RESEARCH EVALUATION PRACTICE IN AUSTRIA

Gerald Steinhardt (Vienna University of Technology)
Research evaluation

Types of research evaluation

• Institution - related (institutional level)
  e.g.: university, faculty / department / research group, ...

• Individual - related (individual level)
  e.g.: hiring, promotion (tenure decision, etc.), ...
Goals of research evaluation

- **basis for decision making**: hiring, promotion, resource allocation, strategic decisions, ...
  - *focus*: outcomes & achieved objectives & input/output-ratio
  - with regard to institutions/units or individuals:

- **basis for feedback** with the view of changing for the better, of improving processes and of fostering goal attainment (incl. strategic decisions)
  - *focus*: existing strengths (incl. achieved goals) & identifying + remedying weaknesses / problematic aspects & identifying needs for support + resources etc.
  - with regard to institutions/units or individuals

- **mixed forms**
Research evaluation in Austria

- no general rules & standards
- different practices of institution-related evaluations
- convergence of practices with regard to individual-related evaluations in CS

The following primarily refers to computer science unless the evaluation comprises different disciplines.
Evaluation of universities

• Ordered by the Ministry of Science & Research
• Goal: Resource allocation
• Level: Universities (15 universities in Austria)
• Instrument: “performance agreement” btw Ministry & each university (every 3 yrs; referring to 3 areas of responsibility: teaching, research, infrastructure & strategic development)
• Indicators:
  - Core research indicator:
    Number of scientists employed by the university
    weighting: min 80%
  - Additional “competitive research indicators”
    weighting: together max. 20%
    ‣ Income from third-party funded research projects (research grants and projects funded by industry)
    ‣ PhD-students employed by the university
Evaluation of universities

- Problematic:
  - mainly input-variables
  - do not reflect the research achievements

- (Hidden) agenda:
  - not primarily to support excellent research, but to guarantee, that each university gets nearly the same percentage of the total government funding as a core funding as in the previous years (including a slight strategic incentive)

- Support of excellent (fundamental) research: by Austrian National Science Fund (FWF)
Evaluation of faculties / departments / research groups

- Mainly ordered by university (rarely initiated by the respective units themselves)
- Goal: mainly resource allocation to faculties/departments/research groups; strategic decisions
  → Comparison of different disciplines (faculties/departments)

- **Often quantitative evaluations** -
  Frequently used indicators:
  - Number of journal publications (WoS/Scopus)
  - Income from third-party funded research projects (research grants and projects funded by industry)

Of increasing importance:
- Prestigious research grants
  ‣ European level: ERC-Grants (ERC)
  ‣ National level: START-Award & Wittgenstein-Award (Austrian Science Fund)
Sometimes modification of this way of proceeding:

- 2 publication indicators instead of 1:
  ‣ Number of journal publications (WoS/Scopus) AND
  ‣ Number of journal publications (WoS/Scopus) plus peer-reviewed conference papers (WoS/Scopus & non-WoS/Scopus)
  ➔ a kind of double-entry bookkeeping

- 2 indicators instead of 1 with regard to income from third-party funded research projects/grants:
  ‣ Income from industry funded research projects AND
  ‣ Income from competitive research grants (peer-reviewed; e.g. FWF = Austrian Science Fund)

- weighting / rank order of journals (e.g. modified legacy Australian listing)

Rankings & benchmarking are of little importance.
• Rarely qualitative evaluations based on key data:
  »Informed peer-review process«
  → especially when evaluation is initiated by the respective units themselves
  In this case: goals usually focus on getting feedback with the view of improving one’s performance etc.
Individual-related evaluation

Hiring, internal promotion (e.g. tenure decision), ...

Responsible: Rector / Vice-Chancellor in cooperation with the Dean/Head of CS faculty/department

Mainly »informed peer-review process«:
Qualitative approach, underpinned & supplemented by quantitative data, where it is appropriate & makes sense.
→ Comprehensive quality-oriented evaluation
→ Renowned international reviewers

Main focus:
• International standing & appreciation by the scientific community
• Quality of research activities

Basis:
Application / file (candidate dossier)
(often incl. [5] most relevant publications)

Peer-review process = mandatory when hiring professors at universities
Individual-related evaluation

Evaluation criteria

• Quality of publications (incl. conference papers)
• Creativity / originality of research activities
• Prestigious research grants & awards (ERC grants, Wittgenstein Award, START Award, …)
• Research grants (based on competitive processes - peer review: e.g. FWF=NSF)
• International standing / reputation / visibility
• Mentoring (PhD supervisions)
• International research cooperations
• If applicable: academic development potential
• (Funding by industry) - increasing doubts, whether this as a good criterion for evaluating research quality
• (Interdisciplinary collaborative research)
• (Artefacts)
• (Impact: societal, economic, …)

Bibliometric indicators are usually only ancillary tools - and not a central/official criterion.

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Individual-related evaluation - special challenge:
Comparative evaluation of individuals from different fields of CS

• Why? Announcements of open positions
  - which do not only address one very specific field of CS
  - but address scientists from several fields of CS
→ result in a larger number of high quality applications
→ perfect instrument for hiring excellent people

• *Comparative evaluation of individuals from different fields of CS
by »informed peer reviewing« is demanding, but it works* (→ *positive experiences*)
Precondition: renowned international reviewers (3-4) from each field (domain), forming domain-specific panels
Procedure:
1. Peer reviewing of each “candidate” by 3-4 expert(s) from their field (domain-specific panel)
2. Consolidation within the domains (by reviewers of the domain-specific panels)
3. Consolidation across domains (by chairs of domain-specific panels) → shortlist
4. Final decision: Hearing with the shortlisted candidates; discussion and decision
Problematic issues:

- (Ongoing) **comparisons between disciplines** on basis of journal publications (WoS/Scopus) by university management

- Income from **funding by industry** (= input variable) as indicator of research quality of faculties/institutes
  → due to lack of peer reviewing etc.

- **Need for a great number of peers for peer reviewing**
  → challenging (for the institutions looking for reviewers as well as for the colleagues asked to serve as reviewers)

- Another matter altogether - but not less important: **Peer reviewing of research grant proposals**: Different approaches to reviewing in different disciplines (i.e.: different & discipline-specific reviewing cultures):
  - *in computer science*: often hypercritical reviews even with regard to excellent proposals;
  - whereas *in some other disciplines*: reviewers are really enthusiastic about excellent proposals
  → due to lack of money for funding: Austrian Science Fund frequently rejects proposal submissions even if only 1 review includes minimal criticism

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Certainly important

Important, too - should be fostered

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Research evaluation practice in Austria

The End

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