

2nd Regional Webinar INWES Europe: Reimagining a STEM Research Culture

29 June 2022

Achievements from grassroots – where is the horizon?



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- *Treasurer of Greek Women's Engineering Association (EDEM)*

Greek Women's Engineering Association (EDEM)

www.edem-net.gr

- Established 1995
- Members: Qualified Greek Women Engineers
- Members ~1300 (active ~300)
- Women engineers in Greece ~25000

Greek Women Engineering Association (EDEM)

Aims

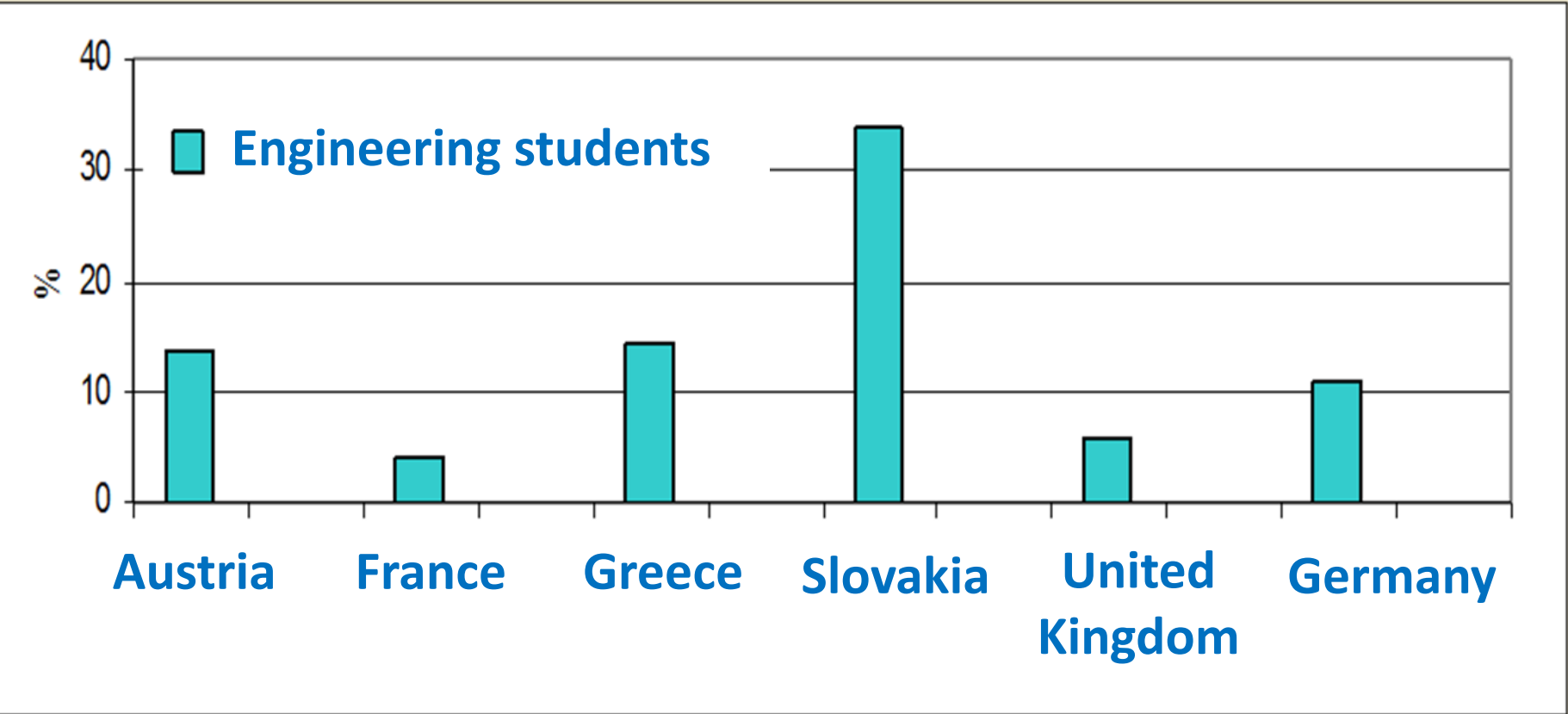
- Promote the principals and create provisions for equality between women and men in employment, education and society in general.
- Research into problems concerning women engineers and subsequently seek solutions.
- Co-operate with other organisations (both abroad and in Greece), which are involved in similar issues.
- Improve terms and conditions for women practising engineering as a profession.
- Encourage community awareness on employment opportunities for women and mainly of young women in the traditionally male dominated profession of engineering.
- Develop an information unit to support women engineers concerning employment opportunities in the labour market, according to specialised qualifications, training and their professional experience. Encourage and promote activities of women engineers beyond their professional sphere. These can include: artistic creation, cultural activities and improvement of quality of life in general.

Research: Greece – STEM Education Male/Female

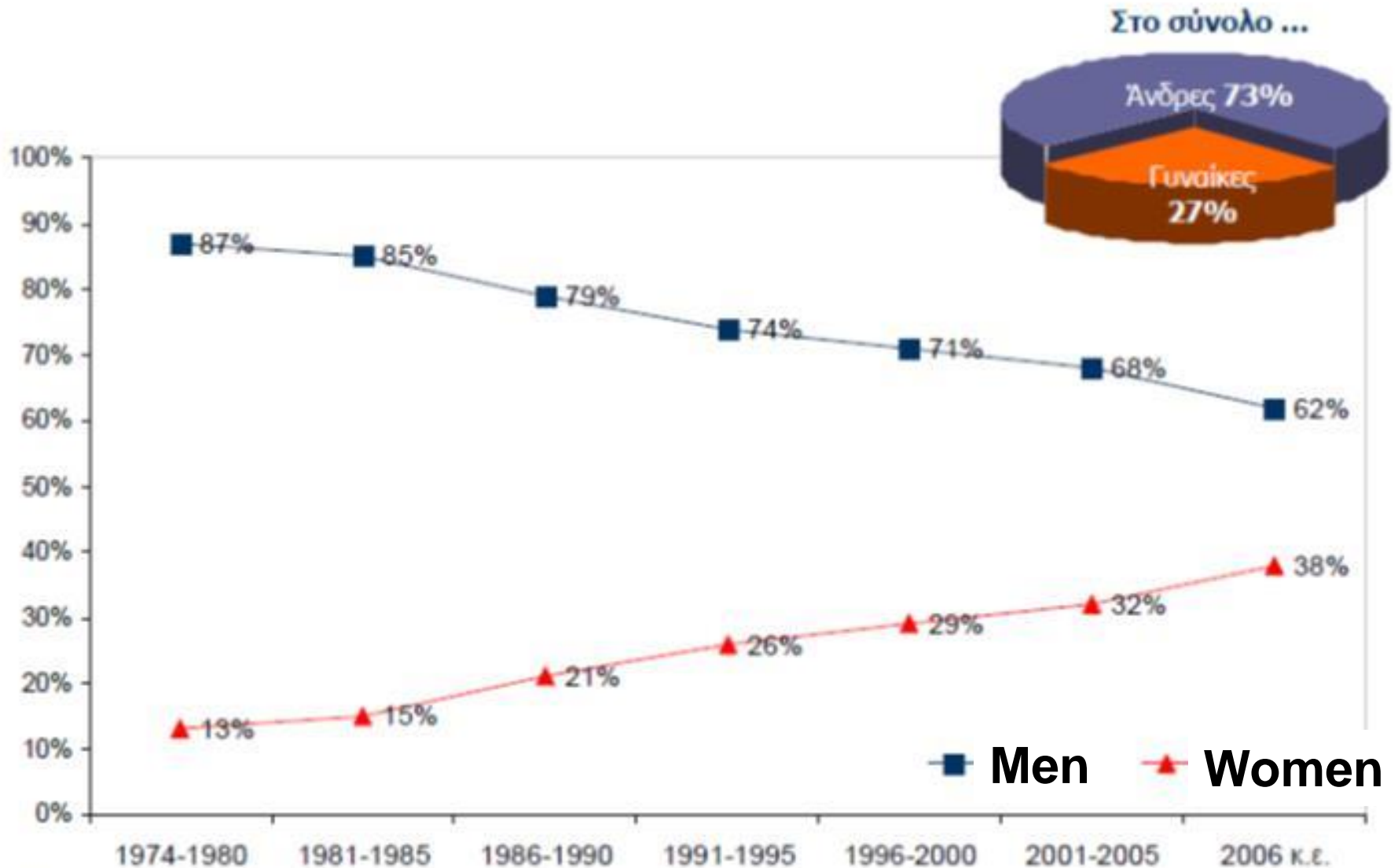
Female secondary education graduates : more than 50%.

Studies Categories (ISCED)	Total	Male	% Male	Female	% Female
Physics	3676	2316	63	1360	37
Chemistry & Geology	4900	1824	37	3076	63
Mathematics & Statistics	8468	4473	53	3995	47
ICT	7179	5522	77	1657	23
Engineering	39440	24779	63	14661	37
General Total in Higher Education	190962	81604	43	109358	57

Research: Greece – Engineering Studies



Greece: Women in Engineering



Greece: Women in Engineering

- **Female secondary education graduates** : more than **50%**.
- **Female students in Technical Universities** : **Average 38%**.
- **Architecture**: 80%, **Civil Engineering**: 50%, **Chemical Engineering**:60%, **Electrical & Computer Engineers**: 35%, **Mechanical Engineers**: 20%.
- **Low percentage of women in Councils, Committees, Board of Institutions, Government and Local authorities and in Business & Higher Administration .**
- **Few enterprises by women in STEM sector**
- **Few women in Academia although equal presentation in lower research positions**

Women, including migrant and refugee women, have to find adequate and dynamic jobs for personal and social development and accelerating innovation

Greece: level/subject of Education [OECD Statistics] (1)

- Among tertiary-educated 25-64 year-olds, **25% studied a STEM field**, and 25% arts and humanities, social sciences, journalism and information. Combined, these fields of study represent half of all tertiary educated people in Greece, 6 percentage points more than the OECD average.
- However, the employment rate for tertiary **STEM graduates is between 71% and 72%**, only marginally above the average of 70% for tertiary-educated adults overall in Greece. This is lower than the OECD average, which ranges from 83% for natural sciences, mathematics and statistics, to 88% for information and communication technologies.
- Graduates who studied **arts and humanities, social sciences, journalism** and information have the lowest employment prospects of all fields of study in Greece, with **an employment rate of 65%** compared to the OECD average 81%.

Greece: level/subject of Education [OECD Statistics] (2)

- Parent's educational attainment **does significantly affect** the likelihood of attaining a tertiary degree in Greece.
- The demanding entry exam to higher education created a flourishing **shadow education sector**, which left behind students from lower socio-economic backgrounds and unable to pay for additional tutoring.
- In Greece, **30% of 25-64 year-olds have attained tertiary** education compared to an OECD average of 37%.
- More specifically, 25% have attained a bachelor's or equivalent degree (OECD average, 16%), 3% have attained a master's or equivalent degree (OECD average, 12%) and 1% have attained a doctoral degree, equal to the OECD average.
- Tertiary attainment rates have increased among the younger generation, with **41% of 25-34 year-olds having attained this level.**

Greece: level/subject of Education [OECD Statistics] (3)

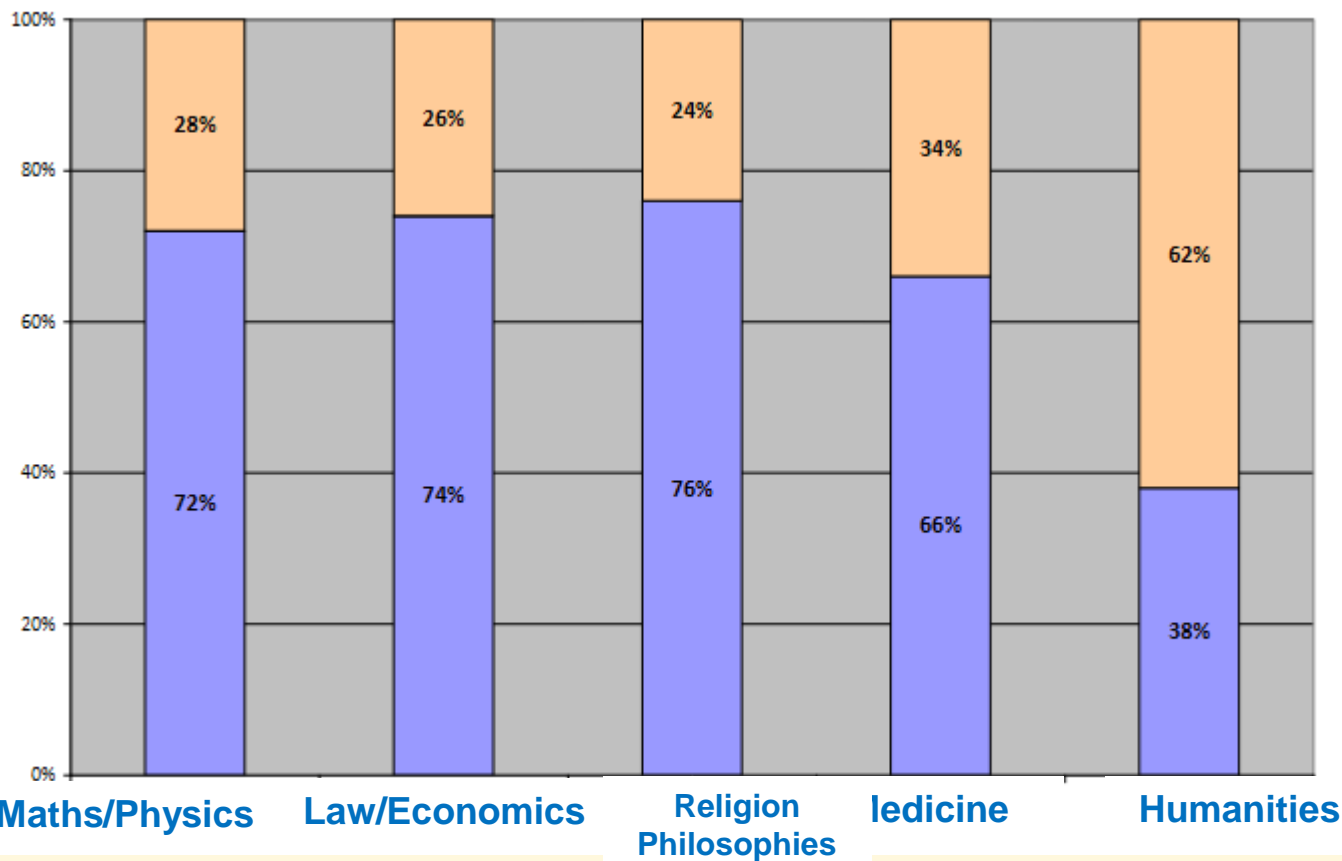
- Tertiary education improves labour-market prospects, although unemployment rates remain high. Employment rates in Greece increase with educational attainment and continue to increase with further levels of tertiary education.
- The **employment rate among adults with a post-secondary non-tertiary qualification in Greece is 61%**, rising to 69% for a bachelor's or equivalent degree, 82% for those with a master's or equivalent degree and 88% for adults with a doctoral or equivalent degree.
- However, employment rates in general have been decreasing steadily since 2005 at all levels of educational attainment. **Young adults with below upper secondary education have been hit the hardest, with a decline of 20 percentage points**, compared to a decline of 14 percentage points for adults with upper secondary education or 13 percentage points for those with tertiary education.

Greece: level/subject of Education [OECD Statistics] (4)

- In 2016, Greek tertiary-educated 25-34 year-olds faced an unemployment rate of 28%, the highest of all OECD countries, which averaged a 6.6% rate.
- **Tertiary-educated adults can expect to earn 39% more** than adults who achieved upper secondary education as their highest level. This is a lower premium than the average of 56% across OECD countries.
- These lower labour market outcomes compared to other countries have driven a number of educated young adults to leave the country: **427.000 of them have left Greece between 2008 and 2013, half of them young professionals.**

Greece: Women in Academia (1)

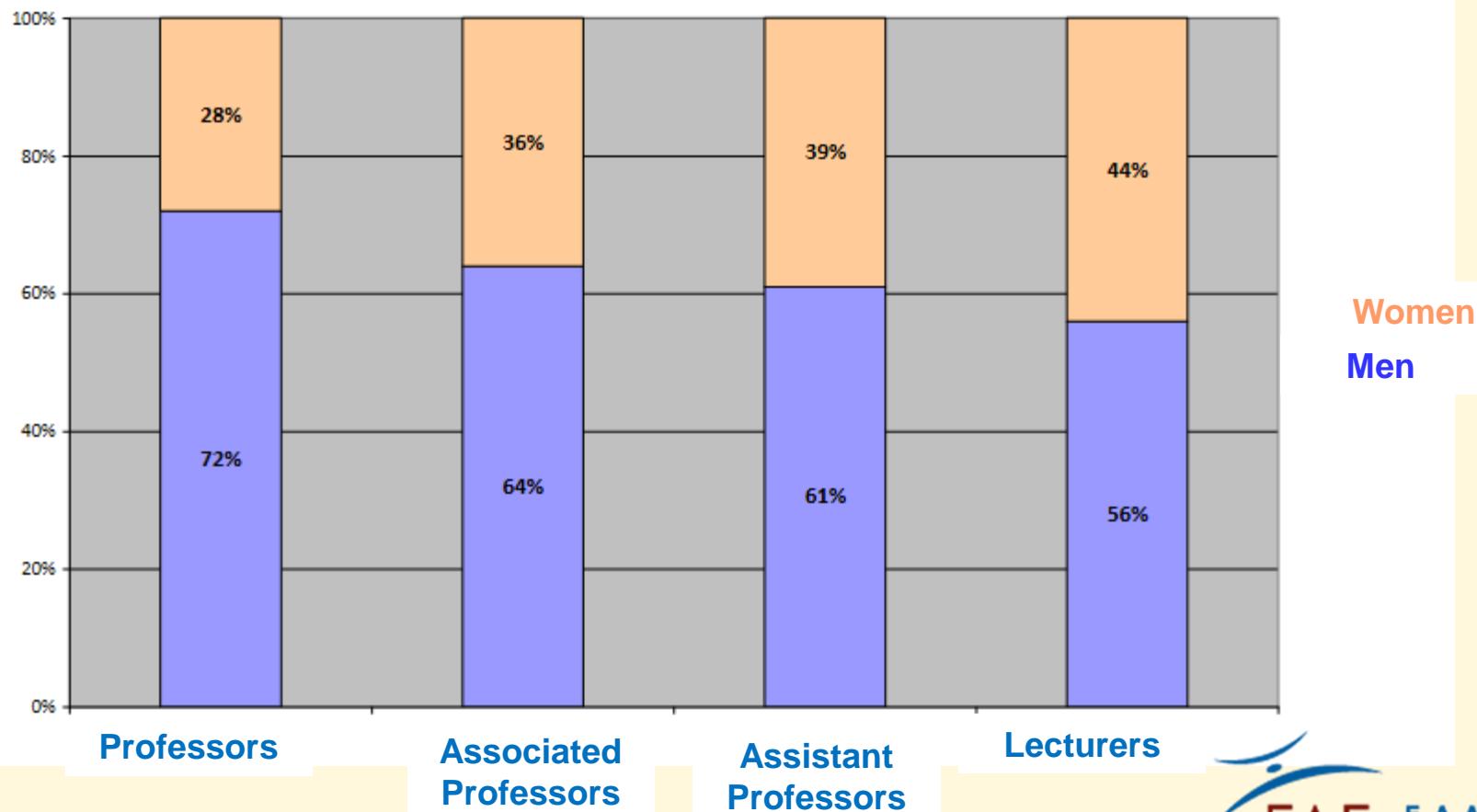
National & kapodistrian University of Athens



Women
Men

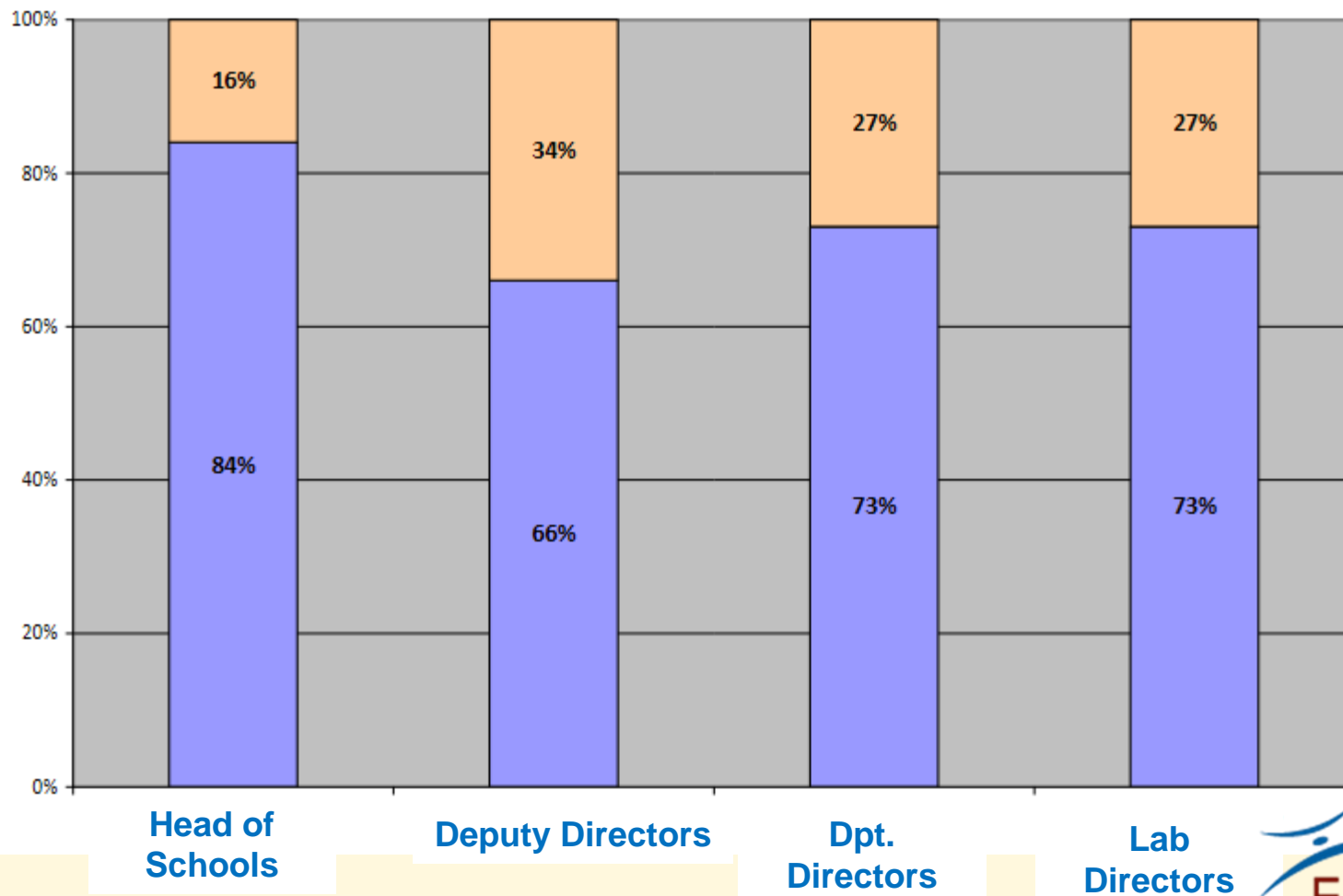
Greece: Women in Academia (2)

National & kapodistrian University of Athens



Greece: Women in Academia (3)

National & kapodistrian University of Athens



Women
Men



ΕΛ·Ε
ΓΥ·Π
ΕΛΛΗΝΙΚΗ
ΕΤΑΙΡΕΙΑ
ΓΥΝΑΙΚΩΝ
ΠΑΝΕΠΙΣΤΗΜΙΑΚΩΝ

Women in STEM: EDEM projects (1)

- **WIN –Women In Network** (1999-2001).
- **MELLOW** – LifeLongMentoring of Women in and/or towards technical jobs (2000-2001).
- **INDECS** (2001-2002).
- **ALTENER**, (2001-2002). Seminar for women engineers in Renewable Energy Sources.
- **WOMENG** ‘Creating cultures of success for women engineers’, (2002-2005). Publication ‘**Investigation of the causes for the low attraction of female students in engineering careers’ proceedings of 1st European Conference (VDI-Fib): ‘Gender and Diversity in Engineering and Science’, Dusseldorf, 2009.**
- **PREFACE** ‘Preparing Female Students for Academic Entrepreneurship’, (2003-2005).

Women in STEM: EDEM projects (2)

- **EQUAL- I** (2002-2005) & **EQUAL- II** (2005-2007).
- **Tackling Stereotypes** ‘Maximizing the potential of women in SET’, (2004-2006).
- **WOMENTOR -I** (2008) & **WOMENTOR-II**, (2009-10).
- **We: Mentor**, Women Educator in Mentoring (2010-12).
- **TYNET 50+**: 'How young technological women can do network with women 50+' (2012-14).
- **E4F**, Engineers for Future, (2015-18).
- **EUMentorSTEM** ‘Creation of a European e-platform of MENTORing and coaching for promoting migrant women in STEM’ (2017-19)
- **UpTextile** (Cyclic economy in textile), (2021-22).

Women in STEM: EDEM projects (3)

Special Initiatives of Gender Equality Secretariat (gov):

EDEM was chosen for funding (by Greece & EU):

- **Promotion of the scientific work of Women Engineers (2008):** Poster exhibition of representing works of 70 women engineers and publication of the album of the exhibition ‘Profession: Woman Engineer’.
- **Women declare their active role for the protection of the Environment – the Gender perspective on the Environment (2012-2014):** Women engineers discussed the gender perspective of the Environment and visit high schools promoting positive Engineering solutions for the environment (RES, energy saving, recycling, bioclimatic architecture etc)

Women in STEM: EDEM initiatives (1)

-Events fighting gender stereotypes & promoting Women in STEM:

‘First Greek Women Engineers’, 2000.

‘Promoting strategies for Women in technical sector & STEM’ 2006.

‘Fighting stereotypes in technical sector & STEM’, 2007.

‘When the Engineer is a woman’, 2009.

In ‘gender’ subjects the audience was very limited. Then we moved on engineering subjects, including women experts to present, which proved to be very successful attracting a large audience of engineers.

-Conferences on Engineering subjects:

Energy Conferences (RES & Saving Energy): 2009, 2011, 2013.

Energy & Environment Conferences : 2014, 2017

-Seminars:

Bioclimatic architecture

Energy saving using Biomass

Occupational Health & Safety

Women in STEM: Universities/Institutions projects & initiatives (1)

National Law (January 2019) order the establishment of a Gender Equality Committee in each University in Greece. It took 4 years for all universities to have a Gender Equality Committee.

Among the duties of this Committee is to design and implement the 'Gender Equality Plan' of the University. This kind of plan is a **prerequisite** for the HORIZON application & funding. This was the cause for the Universities' authorities to support the establishment of these committees.

One of the main duties of the Gender Equality Committee is to handle the gender discrimination events and gender harassment/violence events. Guides of such events are now struggle to be adopted by Universities' authorities.

New law for tertiary education is coming now with not a word about gender equality committees or something to replace them or supporting meters for women to advance in Academic & Research careers.

Women in STEM: Universities/Institutions projects & initiatives (2)

Projects for Gender Equality plans in Academia & Institutions:



<https://caliper-project.eu/>

CALIPER vision is to enhance the gender balance in STEM fields and promote a greater engagement of female researchers

Partner: Electrical & Computing Engineering School of National Technical University of Athens

ELIAMEP-Hellenic Foundation for European and Foreign Policy :

Tackling gender inequalities in research and higher education in Greece (GENDRHED)



Women in STEM: Universities/Institutions projects & initiatives



<https://www.elegyp.gr>

Greek Association of Women in Academia was established in 2007. Project about Women in academia and research institutions. Statistics about women in academia, research and female students. Not about women in STEM specially.

Important to mention:

- Project ‘Promotion of the Gender perspective and fighting gender discrimination in Academia’ (2012-14) with open discussion about careers in STEM and the Gender factor (2014).

- Organizing exchanging experience lectures:

Professor **Edeltraud Hanappi-Egger**, Rector of Vienna University of Economics & Business “**Gender Balance in Academia: Solutions and Obstacles**”, March 2022.

- Guide addressing to students about sexual harassment.

Women in STEM: Universities/Institutions projects & initiatives



<https://www.genderstudies.panteion.gr/en>



Current projects:

Iceland
Liechtenstein
Norway grants

ProGender

A Digital Hub on Gender,
the COVID-19 Crisis and its Aftermath

The project is implemented by:



ProGender aims to promote bilateral activities between Iceland, Greece and Norway by creating a digital hub devoted to gender perspectives of COVID-19 and its aftermath.

<https://progender.panteion.gr/>



Active Strategies for Prevention and Handling Sexual Harassment Incidents

<https://astrapi-project.eu/>

Women in STEM: NGOs & Social Networks

Greek Women in STEM seeks to highlight and support the work of Greek women in STEM (Science, Technology, Engineering, Mathematics & Medicine) and all related fields.

This is done through three axes:

- **interviews** with the scientists themselves
- **articles, podcasts** and **events** on topics related to
- **scientific news** and **advancements**
- with reference to the contribution of Greek
- researchers and scientists
- **a mentoring program.**



Women in STEM: Social Networks

The **Greek Chapter of the ACM-W (ACM's Council on Women in Computing)** was established in July 2018 with the vision of fostering gender mainstreaming, as well as enhancing and advocating gender balance in **computer-related scientific fields and professional sectors in Greece**. Its founding members number more than 40 women from academia, research institutions, and the computing industry from all over Greece and abroad. The Chapter's overall member base has exceeded 175 individuals of all genders, in less than a year since its establishment.

<https://acmw-gr.acm.org/en/>

4th Summit on

Gender Equality in Computing

Hybrid Event | June 16-17 2022



Aristotle University Research Dissemination Center Thessaloniki, Greece

Women in STEM: Social Networks

The logo for 'Girls go Coding' features the text 'Girls go' on the top line and 'Coding' on the bottom line, both written in a black, cursive script font.

<https://www.facebook.com/girlsGoCoding/>

The logo for 'WOMEN ON TOP' consists of a solid blue triangle on the left, followed by the words 'WOMEN ON TOP' in a bold, blue, sans-serif font.

<https://womenontop.gr/en/>

Women in STEM: Gov initiatives

The logo for 'Women in Tech Greece' is set against an orange rectangular background. It features a white icon of a circuit board on the left and the text 'Women in Tech' on the top line and 'Greece' on the bottom line in a white, sans-serif font.

event May 2022

by General Secretariat for Research & Technology

– GRNET S.A. – National Infrastructures for Research and Technology

Grace Hopper, developer of the first compiler for a computer programming language developer of UNIVAC I and COBOL. She conceived the terms “computer bug” and “debugging.”



*“A ship in port is safe, but that is not what ships are for.
Sail out to sea and do new things.”*



Thank you for the invitation and your attention!