What is going on at EPFL (and in Switzerland and Europe)?

Willy Zwaenepoel

EPFL

CRA Snowbird Meeting, June 26, 2006
Public school
Science and engineering
277 professors
3500 B.S. students
1400 M.S. students
1400 Ph.D. students
Annual budget: 600mCHF
School of Computer and Communication Sciences

- 35 professors
- 500 B.S. students
- 400 M.S. students
- 200 Ph.D. students
- Annual budget: 42mCHF
Opportunities
George W. Bush
Switzerland is great (1)
Switzerland is great (2)

Annual education expenditure per student, including primary, secondary and tertiary education.

Data source: OECD, Figures 2005

Education expenditure

United States, Switzerland, Denmark, Norway, Sweden, Austria, Australia, Belgium, Netherlands, Japan, Italy, Finland, France, Country mean, Germany, Iceland, United Kingdom, Ireland, Luxembourg, Spain, Korea, Portugal, Hungary, Greece, Czech Republic, Slovak Republic, Mexico, Poland
Bologna Agreement

- Identical degree system in 45 countries
- BS/MS (3/2)

Key points

- Mobility between BS and MS
- Some measure of competition
Capitalizing on the Opportunities

- Faculty recruiting
- Tenure track
- Aggressive recruiting at the MS and PhD
Faculty Recruiting

- Broad searches
  - All areas of computer science
- Small groups of professors in area
  - No hierarchical structure
  - More professors, less resources per professor

- Instead of
  - Targeted replacement hires
  - Highly hierarchical structure
Tenure-track Assistant Professors

- System identical to the US
- Six-year probationary appointment
- Tenured position available
- Promotion
  - Research, teaching and service

Instead of:
- 6 years and out
Bologna

- Strong separation between BS and MS
- MS and PhD completely in English
- Aggressive recruiting at MS and PhD

Instead of:
- Calling first 3 years BS, last 2 years MS
Results
Faculty Recruiting

G. Candea  
Stanford

G. De Micheli  
Stanford

M. Henzinger  
Google

T. Henzinger  
UC Berkeley

J. Huang  
Harvard

A. Lenstra  
Bell Labs

D. Kostic  
Duke

V. Kuncak  
MIT

B. Moret  
UNM

S. Susstrunk  
EPFL/HP
Total New Enrollment

Due to new enrollment at MS level
Challenges
Challenges

- Declining enrollments at the BS level
- Weak representation in funding agencies
- Unsuitable evaluation methods
What to do about it?

Trying to take the high road

- “Computer science = physics of the 21st century”
- Avoid “computer-science-lite”
Swiss NSF

Director

- Humanities and Social Sciences
- Mathematics, Physical and Engineering Sciences
- Biology and Medicine
- Targeted Research
Similar Problems in Europe

At the European Science Foundation
- Number of CS EurYI: 1 CS award out of 50
- US equivalent (Sloan, Packard): ~ 20%

At the European Research Council
- Number of CS board members: 1 out of 22
Evaluation not suited to CS

- Journal vs. conference
- Impact factors
- Web of Science vs. scholar.google.com
- Beancounting is in
What to do about it?

- European equivalent of CRA
- Annual department head meeting
  - First one held in October 2005
  - Second one to be held in October 2006
- Organization is being created
Perspective
Perspective

Opportunities and challenges
I am pretty optimistic
Have to work on
  - Being recognized as a science
  - Function as departments, not individuals