The Flemish Research Discipline Standard
Review & update procedure.

Neyens E., Eldin A., Hoang S., Poelmans H.,
Araboeli T., EuroCris Nijmegen 2022.
Agenda

- Flemish Research Discipline Standard
  - Background & structure
  - Use purposes
  - Need for an update
  - Review & update procedure
  - Main outcomes
  - Limitations of the current approach
  - Towards a new framework
Background

- **Flemish Research Discipline Standard**
  - Classification scheme to classify researchers & research output by research discipline
  - Developed by Vancauwenbergh & Poelmans (2019)
    - At the request of the Flemish government: Departement of Economics, Science & Innovation
    - To streamline administrative research reporting in the Flemish research landscape
  - Peeters et al. 2011: Report on the streamlining of research reporting
    - Merge multitude of research discipline classifications into one uniform standard
ECOOM-UHasselt: 1 uniform discipline code list

• A single Flemish classification for research disciplines that:
  • covers all research in Flanders
  • provides a semantic definition for all disciplines
  • convertible to the most common (inter)national classification systems by means of concordance tables

• Classification governance & quality control

• Implemented by all Flemish stakeholders
  • knowledge institutions, funding agencies, Flemish interuniversity council, Flemish government,...
Structure of the FRDS

- 4 hierarchical levels
  - Level 1: 7 codes
  - Level 2: 42 codes
  - Level 3: 382 codes
  - Level 4: 2866 codes
### Structure of the FRDS

<table>
<thead>
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Research reporting

Expert knowledge
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Research reporting

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<td>02010101 Architectural engineering</td>
<td>Architectural engineering is the discipline concerned with the design and construction of buildings and structures.</td>
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<td>Structural design is the discipline concerned with the methods and techniques used to design structures.</td>
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<td>0201010102 Structural optimisation</td>
<td>Structural optimisation is the discipline covering studies of the optimum structural design.</td>
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<td>0201010103 Sustainable building</td>
<td>Sustainable building is the research field referring to both human and natural environments.</td>
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<td>0201010104 Urban and regional design, development and planning</td>
<td>Urban and regional design is the research field studying the urban development of human settlements.</td>
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<td>Housing markets, development, management is the research field focusing on the housing sector.</td>
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<td>Landscape architecture, history and theory is the research field studying urban development.</td>
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<td>All subdisciplines of ‘art studies and sciences’ that are not covered by other disciplines.</td>
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<td>Interior architecture history and theory is the research field studying the history of interior architecture.</td>
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<td>Digital and interaction design is the research field studying the design of digital interfaces.</td>
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<td>Inclusive design is the research field studying the design of accessible interfaces.</td>
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<td>All subdisciplines of ‘civil and building engineer’ that are not covered by other disciplines.</td>
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Research reporting
Expert knowledge
Structure

- 4 hierarchical levels
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- A definition for each discipline
- Monitor new disciplines: “Not elsewhere classified” category

- 3 interdisciplinary topics
  - Architecture, mobility, and nanotechnology
  - visibility
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- **Translation tables available**
  - 1 FRDS code => N codes
  - N codes => 1 FRDS code
Use of the Flemish Research Discipline Standard

- **FRIS**
  - Visualization portal (level 4)
    - Researchers
    - Organizations
    - Projects
    - Infrastructure
    - Datasets
  - Financial reporting (level 2): spending by funding stream and discipline

- **Annual reporting universities**
  - Spending by cash flow and discipline (level 2)
Use of the Flemish Research Discipline Standard

- FWO
  - Indication of project disciplines (level 4)
  - Indication of researcher expertise (level 4)
- VLIR personnel statistics
  - Reporting personnel (level 2)
- Human Resources in Research Flanders (HRRF)
  - Monitoring research careers (level 4)
- Ad hoc: designation of research expertise in Flanders
  - Sciensano
Why do we need an update?

- Evaluation of implementation
  - After 4 years of use: Where are the gaps?

- Ensure continuity of a single classification in Flanders
  - Synergy with gaps stakeholders

- Research community dynamics

- International evolutions
  - Update ANZSRC in 2020
  - FORD
Review & update procedure: 4 phases

Phase 1: Recording Gaps
- Recording of gaps: disciplines & definitions
- Reporting via ecoom@uhasselt.be
- Use of the "not elsewhere classified" categories
- Analysis of international classifications: ANZSRC, FORD/FOS

Phase 2: Gap Analysis
- Structural/technical gaps: stakeholder advice
- Content level gaps: Levels 1&2; Levels 3&4: **targeted expert consultation**
Review & update procedure: 4 phases

Phase 3: Evaluation
- Present recommendations stakeholders/experts to Research discipline steering committee
- Steering committee decides what changes to implement

Phase 4: Implementation
- Process within each institution
- Guidance by ECOOM-Hasselt
- Technical (if desired)
- Formulate approach to transition
- Draw up translation tables
Review & update process: outcome

- Level 1: 7 master codes: no changes at this level

- Level 2: 42 codes => 43
  - Split ‘Sociology and anthropology’ into ‘Sociology’ & ‘Anthropology’
  - 1 discipline renamed
Review & update process: outcome

- **Level 3:** 382 codes => 385
  - 1 discipline split: ‘Statistics & numerical methods’ into ‘Statistics’ & ‘Numerical methods’
  - 2 disciplines relocated (Paramedical sciences to health sciences)
  - 18 codes added
  - 15 codes deactivated
  - 1 code renamed

- **Level 4:** 2866 codes => 2924 codes
  - 167 codes added
  - 109 codes deactivated
  - 6 codes renamed
  - 16 definitions adapted
Limitations of the current approach

▪ Targeted expert consultation
  ▪ Labour intensive & time consuming
  ▪ Experts are hard to reach
  ▪ Voluntary basis
  ▪ Lack of sufficient argumentation
  ▪ Experts who don’t agree: seek consensus
  ▪ New questions & proposals
Towards a new automated update process

- **Automate gap collection**
  - platform with interface where researchers can report a gap & provide sufficient argumentation/info + references
  - Not elsewhere classified category: automated notification
    - Free text field: describe missing discipline

- **Eligibility phase: set of standard criteria**
  - Level of adjustment
  - Number of times the gap was reported
  - Number + quality of the arguments + evidence provided

- **Automate process of finding & contacting experts**
  - Domain experts receive notifications + feedback requested
  - Public voting system

- **AI algorithm to track new disciplines**
Thank you.

Evy Neyens
Evy.neyens@UHasselt.be