The DI post 2011

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Issues for us to think about

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Issues for us to think about (I think..)

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The DI is doing pretty well

- Ranked A+ by AERES
- One gold and two silver medals from CNRS
- Two members of the Academy of Sciences
- One member of the Academy of Engineering
- Three Sr. ERC grants
- Two Jr. ERC grants
- Five grand prizes from the Academy of Sciences
- 2010 budget of 2.5 M€

- Students ranked 1-8 are admitted (3/40 lost in 5yrs)
- Students ranked 9-25 all have excellent grades
- Alumni doing great (more scattered evidence)
The DI is doing great
(thanks, J. Stern & J. Vuillemin!)

- If it ain’t broke, don’t fix it
- But there are challenges and opportunities ahead
- Two missions: research and teaching
Priority I: more students

- Today: 8 “élèves” per year
- Objective: 20 per year
- This must happen
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- Objective: 20 per year
- This **must** happen
- The PSL* IDEX project asks for 12 4-year fellowships per year
[Note: “The EX Initiative”]

- 22B€ for higher education and research
- A (royal) pain but (hopefully) an opportunity
- LABEX “Sciences Mathématiques de Paris”
- IDEX “PSL*” (preselected) 1.2B€
- An “Institute of Higher Studies in Mathematical Computer Science” is part of the LABEX/IDEX
- EQUIPEX “Geopast” (soon to be resubmitted)
[Note: “Le grand emprunt”]

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Priority II: being together

- An 8000 sq meter ENS/INRIA building is planned at the Boulevard Jourdan ENS campus

- Half of it for DI (50% more than today), half of it for INRIA

- Space for moderate growth

- This must happen
Objectives

- Excellence in research and education

- Offering the best working conditions to our students, research, support, and teaching staff

- Better department and laboratory life

**Note:** Needs continuing support from CNRS, ENS, and INRIA
Education

- Students: more civil servant “élèves”, improve recruiting of external French students and foreign students

- Good practices in place: mentoring, freedom, multiple internships, wide variety of classes, teachers from the best places in France and sometimes abroad, MPRI and MVA.

- From ENS to PhD student: what path?
Research: Hiring

- Research scientists: CNRS and INRIA
- Faculty: ENS

- New faculty:
  - ENS
  - Professors from Parisian universities
  - CNRS/INRIA/LABEX/IDEX chairs
  - Industrial chairs

- Retain and improve our attractiveness
Research: Hiring, but whom?

- Opportunistic view vs strategic view
- Arguments for both in small departments
- Plenty of major areas not represented in DI
What model for the DI?

- US universities: single-PI teams
- INRIA: Projet teams
- CNRS-university: UMRs

- Critical size issues
What model for the DI?

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Note: The average size of top 12 US CS departments is 63 scientists including 75% tenure-track faculty, with 210 MS and PhD students (2009 Taulbee report)

DI: 36 scientists, 55 PhD students
Managing the lifetime of research

- INRIA project-teams live 12 years
- The math department has a 10-year rule
- The long-term situation of “Maîtres de conférences” can be difficult
- Eventually we will all retire

What is the best way to manage this?
An identity for the DI?

- “Mathematical computer science” for the LABEX and IDEX
- “Computer science and applied math” might be more accurate
- The two are complementary, and also representative of our students
- The “Institute of Higher Studies in Mathematical Computer” is an opportunity

- What about interdisciplinary research within and without ENS?
Objectives

- Should we be happy with doing very well?

- **Education**: Be the best place for CS education in France

- **Research**: Be the French equivalent of (say) Princeton’s CS department