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Gender Equality in a Digital Science Research Laboratory

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Abstract—The Laboratory of Digital Sciences of Nantes (LS2N) is composed of researchers working in the fields of Robotics, Computer Science, Computer Engineering, Industrial Engineering and Signal Processing corresponding to a total of around 500 people, of which 25% are women. In this laboratory, a Gender Equality and Diversity commission was created in 2019 and gathers today 34 people (65% women). This paper describes the efforts made by this commission since 2019 in order to evaluate, communicate about and improve the gender equality situation in the LS2N. The actions toward this end and discussed here include the proposition of a survey on gender inequalities early in 2020; the observation of women hiring process progress across eight years; the creation and maintenance of mentoring programs; and finally raising awareness among LS2N members through the organisation of seminars, conferences, listening groups and training. We also present the various challenges encountered and our current perspectives.

Index Terms—Promote gender equality, digital sciences.

I. INTRODUCTION

With the growing emphasis on gender equality from the French government, several higher education institutions and research laboratories have established dedicated initiatives to address this issue. An Equality-Diversity commission was set up in the LS2N in spring 2019. In 2024, it is now composed of 34 people including 1 non-binary, 22 women and 11 men. This group meets regularly every two or three months to propose new actions and discuss this theme. We have developed a public website to disseminate the actions we have carried out available at <https://www.ls2n.fr/mission-egalite-diversite/>.

In 2020 we carried out an open survey to identify and record inequalities between women and men at work, whether these inequalities were experienced or seen. The aim of this survey was to gain a better understanding of the sources and ways in which these inequalities emerge, so as to be able

to propose appropriate actions to reduce them. The survey results emphasized the crucial role of beliefs in situations of inequality, whether for the person affected (receiver), the one perpetuating it (transmitter), or the witness. To address this, we proposed modeling a gender inequality situation as a triangular belief-based gender inequality system. In this article, after presenting the quantitative survey results, we introduce this new model, which we use to represent the qualitative findings. In Section 3, we outline the actions implemented to combat gender inequality. In Section 4, we analyze the parity indicators within LS2N over the past eight years before concluding.

II. INEQUALITY SURVEY

An anonymous survey was proposed to the LS2N members on February 2020 and the results were exposed publicly on October 2020 during an open seminar. The objective of this survey was to identify if there were gender inequalities experienced in the professional environment by the laboratory members. The survey was divided into three sections. The first section gathered information on the respondent's identity (gender, age, status). The second section included three closed-ended questions aimed at determining whether the person had experienced or witnessed inequality, and if so, to select the corresponding category or categories from a predefined list. The final section, which was optional, allowed participants to leave an anonymous testimonial.

A. Quantitative analysis

49 LS2N members replied to this survey, corresponding to about 10% of the LS2N population. Of them, 22 were women and 27 men. In Table I we show an overview of the population

TABLE I
OVERVIEW OF THE POPULATION THAT PARTICIPATED TO THE SURVEY
ACCORDING TO THEIR FUNCTION, AGE, AND IF THEY PLACED
THEMSELVES AS WITNESS OR VICTIM IN A GENDER INEQUALITY
SITUATION.

Population	Total	Men	Women	% W
PhD candidate, Postdoc, Research Engineer	14	6	8	57%
Researcher or Research Professor	30	19	11	36%
Engineers, Technicians, Administrative Staff	2	1	1	50%
Under 30 years	13	5	8	61%
Between 30 and 45 years	14	10	4	28%
More than 45 years	21	12	9	42%
Witness of a gender inequality	21	10	11	52%
Victim of a gender inequality	14	1	13	92%

that answered the survey. We observe that the population was diverse in terms of age and most of them within a research function. Women (52%) or men population equally witnessed gender inequalities; while 92% of the victims of gender inequalities were women.

The survey proposed 10 types of gender inequalities. In total 35 people witnessed or were victims of at least one inequality. In Figure 1 we show an overview of the type of inequalities experienced by these 35 individuals. We observed that across all inequalities women are more represented than men. The ratio of the number of women vs. number of men reporting inequalities is higher in some situations that may represent more danger in professional context, such as harassment, lack of respect, and difficulty to obtain a promotion.

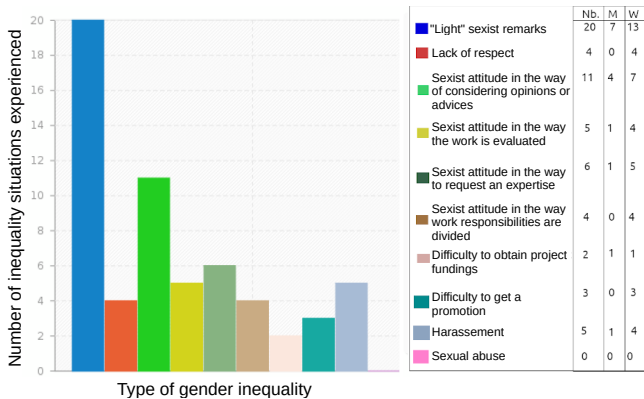


Fig. 1. Inequalities, experienced as witness or victim, according to gender inequality types proposed by the survey.

On October 2020 we created a system to collect anonymous gender inequalities alerts on real time, accessible for any member of the research laboratory. Up to date, we have received 4 alerts of gender inequalities, including 3 testimonials

(2 public). The very low number of testimonials may be due to the fear of being identified, the belief that providing testimonial will not reduce inequalities, or the preference to speak directly to members of the mission who are considered more trustworthy.

B. Qualitative analysis

As a next step, we addressed the written testimonials concerning experiences from real situations in professional environment. Only 26 people (53% of the total survey participants) accepted to leave a public testimonial; 12 of them were women and 14 men. In total 29 testimonials were collected, as a person could write more than one testimonial, and 20 of them were given the agreement to be publicly shared.

Our methodology to approach the inequality situations reported by testimonial was based on human beliefs systems [1]. This approach allowed us to observe different categories of inequalities.

We refer by a *belief* to a subjective notion true for a precise person at a precise time of his or her life, that is built from individual conditioning (cultural, societal, educational, personal experience). There is a strong mind identification to such a belief. This identification, when this belief feels threatened, can be a source of attack or disrespect towards others. Raising awareness on our beliefs systems could favor equality and inclusion, especially by limiting these reactions. Figure 2 presents our model of the inequality system as a triangular belief-based structure. This model illustrates the main components of the inequality system and their associated beliefs, potential interactions between these components, as well as elements that can be explored through testimonials.

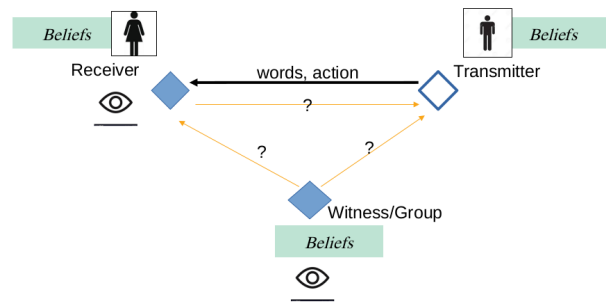


Fig. 2. The triangular belief-based gender inequality system (here, man to woman). Components of this system are a person that receives the inequality (expressed as words or actions), a person that transmits the inequality, and in some cases witnesses (one or more individuals). The bold black arrow refers to those elements present in the testimonials, and orange arrows to elements that are not. In many cases the gender of the receiver was female while the one of the transmitter was male. Each component/individual of the system is conditioned to its own belief system.

Beliefs of the inequality system were inferred after careful reading of each testimonial. Reported beliefs for each type of component (receiver, transmitter or witness) matched across multiple testimonials and were used to group the received testimonials in four categories:

- *Sense of unfairness.* This category was composed of 7 testimonials (6 public). Beliefs in the side of the receiver could be: "this is not fair", "women are always victims", "women have less opportunities than men". On the other side, beliefs in the transmitter could be: "women are less brilliant than men", "women are less available for professional functions than men", "men have always to be better than women", "if a man is less efficient than a woman, he is ridiculous".
- *Lack of respect at work.* This category was composed of 14 testimonials (7 public). Third-party witnesses were sometimes present in the inequality system. We list in the following reported beliefs for each system component. Receiver: "the group should support me", "a person is not authorized to generalize women behavior", "a person should not believe superior to others", "if I ask for respect then there will be consequences on my career". Transmitter: "it is possible to generalize women behavior", "holding a decision-position within the work hierarchy authorizes me to treat women without respect", "a women is less brilliant than a man", "I have the right to express myself without limits in my speech", "I don't have the right to shake hands with a person of the opposite sex" (religious belief). Group or witnesses beliefs: "if I interfere, then things will get worse", "people should communicate better", "working time don't include helping others to communicate with respect", "it is perfectly normal to communicate disrespectfully".
- *Gender inequalities for men.* This category was composed of 2 testimonials (2 public). The system of inequalities had inverse gender roles for the receiver. The transmitter was sometimes the French government. Beliefs of the receiver: "women should not be demanded more than men to integrate professional committees", "women should not be afraid of sharing the same office with men". Beliefs of the transmitter: "balance can be obtained demanding more women than men to integrate expertise committees", "I don't have the right to shake hands with a person of the opposite sex" (religious belief), "it is dangerous to stay enclosed in the same office with a man".
- *Herd mentality of men.* This category was composed of 6 testimonials (5 public). Beliefs on the receiver were inferred to be: "it is unacceptable, within a professional environment, receiving masculine remarks from my men colleagues". Beliefs on the transmitter: "women engage more than men in parental responsibilities", "it is normal to have a manly attitude, gallantry or compliments, towards women in the professional environment".

C. Key Findings

In this exercise of human belief detection it is important to notice that some receiver beliefs' might be difficult to name as beliefs, because they are profound aspirations of human beings, and they can be statistically demonstrated

within a certain context. Our objective is to highlight that they may represent barriers within the individual, which may demotivate her or him to change of attitude at work. If a woman strongly believes that "women are always victims", she may lose her willingness to face challenging situations. Being responsible and aware of the beliefs system we have grown up with is essential for a change of perspective, which is why we consider important to identify them. A similar inhibition mechanism, coming from their belief systems, can be observed for witnesses that could not act to support respect in these gender inequality situations. On the contrary, for transmitters, their absence of inquiry with respect their own belief systems, acts as a gateway that allows them to express and act in a way that does not respect human dignity.

All members of a system of inequality are co-responsible for an inequality. In the case of receivers, victims, remaining silent can worsen the situation for them or for others. Instead, recognizing self weaknesses, searching support, and getting trained to overcome self conditioning could be helpful. Transmitters, when confronted by individuals (receivers or witnesses) who publicly demand respect, and whose disrespectful communication strategies lack management support, are likely to gradually reassess their behavior. Governing strategies of a professional environment are also key elements here, since they may reinforce or decrease dysfunctional behaviors. Moreover, in the research field there is a dense inter-connectivity with different laboratories, and therefore with their own politics in favor of gender equality.

III. ACTIONS TO FACE GENDER INEQUALITY

From this first gender inequalities survey, a list of human competencies were raised such as *self esteem, empathy, communication, active listening and emotional intelligence*. These competencies, though recently lightly introduced in some French engineering schools programs, have been in the past absent on digital science programs. Our professional environments are therefore the scenarios of conflicts that can be handled differently. In the following, we list the main actions that were proposed by the LS2N Equality-Diversity commission in order to address these skills gap and to support women in the Digital Science research environment.

A. Gender awareness-raising

Several actions have been implemented across the various sites of the laboratory as well as within the three higher education institutions to which the laboratory is affiliated, in order to raise awareness among staff about gender-based violence and gender inequalities. The main initiatives include:

- Organization of gender-based violence awareness seminars and empathetic listening groups accessible to all laboratory members.
- Awareness interventions on gender-based violence during key laboratory events, such as the general assembly, team leaders' meetings, and team-building days.
- Creation and display of posters on gender-based violence and gender inequalities.

- Conference organization on topics highlighting the importance of human skills necessary for raising awareness of gender inequality issues, including nonviolent communication and introspection of belief systems. Also on topics related to gender-oriented research, such as the gender dimension in immersive multimedia studies and gender aspects in dating applications [2].

B. Professional training

In order to target self esteem challenges and to help colleagues to bring awareness to their emotional state of the moment, preceding potential inequality situations, we have proposed a training for four consecutive years since 2021. This training, entitled "*Better in my job, better in my professional relationships*", was open to all laboratory members and participants were limited to 14. Its bases were three main subjects: (i) Nonviolent Communication [3], (ii) Positive psychology [4], and (iii) Neuro Linguistic Programming [5]. Skills that our instructor masters and that training attendees could begin to acquire during 18 hours of training across 2, 5 working days. The objectives of the training program were:

- A better self-awareness through one's strengths: in daily life and at the heart of one's professional life.
- The basics of nonviolent communication: (i) a better understanding of one's emotional state: by listening to one's feelings and recognizing one's needs; (ii) by clarifying one's inner climate, each participant will be more aligned with themselves and able to assert themselves more when a situation is not suitable for them.
- The keys to empathetic listening.
- The interest and experimentation of gratitude daily.

In Figure 3 we plot the evolution of the participation rate of this training. In the period from 2021-2024 the training events were composed of 7-9 participants. We observe that a majority of attendees was of a non-representative gender in the laboratory (66,7% to 100%), also we observe the decreasing tendency of full time Researchers or Research Professors to participate to this training and an increasing tendency on PhD candidates participation. The participation of the category of colleagues from Engineers, Technicians and Administrative Staff is a minor percentage but present.

The overall feedback of the training is encouraging. Colleagues acknowledge learning a different strategy for communicating at work. Techniques are proposed to better understand their own expectations in the interactions with others. Also, they acknowledge discovering a different approach for listening to others, and the possibility to question oneself during exchanges. 41% of the members of the Equality-Diversity commission have followed this training. This number is significant since the commission is composed of 34 members, 15 of them are present in our quarterly meetings, and a dozen is actively participating on reflection and discussion of the proposed actions. Thus, the atmosphere of such meetings is different than in regular professional meetings; people trained to the basis of empathetic listening and self-awareness, are in

general more respectful towards others and propose different strategies when discordant points of view arise.

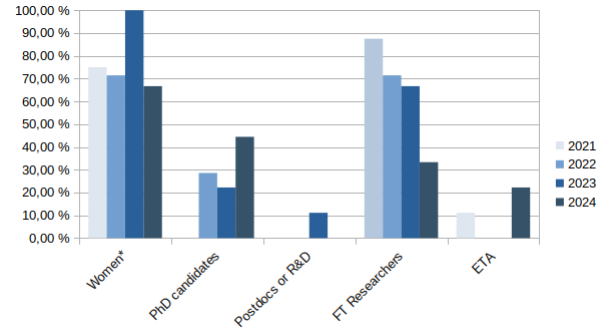


Fig. 3. Training participants rate from 2021 to 2024, plotted across different categories. The *Women** category refers to the participants of genders female and non-binary, *R&D* refers to Research and Development Engineers, *FT Researchers* regroups full time Researchers and Research Professors, *ETA* refers to the Engineers, Technicians and Administrative Staff category.

C. Mentoring program

The LS2N mentoring program was inspired by the programs of the Michigan Technology University in United States [6] and the French Laboratory for Research and Innovation in Digital Science and Technology (IRISA). Our goal was to promote encounters within colleagues in order to guide and to fight against isolation in professional environment, source of lack of opportunities for career development [7]. Our mentoring program had 3 objectives: to provide information and advice on: (i) career progression, (ii) quality of life at work, and (iii) the functioning of official entities at work.

The mentoring program lasts for one year and is reconducted each year. It was launched for the first time on May 2021, but with a very few number (2) of mentee-mentor working associations. After a strong communication campaign across the laboratory, on the period 2022-2024, the number of mentee-mentors associations grew (19 on 2022; 14 on 2023, and 10 in 2024). The collected appreciation of the participants to this program revealed that it was useful for their careers and for their well-being at work. In Table II we show the diversity across gender and function of the mentees and mentors that participated to the program in the period 2022-2024. From these data we observe that women were participating more as mentees (52,3%) than as mentors (28,1%). Even though, women replied to mentor calls eagerly, since the percentage of women mentors is higher than the percentage of women (25%) in the laboratory. A new contribution of the LS2N mentoring program was to widen it to all functions participating in the life of the laboratory. While we can see that the population answering the mentoring program call focuses on research activities, there is a small population of members of the Engineers, Technicians, and Administrative Staff who benefits as well of this program. This is favorable for the quality of work life across all the laboratory functions. Finally, senior to junior experience

TABLE II
OVERVIEW OF THE PARTICIPANTS OF THE MENTORING PROGRAM FOR THE PERIOD 2022-2024. IN TOTAL THERE WERE 41 MENTEES AND 33 MENTORS. '-' APPLIES FOR NOT EXISTING DATA.

Population	Mentees (41)	Mentors (33)
Female gender	52, 27%	28, 13%
Male gender	45, 45%	71, 88%
Not given gender	2, 27%	0, 00%
PhD candidates	61, 36%	-
Postdoc or Research Engineer	11, 36%	6, 25%
Full time Researcher or Research Professor	25, 00%	87, 5%
Engineers, Technicians, Administrative Staff	2, 27%	6, 25%

transfer is observed in this program: 87,5% of mentors are full time Researchers or Research Professors, and 61,4% of mentees are PhD candidates.

D. Support for women in their work environment

On October 2019 a first measure was proposed by the Equality-Diversity commission, in agreement with the direction of the laboratory that was later validated by the laboratory council. This measure represented a milestone in the laboratory governance approach, since it made possible to propose concrete measures in support to women. Since then, two other measures were proposed and validated. In the following we list them:

- Provision of support staff for scientific conferences organized within the laboratory, only if the proportion of women is at least 25% in: (i) the scientific committee, (ii) the organizing committee, and (iii) the invited speakers. A waiver may be granted on a case-by-case basis if the non-compliance with the rules is due to external factors beyond the organizers' control. Organizers are encouraged to implement or use tools to promote gender parity.
- On 2020, the implementation at the L2SN of the *gender parity criterion* in the ranking of thesis applications: with equivalent dossiers, a female candidate is given preference. This is valid for all doctoral contracts managed by the laboratory.
- On 2024, a text was proposed to support members reintegrating the LS2N after a parental leave. The purpose was to minimize difficulties to reintegrate research activities after a long pause; the official French parental leave is of 16 weeks. This text is available in Appendix A.

IV. TRENDS IN GENDER EQUITY INDICATORS

Women account for only 28% of engineering graduates and 40% graduates in computer science, and 22% of professionals working in Artificial Intelligence are women [8]. On the professional context, gaps in compensation and promotion between genders are frequently explained by women's limited capacity to negotiate [9]. Besides, gender glass ceiling effects

imply that difficulties to achieve parity increase at higher ranks of the hierarchy [10]. In light of this context, we propose to observe the evolution of women presence in our laboratory. With this data, the long term objective is to investigate on what specific points of the recruitment process, and with which strategies, the laboratory politics could contribute to improve women presence in the following years.

Let us first introduce some specificity concerning the types of positions a researcher might hold. In France junior and senior tenured positions exist. Both having independent recruitment committees; in the case of junior recruitment we might refer to a Recruitment committee, whereas, in the case of senior recruitment, to a Promotion committee. These Recruitment/Promotion committees are not the same for all positions. Junior and senior researchers are recruited via a national procedure, whereas associate and full professors are recruited via a local procedure. All in all, an increase on junior women recruitment may be an indicator of the attractiveness of our laboratory to women or of an internal or national effort to recruit women. On the other side, an increase of senior women promotions, notably in the local recruitment procedure (full professors), may be an indicator of the support women receive to develop their careers. Support that can be given in the professional context either by members of their research team, by colleagues in the same or different laboratories, and by the laboratory and affiliated universities managements. Therefore, promotion procedures deserve a special attention to favor women presence in the context of the gender glass ceiling effects.

We have collected quantitative data illustrating the presence of women in the laboratory from 2017 to 2025 (see Figure 4). We observe that ETA functions have an average of 48,8% women presence. This is particularly enhanced in the Administration Staff category. The numbers reporting women presence strongly fall in the rest of categories, especially in the senior category composed of senior researchers and full professors, where the maximum percentage of women in this category was achieved on years 2023 and 2024 (16,6%) and is particularly low. It can be observed, nevertheless, that this number have been on a slight but steady tendency of growth before decreasing a bit. The presence of women in the junior researchers and the PhD candidates categories is comparable (25% on average).

The lower percentage of women in the SR/FP categories than in the RS/AP or PhD candidates categories reflects a difficulty for women to obtain promotions. This can be quantified by an indicator called the male advantage index I_{ma} , which is defined as the ratio between the proportion of male SR/FP among male researchers/teaching researchers and the proportion of female SR/FP among female researchers/teaching researchers. A male advantage index greater than 1 means that the relative proportion of men promoted to SR/FP is greater than that of women. The evolution of I_{ma} in the laboratory since 2017 is plotted in Figure 5. Although a significant decrease has been visible

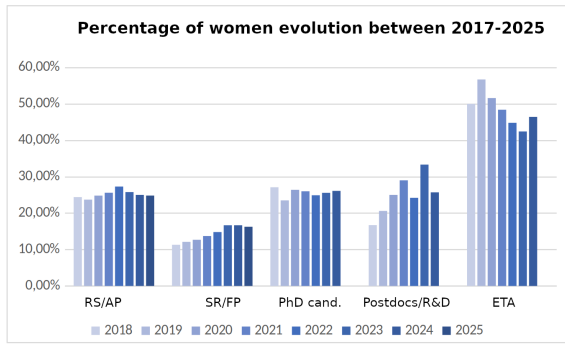


Fig. 4. Evolution of gender parity since 2017. *RS/AP* category refers to junior Research Scientist and Associate Professor positions; while *SR/FP* refers to Senior level Researchers and Full Professors. *PhD cand.* category stands for PhD candidates, *R&D* refers to Research and Development Engineers, and *ETA* refers to the Engineers, Technicians and Administrative Staff.

since 2017, a convergence towards the target value 1 is not perfectly clear and oscillations appear as promotions and new positions are created. This calls for continued vigilance.

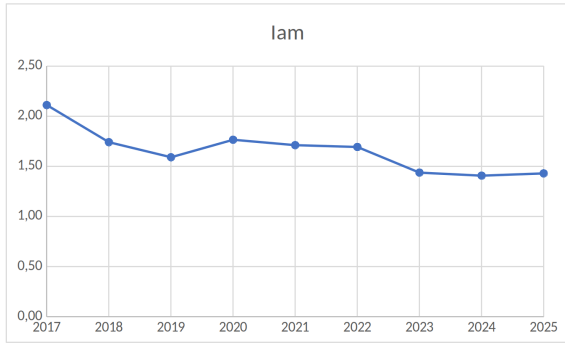


Fig. 5. Evolution of the male advantage index I_{am} for the LS2N since 2017.

V. CONCLUSION

The results shown in Figures 4 and 5 can be seen as positive since from 2019, year of the creation of the Equality-Diversity commission, a progress towards having more women in positions of power and influence is observed for the senior researchers and full professor positions. It would however be naive to attribute this apparent success exclusively to the efforts made in the commission. From a more objective perspective, these numbers need to be considered within all their complexity. It is for example a warning that on the academic year 2024-2025 the percentage of women decreases for the first time for senior and junior research categories. Considering that the recruitment process varies depending on the country and the research laboratory, it is fundamental to have Equality-Diversity commissions access information concerning these processes. It is also essential to maintain transparency about them within the laboratory, not only regarding the numbers but also about the entire hiring process. There is growing awareness that recruitment and promotion committees, often predominantly male, may influence the fair

evaluation of applications from both genders. An important effort has been started in 2022 by the National Center for Scientific Research (CNRS) on Computer Science, by compiling a guide of best practices in the context of hiring [11]. This guide was written by the equality representatives of different French research laboratories. As future actions, we plan to work on the implementation of these guidelines together with the management of our laboratory and universities.

We feel grateful to be able to approach the gender inequality situation in our laboratory and universities, either by gathering data or through anonymous or identified testimonials. This evokes that a certain trust or desire for change, concerning gender inequalities, is emerging. This is also a heavy load, since our power to efficiently solve the problem is limited. The multiple actions we propose may have visible consequences in an unknown period of time, but they are our contribution for a sustainable change. A constant effort has to be put on the raising of awareness of inequalities since not all colleagues are informed about French employment and penal codes concerning moral and sexual harassment. A complete perception of an inequality system (as proposed in Figure 2) is hardly considered when facing difficult situations. The professional training offered (see Section III-B) has helped enhance colleagues' skills in areas such as self-esteem, empathy, communication, active listening, and emotional intelligence. It has also introduced an alternative approach to conducting workplace meetings. In some LS2N research teams, meetings begin by acknowledging colleagues' emotional states of the moment. The mentoring program and awareness campaigns have encouraged isolated or silent colleagues to adhere in the recognition of equality values in the laboratory's policies. This has fostered an environment where some individuals feel empowered to speak out against gender inequalities, while others may reconsider expressing views that reinforce such inequalities.

We insist on the importance of developing these competencies in order to have a healthy work atmosphere and reduce toxic scenarios that can harm an individual both in his or her professional and personal life. The evolution of gender parity within a Digital Science research laboratory should appear as mentalities evolve. Our contribution remains limited because of limited resources; however, the capacity to federate ideas and to connect with other Equality-Diversity commissions across the universities associated to the laboratory and across France gives us a hope on change. A balance on genders in management and non management roles within a Digital Science research laboratory still remains an unknown experience, but of extreme interest, since different approaches and world conceptions could meet to provide a richer, more profound and wise, research model.

Our next actions include creating and performing in the laboratory a play based on the public testimonials collected during the inequality survey, in order to raise awareness about the inequality issues in the laboratory and about the cognitive biases in the research field in general.

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REFERENCES

- [1] J. L. Usó-Doménech and J. Nescolarde-Selva, "What are belief systems?" *Foundations of Science*, vol. 21, no. 1, pp. 147–152, 2016. [Online]. Available: <https://doi.org/10.1007/s10699-015-9409-z>
- [2] J. Pidoux and P. Kuntz, *Bodies and Technoscience. Practices, Imaginaries and Materiality*. Trieste, Italy: University of Trieste Editions, 2024, ch. Digitamorphosis of feminine bodies on affective dating applications, pp. 225–243. [Online]. Available: <https://www.openstarts.units.it/handle/10077/36197>
- [3] M. Rosenberg, *Nonviolent Communication: A Language of Life*, ser. BusinessPro collection. Independent Publishers Group, 2003.
- [4] C. Snyder and S. Lopez, *Oxford Handbook of Positive Psychology*, ser. Oxford library of psychology. Oxford University Press, 2009.
- [5] J. O'Connor and J. Seymour, *Introducing Neuro-linguistic Programming: Psychological Skills for Understanding and Influencing People*, ser. Neuro-linguistic programming. Thorsons, 2002.
- [6] S. B. Lisa Watrous, Mari Buche and J. Keith, "Advance: An investigation of the representation of female faculty candidates at michigan technological university," in *2011 North Midwest Section*, no. 10.18260/1-2-1152-36485. University of Minnesota, Duluth, Minnesota: ASEE Conferences, June 2021, <https://peer.asee.org/36485>.
- [7] B. A. Barres, "How to pick a graduate advisor," *Neuron*, vol. 80, no. 2, pp. 275–279, October 2013.
- [8] "The race against time for smarter development - women and the digital revolution," United Nations Educational, Scientific, and Cultural Organization, Tech. Rep., 2021. [Online]. Available: <https://www.unesco.org/reports/science/2021/en/women-digital-revolution>
- [9] J. Säve-Söderbergh, "Gender gaps in salary negotiations: Salary requests and starting salaries in the field," *Journal of Economic Behavior & Organization*, vol. 161, pp. 35–51, 2019.
- [10] D. A. Cotter, J. M. Hermsen, S. Ovadia, and R. Vanneman, "The Glass Ceiling Effect*," *Social Forces*, vol. 80, no. 2, pp. 655–681, 12 2001. [Online]. Available: <https://doi.org/10.1353/sof.2001.0091>
- [11] M. Bayart, S. Chambon, N. Hernandez, F. Mallet, C. Maumet, A. Parrain, E. Promayon, N. Rodriguez, C. Royer, S. Schmitz, and S. Voros, "Bonnes pratiques pour les comités de sélection (cos) [Best practices for selection committees]," CNRS, Tech. Rep., 2022. [Online]. Available: <https://www.ins2i.cnrs.fr/en/node/3012>

APPENDIX A

TEXT PROPOSED TO SUPPORT COLLEAGUES TAKING A PARENTAL LEAVE

"The management wishes to demonstrate its commitment to supporting its employees upon their return from maternity/adoption/parental leave of at least 16 weeks. A specific support system is in place during the 12 months following their return. During a meeting with management, initiated by the employee and potentially accompanied by a person of their choice, various support options may be considered, such as: (i) funding for a master's internship, (ii) assistance with financing conference missions or stays, (iii) exceptionally, a moderate extension of thesis funding, if the leave significantly disrupted the progress of the thesis; and (iv) adjustment of work hours within the framework defined by the employer. The laboratory council will be informed of these requests."