

# Gender Equality Plan

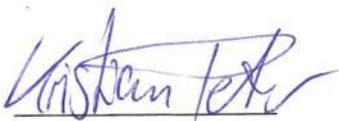
- 2021 to 2025 -

Konstanz, 22.02.2022

International Solar Energy Research Center Konstanz e.V.

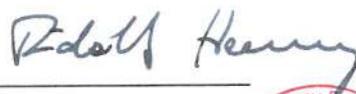
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The Board



Dr. Kristian Peter

(on behalf of the Executive Board)



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## SUMMARY

The Gender Equality Plan of ISC Konstanz summarizes the employment situation at ISC in terms of gender equality covering the last five years. It depicts why ISC considers itself as a family friendly employer and what is being done to further improve the situation and it summarizes the measures that are being taken to increase the number of women within ISC's workforce and

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## 1. PREAMBLE

The International Solar Energy Research Center Konstanz e.V. (ISC Konstanz) considers equal opportunities independent of gender, and the improvement of work-life balance to be priority management tasks. Our goal is to achieve equality between men and women, to eliminate possible disadvantages based on gender and to prevent future disadvantages, as well as to improve family-friendliness and the compatibility of family, care and work for women and men.

ISC Konstanz' scope of work is mainly based in physics, renewable energies, chemistry and chemical / electronical / environmental / physical engineering. In these fields women are generally underrepresented at all career stages. For this reason, ISC Konstanz has implemented a variety of measures to improve both equal opportunities and work-life balance. Below we describe the current situation and goals for gender equality, as well as measures to reach these goals and to improve the compatibility of work and family life.

As a private research institute, ISC Konstanz is not obliged to comply with the laws and regulations applicable to corresponding public institutions. Also, the number of employees of ISC Konstanz, with currently about 65 employees, is relatively small. Nevertheless, ISC Konstanz voluntarily complies with applicable laws and regulations [1, 2] as well as the research-oriented equality standards of the German Research Foundation [3, 4] – as far as they are relevant and viable to a comparatively small private research institute - and to document its corresponding efforts in this Gender Equality Plan.

## 2. ANALYSIS OF THE CURRENT SITUATION

### 2.1 Women's quotas in the individual staff categories

The first figures show the women's quotas in each of the staff categories at ISC since 2016, first in % of full time equivalents, FTE (Figure 1), then in % of head count (Figure 2Figure 4):

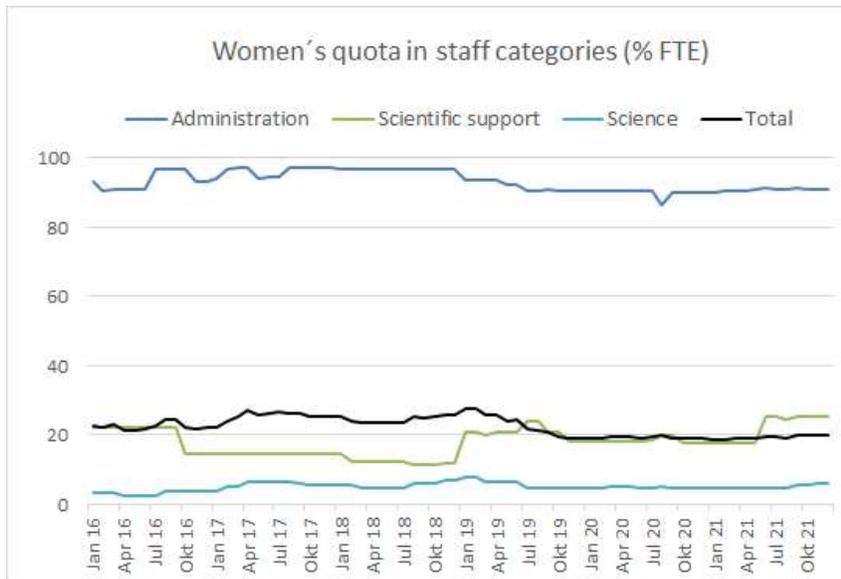


Figure 1. Women's quotas in each of the staff categories (ISC staff database, 31.12.2021).

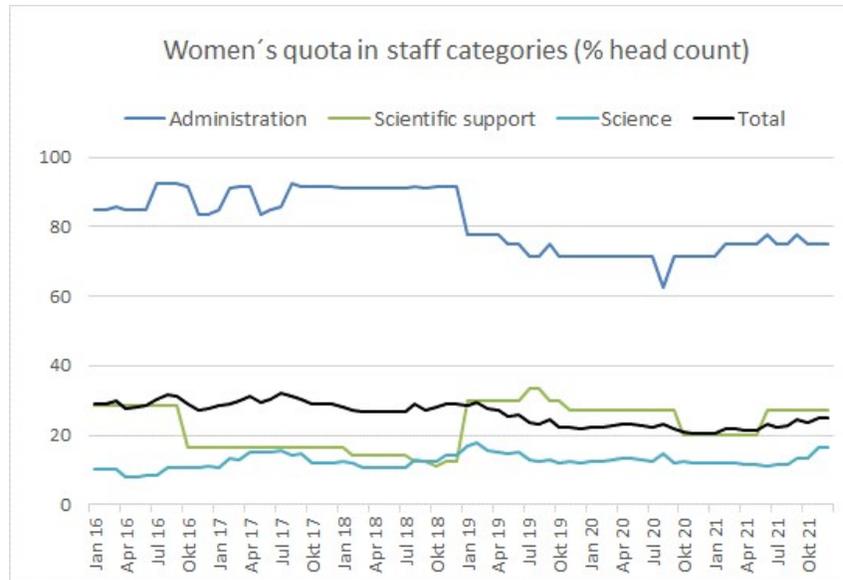


Figure 2. Women's quotas in each of the staff categories (ISC staff database, 31.12.2021).

The technical orientation of ISC Konstanz can be seen in the current women's quotas for the scientific staff (16% in terms of head count and 6% in terms of FTEs) and for the science support staff (31 and 26%, respectively; numbers as of 31<sup>st</sup> December 2021).

While in scientific staff there is a slight upward trend, the women's quota declined in the scientific support (significantly) as well in the total staff (slightly).

## 2.2 Salaries

Figure 1 shows bar charts of the number of employees in the salary grades 8 to 15 (according to the federal public service pay scale, TV-L) with the respective numbers of men and women. The resulting women's quotas in each wage group are indicated by the blue line. If women were represented equally in all pay grades, the women's quota would have to be 25% throughout (equivalent to the 25% quota with regard to the total number of employees in December 2021).

In fact, higher women's quotas can be found in the payment categories up to E11 (categories for administrative staff). In payment category E12 (mainly science-supporting staff, technicians and engineers) and E13/E14 (scientific staff, scientific team leaders) women are under-represented. Only one woman is currently in payment category E15 (group leaders, heads of departments / managing directors).

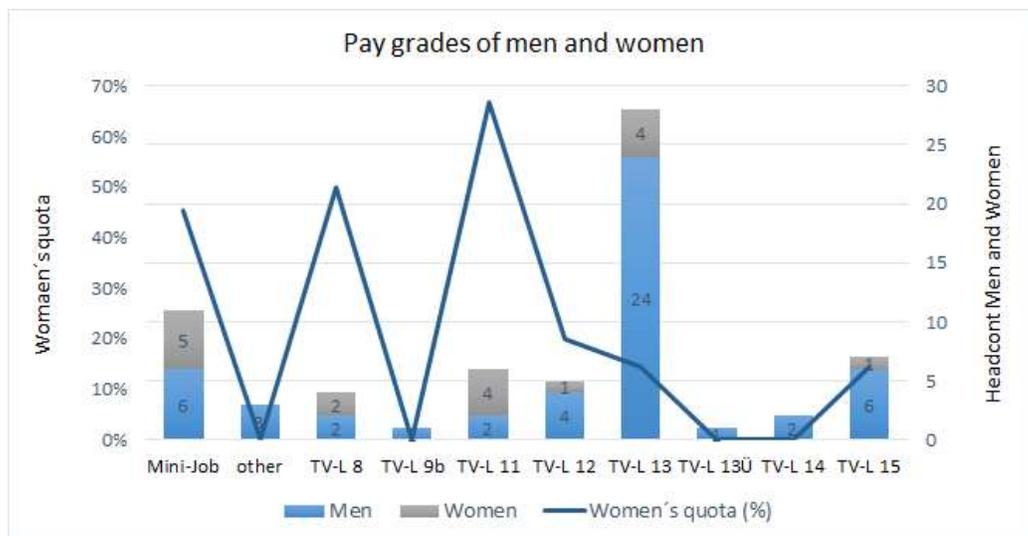


Figure 3. Number of men and women as well as women's quotas in each pay grade (ISC staff database, 31.12.2021)

### 2.3 Temporary and permanent contracts

Table I shows the proportion of permanent and temporary contracts at ISC Konstanz, by men and women and by the various staff groups. The highest proportion of temporary contracts (55%) is to be found in the group of scientific staff, as was to be expected given the high number of bachelor's, master's, doctoral and postdoc positions. The proportion in scientific support and administration is significantly lower at 42% and 25%, respectively.

80% (four out of five) of the female scientists are temporary employees, however, three out of the four are (PhD) students. The percentage is biased by the low absolute number. However, the proportion of female (PhD) students at ISC Konstanz is still very low at 3 out of 14 (21%). On the other hand, this roughly corresponds to the quota of women in the relevant fields of study (winter semester 2016/17: physics 28%, regenerative energies 20%, [4]).

Looking at employees as a whole, there is no difference between the proportion of temporarily employed men and women. The relatively high percentage of temporarily employed women in the science staff group is compensated by the low percentage of temporary contracts and the high absolute share of women in administration.

Table I. Temporary and permanent contracts of women (W) and men (M) for different staff groups (ISC staff database, 31.12.2021)

Staff Group	Gender	Permanent contracts	Temporary contracts	Total number of contracts	% temporary
Admin	W	6	2	8	25,0
	M	3	1	4	25,0
	W+M	9	3	12	25,0
Scientific support	W	2	2	4	50,0
	M	5	3	8	37,5
	W+M	7	5	12	41,7
Scientific	W	1	4	5	80,0
	M	19	20	39	51,3
	W+M	20	24	44	54,5
Total	W	9	8	17	47,1
	M	27	24	51	47,1
	W+M	36	32	68	47,1

## 2.4 Part-time work

We examined the subject of part-time work by looking at the average level of employment as full-time equivalents, FTE, divided by the head count, by gender and staff group (Figure 4). Regardless of the staff group, the average employment level for women settles at about 65% and for men at about 80%. (Not considered is the employment rate for men in administration, which ranges from 20 to 40%, but these values refer only to one or two persons).

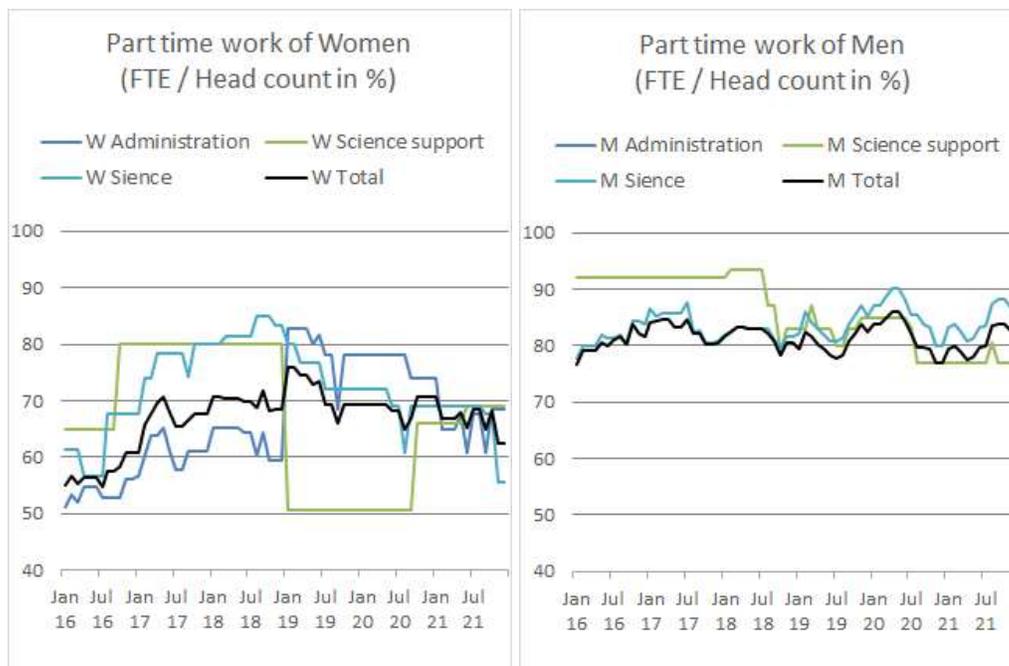


Figure 4. Part-time work of woman and men for different staff groups (ISC Konstanz staff database, 31.12.2021).

## 2.5 Personnel measures

Table II shows the women’s quotas for various staff measures, i.e. new recruitments, contract extensions, the conversion of temporary contracts into permanent ones, and pay grade raises, first for *all* staff groups; then for the scientific staff alone.

The women’s quota (head count) at ISC Konstanz was 29% at the beginning of 2016 and 25% at the end of 2021 (cf. Figure 1b), i.e. the proportion of women has slightly fallen despite a comparably high rate of recruitment (31%), because the women’s quota for expiring contracts was even higher (33%). On net, 12 additional persons were recruited in the period under review, but only two of them (17%) were women.

Among female scientists, on the other hand, the proportion of women at ISC Konstanz has at least increased from 10% to 16% from the beginning of 2016 to the end of 2021 (cf. Figure 1b), i.e. the comparably high rate of recruitment (31%) led to a slight increase in the proportion of women here, because the women’s quota for expiring contracts was lower (24%). 15 women were recruited while only 11 left ISC Konstanz.

The female recruitment rate of 31% in the staff group of scientists roughly corresponds to the proportion of female graduates in the technical fields of study relevant to ISC Konstanz (cf. Table III).

When considering contract extensions, women’s contracts extensions made up 13% of the overall extensions in the respective period, and slightly more when looking at scientific personnel only

(16%). Among the conversion of contracts to permanent employment, only 15% affected women (among which none were women), which stresses the need to improve the situation.

Table II. Men and women in several personnel measures (ISC staff database).

Personnel measure	Total	Woman	Women's quota
New recruitments (2016-2021)	72	22	31%
- thereof: scientific staff alone	49	15	31%
Expiring contracts (2016-2021)	60	21	35%
- thereof: scientific staff alone	46	11	24%
Contract extensions (2016-2021)	32	4	13%
- thereof: scientific staff alone	25	4	16%
Conversion to permanent contracts (2016-2021)	13	2	15%
- thereof: scientific staff alone	10	0	0%
Pay grade raises (2016-2021)	65	13	26%
- thereof: scientific staff alone	50	7	14%

## 2.6 Scientific staff

According to the DFG's Research-Oriented Gender Equality Standards: Implementation and Modes of Effectiveness, the following career stages were classified as relevant for the cascade model and operationalized as metrics: Number of enrollments, number of degrees, number of PhD students, and number of PhDs. In the following we use metrics that are available to us to place our numbers into the context of available female graduates.

The majority of the scientific staff of ISC Konstanz in 12/22 consists of scientists at various stages of their career: 41 out of 74 employees are fully trained scientists (Dipl. Ing., Dipl. Phys., MA ing., Dr. rer. nat.), with approximately being 70% physicists or electric/electrical engineers. Only four of these are women (<10%). This number corresponds roughly the quotas of female students in this fields summarized in

Table IV in the winter semester of 2004/2005 (4.5% in Electrical Engineering/ Electronics and 18.7% in Physics, and was even lower before that). This explains the low numbers of applicants and thus numbers within the scientific staff. With increasing numbers of graduates, numbers of female applicants for new positions at ISC is likely to increase.

When looking for base values for the cascade model, one should look at first semester student's quotas (see Table III). However, these numbers don't correspond to actual students in the same year and in the following years (compare with

Table IV) – apparently quite a number of female students are already lost at university. Accordingly, instead of the numbers of 1<sup>st</sup> semester students we will be using the total quotas for the respective years.

Table III. Quota of female 1<sup>st</sup> semester students in subject areas relevant to ISC Konstanz (© Statistisches Bundesamt (Destatis), 2022 [5]).

	Chemistry	Chemical (Process) Engineering	Electronic power engineering	Electrical Engineering/ Electronics	Environmental engineering	Physics	Phys. Engineering	Renewable Energies
WS 2004/05	48,3%	40,6%	6,8%	7,8%	27,1%	22,1%	15,6%	
WS 2008/09	44,8%	39,0%	9,4%	8,7%	32,3%	21,9%	17,9%	
WS 2012/13	40,4%	40,2%	10,5%	11,1%	33,5%	23,6%	20,8%	24,0%
WS 2016/17	42,6%	37,1%	21,2%	14,5%	35,5%	28,7%	25,0%	25,3%
WS 2020/21	49,3%	39,8%	23,2%	14,3%	77,1%	30,0%	20,7%	21,8%

Table IV. Quota of female students in subject areas relevant to ISC Konstanz (© Statistisches Bundesamt (Destatis), 2022 [5]).

	Chemistry	Chemical (Process) Engineering	Electronic power engineering	Electrical Engineering/ Electronics	Environmental engineering	Physics	Phys. Engineering	Renewable Energies
WS 2004/05	41,7%	35,4%	4,5%	7,6%	28,1%	18,7%	15,4%	
WS 2008/09	42,0%	36,8%	8,1%	7,8%	29,1%	18,9%	16,0%	
WS 2012/13	39,6%	36,0%	9,6%	9,3%	31,3%	23,2%	17,1%	20,5%
WS 2016/17	39,6%	34,5%	16,4%	12,3%	35,4%	28,2%	18,7%	20,0%
WS 2020/21	42,2%	36,3%	18,0%	14,1%	39,7%	29,7%	21,9%	22,9%

Apart from hiring new people, ISC Konstanz is assisting to train new scientists (by offering internships, BA or MA theses, or PHD positions) in physics, informatics, chemistry and (electrical) engineering. A summary of all graduates by gender reveals that the numbers of women in the in the last five years has exceeded the quota of women employees (29%), which corresponds well to the quotas of female students in WS2016/17 and thus mirrors the trend of increasing numbers of women in science. When taking a look at newly hired PhD candidates in the last 5 years, only one out of 8 was a woman. Which is lower than the average quota of female PHD graduates in physics from 2018 (23%). However, the number of PhD candidates is too small to apply and compare statistics.

Table V. Graduates at ISC and PhD candidates (ISC staff database).

	2016	2017	2018	2019	2020	2021	Total						
Graduates	5	1	3	3	5	4	21						
M	3	0%	2	67%	3	100%	4	80%	3	15	71%		
W	2	40%	1	100%	1	33%	0%	1	20%	1	6	29%	
PhD candidates	2	3	2		1	1	9						
M	2	100%	3	100%	1	50%		1	100%	1	100%	8	89%
W				1	50%							1	11%

Figure 5 shows the numbers of women in various stages of their scientific career (as deduced from the TV-L grouping). The very low numbers in higher positions corresponds to the age structure of the staff. The relatively low women's quota of 13% for senior scientists in E14 corresponds to the numbers of graduates typical in the field in this age group. Many of the scientists in this group graduated in the 90s, when the proportion of women graduates in Germany was significantly lower than today. Women are underrepresented at all career stages – no member of the senior scientific staff is a woman. It is to be stressed, however, that with only eight people in this category statistical evaluation is hardly possible.

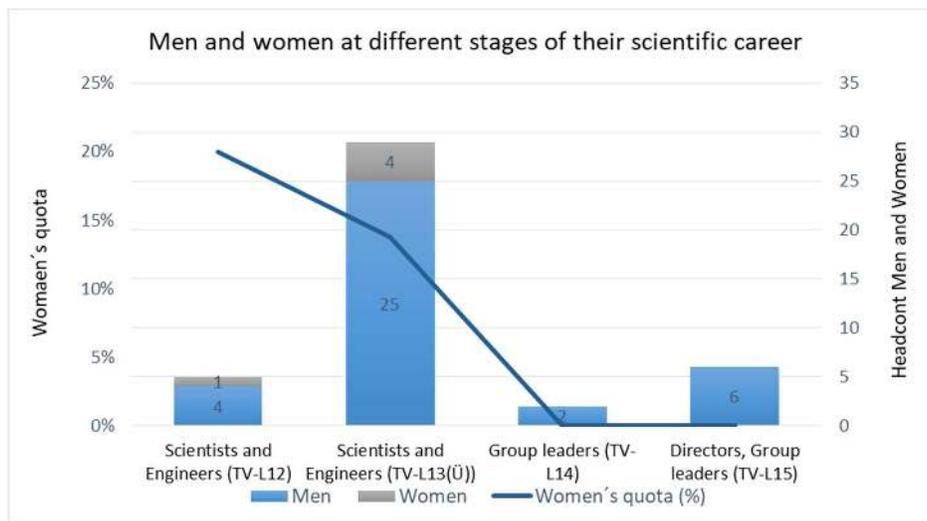


Figure 5. Proportion of men and women in various scientific career stages (ISC staff database, 31.12.2021).

## 2.7 Women in management bodies and leadership positions

ISC Konstanz is a small research institute with only 68 employees (31.12.2021) and is organized in a structure with a very flat hierarchy. The ISC management consists of six department heads, who also serve as directors of the institute. Among the six directors there is one woman. Women are thus – with a share of 1/6 – underrepresented in the leadership compared to the overall quota of women (1/4), but this is of course mainly a problem of small absolute numbers here (– if there were two female directors (2/6), women would be overrepresented).

### 3. GOALS

The underrepresentation of women is particularly pronounced among the higher positions of the scientific staff at ISC Konstanz. As this underrepresentation of women in science can be found in all comparable German research bodies, the Joint Science Conference of the German Federation and Federal States (GWK) decided in 2011 to implement target quotas [2], according to the aforementioned cascade system based on the female graduate quotas of the respective scientific fields of the research institution. Accordingly, ISC Konstanz sets its goals in increase the women's quota in its research staff.

To set our goals, we use as upper base value the average women's quota of students in WS 2016/2017, those students should be on the verge of completing their MA degree by now (3 years until BA and 2 years until MA). So the average fraction of female applicants is expected to be around 25% now, increasing to 28% by 2026 (mean values of students in the relevant fields (physics/chemistry/engineering sciences, from Table V). If new employees are chosen based on these quotas, numbers of women within the staff will slowly approach these quotas with a delay of 5 years (nominal numbers of semesters until graduation) + x years, with x being a number that strongly depends on the fluctuation of existing staff and growth rate of the total number of employees. An educated guess for x would be 10 years, based on the average employment time for one company in Germany, which would result in a lower prediction value in the range of the quotas of the WS 2008/2009 of 22% by 2026.

The plan is to actively increase the number of women at ISC by hiring women at a number above average. We will try to achieve this by improving our attractiveness for female graduates by the measures indicated in the next section, setting our goal at a number higher than the estimated "cascading increase" to 24% by 2026. 2026 TV-L 14 and higher position will be trailing in time as they are experience based and it will take another 5-10 years for graduates to reach these career levels (completion of PhD, work experience of several years). In addition, the categories of TV-L 14 and above, are held by permanent scientific staff, with a relatively high average age and low fluctuation. Thus, improvements can only be achieved slowly, mainly via transforming temporary contracts into permanent contracts. The target quotas are summarized in Table VI.

Table VI. Planned women's quota until 2026.

year	TV-L 13	TV-L 14	TV-L15
2022	14 %	0 %	17 %
2023	16 %	0 %	17 %
2024	19 %	10 %	17 %
2025	22 %	10 %	17 %
2026	24 %	10 %	20 %

## **4. MEASURES FOR IMPROVING EQUAL OPPORTUNITIES AND WORK-LIFE BALANCE**

### **4.1 Resources and organization/recruitments**

Until middle of 2022 ISC Konstanz is planning to elect an equal opportunities commissioner (EOC) and one deputy. Until then Petra Hoffmann will act as a substitute.

The EOC will be formally part of the Administration. The elected EOC will have a 10% exemption from her other job duties to assist the management with gender related topics. The EOC will be involved in administrative processes like recruitments and conversions of temporary contracts. The EOC will be an advisor when selecting candidates for vacant positions on all levels.

Apart from the EOC, the management of ISC acts to improve the family friendliness and to increase the share of female employees, e.g. by collecting and provides information about ISC Konstanz' family friendly measures, provides information on regulations concerning pregnancy, parental leave, and on the family service.

To counteract the relatively low numbers of female applicants, the ISC Konstanz tries to improve its attractiveness as an employer stressing its family-friendliness measures in its job advertisements, in terms of a high quality and international working environment, the attractive human resources development programme and a range of work-life balance measures.

### **4.2 Pay grades**

For transparency and equal opportunity reasons, the wages at ISC Konstanz follow the TVL-West grouping in conjunction with professional experience. The management and EOC will make sure no exemptions will be made and all employees and new recruitments are treated equally.

### **4.3 Family-related absences**

Parental leave by women and men is appreciated in equal terms. A return to the initial position will be ensured based on previous terms of work.

Short notice absence for family related emergencies is always possible after consultation with the manager.

### **4.4 Training**

Awareness/training on the topic of gender equality and unconscious gender bias for employees with personnel responsibility and decision-makers will be offered in the future.

### **4.5 Dealing with discrimination and sexualized violence**

The EOC will be the contact to help deal with discrimination and sexualized violence. A guideline on how to deal with mobbing, discrimination and sexual harassment is currently being prepared.

#### 4.6 Improving work-life balance

In view of the experiences with remote working during the corona crisis, the regulation on mobile working will now be revised to regulate remote work in a family-friendly way for the post-pandemic time.

Core working hours are family friendly from 9:00-12:00 and 14:00-16:30. Exemptions for family related absences are always possible after consultation with the manager. A family-friendly time corridor for meetings between 09:00 am and 16:00 has been agreed upon.

A flexible working time regulation with time recording allows individual working hours for employees (as far as work permits and after consultation with the manager) with a flexitime account in which up to 32 hours (for full time employees) can be accumulated. Employees are entitled to take at least one day off per month using flexitime.

If possible, there should be no major events, meetings and conferences during school holidays.

Additionally, the management considers the interests of employees with school-age children when planning vacations.

#### 5. REFERENCES

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- [2] AV-Glei (Implementation Agreement to the GWK (Joint Science Conference of the German Federation and the Federal States) Agreement on Equality of 27 October 2008, as amended by the GWK on 22. April 2016), available (in German only) from [https://www.gwk-bonn.de/fileadmin/Redaktion/Dokumente/Papers/AV\\_Glei.pdf](https://www.gwk-bonn.de/fileadmin/Redaktion/Dokumente/Papers/AV_Glei.pdf); last visited 12/01/2022.
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## 6. VERSION HISTORY

Table IV lists the changes that have been made from version to version of this document.

Table IV. History of versions.

Version	Date of version	Change made
1.0	22.02.2022	First version