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Women in ICT

Strategies of inclusion in higher education



Graduate Women International (GWI)



Malaysia

- Women constitute about half of all students in higher computer science education
- Kuala Lumpur : 40% of PhD students, all the heads of department and the Dean are women
- In Europe, women are barely 15% of the students, and it gradually decreases



Malaysia : ICT : a gender authentic choice for women

- Need no strength
- Harmless
- Clean
- Indoor job, even home office

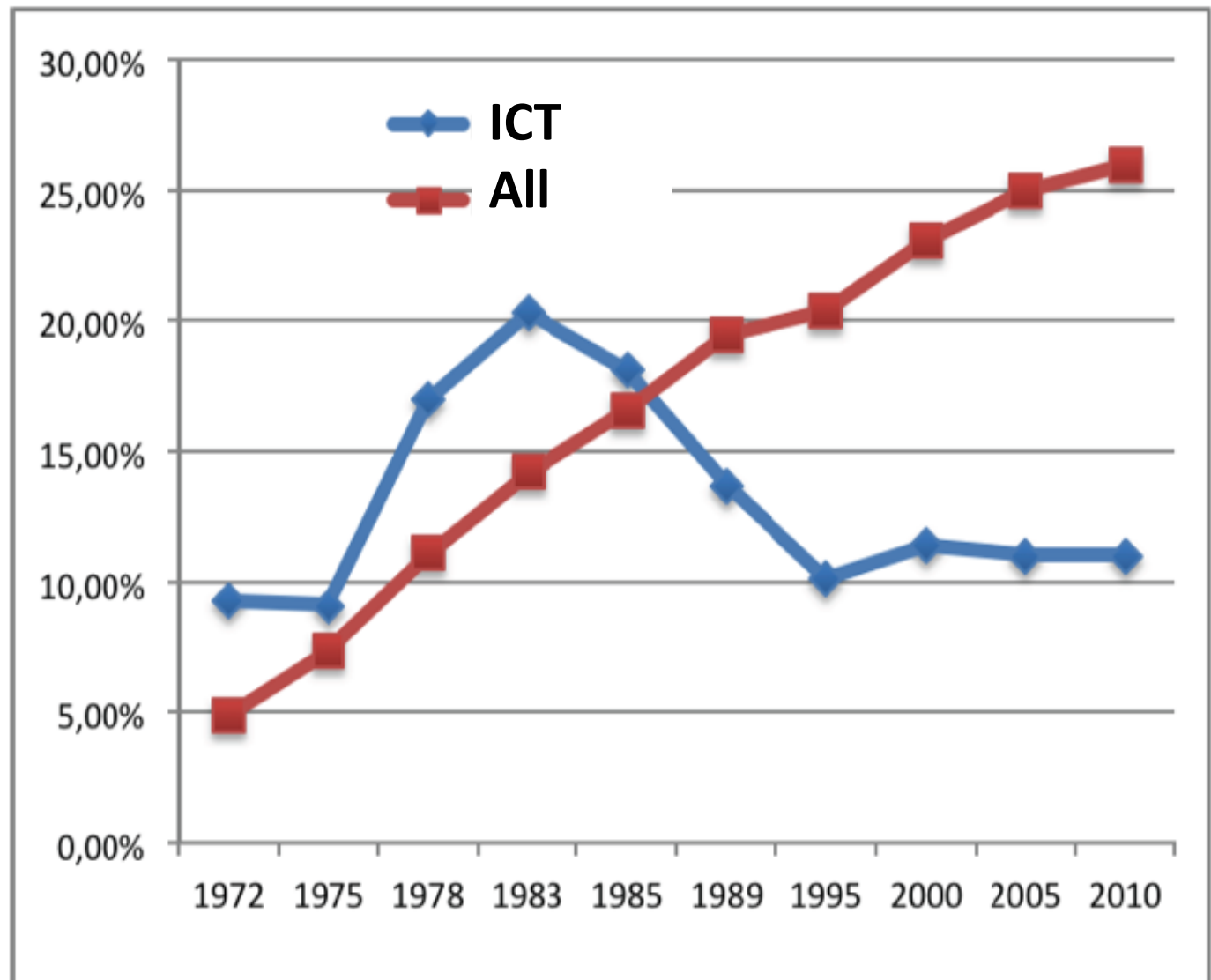


Perfectly suitable for women



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Women in ICT higher education in France





What happened in Western Europe ?



- The micro-computer arrives in the 80's
- Boys are equipped first
- Representations about computer science are a cross between image of science-fiction and video-games
- The “geek” becomes the archetype of a computer scientist



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Reverse the declining trend : The Carnegie Mellon University experience

- 1995 :
 - 6% of women
 - The dropout rate is twice than that for men
- Woman@scs
- 2000 :
 - 47% of women
 - Same dropout rate



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Diagnostic approach

- Geek image
- Prior programming experience a major benefit for admission but is not a predictor for success
- For women : Loss of confidence leads to loss of interest and then dropout



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Action for change

- Summer workshops for high-school teachers
- Change the admissions criteria with more rational prerequisites like :
“giving back to the community”
- Entry-level programming sequence
- Creating a professional community to provide role models, mentors, etc.



Conclusion

- There is no need to paint computer science **in pink** ! No need to pretend that computers are “**girls’ things**” : it just reinforces stereotypes
- But today ICT is a “male thing” : admission criteria, stereotype, role model, computer legend... are all male-oriented
- By changing the culture of computing, making it neutral, CMU opens the door to diversity



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About CMU:

- Blum Lenore, Frieze Carol (2005). The evolving culture of computing: Similarity is the difference. *Frontiers: A Journal of Women Studies*, 26, 1.
- Frieze Carol, Quesenberry Jeria (2013). From Difference to Diversity: Including Women in the Changing Face of Computing. Proceeding of the *44th ACM technical symposium on Computer science education*.
- Margolis Jane, Fisher Allan (2002). *Unlocking the Clubhouse: Women in Computing*. Cambridge, MIT Press.