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Gender Equality and Diversity Report

Rev-A

30.09.2025

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1. EXPLANATION OF THE WORK CARRIED OUT AND OVERVIEW OF THE PROGRESS

1.1 Objectives

One of the key objectives of the project is to promote gender equality by taking concrete actions across all activities and to foster greater awareness of this issue both within the host university and among partner institutions.

The roles of Gender Equality Coordinator have been listed as below in DoA:

- Oversee the selection process of existing ESRs to ensure that it is aligned with the diversity mission of the project
- Gather information on gender composition, participation, and experiences within the project; have on-site visits during workshops for observation via receiving assistance from the counterparts in POLITO, LSBU and UBAH.
- View collected data to identify trends and disparities related to gender equality within the project.
- Organize trainings, awareness sessions and get support from NGOs to develop strategies to improve gender equality
- Provide regular reports to project partners highlighting recommended actions, share ideas and open the issues on gender equality in manufacturing, robotics and academia domains to promote discussion and raise awareness within the consortium

The project has made strong progress toward its gender equality objectives by meeting outreach and reporting targets, increasing awareness across different groups, and initiating institutional change.

- Gender Equality Coordinator has participated in ESR selection processes. Female ESR participation initially met the 50% target (2/4) but dropped after one ESR left. Future selection will prioritize women to restore balance.
- Gender distribution data for students and faculty was gathered and presented at the Workshop on Components. Partner institutions agreed to provide their own data next year.
- Data analysis at IZTECH revealed clear disparities, highlighting the most critical departments where targeted actions are needed to improve gender equality. This led to the Vice-Rector’s request to establish a university-wide working group to publish the data online and develop an institutional action plan to improve gender equality at IZTECH.
- Seminars and outreach activities effectively engaged students and raised awareness. Survey results confirmed a strong impact, with many students reporting increased motivation to pursue engineering careers.

1.1.1 Summary of progress towards the achievement of the objectives

- Achieved strong progress in awareness and outreach through seminars and school engagement, motivating students, especially young women to pursue engineering.

- Collected and analyzed gender distribution data at IZTECH, identifying critical disparities such as underrepresentation of women in engineering and at senior academic ranks.
- Decision taken to establish a DEI Office at IZTECH, ensuring long-term institutional change.
- Gender distribution data were presented at the Workshop on Components (Sept 2025), prompting the Vice-Rector to request to publish the data and develop an action plan.
- Main shortfall: sustaining 50% female ESR participation, which will be addressed through priority selection of female candidates.

1.2 Explanation of the work carried out

1.2.1 Events

1.2.1.1. Seminar

The Gender Equality Coordinator participated as a speaker in a seminar entitled “Engineering and Gender Equality”, held at the IZTECH Performance Center on December 27, 2024. The event was organized by the Social Responsibility Projects Coordinatorship within the framework of the European Commission’s Human Resources Strategy for Researchers (HRS4R). The aim of the seminar was to address persistent gender inequalities that contribute to discrimination in engineering fields and to promote greater awareness of these issues among the academic community.

The seminar featured three invited speakers: Dr. Funda Tıhmınlıoğlu from the Department of Chemical Engineering, Dr. Ceyda Öksel Karakuş from the Department of Bioengineering, and Dr. Benay Uzer from the Department of Mechanical Engineering, who also serves as the Project Gender Equality Coordinator. The session was moderated by Dr. Dikmen Yakalı, Advisor to the President of IZTECH and also serves as Social Responsibility Projects Coordinator. Through presentations and discussions, the seminar highlighted the barriers faced by women in engineering, showcased role models, and encouraged dialogue on strategies to advance equality in academic and professional settings.

Figure 1. Photos from the "Engineering and Gender Equality" Seminar.

1.2.1.2. Seminar

As part of the IEEE STAR program, Dr. Benay Uzer delivered a seminar to high school students with the aim of raising awareness about engineering and addressing gender disparity in STEM fields. In her talk, Dr. Uzer introduced the field of Mechanical Engineering, covering a wide range of topics from university education pathways to career opportunities in industry. She also engaged the students in interactive discussions, asking questions to better understand their perceptions of gender roles in engineering and to encourage critical reflection on these issues.

The IEEE STAR Project (Students–Teachers and Research Engineers/Scientists), implemented at IZTECH by the Women in Engineering (WIE) student branch, is designed to inspire and support female middle and high school students in pursuing STEM education. Its objectives include motivating students to study engineering, providing practical insights into scientific and technical disciplines, and contributing to their personal development. Conducted one-on-one with IEEE volunteers, the project offers mentoring, knowledge-sharing, and consulting opportunities for participants. Within the scope of IZTECH STAR 2025, the target audience was local high school students, who benefited from direct interaction with female engineers and role models.

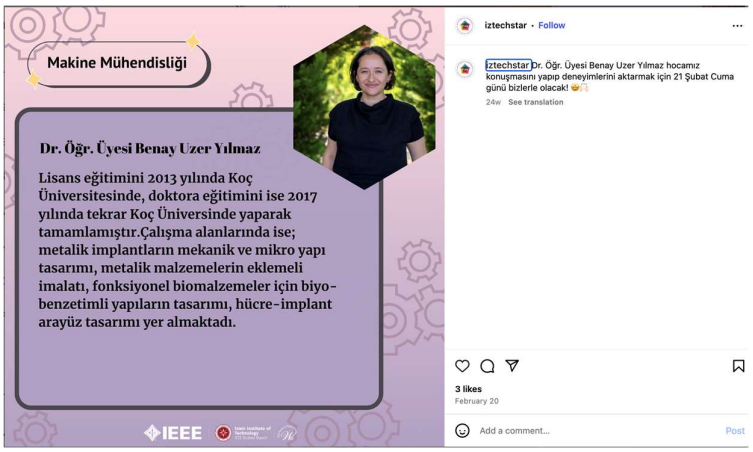


Figure 2. Announcement of the talk on social media.

Figure 3. Photos from IZTECH STAR 2025 event.

1.2.1.3. Signing the Protocol

A cooperation protocol has been signed between IZTECH and the Science Heroes Association. The protocol aims to raise scientific awareness and develop projects that will contribute to the development of young scientists.

(https://toplumsal.iyte.edu.tr/haber/iyte-ile-bilim-kahramanlari-dernegi-arasinda-is-birligi-protokolu/)

The Science Heroes Association carries out activities to promote and disseminate science, scientific thinking, and scientific awareness across all segments of society, and to ensure that children and young people are introduced to science at an early age. The NGO organizes LEGO tournaments and Robotics Olympiads in Turkey for various age groups.

Figure 4. Picture showing President of IZTECH and Director of Science Heroes Association signing the protocol.

Figure 5. From left to right: General Secretary of Science Heroes Association Aslı Yurtsever, Advisor of President Dr. Dikmen Yakalı, IZTECH President Dr. Yusuf Baran, Director of Science Heroes Association Dr. Semahat Demir and Project Gender Equality Coordinator Dr. Benay Uzer.

1.2.1.4. Science Will Win with Young People Project

An outreach activity was organized in collaboration with Science Heroes Associations within the scope of "Science Will Win with Young People Project".

Science Will Win with Young People Project

The Science Will Win with Young People project, launched by the Science Heroes Association in December 2021 with support from Pfizer Turkey, aims to connect high school students aged 14-18 with scientists. The project's science events allow high school students to engage in hands-on activities with scientists both online and in person.

Figure 6. https://www.instagram.com/p/DKPbTWBtj-o/

Twenty-two high school students from Izmir region were invited to IZTECH. Initially Dr. Can Dede gave a welcoming speech and then Dr. Büşra Karaş presented the TWIN-IT-ROMANS project. Dr. Benay Uzer talked about the statistics of gender imbalance in mechanical engineering and other engineering fields. After this introduction, students visited 3 different laboratories in parallel sessions. These laboratories were Advanced Manufacturing, Material Characterization and Robotics.

Figure 7. Photo from Material Characterization Laboratory. PhD Student İrem Türkpençesi explains about her research studies.

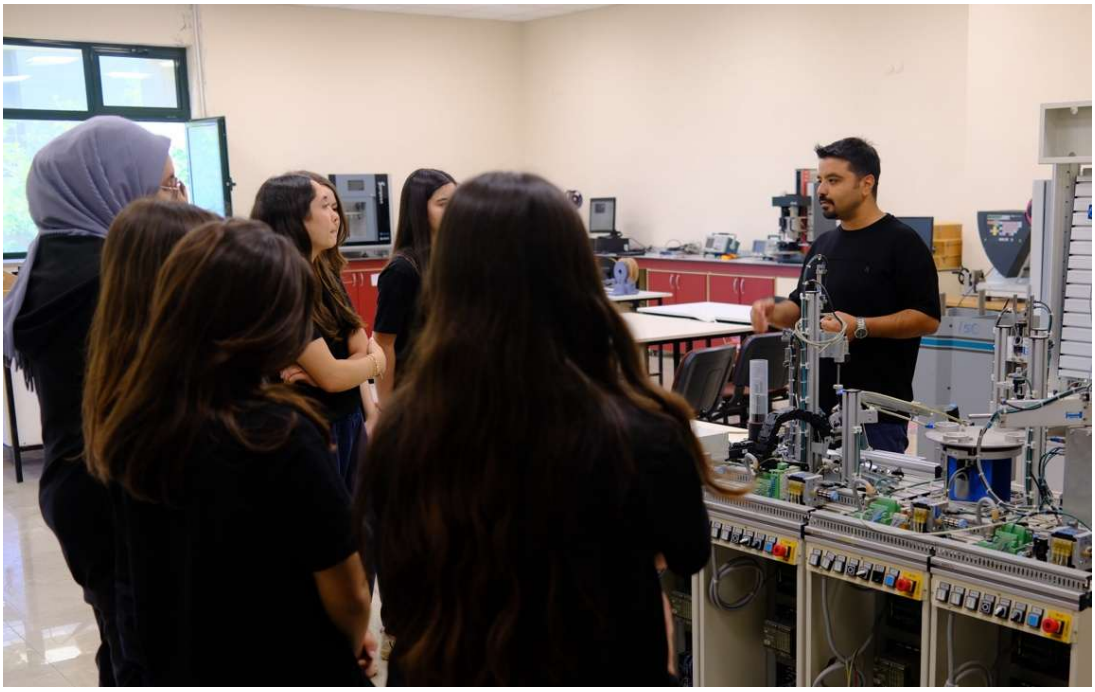


Figure 8. Photo from Advanced Manufacturing Laboratory. Dr. Halil Tetik is explaining his research studies.

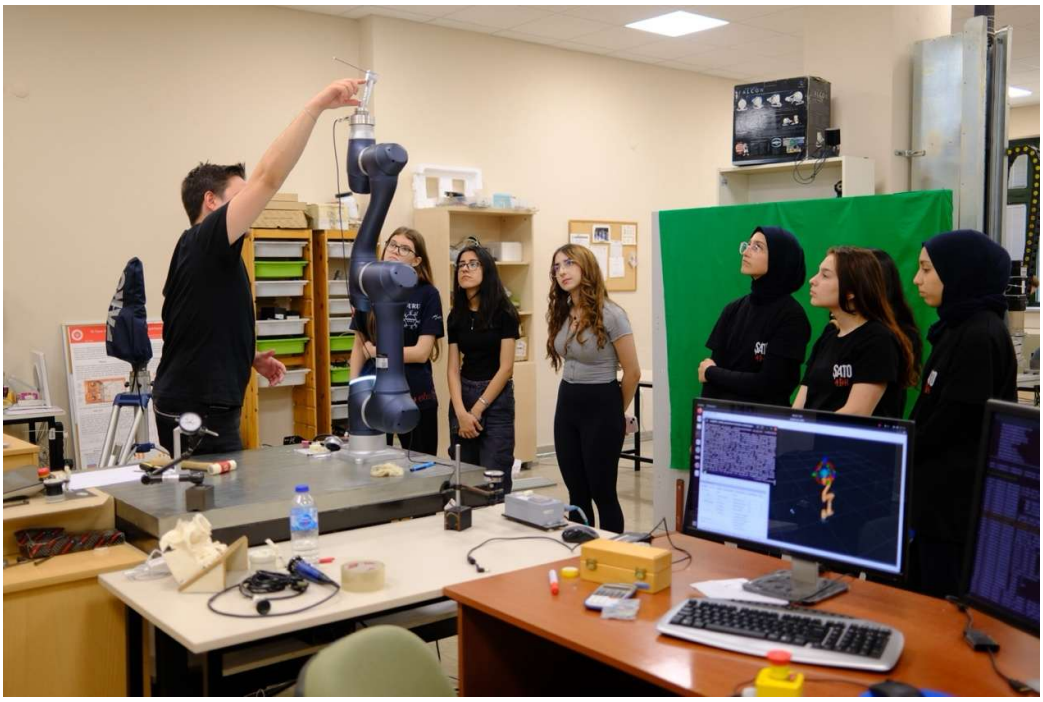


Figure 9. Photo from Robotics Laboratory. Master student Çağatay Öztürk demonstration his research.

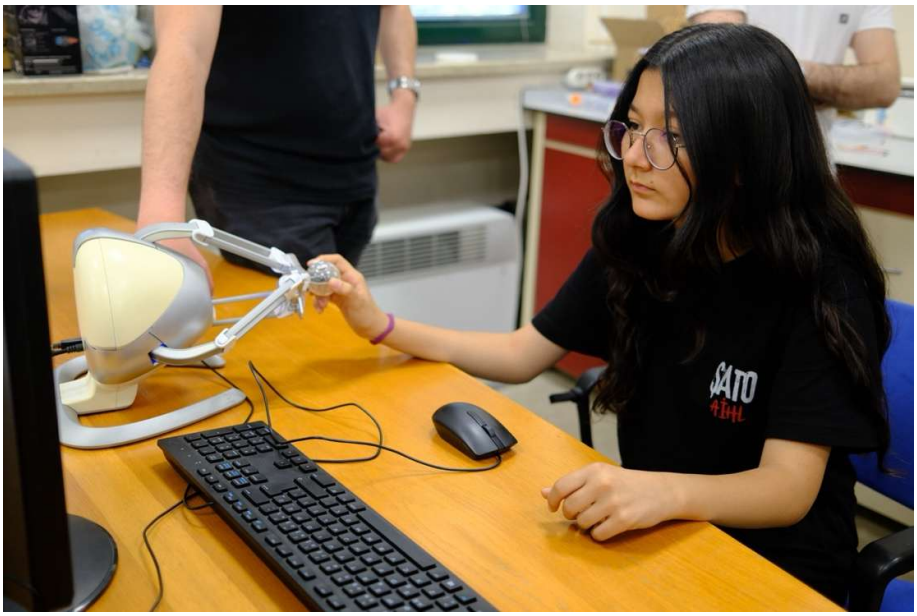


Figure 10. Photo from Robotics Laboratory. One of the high school students testing the haptic device.

Figure 11. Photo taken at the end of the event in the Mechanical Engineering Department.

At the end of the event students were asked a survey 3 questions as listed below:

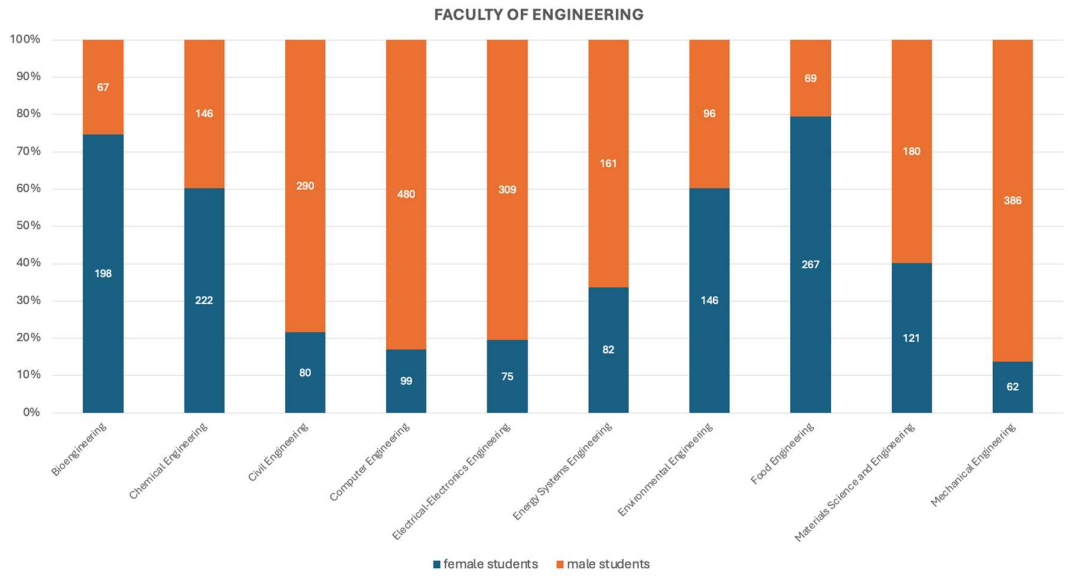
- What were your favorite parts of the events you attended?
- How has your perspective on science and engineering changed after today's event?
- What were your thoughts about the roles of women and men in science and engineering before attending the event? How have these thoughts changed afterward?

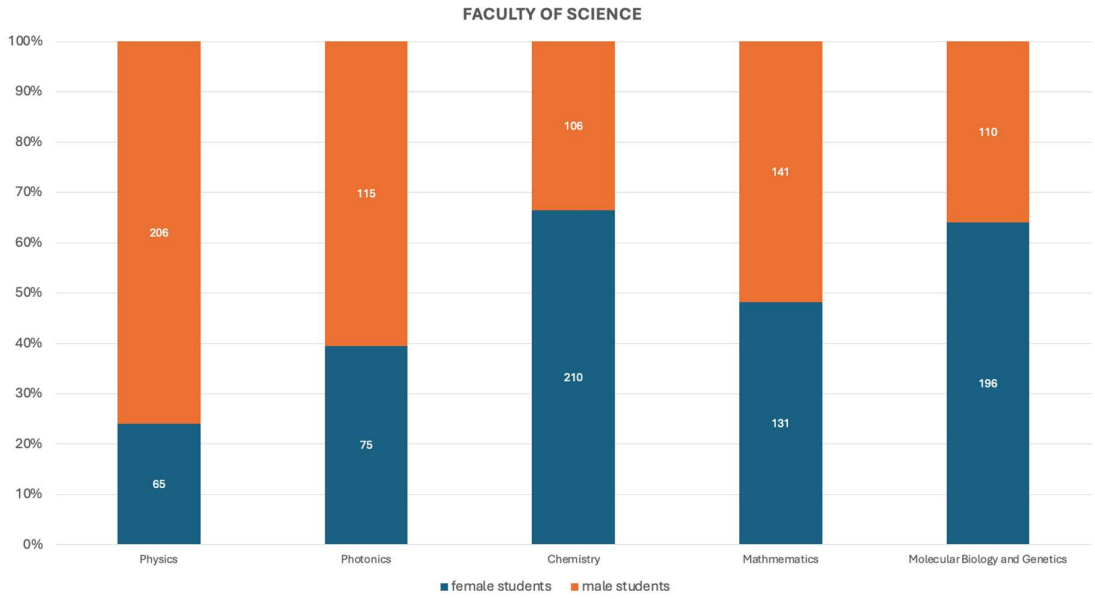
The survey results revealed that almost all students were unaware of the wide range of fields within Mechanical Engineering. Many expressed interests in pursuing a career in engineering after the event. Students also noted that they had not expected to meet so many female engineers and reported feeling motivated and empowered by the experience.

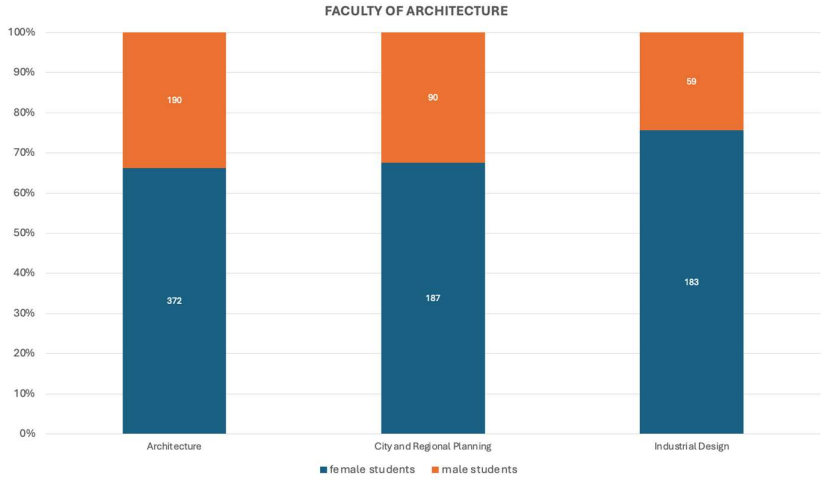
1.2.3.5. Data Collection on Gender Distribution of Students and Faculty

Data on the gender distribution of students and faculty were collected from Student Affairs and Personnel Affairs and presented at the Workshop on Components held at İzmir Institute of Technology on September 15th, 2025. Following this presentation, Dr. Cem Çelebi, Vice-Rector of IZTECH, requested Dr. Uzer to establish a working group to publish these data online and to prepare an institutional action plan aimed at improving gender equality at IZTECH.

STUDENTS

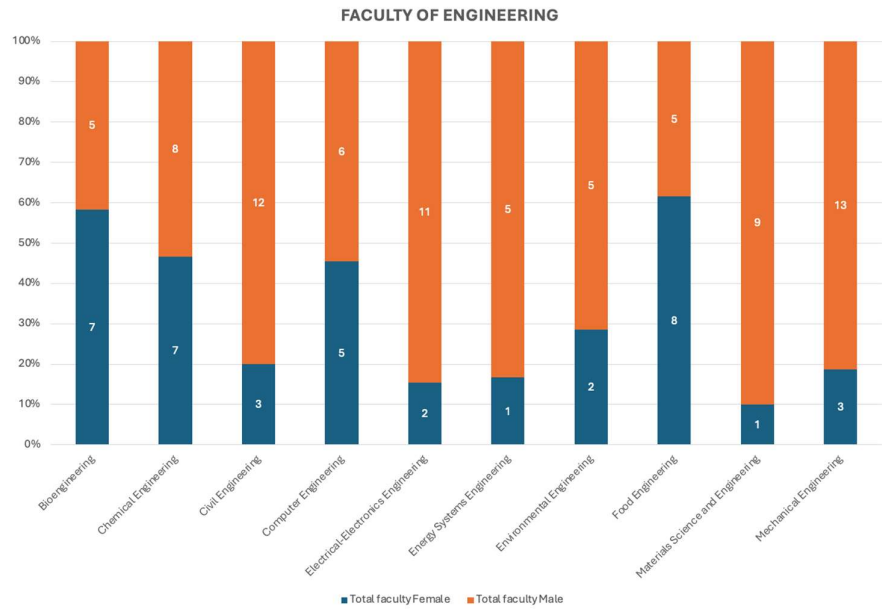






ACADEMICS

FACULTY OF ENGINEERING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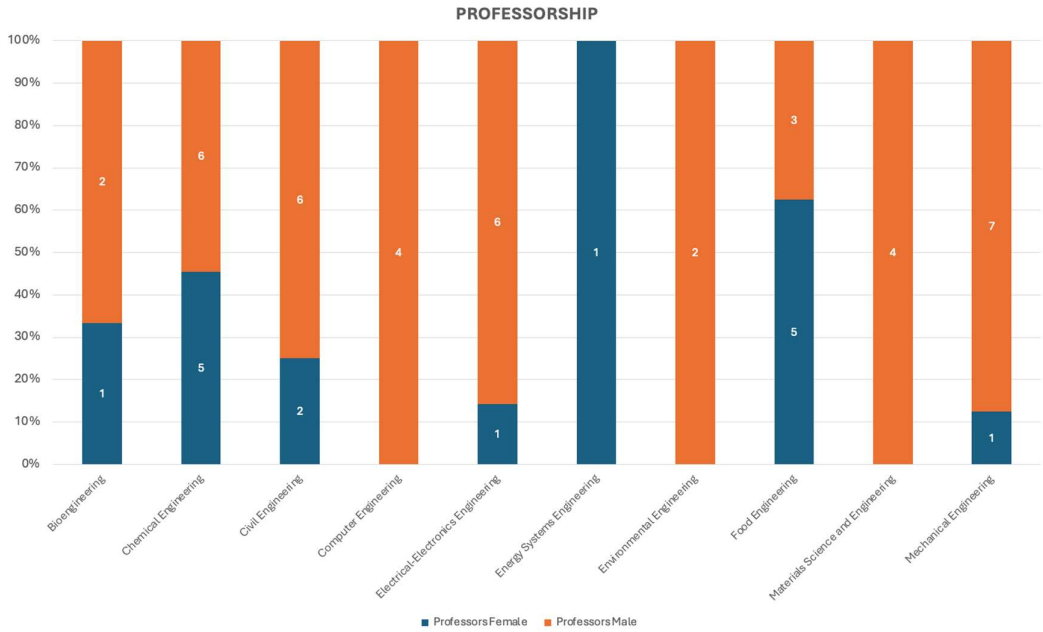
Bioengineering
Chemical Engineering
Civil Engineering
Computer Engineering
Electrical-Electronics Engineering
Energy Systems Engineering
Environmental Engineering
Food Engineering
Materials Science and Engineering
Mechanical Engineering
Total faculty Female
Total faculty Male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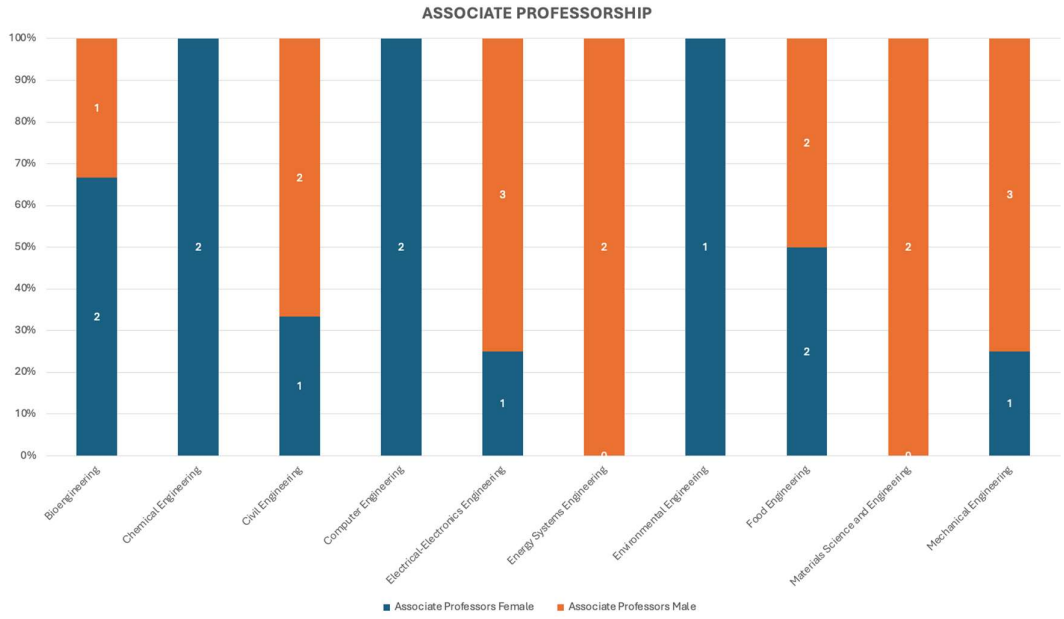
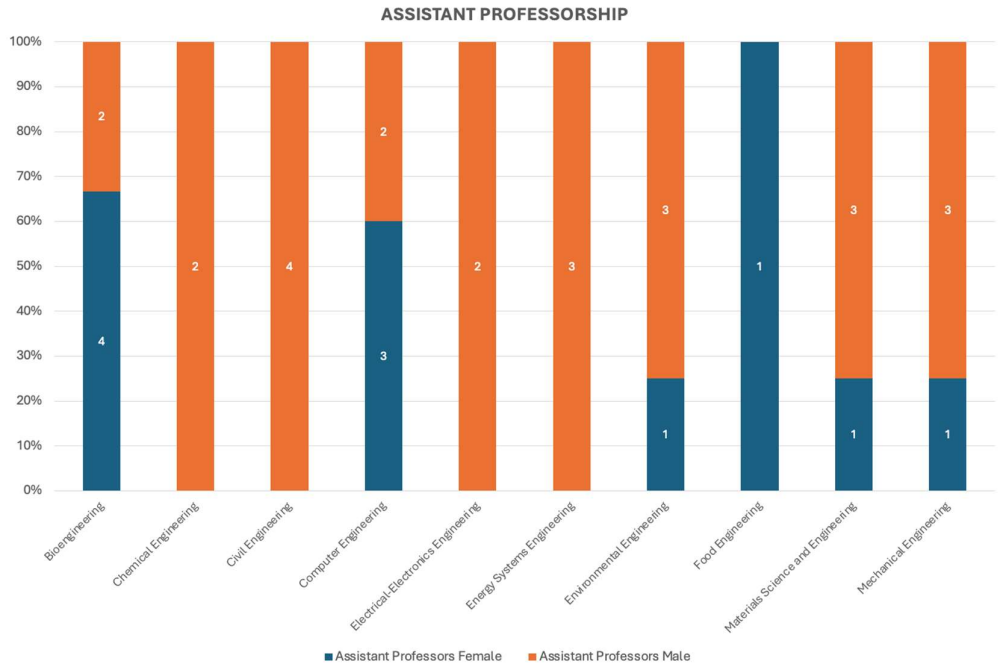
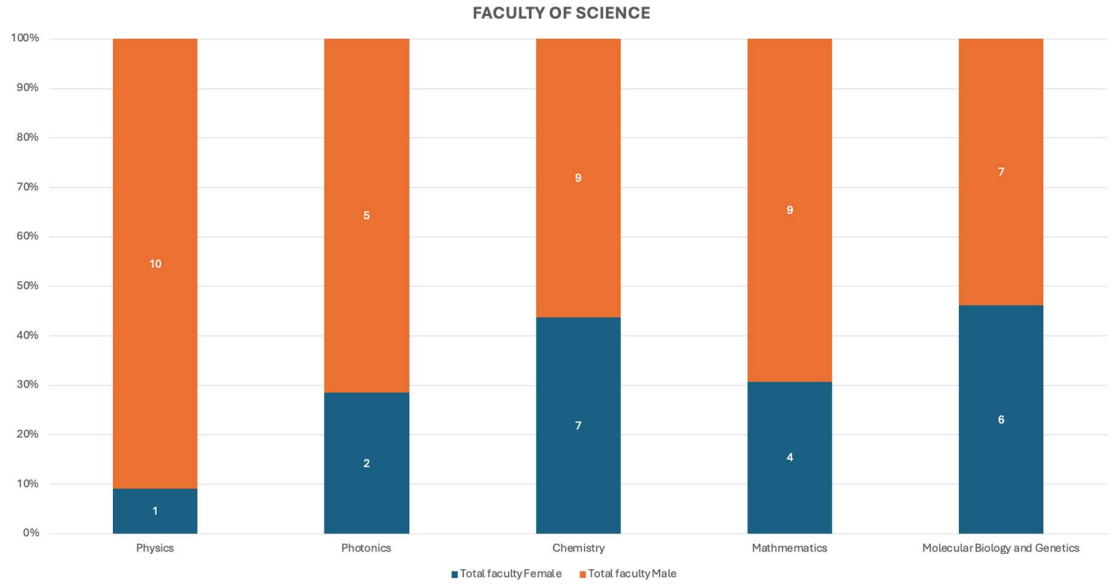
Energy Systems Engineering
Environmental Engineering
Food Engineering
Materials Science and Engineering
Mechanical Engineering
Professors Female
Professors Male





FACULTY OF SCIENCE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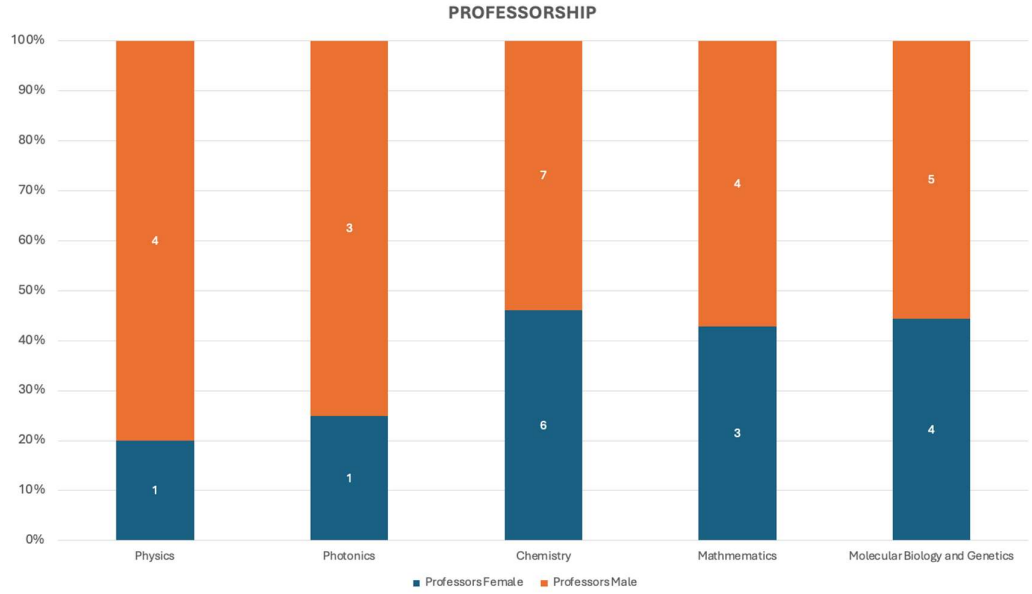
Physics
Photonics
Chemistry
Mathmematics
Molecular Biology and Genetics
Total faculty Female
Total faculty Male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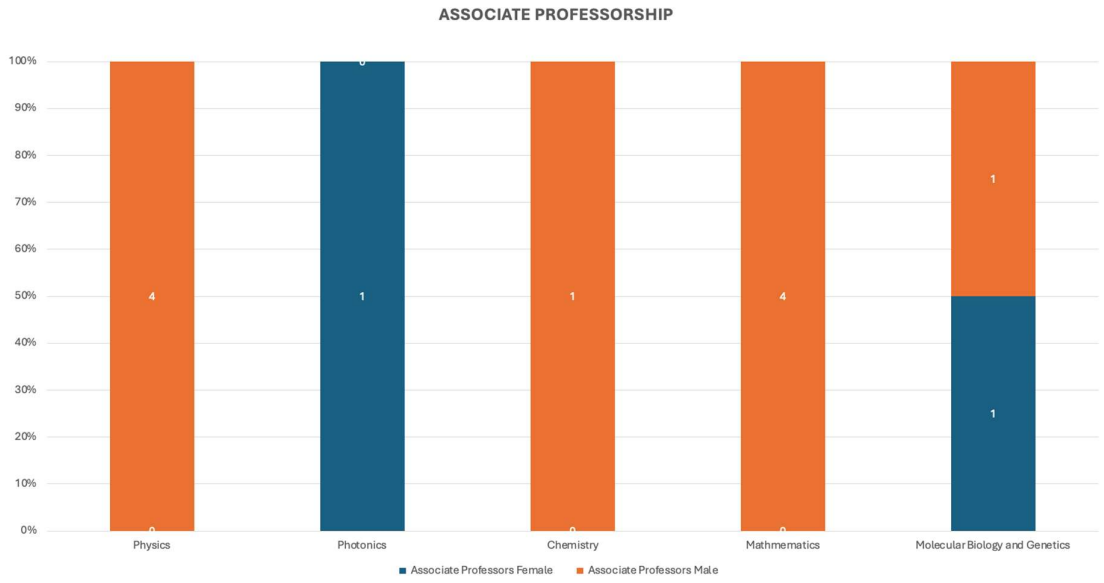
Chemistry
Mathmematics
Molecular Biology and Genetics
Professors Female
Professors Male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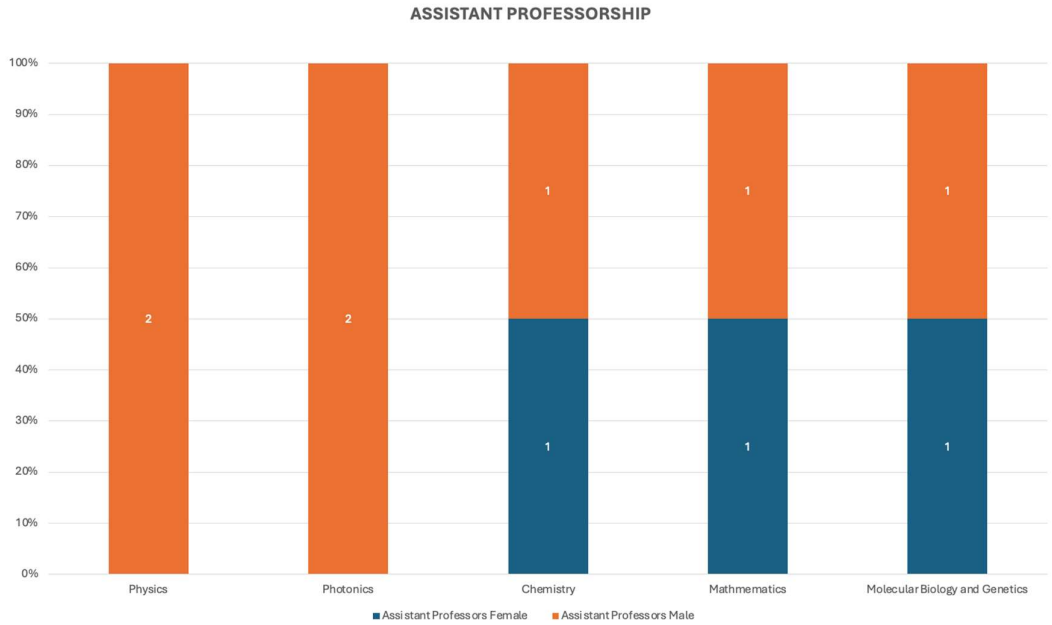
Chemistry
Mathmematics
Molecular Biology and Genetics
Associate Professors Female
Associate Professors Male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Physics
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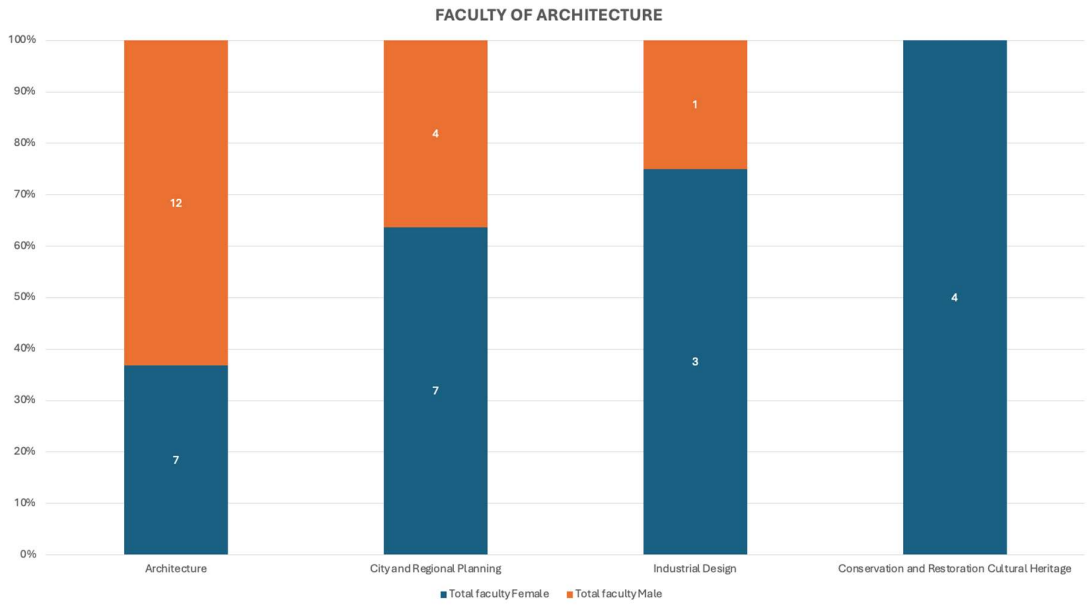
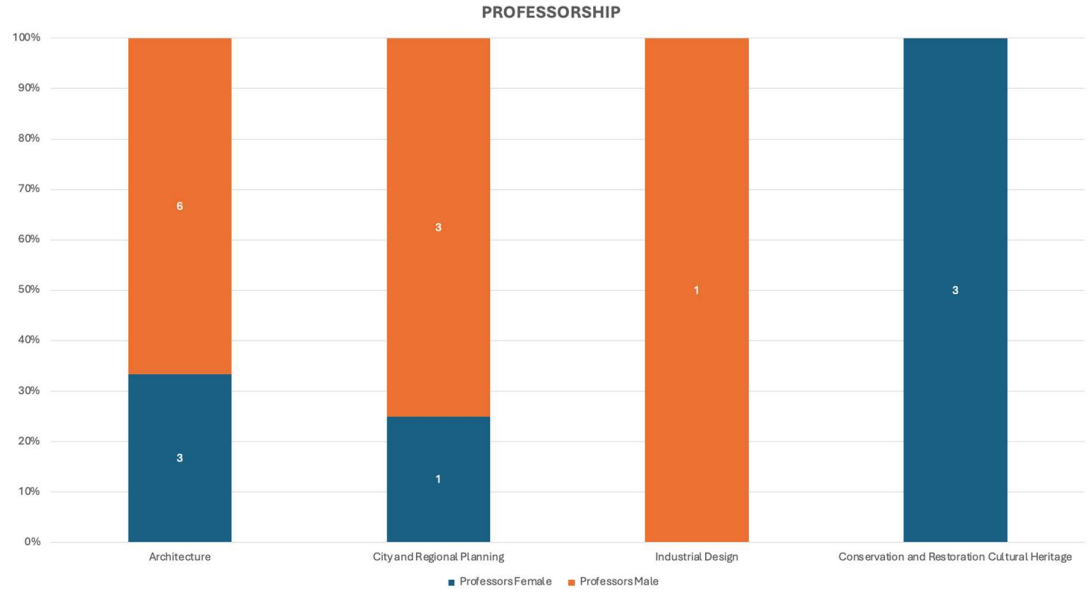
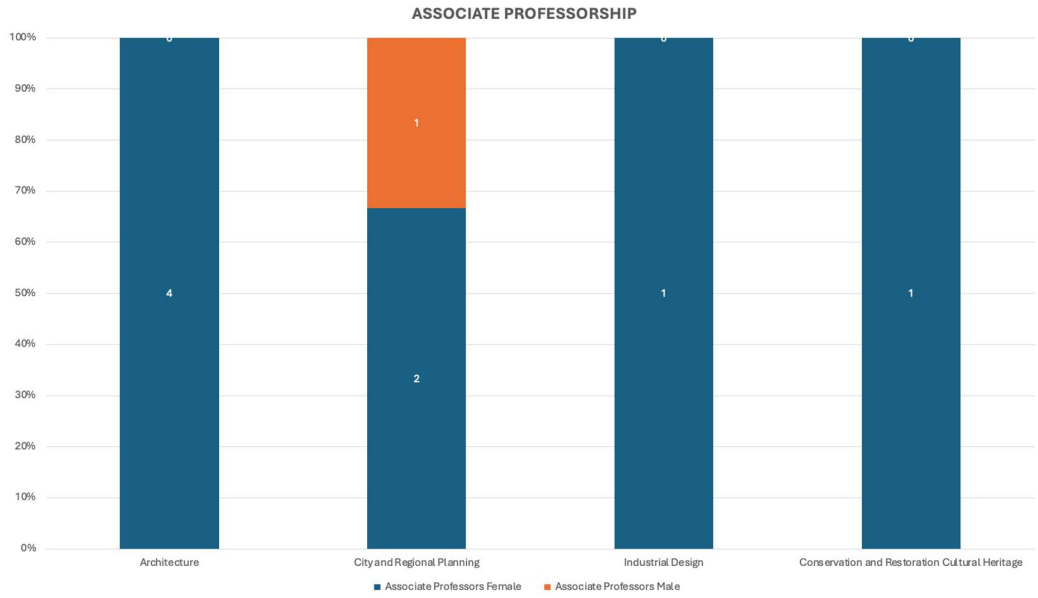
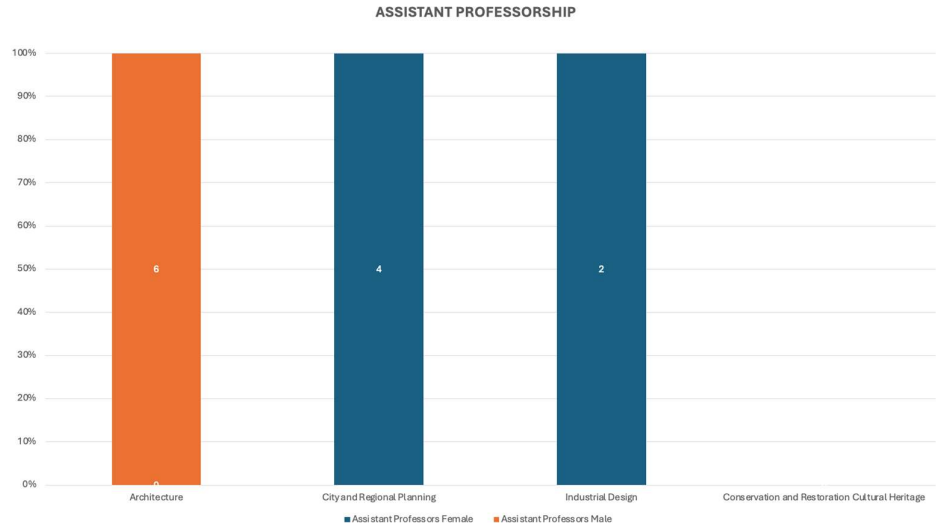
Molecular Biology and Genetics
Assistant Professors Female
Assistant Professors Male

FACULTY OF ARCHITECTURE









The results indicate that Faculty of Engineering stands out as the least gender equal in terms of faculty composition. Faculty of Science shows a moderate gender gap, with some departments achieving near balance at junior and senior levels. Faculty of Architecture has comparatively stronger female representation among academic staff. A critical observation is that female academics are underrepresented at the rank of Professor in some of the faculties. While women may be relatively better represented among assistant professors. Thus, representation diminishes as the academic rank increases. This indicates a “leaky pipeline” effect, where female academics face greater challenges in advancing to senior leadership positions.

1.2.1.7. Gender Equality Talk on Workshop on Sustainability

Dr. Arianna Montorsi, Director of the Gender Studies Center at Politecnico di Torino, delivered a talk on gender equality, drawing on examples from activities implemented at their university to raise awareness.

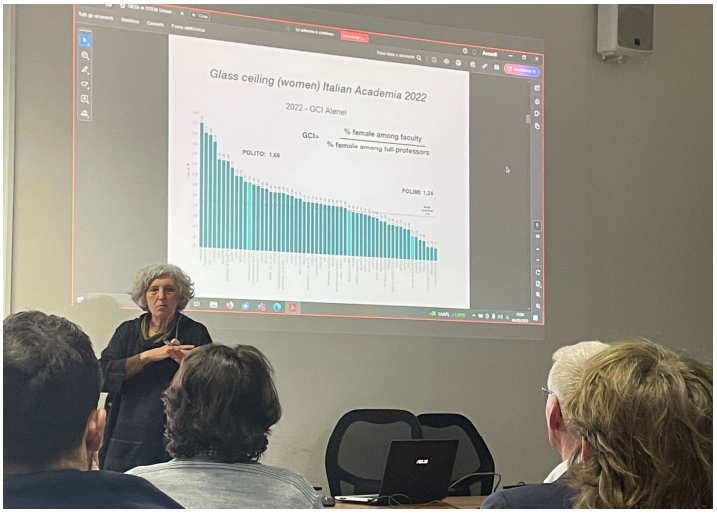


Figure 12. Photo of Dr. Arianna Montorsi explaining the glass ceiling phenomenon with data from Italian academia.

1.2.1.8. Interviews with ESRs

During the first year of the project, biannual interviews were conducted with the ESRs. Drawing upon the insights obtained from these interviews, the Gender Equality Coordinator communicated the key findings to the ESRs' supervisors and helped to initiate appropriate measures to address the challenges encountered by each ESR.

The questions of these interviews are listed below:

<u>Interview 1</u>

1. Could you please give some information about your academic background? What are the reasons you chose to participate in this project?
2. What are the objectives and goals of the project?
3. What are your main tasks and responsibilities in the project?
4. What are the biggest challenges you face while performing these tasks?
5. Are the resources or support you need to fulfill these tasks sufficient? Is there a need for additional support?
6. What has been the biggest problem you have encountered in the project so far? What kind of support could help solve this problem?
7. What aspects of the project concern you the most? How could they be resolved?
8. Is there any situation that makes your workload or time management difficult?
9. In terms of your contribution to the project, do you have any specific goals you aim to achieve during this period?

10. Do you have any suggestions or feedback regarding the management or operation of the project?

Interview 2

1. What progress have you made in the project during the first half?
2. What were the main challenges you faced while carrying out your assigned tasks?
3. Have you learned or developed any new skills during the project?
4. What goals have you set for the upcoming period?
5. What opportunities were provided to you by the university where you did your internship? (e.g., laboratory, mentorship, access, etc.)
6. At the institution where you interned, are your requests and questions being addressed? Are you receiving enough attention and guidance?
7. How do you evaluate the institution's contribution to your academic development?
8. What were the contributions of your internship experiences to the project?
9. Did you face any difficulties in adapting to the city and the university where you stayed?
10. Did you experience any problems or satisfactions regarding housing, transportation, or social environment? If you faced problems, were you able to get support?

1.2.2 Related KPIs

The target figures related to gender equality and diversity, were listed as follows:

Key Performance Indicators	Target value
Women researchers in IZTECH's project group	2
Percentage of women ESRs	2
Outreach activities	2

- There are currently two female researchers involved in the project, thereby meeting the target value.
- Between February and August 2025, there were two female ESRs involved in the project. However, one ESR transferred to another institution and consequently had to withdraw from the project. At present, there remains only one female ESR.
- In the first year of the project, three outreach activities were conducted, thereby fulfilling the target value. (Two outreach activities were conducted by Dr. Benay Uzer, and one outreach activity was conducted by Dr. Büşra Karaş, as documented in the Dissemination Report.)

1.3 Impact

- In the first year, the project significantly increased awareness of gender inequality in engineering and STEM fields through seminars, outreach to high schools, and collaborations with NGOs and associations.
- Students who participated in outreach events reported motivation to pursue engineering careers and felt empowered by the visibility of female engineers.

- Discussions with partner universities led to an agreement that gender distribution data will also be collected from partner institutions in the next phase, extending the project's influence beyond IZTECH.
- Inspired by examples from partners, a decision was made to establish a Diversity, Equity, and Inclusion (DEI) Office at IZTECH, marking a structural and long-term institutional impact.
- Gender distribution data for students and faculty revealed structural inequalities, especially in the Faculty of Engineering, where women remain underrepresented at professorship level (evidence of a "leaky pipeline"). These findings provided a concrete basis for developing new strategies and policies both within IZTECH and across partners.
- The project fulfilled its KPI commitments for outreach, seminars, and inclusion of women researchers, demonstrating measurable progress.

1.4 Update of the plan for gender equality and diversity

- Fruitful discussions with the partner institutions during the Workshop on Components, particularly regarding the gender distribution of students and faculty, encouraged partners to compare these figures with their own institutions. Consequently, in the second year of the project, gender distribution data will also be collected from the partner institutions.
- Examples of Diversity, Equity, and Inclusion (DEI) offices from partner universities were examined. The Gender Equality Coordinator shared these examples with the IZTECH Social Responsibility Projects Coordinator and it was decided that a similar office would be established at IZTECH.

2. FOLLOW-UP OF RECOMMENDATIONS AND COMMENTS FROM PREVIOUS REVIEW(S) (IF APPLICABLE)

N/A

3. DEVIATIONS FROM ANNEX 1 AND ANNEX 2 (IF APPLICABLE)

Between February and August 2025, there were two female ESRs involved in the project. However, one ESR transferred to another institution and consequently had to withdraw from the project. At present, there remains only one female ESR.

3.1 Tasks/objectives

Although the project aims to maintain 50% female ESRs throughout its duration, challenges have arisen due to staff departures and the limited pool of female engineers. In the selection of

a new ESR, priority will therefore be given to female candidates in order to sustain the target of 50% female representation.