
Improving the Academic Promotion Process:
an Experience Report
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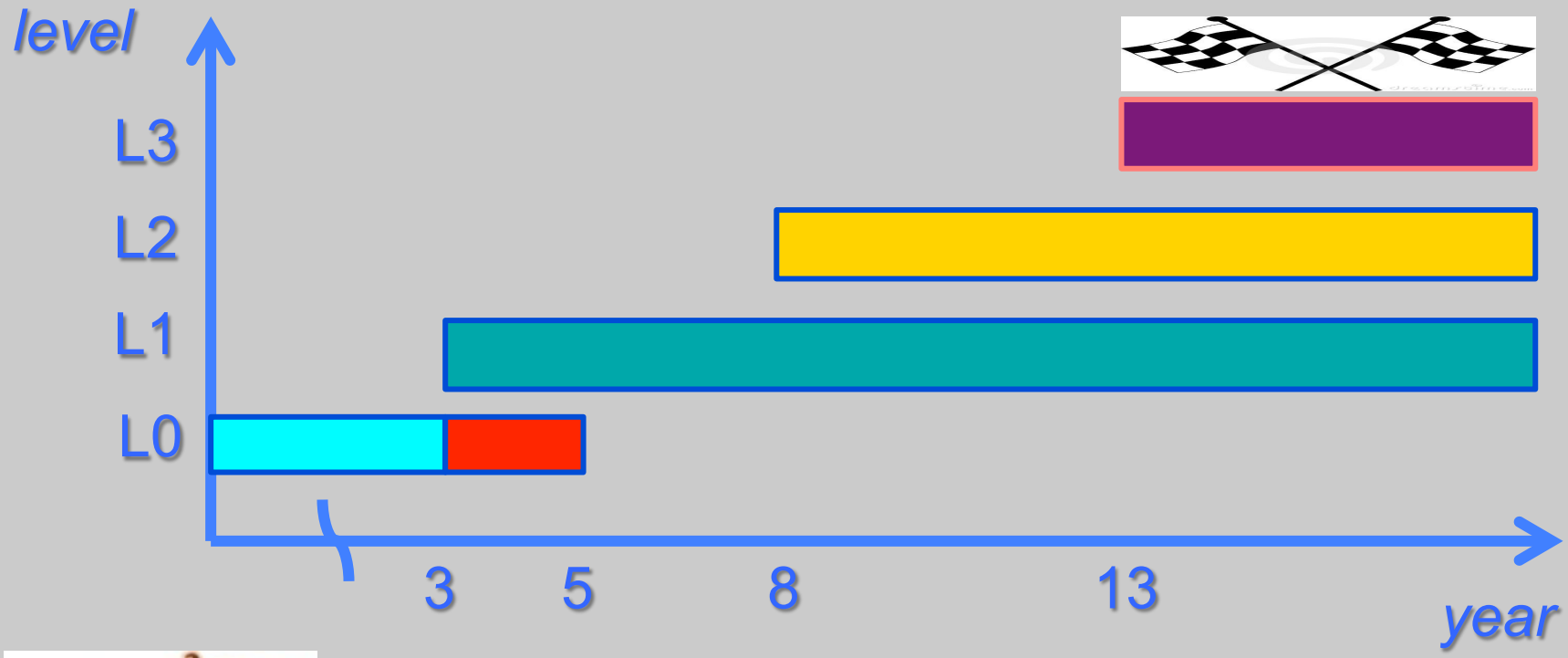
Who is this guy?
Why is he here?

- Research in software engineering
  - Requirements engineering, system modeling, dependability, risk analysis, formal methods, medical safety
- Teaching CS courses
  - Software engineering, logic, discrete maths
- Chair of academic promotion committee for very large Sector of university
  - Engineering, science, agronomy, architecture (+-20 depts)
  - Since 3 years
- Member of recruiting committees in other universities
- Member of ACM award commitees consuming bibliometric data

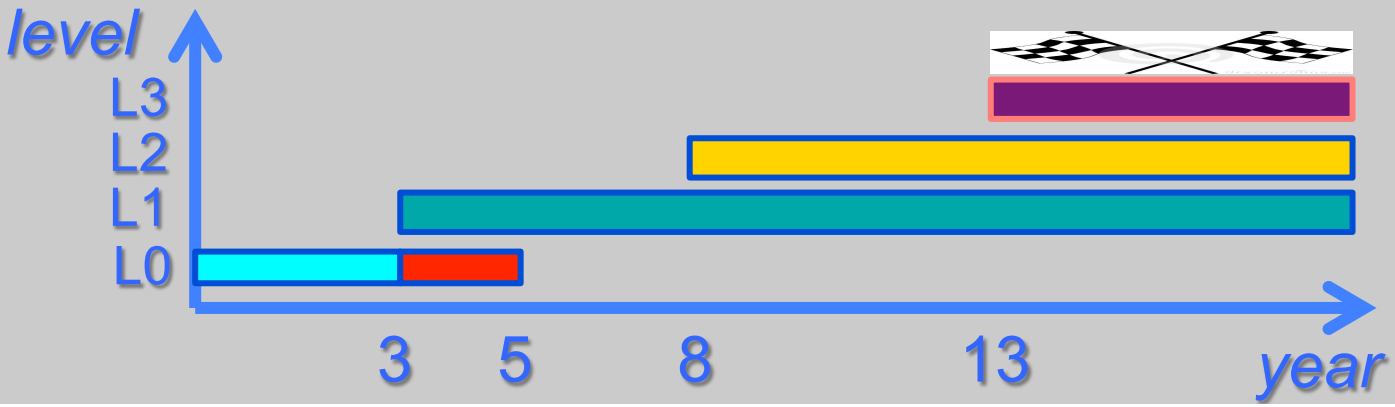
Backgound:
academic promotion in Belgium



- *L0* = Assistant Professor
- *L1* = *L0* + tenure (Associate Professor)
- *L2* = Professor
- *L3* = Full Professor

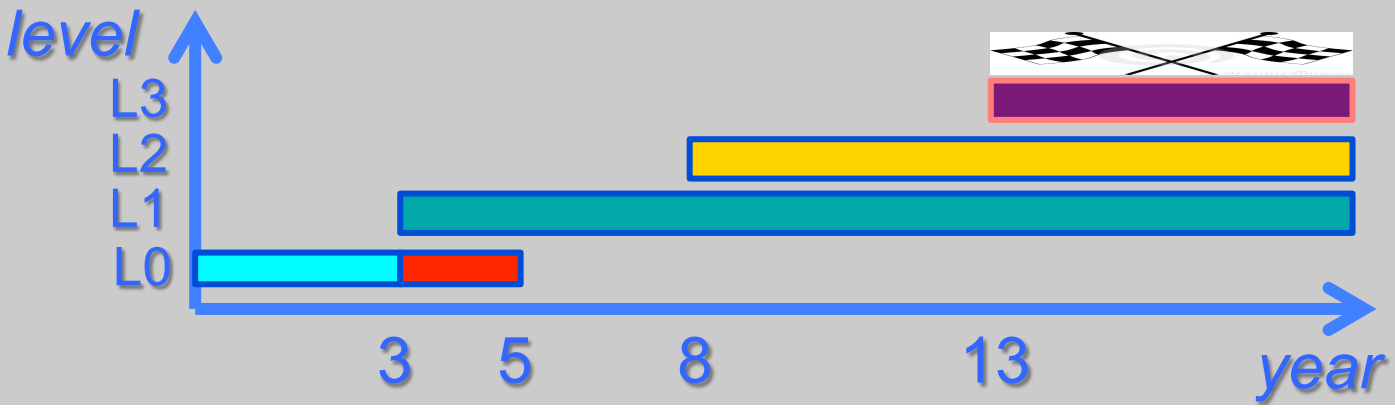
Backgound: academic promotion in Belgium (2)

- Promotion = title + salary + *higher 3-year salary increase*
- Promotion levels & timing enforced by law
- Deviations possible for outstanding cases
- Strict quota of **full professors (*L3*)** per university
  - max 20% of academic staff
    => ***promotion to full professor by competition & ranking***
  - age limit: 60 years
- Promotion Committee recommends,
  Rector's Board makes decision (arbitration among Sectors)



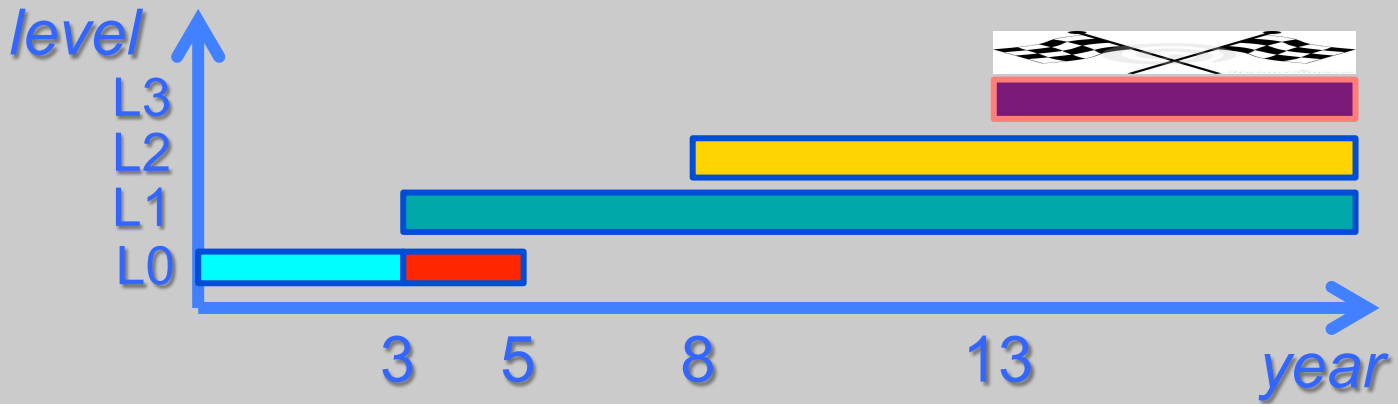
The Promotion Committee (UCL-specific)

- One per Sector (covering several faculties)
- Members & Chair appointed by Rector (yearly)
- Two-dimensional coverage
  - multiple disciplines
  - research-oriented vs. education-oriented
- Typically, 6-7 members + outsider from other Sector
  - all full professors *(L3)*
- Membership is confidential (except Chair)



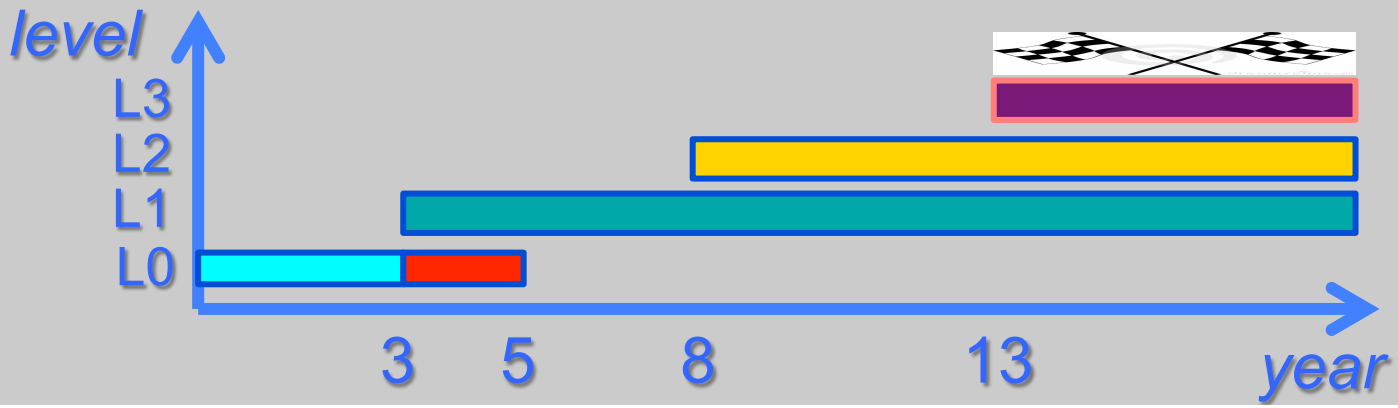
The Promotion Committee (UCL-specific)

- Independent, orthogal from/to university organization
  - Dean, Dept Chairs are <u>not</u> involved in decisions
- Obligation to …
  - **consult**:
    - for *L1*: candidate, coach/mentor
    - for *L3*: 3-4 external references (research-oriented)
    - for all: dean + research institute chair
  - **report** at the end: to deans, research institute chairs & Sector Vice-Rector
- Strict rules for conflicts of interest



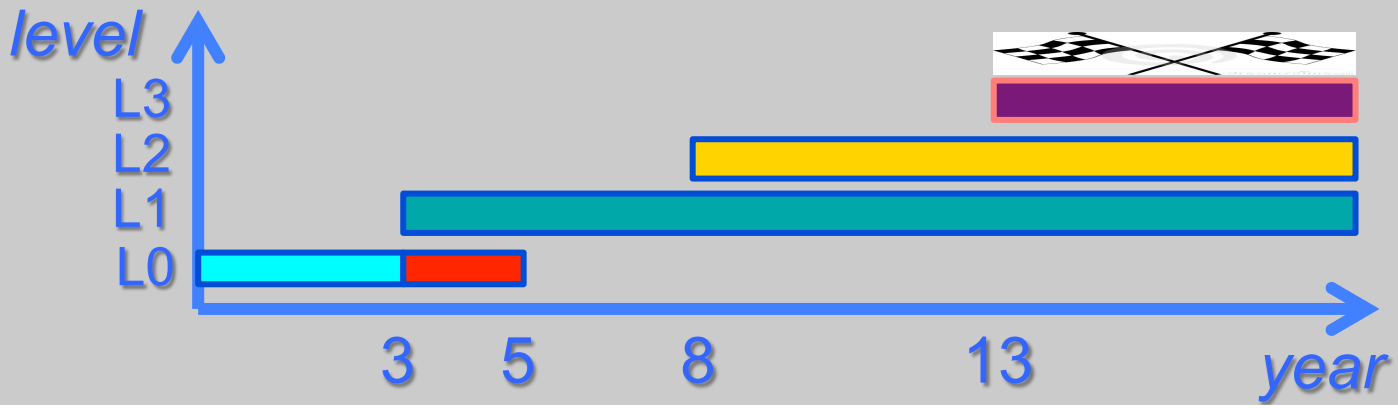
Promotion recommendation process

- Input:
  - Candidate's initial academic project & "response" (for *L1*)
  - Résumé, publication list
  - Short vision paper on research directions
  - Short vision paper on teaching methods
- Output: recommendation report (one per level)
  - for each case: factual summary, evaluation wrt criteria, final recommendation
  - for *L3*: final ranking + argumentation



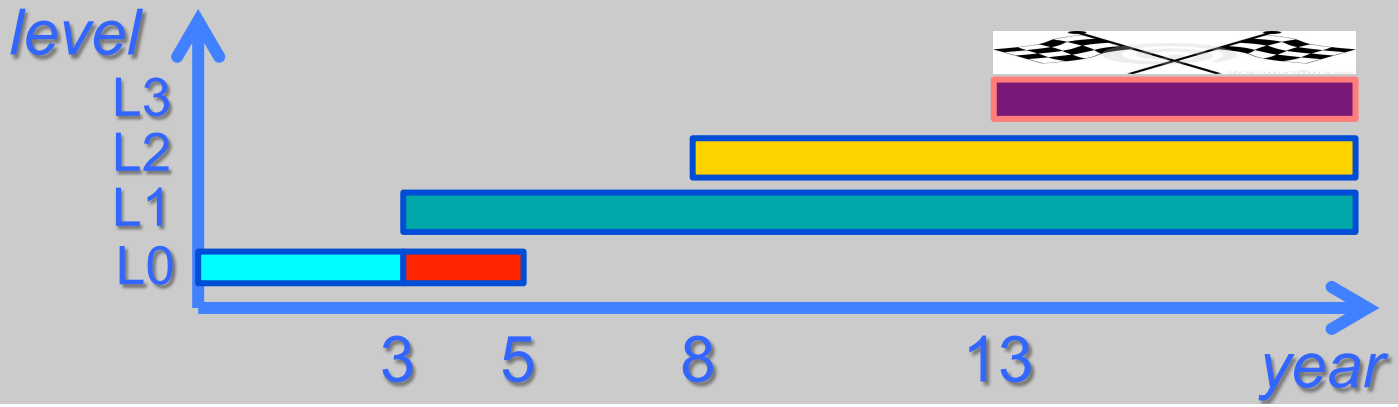
Promotion recommendation process (2)

- For my sector: typically 30 cases a year
- 6 meetings (January-May)
  - 2 for interviews: dean, research institute chair, coach, candidate (*L1*)
- Requests for missing material in submitted cases
  - course evaluations, teaching approach
  - suggested references *without* co-authors
- Interactions with reference providers



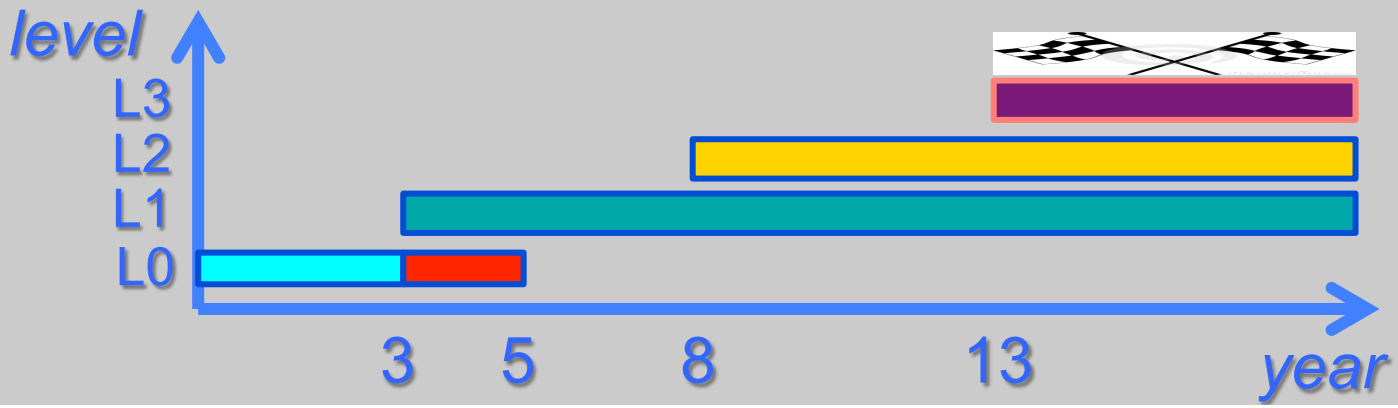
Promotion recommendation process (3)

- Refinement of evaluation criteria
  - by activity: research, teaching, service
- Individual study of each case, discussion of pros/cons, and filling of comparative evaluation grids
- Agreement on ***messages to transmit*** to candidate
  - formative dimension of evaluation
- After decision: Chair meets candidate upon request



Evaluation criteria: the official ones

- For *L1* (Associate Prof + tenure)
  - Did the teaching load reduction (50%) boost research?
    - pub record ?
  - Did the candidate start her own research agenda, build a team & international network ? PhD students?
  - Reasonably good teaching feedback?
  - Willingness & evidence of integration in university ?
  - Fluency in BAC teaching language ?

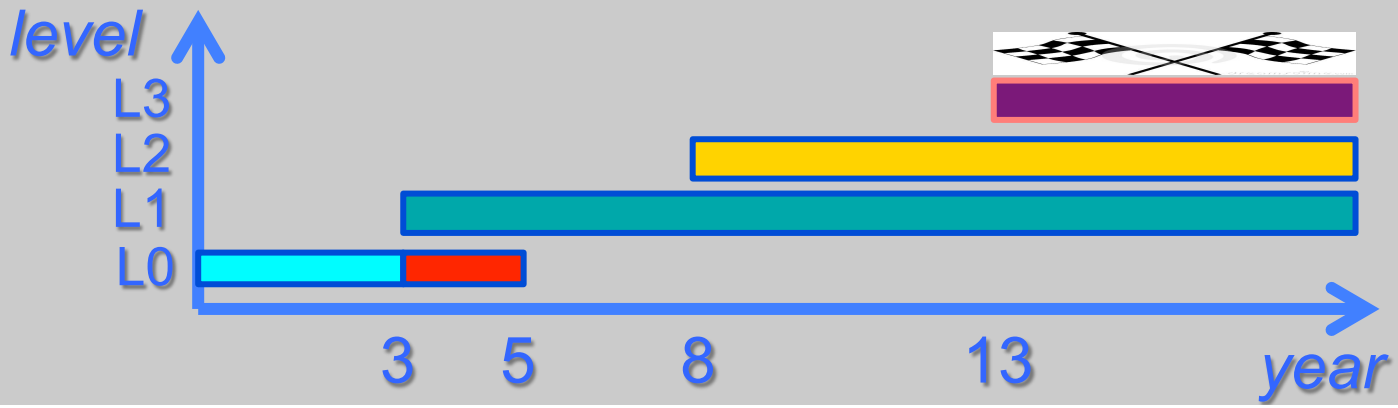


Evaluation criteria: the official ones

- For *L2* (Professor)
  - No lack of merit in any of the 3 job facets
- For *L3* (Full Professor)
  - Outstanding achievements in **2** of the 3 job facets

We need more solid, measurable criteria to assess this !!

Job facets = research, teaching, service



Our refined evaluation criteria: *research*

	Quality journal, conf, book	**Rythm** quantity, regularity	**Impact** bibliometrics	**Visibility** edit board, PC chair, awards, invit	**Theses** past, current	**Refer letter**	**Tot**
C1	B	B -	B	B -	B +	C +	B -
C2	C	D	D	C	B	C	C
C3	A +	A +	A +	A +	A +	A	A +
C4	A +	?	A +	?	D	A	?
C5	B	B	C	C	C	C	C +
C6	A	A +	A +	A	A +	B +	A
C7	A +	A	A	A +	A	A	A
C8	A -	A	A	B -	B -	B	B +
C9	A -	A	B +	D	C +	C	B

A+: *outstanding* **A**: *excellent* **B**: *very good* **C**: *good* **D**: *OK* **E**: *KO*

***Conjunctive** columns (cumulative)*

Our refined evaluation criteria: *teaching*

	Design Objectives, alignment	**Execution** load, contact surface	**Educational innovation**	**Implication** student evaluations	**Self develop** training	**Tot**
C1	?	B+	D	B	D	C +
C2	?	B	?	D	C	C
C3	B	C	C	?	C	C +
C4	?	?	?	?	?	?
C5	?	B	B	C	?	C +
C6	C	C	C	?	?	C
C7	?	B -	B	B	?	B -
C8	?	B +	B +	?	?	B -
C9	?	?	?	?	?	?

A+: *outstanding* A: *excellent* B: *very good* C: *good* D: *OK* E: *KO*

+- *Disjunctive columns*

Our refined evaluation criteria: *service*

	Responsib education structures	Responsib in university	Responsib in society	Cooper develop countries	spinoffs	Tot
C1	A -	C +	A	B	-	B +
C2	A	C	?	?	-	B
C3	B	A +	B	-	-	A
C4	?	?	?	?	?	?
C5	C +	C +	?	B	-	B -
C6	C +	A -	-	-	?	B
C7	B	A -	-	-	A	A -
C8	B	B	-	-	-	B
C9	-	B +	-	-	-	?

A+: *outstanding* A: *excellent* B: *very good* C: *good* D : *OK* E: *KO*

Disjunctive columns - : *not applicable*

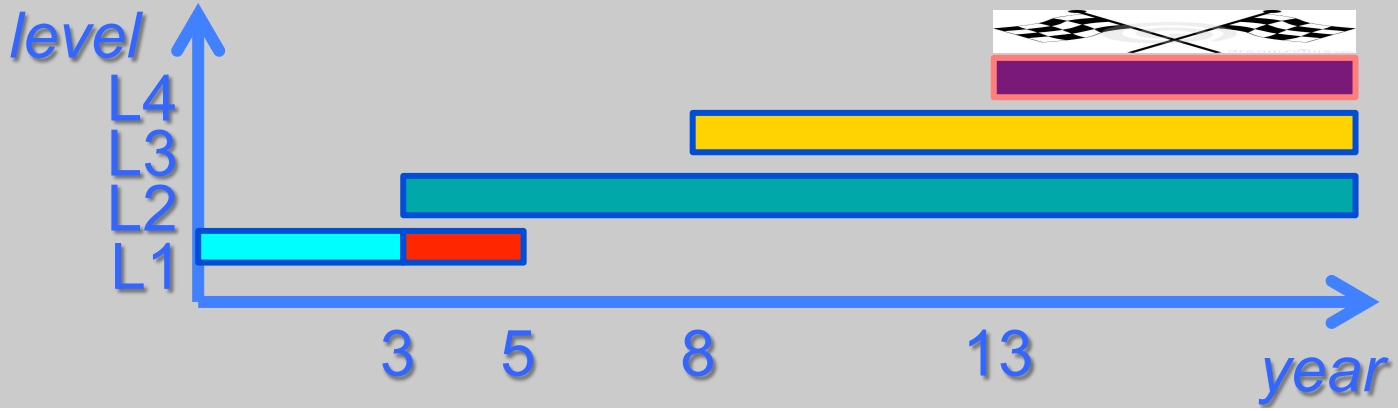
Grand total & ranking

	Research	*Teaching*	*Service*	Anterior	Age	Ranking	Rem
C1	B -	C +	B +	6th time (11^{th} / 13)		4	
C2	C	C	B	7th time (12^{th} / 13)		(6)	Message
C3	A +	C +	A	1st time		1	
C4	?	?	?	1st time		NR	Not receivable
C5	C +	C +	B -	1st time		(5)	Message
C6	A	C	B	1st time		3	
C7	A	B -	A -	2nd time (10^{th} / 13)		2	
C8	B +	B -	B	1st time		(5*)	
C9	B	?	?	2nd time		NE	Not evaluable

A+: *outstanding* A: *excellent* B: *very good* C: *good*

Using bibliometric data to evaluate impact

- Multiple sources: Google Scholar, Scopus, WebOfScience, …
- In spite of noisy data, GS is emerging in all disciplines
- Noisy citations OK as long as used for relative comparison
  - assuming noises to distribute equally among competitors
- Deeper study of citations required beyond mere counts
  - depth and breadth
  - quality preferred over quantity
    - most cited papers: how much cited? how many?



Conclusion 1:
Systematic evaluation with solid criteria pays off

- Reduces arbitrary decisions significantly
- For us: saved a lot of time in our discussions
  - ranking quickly derived as obvious consequence
- For authorities: more convincing
  - may help in arbitration among Sectors
- For unsuccessful candidates: more convincing
  - post-evaluation feedback highly appreciated
- Replicable in other sectors/committees
  - research had implicitly more weight here

Conclusion 2:
Bibliometric data should be used wisely

- To confirm, *not* drive
- Used for comparison
  - within discipline, not across
    - discipline-specific standards
- To tone down arrogant presentations
- Cannot replace substantiated opinion of peers
  - external, internal
- Other measures of impact
  - number of software users/downloads

A real challenge: comparing apples and oranges

- Different publication cultures
  - journals *vs.* conferences
    - importance of stating conference acceptance rate
  - different publication rythms & achievements
    - e.g. maths *vs.* electronics
  - position in list of authors
  - the 3-page/10-author syndrom
- Different teaching loads
  - e.g. computing science vs. physics


That's it,
thanks!