What Makes a Strong (CS) Department?
Experiences from ETH and Carnegie Mellon

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Computer Science
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Oldest universities in continuous operations

- University of Bologna
- University of Oxford
- University of Salamanca
- University of Cambridge
- University of Padua
- University of Naples Federico II
- University of Coimbra
- University of Macerata
- University of Valladolid
- University of Alcalá
- Sapienza University of Rome
- University of Perugia
- University of Florence
- University of Pisa
- Charles University of Prague
- University of Siena
- University of Pavia
- Jagiellonian University
- University of Vienna
- Ruprecht Karl U. of Heidelberg


Computer science rankings

<table>
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<tr>
<th>US News</th>
<th>Times higher education</th>
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<tr>
<td>MIT</td>
<td>Stanford University</td>
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<td>UC Berkeley</td>
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<td>Carnegie Mellon University</td>
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Computer Science, ETH Zurich, 2017
Faculty Hiring: Principles

Tenure track system: synchronize with international hiring

Default: assistant professors

Open as broadly as possible and every year, advertise through network

Interviews are symmetric, “perfect hosting”

Full 2-day schedule (schedule all, schedule one), feedback from all

Judge the work and the person, not some metrics

Diversity (opposite: inbreeding)

No language barriers
Student (Bachelor/Master/PhD) Recruiting

PhD recruiting at CMU

US versus Europe
  Bachelor/Master
  Mobility of students

Central, departmental PhD application system

Make yourself visible/known
  Exchange programs
  Summer research programs

Diversity/language barriers
Department Leadership Structure

CMU
ETH

How To Get There

Hire the right people!

Joint activities
  - Hiring
  - Evaluation of assistant professors
  - Strategy development

Multiperson department management team

Rotating service functions

Weekly lunch seminars

Department funds
Tenure Track System at ETH

At ETH possible since 2004
In our department: first hire 2006
ETH-wide revision in 2014

Tenure Track System: Principles

Assistant professors: full independence, full rights
After x years you are fully in or out
“Friendly” system
Mentoring, reduced teaching load
Evaluation by the entire department

Introducing a tenure track system is a culture change and difficult
Important Factors (University/State/Regulatory)

- Relevance of CS recognized
- Autonomy (department and university), freedom to change
- Leadership possible and valued
- Monetary support
- **Educate your environment**
  - Importance of CS, Academia
  - What happens elsewhere
Summary

How will the future global academic landscape look?

Europe ≠ US (but there is a lot to learn)

European CS departments/universities need to modernize

- Learn (but don’t necessarily copy) from the best
- Think more international, embrace (enforce) diversity
- Be flexible with language barriers
- Work on visibility
- Empower the young
- Build departments, not institute (or professor) collections
- Don’t get obsessed with metrics
- Educate your environment
- Invest