



Bibliometrics as a pathway to (future) research strategies

Case study – seeking research excellence

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Research topics

Background

One of the unintended effects of the national indicator-based evaluation in the Czech Republic is a danger of prioritizing quantity of publications before quality. The output of the evaluation has 100% influence on core funding of research from the state budget. Therefore, many research organizations are adopting national model for analysing their research performance and measuring „quality“. Misused journal-level indicators in the evaluation simplify the necessary complex view at the research performance.

In opposition to this trend, Masaryk University implements bibliometric service as a supporting tool in evaluative and decision-making procedures and strategies.

As a case study, we introduce our approach to investigate the research excellence with bibliometric methods.

Objectives

Primary objective

To identify „Focus topics“ for official promotion of the university research (evidence-based).

Secondary objective (beyond official)

To map university's research potential and to draw attention to individuals' excellence in contrast with traditional faculty research trajectories.

Our approach

Bottom-up

Identification of influential research topics

- Identification of publications above threshold of various indicators: top percentiles, normalized citation impact, visibility.
- Network analysis of the dataset: identifying authors, author clusters, (micro)fields, keywords.
- Interpretation of network analysis: specific research topics.

Essential Science Indicators

- Network analysis of highly-cited publications: identifying authors, author clusters, fields.
- Other production of affiliated authors was investigated to verify the reliability of the highly-cited indicator (hot topics and traditional topics with long-lasting impact).

Top-down

Involvement of faculties

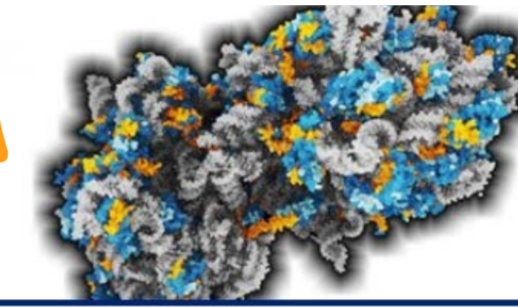
- Vice-deans were requested to choose one or more focus area of the faculty. Recommended empiricism; tradition; prestigious grants; national evaluation; awards.
- Analysis was reviewed and communicated with vice-deans for research.

Results

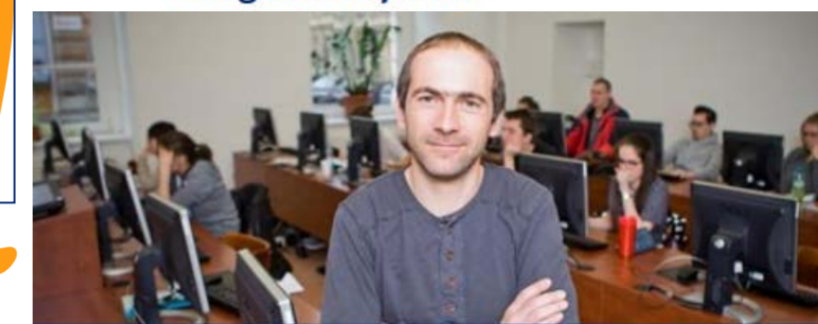
1. Results of both top-down and bottom-up approaches met well (synergy).
2. Both panoramic and fine granular view of research environment:
 - Official presentation of focus topics (web, media)
 - „Hot topics“ and „Classics“ identified
 - Profile map of research fields (size & impact)
3. The university community adopted practise of promoting and awarding excellence.



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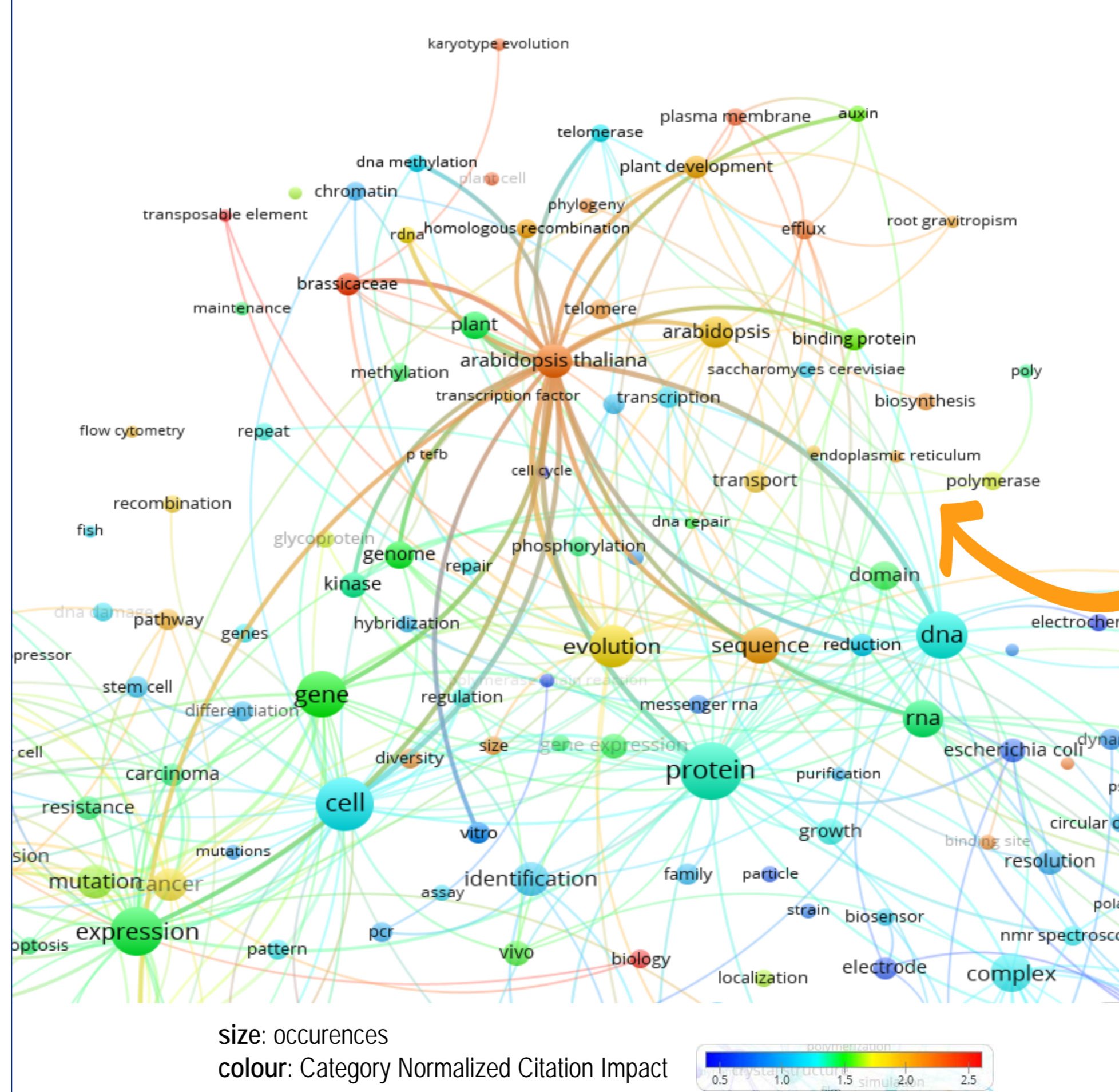
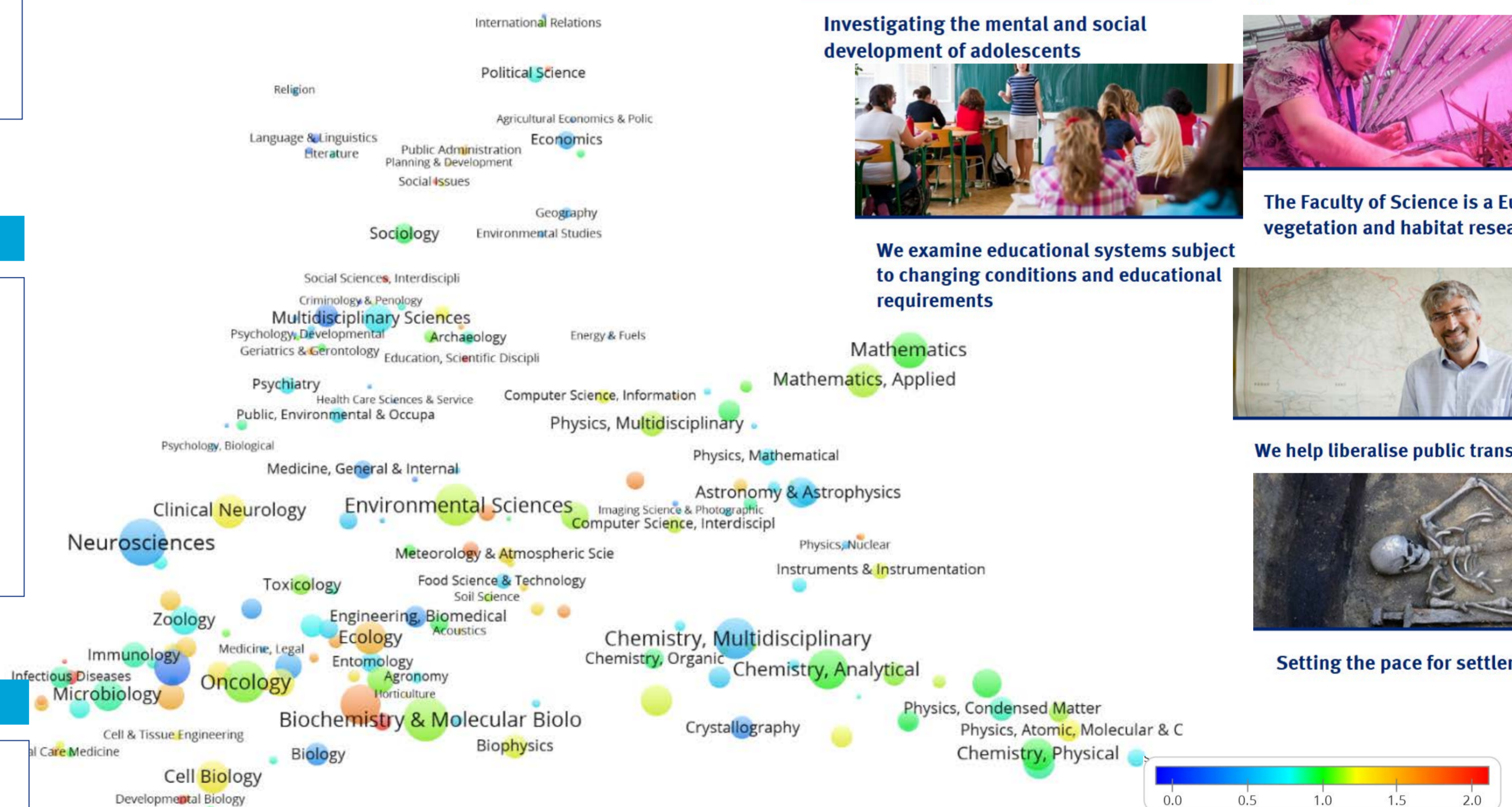
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Discussion

This work resulted in many supporting graphs and tables and in benchmarking Masaryk University within the Czech Republic. Stakeholders were aware of further interpretation of the data.

Dean of the Faculty of Science quoted: „...excellent results are produced mostly by small specialized teams concentrated around a few individuals. Production of internationally excellent results is at units of the faculty size possible only in a few microfields.“

What is the most important, valuable cultivating discussion started. In comparison with points from the national evaluation, the traditional measure of „quality“, other value of research results was identified. This helped to build a trust in bibliometrics as a useful research-supporting tool. We have registered an increasing demand for further bibliometric monitoring, which led us to establish Centre for Scientometric Support.

We are still on a pathway to evaluation-based research strategies.