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SECONDARY EDUCATION MEETS TERTIARY EDUCATION – A CONCEPT HOW TO MOTIVATE YOUNG PEOPLE FOR COMPUTER SCIENCE

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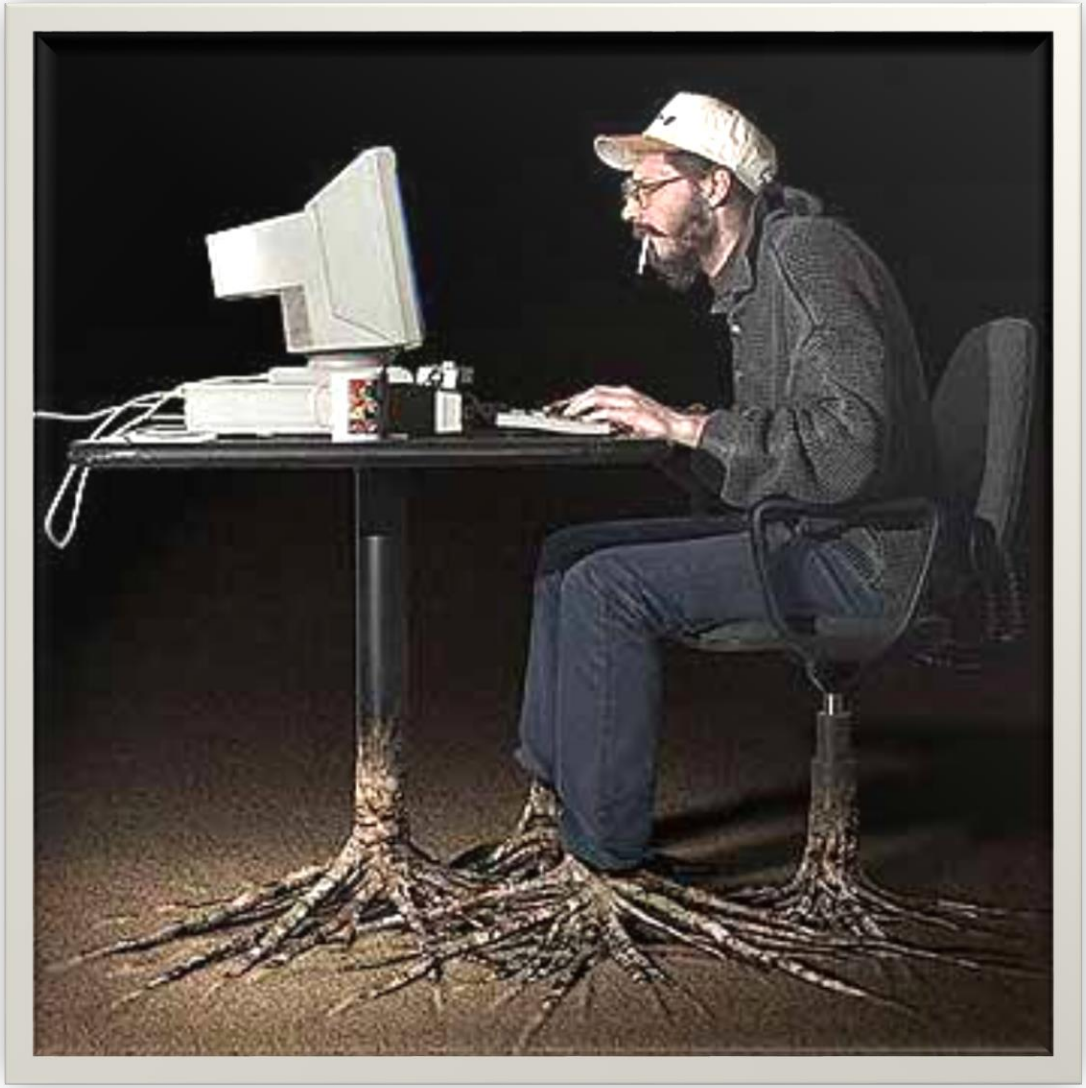
Typical behaviour ?



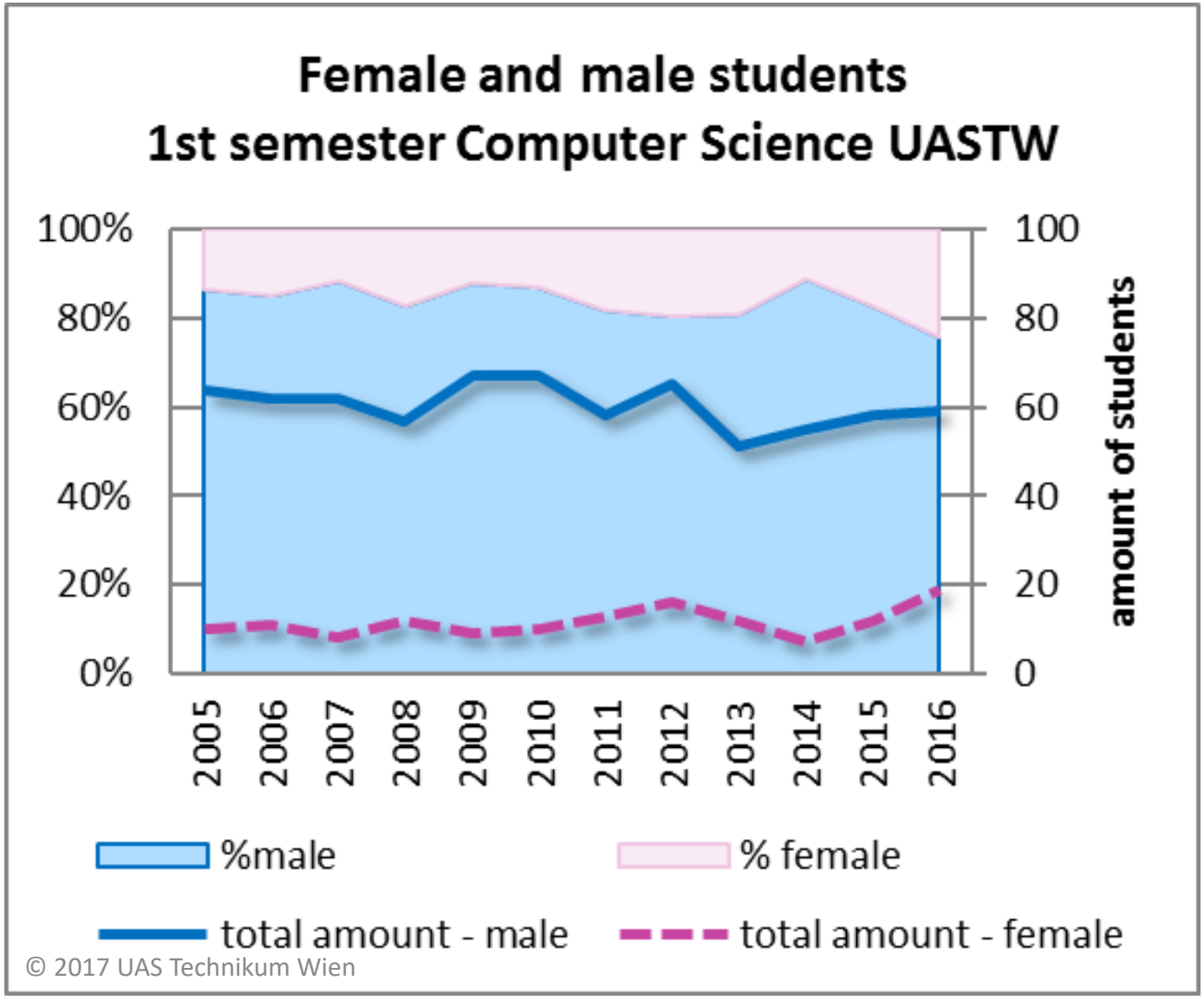
- for men?
- for women?

Typical behaviour ?

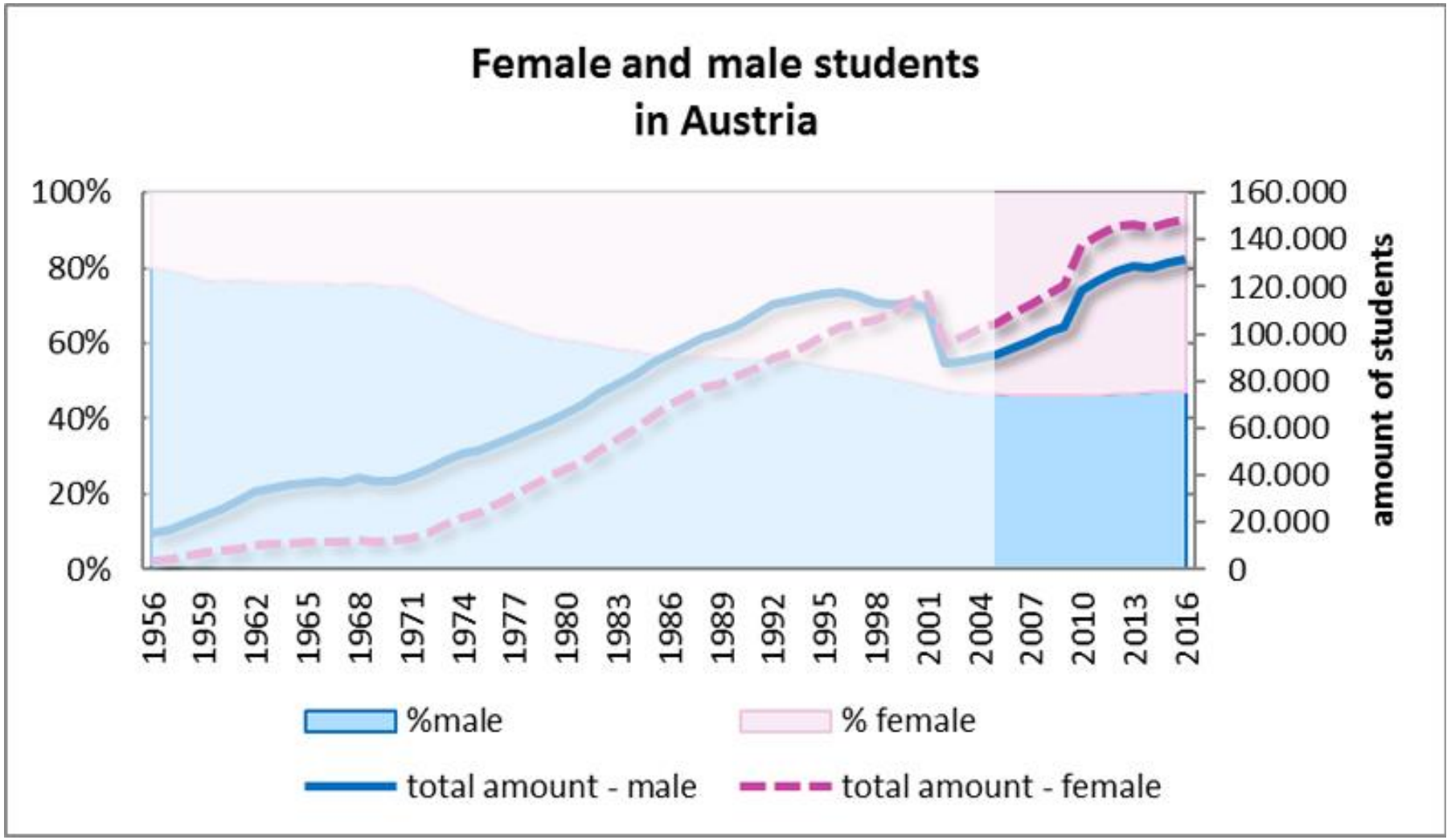
- for men?
- for women?

Stereotypical thinking and career choice can be broken

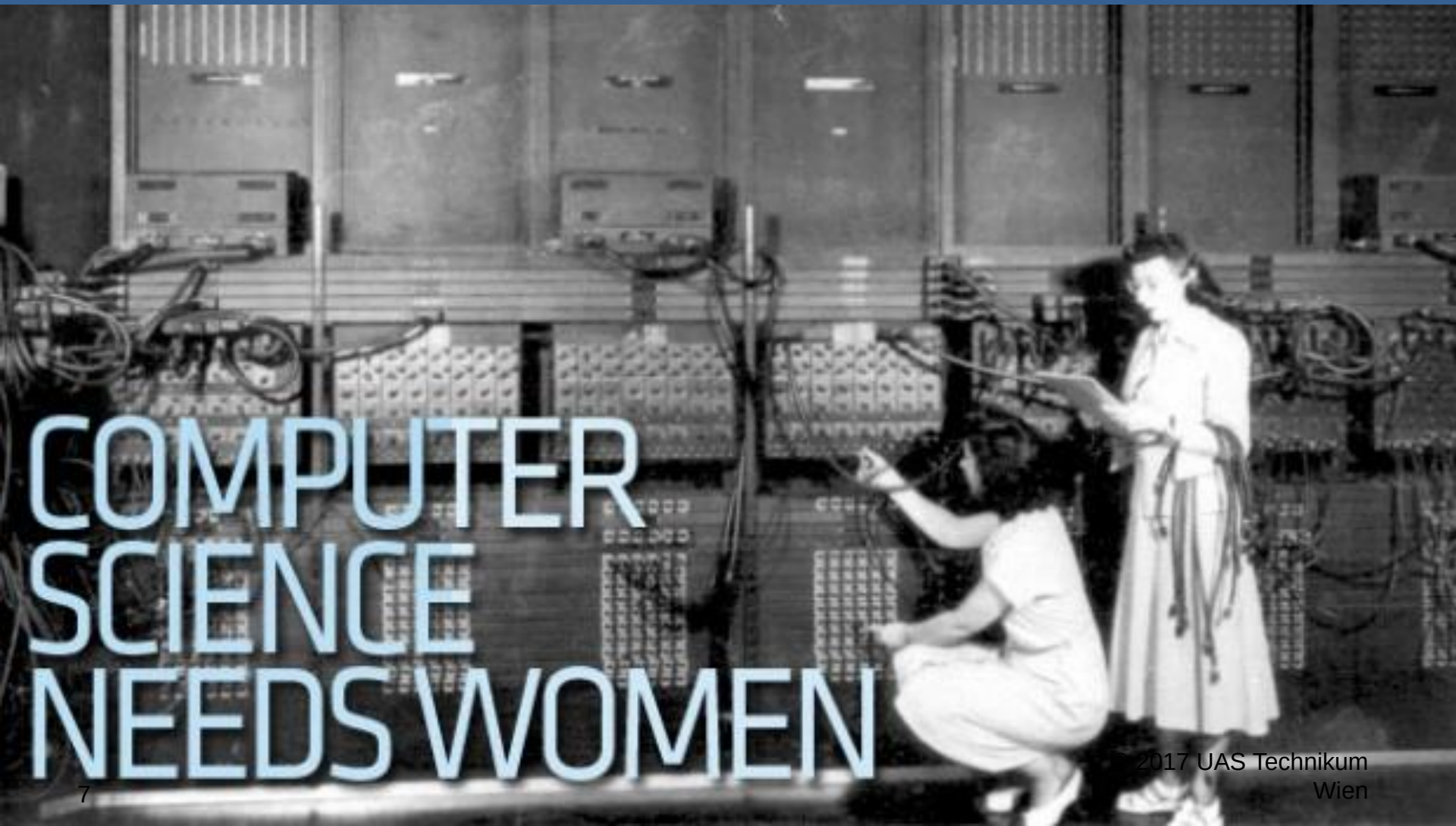
Women in Computer Science



Students in Austria



IF GIRLS DON'T COME TO SCIENCE BRING SCIENCE TO THE GIRLS



Our approach

Secondary Education

Hertha Firnberg Schools for Business and Tourism

young people from 14 - 19

meets

Tertiary Education

University of Applied Sciences Technikum Wien

students from 19 - …

In 2010 we started a newly developed education program for Secondary Education at the Hertha Firnberg Schools

- CSM – Computer Science Management
- KoMd – Communication and Media Design

Key priorities of the education program

FH University of Applied Sciences TECHNIKUM WIEN

High Practical Experience

laboratory experiments (chemistry, physics)

Profound Business and Language Training

English as primary teaching language

Diploma Thesis

in scientific fields with practical orientation

Crossover between School and University

promotes the step into tertiary education reducing drop-outs at university level

Numerous Projects

in fields like web design, programming or network engineering

Reducing Barriers in Gender & Diversity

Promotion of equal opportunities for female and male pupils

Computer Science Topics

focal point of education program

STEM topics

Focus on Science, Technology, Engineering, Mathematics

Modern Research

access to methodologies

Practical implementation

Measures that make this education program special

- Courses at the UASTW
- Team teaching
- Notebook classes
- eLearning

Benefits pupils have coming to the UASTW once a week

FH University of Applied Sciences TECHNIKUM WIEN

Identity Cards

allowed to enter the university building whenever wanted

Computer Accounts

allowed to logon to any computer available to students

University Facilities

like canteen, Xerox machines or library can be used

Infrastructure & Laboratory Equipment

can be used for learning and private interests

Electronic Campus Information System

free access, offers e.g. free ebooks

Feeling like real academic students

Same rights as real students; get to know how exciting science and student life can be at a university

Course highlights in class

Robocup Junior

- Play and experiment with small robots
- Participation Robocup Junior tournament

Science Lab

- Scientific topics come alive
- At the physics laboratory of the UASTW

Course highlights

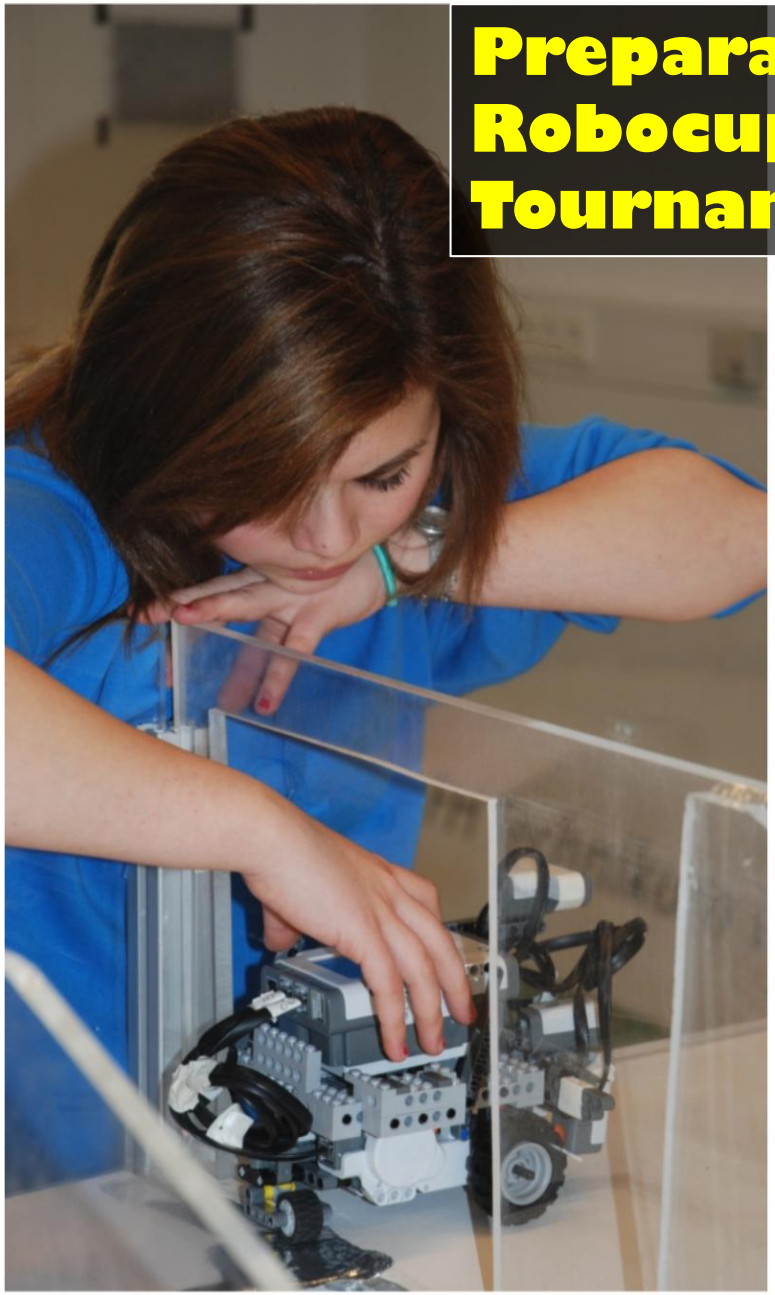
Scientific Work

- Project work with scientific claim
- Research questions, literature research, surveys, interviews

Media Design

- Creative work in image, video, audio processing
- Held by professionals from industry

Preparation for the Robocup Junior Tournament



Trends in pupil numbers

- Started in 2010 with 11 female and 6 male pupils
- First finalists in 2015 with 5 females and 1 male
- In the meantime about 20 starters each year, genderrate 50:50
- most outstanding students of all ages are female
- Interest in the education program has increased from year to year

Perspectives
UAS Technikum Wien

- Addressing young people at an early stage (as well as teachers at school) and arousing interest in technology.
- Drawing young people's attention to educational offers of the UASTW.
- Encouraging talented and interested students.
- Offering excursions, workshops and guest lectures in schools.
- Leveraging synergies and bundling forces (joint projects, consulting diploma theses by UASTW students, participation in competitions).
- Building an interface between school and science.

Perspectives
Hertha Firnberg Schools

- Innovative, future-oriented education program, attracting both female and male adolescents alike.
- The school location is to be secured in the long term
- High transfer potential for the entire school system in Austria through a unique cooperation with an academic institution.
- School internal knowledge transfer (technical fields, increased media comprehension).
- Pupils as ‘ambassadors’ in other schools and on Open Days.
- IT projects make technology more tangible for all.
- Pupils decrease their threshold in choosing a degree program in technology or science.
- Public work and image campaigns help to make this school type known to the public.

Knowledge transfer

- Creation of public awareness
- Research is brought to schools
- Motivates a new generation of potential researchers
- Team teaching - knowledge transfer university to school
- Projects transport knowledge between classes
- Pupils learn about topics they have not chosen as their key educational areas

Conclusion

- Positive response from news media
- Change in curricullum (CSM → KoMd)
- Win2Win situation
- Constantly increasing interest of pupils and parents
- The grades of pupils are above average
- Technical topics attractive to both girls and boys alike.
- So far no finalists started to study at the UASTW
- Changes planned in the curriculum to better integrate into UASTW studies

THANK YOU.

www.technikum-wien.at
www.firnbergschulen.at