



Nomination for the 3rd Minerva Informatics Equality Award Recruiting and Supporting Female Students

NOMINATED INSTITUTION

Faculty of Electrical Engineering and Computing of University of Zagreb

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BRIEF SUMMARY

Faculty of Electrical Engineering and Computing established in 2012 the official program of science popularization - **SUZA**. Each year we organize over 30 educational events for over 3000 high school students to promote our study programs.

#FERgirl is a set of informal policies that we strive to implement in popularization activities to encourage girls to study at the Faculty and to improve gender balance in the student body. Consequently, since 2012 we are recording better gender ratio of female students and professors.

		Enrolment	Scholarships	Professors
2012	Women	16 %	17.7 %	10 %
2017	Women	22 %	18.8 %	15.1 %

DESCRIPTION OF THE INITIATIVE

Faculty of Electrical Engineering and Computing (FER) of the University of Zagreb, founded in 1956, is the largest technical faculty and leading educational and R&D institution in the fields of electrical engineering, information and communication technology and computing in the Republic of Croatia.

Faculty of Electrical Engineering and Computing established in 2012 the official program of science popularization - **SUZA**. The program SUZA is addressed to elementary/high school students and to their teachers. The program is being run with the aim of increasing pupil's interest for studying at FER, as well as public's interest in science, technology, engineering and mathematics. SUZA conducts its program through various activities. We organize workshops and lectures that introduce new scientific discoveries and modern technology to students. Our lecturers are the finest professors of the Faculty, excellent students of undergraduate and graduate studies and accomplished professionals. Each year we organize over 30 programming workshops, science popularization lectures and other educational events that annually reach over 3000 children.

#FERgirl is a set of informal special policies that we strive to implement in our activities with the intention to encourage female high school students to enrol in study programs of the Faculty. We follow and develop new activities to obtain the goal of improving gender balance in student body. Following various recommendations from available scientific literature on the topic, our policies include:

1. promoting female professional role models;
2. organization of special promotional activities for girls;
3. organization of programming workshops for children with topics that are more appealing to girls;
4. development of gender neutral promotional materials.

IMPACT OF THE INITIATIVE

Since 2012, there has been a considerable increase of the number of female students enrolled in our undergraduate study programs: the gender ratio increased by 6 %. We have capacity to enrol 650 new students in undergraduate studies every year. In 2012 we enrolled 95 female students, and by 2017 this number grew by 50.5 % to 143. Most of our female students complete their studies, yearly rate of drop out of female students is about 15 %.

	2012	2017
Number of enrolled students	588	649
Number of enrolled female students	95	143
Gender ratio of female students	16 %	22 %

Since 2012 we also note slightly better gender ratio of students receiving scholarships. The two main institutions providing scholarships are the University of Zagreb and the Ministry of Science and Education. Although the gender ratio did not improve very much, the number of female students receiving scholarships drastically increased because the number of scholarships increased.

	2012	2017
Total number of scholarships for students of FER	62	621
Number of female students of FER receiving scholarships	11	117
Gender ratio of female students	17.7 %	18.8 %

A statistical research has shown that one of the reasons for the low interest of girls for IT study programs is the lack of female professional role models. We are proud to announce that since 2012 the number of women assistant professors, associate professors and full professors at FER has increased by over 81 %, while the number of men professors has increased by 10 %. We hope that this change in gender ratio is a proof of our contribution to providing female professional role models to female students.

	2012	2018
Total number of professors	163	191
Total number of women professors	16	29
Gender ratio for women	10 %	15.1 %

We will describe few examples of implementation of the above mentioned #FERgirl policies.

1. Promoting female professional role models.

Example. The Faculty organizes annual science fair *FER@MIOC*, in XV. Gymnasium in Zagreb. This promotional event includes popular lectures by our professors. In order to offer female professional role models and attract girls to IT, each year at least one woman professor is included in the event. In 2017 dr. Ana Sovic-Krzic gave the lecture *Will robots steal your job? Not if you study @FER!* [Mioc2017] and in 2018 dr. Mihaela Vranic gave the lecture *On people and networks* [Mioc2018].

2. Organization of special promotional activities for girls.

Example. On November 25th 2017 we organized *#FERgirl Tea Party*, a moderated discussion that gathered female students and graduated female students of the Faculty. We presented a group of successful professional women with the purpose of encouraging female students to enrol in study programs of the Faculty. In a very agreeable atmosphere of the student's club KSET they talked about their study experiences, their expectations after graduation and about the job opportunities that are available for them. The event raised significant media attention and was well visited [FerGirl2017].

In July 2018, we will enrol 650 new students in the undergraduate studies of the Faculty based on their success on the national matriculation exam. Then, we will be able to measure how the promotional events in 2017 affected the enrolment rate of female students. For the time being, we can enclose information on number of female applicants for enrolment for 2018. This year we have recorded that the number of female applicants strongly increased by 24 % in relation to 2017. At the same time, the number of male applicants increased only by 9.8 %.

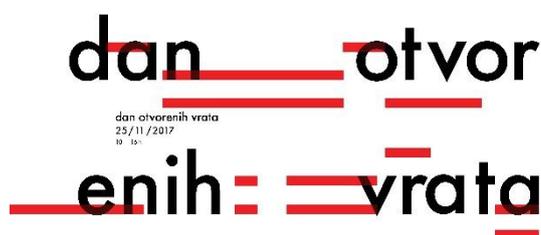
	2016	2017	2018
Total number of applicants for enrolment	2374	2415	2737
Number of applicants by gender	579 (W) 1795 (M)	591 (W) 1824 (M)	734 (W) 2003 (M)
Gender ratio for women	24.3 %	24.4 %	26.8 %

3. Organization of programming workshops for children with topics that are more appealing to girls.

Example. On December 10th 2016, we organized a series of programming workshops in the computer labs of the Faculty in the occasion of the global initiative *Hour of Code*. One of the workshops, held by Marko Lohert, was entitled *Programming with Vaiana* as the main character of the Disney cartoon *Vaiana*, the strong-willed daughter of a chief of a Polynesian village, who is chosen by the ocean itself to reunite a mystical relic with a goddess. In the workshop we noted that the rate of female participants in the age 7-12, strongly increased from the usual 15-20 % to 62 %. [HourofCode2016]

4. Development of gender neutral promotional materials.

Example. On November 25th 2017 we organized the annual *Open Day @FER* when we welcomed parents, teachers and high school students. We presented the study programs of the Faculty, its laboratories, the research projects, various scientific experiments, inventions and modern tech-devices designed and developed by staff and students of the Faculty in recent years. We designed promotional materials with special attention, written in gender neutral language and gender neutral design. [OpenDay2017]



This nomination can be considered as a runner up (if it does not win the award) and can be included as an exemplar of best practice in future Informatics Europe publications.

REFERENCE LIST

[FerGirl2107] Article from the media, in Croatian, <https://zimo.dnevnik.hr/clanak/fergirl-cajanka-svijetla-buducnost-zena-u-it-sektoru---497591.html>

[HorOfCode2016] Poster for Hour of Code 2016, in Croatian, <https://suza.fer.hr/download/repository/2016-HoCFERRadionice.pdf>

[Mioc2017] <https://www.mioc.hr/wp/?p=7644>

[Mioc2018] <https://www.mioc.hr/wp/?p=10990>

[OpenDay2017] <https://www.fer.unizg.hr/download/repository/dan-otvoreni-vrata.pdf>