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 committees consuming bibliometric data
Background: academic promotion in Belgium

- **L0** = Assistant Professor
- **L1** = L0 + tenure (Associate Professor)
- **L2** = Professor
- **L3** = Full Professor
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, orthogonal from/to university organization
  - Dean, Dept Chairs are not 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*

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

Conjunctive columns (cumulative)
Our refined evaluation criteria: **teaching**

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*+ Disjunctive columns*
Our refined evaluation criteria: service

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Disjunctive columns - : not applicable
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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!