



Strategic Management in Science at National and Institutional Levels

12 June 2023, CEITEC MUNI, Brno



Conclusions and Recommendations of Panel Discussions

The Czech-Slovak conference on strategic management in science provided an opportunity for the leaders of both countries to meet with representatives of the management of Czech and Slovak universities and research institutes, ministries, government councils for research, development and innovation, and grant agencies. The aim of the conference was to exchange experiences in strategic research management with an emphasis on creating an environment that supports excellent science. The event was organized by Alliance4Life's member institutions Central European Institute of Technology CEITEC of Masaryk University, Clinical Research Centre FNUSA-ICRC-LF MUNI, and Biomedical Centre of Slovak Academy of Sciences (BMC SAV).



Speakers of the **morning part of the programme** were the Rector of Masaryk University **Martin Bareš**, the Prime Minister of the Czech Republic **Petr Fiala**, the Director General of the Research and Innovation Authority of the Office of the Government of the Slovak Republic **Michaela Kršková**, the Director of CEITEC MUNI **Jiří Nantl**, the Director of BMC SAV **Silvia Pastoreková** and the Head of FNUSA-ICRC-LF MUNI **Irena Rektorová**. The conference was moderated by Alliance4Life's coordinator **Zlataše Novotná**. Information about the objectives and focus of the conference and the morning programme is available [here](#).

This final report summarises the main messages and recommendations of the afternoon's **panel discussions with experts**. They were prepared and moderated by colleagues specialized in the particular subjects who, among others, chair the respective [focus groups](#) of Alliance4Life. The conference participants were divided into two parallel sessions, each attended by about 40 participants from the professional community.

1. **Infrastructure sharing – principles, benefits, and sustainability**
2. **Research assessment reform**
3. **Modern and sustainable HR in science**
4. **Professionalization of research management at research institutions and universities**

1. Infrastructure Sharing – Principles, Benefits, and Sustainability

Topic and participants of the panel discussion:

According to the Western European model, a number of **shared laboratories, so-called core facilities**, have been established at research institutions in our countries, which enable the concentration of equipment in one place and its accessibility not only for internal but also for external users. This sharing maximally facilitates the **efficient use of capacities** within a given institution, but also within the Czech and international scientific community, and is economically much more efficient than purchasing equipment for each research group separately. The **aim of the discussion** was to share the experience with research infrastructures (RIs), their national and international dimension, their financing, evaluation, quality, and sustainability. The panel was attended by the following experts as main discussants:

- **Kateřina Hořková**, Secretary for Research Infrastructure, CEITEC Masaryk University, Chair of Alliance4Life's "Core Facilities" focus group
- **Jozef Masarik**, Vice-Rector for Science and Doctoral Studies, Comenius University in Bratislava
- **Pavel Plevka**, Deputy Director for Infrastructure, CEITEC Masaryk University, Chair of CIISB
- **Vlastimil Růžička**, Technology Centre Prague, formerly Vice-minister for science and higher education at the Ministry of Education, Youth and Sports, and then executive director of ELI Beamlines project



Key messages and recommendations:

- Both the Czech Republic and the Slovak Republic have published a **Roadmap of Research Infrastructures**; however, while the Czech Republic will publish its already fourth update this year based on the international assessment of large RIs, the Slovak Republic published its first Roadmap only in 2021 and currently it is more about mapping the **involvement in ESFRI**¹ and listing research

¹ European Strategic Forum on Research Infrastructures, <https://www.esfri.eu>

institutions, university science parks, and centres of excellence. These RIs primarily serve the institution but do not offer services to other external users. What is therefore missing is the grouping of these institutions into consortia with the aim of creating **disciplinary and technological platforms**.

- The Czech Republic has developed **financial support** through earmarked support and operational programmes, which are directed to the RIs, which is completely lacking in Slovakia. In the Czech Republic, the financial allocation for the RIs has been fixed for several years and the operation of the RI is therefore definitely not 100% financed.
- An important aspect of **RIs co-financing** is charging users, but this must still be affordable to keep the RIs accessible to junior scientists and students. The core funding of the RIs must therefore clearly be maintained. At the same time, a **change is also needed on the part of the grant agencies**, which must include fees for the use of the RIs in the eligible costs of projects, including internal invoicing within a single institution. Provided, of course, that there is a methodology for setting the fee and it is clear what is included in the fee.
- In terms of the **evaluation of RIs**, it is necessary to focus on several recommendations, which are also based on the INFRAM project (TAČR)²: 1. Prepare a strategy for RIs, 2. Ex ante evaluation of RIs (some existing RIs do not fulfill their primary role), 3. Continuous evaluation and monitoring (performance indicators should extend monitoring), 4. Financing (strengthening the financial participation of the RI operator to cover the costs).
- Another important level is the **“self-evaluation of the RIs”**, where the **International Advisory Boards (ISAB)** evaluate all individual units of the RIs, which at the level of a ministerial evaluation are being evaluated as a whole. This resulting evaluation by the ISAB of the given RI should also be part of the evaluation by the provider. It is worth considering how to ensure that the ISAB evaluation is prevented from the influence of the RI.
- **User committees** should play a key role, as the RIs should primarily serve users and therefore, they should have at least an advisory voice in the strategic direction of the RIs.
- RIs should be implemented at the institutional level through **shared laboratories (so-called “Core Facilities”)** that serve as service centres for internal and external users. Therefore, they should not be research groups offering part of the spare capacity on their instrumentation.
- RIs should be used by the **commercial sector**, but it is impossible to set a universal threshold or percentage of such use because the nature of each RI is different.
- **The emergence, demise, and reorganization of RIs** is a natural cycle that keeps the whole funding system viable.

2. Research Assessment Reform

Topic and participants of the panel discussion:

The evaluation of science has been changing significantly over the last decade as the research and innovation sector changes its established publishing practices, as the quantity and diversity of scientific results increase, as the view of excellent science as such increases, and as the overall need for **evaluation as a strategic tool** to support the quality of scientific research increases. Issues focusing on **change and reform of evaluation** at different levels and different types of organizations and on new developments in evaluation represented by the **CoARA** movement³ were discussed together by the following experts:

- **Nikola Kostlánová**, Scientific Secretary, CEITEC Masaryk University, Chair of the Alliance4Life’s “Science Evaluation” focus group
- **Pavel Doleček**, Vice-Rector for Strategic Cooperation and Development, Charles University
- **Ondřej Slabý**, Chair of the Agency for Medical Research of the Ministry of Healthcare

² Technology Agency of the Czech Republic, <https://www.tacr.cz/en>

³ Coalition for Advancing Research Assessment, <https://coara.eu>

- **Pavol Šajgalík**, President of the Slovak Academy of Sciences



Key messages and recommendations:

- The evaluation of science and research is a key strategic tool for the development of research institutions. However, the **evaluation methodology** needs to be carefully considered and chosen appropriately to the objects and objectives of the evaluation.
- The basis of evaluation is sufficient **communication of the objectives** of the evaluation, **the roles** of the individuals involved in the evaluation process, **and the context**, e.g., the overall mission of the organization, its resources, plans and vision, etc.
- In particular, the purpose of the evaluation is to **provide management with feedback, a sound basis for strategic decisions, and recommendations** to the evaluated units leading to the improvement of their scientific excellence.
- In order to objectively assess the quality (excellence) of science, it is essential to use a **peer review process** that can be implemented **at the level of a research group and an institution**.
- However, the use of peer review is problematic for the **evaluation of grants and projects** by funders assessing hundreds to thousands of applications per year, or for the evaluation of research institutions **at the national level**, where peer review is limited by the complexity of securing high quality and sufficiently informed evaluators.
- Peer review is essential because it allows for evaluating a broader range of results and thus avoids the pressure to **create/fabricate bibliometric results**, their subsequent **statistical evaluation**, and the creation of **distorted personal identifiers** of scientific quality.
- Linking the evaluation of grants and projects to a **commitment to producing a certain amount of certain types of results** often leads to the fabrication of data, their subsequent statistical assessment, and a reduction in creativity in research. This practice still exists, especially among funders, despite efforts to minimize key project delivery commitments to some sort of optimal threshold. **Assessing the impact of research** already at the project application stage leads to hyperbolization of possible research impacts and the creation of utopian goals. Nevertheless, it is important to assess the real impact of subsidized research, and cannot be neglected. Impact should be assessed **with the institution's research priorities** and national priorities. Their achievement or non-achievement reflects the degree of impact.
- On the economic issues of **open access to publications**, we need to define national policy, inform the scientific community about negotiations with large publishers, and make efficient use of the financial resources that exist in the system.

Ondřej Slabý: "Based on my experience, there is no good system for evaluating science at the national level. There are only more and less bad methodologies. In my opinion, science can only be fairly evaluated at the level of individual research teams. And even this statement would certainly be disputed by many scientists. That's why we need to strive for change and improvement."

Pavel Doleček: "From my experience at the national and institutional levels, I consider it essential to communicate systematically what is being evaluated, what role it plays in managing people and processes, and what role it plays in the context of, for example, the overall mission of the organization, its resources, plans, and vision, etc. The purpose of an appraisal is to provide feedback to management, to provide a sound foundation, and to create the right incentives, i.e. incentives appropriate to the level and subject matter of the evaluation. These vary at national, institutional, project, or individual levels. For institutional or faculty evaluations, they must primarily provide the basis for management decisions, not encourage mechanical, retrospectively

anchored itemization. Many misunderstandings stem from the simple fact of confusion of levels or inadequately explained purposes of evaluation."

Pavol Šajgalík: "The evaluation of the impact of research is crucial for assessing its quality and cannot be neglected. In every country, research priorities should be set. Their achievement or non-achievement is a measure of impact." **Ondřej Slabý:** "The ability to formulate expected impacts at the initial stage of creating scientific hypotheses is a necessity and an indicator of the need for the research. However, it is not expected that all impacts will manifest immediately after the project is completed."

3. Modern and Sustainable HR in Science

Topic and participants of the panel discussion:

What is meant by the abstract term **human resource management/development policy** and how can it be applied in science? How much of a role do **institutional policies, rules, and processes** play here, and how much do specific research team leaders play? Currently, the "**HR Excellence in Research Award**" (**HRS4R**) label is shaping the HRD landscape in the scientific environment, providing an opportunity for a path of systematic and long-term change in how scientists and researchers are nurtured in their working conditions. The following experts shared views and had a dialogue with the professional audience:

- **Eliška Handlířová**, Head of the Director's Office, Chair of the focus group "HR and Mobility"
- **Tomáš Mozga**, Project Manager, Biological Centre of the Academy of Sciences of the Czech Republic, Vice-President of CZARMA⁴
- **Zuzana Hrabovská**, Head of the Department of Science and Research, Slovak Academy of Sciences
- **Barbora Wahlová**, HR Manager, Masaryk University, HRS4R evaluator



Key messages and recommendations:

- We are in the phase of building modern HR in science. This is a significant **cultural change** from the original HR (paper) work to incorporating a progressive HR policy (working with people). The pressure and dedicated support from the European Commission and grant agencies are crucial, particularly the **HR Excellence in Research Award** certification and Horizon Europe's requirement for **Gender Equality Plans**.
- A specialized profession of "**HR partner/manager in science**" is emerging, which attracts HR specialists from the corporate environment to the academic and research spheres because of its progressive potential.
- The advantage of HR work in science, compared to the corporate world, is greater **autonomy** and more extensive scope for **creative work** tailored to the specific organization, which is also a core principle of the HR Excellence in Research Award.
- The implementation of the HR Excellence in Research Award is a **decentralized process in the Czech Republic**, where institutes operate as autonomous units and manage their own HR awards strategy,

⁴ Czech Association of Research Managers and Administrators, <https://www.czarma.cz/en>

e.g. at the level of individual faculties. **In the Slovak Republic, there is more centralization**, where the head of the institution, i.e. the whole university, is involved in and responsible for the strategy.

- In the coming years, it will be essential to keep all new agendas on track, i.e. to ensure their **sustainability** regardless of the presence of grant funding.
- The creation of new HR policies, processes, and systems is a demanding process requiring publicly declared **support from the management**, practically manifested in allocating **human and financial resources**. The key is formulating a transparent strategy and concepts/policies, i.e. **transparent rules**.
- To successfully implement and maintain a modern HR policy in a scientific institution, it is essential to have knowledge of **change management theory** and experience in shaping the **internal culture of the organization**.
- **The ability to communicate** – both positive and especially negative topics – associated with the implementation of new HR policies can determine the success or failure of many years of work (not only) on the implementation of the HR Excellence in Research Award. Participants agreed that employees greatly appreciate open and transparent communication, and are more willing to accept change and understand its reasons and needs.
- Good HR policies must always include the **perspective and interests of three main groups: senior researchers, the management of the institution, and employees** or job applicants. The area of modern **recruitment**, i.e. attracting and recruiting high-quality scientists and administration staff, is where there is considerable potential for our institutions. At the same time, from the emphasis on “hard” competencies, soft skills must also be considered.

Tomáš Mozga: *"Everything stands and falls on people. Good management of an institution therefore first and foremost invests in the best people. The best brains and hands are recruited through open tenders. It actively integrates new employees into the institution's environment and actively supports their professional development. A good institution also has a system of regular evaluation and feedback from employer to employee, and vice versa from employee to employer. Working with human resources (recruitment, onboarding, mentoring, professional growth, assessment) is the biggest challenge that Czech research institutions need and must address today."*

Barbora Wahlová: *"As HR professionals, we have a unique opportunity to co-create a single European Research Area thanks to the HR Excellence in Research project. We are designing processes and procedures that support "research without borders", i.e. free movement of researchers and knowledge."*

Zuzana Hrabovská: *"In the time of continuous changes, development of information technologies, and the advent of artificial intelligence, the requirements, especially for the quality of employees, are increasing. The need for change is also confirmed by demographic development when the ageing of the population leads to a decline in the quantity and quality of the workforce. The position of human resources is changing in favour of improving the quality of life of employees. Important parameters in employee decision-making include the brand of the organization, its image, career development support, remuneration (not only financial), work-life balance, etc."*

4. Professionalization of Research Management at Research Institutions and Universities

Topic and participants of the panel discussion:

At the European level, the field of management in science is evolving towards professionalization and specialization. The **profession of research manager** is being promoted as a partner who contributes significantly to the quality of scientific performance of individuals, research groups, and the institution. We are referring not only to the project or grant manager profession but also to other professions needed for the **institutional development** within **middle and senior management**, e.g. research infrastructure managers, scientific secretaries, international relations coordinators, ethics consultants, PR managers, PhD managers, technology transfer managers, etc. These positions can be an **option for a successful career in a scientific environment**, including a career after PhD studies. Is the importance and potential of professional managers in science understood and appreciated in our countries? The following experts shared their experiences and recommendations:

- **Zlatuše Novotná**, Coordinator of Strategic Partnerships, CEITEC MUNI, Coordinator of Alliance4Life
- **Zuzana Lisoňová**, Head of the Department of Scientific Research Projects, Comenius University in Bratislava, Project Manager of ACCORD-UK and Lead Coordinator of the ENLIGHT-RISE Alliance
- **Ida Součková Olšová**, Head of Grant Department, MUNI, Chair of CZARMA
- **Michal Otyepka**, Director of CATRIN - RCPTM, ÚPOL, and Head of the laboratory at IT4Innovations, VŠB-TUO in Ostrava, physical chemist, triple ERC grant investigator and EIC Transition project investigator, member of the Scientific Board of the Czech Grant Agency for Life Sciences



Key messages and recommendations:

- The profession of a **research manager** or **research professional** falls into the area of **research governance**, i.e. the area of strategic development and management of the institution. The professional associations EARMA⁵ at the European level and CZARMA at the Czech level are the promoters of development and training in this area and work towards recognizing the profession within the ecosystem of science, research, and innovation.
- **The partnership between a scientist and a manager** is crucial for the **development of excellent science** and beneficial for the **top management of the institution**. For a successful collaboration, it is important to define its scope, i.e. mutual roles and expectations so that symbiosis can occur. Scientists are able to understand that they need guidance and direction in certain areas (e.g. European grants lead scientists in a specific direction) and that current project practice would be unsustainable for the scientists themselves without managers. Mutual respect is therefore necessary. Top management's understanding of the benefits of the profession then depends on the **institution's culture**.
- **Centres of Excellence/University Institutes** have the potential to initiate progressive change in this area, partly due to the pressure to ensure funding from international and external sources. CEITEC or CATRIN can serve as good examples.
- In practice, it turns out that a **PhD degree is not necessary** to qualify for the profession, but it **can be an advantage**, especially at the beginning of the collaboration, for specific competencies and a faster establishment of trust and respect from the scientists. However, hard competencies can be learned and acquired through practice; more important are **personal qualities** such as willingness and interest to perform above the "standard", helpfulness, proactivity and orientation towards collaboration and solution finding, open and honest communication, ability to act diplomatically, etc.
- **Barriers to recruitment and training** reflect the complexity and difficulty of the profession. These include both personal barriers, such as the time and stress associated e.g. with grant submission deadlines, and systemic and financial barriers, such as costly training, lack of or low availability of specialized training, the need to sustain competitive salaries also after the completion of projects, grants, and funding programmes from which these positions are sometimes being funded, etc.
 - **The structure of administration and management** in the scientific institutions of the future should include both a classical administrative "back office" and a developmental "front office", both of which are equally necessary for the success of modern institutions and should therefore be kept in balance.

⁵ European Association of Research Managers and Administrators, <https://earma.org>

- It is also worth considering examples where **vice-rector and vice-dean positions** are open to professionals outside of science and academia, who enrich research institutions with experience and contacts from the public sphere or business. In any way, it is essential that the division of work between academicians and scientists on the one hand and research managers on the other is **not a division of irresponsibilities**, but the opposite.

Ida Součková Olšová: "Yes, I can spend much time looking for the best connections, hotels, their reviews, and places to see before a holiday in an unknown place, but it might be better to leave it to someone who knows the area, has local contacts and knows what is good to see and experience. And sometimes it pays to consult even about places I think I know well."

Michal Otyepka: Financing university research institutes requires multi-source financing, the focus of which lies mainly on international projects. Success in international competition requires a completely professional approach and close cooperation between the scientist and the project manager from the grant application phase, through the implementation of the project, to the transfer of science and research results. As a result, university institutes accumulate unique know-how that can initiate positive changes not only in the management of scientific research at universities but also in education, science, and research itself, and the transfer of science and research findings into practice. University research institutes can become a key instrument for the further development of research universities to become true centres of education and progress in society.

5. Conclusion

The conference Strategic Management in Science was a follow-up to the **national round tables on research policy "How to help positive change?"**, which Alliance4Life held in Prague and Bratislava in 2019, and is also the third edition of the conference **Institutional Management in Research** which CEITEC MUNI organized in 2018 and 2019. Similar conferences and round tables to promote positive change in research and innovation are being organized in all eleven countries covered by Alliance4Life.

Alliance4Life brings together **twelve research institutions and universities from eleven CEE countries** that have decided to share their experiences in overcoming barriers and specificities in science policy at the national level as well as their best institutional practices that are already bringing positive change. The aim of the Alliance is to contribute to **raising the level of life sciences** in countries lagging behind in the European Union both in overall research excellence and in knowledge transfer towards innovation. In doing so, it considers both the **institutional progress**, which cannot be achieved without the satisfaction and motivation of excellent scientists, in particular the **working environment, culture, and the existence of a strategy**, and also the **conditions** that give the science environment a framework **at national levels** as key factors determining the long-term success of a scientific institution.

Contact details: Zlatuše Novotná, zlatuse.novotna@ceitec.muni.cz



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 964997. This document reflects the view of Alliance4Life's consortium and the European Commission is not responsible for any use that may be made of the information it contains.