

A FEW IDEAS TO PROMOTE INCLUSION

T. Paumard¹, A. Guilbert-Lepoutre², M. Clavel³, F. Cornu¹, L. Petitdemange¹, F. Dulieu¹, L. Griton¹ and R.-M. Ouazzani¹

Abstract. Promoting diversity, equity, inclusion and accessibility (DEIA) is both a legal and professional responsibility in French research institutions. This paper presents practical strategies to foster inclusive work environments within French research units. We summarize the regulatory context, key findings from the INSU-AA prospective on discrimination, and fundamental principles for promoting equity. We discuss approaches to mitigate implicit biases across all career stages, from early education to retirement, and outline strategies for equitable recruitment and career advancement. Concrete initiatives in one of our units (LESIA/LIRA) are described, including internal communications, exhibitions, and accessible pedagogical activities. The creation of a dedicated commission within the unit council ensures coordinated DEIA efforts, legitimized by institutional support and methodical planning. By sharing these experiences, we provide actionable guidance for research units seeking to advance DEIA in science.

Keywords: diversity, equity, inclusion, accessibility

1 Introduction

Liberté, Égalité, Fraternité: such is the Motto of the French Republic. This motto resonates with the ever-growing desire within civil society, in France and around the world, to see these principles flourish in general as well as in the context of the world of work.

Several works have demonstrated the benefit of nurturing certain forms of liberty at work: for instance Spector (1986) found in a meta-analysis that high levels of perceived control at work (i.e. job autonomy) were linked to greater job satisfaction, commitment, motivation, and lower emotional distress, absenteeism, turnover intent and turnover, and physical symptoms. It goes well beyond the scope of these proceedings to discuss further how the many aspects of the concept of Liberty are relevant at work, though.

The last word of the motto, *Fraternité*, conveys the idea that people should behave with each other like siblings in a healthy family. But some authors have raised questions concerning its usage in the motto, on the basis that it may be understood as excluding *sisters*: in an advisory (Bousquet et al. 2018), the French *Haut conseil à l'Égalité entre les femmes et les hommes* (HCE, High council for Equality between women and men) estimates, with Réjane Sénac (Sénac 2017) that “in the motto ‘Liberty, Equality, Fraternity,’ the term *fraternity* expresses not republican neutrality, but the historical and legal exclusion of women from the political community”*. For this reason, the HCE recommends to initiate a reflection about the usage of this word in the French constitution where it could be replaced by a gender-neutral alternative: either *solidarité* (solidarity) which is common but is not a strict gender-neutral equivalent as it lacks the notion of family, or the more sophisticated *adelphité* (siblinghood).

The HCE also argues that “[solidarity] has the advantage of no longer placing the political community in relation to a familial or religious community”, again raising the question of the boundaries of such a community. Regardless of their opinion about the wording of the French motto, the individuals or research units who care

¹ LIRA, Observatoire de Paris, Université PSL, CNRS, Sorbonne Université, Université Paris Cité, 5 place Jules Janssen, 92195 Meudon, France

² LGL-TPE, CNRS, Université Lyon 1, ENSL, Villeurbanne, France

³ Univ. Grenoble Alpes, CNRS, IPAG, 38000 Grenoble, France

*The motto is part of the preamble of the French constitution since 1848, almost one century before women obtained the right to vote in 1944.

for *Égalité* (Equality) in their environment are immediately faced with this question. One possible answer is given by referring to the Law: the French Penal Code and Labor Code define at least 25 unlawful grounds of discrimination including, to name a few, origin, sex, disability, sexual orientation, gender identity, religion and ethnicity[†].

In this paper, we will share ideas from which an individual or group of people (especially a French research unit) can take inspiration in order to foster diversity, equity, inclusion and accessibility (DEIA) in their work environment, trying to keep these ideas applicable to any of the unlawful grounds of discrimination according to French Law. We will first remind a few points of context in Sect. 2, including the French regulatory framework, a few results from the INSU prospective and basic principles to foster a inclusive work environment. In Sect. 3, we will discuss how implicit biases affect women and marginalized groups from preschool to retirement, and share ideas to counter them. We will then focus in Sect. 4 on the actions undertaken in one of our units, in the hope that they may be useful to others.

2 Context

2.1 A regulatory framework for institutional action

The *Mission pour la Place des Femmes (MPDF)* of the CNRS was created in 2001 in order to promote gender equality and strengthen the position of women within French research. It was one of the first equality bodies in a public research institution in France. Initially focused on identifying gender imbalances and raising awareness, the Mission gradually expanded its role to include the production of statistical data, the implementation of action plans, and the support of equality initiatives at national and European levels. Today, it plays a central role in driving institutional policy on gender equality inside the CNRS, coordinating training, monitoring progress, and working to combat discrimination and stereotypes in the research community.

A regulatory framework applies to French public employers with regard to discrimination, particularly concerning gender and disability.

French public employers are subject to a series of legal obligations regarding professional equality between women and men. Since the Law of 13 July 1983, they are required to guarantee equal treatment in access to employment, training and career development. The Law of 9 May 2001 introduced the obligation to include gender equality objectives in annual staff reports and in social dialogue. The Law of 6 August 2019 established the obligation for public employers to adopt and implement a gender equality action plan, based on published indicators and concrete corrective measures.

French public employers are also subject to legal obligations concerning the employment of persons with disabilities. The Law of 10 July 1987 introduced a mandatory employment quota of 6% of workers with disabilities in all public and private organisations. The Law of 11 February 2005 strengthened this obligation, broadened the definition of disability and required public employers to implement measures to facilitate recruitment, accessibility, retention and workplace adaptation. The Law of 6 August 2019 further reinforced these obligations.

In this context, the Astronomy and Astrophysics domain of INSU (*Institut national des sciences de l'Univers*) has created in 2021 a network of Equality correspondents with the aim of gathering two persons in each laboratory of the domain (Clavel et al. 2024). In a nutshell, their missions are:

- Listening to and guiding victims and witnesses of sexual and gender-based violence (SGBV) (the correspondents are trained for this), moral or sexual harassment, and discrimination on any illegal grounds;
- Advising management and communicating within the unit to promote gender parity and professional equality, prevent sexual violence, harassment, and discrimination, and raise awareness of these issues among all employees.

2.2 Conclusions of the INSU prospective

As part of the INSU 2024 Astronomy and Astrophysics (AA) prospective exercise, Working Group (WG) I.1 was tasked with assessing the state of inclusion, diversity, and equality within the community, and with recommending improvements where necessary (Guilbert-Lepoutre et al. 2024).

[†]<https://www.service-public.fr/particuliers/vosdroits/F38175>; Penal Code 225-1 to 225-1-2, Labor Code L1134-1

The French AA community was surveyed on a broad range of self-reported experiences of inequality and discrimination, including gender-based discrimination, racism, homophobia, ableism, and social status. While the survey results have limited statistical weight, they are fully consistent with larger-scale studies—both in the general population (for specific forms of discrimination) and within academia (across various disciplines and at the international level).

Key findings are summarized below:

- Only 42% of respondents reported never having been targeted by any form of discrimination.
- Each type of discrimination was personally experienced by approximately 10–20% of respondents overall.
- However, these figures increase sharply among individuals belonging to marginalized groups. WG I.1 was able to demonstrate statistical differences between targeted groups and the rest of the community. For instance:
 - Only $\simeq 20\%$ of women reported never having experienced sexist behavior.
 - Only $\simeq 25\%$ of LGBTQ+ respondents reported never having experienced homophobia.
 - Around 50% of disabled respondents reported never having been targeted by ableist behavior.

The survey also investigated the prevalence of SGBV in the workplace. Based on self-reports, WG I.1 estimates that $\simeq 20\%$ of women have experienced SGBV at least once in their workplace, including reports of aggressions and rape. Similarly, at least 20% of LGBTQ+ respondents reported experiencing SGBV, in line with the *Baromètre Autre cercle & IFOP* (2024), which found that three out of ten LGBTQ+ employees in the general population had suffered at least one form of workplace aggression. Even more concerning, the most recent cases of SGBV (< 5 years, including at least one rape) exclusively involved young, non-tenured female colleagues.

Overall, these results underscore the urgent need to sustain efforts in favor of gender equity and the fight against SGBV, while extending such measures to other forms of discrimination.

2.3 A few basic principles

Here we remind basic principles that apply in general for the promotion of inclusion in an academic unit:

- Make it a topic. Use every opportunity to raise awareness (e.g. general assemblies, research unit councils etc.).
- Promoting inclusion is a long-distance race, not a sprint. To avoid backlash that could jeopardize your efforts on the long run, be mindful of the acceptability of your action. Ensure its legitimacy by basing it on solid ground, such as the legal and institutional framework exposed above.
- Get trained. The supervisory bodies of research units (including CNRS) all offer training programs on a variety of subjects, including inclusion. In addition, the Ministry of Higher Education and Research (ESR) in collaboration with Coop-Egal[‡] offers a series of webinars on equality every year (EGA-ESR).
- Respond to instances of discriminatory behavior or verbal abuse in meetings that you may witness. To this effect, you can apply Right to Be's *5Ds of bystander intervention* (Right to Be 2017):

Distract: create a diversion to allow for deescalation, e.g. pretend you have misplaced your keys;

Delegate: if you feel something needs to be done but you are not comfortable stepping in yourself, ask someone else to intervene who might be better positioned to do so;

Document: if someone else is already helping, take notes or record (always ask the harassed person what they want to do with this documentation);

Delay: if you could not act immediately, providing help and support after the fact can make a difference;

Direct: directly intervene, e.g. by asking the victim if they are okay, or by addressing the perpetrator.

[‡]<https://www.youtube.com/@CoopEgal385>

- Do not assume that you are unbiased. Everyone has biases[§]. While it is not possible to eliminate them entirely, acknowledging your own biases fosters the self-awareness needed to notice, pause, and counteract their influence (e.g. Devine et al. 2012).
- Prepare, implement and follow an action plan on DEIA matters (see Sect. 4).
- Create a DEIA team. A formal “DEIA” or “Professional Equality” team, commissioned by the unit council, will help in several aspects mentioned above. Its action is de facto legitimated, and it will automatically “make it a topic” since the commission will report regularly in front of the council. This commission can also structure a professional training plan around DEIA topics as well as an action plan.

Such efforts align with national recommendations: for instance, the *Kit de prévention des discriminations dans l’enseignement supérieur* developed by the *Défenseur des droits* and institutional partners provides concrete measures to foster equity in a research environment (Défenseur des droits et al. 2021).

3 Fostering diversity from preschool to retirement

The metaphor of the leaky pipe illustrates that women leave academic research (or that their career ceases to progress) at every stage of their career, with 57% of general baccalaureate graduates, 38% of research assistants and 29% of CNRS research directors being females (Mission pour la place des femmes 2021). In addition, research has shown that gendered stereotypes emerge as early as the preschool years and discourage young girls from pursuing future scientific or engineering careers (Bian et al. 2017; Master et al. 2021). Similarly, studies have demonstrated that ethnicity-based biases are acquired at very young stages (Meltzoff & Gilliam 2024). In the absence of comparable statistics for other grounds of discrimination, it is legitimate to postulate that similar trends also apply to them and this calls for actions targeting every stage of life, from school and even preschool years to retirement.

Many researchers in our field engage regularly in science dissemination activities towards children and teenagers from preschool to high school. Ideally, it would be wonderful to see a very diverse population of members of our community do so, but as long as our community is *not* diverse, we need to do specific efforts to pass the message that science is for everyone, independent of gender, ethnicity, social origin or anything else. Such efforts can be implemented on an individual or collective basis: • make every effort possible to cite women scientists; • include a slide showing the diversity of your team at least in terms of gender and ethnicity; • use this slide to introduce the various statuses of our colleagues (researchers but also engineers, technicians and administrative staff).

Another way to foster equity and diversity in our science communication practice is to engage with under-served audiences—including people with disabilities—and marginalized communities, such as those in priority education zones and rural areas. Platforms like ViensVoirMonTaf[¶] can help proposing internships to pupils in the tenth and eleventh grades (*classes de troisième et de seconde* in the French system) in these marginalized areas, while events such as Cercle FSER’s *declics*^{||} can help organizing visits in schools, with the possibility to prioritize on communities with special needs. Specific exhibitions can be designed to be accessible to people with certain disabilities (see an example in Sect. 4).

Universities are generally well aware of diversity and inclusion matters. Points of attention include implicit biases and care for diversity during selection processes, display of diversity on the website and other material on which prospective students may base their choice, and visible anti-harassment policies. The “Aspie Friendly” program^{**} fosters inclusion of autistic students.

When recruiting people in our units (whatever the status), we should consider the following points: • publicly communicate an inclusion policy (it enhances attractiveness); • adopt a code of conduct and make it publicly available; • write genuinely stereotype-free job postings (note: this requires training); • avoid indirect discrimination—e.g., do not require attendance at elite institutions; • educate oneself and one’s team about unconscious biases; • use explicit, needs-based, non-discriminatory evaluation criteria; • be mindful of the recommendation letters we write—and the weight we give to we read—as letters of recommendation written

[§]You may explore your implicit biases at: <https://implicit.harvard.edu/>.

[¶]<https://www.viensvoirmontaf.fr/>

^{||}<https://www.cerclefser.org/fr/declics/>

^{**}<https://handicap.gouv.fr/aspie-friendly>

for women, even when written in good faith with the hope of helping the applicant, are often tinged with unconscious biases that work against them (e.g. Chang et al. 2023); • ensure information reaches everyone—beware of the “old boys’ club” effect by which crucial information such as job opportunities sometimes is shared only during informal events (afterworks, coffee breaks...), never reaching those who do not participate to such events.

Once recruited, colleagues must be provided with equal opportunities for career development, through fair evaluation and promotion: • encourage colleagues to apply for promotions, prizes, fellowships, and other distinctions, particularly those who may experience impostor syndrome, which disproportionately affects women and underrepresented groups (Clance & Imes 1978); • consider specific circumstances (e.g., disability, maternity, caregiving responsibilities) in the evaluation of colleagues; • ensure promotion decisions reflect the available talent pool, rather than only the applicant pool; research shows that men are often more likely to apply even with less advanced application files (e.g. Abraham et al. 2024).

Note that some promotion pathways for engineers, technicians, and administrative staff go through the research unit’s council. Raising awareness within the council about fair evaluation is therefore very important. This can be an action item for a DEIA team.

4 Examples of actions led at LESIA/LIRA

Now that we have established some general principles, we turn to concrete examples of actions implemented since the creation of the INSU-AA Equality Network in late 2021, through the correspondent appointed by the LESIA research unit at Paris Observatory–PSL. On January 1st, 2025, LESIA merged with parts of GEPI and LERMA to form a new research unit, the *Laboratoire d’instrumentation et de recherche en astrophysique* (LIRA). The seeds planted by the Equality correspondents in the three former laboratories continue to flourish at LIRA, as illustrated below.

One of the first initiatives was to update the unit’s intranet with resources for witnesses and victims of SGBV as well as moral or sexual harassment. This section of the intranet also introduces the network correspondents and clarifies their role. In parallel, we sought to provide colleagues with accessible information on equality in a professional context. LESIA, and now LIRA, circulates a weekly internal newsletter to all members, in which we regularly include (every one to three months) a short note on Equality. These notes typically consist of a brief introduction and a pointer to an external online resource, such as a video, leaflet, or announcement of an upcoming event. All previous notes are archived on the intranet, alongside the more institutional information mentioned above.

We then initiated a small collection of relevant books, primarily in French but also including several works in English, which we make available to colleagues and students through an *Equality Library*. To publicize this library and facilitate connection with unit members, we organize informal *Equality Coffee Breaks* near coffee machines, complete with croissants. These gatherings have proven invaluable—not only for addressing reservations colleagues may have about our initiatives, but also for making us more approachable to quieter collaborators.

Another way we seek to engage colleagues and stimulate reflection and discussion is through exhibitions or poster campaigns. We have organized two so far. The first was inspired by the Hypatia project^{††}: while the Eiffel Tower bears the names of 72 French male scientists engraved around the perimeter of its first floor, the project aims to have the names of 40 female scientists inscribed on its second floor. In the same spirit, we selected 40 female scientists and prepared for each a short portrait combining a photograph and a brief text, together with a QR code linking to further information. These portraits were then displayed in the corridors of the unit.

The second campaign, organized for Pride Month, consisted of five posters. Each provided information about LGBT-phobia (including the definition of LGBT, the prevalence of LGBT-phobic attacks in the workplace in France, etc.), accompanied by the portrait of a scientific figure—historical or contemporary—who identifies or identified as LGBT.

Still aiming at “making it a topic,” we strive to be present as much as possible at the unit’s general assemblies. During the most recent one, we organized an activity using pedagogical material designed to present the Solar System to visually impaired audiences: 3D-printed planets with slightly accentuated surface reliefs, enabling

^{††}<https://www.femmesetsciences.fr/40-soeurs-hypatie>

participants to identify each planet solely by touch. This activity illustrates both how astronomy can be made accessible to underserved audiences, and how disability can be addressed and discussed among our colleagues.

LIRA's unit council recently appointed a dedicated commission called *Égalités et qualité de vie au travail*, broader in scope than the Equality correspondents alone. This commission is tasked with writing a dedicated action plan on equality and monitoring its implementation. The plan aligns with the policies and objectives defined by our supervisory bodies—for example, their gender equality action plan mandated by Law (Sect. 2.1), as well as their *Schéma directeur développement durable et responsabilité sociétale et environnementale*, mandated by the Ministry of ESR. This institutional framework provides our actions with a high degree of legitimacy and acceptability, and ensures that we can “make it a topic” regularly before the unit council.

Finally, we stress that we are astronomers: we may not have been formally trained to promote Equality, but we have been trained to design, implement, and revise plans—something we routinely do when building instruments. This familiar methodology should strongly support us in achieving our goals.

5 Conclusion

Fostering diversity, equity, and inclusion in research units requires continuous effort, from raising awareness and addressing biases to implementing structured action plans. Practical initiatives—ranging from thoughtfully crafted science talks in schools to training of committees involved in career progression—can promote inclusion across all career stages. Institutional support, formal DEIA teams, and methodical planning ensure legitimacy and sustainability. The experience at LESIA/LIRA illustrates how research units can translate legal and ethical commitments into concrete, everyday actions.

We warmly thank the organizers of SF2A 2025 for a superbly organized event as well as Coop-Egal for their very instructive training sessions on professional equality. AI-based tools (ChatGPT, DeepL) were used to help sourcing information and translating.

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