

eLTER Preparatory Phase Project

eLTER RI Gender Equality Plan

Deliverable D1.7

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Preface

The integrated European Long-Term Ecosystem, Critical Zone, and Socio-Ecological systems Research Infrastructure (eLTER RI) aspires to be Europe's leading research infrastructure providing observational data and the physical and human resources to facilitate research addressing the grand societal environmental challenges. Our aspiration to achieve prominence and leadership in the European research landscape necessitates that eLTER RI take an active role in adopting high ethical standards of behaviour in academia and research with a special emphasis on its commitment to gender equality and to closing the gaps of structural inequality in academia and research. This document, the eLTER RI Gender Equality Plan serves two primary purposes in this regard. First, it is the explicit declaration of our commitment to eliminating gender discrimination within eLTER RI and throughout the broader European and global research communities. Second, it is the action plan describing specifically how the resources of the RI will be mobilized to address and mitigate gender discrimination in eLTER RI and beyond. The Gender Equality Plan thereby represents a significant step forward in meeting eLTER RI's strategic objective of creating a collaborative, inclusive, and inviting working environment that promotes equal opportunities regardless of gender, religion or beliefs, race, sexual orientation, age, etc., in alignment with Article 21 of the European Union Charter of Fundamental Rights (EU 2007).

Summary

eLTER RI recognizes that structural and systemic biases produce gender inequality throughout the scientific and academic communities. It further realizes that robust, resilient, efficient institutions and organizations benefit when they maximize diversity of staff and their respective skills and perspectives. eLTER RI is therefore committed to remedying inequality within and beyond the RI. To do so, the RI is committed to implementing a series of administrative, policy and educational measures to directly address and alleviate gender bias and its outcomes. These include explicit statement of objectives, adoption of EU gender equality guidelines regarding gender representation, and implementation of educational programming for our RI community of researchers and the broader stakeholder community.

1. Justification and precedents

Gender inequality in global and European academic and research communities is well documented in both the research literature and in the statistics compiled by institutions of higher education and by the EU's own macro-analyses (see, for example, European Commission, 2019; Oleschuk, 2020). Statistical trends reveal extreme attrition of female representation in successively higher-ranking positions in academia, from near parity among PhD students to often single-digit percentage representation among full professors. In the UK, for example, 50% of PhD students are female, whereas only 20% of university professors are female (Equality in Higher Education statistical report, 2013 - reported by Paul Walton, University of York). In the Spanish National Research Council (CSIC), in 2019, 50% of predoctoral students were female, while only 26.5% of research full professors were women (CSIC 2021). While there have been modest, steady improvements in gender representation over the past decade in CSIC and elsewhere (European Commission 2019), there is still far to go towards obtaining parity among senior academics and research scientists. Beyond actual positions, there is also a large gap between genders in rewards for excellence, with men receiving higher recognition, salary, bonuses, and promotions than women performing at equal capacities (Joshi et al. 2015).

Research has also shown repetitively that this attrition is not due to differences in scientific capabilities or intellect (women, in fact, have been shown to outperform men in physical and life sciences in undergraduate studies; Bloodhart et al. 2020), but rather to systemic features of academia and scientific establishments that discriminate against female scientists (Oleschuk 2020). These features include bias in the peer review process (Helmer et al. 2017), bias in distribution of teaching responsibilities in academic faculties (Gibney 2017), biases in research grant awards (Witterman et al. 2019), and biases in awards for achievement (Joshi et al. 2015). Biases are often unconscious, and thus harder to detect, even if the negative impact on women's ability to advance are clearly reflected in statistical trends. While this discrimination first and foremost harms women currently in the scientific community and those who aspire towards scientific careers, it also degrades the potential for scientific progress due to the closure of scientific opportunities to half of the population and the loss of their creative and intellectual contributions.

Existing structural inequalities tend to propagate themselves throughout academia, such as when men are disproportionately represented in certain disciplines and in administrative hierarchies and committees. This leads to the explicitly visible inequities, but also perpetuates itself because men are likely to focus on specific topics and be less sensitive to gender implications of their scientific/policy foci due to unconscious or implicit gender bias. As such, these self-sustaining trends cannot change within a reasonable timeframe without effective, targeted policy interventions (European Commission 2020; OECD 2021; Pyke and White 2018; Turan 2015).

Realizing the depth and breadth of the problem, the European Commission has adopted an ambitious strategy on gender equality in research and innovation policy (EIGE 2016), which includes three objectives:

- Fostering equality in scientific careers
- Ensuring gender balance in decision-making processes and bodies
- Integrating the gender dimension in research and innovation content

Other EU initiatives address this challenge in additional venues, such as the European Union's charter on gender equality, which targets regional and local authorities throughout Europe. This charter places an emphasis on economic and political equality, shared leadership, gender mainstreaming ("integration of gender perspective into all policies"), and a society free of discrimination and violence (European Commission 2020). Article 21 of the European Union Charter of Fundamental Rights (EU 2007) is likewise explicit: "Any discrimination based on any ground such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation shall be prohibited."

2. eLTER RI commitment to gender equality

2.1. eLTER RI statement on gender equality

eLTER RI is unequivocally committed to gender equality and the elimination of gender bias, explicit and unconscious, within all aspects of eLTER RI administration, projects, and day-to-day operations. Further, as conscientious actors and representatives of a prominent community in the European RI landscape, we will contribute to addressing broader societal gender biases and discrimination within the scientific research community in Europe and beyond. This commitment extends beyond traditional binary

gender definitions to include biases and discrimination against trans- and non-binary individuals.

This statement is inspired by eLTER RI understanding of both the detrimental impact of biases and discrimination on scientific progress and the positive impact of diversity in science, which is strengthened through unfettered engagement with scientists of all backgrounds and characteristics.

With the approval of this Gender Equality Plan, eLTER RI commits to the following objectives (which include concrete steps towards their achievement, outlined below):

- Equality in gender representation within eLTER RI administration at all administrative levels, and equal representation in leadership positions in all eLTER funded collaborative projects (following the EU aspiration to maintain a maximum differential of 40–60% representation).
- Engage in gender mainstreaming throughout eLTER managerial decisions and policies (Using the European Commission definition for gender mainstreaming: "... not restricting efforts to promote equality to the implementation of specific measures to help women, but mobilising all general policies and measures specifically for the purpose of achieving equality").
- Using this Gender Equality Plan as a springboard for increasing awareness of the unconscious gender bias, inspiring greater tolerance, inclusiveness, and respect for differences applying to all demographic diversity, and particularly towards greater inclusiveness and non-discrimination of trans- and non-binary gendered individuals.

Direct areas of impact include our administrative structure, our training and educational programming, and our funded research projects. Indirect areas of impact include interactions with our broader stakeholder community, ranging from local community stakeholders, the broader scientific community, and policy makers across geographic scales. The Gender Equality Plan and its concrete actions take into account both of these realms in an integrated way (Figure 1). On the one hand, we monitor and target our own activities within the RI and mainstream gender considerations into eLTER RI policies. On the other hand, we understand that the RI is situated within broader society - the RI is both impacted by, and can impact, society through additional measures. These include monitoring and assessment of gender representation within the RI and to promote gender mainstreaming, educational/awareness programming for RI scientists and staff to recognize gender bias and discrimination, recruitment, and hiring policies to compensate for the impact of systemic discrimination in the broader scientific and academic communities, and targeted training programs to advance the careers of female RI scientists, who are facing a broader, often discriminatory, job market.

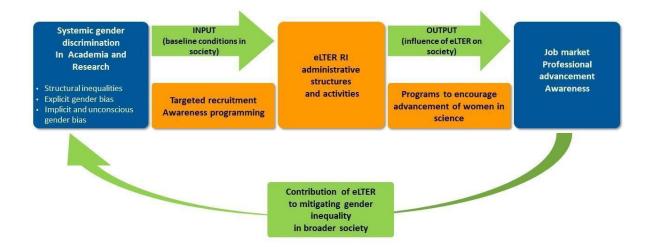


Figure 1: eLTER RI nested in the broader scientific landscape, including the impact of broader society on eLTER RI operation, and pathways through which eLTER RI can positively impact broader society.

2.2. Current gender representation in eLTER RI (2020–2021)

Prior to entering into the ESFRI roadmap, eLTER RI had already begun to address gender imbalances within the RI, where males were vastly over-represented (reflecting, perhaps, the imbalance in the natural science research communities of the underlying organisations and institutions in general). In the most recent iterations of collaborative research projects (eLTER PPP and eLTER PLUS), eLTER RI coordination took tangible steps to increase representativeness of females in leadership positions. The gender representativeness of the two projects is displayed in Table 1. The key figures here are that 45% of all project participants are female (reaching close to parity), although only 24% of the project senior positions (work package and task leads) are female. While this is an improvement over previous projects, it is reflective of the attrition of female representation in more senior positions throughout academia presented above. There is clearly more progress to be made in eLTER RI in order to meet our desired objectives of a 40–60 maximum ratio.

Table 1: Proportional representation of genders* within eLTER RI project WP, theme, and task leads.

| Project | # of female WP/theme leads | # of male WP/theme leads | # of female task leads | # of male task leads | # of female WP/theme + task leads | # of male WP/theme + task leads | # of female project participants | # of male project participants |
|-----------------------------------|----------------------------------|--------------------------------|------------------------------|----------------------------|---|---------------------------------------|--|--------------------------------------|
| PPP | 3 | 5 | 8 | 23 | 11 | 28 | | |
| PLUS | 4 | 17 | 11 | 37 | 15 | 54 | | |
| PPP+PLUS overall | 7 | 22 | 17 | 60 | 26 | 82 | 95 | 118 |
| proportion female (overall) | 0.24 | | 0.22 | | 0.24 | | 0.45 | |

^{*} figures based on organizers' identification of participant genders - in future projects, participants themselves will be asked to assign their own gender, which will provide options of female/male/other/decline to answer

Among the eLTER National Coordinators and their deputies of 29 countries, there are 24 females and 39 males. National coordinators are selected independently by the country networks themselves, although here, too, eLTER can encourage gender mainstreaming gender equality (see below).

2.3. Gender mainstreaming (with an emphasis on the COVID-19 pandemic)

A commitment to gender mainstreaming indicates that eLTER RI is not only looking at the superficial outcome of systemic gender bias in the scientific research community or generic policies that are reputed to "level the gender playing field" (i.e., policies that encourage equality), but that the RI staff understand that policies can differentially impact the genders (i.e., these same policies lack equity, which recognizes the need for different resource needs to reach equal outcomes). For instance, while the lives and work of all scientists were significantly disrupted during the COVID-19 pandemic, preliminary research has shown that women were disproportionately affected for multiple reasons, including, among other reasons (1) female partners were most likely to be responsible for the care of children and/or elders left at home due to the pandemic (Malisch et al. 2020) and; (2) even prior to COVID-19, females generally assume a higher teaching load in universities than their male counterparts (Gibney 2017), and during COVID-19, online teaching was more onerous and time-consuming for instructors, and by extension, for females who had already assumed a greater teaching burden. Preliminary research has already shown the female researchers' research productivity dropped with the onset of the pandemic (Flaherty 2020), even as the research productivity of their male colleagues rose (Oleschuk 2020). In recognition of these facts, more resources and/or more compensation should be offered to females in order to assure that they can function equally to their male counterparts during, and emerging from, the pandemic. eLTER might consider responding to this disproportionate impact on women during COVID-19 with provision of additional support and time for them to complete their tasks within eLTER RI projects, or to provide additional compensation to assist them in overcoming this disproportionate burden.

Within eLTER, gender mainstreaming means that we assess policies and decision-making processes with regard to gender neutrality (which may encourage equality, but not equity; Malisch et al. 2020). Policies must take into account that the playing field is not level, and they cannot ignore equity. Towards gender mainstreaming, eLTER will encourage open, periodic discussion of relevant matters among senior administration and in RI-wide meetings. Some of these meetings will be led by experts in the field of gender bias and mainstreaming. We suggest that dialogue among RI staff and researchers will allow for greater clarity regarding how to think about policies and management decisions.

3. eLTER RI gender equality policies

3.1. Gender representation in senior administrative and research positions

eLTER RI will aspire to maintain equal gender representation in all senior leadership positions including in central administration and in funded, cross-RI research (e.g., work package and task leads in EU funded initiatives). In particular, the RI will work to increase the number of women taking an active role in projects and leadership. The ambition is that neither gender will have less than 40% representation in these positions. Gender representation criteria will be written into both the Strategic Plan (PPP WP1.1) and the Plan for Effective Governance and Management Structures (PPP WP2.1) will be reported to project Steering Committees and to the Interim Council (where current gender representation is

skewed heavily towards males) on an annual basis. Bodies for which gender representation will be monitored and balance pursued include (Fig 2):

- General Executive Committee (GET)
- eLTER PPP Steering Committee (Work Package Leads)
- eLTER PLUS Steering Committee (Work Package Leads + Theme Leads)
- eLTER PPP Task leads
- eLTER PLUS Task leads
- eLTER PPP and eLTER PLUS Scientific Advisory Boards
- Project-specific task groups and committees (e.g., TA evaluators, Central Services host application evaluation committee)
- Candidate countries for Topical Service Areas¹
- eLTER ERIC bodies

Further, eLTER RI will explore pioneering joint female-male cooperative leadership, whereas the most senior administrative position would be assigned to a pair of candidates, one female and one male, who would lead collaboratively.

In addition, although eLTER cannot have a direct impact on associated bodies (see below), the GET will encourage eLTER RI associated bodies to consider equal gender representation. This will be done through explicit written statements (e.g. "eLTER encourages all associated parties to consider gender equality when selecting representatives") in addition to an explanatory note expanding upon the advantages and desirability of equal gender representation. These bodies include:

- eLTER National Coordinators
- eLTER Interim Council
- Site and Platforms Coordinators Forum
- Site and Platform researchers and researchers participating in eLTER collaborative research projects, including students.



Figure 2: Organizational bodies in which eLTER RI can directly impact gender balance, and in which it can encourage gender balance indirectly.

¹ Subject to further discussion regarding the extent of eLTER RI authority within national contexts.

3.2. Parity in distribution of compensation, grants, prizes, and recognition

eLTER RI will promote parity in compensation of the staff and senior administrators working for eLTER. The eLTER ERIC, the legal entity to be created to coordinate and integrate the European eLTER RI, will assure parity in compensation of its staff, and will assure such parity by providing clear and transparent criteria for compensation, salary, bonuses, etc. of the ERIC staff. eLTER ERIC will be an example and benchmark for the wider eLTER community, can set recommendations, ambition, and policies. Compensation to staff will be reviewed by the Assembly of eLTER ERIC members on an annual basis according to the agreed budget of the ERIC.

eLTER RI has adopted the use of monetary support tools to increase the international use of its research infrastructure and data in the form of trans-national, virtual, and remote-access grants. The individuals responsible for the distribution of these funds (eLTER PLUS WP 7.1, 7.2) must, within a year, adopt a clear set of transparent criteria with which to evaluate the proposals and award the grants, including the ways in which they will assure to increase the representativeness of female scientists in grant disbursement. This may include specially earmarked grants to encourage and advance the careers of young female scientists and to encourage female applicants when there are disparities. Likewise, the project evaluator team will reflect gender balance to the greatest extent possible. Explicit commitment to gender equity in access is noted in the eLTER PPP and the RI formalisation process, where these requirements are embedded in the eLTER operational phase policies.

eLTER RI organizes and sponsors several regional and international conferences and workshops each year. Organizers will be responsible for encouraging the selection of female keynote speakers, panel participants, and session heads, and strive for overall parity in gender representation. Likewise, for training events, efforts will be taken to assure that workshop organizers and participants reflect the desired target gender balance of no greater disparity than 60–40% representation. Special attention will also be given to unbiased communication materials (e.g. website, flyers, newsletters, and other communication tools).

3.3. Concrete steps towards addressing systemic gender bias internal and external to eLTER RI

As noted above and in Figure 1, eLTER RI functions within the broader scientific research community. In its effort to achieve gender equality and equity, it must also contend with systemic discrimination that impacts female representation in the natural sciences and their promotion in academia and the scientific research community. It is well documented that females are less represented in science, technology, engineering, and math (STEM) disciplines, and therefore reasonable to assume that recruiting women in the same proportions as men to eLTER RI, which is heavily dependent on these disciplines, would be challenging. As such, eLTER RI recognizes the need to take proactive steps to (1) recruit female scientists to its ranks, (2) educate its community regarding the ubiquitousness of gender bias and its impact, and (3) prepare female scientists for the challenges they may face in the broader community. One evidence-based study (Stewart et al. 2016) cites four specific steps academic institutions have used to help close the gap in gender representation in STEM departments. They include recognition of the problem, strong leadership on the issue of closing gender discrepancies, "change-enabling" features (such as the synergistic impact of additional hiring of female staff), and active pursuit (i.e., recruitment) of diversity. eLTER will actively integrate each of these proven strategies.

3.3.1. Administrative steps

- **Public statement**: eLTER RI's commitment to non-discrimination and for the promotion of underrepresented groups will appear on all official documentation and its website. We will seek an endorsement for this from the eLTER Interim Council, (and later from the Assembly of Members of the ERIC legal entity).
- Setting a public example: Promotion of women in science through positive role models in senior positions With the entry of eLTER RI to the ESFRI roadmap, two women were appointed to senior positions directing the eLTER PPP and eLTER PLUS projects. This is a positive development that should be further encouraged and will likely have synergistic impact on the standing of women throughout the RI and beyond. eLTER will continue to ensure gender equity in hiring for senior management positions and will explore the possibility of implementing a collaborative, female-male team of administrators in the most senior position.
- Appointment of a gender and discrimination ombudsperson to address issues of perceived discrimination within the eLTER RI and to monitor the implementation of the Gender Equality Plan. This person will have responsibility to provide an annual report of reported incidences - if any - and an explanation regarding how they were resolved, along with reporting on gender representation within the RI and general implementation of the GEP.
- Ensuring that gender equality and mainstreaming perspectives are included in all the relevant policies that are being drafted in the PPP for the eLTER RI operational phase and eLTER ERIC.

3.3.2. Integrative policy measures

- **Strategic plan** (eLTER PPP D1.1) will include an explicit declaration of the RI's commitment to gender equality.
- Plan for Effective Governance and Management Structures will include protocol and criteria for equity in Gender representation (PPP WP2.1)
- Socio-economic impact reporting (eLTER PPP D1.4), which reflects eLTER RI progress towards meeting its stated objectives, will include indicators for monitoring progress on gender equality in the RI.
- Ethical guidelines (eLTER PPP D1.6) will expand upon the equality commitments made in this document to include a broader diversity of social, ethnic, national, and gender considerations.
- Plan for monitoring the performance of the eLTER (KPIs) (eLTER PPP D2.5) will
 include concrete Key Performance Indicator to monitor the performance of the RI in
 many respects, including aspects related to gender equality.
- **Human Resources Strategy** (eLTER PPP D2.7) will integrate the objectives expressed in the GEP into its directives for staff recruitment and assessment of human capital requirements of the RI.
- Access and service policy (eLTER PPP D3.4) will integrate gender equality requirements for the rewarding of access grants.
- User engagement strategy (eLTER PPP D7.6) will consider gender mainstreaming in assessing stakeholder and user communities and strategies to expand the attractiveness of RI products and services to all genders. This includes, though is not limited to, equal gender representation in advertising and promotional materials. The same considerations will be included in evaluation of communication activities (D7.7).

3.3.3. Awareness raising

 eLTER RI will, starting in 2022, organize an annual online seminar celebrating women in science in honor of the UN sponsored "Women and Girls in Science Day" (11 February). This event will feature the work of prominent female scientists in and out of the eLTER RI.

- eLTER RI will hold one training session per year addressing bias and discrimination in science (regarding all underrepresented groups), to be facilitated by an expert in the field. This session will be mandatory for all senior eLTER administrators and senior researchers in eLTER collaborative projects (e.g., work package leaders in EU sponsored research).
- In all eLTER RI training activities, participants will be provided also with training in transversal skills and competences, which include e.g., intercultural understanding, social and communication skills, and increasing awareness and actions required in gender mainstreaming and promoting equal opportunities in general.

4. Timeline for implementation

Spring 2021

- Gender Equality Plan submitted as a PPP deliverable and presented to the eLTER RI community at the semi-annual "VENUS" combined meeting of eLTER PPP and eLTER PLUS scientists and beneficiaries.
- Ombudsperson appointed who will be responsible for the implementation of the Gender Equity Plan operational steps.
- Publication of gender equality commitment on the eLTER RI website with a link to the GEP, and inclusion of commitment in the eLTER RI strategic plan.
- All relevant WP leads from PPP contacted regarding responsibilities for implementation of GEP (see section 3.3.2).

• Fall 2021 and annually thereafter

- Request for endorsement of GEP the eLTER Interim Council (later from the Assembly of Members of the ERIC legal entity)
- Training program for addressing bias and discrimination in science as described above.

• Winter 2021-22 and annually thereafter

 Annual online seminar highlighting women in science (planned for 11 February, as described above).

Spring 2022 and annually thereafter

 Report of the ombudsperson for gender equality in eLTER RI to the eLTER PPP and eLTER PLUS steering committee (and later to the Assembly of eLTER ERIC members) recapping past year's efforts and progress and presenting action items for achieving the objectives of the GEP for the coming year.

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Appendix

From the eLTER RI PPP proposal:

1.3.5 Gender and diversity

eLTER PPP will be inclusive and foster the potential of all genders and diverse individuals and is fully committed to a balanced participation and gender equality in all aspects of the project, including through a balanced representation of genders in management, research, dialogue, dissemination and outreach activities as well as in WP/Task leadership. Historically, women

were underrepresented in the natural science community, from which the project draws the majority of its members. To address this, eLTER PPP promotes the active engagement of women in both the development and delivery of the project. As a result, the project not only involves a significant number of female beneficiary representatives, but, importantly, four of the eight Work Packages are led by females. Also, the eLTER flagship project 2008-2012 (EnvEurope/LIFEplus) had a female coordinator and the in eLTER Advanced Communities (INFRAIA) project consortium is led by a woman (eLTER PLUS).

Equality and gender balance will be further tackled in the PPP and eLTER ESFRI process, and it will be actively promoted via the eLTER PPP leaders and eLTER community. In the beginning of the project, we will make a more thorough gender analysis and adopt the GEAR tool (Gender Equality in Academia and Research) in order to improve the representation of females in the community. The human resources strategy for the future RI (WP 2) will apply an inclusive, integrated approach and will implement actions to meet equality and gender-balanced employment targets. With the positive trend towards full gender balance in eLTER, the context of eLTER activities (in planning, construction and in operations) will include balanced gender perspectives.

Task 1.5 Ethics, incl. improving gender balance

Lead: IIT; Participants: BGU, CNR, CNRS, CSIC, UFZ

Task 1.5 will establish ethical guidelines and rules of conduct for the RI (D1.6). This includes three primary foci: diversity of RI staff, research ethical guidelines, and environmental performance. The WP will assess and develop criteria for the maintenance of diversity in representation within the network, including gender balance.

It will also adopt research and performance standards based on EU ethical guidelines for research and develop a mechanism to assure compliance within the RI. The Task will establish a Gender Equality Plan for eLTER RI (D1.7) containing concrete measures for improving the gender balance in eLTER RI. In recognition of our own role as drivers of environmental challenges, WP1 will also introduce standards for environmental behaviour. In this ethical performance we will also include private-sector relationships. This Task will set the basis for the Ethical Advisory Board in close collaboration with the governance WP2 and the shareholders.