WOMEN IN SCIENCE

# Women career in STEM: barriers and motivation

## sociological research

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Authors of the research:

INSCIENCE

Cedos

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TOGETHER AGAINST GENDER STEREOTYPES AND GENDER-BASED VIOLENCE

#eu4genderequality

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— Barriers faced by women scientists
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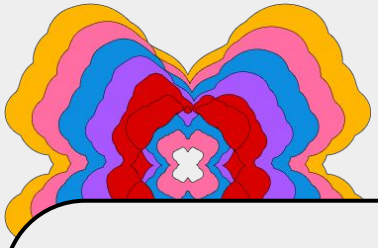
**Systemic challenges and opportunities to support women in STEM.** Based on expert interviews.

— Gender segregation in science and widespread stereotypes in society
— Challenges in secondary and higher education
— Support for women scientists and science popularisation: key barriers.

**Conclusions and recommendations**

# 1 Problem statement



Problem statement

To develop effective policies to support women in science, it is important to **understand** their current situation and the reasons **why women choose or leave scientific careers.**

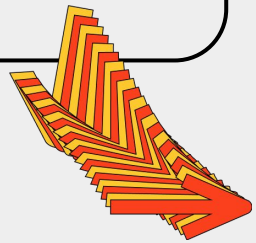
There is no research in Ukraine that systematically analyses the working conditions, motivation, and challenges faced by female scientists in STEM, particularly in times of war.

**Our research aims to fill this gap and provide recommendations for improving the situation of women in science in Ukraine.**

# Gender ratio of men and women in science in Ukraine

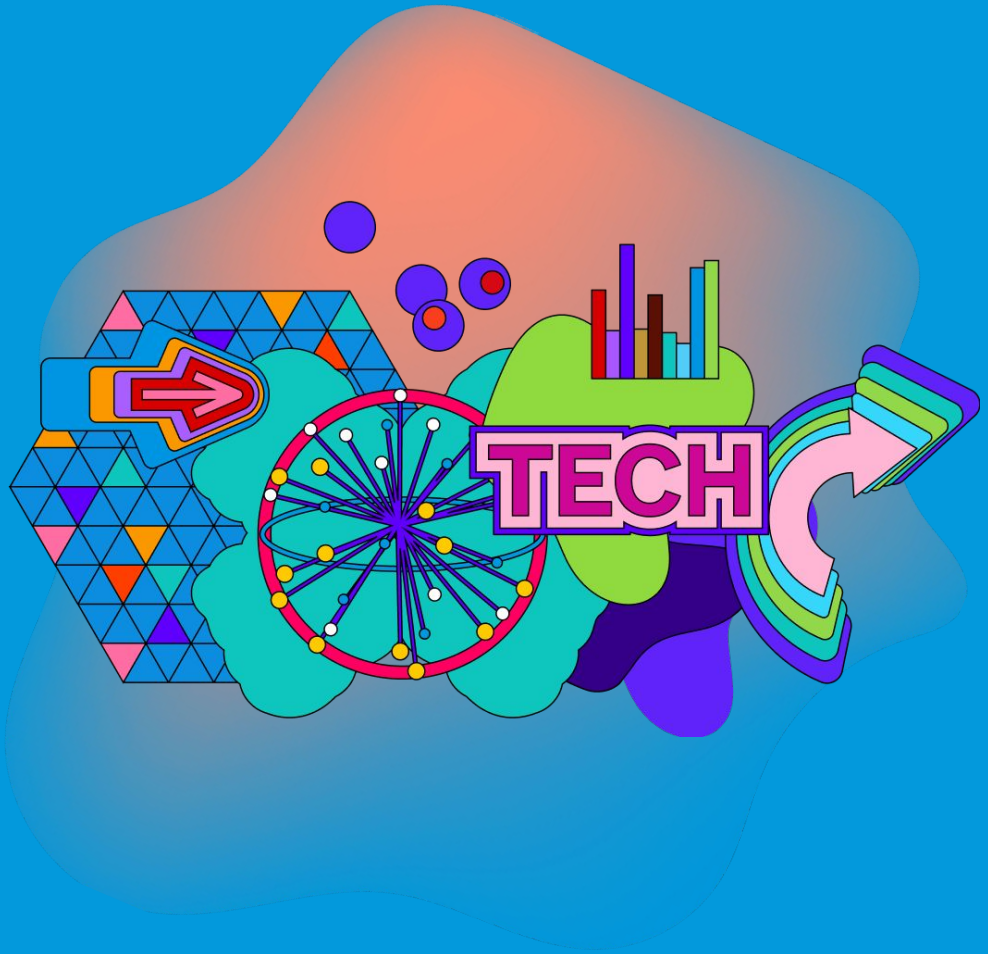
Problem statement

**The higher the career level / academic degree, the lower the percentage of women**



| Category | Women | Men |
|---|---|---|
| **All employees of scientific institutions** | **49,7%** ▼ | **50,3%** ▲ |
| Scientific secretaries | 56,0% ▲ | 44,0% ▼ |
| PhD candidates / Doctors of Philosophy | 43,2% ▼ | 56,8% ▲ |
| Researchers | 41,3% ▼ | 58,7% ▲ |
| Deputy managers | 27,9% ▼ | 72,1% ▲ |
| Doctor of Science | 26,4% ▼ | 73,6% ▲ |
| Heads of research departments | 25,7% ▼ | 74,3% ▲ |
| Corresponding member of the National Academy of Sciences of Ukraine | 14,0% ▼ | 86,0% ▲ |
| Heads of scientific institutions | 12,8% ▼ | 87,2% ▲ |
| Full members (academicians) of the National Academy of Sciences of Ukraine | 4,0% ▼ | 96,0% ▲ |

**Gender ratios in the National Academy of Sciences of Ukraine in 2024*




# 2 Methodology

Methodology

**The study's purpose** is to identify the factors that motivate female students and scientists working in STEM to pursue or leave a scientific career.

# RESEARCH OBJECTIVES

- Identify the factors that motivate women to pursue a scientific career in STEM.
- To examine the professional challenges women face in their STEM careers.
- Identify the differences in working conditions for women in STEM depending on the type of institution they work for — in particular, between the private and public institutions.
- Explore the factors that influence female scientists in STEM to leave their research careers.

# Respondents of the study



- Students of bachelor's and master's programmes
- Researchers and research and teaching staff of state higher education institutions and research institutions involved in basic or applied research
- Scientists who worked in private institutions (enterprises, laboratories, etc.)
- Former scientists — women who ended their careers in STEM science or moved to another field (no earlier than 2020)

**Representatives of the following groups were involved in the expert interviews:**

- State institutions
- Business sector
- Universities and research institutions
- Non-governmental organisations and foundations working in the field of gender equality, support for women in science or research funding

# How the study was conducted: quantitative and qualitative stages

Methodology

**QUANTITATIVE STAGE**
online self-completion survey in Google Forms

**234 respondents**

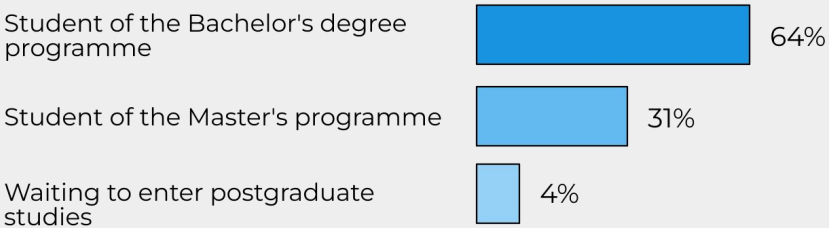

**Geography of the study:** Kyiv, Lviv, Kharkiv, Zhytomyr, Zaporizhzhia, Odesa, Rivne, Vinnytsia, Lutsk, Mykolaiv, Ternopil, Chernivtsi.

# How the study was conducted: quantitative and qualitative stages



## PORTRAIT OF RESPONDENTS

### Representation of different groups of female students in the sample




### Representation of different groups of female scientists in the sample


**The survey was distributed through multiple channels:** universities, research institutions, NGOs, science-based businesses, and scientists. Also targeted ads on Facebook and Instagram and posts shared by INSCIENCE, Cedos, and project team members on their official and personal social media accounts

# How the study was conducted: quantitative and qualitative stages

Methodology

## QUALITATIVE STAGE

### In-depth interviews

- Female researchers and academic staff of HEIs and research institutions — 9 interviews
- Female scientists collaborating with businesses in STEM — 6 interviews
- Female scientists who have decided to leave their careers in STEM in the last 5 years — 8 interviews
- Male scientists in STEM — 6 interviews

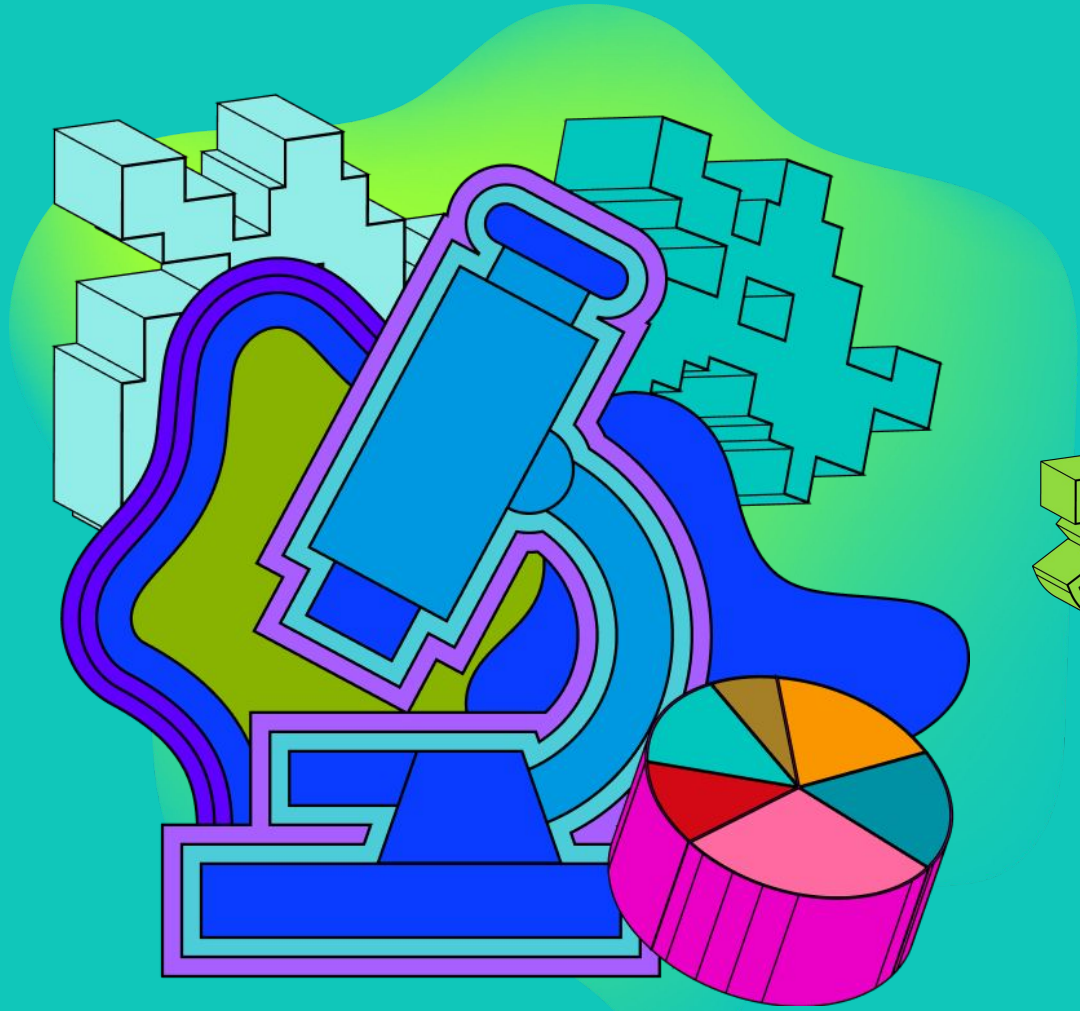
### Focus group discussions

- Students enrolled in master's programmes in STEM fields — 2 focus groups
- Postgraduate students from STEM-related programmes — 2 focus groups
- Scientists engaged in innovative (applied) research — 2 focus groups

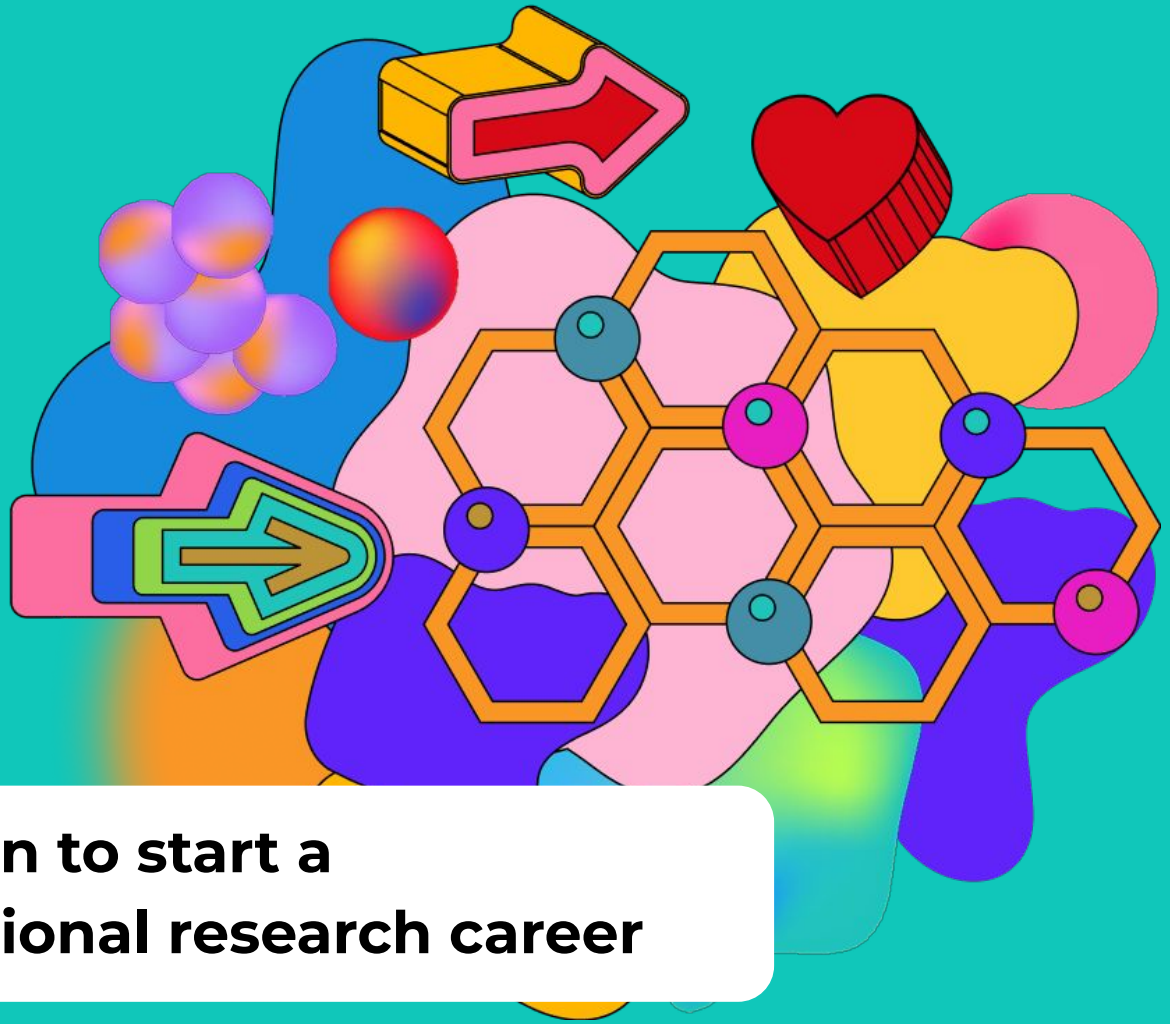
**Number of female participants per group: 3–6**

### Expert interviews

- State institutions — 4 interviews
- Business sector — 4 interviews
- Universities and research institutions — 4 interviews
- Non-governmental organisations and foundations — 4 interviews



# 3 Results of the study



# Decision to start a professional research career

# The role of teachers and professors

Research career

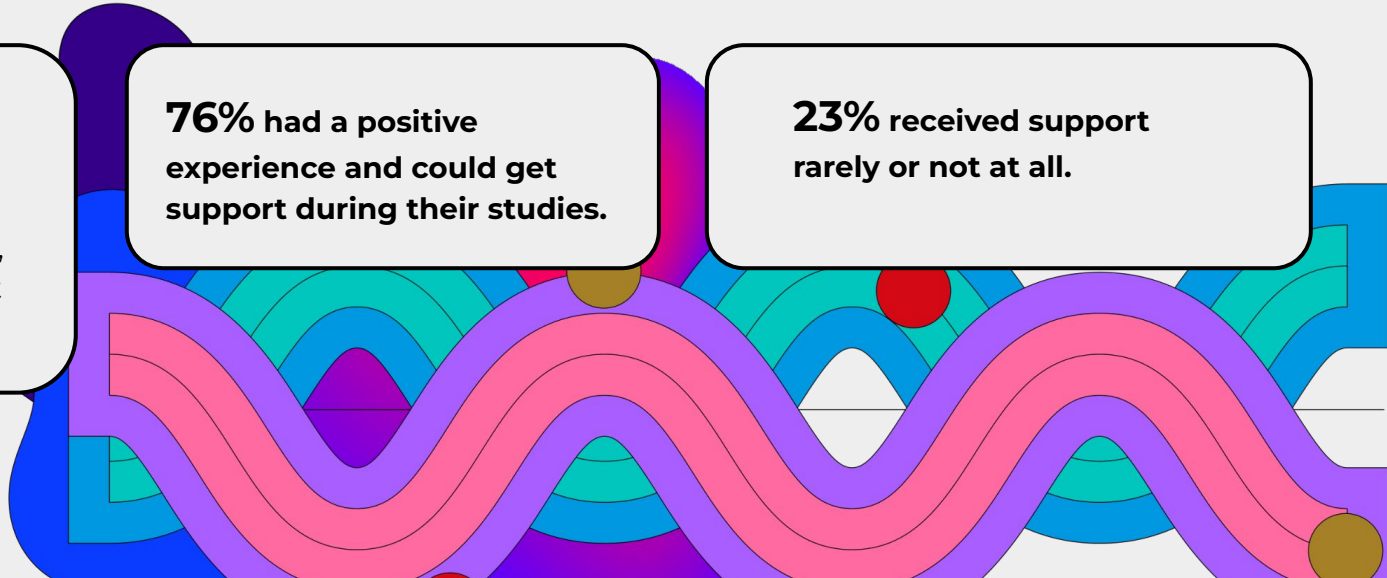
Scientists noted **the importance of support and proactive encouragement to research** from teachers and supervisors. For example, invitations to participate in conferences, conducting joint research in laboratories, offering cooperation at institutes of the National Academy of Sciences of Ukraine, etc.

In particular, this influenced the decision to pursue a scientific career.

**81%** **were always or in most cases able to get technical support from** during research, internships, and practices that were part of their studies.

**76%** **had a positive experience and could get support during their studies.**

**23%** **received support rarely or not at all.**



# The role of teachers and professors

Research career

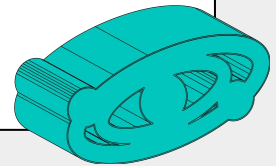
Quotes from the respondents

*"I was lucky that I chose the department that I really like. And where the teachers treat every child, let's call us all that, like their own child. If you have any questions, they won't send you away, they won't say 'go figure it out yourself'.* ***They will sit down, talk, and explain."***

*A scientist working in a state institution*

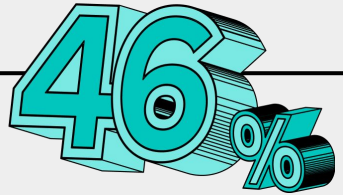
*"At my bachelor's degree, the thing that stuck with me was that the head of the department started calling us colleagues at the first meeting. [...] He has this thing where* ***we were somehow encouraged to do science directly.*** *We just kind of plunged right into it, where we are already somewhere on equal footing."*

*Student of the master's program*



# What worried female students the most during their studies

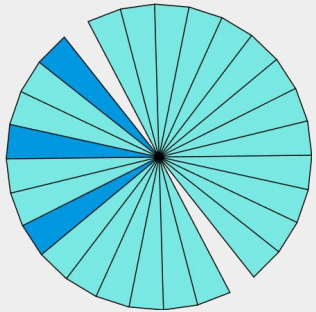
Research career




female students, who studied at Ukrainian universities, were most concerned about **poor or missing material and technical facilities (e.g., laboratory equipment).**


female scientists at indicated that **poor material and technical support was one of the aspects that bothered them the most** during their studies.

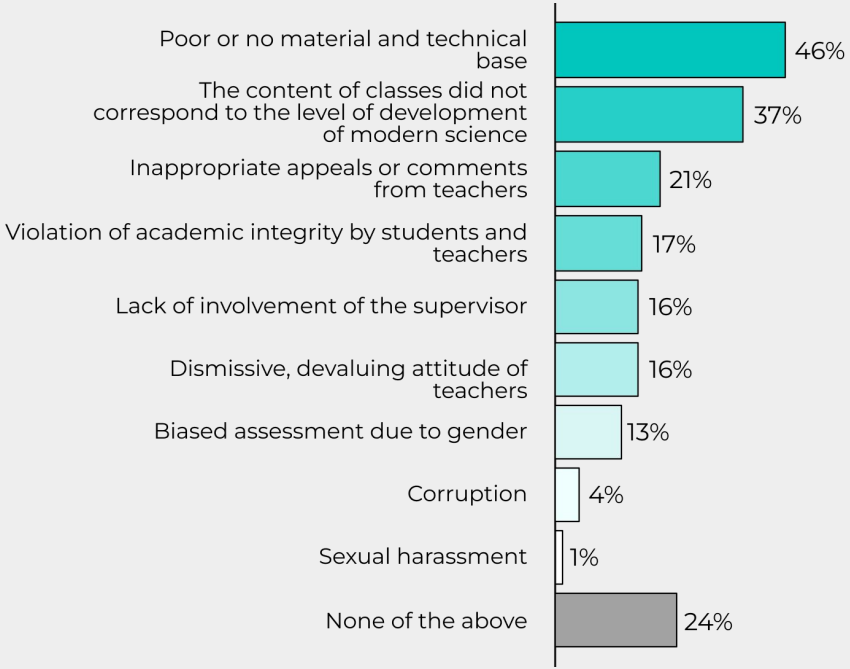
Some informants **were dissatisfied with the material and technical support of the educational process**, despite the high-quality theoretical knowledge received from the teachers: students had limited or no opportunity to conduct laboratory research due to lack of consumables, the condition of the equipment or its absence. In several cases, researchers had to spend a lot of time traveling to laboratories in other institutions to conduct their research.



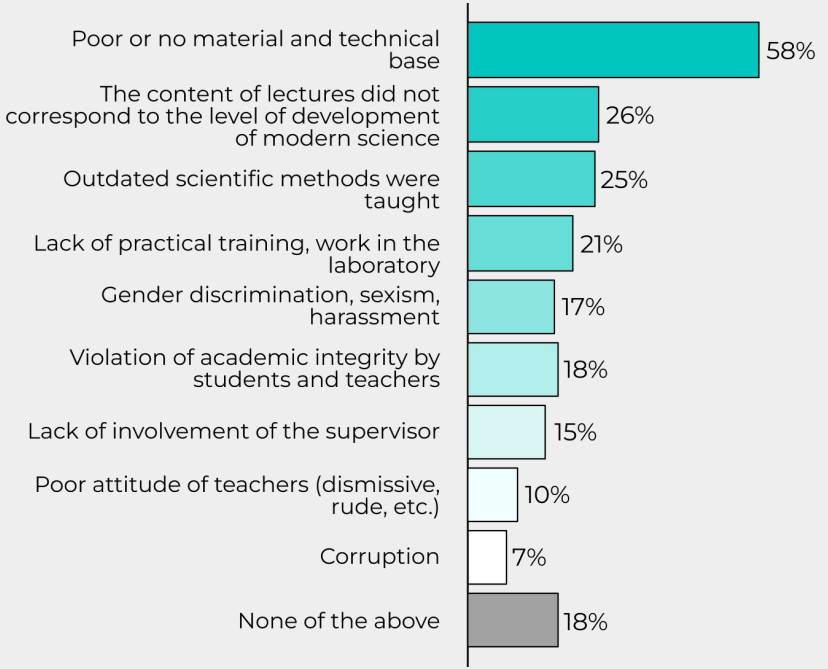
# What worried female students the most during their studies

Research career

## Female students




## Female scientists

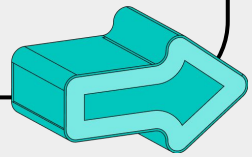


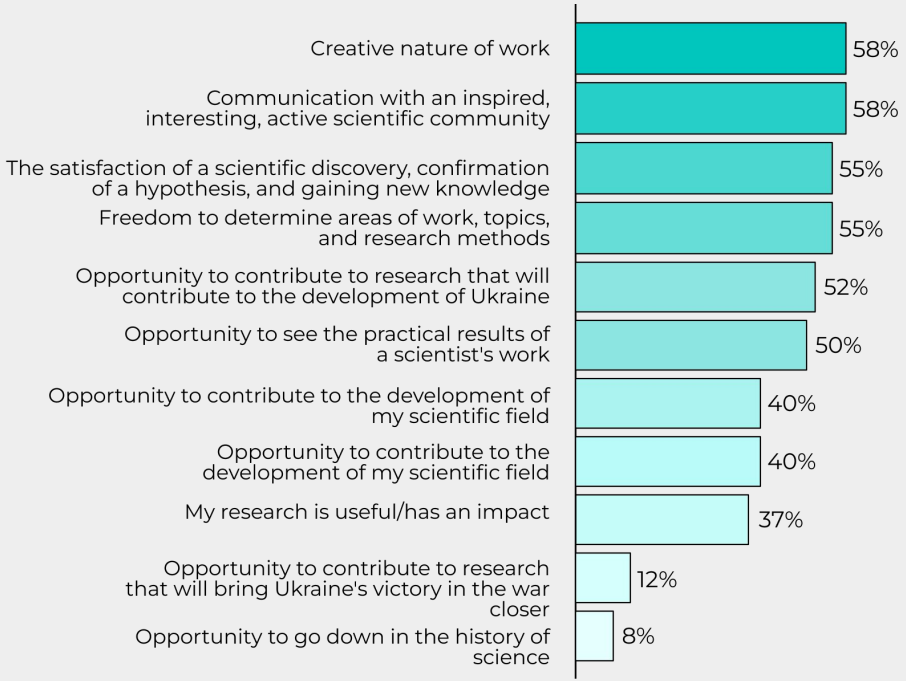

Motivation to build a scientific career in STEM

# Motivation of female scientists in STEM

Motivation

When analyzing the career paths of women scientists in the STEM field, it is important to pay attention to **what attracts them to this profession** and why they choose it, despite possible difficulties.






*Question: "What is valuable to you in the profession of a scientist". The question allowed for the selection of all the answers that fit. The number of respondents was 144.*

# What motivated you to choose science and what remains valuable in the profession?

Motivation

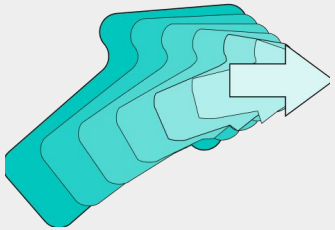
| | Influence on the decision to start a scientific career | Is valuable to work as a scientist |
|---|---|---|
| Research that is useful and impctful | 49% | 38% |
| Development of the scientific field | 35% | 40% |
| Academic freedom (freedom of topics, methods) | 9% | 53% |

What motivates you at the start is not always what remains a key value in the process.
**Academic freedom becomes more important after entering the profession.**

# What motivates women in STEM?

QUOTES FROM RESPONDENTS

Motivation



*«Today I am **proud to be a scientist, to be in Ukraine.** That I have the opportunity to work here, I have the opportunity to be in contact with other people in the same context, in the same situation. And in some way, in small steps, but, well... to support science and its development».*

*A* scientist working in a private institution

*«I'm banal **just really love the sea,** I really love ships, I really love going to the sea on a ship and watching the sea».*

A scientist working in a public institution

*«I can't even imagine what would have to happen for me to leave science. Well, this **burns inside me».***

A scientist working in a state institution

***«Why do women go into science?** Because they have an interest in science. They have a desire to delve into science, to make discoveries, to make some scientific breakthroughs, to develop the world, to improve certain aspects of life there».*

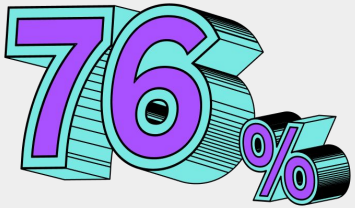
*A* scientist who ended her scientific career


Psychological environment
at the workplace

# Psychological environment at the workplace

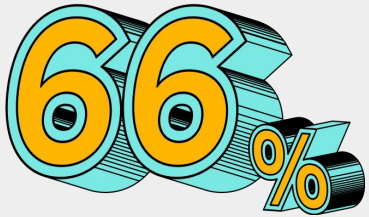
Workplace environment

More than half of the respondents rated the atmosphere at work, including teamwork, positively.




**of the surveyed female scientists always or often felt supported and understood by their colleagues.**


**felt supported and understood by management.**




**of female respondents always or often felt comfortable and safe among their colleagues.**

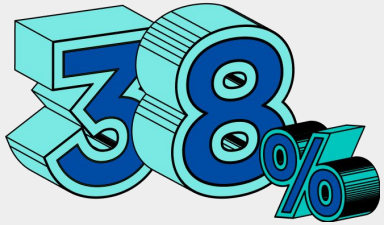
At the same time, **15% of the surveyed scientists** noted conflicts and competition in the professional environment as one of the biggest difficulties in working as a scientist.

For **16% of respondents**, internal conflicts and competition in the research institution/educational institution where they worked were among the obstacles that prevented them from conducting research.

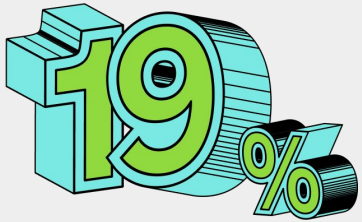
Workplace environment

Beyond the atmosphere in the team, in particular through relationships with colleagues and management, the survey participants sometimes mentioned **negative attitudes towards them as employees** in the course of their work.


of respondents reported that at their main place of work, they were sometimes assigned **administrative work that was undesirable for others**.



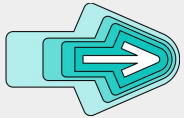

of respondents have had their publications **co-authored by people who were not involved** in the work they did.




reported that they **were not listed as co-authors** in the publications they were involved in preparing.

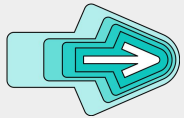
# Differences in working conditions for women in STEM

Workplace environment



## State institutions

Scientists appreciate the **flexible schedule** and freedom to choose research topics, which allows them to work on fundamental projects, but **outdated laboratories and limited funding** make it difficult to work.



## Private institutions

Scientists receive **higher salaries, access to modern equipment** and **structured work schedules**, but research is often subordinated to commercial goals, which can **restrict creative freedom.**

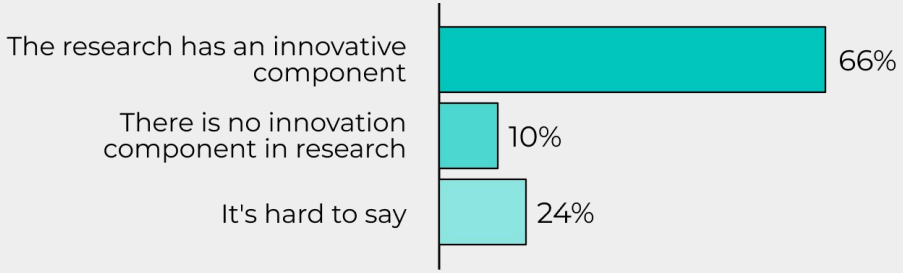

Innovations in
STEM

# Working with innovations

Innovations

According to the survey, **66% of female scientists** who worked in Ukrainian institutions **were engaged in research that contained an innovative component.**

Only 5% of respondents indicated that they did not see the need to integrate an innovative component into their research.




*Question: "Is your research innovative?". The question allowed for a single answer. The number of respondents was 131.*

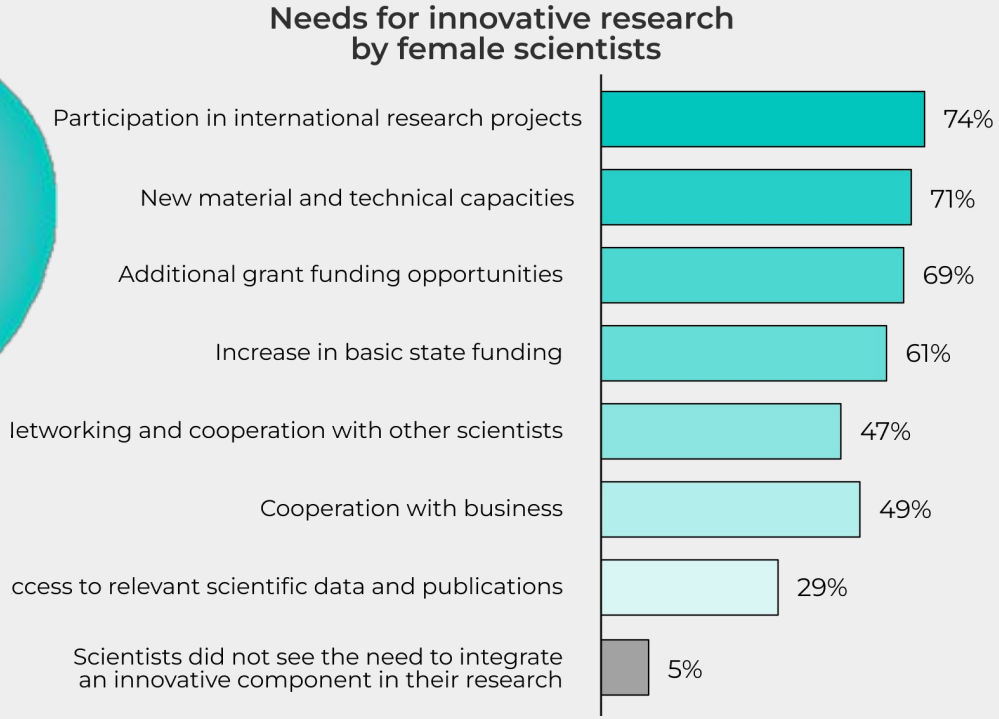
# Working with innovations

Innovations

To conduct innovative research, it was important for scientists to have **appropriate conditions**.

The most common need was **participation in international research projects**.

This was mentioned by **74% of** scientists who worked in Ukrainian institutions. Other common conditions that would enable innovative research were related to **logistical and financial support**:



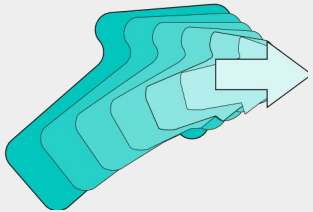

*Question: "If you wanted to conduct innovative research, what would you need to do so?" The question allowed for up to five answers. The number of respondents was 144.*

# Working with innovations

Innovations

A specific aspect of working with applied research is **the opportunity to obtain practical results and contribute to solving current problems**.

For some of the scientists, this aspect was the key to deciding what kind of research to do. They wanted to see the results of their work immediately.

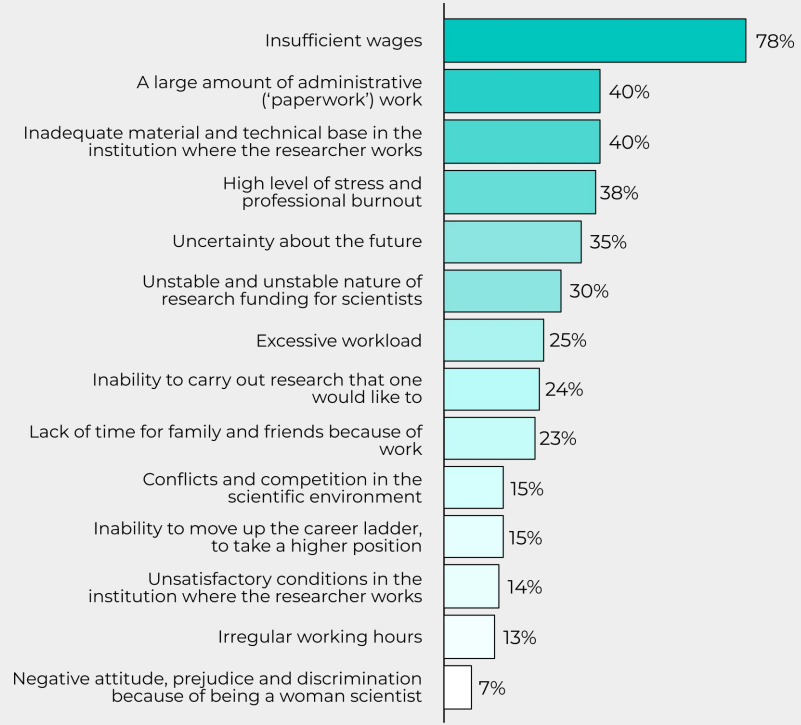


*«If you are doing biological research, you have to work in a laboratory, sometimes get very expensive reagents in order to be competitive with high-quality research done abroad».*

*A scientist working in a state institution*

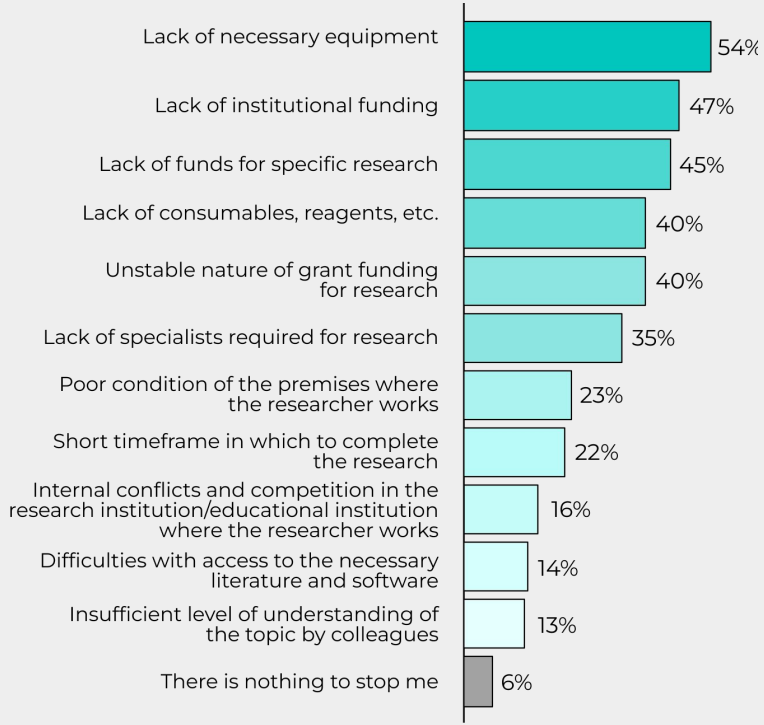

Barriers faced by
women scientists

## The biggest difficulties in the work of women scientists




*Question: "What are the biggest challenges for you in working as a scientist?" The question allowed for up to five answers. The number of respondents was 144.*

## The biggest difficulties in performing research




*Question: "What are the main obstacles that prevent you from doing your work and conducting research?" The question allowed for up to five answers. The number of respondents was 144.*

# Equipment and lab consumables

Barriers

According to the survey results,


**of female scientists** who worked in Ukrainian institutions indicated that **unsatisfactory material and technical base in the institution where they worked** was one of the biggest challenges in their work.

Among the obstacles related to logistical support, researchers working in Ukrainian institutions most often mentioned the following

- **Lack of necessary equipment** — this was indicated by **54% of respondents**.
- **Lack of consumables, reagents, etc.** — this was indicated by **40% of scientists**.
- **difficulties with access to the necessary literature and software** — this answer was chosen by **14% of scientists**

# Work schedule, workload and salary

Barriers

Most of the informants **had additional activities** outside of their main research work, **regardless of whether they worked in private or public institutions.** They combined several jobs and engaged in other activities for various reasons, among which we have identified two key ones.

The survey results showed that


of female respondents who worked in Ukrainian institutions **had additional paid work** in addition to their main research activities.

# Reasons for additional work by female researchers

Barriers

**The desire to develop science**. Scientists said they disseminated scientific knowledge because they wanted to change the scientific field and solve problems at different levels.

For example, they popularized STEM among children and joined the work of government agencies in the field of education. Sometimes, this motivation was related to personal interest: scientists joined activities that they liked and in which they could develop themselves.

**The need for additional funding.** Some female scientists who worked in public institutions were forced to look for additional sources of income due to lack of finances to ensure decent living conditions. In particular, one of the expenses for which the informants needed additional funds was paying rent.

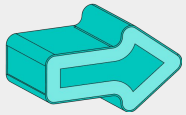

of the female scientists who worked in Ukrainian institutions indicated that **they did not earn enough at their main job and had additional work** or part-time jobs.

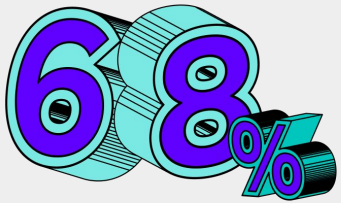
# Gender discrimination

Gender discrimination

Some of the research participants reported that they or their female groupmates **had experienced harassment and discrimination.**

Such situations could become a factor that not only complicated the performance of professional duties of researchers, but also reduced their motivation to work in general.





and

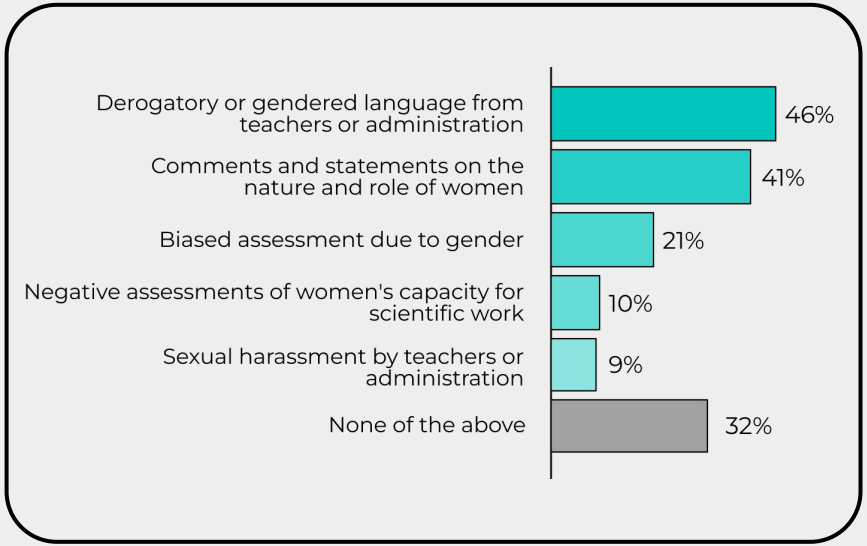
**female students** **female scientists**

**experienced sexism or discrimination during their studies in a higher educational institution.**

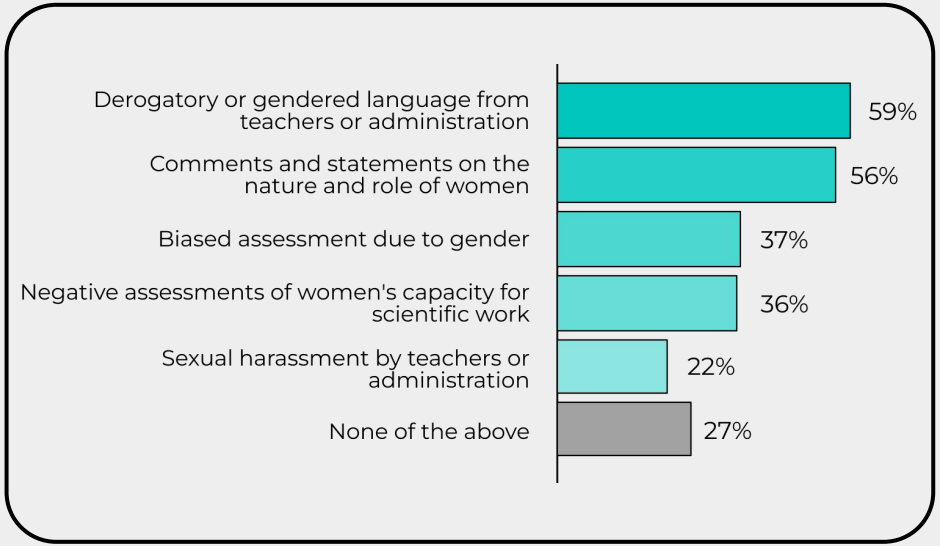
# Did any of these things happen to the respondents or their groupmates during their studies?

Gender discrimination

## female students




## female scientists



# Gender discrimination

*Quotes from respondents*

Gender discrimination

*«My colleagues started **telling me all sorts of jokes, so vulgar that I was shocked. I had never heard such things.** And these jokes, all kinds of jokes about graduate students, about women, that's all. [...] I don't take it out somewhere, but if I am asked, for example, what do you think about working with this particular person - if someone wants to invite me to a project, I don't hide it, because it was shock content for me, it was very disgusting».*

*A female researcher working in a state institution*

*«I think that there is probably a very strong bias in terms of how boys and girls are taught in school or in childhood. For example, in our physics electives, there were no girls at all. **There were a lot of girls in the lyceum, but they didn't... well, they went to the Ukrainian language competition. And boys went to the physics competition».***

*A male scientist*

*«Of course, yes, there is a tendency that if there is, for example, a new intake of students. **Then the heads of the labs sort out the guys first. And yes, they will all tell you that "it's because we work with a lot of substances, and you won't be able to lift anything, and we'll have to do everything for you."** No. These are all excuses. Because the girls always manage to cope with the quantities we work with».*

*Female student of the master's programme*

***«There was a teacher from the botany department. He was accused of harassing girls during his internship in [name of city], and one of the girls reported it. There was an investigation, and he was fired as a result of that investigation.** When they brought up some of [Name of lecturer]'s correspondence, it turned out that he had intimate relations with them, and on the basis of these relations he promised them apartments and help in finding a job and in science».*

*A scientist who ended her scientific career*


***«At our university, yes, we often hear that when you bring a project to submit, I'm sad, but I often hear this: what, is this your project? But you are a woman, how can you do it?»***

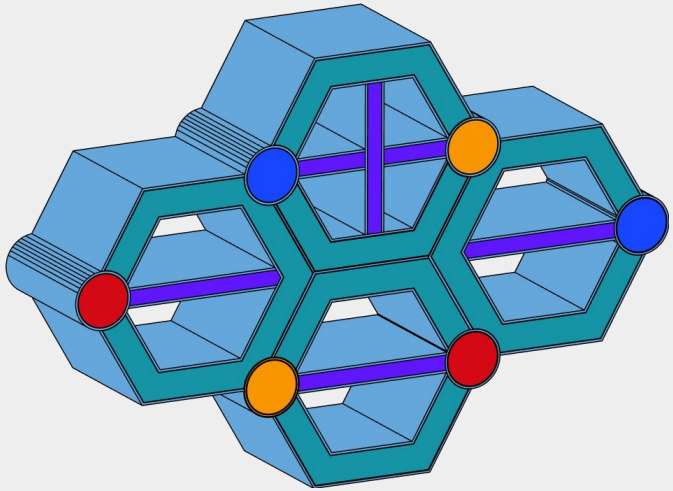
*A female scientist working  in a state institution*

# Combining the roles of mother and scientist

Gender discrimination

Speaking about the specific challenges for women in science, **almost all** informants mentioned the issue of combining motherhood and a scientific career.

They considered **planning for the birth of a child as part of planning for the development of a scientific career.**



# Combining the roles of mother and scientist

Gender discrimination

According to the informants, compared to male scientists, women need to make more efforts and take into account **more aspects.**

**Time to obtain a degree and the status of a young scientist.**

When planning the birth of a child, scientists are guided by their age, because the status of a young scientist in Ukraine is limited to 35 years. If a woman decides to have a child during this period and goes on maternity leave, she cannot use all the years of this status.

**The possibility of returning to a research career after a break and the prospects for the relevance of the topic they worked on in the future.**

The topics that a researcher has worked on may become irrelevant and lose their novelty, which creates additional barriers to continuing work. The informants also talked about the possible loss of a state-funded position if they were studying for a PhD, which would make it difficult for them to return to science.

**Personal health and the likely impact of research on it and pregnancy.**

When planning for the birth of a child, researchers should take into account that during pregnancy they may be limited in their ability to continue working if, for example, they work with certain chemicals or if they have health problems that require more attention during pregnancy. In addition, after the birth of a child, not everyone is able to combine caregiving with active research.

# Combining the roles of mother and scientist

Gender discrimination

*«Well, baby, **you go on maternity leave, you come out, and how long do you have left? About two years.** And it took me two years to get back on track, to publish. It's either not going on maternity leave, which is also very difficult. And at 35, that's it, you're not a young scientist anymore. That's why it seems to me that **this is just not fair for a woman.** Even compared to men. Because rarely do they go to babysit».*

*A scientist working in a state institution*

*«You can take a sabbatical, [...] you will keep your state-funded place, but **what you have been working on for two or three years or even a year will be lost**, because when you come out of your sabbatical, all this research will be irrelevant».*

*Female PhD student*

*«There are some opinions in the institute that, for certain positions, 'oh, **she's unreliable, because she can go on maternity leave** at any time. Or, for a certain position that involves two or three years, they ask if you are planning to.... beforehand».*

*A female scientist working in a state institution*

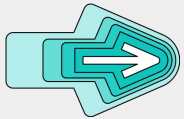

Reasons to leave
a scientific career

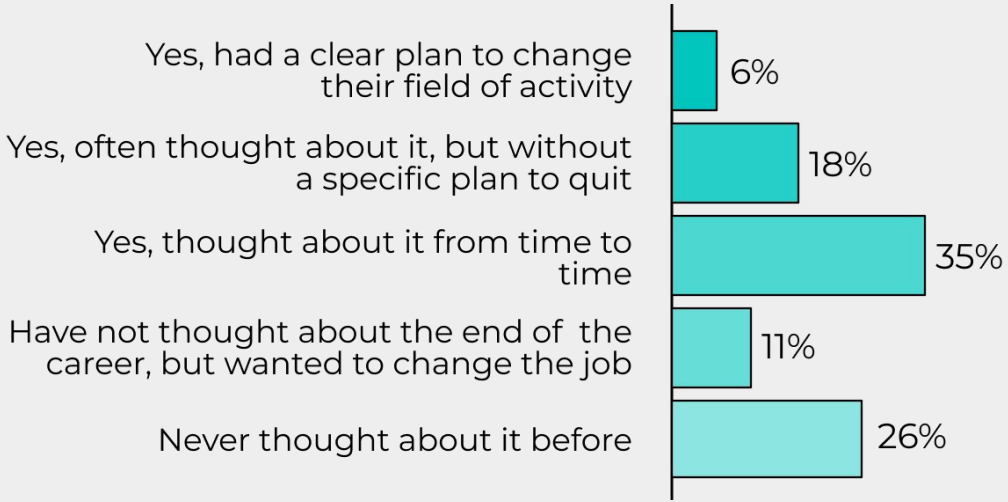
Reasons to leave a career

**6 out of 10**
scientists were thinking about
**leaving science**

## Reasons to leave a career

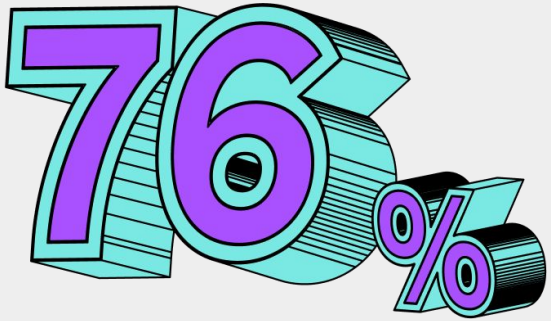

of scientists had thoughts about
**ending their scientific career**





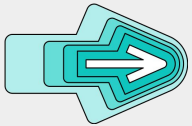
# Financial reasons for leaving a scientific career

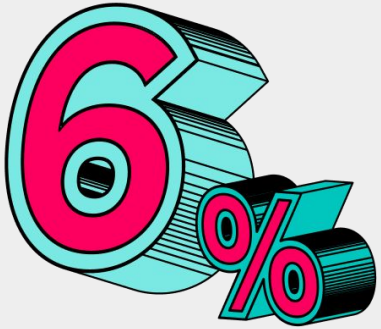
Reasons to leave a career




of female scientists cited the need **to have a higher income** as the main reason that prompted them to think about or plan to end their scientific careers

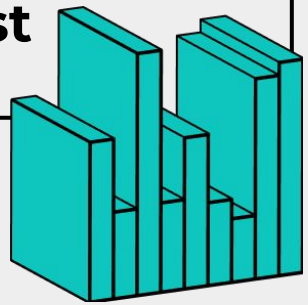
And only






of female respondents believed that they **earned enough as a scientist** at their main job

# What influenced her decision to leave her career as a scientist



| | |
|---|---|
| The need to earn more money | 76% |
| Family circumstances (e.g., having a child, caring for a sick family member) | 38% |
| Difficulties in relationships with colleagues or management (conflicts, competition, disrespectful attitude) | 37% |
| Difficulties in finding funding for research | 33% |
| Low social status of women scientists, lack of public recognition | 31% |
| Difficulties with conducting research by female scientists (lack of equipment, specialists, power outages, shelling, etc.) | 27% |
| The need to seek funding for female research on their own (e.g, applying for grants) | 26% |
| Moving to another city or country | 24% |
| Mobilisation to the Armed Forces of Ukraine or other structures of the Defence Forces of Ukraine | 17% |
| Poor conditions in the institution where the researchers worked (e.g. lack of a personal desk, unsatisfactory condition of the premises, etc.) | 16% |
| Inability to take a higher position | 14% |
| Lack of expected results of the research (e.g., the hypothesis was not confirmed) | 6% |
| Difficulty in getting a position in a research institution after graduate school | 2% |
| Loss of opportunity to continue education at state expense | 2% |
| None of the above | 6% |

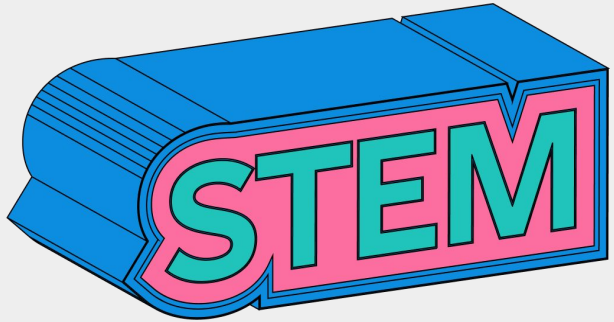
# Reasons to leave a career

*«Now I **am in the active process of quitting this job**. First, because the salary does not meet the requirements. Second, the Institute is hardly heated in winter, it is very cold. There are few reagents or they are outdated, and some of the devices are just impossible to use, there are no new ones».*

Student of the master's program

***«They decided to fail students on purpose so that they wouldn't have to pay them back for their education.** And when they offered us to give them failing grades [for the exam], I said that you know, my face as a teacher is probably the most important thing to me. And we just left».*

A scientist working in a public institution




*«But now, for some reason, for the last year, it's been really hard to stay in Ukraine, to stay in my institution and want to work. **I really want to go and do science there [abroad].** Because I realize that I will be doing science there, **not gnawing away at my own money».***

A scientist working in a state institution

# Who can use the results of this study

### Universities and research institutions

To develop internal collaboration policies, support female scientists after maternity leave, reduce bureaucratic barriers, improve working conditions, and create more accessible pathways to science for young people.

### International organizations and donors

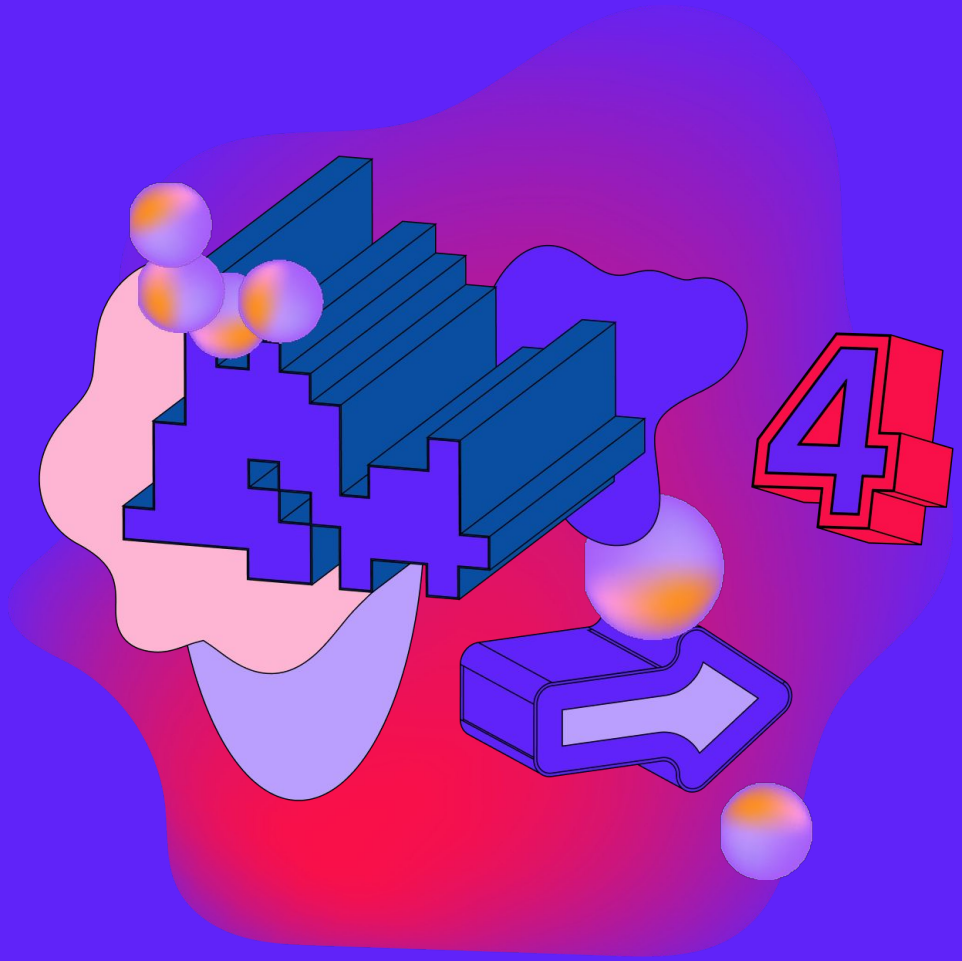
To increase financial and institutional support for Ukrainian women scientists, in particular in the context of a full-scale war, to help combat gender stereotypes and improve the technical base of research.

### Government agencies

To increase the effectiveness of policies in science, education, and gender equality, including by reviewing support criteria, funding, working conditions, and implementing systemic anti-discrimination.

### Business and the private sector

To support women in science through grant programs, joint research, popularization of female scientists, and development of knowledge-intensive projects with a gender balance.

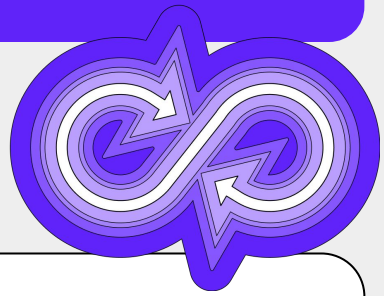


# Systemic challenges and opportunities to support women in STEM

Based on expert interviews

During expert interviews, we spoke to representatives from **the public sector, business, universities, scientific institutions, NGOs and the media** to find out their views on the barriers facing women in STEM and ways to overcome them.

# KEY CHALLENGES MENTIONED BY EXPERTS



- low salaries in science;
- the difficulty of combining motherhood and a scientific career;
- unsatisfactory material and technical working conditions;
- widespread presence of sexism and harassment in both workplaces and educational institutions;
- general instability and vulnerability of the scientific sphere.

*«It is important making scientific work as inclusive as possible, so that individuals — regardless of age, gender, or life circumstances — can choose and successfully pursue a career in science».*

*An expert from the non-governmental sector*

# Gender segregation in science and widespread stereotypes in society

Expert insights

Experts often emphasised the significant impact of stereotypes about women in science on their position. Among the most common were the beliefs that women play a secondary role in science, or that scientific fields are simply “not for women”.

Additionally, women are affected by the **widespread societal stereotype that caregiving responsibilities should fall to them.**

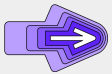
*«And we have to work, because, unfortunately, our society is still conservative.* ***Although we say that we have absolutely equal conditions, in reality, at the everyday level, this is not fully recognised.*** *Especially by the older generation. […] There is still a perception* ***that a girl must be a caretaker, she must be a mother».***

*Business sector expert*

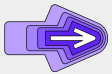
# Challenges in secondary and higher education

Expert insights

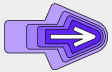
Key insights on challenges in **secondary education.**



Stereotypical views about STEM being more suited for boys are still common among students' parents

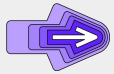


Parents do not support their daughters' desire to enrol in classes or educational institutions with an advanced focus on physics and mathematics

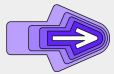


Girls in educational institutions or in advanced physics and mathematics classes often face inappropriate jokes about women's participation in science

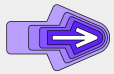
Key insights on challenges in **higher education.**



The lack of female teaching staff and supporting research personnel at universities.



The emigration of women scientists who previously taught at universities, driven by better opportunities for scientific development abroad.



A significant workload on lecturers makes it difficult to combine a scientific career with full-time teaching

# Support for women scientists and science popularisation: key barriers

Expert insights

### Lack of self-confidence

Some female scientists doubt the value of their achievements and whether they meet award requirements.

### Migration abroad

Many female scientists have left Ukraine to work at research institutes in other countries. Also, girls involved in science often express a desire to study abroad from an early age — which may reflect parental attitudes.

### Age restrictions

Some support programmes exclude older women scientists, who also need such activities.

### Lack of time for outreach

Female scientists often work multiple jobs or have irregular hours due to low salaries, leaving no time for science communication.

Experts agree that it is essential to address systemic issues — including the general obsolescence of Ukraine's scientific system, the low prioritisation of scientific development in state policy, and the insufficient funding allocated to science.

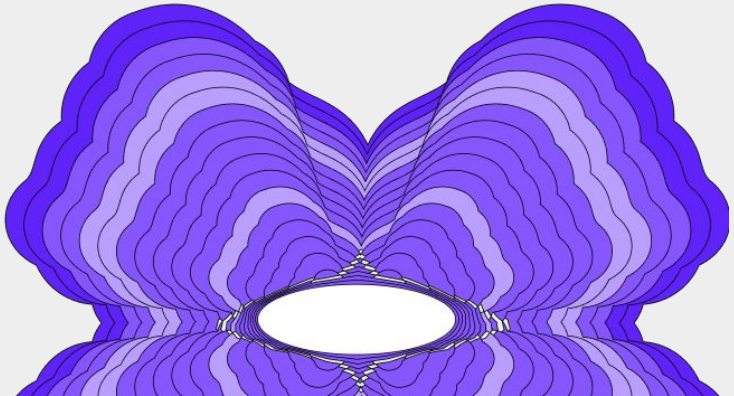
Expert insights

*«Some girls don't apply for the L'Oréal-UNESCO award] because they are afraid that they are not worthy. They say: "**What have we done, like, we... what are we going to say? We're just girls who work in laboratories, we can't tell you anything."** That is, this inferiority syndrome is also very much present».*

Expert from the business sector

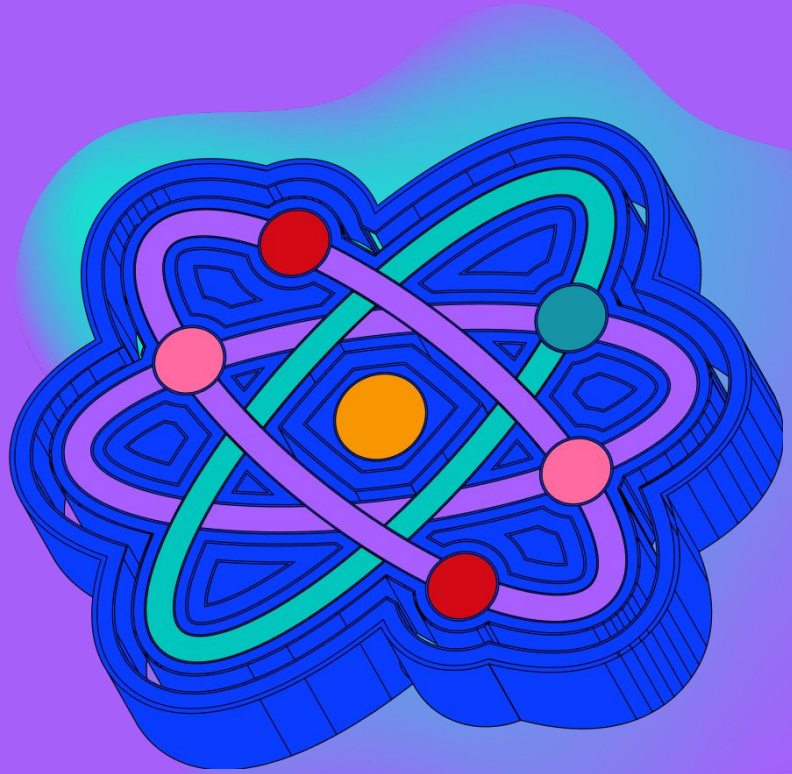
*«As a member of the regional council, I was aware of the state programme for housing young scientists and submitted a formal inquiry to the Cabinet of Ministers about **how many scientists had actually received housing through this programme. And guess what the answer was? One».***

Expert from a government institution



*«I think that from school education [gender segregation in education start], because, you know, **boys are somehow... even parents tend to involve them more in exact sciences or technical fields»**.*

Expert from a higher education institution

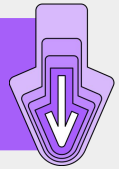


# 5 Key findings and recommendations

# Main conclusions

Conclusions

## What influenced the decision to start a research career

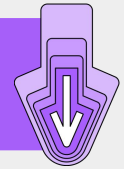


The start and development of women's scientific careers in STEM in Ukraine is the result of **a complex interaction of personal motivations, environment, and barriers at different levels**.

Among the **factors that motivated** women to choose and develop a career in STEM are: **interest in science** formed in childhood or adolescence, **support from teachers and family**, as well as **positive experience of interaction in higher education institutions,** in particular, the presence of role models and mentors among teachers.

An important role was played by **access to scientific events, the opportunity to engage in practical work**. Some scientists had **high intrinsic motivation** related to the desire to realize themselves, contribute to science, develop Ukrainian society, and attract more people to science.

## What kept motivated to continue career in science



An important role in maintaining motivation to engage in scientific activities was played by **institutional culture**.

The study found that for many female researchers, the **psychological atmosphere, stable professional relationships, and mutual support in the team** were key when they described their satisfaction with the conditions in which they work.

For some of the informants, autonomy in their work was critical in their scientific activities, as well as the ability to influence working conditions and the response of the team or institution's management to employees' requests.

# Main conclusions

Conclusions

## Creating innovations in STEM

**A significant proportion of researchers had an innovative component in their research.** Scientists indicated that to conduct innovative research, they needed appropriate conditions: the opportunity to participate in international projects, financial support (both grants and better basic state funding), and high-quality logistics.

**The main challenges are lack of funding, overload of researchers, and insufficient logistics.** At the same time, applied research often had a better chance of being funded, involved clearer planning and shorter deadlines, and may have a greater need for logistical support.

## The impact of a full-scale invasion on scientific activity

The full-scale invasion of **has affected the workload, schedule, and salaries of researchers.**

Changes in funding, colleagues joining the Armed Forces, or some specialists moving abroad have increased their workload. In the case of female teachers, the need to work remotely increased.

The situation with unstable schedules was complicated by blackouts that affected work planning.

The level of impact on the informants' salaries depended on whether there were changes in the funding of the project or the institution where they worked. The full-scale intrusion of **emphasized the financial insecurity of researchers working in public institutions.**

# Main conclusions

Conclusions

## Gender discrimination and sexism

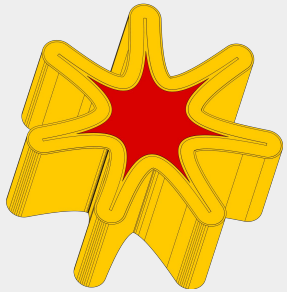
Systemic discrimination and sexism **were part of the experience of some informants.** In particular, women scientists talked about sexist remarks or comments about their professional capacity from colleagues or management, biased distribution of tasks based on gender, and cases of sexual harassment — against them or other colleagues.

**For some informants, this experience seemed commonplace and they were uncritical of such cases, while others described it as emotionally draining, demotivating** and encouraging them to distance themselves from colleagues or leave the institution altogether.

## Combining motherhood and a scientific career

**The workload, work schedule, and salary were related to the possibility of combining motherhood and a scientific career.**

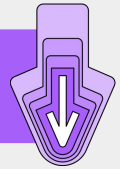
This aspect was mentioned by most of the informants. They considered planning **for childbirth as part of career planning**, and also emphasized the difficulties faced by a woman working in science who wants to become a mother.



# Main conclusions

Conclusions

## What stimulated thoughts of stopping scientific activity



Most often, these factors were related to **low salaries**, especially in the public sector. This sometimes led to the need to combine several jobs, as well as to **overload and unstable schedules**, which made it difficult to balance personal life.

**Low income from scientific work was one of the most common reasons for doubts about a scientific career and reasons to leave it or move to a private company**.

A significant proportion of participants emphasized **the insufficient material and technical base**, including the lack of heating in laboratories, lack of consumables, outdated equipment, and, in some cases, violations of basic safety conditions. These circumstances forced some scientists to leave state institutions or to leave their field of work altogether.

Difficulties with access to equipment varied depending on the funding of the scientific institution/institute and the organization of work in general. **In some cases, the full-scale invasion exacerbated these problems.**

**Uns**atisfactory working conditions encouraged some informants to leave their positions in a public institution: they moved to the private sector or considered relocation or moved to another country. In some cases, unsatisfactory material and technical conditions of research activities, together with other factors, were the reason for leaving the scientific field.

# Key recommendations

Conclusions

For government agencies, including the Ministry of Education and Science

## Financial support

- Increase the salaries of researchers and academic scholarships.
- Expand financial support for publications in leading scientific journals. In particular, in journals that publish articles in open access - to improve the visibility of the results of the work of Ukrainian scientists to the international scientific community.

## Promoting gender equality

- Strengthen and support systematic work on gender stereotypes and prejudices about the roles of women and men in society, including in science, starting with preschool education.

## Supporting women's scientific careers

- Ensure that women who take maternity leave are able to return to their positions and engage in scientific work, including retaining their jobs and guaranteeing the possibility of returning to scientific activity earlier if they wish. Also, encourage male scientists to take maternity leave.
- Revise the criteria for granting the status of young scientists, including creating opportunities for women to return to this status after maternity leave or mobilization to the Defense Forces, regardless of age.
- Develop and disseminate the practice of awards and events that will promote the visibility and recognition of women scientists.

# Key recommendations

For higher education and research institutions

Conclusions

## Working conditions and support

- Improve material and technical working conditions. In particular, to provide research laboratories with autonomous power supplies, necessary consumables, equipment, and heating during the cold seasons.
- Consider creating the position of a grant manager in scientific institutions. In particular, to facilitate the process of seeking funding and administering the funds received.
- To study/monitor in more detail the style of interaction between employees of institutions, to develop internal policies and norms of interaction that would promote a comfortable, safe atmosphere and mutual support in the team.
- Provide opportunities for employees and students to visit the place of work with their children (e.g., organise nurseries in the buildings, have changing tables).

## Academic interaction

- Provide students with more opportunities to conduct research during their education, in particular through the development of cooperation with scientific institutions.
- Expand activities for the exchange of experience between the staff of the institution or organization. This includes both regular scientific conferences and less formalized activities, such as internal seminars to discuss a particular topic, approaches to organizing work, etc.

# Key recommendations

Conclusions

For international organizations and donors

## Financial support for scientists in Ukraine

- Expand support for scientists working in Ukraine, including increasing the number of grants for research by scientists.
- Increase the number of grants that allow for the purchase of necessary equipment, supplies, and other logistical aspects of work.

## Access to STEM education

- Create scholarships to pay for STEM education on a contract basis.

## Promoting gender equality

- To support activities aimed at overcoming gender stereotypes and prejudices about the roles of women and men in society, including in science.

## Research on working conditions during the war:

- Promote a more detailed study of the working conditions and needs of researchers living and working in Ukraine during Russia's full-scale invasion of Ukraine.

# Key recommendations

Conclusions

For business sector

1

Promote the practice of creating platforms that bring together representatives of the public sector, higher education, academia, business, and government.

2

Provide opportunities for employees to attend the workplace with their children (e.g., organise baby rooms, have changing tables). In particular, encourage male employees to bring their children to work with them.

3

Maintain and develop corporate ethics, taking into account the need for more tolerant communication in the context of Russia's full-scale war against Ukraine (in particular in small companies): for example, responding to the health of employees after nighttime alarms, shelling, and the ethics of discussing war-related topics. It can also be a lecture/training with a psychologist on communicating with the military and veterans.

# Key recommendations

For the non-governmental organisations

Conclusions

1

Continue to popularize science, in particular among female students of general secondary education institutions, as an interesting, useful, and "fashionable" field.

2

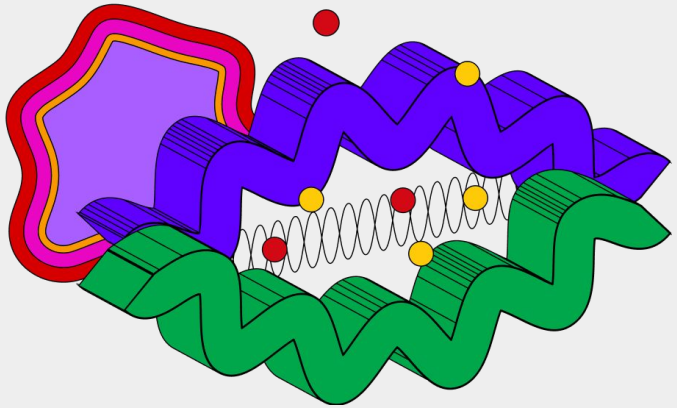
Create and develop communities of scientists to consolidate efforts and support communication.

3

To create modern educational programmes for women scientists as a complement to academic studies

4

Conduct communication campaigns to increase the visibility of women in science and to reduce gender bias in the scientific profession



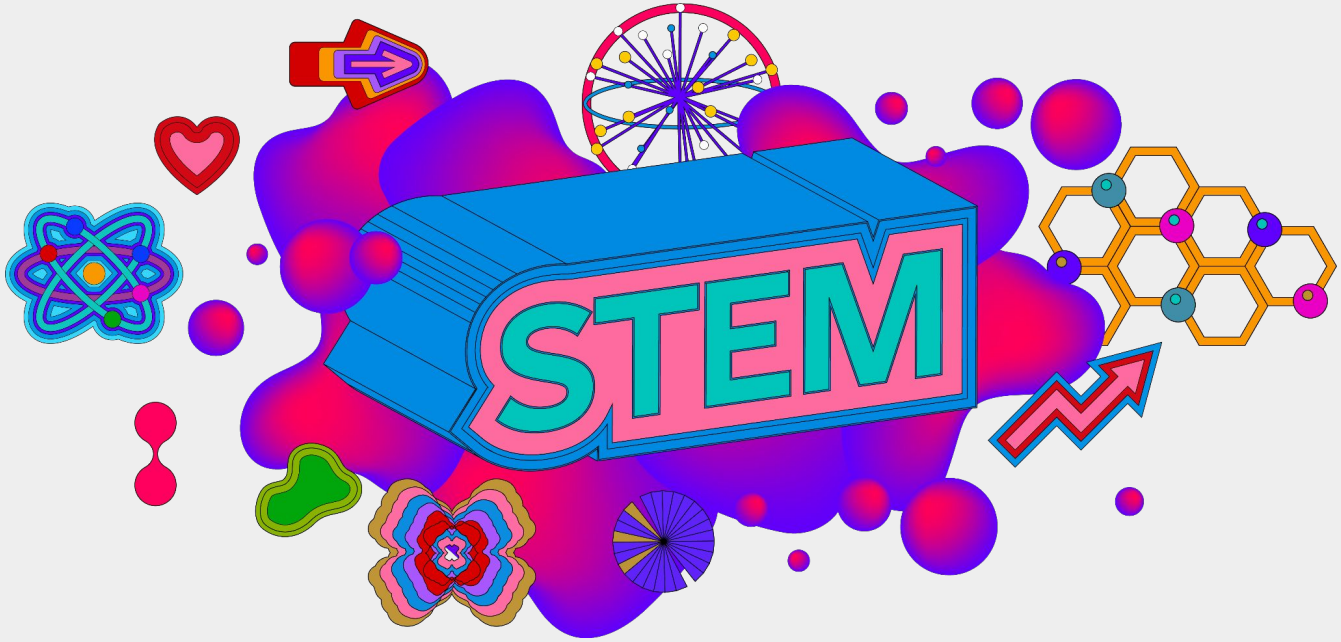
# Next steps

The research is just the beginning. Dialogue and joint work to support women in STEM are ahead.

**Public presentation.**
The research will be presented to share key findings and initiate dialogue.

**Communication campaign**.
Publication of results and communication campaign through media, social media and partner platforms.

**Stakeholder meetings.**
12 meetings with business, government, academia, and philanthropy will explore ways to implement the recommendations and advance gender equality in STEM.

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