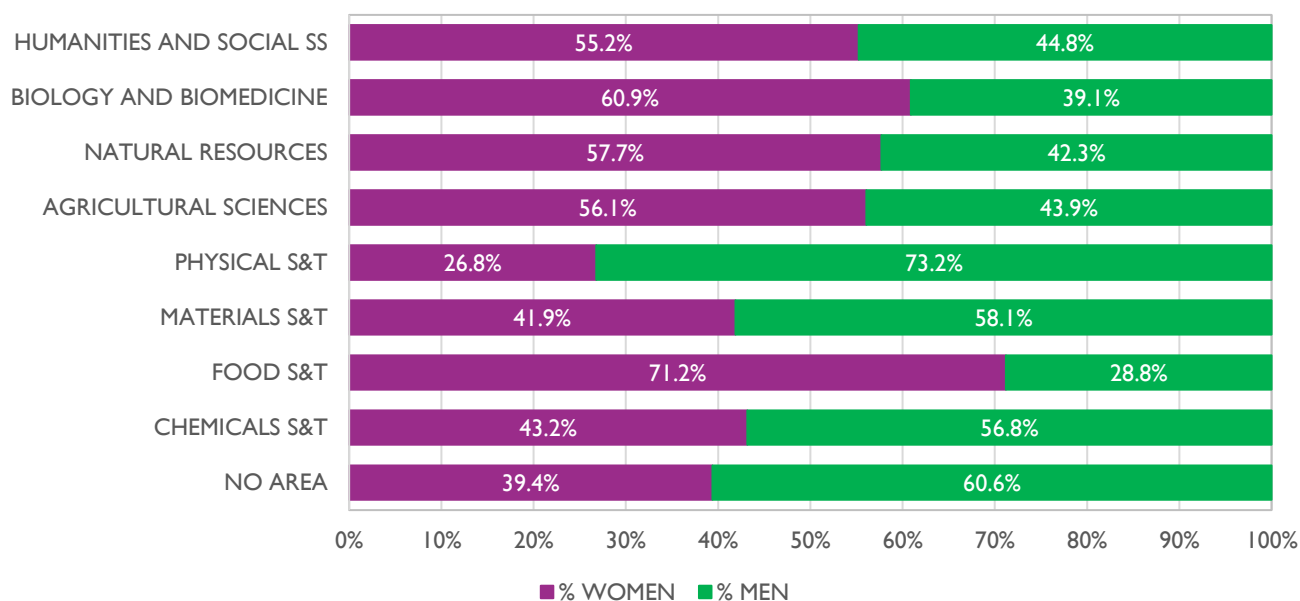
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Predoc doctoral contracted research staff

Predoc doctoral contracts granted and ongoing in 2022 by sub-areas

SCIENTIFIC AREA	MEN	WOMEN	TOTAL	%WOMEN
HUMANITIES AND SOCIAL SCIENCES	30	37	67	55.2%
BIOLOGY AND BIOMEDICINE	176	274	450	60.9%
NATURAL RESOURCES	118	161	279	57.7%
AGRICULTURAL SCIENCES	58	74	132	56.1%
PHYSICAL S&T	153	56	209	26.8%
MATERIALS S&T	93	67	160	41.9%
FOOD S&T	19	47	66	71.2%
CHEMICAL S&TS	79	60	139	43.2%
WITHOUT AREA	20	13	33	39.4%
TOTAL	746	789	1535	51.4%

PREDOC BY SUB-AREAS



Distribution of predoctoral researchers by sub-area

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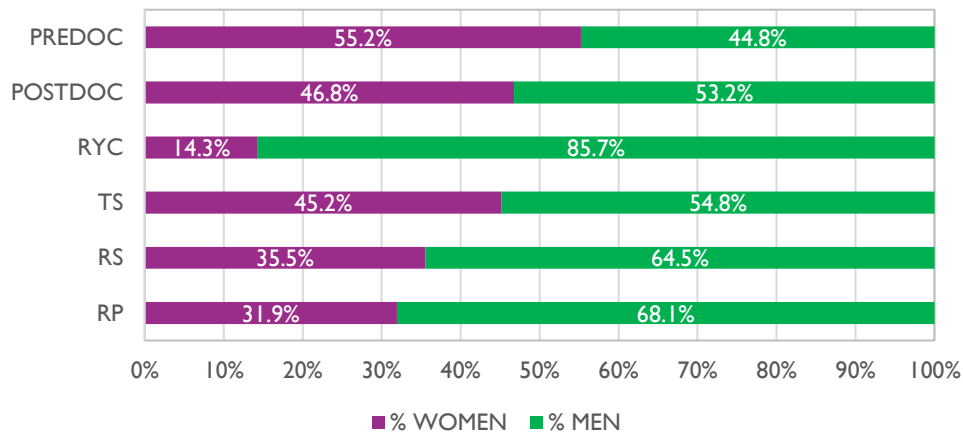
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Distribution of research staff by sub-areas and scientific categories

CSIC SOCIETY AREA

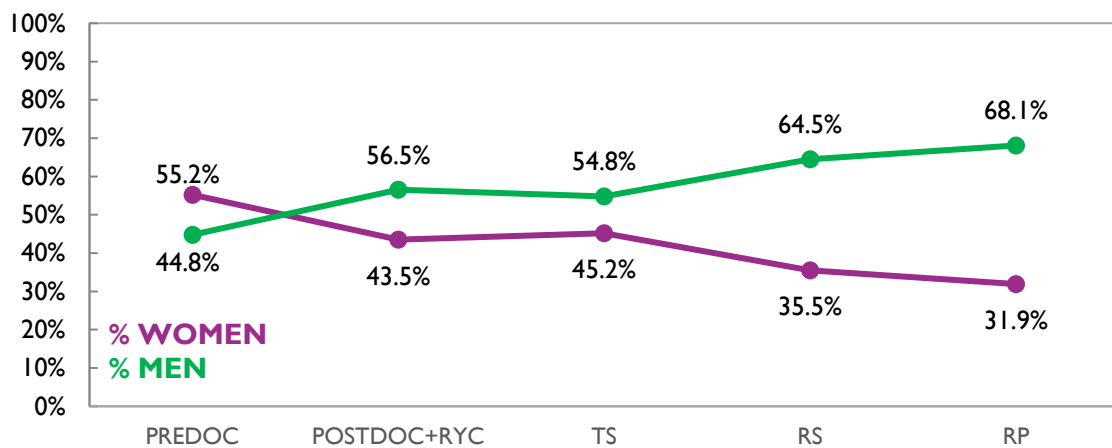
SOCIETY	MEN	WOMEN	TOTAL	%WOMEN
RESEARCH PROFESSORS	32	15	47	31.9%
RESEARCH SCIENTISTS	49	27	76	35.5%
TENURED SCIENTISTS	80	66	146	45.2%
RYC	6	1	7	14.3%
POSTDOC	33	29	62	46.8%
PREDOC	30	37	67	55.2%
TOTAL	230	175	405	43.2%

SOCIETY



Distribution of SOCIETY global area research staff by category and sex

HUMANITIES AND SOCIAL SCIENCES 2022



Scissor chart of research staff in Humanities and Social Sciences sub-area (SOCIETY)

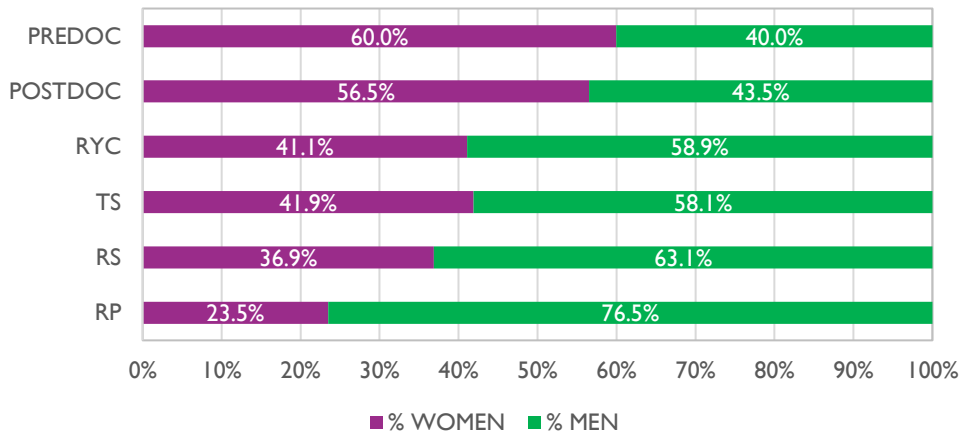
CSIC LIFE AREA

SUB-AREA	CATEGORIES	MEN	WOMEN	TOTAL	%WOMEN
BIOLOGY AND BIOMEDICINE	RP	79	26	105	24.8%
	RS	80	47	127	37.0%
	TS	151	92	243	37.9%
	RYC	9	6	15	40.0%
	POSTDOC	65	85	150	56.7%
	PREDOC	176	274	450	60.9%
	TOTAL	560	530	1090	48.6%
NATURAL RESOURCES	RP	69	9	78	11.5%
	RS	98	36	134	26.9%
	TS	156	73	229	31.9%
	RYC	15	12	27	44.4%
	POSTDOC	71	89	160	55.6%
	PREDOC	118	161	279	57.7%
	TOTAL	527	380	907	41.9%
AGRICULTURAL SCIENCES	RP	48	15	63	23.8%
	RS	74	50	124	40.3%
	TS	118	97	215	45.1%
	RYC	9	5	14	35.7%
	POSTDOC	23	33	56	58.9%
	PREDOC	58	74	132	56.1%
	TOTAL	330	274	604	45.4%
FOOD S&T	RP	19	16	35	45.7%
	RS	32	33	65	50.8%
	TS	42	75	117	64.1%
	RYC	0	0	0	
	POSTDOC	11	14	25	56.0%
	PREDOC	19	47	66	71.2%
	TOTAL	123	185	308	60.1%
LIFE	RP	215	66	281	23.5%
	RS	284	166	450	36.9%
	TS	467	337	804	41.9%
	RYC	33	23	56	41.1%
	POSTDOC	170	221	391	56.5%
	PREDOC	371	556	927	60.0%
	TOTAL	1540	1369	2909	47.1%

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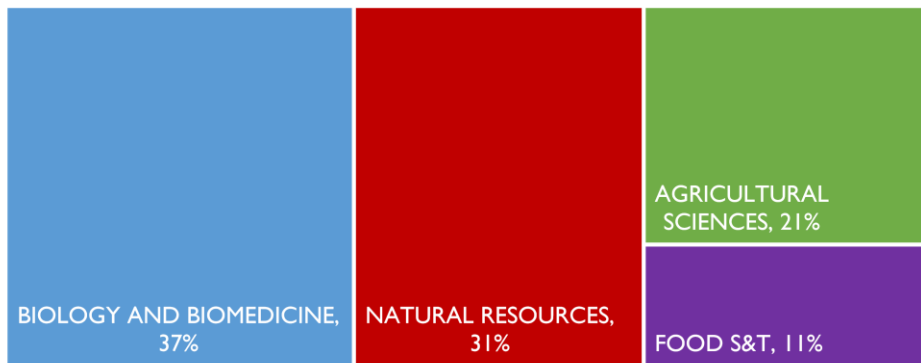
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LIFE



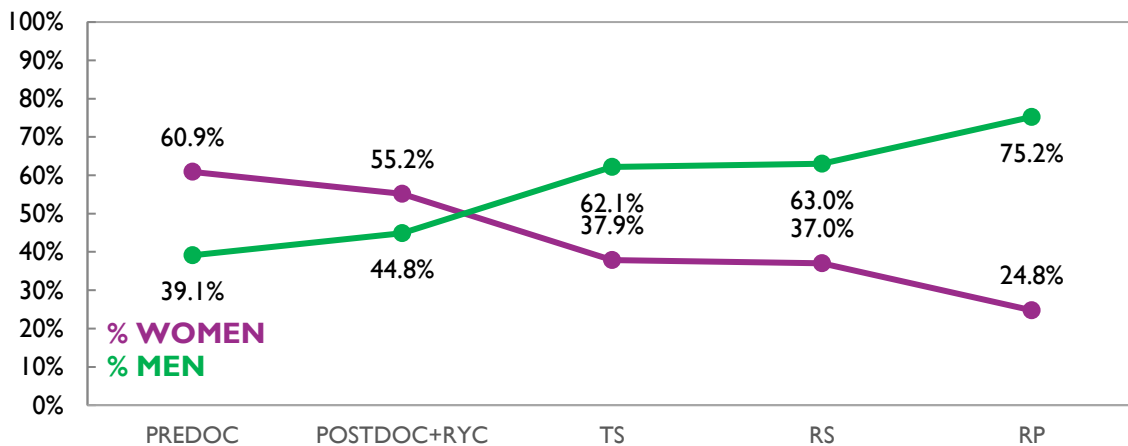
Distribution of LIFE global area research staff by category and sex.

RESEARCH STAFF- LIFE AREA



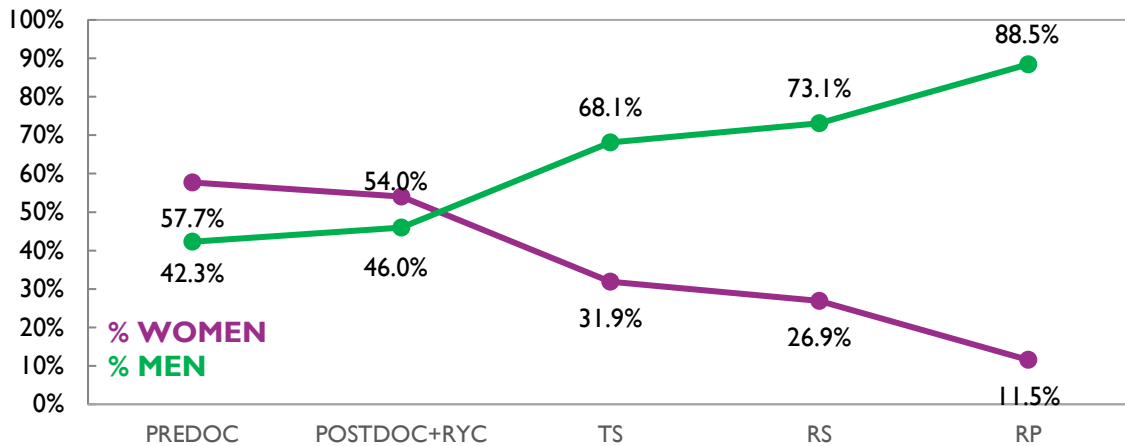
Distribution of LIFE global area research staff by sub-areas.

BIOLOGY AND BIOMEDICINE 2022



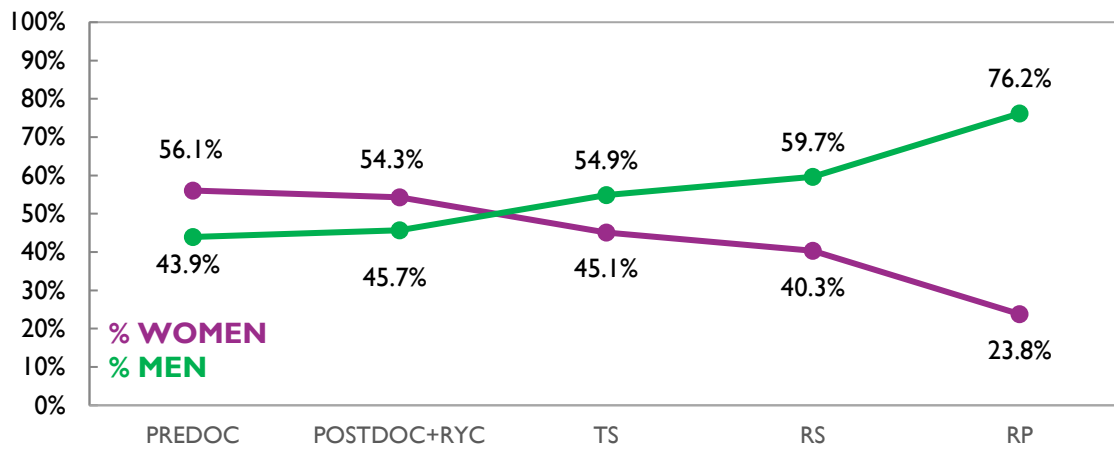
Scissor chart of research staff in Biology and Biomedicine sub-area (LIFE)

NATURAL RESOURCES 2022



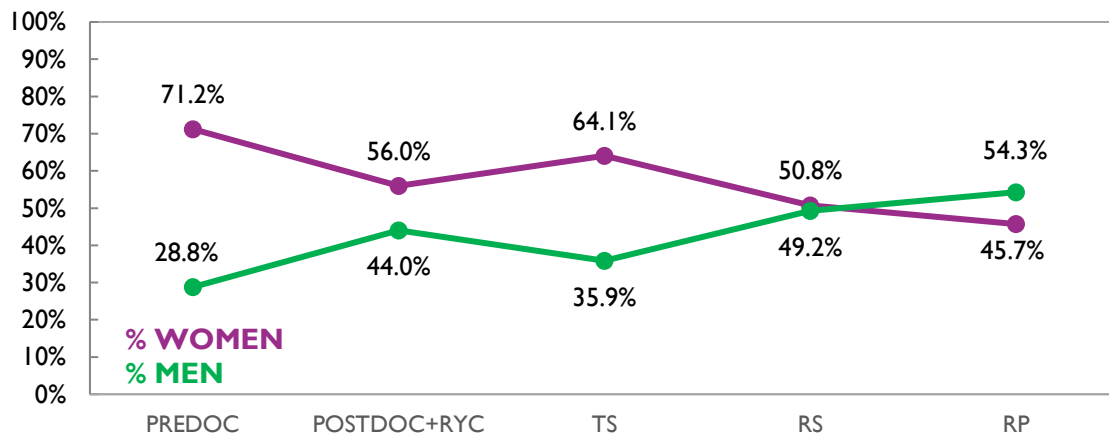
Scissor chart of research staff in Natural Resources sub-area (LIFE)

AGRICULTURAL SCIENCES 2022



Scissor chart of research staff in Agricultural Sciences (LIFE)

FOOD S&T 2022

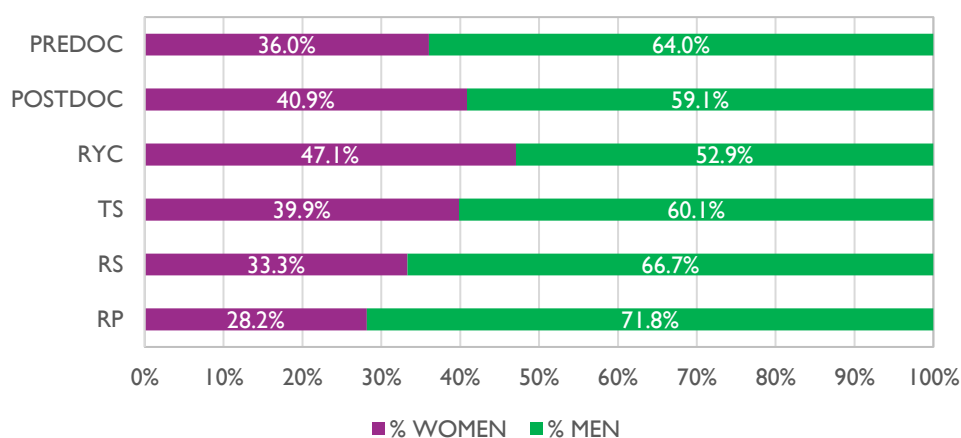


Scissor chart of research staff in Food Science and Technology sub-area (LIFE)

CSIC MATERIA AREA

SUB-AREA	CATEGORIES	MEN	WOMEN	TOTAL	%WOMEN
PHYSICAL S&T	RP	72	14	86	16.3%
	RS	101	25	126	19.8%
	TS	149	53	202	26.2%
	RYC	11	6	17	35.3%
	POSTDOC	94	51	145	35.2%
	PREDOC	153	56	209	26.8%
	TOTAL		580	205	785
MATERIALS S&T	RP	40	29	69	42.0%
	RS	80	35	115	30.4%
	TS	99	82	181	45.3%
	RYC	6	4	10	40.0%
	POSTDOC	25	22	47	46.8%
	PREDOC	93	67	160	41.9%
	TOTAL		343	239	582
CHEMICAL S&T	RP	41	17	58	29.3%
	RS	55	58	113	51.3%
	TS	87	87	174	50.0%
	RYC	1	6	7	85.7%
	POSTDOC	33	32	65	49.2%
	PREDOC	79	60	139	43.2%
	TOTAL		296	260	556
MATERIA	RP	153	60	213	28.2%
	RS	236	118	354	33.3%
	TS	335	222	557	39.9%
	RYC	18	16	34	47.1%
	POSTDOC	152	105	257	40.9%
	PREDOC	325	183	508	36.0%
	TOTAL		1219	704	1923

MATERIA

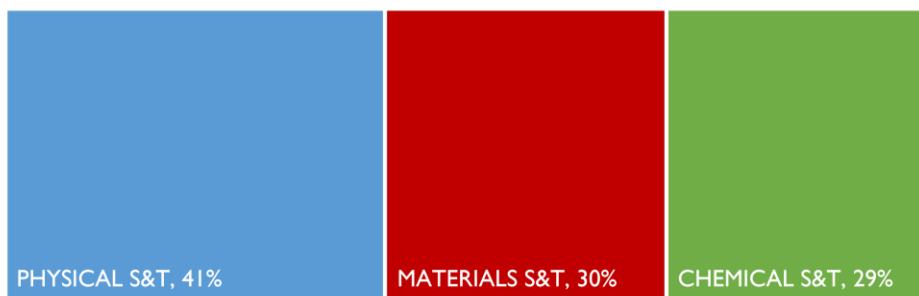


Distribution of MATERIA global area research staff by category and sex

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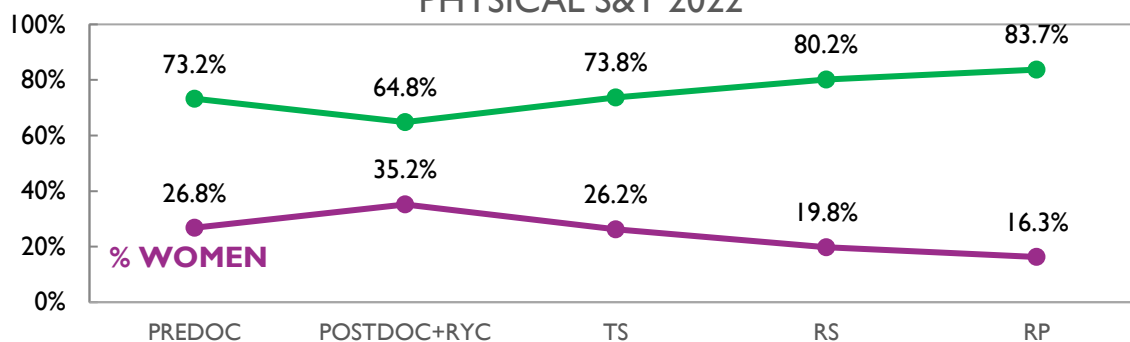
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RESEARCH STAFF- MATERIA AREA



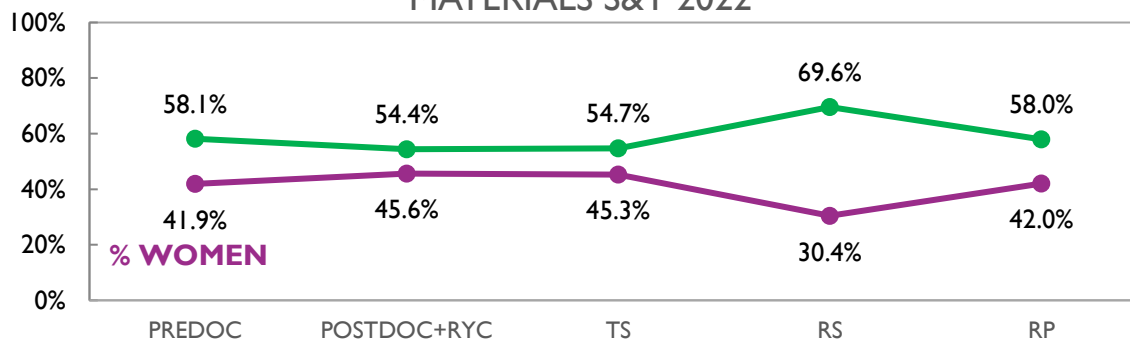
Distribution of MATERIA global area research staff by sub-areas

PHYSICAL S&T 2022



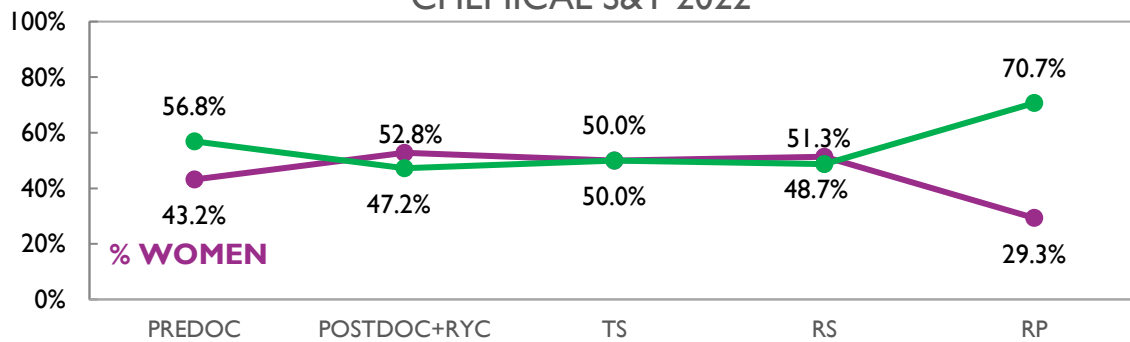
Scissor chart of research staff in Physical Science and Technology sub-area (MATERIA)

MATERIALS S&T 2022



Scissor chart of research staff in Materials Science and Technology sub-area (MATERIA)

CHEMICAL S&T 2022



Scissor chart of research staff in Chemical Science and Technology sub-area (MATERIA)

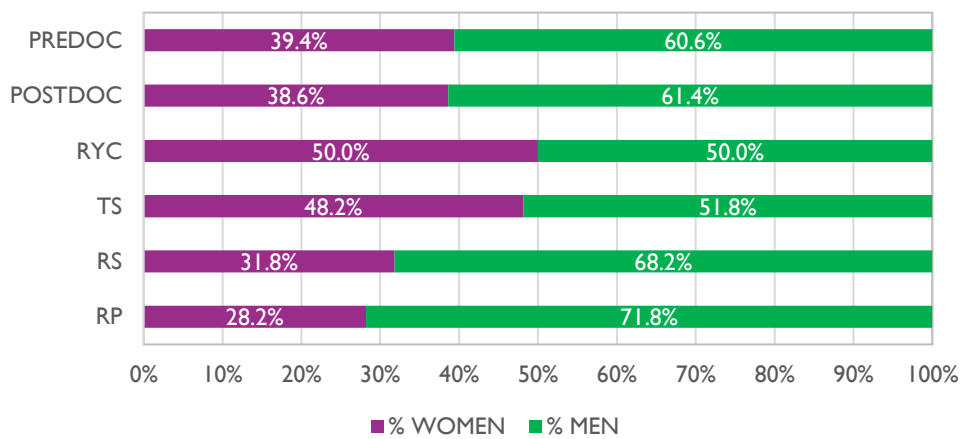
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WITHOUT AREA

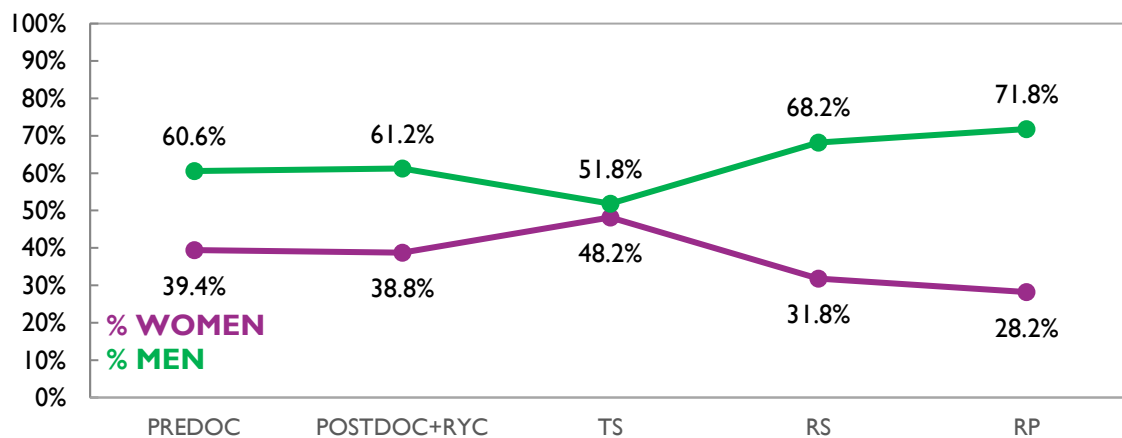
CATEGORIES	MEN	WOMEN	TOTAL	%WOMEN
RESEARCH PROFESSORS	28	11	39	28,2%
RESEARCH SCIENTISTS	30	14	44	31,8%
TENURED SCIENTISTS	155	144	299	48,2%
RYC	1	1	2	50,0%
POSTDOC	108	68	176	38,6%
PREDOC	20	13	33	39,4%
TOTAL	342	251	593	42,3%

NO AREA



Distribution of research staff not assigned to any area by category and sex

NO AREA 2022



Scissor chart of research staff not assigned to any area

CHAPTER 2: ACCESS AND PROMOTION

Since the publication of the previous IMI2022 report, there have been no appointments of staff from CSIC scientific categories. However, the lists of approved candidates of the last calls for access are already published, both for internal and for open access promotion. In the case of open-access positions, BOE lists the scales of Tenured Scientists, Research Scientists and Research Professors, which correspond to the Public Employment Offer (OEP) of 2020 and 2021, convened in July, June and February 2022, respectively, are available. As far as internal promotion vacancies are concerned, also available for the three categories, they correspond to the OEP of 2019 and 2020.

CSIC access process results of the OEP (pending appointments)

Areas with percentages of approved women lower or equal to 20% appear in red. The data highlights the difficulty of researchers for free access to Research Scientists and Research Professors scales in Society area, as well as access for Research Professors to Life area. By internal promotion, it is the Materia area the one that presents the lowest percentage of approved women with percentage of women in the origin scale.

CATEGORY	AREA	MEN	WOMEN	TOTAL	% WOMEN	
OPEN ACCESS (OEP 2020 & 2021)						
TS	SOCIETY	19	19	38	50.0%	
	LIFE	117	91	208	43.8%	
	MATERIA	86	55	141	39.0%	
	TOTAL	222	165	387	42.6%	
RS	SOCIETY	8	2	10	20.0%	
	LIFE	20	14	34	41.2%	
	MATERIA	20	13	33	39.4%	
	TOTAL	48	29	77	37.7%	
RP	SOCIETY	5	1	6	16.7%	
	LIFE	13	0	13	0%	
	MATERIA	3	3	6	50.0%	
	TOTAL	21	4	25	16.0%	
INTERNAL PROMOTION (OEP 2019 & 2020)						% WOMEN ORIGIN CATEGORY
TS	SOCIETY	2	1	3	33.3%	
	LIFE	9	13	22	59.1%	
	MATERIA	5	3	8	37.5%	
	TOTAL	16	17	33	51.5%	
RS	SOCIETY	7	8	15	53.3%	45.2%
	LIFE	57	43	100	43.0%	41.9%
	MATERIA	49	18	67	26.9%	39.9%
	TOTAL	113	69	182	37.9%	42.6%
RP	SOCIETY	8	3	11	27.3%	35.5%
	LIFE	36	20	56	35.7%	36.9%
	MATERIA	22	8	27	18.8%	33.3%
	TOTAL	66	28	94	29.8%	35.2%

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Success rates for open access Research Scientists categories (OEP 2020-2021)

A distinction can be made between two types of open access vacancies in Research Scientists and Research Professors categories: with specific profiles, that have one position per profile and with high overall success rates, because there are few applications per position and those with more general profiles (more positions with the same profile) where women perform better despite that the lower global success rate. In this scenario, women have greater success rates than men. When few vacancies per profile are available, the situation is the opposite and women do not get access or do so to a lesser extent than their male counterparts.

Area	ADMITTED			APROVED			SUCCESS RATE (ADM/APPR)		
	M	F	%F	M	F	%F	M	F	Global
RS-open access									
SOCIETY (SP)*	8	5	38.5%	6	0	0.0%	75.0%	0.0%	46.2%
IS-SOCIETY	23	17	41.5%	2	2	50.0%	8.7%	11.8%	10.0%
TOTAL SOCIETY	31	22	38.5%	8	2	20.0%	25.8%	9.1%	18.9%
LIFE (SP)*	39	19	32.8%	13	5	27.8%	33.3%	26.3%	31.0%
IS-BIOMED	23	15	39.5%	2	6	25.0%	8.7%	40.0%	21.1%
IS- GLOBAL CHANGE	77	40	34.2%	5	3	37.5%	6.5%	7.5%	6.8%
TOTAL LIFE	139	74	34.7%	20	14	41.2%	14.4%	18.9%	16.0%
MATERIA (SP)*	25	15	37.5%	11	6	35.3%	44.0%	40.0%	42.5%
IS-MATERIA	66	41	38.3%	9	7	43.8%	13.6%	17.1%	15.0%
TOTAL MATERIA	91	56	37.5%	20	13	39.4%	22.0%	23.2%	22.4%
TOTAL	261	152	36.8%	48	29	37.7%	18.4%	19.1%	18.6%

* Specific Profiles.

Success rates in open access to Research Professors (OEP 2020-2021)

Area	ADMITTED			APROVED			SUCCESS RATE (ADM/APPR)		
	M	F	%F	M	F	%F	M	F	Global
RP-open access									
SOCIETY	10	6	37.5%	4	1	20.0%	40.0%	16.7%	31.3%
LIFE	16	7	30.4%	12	0	0.0%	75.0%	0.0%	52.2%
MATERIA	3	2	40.0%	2	1	33.3%	66.7%	50.0%	60.0%
INTERDISCIP. SCIENCE	38	16	29.6%	3	2	40.0%	7.9%	12.5%	9.3%
TOTAL	67	31	31.6%	21	4	16.0%	31.3%	12.9%	25.5%

As for RP, among the 20 vacancies with specific profiles (not detailed on the table) there are 7 that had one candidate (for all male, 6 belong to LIFE profiles and the rest to MATERIA) In case of general profiles, same as Research Scientists, success rate of women exceeds that of men in the open access to Research Professors.

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Internal promotion by profiles.

Below are detailed data about the internal promotion processes for scientific scales in the 2019-2020 call. The data in this section have been provided by the SGARH on the basis of court records (2021). Profiles with a percentage of approved women less than 20 per cent appear in red.

Internal promotion. Research Professors 2019-2020

As for internal promotion for Research Professors, profiles that present proportions of approved women less than 20% appear in red, in fact 0.0% for the most part, even though between 10% to 38% of women applied. These profiles have been distributed among CSIC 3 global areas, although in LIFE the only appear in Natural Resources sub-area.

Internal . Research Professors 2019-2020 (T: total; W: women; %W: % women)

Internal promotion RP 2019-2020	Candidates			After phase I			After phase I			Approved		
	T	W	%W	T	W	%W	T	W	%W	T	W	%W
SOCIETY												
HUMANITIES	27	8	29.6	14	5	35.7	14	5	35.7	7	2	28.6
SOCIAL SCIENCES	10	3	30.0	6	1	16.7	5	1	20.0	3	0	0.0
INTERDISCIPLINARY SCIENCE IN SOCIETY GLOBAL AREA	5	3	60.0	3	1	33.3	3	1	33.3	1	1	100.0
LIFE												
BIOLOGY OF TERRESTRIAL ORGANISMS AND SYSTEMS	19	2	10.5	8	1	12.5	8	1	12.5	6	0	0.0
BIOLOGY AND BIOMEDICINE	56	23	41.1	22	9	40.9	22	9	40.9	14	4	28.6
INTERDISCIPLINARY SCIENCE IN BIOLOGY AND BIOMEDICINE	5	2	40.0	3	1	33.3	3	1	33.3	2	1	50.0
INTERDISCIPLINARY SCIENCE IN GLOBAL CHANGE	4	2	50.0	2	1	50.0	2	1	50.0	2	1	50.0
FOOD S&T	22	12	54.5	11	8	72.7	11	8	72.7	6	5	83.3
AGRICULTURAL SCIENCES	48	15	31.2	20	7	35.0	20	7	35.0	9	3	33.3
AGRICULTURAL AND FORESTRY SCIENCES	23	9	39.1	9	2	22.2	9	2	22.2	3	2	66.7
EARTH AND ATMOSPHERIC SCIENCES	17	4	23.5	5	2	40.0	5	2	40.0	3	1	33.3
MARINE SCIENCES	13	3	23.1	7	1	14.3	7	1	14.3	5	0	0.0
MARINE ECOLOGY. OCEANOGRAPHY. FISHERIES AND MARINE CROPS	19	5	26.3	8	3	37.5	8	3	37.5	3	2	66.7
GEOLOGICAL RESOURCES AND PROCESSES FOR THE ECOLOGICAL TRANSITION	17	5	29.4	4	1	25.0	4	1	25.0	3	1	33.3
MATERIA												
INTERDISCIPLINARY SCIENCE IN MATERIA GLOBAL AREA	7	1	14.3	2	0	0.0	2	0	0.0	2	0	0.0
MATERIALS SCIENCE AND TECHNOLOGY	31	13	41.9	10	6	60.0	10	6	60.0	6	3	50.0
CHEMICAL S&T	39	15	38.5	10	2	20.0	10	2	20.0	6	0	0.0
PHYSICAL SCIENCES. PHYSICAL AND MATHEMATICAL TECHNOLOGIES	69	14	20.3	16	4	25.0	16	4	25.0	13	2	15.4
TOTAL	431	139	32.2	160	55	34.4	159	55	34.6	94	28	29.8

Internal promotion. Research Scientist 2019-2020

As for internal promotion to Research Scientists category profiles of approved women are less than 20% (marked in red), are limited to the two areas with CSIC highest glass ceiling index, these are: Natural Resources and Physical Science and Technology which does not contribute to improve the inequality gap that drag both areas as shown in their respective scissors chart previously described.

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Internal Promotion. Researcher Scientist 2019-2020 (T: total W: women %W: % women)

Internal Promotion RS 2019-2020	Candidates			After phase 1			After phase 2			Approved		
	T	W	%W	T	F	T	W	%W	T	T	W	
SOCIETY												
SOCIAL SCIENCES	18	7	38.9	10	3	30.0	9	3	33.3	4	2	50.0
HUMANITIES	27	15	55.5	16	8	50.0	14	7	50.0	9	5	55.5
IS SOCIETY GLOBAL AREA	8	1	12.5	5	1	20.0	5	1	20.0	2	1	50.0
LIFE												
AQUACULTURE	3	0	0.0	1	0	0.0	1	0	0.0	1	0	0.0
CELL AND DEVELOPMENTAL BIOLOGY AND NEUROSCIENCES	27	12	44.4	13	7	53.8	13	7	53.8	9	4	44.4
BIOLOGY OF TERRESTRIAL ORGANISMS AND SYSTEMS	22	4	18.2	9	1	11.1	8	1	12.5	7	1	14.3
STRUCTURAL, COMPUTATIONAL AND SYSTEMS BIOLOGY AND BIOPHYSICS	12	1	8.3	6	1	16.7	6	1	16.7	4	1	25.0
BIOTECHNOLOGY, PATHOPHYSIOLOGY, IMMUNOLOGY AND INFECTIOUS DISEASES	23	7	30.4	13	6	46.1	13	6	46.1	10	5	50.0
IS BIOLOGY AND BIOMEDICINE	10	5	50.0	4	2	50.0	4	2	50.0	2	1	50.0
IS GLOBAL CHANGE	1	1	100.0	1	1	100.0	1	1	100.0	1	1	100.0
FOOD SCIENCE AND TECHNOLOGY	32	20	62.5	13	7	53.8	13	7	53.8	11	7	63.6
AGRICULTURAL SCIENCES	76	30	39.5	24	9	37.5	24	9	37.5	20	7	35.0
AGRICULTURAL AND FORESTRY SCIENCES	38	20	52.6	14	9	64.3	13	8	61.5	10	5	50.0
EARTH AND ATMOSPHERIC SCIENCES	23	4	17.4	8	1	12.5	8	1	12.5	6	1	16.7
MARINE SCIENCES	22	8	36.3	9	3	33.3	9	3	33.3	7	3	42.8
FISHERIES SCIENCES	15	6	40.0	7	2	28.6	7	2	28.6	3	2	66.7
OCEANOGRAPHY, GEOLOGY AND ECOLOGY IN THE MARINE ENVIRONMENT	13	5	38.4	7	2	28.6	5	2	40.0	2	1	50.0
GEOLOGICAL RESOURCES AND PROCESSES FOR THE ECOLOGICAL TRANSITION	26	7	26.9	12	5	41.7	12	5	41.7	7	4	57.1
MATERIA												
IS MATERIA GLOBAL AREA	8	2	25.0	5	1	20.0	3	1	33.3	3	1	33.3
MATERIALS SCIENCE AND TECHNOLOGY	69	28	40.6	22	9	40.9	22	9	40.9	18	8	44.4
PHYSICAL AND MATHEMATICAL SCIENCES	39	8	20.5	19	2	10.5	19	2	10.5	18	2	11.1
CHEMICAL SCIENCES	29	9	31.0	12	4	33.3	12	4	33.3	9	3	33.3
PHYSICAL SCIENCES	32	8	25.0	14	3	21.4	14	3	21.4	11	1	9.1
CHEMICAL TECHNOLOGIES	21	10	47.6	10	3	30.0	10	3	30.0	8	3	37.5
TOTAL	594	218	36.7	254	90	35.4	245	88	35.9	182	69	37.9

Internal Promotion. Tenured Scientists 2019-2020

Internal promotion to Tenured Scientists category has a high percentage of female candidates and finally approved.

Internal Promotion. Tenured Scientists 2019-2020 (T: total W: women %W: % women)

Internal promotion TS 2019-2020	Candidates			After phase 1			After phase 2			Approved		
	T	W	%W	T	W	%W	T	W	%W	T	W	%W
SOCIETY												
HUMANITIES AND SOCIAL SCIENCES	6	2	33.3	5	1	20.0	5	1	20.0	3	1	33.3
LIFE												
AGROALIMENTACION	12	9	75.0	5	2	40.0	5	2	40.0	3	2	66.7
BIOLOGY AND BIOMEDICINE	14	8	57.1	5	2	40.0	5	2	40.0	3	2	66.7
AGRICULTURAL SCIENCES Y FORESTALES	14	9	64.23	9	5	55.6	9	5	55.5	8	4	50.0
MARINE ECOLOGY, OCEANOGRAPHY, FISHERIES, MARINE CULTIVES	7	5	71.4	6	5	83.3	6	5	83.3	5	4	80.0
NATURAL RESOURCES	10	5	50.0	9	4	44.4	8	4	50.0	3	1	33.3
MATERIA												
PHYSICAL, CHEMICAL AND MATERIALS S&T	38	17	44.7	13	5	38.5	13	5	38.4	8	3	37.5
TOTAL	101	55	54.5	52	24	46.1	51	24	47.1	33	17	51.5

CHAPTER 3: RESEARCH ACTIVITY

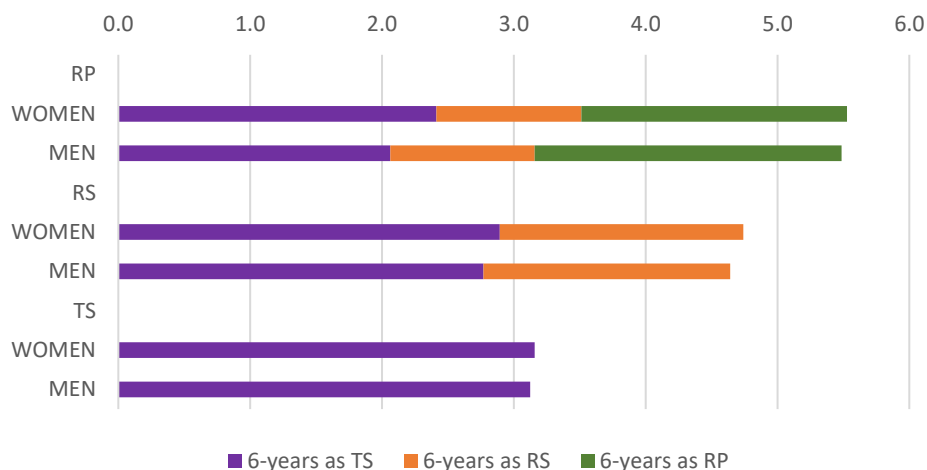
Scientific career according to five and six-year periods

Five-year periods accumulated by category

CATEGORY	STAFF	5-year as TS	Average	5-year as RS	Average	5-year as RP	Average
RP	577	1233	2.14	682	1.18	1331	2.31
WOMEN	150	359	2.39	174	1.16	313	2.09
MEN	427	874	2.05	508	1.19	1018	2.38
RS	924	2985	3.23	1765	1.91	2	
WOMEN	325	1079	3.32	625	1.92	0	
MEN	599	1906	3.18	1140	1.90	2	
TS	1806	6492	3.59				
WOMEN	769	2851	3.71				
MEN	1037	3641	3.51				

Six-year periods accumulated by category

CATEGORY	STAFF	6-year as TS	Average	6-year as RS	Average	6-year as RP	Average
RP	577	1243	2.15	632	1.10	1297	2.25
WOMEN	150	362	2.41	165	1.10	302	2.01
MEN	427	881	2.06	467	1.09	995	2.33
RS	924	2599	2.81	1722	1.86	2	
WOMEN	325	940	2.89	601	1.85	0	
MEN	599	1659	2.77	1121	1.87	2	
TS	1806	5669	3.14				
WOMEN	769	2429	3.16				
MEN	1037	3240	3.12				



Number of six-year periods obtained in each professional category according to sex and professional category

Observation in the research career through five and six-year periods accumulated by category in the research staff allows to carry out an indirect study on the wage gap in the research categories, where we can observe that men access to Scientific Researchers category (RS) for an average of two years before their female Tenured Scientists (TS) The time as a RS before promoting RP is similar for men and women.

TRANSFER

Applications for priority patents

SUB-AREA	PATENTS	MALE INVENTORS	WOMEN INVENTORS	% WOMEN
BIOLOGY AND BIOMEDICINE	50	163	98	37.5%
NATURAL RESOURCES	3	12	8	40.0%
AGRICULTURAL SCIENCES	7	10	11	52.4%
PHYSICAL S&T	30	107	40	27.2%
MATERIALS S&T	15	47	26	35.6%
FOOD S&T	7	29	34	53.9%
CHEMICAL S&TS	42	148	67	31.2%
TOTAL	154	516	284	35.5%

NATIONAL RESEARCH PROJECTS

Current National Projects in 2022

By number of projects

NATIONAL PROJECTS	MALE PI Projects	FEMALE PI Projects	% FEMALE PI
(includes National Plan, Special Actions and Infrastructure)			
HUMANITIES AND SOCIAL SCIENCES	113	67	37.2%
BIOLOGY AND BIOMEDICINE	478	238	33.2%
NATURAL RESOURCES	368	165	30.9%
AGRICULTURAL SCIENCES	337	218	39.3%
PHYSICAL S&T	313	113	26.5%
MATERIALS S&T	215	132	38.0%
FOOD S&T	133	148	52.7%
CHEMICAL S&TS	215	149	40.9%
CENTRAL SERVICES	4	4	50.0%
TOTAL NATIONAL PROJECTS	2176	1234	36.2%

CSIC female researchers lead national projects in global percentages very similar to those of their presence in different areas, which highlight an activity level similar to their male counterparts. With regard to the funding obtained, for the national projects obtained both in the current 2022 and from new concession, the percentage of total amounts is very similar to the percentage of the leading female researchers. For the knowledge sub-areas, these percentages are more variable.

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By funding

NATIONAL PROJECTS	MALE PI Projects	FEMALE PI Projects	% FEMALE PI
(includes National Plan. Special Actions and Infrastructure)			
HUMANITIES AND SOCIAL SCIENCES	6 460 563.32	3 756 998.15	36.8%
BIOLOGY AND BIOMEDICINE	1 10 680 062.4	49 300 685.69	30.8%
NATURAL RESOURCES	68 779 947.01	32 228 173.11	31.9%
AGRICULTURAL SCIENCES	57 173 185.64	35 200 984.41	38.1%
PHYSICAL S&T	74 170 282.51	30 874 316.99	29.4%
MATERIALS S&T	32 338 802.02	23 798 322.05	42.4%
FOOD S&T	22 340 910.54	23 781 678.7	51.5%
CHEMICAL S&TS	37 627 815.81	23 022 487.37	37.9%
CENTRAL SERVICES	85 000	326 000	79.3%
TOTAL FUNDING	409 656 569.2	222 289 646.5	35.2%

National projects granted in 2022

NATIONAL PROJECTS	MALE PI Projects	FEMALE PI Projects	% FEMALE PI
(includes National Plan. Special Actions and Infrastructure)			
HUMANITIES AND SOCIAL SCIENCES	26	20	43.5%
BIOLOGY AND BIOMEDICINE	133	56	29.6%
NATURAL RESOURCES	177	88	33.2%
AGRICULTURAL SCIENCES	120	69	36.5%
PHYSICAL S&T	117	47	28.7%
MATERIALS S&T	91	52	36.4%
FOOD S&T	62	54	46.6%
CHEMICAL S&TS	79	58	42.3%
CENTRAL SERVICES	1	2	66.7%
TOTAL NATIONAL PROJECTS	806	446	35.6%
FUNDING			
HUMANITIES AND SOCIAL SCIENCES	2 012 634.77	1 198 572.60	37.3%
BIOLOGY AND BIOMEDICINE	30 812 831.47	11 896 152.50	27.9%
NATURAL RESOURCES	31 867 644.07	12 585 516.13	28.3%
AGRICULTURAL SCIENCES	20 270 786.25	11 749 231.56	36.7%
PHYSICAL S&T	30 265 352.48	12 062 394.31	28.5%
MATERIALS S&T	14 728 958.66	9 056 941.94	38.1%
FOOD S&T	9 545 983.97	8 202 953.37	46.2%
CHEMICAL S&TS	14 021 297.42	8 558 999.80	37.9%
CENTRAL SERVICES	10 000.00	270 000.00	96.4%
TOTAL FUNDING	153 535 489.09	75 580 762.21	33.0%

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CURRENT INTERNATIONAL PROJECTS (2022)

European projects from H2020 and HORIZON EUROPE programs

By number of projects

PROJECTS	MALE PI Projects	FEMALE PI Projects	% FEMALE PI
H2020 PROGRAMME (2014-2020) (includes MSCA. ERC. RIA. CSA. IA)			
HUMANITIES AND SOCIAL SCIENCES	24	13	35.1%
BIOLOGY AND BIOMEDICINE	54	19	26.0%
NATURAL RESOURCES	83	33	28.4%
AGRICULTURAL SCIENCES	66	43	39.4%
PHYSICAL S&T	80	27	25.2%
MATERIALS S&T	46	27	37.0%
FOOD S&T	13	17	56.7%
CHEMICAL S&TS	43	20	31.7%
WITHOUT AREA	1		0.0%
TOTAL H2020	410	199	32.7%
HORIZON EUROPE PROGRAMME (2021-2027) (includes MSCA. ERC. RIA. CSA. IA)			
HUMANITIES AND SOCIAL SCIENCES	2	5	71.4%
BIOLOGY AND BIOMEDICINE	9	6	40.0%
NATURAL RESOURCES	28	22	44.0%
AGRICULTURAL SCIENCES	15	12	44.4%
PHYSICAL S&T	10	5	33.3%
MATERIALS S&T	12	8	40.0%
FOOD S&T	3	8	72.7%
CHEMICAL S&TS	11	6	35.3%
WITHOUT AREA	28	16	36.4%
ORGANIZACIÓN CENTRAL	1	2	66.7%
TOTAL HORIZON EUROPE	119	90	43.1%
TOTAL EUROPEAN	529	289	35.3%

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By funding

	MALE PI Funding	FEMALE PI Funding	%WOMEN Funding
H2020 PROGRAMME			
HUMANITIES AND SOCIAL SCIENCES	16 524 707.78	7 250 395.21	30.5%
BIOLOGY AND BIOMEDICINE	29 768 607.22	10 529 585.28	26.1%
NATURAL RESOURCES	24 410 702.93	5 312 047.22	17.9%
AGRICULTURAL SCIENCES	16 342 550.82	10 625 113.7	39.4%
PHYSICAL S&T	39 274 033.54	16 011 875.85	29.0%
MATERIALS S&T	27 898 911.31	16 639 780.07	37.4%
FOOD S&T	4 727 049.6	3 358 611.36	41.5%
CHEMICAL S&TS	22 041 092.66	4 012 011.82	15.4%
WITHOUT AREA	31500		0
TOTAL H2020	181 019 155.9	73 739 420.51	28.9%
HORIZON EUROPE PROGRAMME			
HUMANITIES AND SOCIAL SCIENCES	44 067	376 123	89.5%
BIOLOGY AND BIOMEDICINE	4 746 390.61	1 299 029.03	21.5%
NATURAL RESOURCES	7 658 181.29	8 202 346.02	51.7%
AGRICULTURAL SCIENCES	3 459 662.96	2 655 138.74	43.4%
PHYSICAL S&T	4 820 047.75	3 893 512.25	44.7%
MATERIALS S&T	4 633 834.21	1 965 574.04	29.8%
FOOD S&T	551 500	786 258.66	58.8%
CHEMICAL S&TS	4 696 308.48	1 290 677.56	21.6%
WITHOUT AREA	8 162 766.68	3 071 445.54	27.3%
ORGANIZACIÓN CENTRAL	83 604.33	71 498.32	46.1%
TOTAL HORIZON EUROPE	38 772 758.98	23 540 104.84	37.8%
TOTAL EUROPEAN	219 791 914.8	97 279 525.35	30.7%

European Research Council Projects

ERC PROJECTS	MALE PI PROJECTS	FEMALE PI PROJECTS	% FEMALE PI
ERC STARTING GRANTS	20	5	20.0%
ERC CONSOLIDATOR GRANT	16	6	27.3%
ERC ADVANCED GRANT	8	7	46.7%
ERC PROOF OF CONCEPT	5	3	37.5%
ERC SYNERGY GRANT	3	1	25.0%
TOTAL ERC	50	22	30.6%
	77 966 356.77€	35 798 463.81€	31.5%

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Marie Skłodowska-Curie Actions

Marie Skłodowska Curie Actions	MALE PI Projects	FEMALE PI projects	% FEMALE PI
HUMANITIES AND SOCIAL SCIENCES	9	7	43.8%
BIOLOGY AND BIOMEDICINE	13	6	31.6%
NATURAL RESOURCES	28	9	24.3%
AGRICULTURAL SCIENCES	12	7	36.8%
PHYSICAL S&T	18	6	25.0%
MATERIALS S&T	13	6	31.6%
FOOD S&T	5	7	58.3%
CHEMICAL S&TS	7	6	46.2%
WITHOUT AREA	3	1	25.0%
TOTAL MSCA	108	55	33.7%
	26 897 904.14	11 566 504.26	30.1%

CSIC Female Researchers actively participate in European calls for funding and, globally leadership in European projects is similar to the proportion of CSIC female researchers. It should be noted that the two-subareas with less presence of women, Natural Resources and Physical Science and Technology, have a higher percentage of main female researchers to which they would be entitled by their proportion in their area, which equally results in a higher funding percentage of female researchers. On the downside, there is a significant difference between the funding percentage of female researchers from Chemical Science and Technology areas, far below what they would be entitled.

Other International Projects

By number of projects

Other international projects OPE, RP, AEI, LIFE, Eranet and others	MALE PI Projects	FEMALE PI projects	% FEMALE PI
HUMANITIES AND SOCIAL SCIENCES	7	5	41.7%
BIOLOGY AND BIOMEDICINE	16	14	46.7%
NATURAL RESOURCES	40	16	28.6%
AGRICULTURAL SCIENCES	28	13	31.7%
PHYSICAL S&T	26	4	13.3%
MATERIALS S&T	7	6	46.2%
FOOD S&T	7	8	53.3%
CHEMICAL S&TS	18	7	28.0%
WITHOUT AREA	28	27	51.9%
CENTRAL ORGANISATION	1		0.0%
TOTAL	178	100	36.0%

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By funding

Other international projects by AREA	MALE PI funding	FEMALE PI funding	% FEMALE funding
HUMANITIES AND SOCIAL SCIENCES	759 585.98	453 755.94	37.4%
BIOLOGY AND BIOMEDICINE	3 159 828.74	3 231 205.55	50.6%
NATURAL RESOURCES	20 175 925.25	1 982 032.46	8.9%
AGRICULTURAL SCIENCES	4 243 434.8	1 678 327.57	28.3%
PHYSICAL S&T	7 280 360.37	2 207 331.46	23.3%
MATERIALS S&T	805 798.08	987 066.85	55.1%
FOOD S&T	780 483.6	1 066 252.93	57.7%
CHEMICAL S&TS	3 036 324.99	1 609 530.13	34.6%
WITHOUT AREA	7 754 958.85	6 564 134.5	45.8%
CENTRAL SERVICES	300 000	0	0.0%
TOTAL	48 296 700.66	19 779 637.39	29.1%

Cooperation projects

COOPERATION PROJECTS	TOTAL CSIC GROUPS	FEMALE PI	% FEMALE PI
i-COOP+	77	36	46.8%
i-LINK+	52	27	51.9%
LINCGLOBAL	18	5	27.8%
BILATERAL CSIC-NSTC	5	0	0.0%
INTERCOONECTA	8	3	37.5%
PICS	20	3	15.0%
TOTAL	180	74	41.1%

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Research excellence

In 2022, 18 European projects were in force with a funding of more than €2m, which could be considered "of excellence", which constitutes around 2% of the total. These 18 projects represent 13.9% of the total funding obtained by the CSIC in European projects and belong to the ERC Synergy, Advanced and Consolidator Grant calls. 44.4% of these projects are led by female researchers, and 5 of the 8 CSIC sub-areas are represented, accounting for 42.3% of funding, both values above the percentage of women permanent researchers. In the Humanities and Social Sciences 80% of the projects are led by men, who also get more funding. In Physical S&T, 86.3% are led by women, in an area with 26.1% of female researchers (not permanent) and only 16.3% of RP. In Natural Resources and Materials S&T there is parity between PIs. In Biology and Biomedicine, we only have men.

Sub-area	Type of call	Amount	PI Gender	Category
HUM. & SOCIAL S.	Synergy grant	4 153 636	MALE	RP
HUM. & SOCIAL S.	Advanced grant	2 852 655	MALE	POSTDOC
HUM. & SOCIAL S.	Synergy grant	2 225 234	MALE	TS
HUM. & SOCIAL S.	Advanced grant	2 220 396	MALE	TS
HUM. & SOCIAL S.	Synergy grant	2 013 538.2	FEMALE	RP
PHYSICAL S&T	Consolidator grant	2 603 960	MALE	TS
PHYSICAL S&T	Advanced grant	2 499 266	FEMALE	RS
PHYSICAL S&T	Consolidator grant	2 470 283	FEMALE	RP
PHYSICAL S&T	Advanced grant	2 282 929.65	FEMALE	RP
PHYSICAL S&T	Consolidator grant	2 263 148	FEMALE	RP*
PHYSICAL S&T	Advanced grant	2 194 697.84	FEMALE	RP
NATURAL R.	Advanced grant	2 499 187	MALE	RP
NATURAL R.	Consolidator grant	2 483 723	FEMALE	RP
BIOLOGY & BIOMED	Advanced grant	2 497 800	MALE	RP
BIOLOGY & BIOMED	Consolidator grant	2 035 718.75	MALE	TS
% Women contribution to projects of excellence		42.3% funding		44.4% PI

approved RP* in the last call and pending appointments

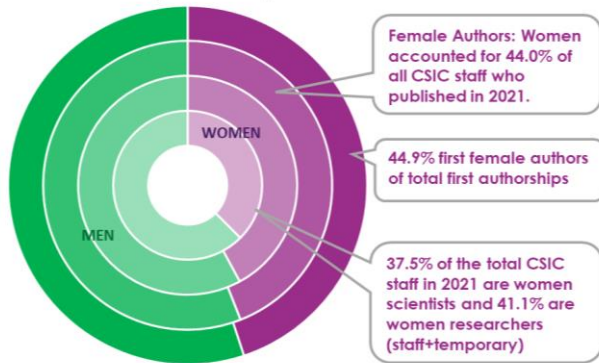
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PUBLICATIONS AND PRODUCTIVITY (2021)

Study and analysis of CSIC staff authorship from 2021 scientific publications about 14,706 indexed publications in WoS and Scopus, obtained from curated and refined data, disaggregated by sex and sub-area. Data have been provided by Unit of Information Resources for Research (URICI), that keeps GesBIB data bases of CSIC scientific production. The present study made by CSIC Commission of Women and Sciences contributes to the diagnostic of the situation and scientific activity of women researchers.

CSIC authorships in 2021 publications



Glossary:

Female author: woman who has published at least one publication.

Male author: man, who has published at least one publication.

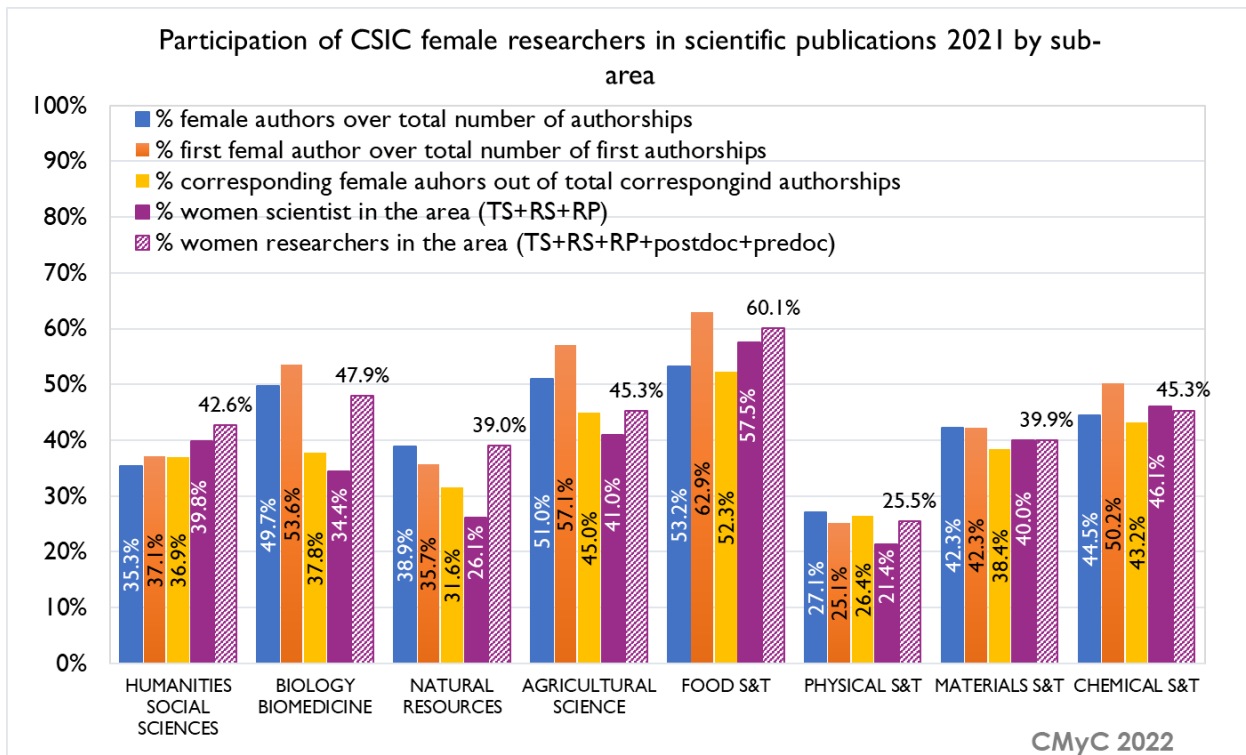
First authorship: male or female author who is first signatory of a publication.

Corresponding: male or female author of a publication.

Signature: Each of the authors of a publication

Data shows that the percentage of female authors and first female authors is above the proportion of CSIC female researchers, including pre- and post-doctoral female researchers.

Analysis by subareas allows to compare the percentage of first female authors and female authors corresponding with the proportion of full-time female scientists and the total of researchers, and observe the specific differences in the various disciplines (except that in some cases, such as Humanities, Social Sciences and Information Science the criteria for signature, order and type of publication are different to other knowledge areas).

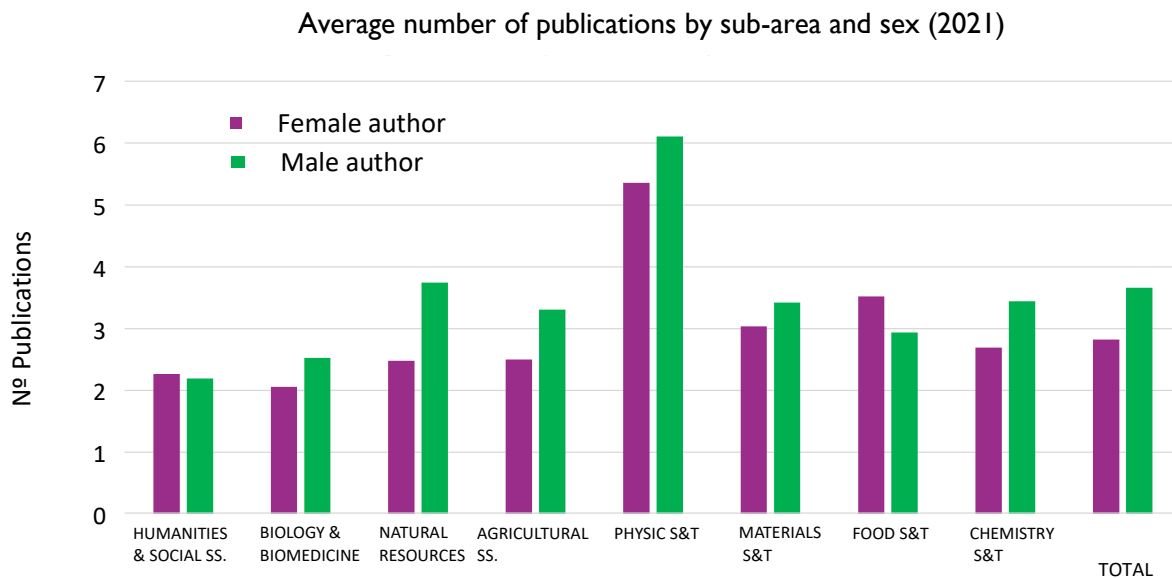


Participation of CSIC female researchers in scientific publications 2021 by subareas

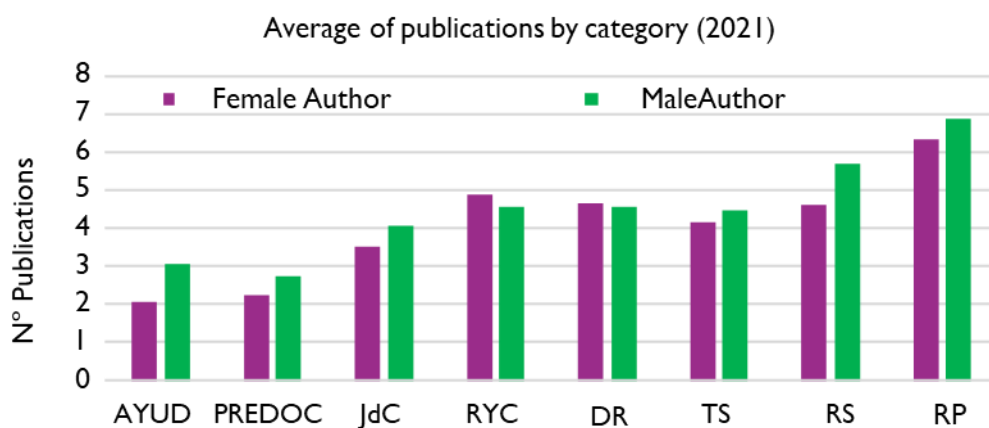
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Data shows that in 4 out of 9 sub-areas, the percentage of first female authors and corresponding is above the average of women in the sub-area. Productivity can also be calculated by sub-areas



Data also allows to make an average productivity study of male and female authors, understood as the ratio between the number of female authors' signature/total female authors and male authors' signature/total authors by category (according to estimations from categories and contractual relationship for temporary staff)



Average number of publications by category and sex (2021) DR: Distinguished researcher

Overall, productivity is higher in the highest categories, due to size and influence of research groups and networks. A slightly higher productivity was observed in the male RS and RP in relation female authors.

CHAPTER 4. TRAINING

DOCTORAL THESES AND STUDENTS TRAINING

Doctoral theses, Master Thesis and Degree's Projects and Directions thereof

TYPE OF PROJECT	MEN	WOMEN	%FEMALE	MEN	WOMEN	%FEMALE
	PROJECTS			DIRECTIONSS		
Doctoral Theses	404	376	48.2%	619	330	34.8%
Master theses	232	280	54.7%	389	294	43.0%
Degree Theses	83	129	60.8%	125	135	51.9%

Doctoral Theses by area and sub-area

AREA	MEN	WOMEN	%WOMEN	MEN	WOMEN	%WOMEN
	PhD Theses			Directions PhD Theses		
SOCIETY	28	25	47.1%	29	17	37.0%
LIFE	181	249	57.9%	330	208	38.6%
MATERIA	195	102	34.3%	260	105	28.8%
TOTAL	404	376	48.2%	619	330	34.8%

SUB-AREA	MEN	WOMEN	TOTAL	%WOMEN
PREDOCTORAL RESEARCHERS				
HUMANITIES AND SOCIAL SCIENCES	28	25	53	47.1%
BIOLOGY AND BIOMEDICINE	79	119	198	60.1%
NATURAL RESOURCES	44	46	90	51.1%
AGRICULTURAL SCIENCES	41	48	89	53.9%
PHYSICAL S&T	84	30	114	26.3%
MATERIALS S&T	81	42	123	34.1%
FOOD S&T	17	36	53	67.9%
CHEMICAL S&TS	30	30	60	50.0%
TOTAL	404	376	780	48.2%
DIRECTIONS OF DOCTORAL THESES				
HUMANITIES AND SOCIAL SCIENCES	29	17	46	37.0%
BIOLOGY AND BIOMEDICINE	152	75	227	33.0%
NATURAL RESOURCES	72	37	109	33.9%
AGRICULTURAL SCIENCES	76	46	122	37.7%
PHYSICAL S&T	110	24	134	17.9%
MATERIALS S&T	93	57	150	38.0%
FOOD S&T	30	50	80	62.5%
CHEMICAL S&TS	57	24	81	29.6%
TOTAL	619	330	949	34.8%

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Master's Degree Thesis (TFM) by areas

AREA	MEN	WOMEN	%WOMEN	MEN	WOMEN	%WOMEN
	Master's Theses			TFM Directions		
SOCIETY	28	26	48.1%	38	18	32.1%
LIFE	122	177	59.2%	222	185	45.4%
MATERIA	82	77	48.4%	129	91	41.4%
TOTAL	232	280	54.7%	389	294	43.0%

Final Degree Projects Thesis (TFG) by areas

AREA	MEN	WOMEN	%WOMEN	MEN	WOMEN	%WOMEN
	Final Degree Project			TFG Directions		
SOCIETY	1	4	80.0%	4	3	42.9%
LIFE	51	80	61.1%	65	96	59.6%
MATERIA	31	45	59.2%	56	36	39.1%
TOTAL	83	129	60.8%	125	135	51.9%

JAE INTRO 2022 GRANTS PROGRAM

JAE Intro

SCIENTIFIC AREA	MEN	WOMEN	TOTAL	%FEMALE	
STUDENTS					% FEMALE PREDOC AREA
SOCIETY	21	29	50	58.0%	55.2%
LIFE	63	94	157	59.9%	60.0%
MATERIA	59	24	83	28.9%	36.0%
TOTAL	143	147	290	50.7%	51.4%
RESEARCHERS IN CHARGE					% FEMALE DOCTORS AREA
SOCIETY	28	22	50	44.0%	40.8%
LIFE	86	71	157	45.2%	41.0%
MATERIA	57	26	83	31.3%	36.8%
TOTAL	171	119	290	41.0%	39.8%

JAE Intro-ICU

SCIENTIFIC AREA	MEN	WOMEN	TOTAL	%FEMALE	
STUDENTS					% FEMALE PREDOC AREA
SOCIETY	3	7	10	70.0%	55.2%
LIFE	50	36	86	41.9%	60.0%
MATERIA	48	53	101	52.5%	36.0%
TOTAL	101	96	197	48.7%	51.4%
RESEARCHERS IN CHARGE					% FEMALE DOCTORS AREA
SOCIETY	8	2	10	20.0%	40.8%
LIFE	47	39	86	45.3%	41.0%
MATERIA	64	37	101	36.6%	36.8%
TOTAL	119	78	197	39.6%	39.8%

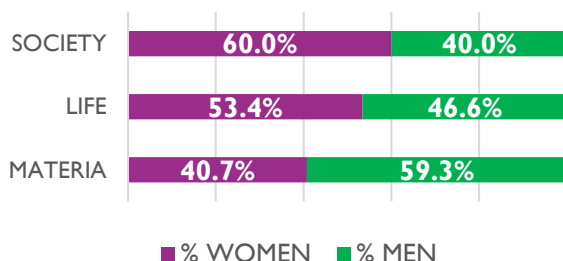
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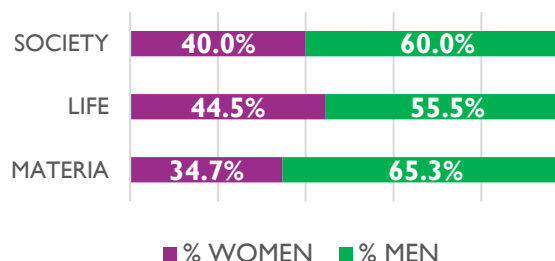
JAE Intro Severo Ochoa-María de Maeztu Centres

ÁREA CIENTÍFICA	MEN	WOMEN	TOTAL	%FEMALE	
STUDENTS					% FEMALE PREDOC AREA
SOCIETY	55.2%	0	0	-	55.2%
LIFE	60.0%	2	4	50.0%	60.0%
MATERIA	36.0%	11	32	34.4%	36.0%
TOTAL	51.4%	13	36	36.1%	51.4%
RESEARCHERS IN CHARGE					% FEMALE DOCTORS AREA
SOCIETY	0	0	0	-	40.8%
LIFE	4	0	4	0.0%	41.0%
MATERIA	20	12	32	37.5%	36.8%
TOTAL	24	12	36	33.3%	39.8%

JAE-INTRO Students



JAE-INTRO Tutors



Distribution of students and researchers in charge of JAE-Intro program (including JAE-Intro, JAE Intro ICU and JAE-Intro Severo Ochoa and María de Maeztu) by research areas and sex.

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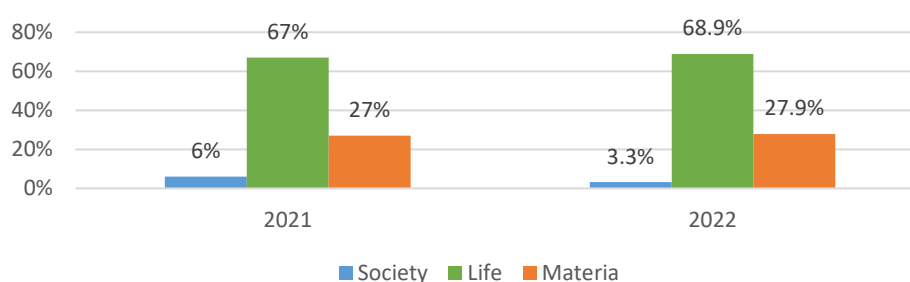
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MENTORSHIP: CAMINO PROGRAM

Camino mentoring program at CSIC carried out in 2021 and 2022, shows that applicants and participants of this program are mostly women, above the percentage of pre-doctoral women candidates. Women also constitute the majority among the scientific staff who apply for and subsequently participate as male or female mentors.

	APPLICANTS			PARTICIPANTS		
	FEMALE	MALE	%WOMEN	FEMALE	MALE	%WOMEN
Mentees						
2021	60	34	63.8%	41	23	64.1%
2022	41	26	60.3%	35	19	64.8%
Total	101	60	62.7%	76	42	64.4%
Mentors						
2021	62	74	45.6%	27	37	42.2%
2022	52	39	57.1%	29	25	52.7%
Total	114	113	50.2%	56	62	47.4%

CAMINO program: Mentees distribution



Distribution of mentees in the CAMINO program by areas

DISSEMINATION

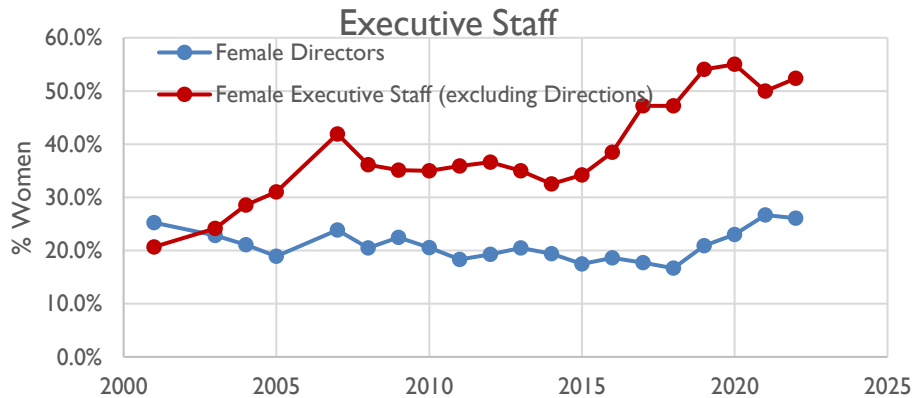
CSIC Staff shows a large participation in Dissemination activities, with women having a slightly higher percentage compared to the total average of CSIC staff. Women are a majority in technical staff exclusively dedicated to Scientific Culture.

YEAR	MEN	WOMEN	TOTAL	% WOMEN
Participants in dissemination activities of all CSIC staff				
2018	1735	1880	3615	52.0%
2019	1691	1778	3469	51.3%
2020	1084	1242	2326	53.4%
2021	1220	1509	2729	55.3%
Technical staff exclusively devoted to Scientific Culture				
2018	40	82	122	67.2%
2019	33	79	112	70.5%
2020	55	108	163	66.3%
2021	48	108	156	69.2%

ANNEX I. GRAPHS OF HISTORICAL EVOLUTION

Executive Staff.

The Executive staff of CSIC State Agency includes CSIC'S ICUs directions (Institutes, Centres and Units). Nevertheless, the choice of directions follows a different procedure to the rest of the executive vacancies of the agency, so its analysis should be carried out independently. Since 2017, with the appointment of the first female President of CSIC, gender equality has been achieved within CSIC's organizational structure

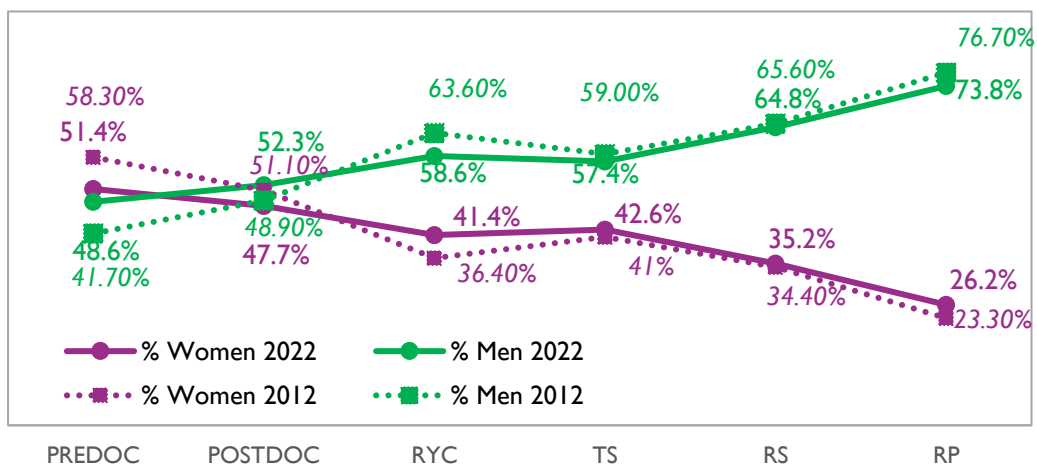


Evolution of female representation in the CSIC governing bodies (excluding ICU directions) and ICU directions between 2001 and 2022. (Source: Women Research Report 2001-2022)

As for ICU directions, the same positive evolution has not occurred and the levels of female directors are very similar to those at the beginning of the historical series, although after observing a minimum in the percentage of female directors in 2018 the trend seems to have positively reversed.

Scissors graph evolution

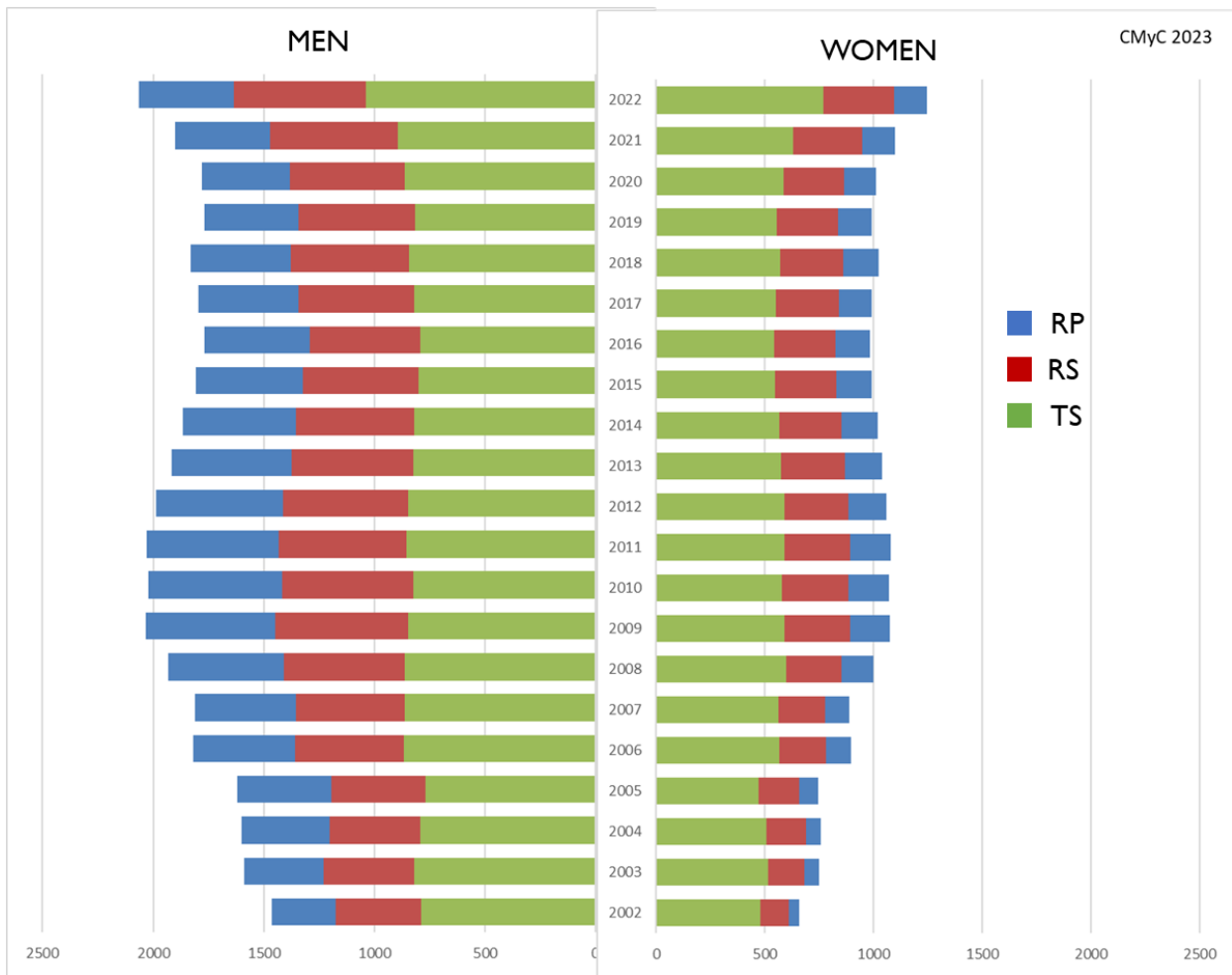
The percentages of women in the different research categories reflected in the "scissors graph" and comparing said graphic representation of 2012 and 2022 there is a slightly and slowly increase in the presence of women in the highest categories, as well as a worrying decline in the percentage of research women staff in training.



CSIC Scissors graph evolution between 2012 and 2022. The values for the year 2012 are indicated in italics (Data from 31/12/2012 and 31/12/2022, Source: SGARH, IMI2013)

Evolution of CSIC permanent scientific staff 2002-2022

The following graph shows the evolution of scientific staff from 2002-2022. It is noted that there was an important incorporation of scientific staff in CSIC and that said upward evolution was truncated by the economic crisis cuts from 2008-2014. From that moment on, there is a certain upward tendency, as can be observed in the increase of staff in Tenured Scientists category, but also blaming the retirements (especially within Research Professors category). The important increase of staff in 2022 is due to the staff incorporation in National Centres.



Evolution of CSIC permanent scientific staff between 2002 and 2022. (Source: Women Research Report 2002-2022)

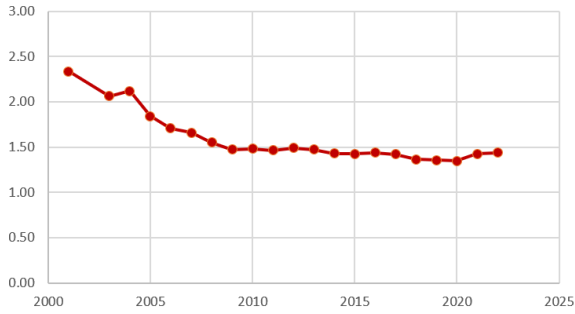
The parameter that allows to quantify the degree of equality of a structure such as that of CSIC scientific staff is the glass ceiling index, which is represented annually in this Report. It is very crucial to study the glass ceiling and its evolution over the years for the CSIC global figures as well for the three areas LIFE, MATERIA and SOCIETY, and for each of the eight sub-areas, which are represented below.

2023 Women Researchers Report

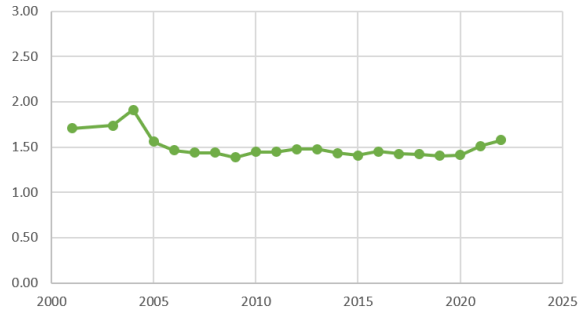
President's Advisory Commission "Women and Science"

Evolution of Glass Ceiling Index in general terms and by global areas

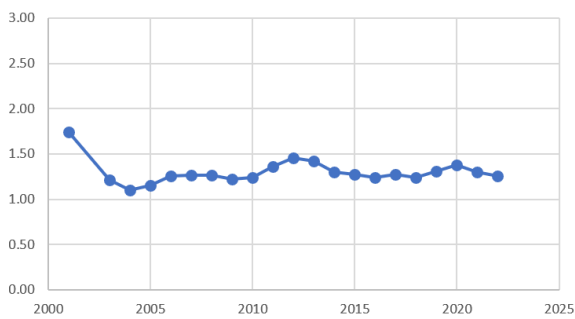
Evolution of CSIC Glass Ceiling Index



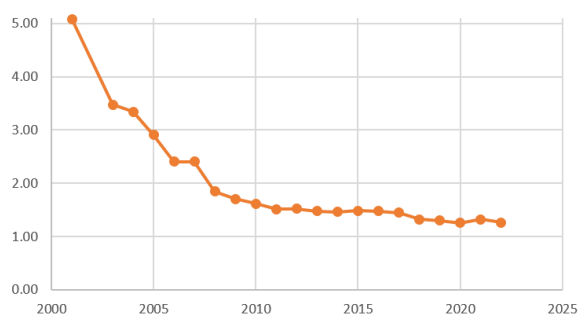
GCI Evolution: LIFE



GCI Evolution: SOCIETY

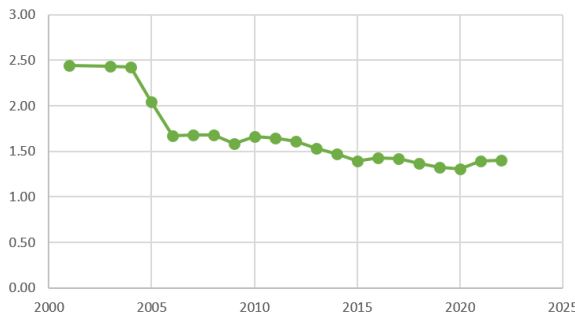


GCI Evolution: MATERIA

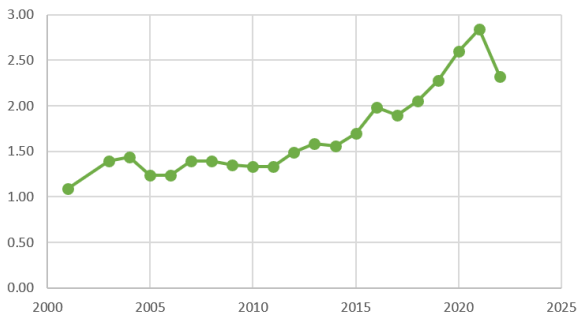


LIFE AREA

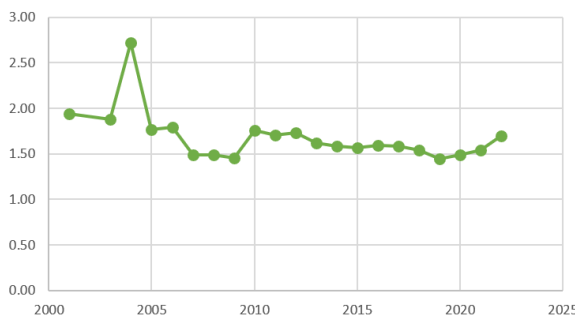
GCI Evolution: BIOLOGY AND BIOMEDICINE



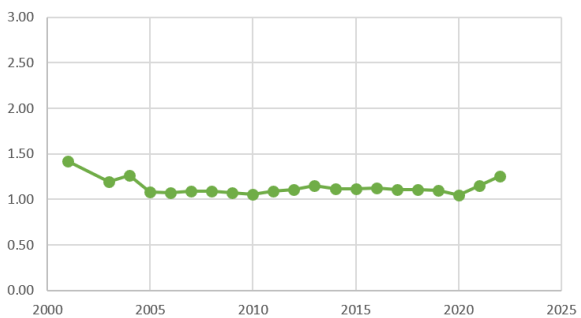
GCI Evolution: NATURAL RESOURCES



GCI Evolution: AGRICULTURAL SCIENCES

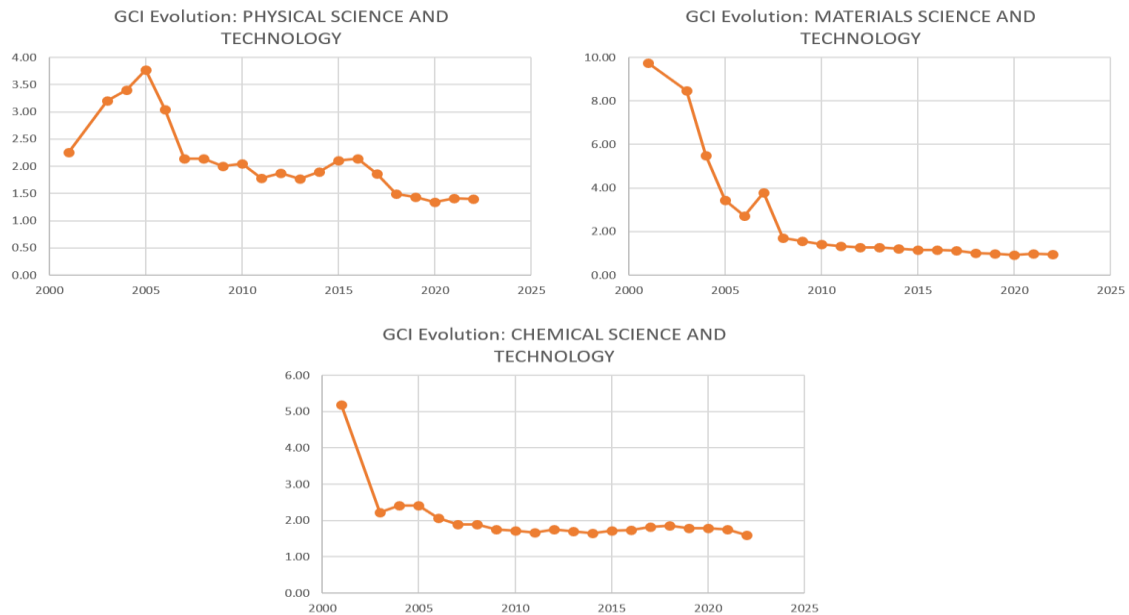


GCI Evolution: FOOD SCIENCE AND TECHNOLOGY



Evolution of GCI in LIFE global area sub-areas

MATERIA AREA

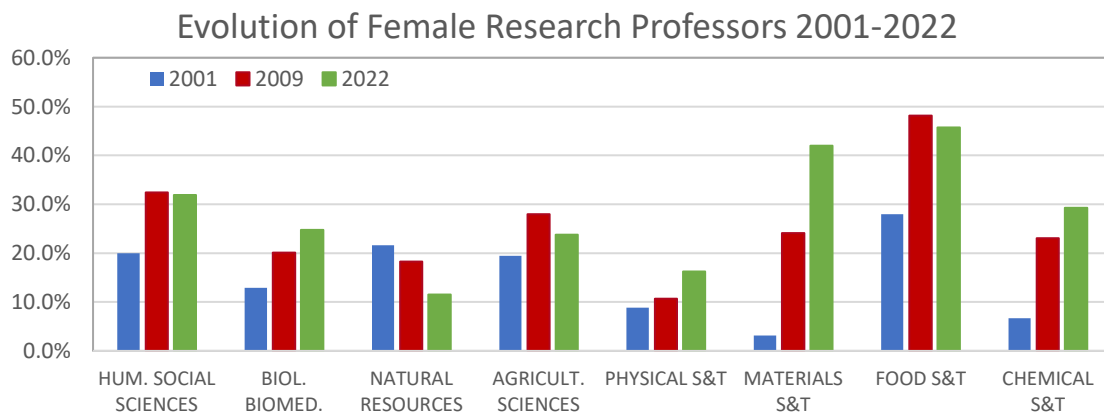


Evolution of GCI in MATERIA global area sub-areas Note: different categories

The graphs show that the GCI evolution in sub-areas of LIFE global area are different. The special case of Natural Resources sub-area has been analysed in depth in a specific report ([Análisis del alto techo de cristal en la subárea de RRNN-CSIC](#)) and in the last year it shows a different tendency to the rest of the areas, although the starting points are very different. As for MATERIA sub-areas, the differences are bigger. It highlights the situation of sub-area Materials Science and Technology, the only one where female researchers have broken the glass ceiling. In spite of the low proportion of researchers in Physical Science and Technology, it seems that researchers of this sub-area promote more easily than those from Chemical Science and Technology, with a much greater presence of women.

Evolution of CSIC Female Research Professors between 2001 and 2022

The variable that determines the glass ceiling index is the percentage of women in the highest category, for CSIC, the percentage of female research professors. The different variation over time is significant, by sub-areas, generally with upward trend, more or less important, with the exception of Natural Resources where it decreases significantly

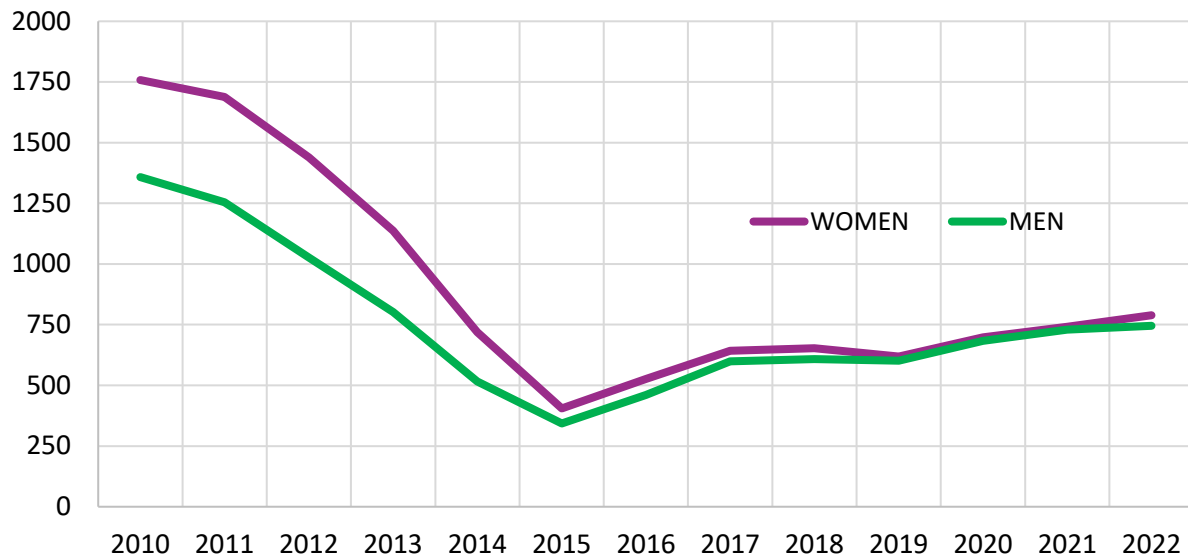


Evolution of CSIC Female Research Professors between 2001 and 2022

Evolution of temporary research staff

Evolution over time of predoctoral research staff shows that the economic crisis caused a serious decline in the number of people doing doctoral thesis, and that recovery from pre-crisis figures is not been achieved. It should also be noted that prior to 2015 there were more female pre-doctoral candidates than men, while the current trend is towards parity.

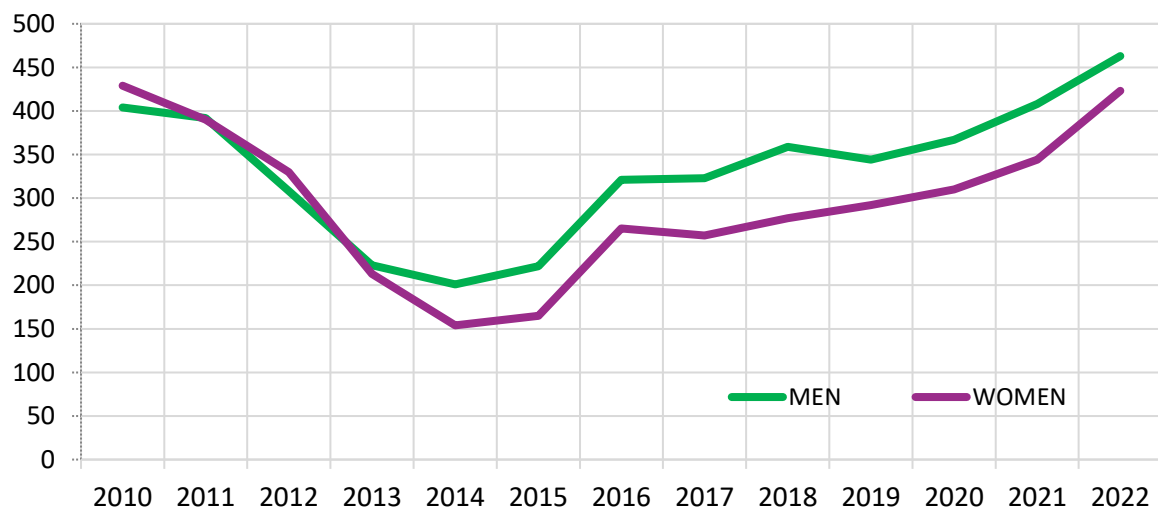
PREDOC EVOLUTION 2010-2022



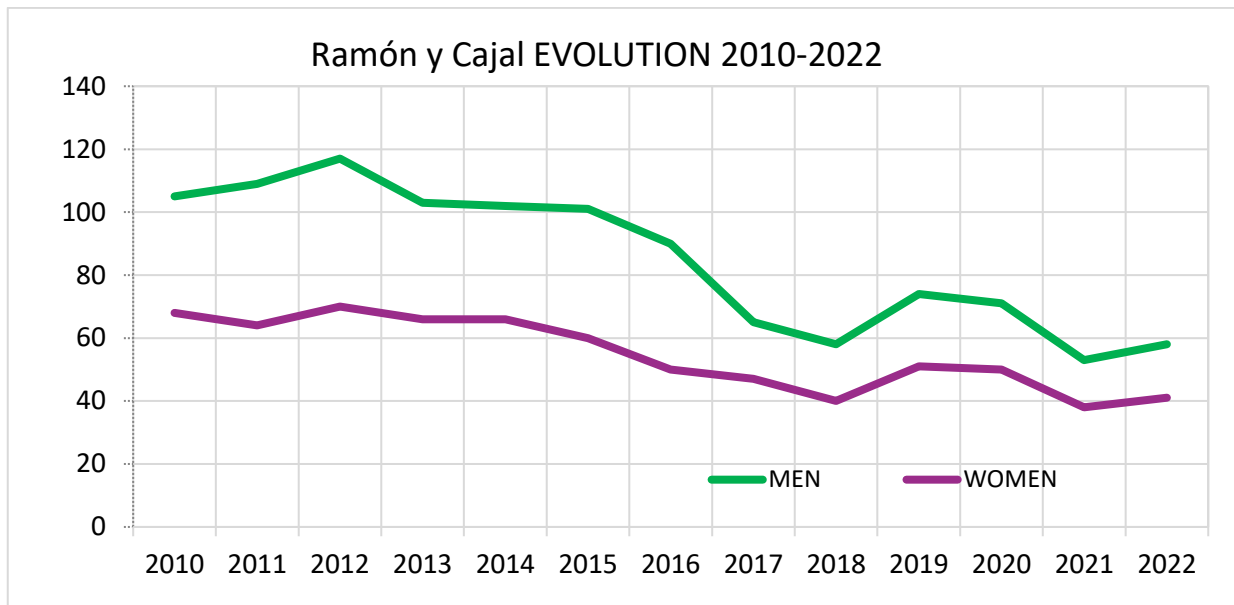
Evolution of CSIC female and male predoctoral researchers between 2010 and 2022

Postdoctoral staff have also been affected by the crisis, but it has clearly gone up, with bigger presence of men. Ramón y Cajal staff has suffered less fluctuations, although there some downward trend exists. It is clear that the percentage of Ramón and Cajal women remains lower over time.

POSTDOC EVOLUTION 2010-2022 (including JdC)



Evolution of CSIC female and male postdoctoral researchers 2010-2022 (Juan de la Cierva program included)

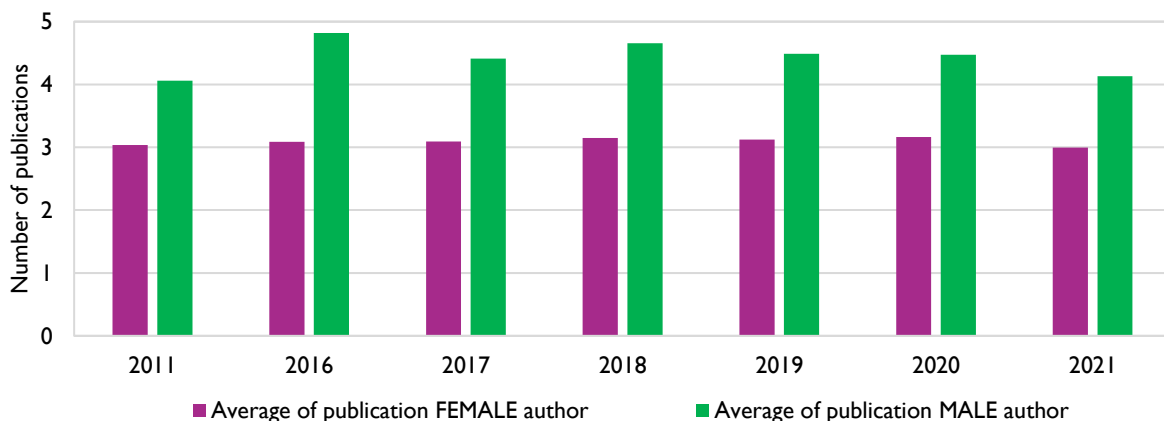


Evolution of CSIC 2010-2022 female and male researchers of Ramón y Cajal program

Publications and productivity

Total productivity of the year 2021 and earlier reflects that the total number of authors signed an average of 3 publications per year and authors slightly more than four, mainly due to the lower presence of women in the higher scales, which turn out to be more productive. The data do not show great differences over time, perhaps a decline in average male productivity in 2021. Determining the potential impact of the pandemic will require the latest data from 2022.

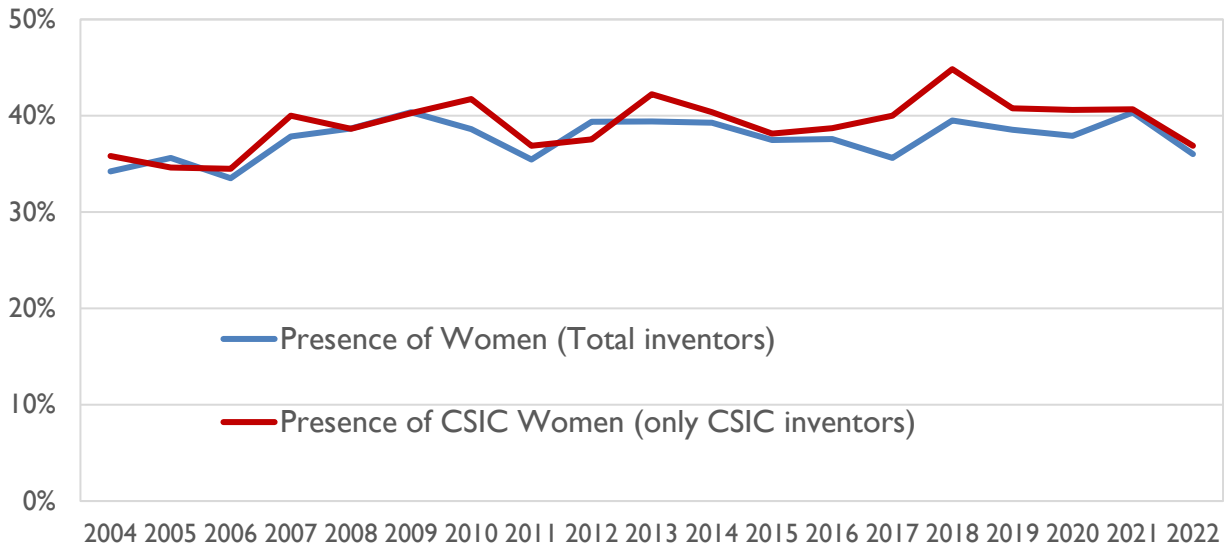
EVOLUTION OF PRODUCTIVITY (average of publication by male and female CSIC author 2011-2021)



Evolution of average publications by sex in male and female authors CSIC 2011-2021

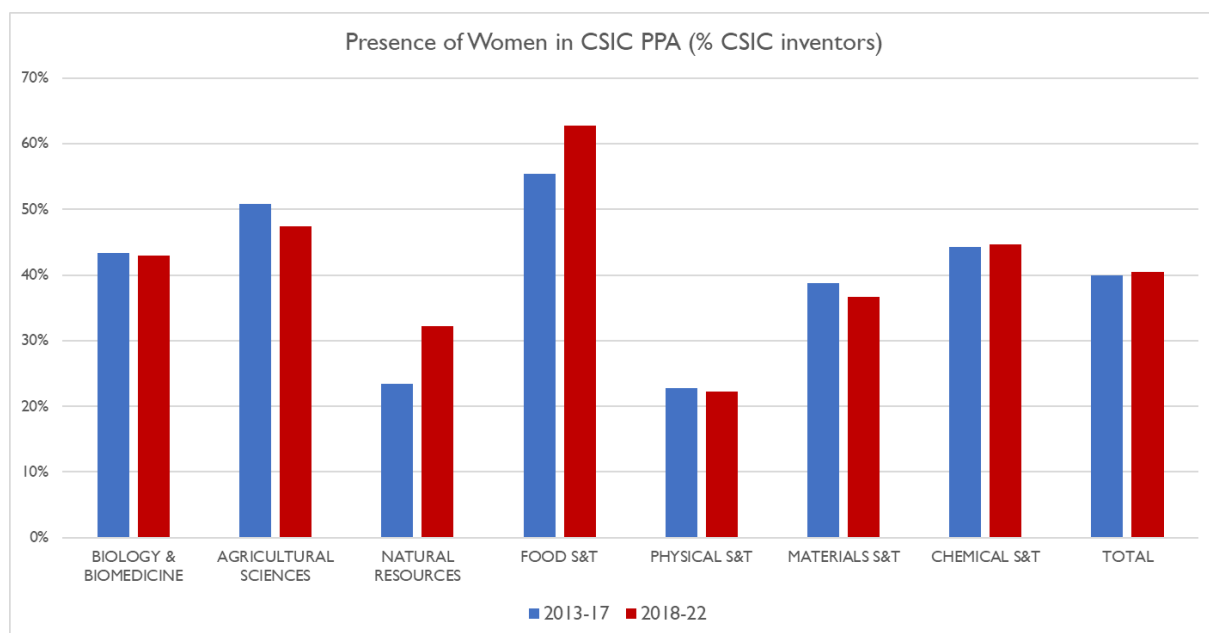
Transfer Evolution

Presence of Female Inventors in CSIC Priority Patents Applications (PPA)



Evolution of the presence of female inventors in Priority Patents Applications filed by CSIC 2004-2022

The graph shows the evolution of the percentage of total female inventors and CSIC female inventors in CSIC priority patent applications by years. It is observed that there is a lower presence compared to inventors but slightly higher than the percentage of women scientists, which indicates that women patent in the same proportion as men. This has continued over the last 10 years, although 2022 data show a slight decline. By areas, Food Science and Technology is the one with the highest proportion of women inventors, also with an increase in time; the rest of the sub-areas present similar or slightly lower percentages of inventors than the presence of total women, with the exception of Natural Resources sub-area, where it is significantly smaller.

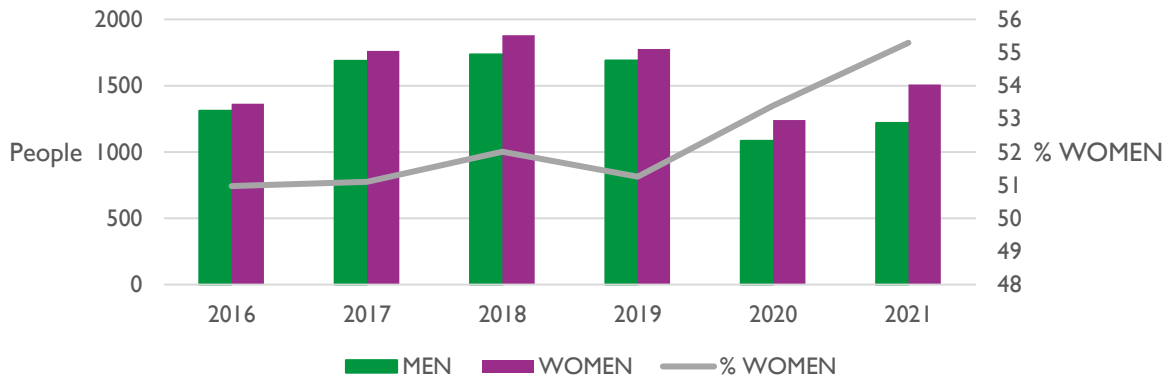


Evolution of proportion of female inventors in priority patents filed by CSIC 2004-2022 by subareas.

Dissemination

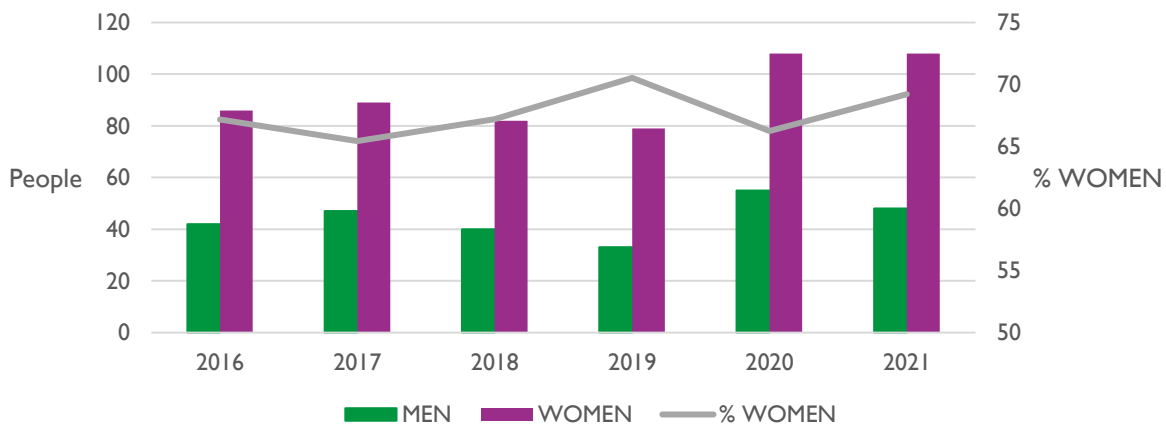
Evolution of staff involved in dissemination activities has been increasing until the years 2018 and 2019, with 2020 being the one with a decrease in activity due to the pandemic that seems to be going back, in the absence of data for 2022 at end of this report

Staff who carry out or participate in some CSIC dissemination activity



Evolution of the number of collaborators in CSIC dissemination activities 2016-2021

People exclusively dedicated to CSIC Scientific Culture



Evolution of the number of people exclusively dedicated to Scientific Culture activities in CSIC 2016-2021

ÍNDEX OF ABBREVIATIONS

Chemical S&Ts: Chemical Science and Technology (sub-area)
CMyC: CSIC Commission for Women and Science
Food S&T: Food Science and Technology (sub-area)
GCI: Glass Ceiling Index
ICUs: CSIC Institutes, Centres and Units
IEO: Spanish Institute of Oceanography
IGME: Spanish Geological Survey
IMI: Women Researchers Report
INIA: National Institute for Agricultural and Food Research and Technology
IS BIOLOGY AND BIOMEDICINE: Interdisciplinary Science in Biology and Biomedicine
IS GLOBAL CHANGE: Interdisciplinary Science in Global Change
IS MATERIA GLOBAL AREA: Interdisciplinary Science in MATERIA global area
IS SOCIETY GLOBAL AREA: Interdisciplinary Science in SOCIETY global area
JdC: Juan de la Cierva researchers
Materials S&T: Materials Science and Technology (sub-area)
Physical S&T: Physical Science and Technology (sub-area)
PI: principal investigator
POSTDOC: postdoctoral researcher
PPA: Priority Patent Application
PREDOC: predoctoral researcher
RP: CSIC Research Professors
RS: CSIC Research Scientists
RyC: Ramón y Cajal program Researchers
SP: specific profiles
TFG: Final Degree Project
TFM: Master's Degree Final Project
TS: CSIC Tenured Scientists



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