Establishing a Laboratory of Cultural Heritage in Central Romania (ELABCHROM)

D2.4. Guide of Best Practices in Research Management

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List of Acronyms

CoARA - Coalition for Advancing Research Assessment

DMP - Data Management Plan

DOI - Digital Object Identifiers

DORA - San Francisco Declaration on Research Assessment

ECSA - European Citizen Science Association

EEN - Enterprise Europe Network

ERA - European Research Area

ERC - European Research Council

GDPR - General Data Protection Regulation

JYU - University of Jyväskylä

LBUS – Lucian Blaga University of Sibiu, the coordinating institution of ELABCHROM

MSCA - Marie Skłodowska-Curie Actions

NCP - National Contact Points

RDISO – Research, Development and Innovation Support Office

RRI - Responsible Research and Innovation

UEFISCDI - Executive Unit for the Financing of Higher Education, Research, Development, and Innovation

Table of Contents

PART I - Introduction and Institutional Context

1. Introduction

This guide was developed through participation in training courses in Jyväskylä and Dijon, within the framework of the project *Establishing a Laboratory of Cultural Heritage in Central Romania* (ELABCHROM).

The Guide to Best Practices for Research Unit Management adopted by Université Bourgogne Europe in July 2025 emphasizes that effective research unit management relies on structured governance mechanisms, strategic planning, and transparent internal communication. Research unit directors are encouraged to establish clearly defined leadership structures, including advisory committees or steering boards that support decision-making processes and ensure balanced representation of research staff.

The guide also recommends the implementation of periodic evaluation mechanisms to monitor scientific performance, financial management, and research impact. These evaluations may include internal assessments, external scientific advisory boards, and regular reporting procedures to institutional leadership. Such practices help ensure accountability and support the continuous improvement of research activities.

Furthermore, research unit leaders are encouraged to promote career development and mentoring for early-career researchers, including doctoral candidates and postdoctoral researchers. Mentoring structures, structured onboarding processes, and professional development activities are recommended to strengthen research capacity and support academic career progression.

Another important recommendation concerns responsible resource management, including transparent allocation of research funding, support for shared research infrastructures, and strategic planning for equipment acquisition and maintenance. These practices contribute to sustainable research development and facilitate interdisciplinary collaboration.

2. The purpose of the guidelines

The purpose of this guide is to provide a theoretical foundation for best practices through which the Research, Development and Innovation Support Office (RDISO) can assist individuals conducting research at Lucian Blaga University of Sibiu.

PART II – Research Governance and Institutional Support

3. Research Governance and Best Practices for Research Unit Management

The effective governance of research units requires the implementation of structured management practices that ensure transparency, accountability, and strategic coordination of research activities. According to the *Guide to Best Practices for Research Unit Management* adopted by Université Bourgogne Europe in July 2025, research unit leaders play a central role in organizing the scientific, administrative, and financial activities of research teams.

The guide recommends establishing clear governance structures, including the definition of roles and responsibilities for research unit directors, deputy directors, administrative staff, and research team leaders. Transparent decision-making processes and regular internal communication mechanisms contribute to strengthening collaboration within research teams and improving institutional coordination.

Another key element emphasized in the guide is the implementation of monitoring and evaluation mechanisms. Research units are encouraged to periodically assess their scientific production, project management performance, and international visibility. Such evaluations may involve internal reporting procedures, external scientific advisory boards, and periodic strategic reviews.

The document also highlights the importance of supporting early-career researchers, including doctoral candidates and postdoctoral researchers. Mentoring systems, structured integration programs, and professional development opportunities are recommended in order to facilitate career development and strengthen the sustainability of research teams.

Responsible management of research infrastructure and financial resources is also considered essential. The guide encourages the adoption of transparent procedures for the allocation of funding, shared use of research equipment, and strategic planning for research infrastructure investments.

These governance principles contribute to strengthening research performance and ensuring compliance with institutional and national research policies (Université Bourgogne Europe, 2025).

Research Governance in the European Research Area

The European Research Area (ERA) represents a strategic framework established by the European Union to strengthen the coordination of research and innovation activities across Europe. ERA policies aim to create a unified research system that facilitates the

free circulation of researchers, scientific knowledge, and technology (European Commission. (2020). *A New European Research Area for Research and Innovation*).

Research governance within the ERA is based on several key principles designed to improve the efficiency, quality, and societal relevance of European research systems (European Commission. (2022). *European Research Area Policy Agenda 2022–2024.*).

Open and Collaborative Research Environment. European Research Area (ERA) policies place strong emphasis on fostering an **open and collaborative research environment** as a cornerstone for excellence, innovation, and societal impact. This approach promotes research ecosystems in which knowledge is co-created across institutional, disciplinary, and national boundaries, enabling more robust and inclusive responses to complex global challenges. Such an environment encourages interdisciplinary cooperation, bringing together expertise from across the social sciences, humanities, natural sciences, and technological fields. By integrating diverse perspectives, research moves beyond compartmented approaches and is better equipped to address multifaceted issues – such as digital transformation, cultural change, or societal resilience – in a holistic manner. Equally important is the strengthening of international partnerships, which expand the reach and quality of research activities. Collaboration across countries facilitates the circulation of knowledge, methodologies, and data, while also promoting shared standards and mutual learning. These partnerships contribute to building a more cohesive and competitive European research landscape, aligned with ERA priorities of openness and inclusivity. ERA policies also highlight the importance of knowledge exchange between academia, industry, and public authorities. This model ensures that research is not only scientifically substantiated but also socially and economically relevant. Engagement with industry partners supports innovation, scalability, and the practical application of results, while collaboration with public institutions helps align research with policy needs and societal priorities. A key enabling factor in this ecosystem is the adoption of Open Science practices, including open access publishing, data sharing, transparent methodologies, and participatory approaches. These practices enhance the accessibility, reproducibility, and societal uptake of research outcomes, while also fostering trust and accountability in science. Ultimately, an open and collaborative research environment – as envisioned by the ERA – creates the conditions for dynamic knowledge ecosystems, where ideas, skills, and resources circulate freely. This not only strengthens Europe's research and innovation capacity but also ensures that scientific advances are effectively translated into tangible benefits for society.

Researcher Mobility and Career Development. The European Research Area promotes mobility of researchers across institutions and countries through initiatives such as EURAXESS, Marie Skłodowska-Curie Actions (MSCA), and European Research Council (ERC) grants. These initiatives contribute to strengthening international research collaboration and improving career opportunities for researchers (EURAXESS. (2024). *Researchers in Motion – European Research Careers*).

Open, Transparent, and Merit-Based Recruitment. European research governance emphasizes the importance of open, transparent, and merit-based recruitment procedures for research positions. Such practices ensure equal opportunities for researchers and contribute to improving the overall quality of research institutions.

Gender Equality and Inclusiveness. ERA policies promote gender equality and inclusiveness in research environments. Research institutions are encouraged to implement Gender Equality Plans (GEPs) and to ensure balanced representation of researchers in leadership positions.

Responsible Research and Innovation. Responsible research governance integrates ethical reflection, public engagement, and open science practices into the research process. By aligning research activities with societal needs and values, ERA policies aim to maximize the societal impact of scientific knowledge.

Through the adoption of ERA governance principles, universities contribute to strengthening the integration of European research systems and improving the global competitiveness of European science.

4. Considerations on Research Ethics

The formulation of the fundamental principles underpinning the activities of faculty members, undergraduate, master's, and doctoral students at Lucian Blaga University of Sibiu is firmly grounded in full compliance with all mandatory norms established by national and international regulatory frameworks. These principles reflect a comprehensive commitment to upholding core democratic values and ethical standards across all dimensions of academic life, ensuring that education, research, and institutional governance are conducted in a responsible, inclusive, and legally compliant manner.

At the heart of this framework lies a strong respect for human rights, equal opportunities, and non-discrimination, ensuring that all members of the university community are treated with dignity and fairness, regardless of gender, ethnicity, religion, disability, or socio-economic background. This commitment is complemented by the active promotion of positive discrimination measures in support of disadvantaged or underrepresented groups, fostering inclusivity and broadening participation in higher education and research.

The university also safeguards freedom of expression and access to information, alongside academic freedom, as essential conditions for intellectual inquiry, critical thinking, and innovation. These principles ensure that both staff and students can pursue knowledge, debate ideas, and disseminate results without undue restriction, within the boundaries of ethical and legal standards.

Respect for property rights, and particularly intellectual property, is another key pillar, guiding research conduct, publication practices, and collaboration with external partners

in accordance with applicable legislation. This is closely linked to the institution's adherence to consumer protection standards, ensuring transparency, accountability, and quality in educational services provided to students.

In line with evolving societal and technological challenges, the university places strong emphasis on personal data protection, including sensitive categories such as genetic data, ensuring compliance with data protection regulations and ethical standards in both research and administrative processes. Furthermore, the institution demonstrates responsibility toward broader societal and environmental concerns by integrating environmental protection and animal welfare considerations into its academic and research activities.

Overall, these principles form a coherent ethical and regulatory framework that guides the university's mission and daily operations, ensuring that all activities are conducted in alignment with applicable legal provisions while promoting a culture of integrity, responsibility, and respect within the academic community.

Universities typically adopt institutional codes of conduct that establish the ethical principles guiding the behavior of members of the academic community. According to the Code of Conduct of the JYU, these principles include respect, equality, academic freedom, responsibility, and transparency in decision-making processes (University of Jyväskylä. (2024). *Code of Conduct*). Similarly, Université Bourgogne Europe's adopted *French Charter of Ethics for Research Professions* stipulates impartiality and academic integrity as fundamental values in performing research (University of Burgundy. (2015). *French Charter of Ethics for Research Professions*).

Members of the academic community are expected to promote respectful interaction, avoid discrimination or harassment, and contribute to maintaining a safe and inclusive academic environment. The code of conduct also defines procedures for reporting misconduct and ensuring that ethical concerns are addressed in a fair and transparent manner.

HOW?

I. Establishing the Scientific Research Ethics Committee. At Lucian Blaga University of Sibiu, the Scientific Research Ethics Committee (CECS) is established as an independent and autonomous body with a central role in safeguarding the integrity, responsibility, and ethical quality of all research activities carried out within the institution. Acting in accordance with national legislation and international standards, the Committee is responsible for the ethical evaluation and oversight of proposed research projects, particularly those involving human participants and/or animal subjects. CECS fulfills its mandate through the review and approval of research protocols, issuing official ethics approvals that confirm compliance with applicable ethical requirements before the initiation of any study. This process includes the assessment of key

aspects such as informed consent procedures, data protection measures, and confidentiality safeguards, as well as respect for the dignity, rights, and welfare of research participants, and adherence to animal welfare regulations where relevant, as per the *European Code of Conduct for Research Integrity,* adopted by Université Bourgogne Europe (ALLEA – All European Academies. (2018). *Code de conduite européen pour l'intégrité en recherche*). Beyond its evaluative function, CECS plays a proactive role in promoting a culture of ethical awareness and responsibility across the university. It contributes to the dissemination of good research practices, provides guidance and recommendations to researchers, and supports the integration of ethical considerations throughout the entire research lifecycle-from project design to dissemination of results. The mission of CECS is therefore twofold: to ensure strict compliance with ethical principles and regulatory frameworks governing scientific research, and to encourage high-quality, responsible research practices that align with international standards of integrity and accountability.

II. Avoidance of conflicts of interest through dedicated procedures and commitments. ULBS establishes clear procedures to identify, prevent, and manage potential conflicts of interest at all stages of the research process. These include mandatory disclosure requirements, transparent decision-making mechanisms, and, where necessary, recusal from evaluation or decision processes. Researchers and staff are expected to formally commit to these principles, ensuring that personal interests do not interfere with professional responsibilities or the integrity of research outcomes.

III. Clear definition of conflicts of interest. Conflicts of interest are explicitly defined to include financial, professional, or personal interests, as well as attitudes or actions that may influence objectivity or impartiality. This includes situations where personal gain, external affiliations, or prior relationships could compromise – or appear to compromise – the independence of judgment. By clearly articulating these categories, ULBS ensures a shared understanding and consistent application of its research integrity policy.

IV. Respect for equal opportunities and prevention of discrimination. The institution is committed to fostering an inclusive academic environment grounded in equal opportunities, fairness, and respect for diversity. All forms of discrimination – whether based on gender, age, ethnicity, disability, religion, sexual orientation, or socio-economic background – are strictly prohibited. Policies and practices are designed to promote diversity, inclusion, and equitable participation across all academic and research activities.

V. Equal access to research resources. In order to support excellence and fairness in research, the institution ensures that all members of the academic community – including faculty, researchers, and students – have equitable access to the resources necessary to carry out their work. This includes infrastructure, funding opportunities, data, laboratories, and institutional support services. Access is granted based on transparent criteria, regardless of hierarchical position, academic rank, or affiliation, thereby promoting merit-based and inclusive research practices.

VI. Harmonization of environmental protection policies. The institution integrates environmental sustainability principles into its research and operational activities, aligning its policies with national and European environmental standards. This includes promoting responsible use of resources, minimizing environmental impact in research practices, and encouraging projects that contribute to sustainability goals. Harmonization ensures coherence across departments and activities, reinforcing the institution's commitment to environmentally responsible research and innovation.

Scientific Integrity and Responsible Conduct of Research

Scientific integrity represents a fundamental component of responsible research conduct and constitutes a cornerstone of academic excellence and societal trust in science. It refers to the set of ethical principles, professional standards, and good practices that guide researchers in ensuring the reliability, transparency, reproducibility, and credibility of scientific knowledge throughout the entire research lifecycle – from project design and data collection to analysis, publication, and dissemination.

At Université Bourgogne Europe, scientific integrity is actively promoted through a coherent institutional framework that combines policies, guidance mechanisms, and awareness-raising initiatives. These are aligned with internationally recognized reference documents such as the European Code of Conduct for Research Integrity and the Singapore Statement on Research Integrity, which establish shared principles and standards across the global research community.

Within this framework, particular emphasis is placed on core values including honesty in reporting methods and findings, reliability in ensuring methodological rigor and reproducibility, respect for research participants, colleagues, and society, and accountability in all aspects of research practice. These principles are reflected in institutional expectations regarding proper data management, transparent authorship and publication practices, avoidance of plagiarism and fabrication, and responsible handling of conflicts of interest.

Furthermore, the university supports scientific integrity through training programmes, advisory structures, and dedicated procedures for addressing potential breaches of ethical conduct. Researchers are encouraged not only to comply with these standards but also to actively contribute to a research culture based on openness, critical reflection, and mutual trust.

By embedding scientific integrity into its institutional practices, Université Bourgogne Europe ensures that research activities meet the highest ethical and professional standards, thereby enhancing the quality, impact, and societal relevance of the knowledge produced.

In order to support these principles, Université Bourgogne Europe has appointed a Scientific Integrity Officer (*Référent Intégrité Scientifique*) whose responsibilities include promoting awareness of good research practices, advising researchers on ethical issues, and assisting in the prevention and management of potential cases of scientific misconduct.

The role of the Scientific Integrity Officer is central to fostering a culture of responsible and ethical research within the institution. This position encompasses a broad range of responsibilities aimed at ensuring that all research activities are conducted in accordance with the highest standards of scientific integrity, transparency, and accountability.

- Promoting training activities related to responsible research conduct: The Scientific Integrity Officer designs, coordinates, and delivers educational programs and workshops to raise awareness of ethical principles, good research practices, and compliance with institutional and international standards. These activities target researchers at all career stages – faculty, postdoctoral fellows, and students – and may cover topics such as data management, authorship, conflicts of interest, and the ethical treatment of human and animal subjects. By embedding these principles into the daily practice of research, the Officer helps cultivate a proactive, integrity-driven research environment.

- Providing confidential guidance to researchers facing ethical dilemmas: Researchers often encounter complex situations where ethical considerations must be weighed against practical or professional pressures. The Scientific Integrity Officer serves as a confidential advisor, offering guidance on potential conflicts, ethical challenges in experimental design, collaborative work, data handling, and publication practices. This support helps researchers navigate difficult decisions without fear of reprisal, while maintaining compliance with institutional and legal requirements.

- Supporting institutional procedures for investigating allegations of research misconduct: In cases where concerns arise regarding suspected misconduct – such as data fabrication, falsification, plagiarism, or breaches of ethical guidelines – the Scientific Integrity Officer plays a key supporting role. This includes advising

committees, ensuring procedural fairness, maintaining confidentiality, and assisting with the collection of evidence. The Officer ensures that investigations are conducted in accordance with established protocols, safeguarding both the rights of the individuals involved and the integrity of the research process.

- Contributing to the development of institutional policies aimed at strengthening research integrity: The Officer participates in the design, review, and implementation of policies, guidelines, and frameworks that reinforce responsible conduct in research. This may include drafting codes of conduct, procedures for handling conflicts of interest, open science policies, and standards for data management and sharing. By continuously updating these policies in line with national and international best practices, the Officer ensures that the institution remains at the forefront of ethical research governance and fosters a culture of accountability, transparency, and excellence.

Universities are increasingly recognizing that promoting a culture of research integrity is essential for sustaining high-quality, credible, and socially responsible scientific activity. To achieve this, they are encouraged to implement comprehensive training programs, workshops, and awareness campaigns that address the full spectrum of responsible research practices. These initiatives typically cover key areas such as research data management, responsible publication practices, authorship ethics, and conflict-of-interest management, equipping researchers at all career stages with the knowledge and tools necessary to conduct research ethically and rigorously. By systematically embedding these practices into academic life, institutions foster an environment in which ethical reflection and professional responsibility are integral to everyday research activities (Université Bourgogne Europe, 2024).

These efforts contribute not only to strengthening internal compliance and accountability but also to enhancing public trust in scientific outcomes, a critical factor in ensuring that research findings are respected, valued, and effectively translated into societal impact. Establishing a shared understanding of ethical standards across faculties and research groups also encourages interdisciplinary collaboration, as researchers from different domains operate under a consistent framework of expectations for integrity, transparency, and responsible conduct.

Research integrity policies implemented at European universities are frequently aligned with the European Code of Conduct for Research Integrity, providing a common reference point for ethical practice across national and institutional contexts. For example, the University of Jyväskylä (JYU) has adopted a responsible science framework based on four fundamental principles: reliability, honesty, respect, and accountability (University of Jyväskylä, 2024). Each principle addresses a crucial aspect of research conduct:

- Reliability emphasizes the importance of methodological rigor, accuracy, and reproducibility in research design, data collection, analysis, and interpretation. By adhering to reliable methods, researchers ensure that their results are robust and verifiable, forming a trustworthy basis for future studies and policy decisions.

- Honesty requires transparency in communicating research objectives, methodologies, and findings. This includes clear reporting of limitations, uncertainties, and potential biases, fostering an open and credible research culture in which both positive and negative results are accurately represented.

- Respect highlights the ethical obligation to acknowledge the rights, dignity, and welfare of all stakeholders, including research participants, collaborators, and society at large. This principle extends to recognizing intellectual contributions, upholding privacy and consent standards, and ensuring equitable treatment within research teams.

- Accountability entails that researchers and institutions assume responsibility for all stages of the research process, from project conception to dissemination. Accountability includes maintaining proper records, ensuring compliance with legal and ethical regulations, and taking ownership of the societal implications and potential applications of research outcomes.

In addition to promoting these foundational principles, institutions are encouraged to develop clear, transparent procedures for addressing suspected cases of research misconduct, including fabrication, falsification, and plagiarism. Such procedures are critical for protecting the integrity of scientific research while ensuring that investigations are conducted fairly, confidentially, and in accordance with due process. By providing structured mechanisms for reporting, investigating, and resolving misconduct, universities not only uphold ethical standards but also safeguard the rights of all parties involved and reinforce confidence in the reliability of their research outputs.

Ethical Evaluation of Research Projects

Research involving human participants demands rigorous ethical oversight to ensure that the dignity, rights, and well-being of individuals are fully respected. Ethical evaluation is a critical safeguard in the research process, providing both a protective framework for participants and a mechanism for promoting responsible scientific practice. Institutional ethics committees serve as the primary bodies for reviewing and approving research protocols before any activities commence, ensuring that proposed studies meet legal, regulatory, and ethical standards.

At the regional level, the Research Ethics Committee for Bourgogne–Franche-Comté (CER BFC) provides comprehensive ethical review for projects involving human

participants across multiple higher education institutions. The committee is composed of interdisciplinary experts, including academic researchers from diverse fields, legal specialists, and representatives from civil society, bringing a broad perspective to the evaluation process. This diversity ensures that ethical considerations are examined from multiple angles, including scientific validity, legal compliance, and societal impact.

When submitting research proposals for review, researchers are typically required to provide:

- A detailed research protocol outlining the objectives, hypotheses, study design, and methodological approach;
- Procedures for obtaining informed consent from all participants, ensuring that participation is voluntary and based on full understanding of the study;
- Risk assessment and mitigation strategies, addressing potential physical, psychological, or social risks to participants;
- Data protection and confidentiality measures, including adherence to European and national regulations such as the General Data Protection Regulation (GDPR) for handling personal data;
- Plans for storage and management of research data, ensuring integrity, security, and appropriate long-term access.

The committee's evaluation assesses whether the proposed research complies with all applicable ethical and legal standards. This includes not only national regulations but also international guidelines, ensuring that research practices are consistent with broader principles of scientific integrity and participant protection.

Beyond the formal review of proposals, ethics committees actively promote ethical awareness and a culture of responsible research within the academic community. They organize seminars, workshops, guidelines, and training activities that address emerging ethical challenges, such as the use of new digital tools in research, remote data collection, artificial intelligence applications, and complex consent processes (Université Bourgogne Europe, 2024). These activities support researchers in understanding evolving standards and integrating ethical reflection into their daily practice.

Many universities complement these committees with institutional advisory services, which provide ongoing guidance to researchers navigating ethical dilemmas during the course of their projects. These services address topics such as research ethics approvals, conflict-of-interest management, responsible publication practices, and situational ethical challenges encountered in the field or laboratory (University of Jyväskylä, 2024).

Advisory structures often include a combination of research ethics committees, research integrity officers, and confidential support services. Collectively, these mechanisms serve to:

- Provide expert guidance to researchers at all career stages;
- Facilitate compliance with legal and institutional requirements;
- Encourage reflective decision-making in ethically complex situations;
- Foster a culture of transparency, accountability, and ethical responsibility across the institution.

By integrating ethical oversight, advisory support, and training programs, universities ensure that research is conducted not only with scientific rigor but also in a manner that respects the rights and well-being of participants and strengthens public trust in scientific research. These coordinated efforts contribute to a robust ecosystem of responsible research practices, where ethical awareness and compliance are embedded in the fabric of academic and scientific activity.

5. Intellectual Property: Copyright Protection

In the course of their research activities, researchers bear a critical responsibility to ensure full compliance with copyright law and intellectual property (IP) regulations, which serve to protect the original expression of ideas rather than the ideas themselves. This includes texts, images, graphics, software, databases, and other creative outputs. Any reuse of pre-existing works must be accompanied by accurate citation of sources and authors, respecting legal limits of quotation. Such reuse must be justified by a scientific, critical, or educational purpose and remain proportionate to the context of its use, ensuring that it does not infringe upon the rights of the original creator. Where the full or substantial reproduction of a work is required, researchers must, unless a legal exception applies, obtain authorization from the rights holder or adhere to the terms of an open license, such as Creative Commons licenses, which clearly define permitted uses. Researchers are also required to avoid all forms of plagiarism, including unintentional plagiarism, and to respect authors' moral rights. These include the right of attribution, ensuring that authors are properly credited for their work, and the right to integrity, protecting the work from distortion, alteration, or other modifications even beyond the period of legal protection.

Researchers must remain attentive to the legal regimes that apply to collaborative works, projects funded under specific arrangements, or works governed by publishing contracts, as these may impose additional obligations or restrictions. They should also anticipate the conditions under which their own work will be disseminated, shared, or valorized,

including potential commercialization. When uncertainty arises, researchers are encouraged to consult the specialized intellectual property services of their institution, as copyright laws, while broadly similar across the European Union, may differ in specific national provisions and judicial interpretations.

Intellectual property rights constitute exclusive monopoly rights that enable the holder to use and exploit the protected subject matter, while prohibiting unauthorized use by third parties. Modern IP law encompasses a wide spectrum of rights, including but not limited to:

- Patents and inventions, including patent requirements and service patents;
- Know-how, trade secrets, and confidential information;
- Design rights and related protections;
- Copyright and rights related to databases, including sui generis rights;
- Trademarks, brand names, certification marks, and assumed names;
- Computer programs, plans, manuals, and technical assets;
- Moral rights, including rights to attribution and integrity;
- Applications for any IP rights in any jurisdiction, as well as all associated technical, legal, or administrative documentation necessary to assert or exploit these rights.

The strategic protection of intellectual property arising from research is a key institutional priority for universities. This requires the implementation of specific measures in collaboration with national and international certification authorities and property protection institutions. It also entails engaging researchers and authors, ensuring that they understand the procedures for securing, managing, and leveraging intellectual property. By fostering awareness and providing support in matters of copyright, licensing, and IP management, universities enhance innovation, knowledge transfer, and the societal and economic impact of research, while safeguarding the rights and contributions of all creators involved.

HOW?

To safeguard intellectual property (IP) generated within a research institution, universities implement a structured approach encompassing policy, procedures, support mechanisms, and inventor rights. This approach ensures that all IP assets – both industrial property and copyright-protected works – are properly protected, managed, and valorized.

I. Establishing the institution's policy on the protection of intellectual property rights:

The foundation of effective IP management lies in the development of a comprehensive institutional policy. This policy clearly defines the university's objectives regarding the protection, registration, and utilization of IP, outlines the responsibilities of researchers, administrators, and the institution itself, and ensures compliance with national and international legal frameworks. By formally codifying IP strategies, the university provides clarity and guidance to the academic community, creating a consistent and transparent approach to managing intellectual property.

II. Adoption of procedures specific to each intellectual property right:

Different types of IP – such as patents, service inventions, trademarks, designs, software, databases, and copyrighted works – require tailored procedures for registration, management, and enforcement. The institution establishes dedicated workflows and documentation standards for each category of rights. This dual-component approach, encompassing industrial property (patents, designs, trademarks) and copyright and related rights, ensures that the legal, administrative, and technical aspects of each IP type are fully addressed, from filing and maintenance to commercialization and licensing.

III. Identifying and establishing support mechanisms for researchers:

Universities implement support structures to assist researchers throughout the lifecycle of intellectual property creation. This includes guidance on financing research projects, identifying funding opportunities, and navigating the process of IP registration and protection. Support mechanisms may involve dedicated offices for technology transfer, legal advisory units, or innovation support services that provide practical assistance in drafting patents, negotiating licensing agreements, and preparing documentation for copyright registration. These measures empower researchers to secure legal protection for their innovations while maximizing potential societal and economic impact.

IV. Regulating the status of the inventor in relation to IP exploitation:

To ensure fairness and transparency, institutions establish procedures and methodologies governing service inventions, which are inventions created by researchers in the course of their employment. These procedures define the allocation of rights, revenue-sharing mechanisms, and recognition of the inventor's contribution in compliance with national legislation while adapting to institutional requirements. By clearly defining the rights and responsibilities of inventors, the university fosters an environment where researchers are incentivized to innovate, while the institution can strategically exploit IP assets to advance its research, educational, and societal missions.

Ensuring / Facilitating access to scientific literature

The university oversees a comprehensive management system for its library and documentation services, ensuring that academic and research activities are fully supported. This includes the coordination of all processes related to the completion, cataloguing, and computerized processing of its document collections, which ensures that materials are systematically organized, accurately described, and easily retrievable.

In addition to maintaining the collections, the university manages bibliographic information and documentation services, facilitating efficient search, retrieval, and use of scholarly resources by students, faculty, and researchers. Lending services and interlibrary exchange programs are coordinated to provide access to materials beyond the institution's holdings, enabling scholars to obtain books, articles, and other resources from partner institutions as needed.

To further enhance research capabilities, the university ensures access to international platforms, scientific databases, and online libraries by acquiring subscriptions and licenses to a wide range of digital resources. This includes journals, e-books, data repositories, and specialized databases, supporting advanced research, evidence-based learning, and interdisciplinary collaboration. By integrating these services, the university guarantees that its academic community has seamless access to high-quality, up-to-date information resources, promoting both the depth and breadth of scholarly inquiry.

Analysis of the temporal evolution of publications

Within the process of publishing scientific works, the Research Dissemination and Innovation Support (RDIS) Service plays a critical role in guiding researchers to achieve high-impact, ethically sound, and strategically aligned publication outcomes. The service supports affiliated researchers by providing expert advice in identifying the most appropriate journals for submission, ensuring that these journals are recognized for their high-quality standards and are well-aligned with the researcher's specific field of activity. This targeted guidance helps researchers maximize the visibility, reach, and scholarly impact of their work.

In practice, the RDIS Service works closely with authors to conduct a thorough analysis of potential journals, taking into account multiple factors relevant to the researcher's objectives. This analysis includes evaluating the journal's impact metrics, such as its quartile history in international ranking systems, citation indices, and reputation within the academic community. The service also examines the journal's publication policies, including open access options, ethical guidelines, peer review standards, and author rights, to ensure that submission aligns with both institutional policies and individual researcher needs.

By providing this structured support, the RDIS Service helps researchers make informed decisions about where to publish, reducing the risk of submission to journals with limited visibility or questionable practices, and enhancing the credibility and dissemination of their work. Additionally, this collaboration allows researchers to better anticipate potential

reviewer expectations, editorial standards, and compliance requirements, facilitating a smoother publication process.

Ultimately, the service contributes to strengthening the institution’s research profile by supporting high-quality scientific communication, promoting ethical publishing practices, and ensuring that research outputs reach the appropriate scholarly audiences, thereby maximizing academic and societal impact.

PART III – Responsible Research Framework

6. Scientific Literature

At Lucian Blaga University of Sibiu (LBUS), the institution currently oversees 24 journals under its direct ownership and collaborates on two additional journals published by other institutions in partnership with LBUS. This extensive portfolio reflects the university's strong commitment to scientific dissemination and academic visibility across a broad spectrum of disciplines.

The status and operation of journals published by LBUS are regulated by an internal document, the Regulation on the Status and Functioning of Scientific Journals Published by Lucian Blaga University of Sibiu (*Regulament privind statutul si functionarea revistelor stiintifice editate de ULBS*. https://cercetare.ulbsibiu.ro/wp-content/uploads/Regulament-privind-statutul-si-functionarea-revistelor-stiintifice-editate-de-ULBS-3.pdf). According to this regulation, the term "journal published by LBUS" refers to "any regularly issued scientific publication classified as a journal, not proceedings, bearing an ISSN, under the scientific auspices of LBUS." This definition establishes a clear distinction between journals and other types of publications, ensuring consistency in the university's scholarly output.

Importantly, Article 16 of the regulation guarantees that "all scientific journals published by LBUS enjoy structural, functional, managerial, and scientific autonomy." This provision ensures that each journal maintains its editorial independence, allowing editors and editorial boards to make decisions based on scientific merit, academic standards, and disciplinary relevance, while remaining aligned with the university's overall strategic goals.

The funding of LBUS journals is detailed in Articles 30–32 of the internal regulation. Funding sources include LBUS institutional funds, journal-generated revenues, sponsorships, donations, grants, and other legally permissible sources. While journals may charge publication fees, all revenues are processed through the university's central accounts, and expenditures are managed transparently by the editors-in-chief, with full supporting documentation. Institutional support ensures that a minimum of 50% of the total annual material expenses is covered, providing financial stability and enabling sustainable operation.

The 24 journals published by LBUS span a wide range of disciplines, demonstrating the university's interdisciplinary reach and scholarly diversity. These journals include, among others:

- *Studies in Business and Economics*
- *Management of Sustainable Development*
- *Studia Universitatis Cibinensis. Series Historica*
- *Acta Terrae Septemcastrensis*

- *Buletinul Cercului de Medievistică „Radu Popa”*
- *Studia Securitatis*
- *Saeculum*
- *Social Change Review*
- *Romanian Journal of Psychology, Psychotherapy and Educational Sciences*
- *Review of Ecumenical Studies*
- *Acta Universitatis Cibiniensis. Series E: Food Technology*
- *Acta Universitatis Cibiniensis – Agricultural Sciences Series*
- *Acta Universitatis Cibiniensis – Technical Series*
- *International Journal of Advanced Statistics and IT&C for Economics and Life Science*
- *Acta Universitatis Lucian Blaga Jurisprudentia*
- *Studia Doctoralia Andreiana*
- *American, British and Canadian Studies*
- *East-West Cultural Passage*
- *Germanistische Beiträge*
- *Aplauze*
- *Jurnalul Artelor Spectacolului*
- *Caietele Lucian Blaga*
- *Cultures in Transit*
- *FAIR PLAY – Revista Științifică și Pedagogică*
- *Acta Oecologica Carpatica*
- *General Mathematics*
- *Transylvanian Review of Systematical and Ecological Research.*

Additionally, LBUS is affiliated with *Revista Economică* and *Transilvania*, which are published by other institutions in partnership with the university, further extending its academic outreach.

Operating these journals involves strict adherence to internationally recognized ethical standards, which ensure transparency, accountability, and integrity in scholarly communication. According to the ethical publishing principles adopted by the University of Jyväskylä (JYU), the responsibility for maintaining publication quality is shared among researchers, editors, and publishers (University of Jyväskylä, 2024).

Authors are expected to submit original research, properly cite all sources, and ensure that authorship reflects the true contributions of each researcher. Practices such as plagiarism, duplicate publication, inappropriate authorship attribution, and data manipulation are considered severe breaches of research ethics. Editors and publishers are responsible for establishing transparent editorial policies, conducting fair and unbiased peer review, and disclosing any potential conflicts of interest. These measures safeguard the credibility, reliability, and scholarly impact of the journals.

Through this integrated framework of autonomy, institutional support, and adherence to ethical standards, LBUS ensures that its journals not only disseminate high-quality

research but also foster a culture of integrity, accountability, and scientific excellence within the university and the broader academic community.

Support for Research Activity. Internal Grants

In support of research, artistic creation, and athletic performance, LBUS established in 2015 a dedicated funding instrument for its academic community: an internal competition for individual grants. This initiative is designed to stimulate scientific excellence, artistic innovation, and high-level athletic achievements, providing targeted financial support to faculty members, researchers, and students across disciplines.

The primary objectives of this funding mechanism are to:

- Enhance scientific output, particularly by increasing the number of high-impact publications indexed in the Web of Science;
- Promote artistic visibility, both nationally and internationally, through participation in recognized festivals, exhibitions, and competitions;
- Encourage athletic excellence, enabling participation in national, European, and global competitions, including the Olympic Games, Paralympic Games, and Special Olympics World Games.

Grant holders are eligible to cover a wide array of project-related costs, ensuring comprehensive support for research, creative, or sports activities. These costs include:

- Logistical expenses: consumables, reagents, laboratory or artistic equipment, books, and other materials necessary to complete the project;
- Mobility expenses: research visits, attendance at conferences, national and international events, transportation, accommodation, per diem allowances, and registration fees;
- Third-party service expenses: access fees for specialized research infrastructure, archival materials, libraries, databases, publications, or other information sources, as well as Open Access publication fees and other dissemination costs.

The maximum duration of a project funded through the Internal Competition is 36 months, formalized through a funding contract. This contract includes clauses specifying performance indicators and milestones. For research projects, a key requirement is the dissemination of significant scientific results: the grant director must publish at least one article or review as lead or sole author in a Q1 or Q2 journal indexed in the Web of Science (www.webofknowledge.com), including the Science Citation Index Expanded, Social Sciences Citation Index, or Arts & Humanities Citation Index. Articles are ranked according to the Article Influence Score (AIS), and the publication must be visible and verifiable in Web of Science. Each article fulfills the contract requirements for a single author.

For artistic projects, grant directors are evaluated based on the achievement of awards, distinctions, or nominations for creative work, either individually or collectively, at national, international, or top-tier international levels.

For sports projects, grant directors are assessed based on athletic performance, including:

- First place in national or university championships;
- First, second, or third place in European-level competitions;
- First through sixth place in world-level competitions, including Special Olympics World Games, Paralympic Games, and Olympic Games. Equivalent officially recognized competitions are also considered.

The Research, Dissemination, and Innovation Support Office (RDISO) is responsible for monitoring project results, maintaining contract documentation, and recording outcomes in a centralized database. This ensures transparent administration, accountability, and accurate reporting of all funded projects, while providing researchers, artists, and athletes with the resources and institutional support necessary to achieve excellence in their respective domains.

7. Recognition of Research Outcomes

At Lucian Blaga University of Sibiu (LBUS), the recognition of research activity is firmly rooted in both national legislation and institutional policy frameworks developed by Romanian authorities responsible for monitoring, regulating, and promoting scientific research. These frameworks are designed to enhance the quality, impact, and international visibility of Romanian research, ensuring that scholars contribute effectively to global scientific discourse while advancing the university's strategic objectives.

The acknowledgment of research excellence is formalized through a university-level procedure that targets a broad spectrum of the academic community. This includes tenured faculty, auxiliary staff, non-teaching personnel, as well as doctoral, master's, and undergraduate students, reflecting the university's commitment to fostering research culture at all levels of academic engagement. The procedure is applicable to authors of scientific articles published in high-quality, internationally recognized journals. These include journals indexed by Clarivate Analytics in the Science Citation Index Expanded (Science), Social Sciences Citation Index (Social Sciences), Arts & Humanities Citation Index (Arts & Humanities), or the Emerging Sources Citation Index (ESCI). The recognition also extends to articles in journals indexed in SCOPUS, as well as to conference proceedings indexed by Clarivate Analytics in the Conference Proceedings Citation Index, ensuring that a wide range of scholarly contributions is eligible for acknowledgment.

The reward system is tailored to the professional status of the awardees:

- Academic staff receive rewards in accordance with national salary regulations, integrating recognition of scientific achievements into the broader framework of employment rights and professional development.

- Students, including those at master's and doctoral levels, are granted awards in the form of scholarships, providing financial incentives to encourage continued engagement in high-quality research and fostering early integration into international academic networks.

The Research, Dissemination, and Innovation Support Office (RDISO) is the primary administrative body responsible for implementing this recognition framework. RDISO manages the entire process, including data collection, verification of the authenticity of submitted information, and ensuring that applications comply with both legal and institutional criteria. Each application is accompanied by supporting documents, such as the published articles, indexing information, and statements of authorship, and is reviewed and approved by relevant academic and administrative committees to guarantee fairness, transparency, and integrity in the awarding process.

The volume of activity managed by RDISO highlights the scale and significance of this initiative. Annually, approximately 600 applications for research recognition are processed, corresponding to an average of 50 applications per month, reflecting both the high level of research output at LBUS and the university's proactive approach to rewarding scientific excellence. This structured system not only incentivizes researchers and students to produce high-impact work but also enhances the university's national and international visibility, strengthens its academic reputation, and fosters a culture of rigorous scientific inquiry, ethical research practices, and scholarly integrity.

By integrating legislative frameworks, institutional procedures, and robust administrative oversight, LBUS ensures that the recognition of research achievements is systematic, equitable, and aligned with international standards, thereby promoting a research ecosystem that values quality, innovation, and global impact. This mechanism contributes directly to the strategic positioning of LBUS as a leading research institution in Romania and across Europe, fostering collaboration, attracting funding, and supporting the career development of researchers at all stages of their academic trajectory.

8. Mobilities. Exchange of Experience and Best Practices

For researchers participating in domestic or international travel as part of a research project, the Research, Development, and Innovation Support Office (RDISO) plays a central role in providing administrative and procedural assistance to ensure compliance with institutional and national regulations. The office supports research teams by guiding them through the preparation of all necessary documentation associated with a Travel Request, which is a formal prerequisite for authorizing project-related travel.

The Travel Request must be meticulously prepared by the research team and endorsed by the Project Manager, ensuring that all project objectives and the purpose of the travel are clearly stated. Essential supporting documents, such as conference invitations, event programmes, meeting schedules, or letters of participation, must accompany the Travel Request. These documents provide the rationale for the travel, demonstrating its relevance to the research project, compliance with the project's budgetary framework, and alignment with the project's scientific or academic objectives.

Once completed and endorsed, the Travel Request is submitted to the Rector of LBUS for initial review. Following the Rector's endorsement, the Travel Request is examined by the Administrative Council, which provides final approval based on compliance with internal regulations, project funding rules, and overall institutional priorities. After approval, the standardized Travel Order is issued by the LBUS Registry Office within three days of the Administrative Council meeting. The Travel Order may then be collected from the RDISO office by the researcher or a designated representative, formalizing the authorization for the planned travel.

For domestic travel, the process is similar but includes additional documentation for post-travel verification and reimbursement. The Travel Order, once issued by the Rectorate, explicitly identifies the research project that serves as the source of funding. Upon completion of the trip, the Project Manager or an appointed representative is required to submit a comprehensive package of documents to the RDISO within three days of returning. This package includes:

- The original Travel Order;
- A detailed Activity Report summarizing the outcomes of the trip, including meetings attended, collaborations established, and any deliverables or contributions made;
- Proof of participation, such as diplomas, certificates, or attendance confirmations;
- Financial documentation, including invoices, receipts, airline or train tickets, fuel receipts, and any other expenditures directly related to the project travel.

Once collected, the RDISO forwards the complete documentation to the Financial Department for processing of reimbursements, ensuring that all expenses are accounted for in compliance with the regulations for internal and external project travel. The procedure is fully codified and publicly available under the official guidelines (*Decontarea cheltuielilor cu deplasările interne/externe în cadrul proiectelor de cercetare*: https://hostcercetare.ulbsibiu.ro/doc_DCS/proceduri/PO/IL-ULBS-PCDI-301-PC-03_deplasari.pdf).

By providing this structured support, the RDISO ensures that all research-related travel at LBUS is conducted efficiently, transparently, and in accordance with institutional and financial regulations. This framework minimizes administrative errors, facilitates timely reimbursement, and allows researchers to focus on the scientific, academic, and collaborative objectives of their travel, ultimately enhancing the productivity, visibility, and international impact of projects undertaken at Lucian Blaga University of Sibiu.

Two highly representative case studies for the successful exchange of experience and best practices in research management are provided by **the ELABCHROM summer schools organised for research management and administrative staff** in Jyväskylä (June 2023) and Dijon (May 2024). These training activities were conceived not merely as dissemination or knowledge-transfer events, but as structured capacity-building interventions aimed at strengthening the professional competencies of research management staff within Lucian Blaga University of Sibiu, in alignment with broader European Research Area priorities. Unlike winter schools, which primarily target academic researchers, the summer schools focused explicitly on the operational, organisational, and strategic dimensions of research support, addressing a professional category that is increasingly recognised as essential for the effective functioning of contemporary research systems.

The ELABCHROM summer school hosted by the **University of Jyväskylä in June 2023** represented the first major training intervention of this type within the project and provided participants with a comprehensive overview of research management practices in a Nordic institutional context. The programme was designed to expose participants to an integrated model of research support, in which administrative services are closely aligned with institutional research strategies and operate in a coordinated and transparent manner. Particular emphasis was placed on the organisation of research support offices, the management of research funding pipelines, and the implementation of open science policies at institutional level. Through a combination of thematic sessions, institutional presentations, and guided visits to relevant administrative units, participants were introduced to concrete workflows and organisational structures that support the full lifecycle of research projects, from proposal development to dissemination and impact.

One of the key strengths of the Jyväskylä summer school was its focus on the integration of research management within broader institutional ecosystems. Rather than treating administrative support as a purely technical or auxiliary function, the training highlighted its strategic role in enabling research excellence, internationalisation, and societal impact. Sessions dedicated to open science, data management, and research ethics demonstrated how administrative frameworks can facilitate compliance with European standards while also enhancing the visibility and accessibility of research outputs. In addition, the programme addressed issues related to researcher mobility, international collaboration, and funding diversification, offering participants a comprehensive understanding of how research management contributes to institutional competitiveness within the European research landscape.

Building on the experience gained in Jyväskylä, the ELABCHROM summer school organised at the **University of Burgundy in Dijon in May 2024** provided a complementary and more systematised perspective on research management practices within a different national and institutional framework. While the Jyväskylä training emphasised integration and flexibility, the Dijon programme highlighted structured governance mechanisms, formalised procedures, and clearly defined institutional roles. Participants were introduced to the organisation of research units, the functioning of

central research support services, and the coordination mechanisms that ensure coherence between institutional strategies and operational practices.

A central component of the Dijon summer school was the analysis of research governance structures and evaluation procedures. Sessions addressed topics such as project monitoring, performance assessment, and compliance with ethical and legal standards, providing participants with practical tools for managing complex research portfolios. Particular attention was given to the role of research management staff in supporting evaluation processes, preparing institutional reports, and ensuring alignment with national and European funding requirements. The programme also included discussions on intellectual property management, contractual arrangements, and collaboration with external partners, highlighting the multifaceted nature of research administration in contemporary academic environments.

Both summer schools shared a common pedagogical approach based on experiential learning, combining theoretical input with practical exposure to institutional practices. Participants were not only passive recipients of information but actively engaged in discussions, case analyses, and exchanges of experience with their counterparts from partner institutions. This interactive format facilitated the identification of transferable practices and encouraged critical reflection on existing organisational models within the home institution. By comparing different institutional contexts, participants were able to distinguish between context-specific solutions and more generalisable principles of effective research management.

An important aspect of these training activities was their multi-level perspective on research management. The programmes addressed not only central administrative structures but also the interfaces between research units, faculties, and institutional leadership. This approach reflected the understanding that effective research management requires coordination across multiple organisational levels, as well as clear communication channels and shared responsibilities. By examining how these interactions are structured in partner institutions, participants gained insights into possible pathways for improving coordination and efficiency within their own organisational context.

Another defining feature of the summer schools was their emphasis on concrete institutional practices and real-world examples. Rather than focusing exclusively on abstract principles, the training programmes incorporated site visits, demonstrations of administrative tools, and presentations of ongoing projects. These elements provided participants with a detailed understanding of how research management is implemented in practice, including the challenges and constraints encountered by administrative staff. The availability of training materials, including presentations and supporting documentation, further contributed to the sustainability of the learning process by enabling participants to revisit and apply the knowledge acquired during the sessions.

It is also important to note that both summer schools exceeded the initial expectations set out in the project description. Although originally conceived as one-day training sessions,

they were developed into multi-day programmes that allowed for a more in-depth exploration of research management topics and facilitated stronger interaction between participants and host institutions. This extended format proved particularly beneficial for fostering professional networks and creating opportunities for informal exchange, which are essential components of effective capacity-building processes.

The impact of these training activities can be observed at multiple levels. At the individual level, participants enhanced their professional competencies, acquiring new knowledge and skills relevant to research management and administration. At the institutional level, the training contributed to the identification and adaptation of best practices that can be integrated into existing structures and procedures. At the network level, the summer schools facilitated the development of lasting connections between research management staff across partner institutions, supporting ongoing collaboration and knowledge exchange.

Furthermore, the training programmes highlighted the importance of adaptability and contextualisation in the transfer of best practices. While exposure to models from Jyväskylä and Dijon provided valuable insights, participants were encouraged to critically assess the applicability of these practices within their own institutional environment. This reflexive approach ensured that knowledge transfer was not limited to replication but involved a process of selective adaptation and innovation, taking into account local constraints, resources, and strategic priorities.

In this sense, the ELABCHROM summer schools can be understood as laboratories of institutional learning, where research management practices are not only observed but actively analysed, discussed, and reinterpreted. By combining comparative perspectives with practical engagement, these training activities contributed to the development of a more nuanced and context-sensitive understanding of research management, aligned with contemporary European standards and expectations.

Conclusions: Ultimately, the experience gained through the Jyväskylä and Dijon summer schools directly supports the broader objectives of the ELABCHROM project. By strengthening the professionalisation of research management staff, enhancing institutional capacities, and fostering cross-institutional collaboration, these training activities contribute to the creation of more effective, transparent, and internationally connected research support systems. In doing so, they align with the broader ELABCHROM goals of fostering interdisciplinary, internationally connected, and socially relevant research in the humanities and social sciences.

International Visibility of Research Careers: EURAXESS

Navigating the European research landscape can be challenging for researchers in all stages of their careers. Moving between institutions, countries, and research systems requires not only scientific expertise but also an understanding of funding mechanisms, administrative procedures, and professional opportunities. EURAXESS – the European

portal for researchers – is designed precisely to meet these challenges, acting as a bridge between individual researchers, research institutions, and the broader European research ecosystem. At its core, EURAXESS is a comprehensive support system for career development, mobility, funding, and networking, providing tools and information tailored to the needs of researchers, from doctoral students to senior scientists.

1. Discovering Job Opportunities and Fellowships

One of the most immediate benefits of EURAXESS is access to a centralized database of research jobs and fellowships across Europe. Researchers can browse thousands of positions offered by universities, research institutes, and private companies. The portal allows for customized searches by country, discipline, career stage, or type of funding, helping users identify opportunities that match their expertise and ambitions. From postdoctoral positions to senior research fellowships, EURAXESS presents a clear pathway for career advancement and mobility, including opportunities in sectors outside academia, such as research-intensive industry roles or innovation-driven startups.

2. Access to Funding and Grants

In addition to employment, EURAXESS provides a comprehensive overview of funding opportunities, both at the national and European levels. Researchers can explore grants for research projects, mobility, infrastructure, or collaborative networks. Importantly, the platform provides guidance on eligibility criteria, deadlines, and application procedures, helping researchers maximize their chances of securing financial support. Whether seeking funding for a conference trip, laboratory equipment, or a multi-year research project, EURAXESS serves as a one-stop resource for navigating the complex European funding landscape.

3. Facilitating Researcher Mobility

Mobility is a key component of the European Research Area (ERA), and EURAXESS offers practical support for researchers relocating to new countries or institutions. This includes information on visas, work permits, taxation, social security, and pension rights, which are essential for international moves but often difficult to navigate. Additionally, EURAXESS provides advice on housing, education for dependents, childcare options, and healthcare access, ensuring that both researchers and their families can settle smoothly into a new environment. This support reduces administrative barriers, enabling researchers to focus on their scientific work while integrating effectively into new professional and cultural contexts.

4. Professional Development and Training

EURAXESS also contributes to the career development of researchers by providing access to a wide range of training programs and resources. Researchers can enhance skills in areas such as grant writing, research ethics, data management, and science communication. The platform also supports career planning, offering guidance on transitioning from doctoral studies to postdoctoral research, advancing to tenure-track positions, or moving into industry or policy roles. Through workshops, mentorship

schemes, and networking events, EURAXESS fosters the personal and professional growth of researchers, strengthening the European research ecosystem as a whole.

5. Networking and International Collaboration

EURAXESS is a gateway to international collaboration and networking opportunities. Researchers can connect with colleagues, institutions, and funding agencies across Europe, fostering partnerships that enhance both the scientific quality and societal impact of research projects. The portal links users to EURAXESS Service Centres in every participating country, where researchers can receive personalized assistance, advice, and guidance. These connections facilitate joint research initiatives, mobility programs, and participation in interdisciplinary projects that transcend national and institutional boundaries.

6. Guidance on Research Rights, Open Science, and Ethics

Modern research requires not only scientific rigor but also ethical awareness and transparency. EURAXESS provides guidance on research integrity, open science practices, intellectual property rights, and ethical compliance, helping researchers align their work with international standards. This ensures that publications, datasets, and project outcomes meet the expectations of the global research community and funding agencies, enhancing both the credibility and visibility of the researcher's work.

7. Building a Culture of Research Excellence

By providing access to jobs, funding, mobility support, training, and ethical guidance, EURAXESS contributes to building a culture of research excellence. Researchers are empowered to make informed decisions about career moves, collaborations, and project planning. Institutions benefit from attracting top international talent, and the European research community as a whole gains a more interconnected, transparent, and collaborative environment.

In summary, EURAXESS is a comprehensive ecosystem for researchers, supporting them at every stage of their career. By combining opportunities for employment, funding, mobility, training, networking, and ethical guidance, EURAXESS ensures that researchers in Europe can focus on producing high-quality, impactful, and internationally recognized science, while benefiting from a robust support infrastructure that enables personal and professional growth.

Université Bourgogne Europe publishes its postdoctoral positions on the EURAXESS portal, as it acknowledged that the publication of research positions on EURAXESS offers several advantages:

- increased international visibility of research opportunities;
- access to a global pool of qualified researchers;

- compliance with European principles regarding open, transparent, and merit-based recruitment (OTM-R);
- support for researcher mobility within the European Research Area (ERA).

Through these practices, universities contribute to strengthening the attractiveness of European research institutions and facilitating the circulation of knowledge and expertise across borders (Université Bourgogne Europe, 2024).

PART IV – Open Science and Research Data Management

9. Engagement with Administrative Structures

For the effective implementation of research activities within a project, the Research, Development, and Innovation Support Office (RDISO) operates as a central coordinating structure, working in close collaboration with multiple administrative units across the university. This coordinated approach ensures that researchers receive comprehensive institutional support in managing the administrative, legal, and financial dimensions of their projects, allowing them to focus primarily on their scientific and academic objectives.

A key partner in this process is the Human Resources Office, which plays a fundamental role at the initial stage of project implementation. This office is responsible for preparing all personnel-related documentation required at the launch of a research project, including employment contracts, job descriptions, and compliance with labour legislation. In addition, it manages the procedures for recruiting project staff, ensuring that all hiring processes are conducted in accordance with institutional policies and national regulations. This includes verifying eligibility criteria, ensuring transparency in recruitment, and facilitating the formal employment of researchers, technical staff, or administrative personnel involved in the project.

Complementing this role, the RDISO is responsible for ensuring the visibility and transparency of recruitment processes. It publishes job announcements on the university's official website, thereby guaranteeing open access to opportunities and compliance with principles of equal opportunity and non-discrimination. Furthermore, RDISO oversees the communication flow related to recruitment, including announcements regarding the selection of application files, the organization of evaluation procedures, and the publication of competition results. Throughout this process, RDISO maintains continuous coordination with both the Human Resources Office and the project director, obtaining the necessary approvals and ensuring that each stage is completed efficiently and in full compliance with regulatory requirements.

Beyond personnel management, RDISO also collaborates closely with the Financial–Accounting Department, forming a structured partnership that supports the financial administration of research projects. This collaboration includes assistance in the preparation of financial reports, budgetary statements, and expenditure justifications, which are essential for both internal monitoring and external reporting to funding bodies. The Financial–Accounting Department ensures that all financial operations are aligned with applicable financial regulations and audit requirements, while RDISO facilitates communication between researchers and financial officers, helping to clarify eligibility rules, budget allocations, and reporting deadlines.

Through this integrated administrative framework, RDISO ensures that all aspects of project implementation – ranging from recruitment and personnel management to financial reporting – are handled in a coherent, transparent, and efficient manner. This

collaborative model not only reduces the administrative burden on researchers but also enhances the overall quality, accountability, and compliance of research activities, contributing to the successful execution and impact of projects carried out within the university.

LBUS Publishing House

The Lucian Blaga University of Sibiu Publishing House represents a well-established and integral component of the university's academic and research ecosystem, with over 25 years of continuous activity in the field of scholarly publishing. Throughout its development, it has played a significant role in supporting the dissemination of scientific knowledge and educational resources, publishing a wide range of scientific monographs, collective volumes, and academic course materials that reflect the diversity and richness of the university's intellectual output. Although it operates as an entity without legal personality, the publishing house functions effectively within the institutional framework, benefiting from the university's administrative support and academic expertise.

Its core mission is to act as a bridge between knowledge producers and knowledge users, facilitating the transfer of ideas, research findings, and educational content from the academic environment to a broader audience. In this sense, it provides an essential interface between contributors-such as researchers, faculty members, and educators-and beneficiaries, including students, other researchers, institutional stakeholders, and the general public interested in scientific and cultural developments. By ensuring that research outputs are formally edited, peer-reviewed where applicable, and widely disseminated, the publishing house contributes to enhancing the visibility, accessibility, and societal impact of academic work produced within the university (Editura Universității Lucian Blaga din Sibiu. https://editura.ulbsibiu.ro/despre-noi/).

The publishing activity is characterized by a broad thematic coverage, reflecting the interdisciplinary nature of the university. Publications are primarily divided into two major categories:

a. Books in the humanities and exact sciences, which encompass a wide spectrum of disciplines. These include works in literary studies and fiction, history, geography, communication sciences and international relations, law, visual and performing arts, as well as medical, pharmaceutical, and food industry studies. This diversity gives the publishing house a distinct encyclopaedic character, enabling it to support both specialized research and interdisciplinary dialogue across fields. By publishing both academic and creative works, it contributes not only to scientific advancement but also to the cultural and intellectual life of the academic community.
b. Periodic publications, including scientific journals and faculty yearbooks, which serve as important platforms for the regular dissemination of research results. These publications support ongoing academic dialogue, provide opportunities for researchers at different career stages to publish their work, and contribute to the consolidation of disciplinary and interdisciplinary research communities within and beyond the university.

In addition to its core publishing functions, the publishing house plays a role in supporting academic quality standards, ensuring that manuscripts undergo appropriate editorial processes and meet institutional and disciplinary expectations. It also contributes to the promotion of Romanian research and scholarship at national and international levels, helping to position the university within the broader academic landscape.

Overall, the Lucian Blaga University of Sibiu Publishing House serves as a strategic instrument for knowledge dissemination, reinforcing the university's mission in education, research, and community engagement, while fostering a culture of academic excellence, intellectual exchange, and open access to knowledge

Creation of databases. “Open access” services

According to the European Commission, the concept of open science is defined as “an approach to the scientific process that emphasizes the dissemination of knowledge as soon as it is available, using digital and collaborative technologies.” This definition highlights a fundamental shift from traditional, closed models of research dissemination toward a more transparent, accessible, and collaborative paradigm, in which scientific outputs are shared widely and rapidly. Within this framework, the European Commission identifies a variety of instruments that facilitate the circulation of scientific knowledge, including expert groups, scientific publications, news platforms, and academic events, all of which contribute to the broad and timely communication of research results (European Commission, Open Access).

The concept is further elaborated in the White Paper on the Transition to Open Science (2023–2030), where open science is presented as a central component of contemporary science policy. It is defined as a strategic approach aimed at achieving a higher level of integration of scientific results into societal development. This is accomplished through open access to scientific publications and research data, particularly those generated through publicly funded research, ensuring that publicly financed knowledge becomes a public good accessible to all. Moreover, open science promotes open processes of knowledge production, encompassing areas such as open innovation, which fosters collaboration between academia, industry, and society; open education, through the use of open educational resources; and citizen science, which enables the active involvement of non-specialists in research activities. This participation can occur at multiple stages, from defining research agendas and shaping public policies to collecting, analyzing, and evaluating data, thereby democratizing the research process and strengthening its societal relevance.

Within this broader framework, open access constitutes a key pillar. According to the definition provided in the Horizon Europe 2021–2027 Framework Programme, open access refers to “free online access for end-users to research results, such as scientific publications, data, or other outputs and processes (e.g., software, models, algorithms,

protocols, and laboratory notes in electronic format).” This approach is typically accompanied by reduced restrictions related to copyright and licensing, enabling both authors and users to share, reuse, and build upon scientific outputs more freely than under traditional publishing models. As such, open access significantly enhances the visibility, reproducibility, and impact of research, while supporting innovation and knowledge transfer across sectors.

In practical terms, the Horizon Europe programme establishes clear obligations for beneficiaries of European funding. Researchers are required to ensure immediate open access to scientific publications, at the latest at the time of publication, by depositing them in a trusted digital repository. This requirement guarantees that research findings are accessible without delay, thereby accelerating the dissemination of knowledge and facilitating its uptake by the scientific community, policymakers, industry, and society at large.

In addition to publications, Horizon Europe places strong emphasis on research data management. The programme stipulates that research data must adhere to the FAIR principles – that is, data should be Findable, Accessible, Interoperable, and Reusable – and should be open by default, with clearly justified exceptions. Such exceptions may include considerations related to national security, personal data protection, confidentiality, trade secrets, or legitimate commercial interests. Researchers are required to develop and maintain a Data Management Plan (DMP) throughout the lifecycle of the project, ensuring that data handling practices are transparent, well-documented, and aligned with best practices. Furthermore, research data must be deposited in a trusted digital repository and linked to associated scientific publications, with access provided through appropriate open licenses, in accordance with the guiding principle: “as open as possible, as closed as necessary.”

The adoption of open science practices generates a wide range of benefits for the research ecosystem. By promoting transparency and accessibility, it enhances the quality and reliability of scientific outputs, facilitates collaboration across disciplines and borders, and improves the efficiency of research processes by reducing duplication and enabling the reuse of existing data. At the same time, it strengthens the responsiveness of research to societal needs, ensuring that scientific knowledge can inform public policy, support innovation, and address global challenges more effectively.

At the institutional level, these principles are reflected in the resources and infrastructure made available to researchers. Open access materials can be consulted through the Lucian Blaga University Library in Sibiu, as well as through the LBUS Digital Library – DSpace repository, which serves as a central platform for the storage, dissemination, and long-term preservation of research outputs (Lucian Blaga University, Digital Library of ULBS). These services support researchers in complying with open science requirements while enhancing the visibility and accessibility of their work within the global academic community.

Overall, open science represents a transformative approach to research, reshaping how knowledge is created, shared, and applied. By embracing openness, collaboration, and

digital innovation, it contributes to building a more inclusive, efficient, and impactful scientific system, aligned with the broader objectives of the European Research Area and contemporary knowledge societies.

Open Science Policies

Open science represents a profound transformation in the way scientific knowledge is produced, shared, and disseminated, marking a shift from traditional, closed research practices toward a more transparent, inclusive, and collaborative model. This approach is grounded in the idea that knowledge generated through research – particularly when publicly funded – should be accessible to the widest possible audience, including researchers, policymakers, industry stakeholders, and society at large. By leveraging digital technologies and collaborative tools, open science facilitates faster and more efficient circulation of ideas, enhances the reproducibility of research, and fosters innovation across disciplines and sectors.

At Université Bourgogne Europe (UBE), open science policies are designed to ensure broader access to scientific results while promoting a research culture based on openness, cooperation, and accountability. These policies reflect both European-level priorities and institutional commitments to advancing responsible research practices. They aim not only to improve the visibility and impact of research outputs, but also to encourage the co-creation of knowledge, involving diverse stakeholders throughout the research process.

The open science framework at UBE is structured around several key principles, which collectively support a more accessible and participatory research environment:

- Open access to scientific publications, ensuring that research articles, monographs, and other scholarly outputs are freely available online without financial or legal barriers, thereby maximizing their dissemination and impact;
- Open access to research data generated through publicly funded research, enabling other researchers to verify, reuse, and build upon existing datasets, while promoting transparency and efficiency in scientific inquiry;
- Transparency in research methodologies, which involves clear documentation of methods, protocols, and analytical processes, allowing for reproducibility and strengthening trust in scientific results;
- Collaborative and participatory research approaches, including interdisciplinary cooperation and the involvement of non-academic actors, such as industry partners, public institutions, and citizens, in the research process.

These principles are increasingly embedded in European research funding programmes, most notably Horizon Europe, which establishes mandatory requirements for open access and responsible data management. Beneficiaries of such programmes are required to ensure that scientific publications are openly accessible, typically through deposition in trusted digital repositories, and that research data are managed in

accordance with recognized standards, including the FAIR principles (Findable, Accessible, Interoperable, and Reusable).

In this context, researchers are strongly encouraged to deposit their publications and associated data in institutional or subject-specific repositories, ensuring long-term preservation and accessibility. Furthermore, they are advised to adopt open licenses, such as Creative Commons licenses, which facilitate the reuse, redistribution, and adaptation of research outputs, while still protecting authorship and intellectual contributions. These practices not only enhance the visibility and citation impact of research but also contribute to the development of a more interconnected and efficient scientific ecosystem.

By integrating open science principles into its institutional strategy, Université Bourgogne Europe actively contributes to the creation of a research environment that is transparent, collaborative, and socially engaged. This approach strengthens the quality and credibility of scientific outputs, fosters innovation through knowledge sharing, and aligns the institution with broader European objectives aimed at building a more open and inclusive research landscape (Université Bourgogne Europe, 2024).

Research Data Management and FAIR Principles

Research data management (RDM) has become a fundamental component of responsible scientific practice, reflecting the growing recognition that data are not merely by-products of research but valuable assets that must be carefully managed throughout their lifecycle. Effective research data management ensures that data are systematically organized, accurately documented, securely stored, preserved over time, and, where appropriate, shared with the wider scientific community. In doing so, RDM contributes directly to the quality, transparency, and reproducibility of research, which are central pillars of contemporary scientific integrity.

At the European level, research policies increasingly require researchers to adopt a structured and proactive approach to data management, most notably through the preparation of Data Management Plans (DMPs). These documents outline how data will be collected, processed, stored, protected, and shared during and after the completion of a research project. DMPs also address issues such as data ownership, legal compliance, ethical considerations, and long-term preservation, ensuring that data management is integrated into the research design from the outset rather than treated as an afterthought.

To support researchers in this process, a range of specialized tools and platforms has been developed. Among these, DMP OPIDoR provides structured templates and practical guidance aligned with international and European standards. Such tools assist researchers in addressing key aspects of data management, including data documentation, the use of standardized metadata, data quality assurance, security measures, and strategies for long-term archiving. By using these tools, researchers can

ensure that their data management practices are consistent, transparent, and compliant with funding requirements.

In parallel, research data repositories play a crucial role in enabling the storage, dissemination, and reuse of research data. Platforms such as Zenodo offer researchers the possibility to deposit datasets, software, and other research outputs in a trusted digital environment, ensuring their long-term accessibility. These repositories provide persistent identifiers, such as Digital Object Identifiers (DOIs), which facilitate proper citation, enhance the visibility of datasets, and enable their integration into the broader scholarly communication system. As a result, data become citable research outputs, contributing to academic recognition and impact.

A central guiding framework for modern RDM practices is represented by the FAIR principles, according to which research data should be:

- Findable, through the use of persistent identifiers and well-structured metadata;
- Accessible, under clearly defined conditions, using standardized protocols;
- Interoperable, allowing integration with other datasets and systems through the use of common formats and vocabularies;
- Reusable, supported by clear licensing and detailed documentation that enable future use by other researchers.

These principles significantly enhance the reproducibility and reliability of scientific results, while also increasing the long-term value and usability of research data (Wilkinson et al., 2016). Consequently, the FAIR framework has been widely adopted and is increasingly embedded in institutional and national research policies across European universities. For example, the research data management framework developed by the University of Jyväskylä (JYU) highlights how the application of FAIR principles improves the visibility, accessibility, and sustainability of research data, reinforcing their role as a key component of the research ecosystem.

By ensuring that data are well-documented, stored in trusted repositories, and accompanied by appropriate metadata and licensing information, researchers enable other scientists to discover, access, and reuse existing datasets, thereby fostering collaboration and reducing duplication of effort. This, in turn, supports the verification of results and the advancement of knowledge, strengthening the overall integrity of scientific research.

At the same time, research data management involves addressing a range of ethical and legal considerations. Responsible data practices require careful attention to issues such as the protection of personal data, confidentiality obligations, intellectual property rights, and the ethical implications of data sharing. Researchers must ensure that all data collection processes respect the rights, dignity, and privacy of research participants, and that they comply with applicable legal frameworks, particularly the General Data Protection Regulation (GDPR) within the European Union.

When research involves sensitive or confidential data, additional safeguards must be implemented, including secure storage systems, controlled access protocols, anonymization or pseudonymization techniques, and clear data governance procedures. These measures are essential to balance the principles of openness with the need to protect individuals, institutions, and legitimate interests.

Despite these constraints, researchers are strongly encouraged to share research data whenever possible, in line with the broader objectives of open science. By making data available under appropriate conditions, researchers contribute to greater transparency, accountability, and reproducibility, while also enabling new discoveries through the reuse of existing data. As emphasized in institutional guidelines such as those of the University of Jyväskylä (2024), effective research data management represents a dynamic balance between openness and responsibility, ensuring that scientific data serve both the advancement of knowledge and the protection of ethical and legal standards.

In this context, RDM is no longer a purely technical requirement but a strategic and ethical dimension of research practice, underpinning the transition toward a more open, reliable, and collaborative scientific system.

10. Identification and Access to Funding Sources to Support Research: Transforming an Idea into a Grant Proposal

The funding of scientific research projects at Lucian Blaga University of Sibiu is ensured through a diverse portfolio of financial instruments, including internal funding schemes, national programs, international frameworks, as well as other public and private sources. This multi-level approach enables the university to sustain a dynamic research environment and to support the development of strategic academic and scientific domains.

Over time, the successful attraction and implementation of research funding have contributed significantly to the university's institutional growth, research capacity, and international visibility, allowing for the development of projects across a wide range of disciplines.

Researchers at the university benefit from access to key national funding bodies, such as the National Council for the Financing of Higher Education (CNFIS) and the Executive Unit for the Financing of Higher Education, Research, Development, and Innovation (UEFISCDI), which support competitive research initiatives and institutional development.

At the international level, the university actively participates in major European funding programmes, including Horizon 2020, the European Research Council (ERC), the Marie Skłodowska-Curie Actions (MSCA), and the Erasmus+ Programme. These frameworks provide opportunities for collaborative research, mobility, and innovation, facilitating integration into the European Research Area.

PART V – Research Outputs and Scientific Publishing

11. Citizen Science: Involving the Local Community in Research Activities

What is "citizen science"?

From the perspective of its widely accepted definitions, "citizen science" refers to any form of scientific activity that actively involves the participation of the general public in the research process. This collaborative engagement has the potential to function as a valuable interface between the scientific community, policy-makers, and society at large, contributing to more inclusive and socially relevant research outcomes. At the same time, citizen science is understood as a flexible and evolving concept, capable of being adapted to a wide variety of disciplinary fields, research objectives, and societal contexts (Haklay et al., 2021).

Through citizen science approaches, individuals – regardless of their formal scientific training – can take part in multiple stages of the research lifecycle. Their involvement may begin with the formulation of research questions or hypotheses, continue with data collection activities (including observations, measurements, or voluntary geographic mapping), and extend to the interpretation and analysis of data. In many cases, participants also contribute to the communication, publication, and dissemination of research results, thereby playing an active role in the production and circulation of knowledge.

By enabling this broad spectrum of participation, citizen science not only enhances the scale and scope of data collection, but also promotes scientific literacy, public engagement, and trust in science, reinforcing the connection between research and societal needs (Education.Citizen Science).

According to the European Citizen Science Association (ECSA), the 10 principles of citizen science are:

- Citizen science projects actively involve citizens in scientific activities that generate new knowledge or understanding. Citizens can participate as contributors, collaborators, or project leaders, and they play a significant role within the project.
- Citizen science projects produce genuine scientific outcomes. These may involve providing answers to a research question or supplying information to support conservation efforts, decision-making processes, or environmental policies.
- Both professional scientists and citizen researchers benefit from participating in this process. Benefits include the publication of research results, learning opportunities, social advantages, and the satisfaction of contributing to scientific evidence - for example, to address local, national, and international issues - and, through this, the potential to influence various policies.

- Citizen researchers may, if they wish, participate in multiple stages of the scientific process, including the formulation of the research question, the design of the data collection method, the actual data collection and analysis, and the communication of results.
- Citizen researchers receive feedback within the project regarding how their data are used, the outcomes of the research, and the resulting policies and societal benefits.
- Citizen science is considered a research approach like any other, with its own limitations and biases that must be acknowledged and managed. Nevertheless, according to the European Citizen Science Association, unlike traditional research approaches, citizen science offers the opportunity for greater public engagement and the democratization of science.
- Data and metadata from citizen science projects are made available to the public, and, where possible, results are published in an open access format. We are informed that data sharing may occur during or after the project, except in cases where security or confidentiality issues prevent it.
- Citizen researchers are acknowledged for their contributions through recognition in project results and scientific publications.
- Citizen science programs are evaluated based on the scientific outcomes achieved, the quality of the data, participant experience, and the extent to which they have impacted society or influenced various policies.
- Leaders of citizen science projects take into account legal and ethical aspects related to copyright, intellectual property, data-sharing agreements, confidentiality, attribution, and the environmental impact of activities.

D-School

One way to integrate the concept of citizen science into the activities of the Research, Development, and Innovation Support Service (RDISO) is through the organization of interactive workshops and co-creation initiatives at the LBUS D-School, which promotes innovation through interdisciplinary collaboration and user-centered methodologies. In this context, between November 2023 and February 2024, a multidisciplinary team composed of two students, one faculty member, and three administrative staff members from LBUS engaged in the introductory phases of the Design Thinking methodology.

This process enabled participants to explore, define, and articulate the needs and challenges faced by teams interested in developing citizen science project concepts. Through iterative activities such as empathy mapping, problem definition, and ideation, the team worked collaboratively to better understand how citizen science initiatives can be designed in a way that is both scientifically valuable and accessible to the public. The experience also fostered a shared understanding of how institutional support structures like RDISO can facilitate the integration of participatory research approaches into existing academic frameworks.

A particularly valuable component of this initiative was the interaction with a former LBUS student currently working as a researcher at NASA, which provided participants with practical insights into international best practices in citizen science. During this exchange,

the team gained a deeper understanding of how NASA develops and implements citizen science projects, particularly emphasizing the close collaboration between researchers and communication teams. A notable example discussed was the engagement of young people aged 16-18 in disseminating scientific information of public interest through social media platforms, illustrating how citizen science can also function as a tool for science communication and public outreach.

- At the same time, the discussions and workshop activities led to the identification of several structural and cultural barriers that universities may encounter when attempting to implement citizen science projects, especially in their early stages. These include:
- Citizens' fear of not meeting researchers' expectations, which may discourage participation due to a perceived lack of expertise or confidence;
- Insufficient clarity in the requirements communicated by researchers, making it difficult for volunteers to understand their roles and responsibilities within a project;
- Researchers' concern about potential loss of professional status or credibility, particularly in academic environments where traditional research outputs are more highly valued;
- The absence of specialized teams dedicated to science communication, capable of translating complex scientific concepts into accessible and engaging content for the general public;
- The limited recognition of citizen science activities in research evaluation systems, where such projects may be undervalued compared to conventional, discipline-specific research outputs.

By identifying these challenges, the initiative not only contributed to a better understanding of the practical implications of citizen science, but also highlighted the need for institutional strategies, support mechanisms, and cultural change. Integrating citizen science into RDISO activities through platforms like the LBUS D-School thus represents an important step toward fostering a more inclusive, participatory, and socially engaged research environment, aligned with broader European priorities in open science and public engagement.

Regarding the identification and development of solutions to the needs highlighted in the field of citizen science, the LBUS D-School has demonstrated a clear commitment to continuing and expanding its support for participatory and innovation-driven initiatives. In this sense, the structure has expressed its openness to organizing additional workshops, training sessions, and interdisciplinary courses in the upcoming academic year. These activities will be integrated into a portfolio of open thematic areas, from which students, faculty members, and administrative staff may select a shared topic of interest, thereby

facilitating the formation of collaborative teams and encouraging cross-disciplinary engagement.

A concrete example of this proactive approach was the workshop organized in January 2024, which featured Adam Lawrence as an invited professor. The workshop focused on identifying best practices for reducing perceived power distance within teams and addressing the fear of status loss, particularly relevant in the context of citizen science, where traditional hierarchies between researchers and non-experts may hinder effective collaboration. Through practical exercises and guided discussions, participants explored methods to create more inclusive, trust-based environments, where all contributors feel empowered to participate meaningfully.

At the institutional level, LBUS further strengthens its innovation capacity through its membership in the Global Design Thinking Alliance, a global network dedicated to advancing design thinking practices in education, research, and organizational development. This affiliation provides access to international expertise, collaborative opportunities, and shared resources, positioning LBUS within a broader ecosystem of institutions committed to human-centred innovation.

The objectives of the LBUS D-School are centred on ensuring the quality and relevance of its educational offerings, including both semester-based courses and long-term specialized programs. At the same time, it plays a strategic role in supporting other faculties and departments within LBUS, contributing to the university's visibility and attractiveness by leveraging the competitive advantage offered by design thinking methodologies. These approaches encourage creativity, problem-solving, and user-centred perspectives, which are increasingly valuable in both academic and professional contexts.

Among the core activities carried out by this structure are:

- Participation in the University Innovation Fellows, an international initiative coordinated by Stanford University, which empowers students to become agents of change within their institutions;
- Organization of Design Thinking courses for faculty, aimed at integrating innovative teaching and research methods into academic practice;
- Delivery of Design Thinking courses for students, fostering entrepreneurial thinking, collaboration, and problem-solving skills;
- Development of summer schools, providing intensive, hands-on learning experiences in interdisciplinary environments;
- Coordination of mentorship programs for students, supporting personal and professional development through guidance from experienced mentors;
- Facilitation of IDEAFLOW workshops, focused on enhancing creativity and the generation of innovative ideas within teams;
- Organization of global Design Thinking workshops, which connect participants with international experts and promote the exchange of best practices.

Researchers' Night

Researchers' Night represents the largest public-facing scientific event in Romania, attracting annually at least 14,000 participants from Sibiu and surrounding areas. The primary goal of this initiative is to foster curiosity, engagement, and enthusiasm for science, technology, and culture, particularly among young people, by providing interactive, accessible, and inspiring scientific experiences. Through a wide variety of activities – ranging from laboratory demonstrations and hands-on experiments to public lectures and creative workshops – the event allows participants to experience scientific research firsthand and gain insight into the work of professional researchers.

Over the years, Researchers' Night has become a staple in the cultural calendar of Sibiu, consistently included in the programming of events supported by Sibiu City Hall and the Local Council Sibiu, as well as receiving recognition and support from the Ministry of National Education. This backing ensures the event's continuity, enables broad participation, and reinforces its role as a platform for science communication and public engagement.

12. Academic Networking

The "Networking LBUS" platform serves as a central hub to foster interconnection, collaboration, and knowledge exchange among universities, research organizations, industry partners, and small- and medium-sized enterprises (SMEs). Its primary purpose is to facilitate the identification of potential research partners, the establishment of joint projects, and the sharing of expertise and resources across multiple sectors. By providing structured access to information on ongoing research initiatives, available services, and funding opportunities, the platform enhances the ability of institutions and organizations to collaborate effectively at national and international levels. Comparable platforms and networks that support similar objectives at the European and global levels include:

- CORDIS, which provides comprehensive information on EU-funded research projects and results;
- COST Network, facilitating collaborative research across Europe;
- National Contact Points (NCP) Network, supporting stakeholders in accessing Horizon Europe funding programs;
- Enterprise Europe Network (EEN), which connects SMEs with research partners and innovation services;
- Network of National Research and Development Institutes, promoting collaboration and knowledge sharing among national R&D centers;
- Labs Explorer Platform, offering access to laboratory facilities and technical expertise;
- BrainMap Platform, enabling the visualization of research capabilities and expertise;

- ICT domain networks such as the Ideal-IST Network, facilitating collaboration in information and communication technologies;
- Nanotechnology domain networks such as the NMPTeAm Network, focusing on nanoscale research and innovation;
- Health domain networks such as the Fit for Health Network, connecting health research organizations with industrial and academic partners.

BrainMap

The BrainMap platform was developed by the Executive Unit for the Financing of Higher Education, Research, Development, and Innovation (UEFISCDI) as a comprehensive tool designed to facilitate the evaluation of research projects funded by UEFISCDI and other similar funding agencies. Beyond its primary role in project evaluation, the platform also serves to consolidate and organize national and international expertise in research, innovation, and entrepreneurship, providing a structured environment for accessing and leveraging specialized knowledge (Platforma BrainMap).

One of the key applications of BrainMap is the selection of members for advisory boards and committees within the fields of research and higher education. This functionality ensures that evaluations and strategic recommendations are informed by qualified experts with relevant domain knowledge.

Over time, an online community has emerged around BrainMap, bringing together a wide array of stakeholders, including Romanian and international expert evaluators, applicants to competitions under PNCDI II and PNCDI III, directors of funded research projects, and entrepreneurs involved in innovative activities. This community serves as a hub for networking, knowledge exchange, and collaborative engagement across research, innovation, and entrepreneurship.

Currently, BrainMap is undergoing a preliminary restructuring process aimed at enhancing its functionality and broadening its scope. Beyond supporting project evaluations, its objectives include building and maintaining a cohesive community of research and innovation actors, as well as transforming the platform into a single access point for a wealth of information relevant to research and innovation. This includes publications, patents, project records, competitive calls, detailed expertise profiles, available research infrastructures, and other resources essential for fostering collaboration and advancing scientific and technological progress.

By integrating evaluation, networking, and resource management into a single platform, BrainMap strengthens the national and international research ecosystem, facilitating collaboration between academia, industry, and policy-making entities while increasing the efficiency, transparency, and impact of research and innovation activities.

PART VI – Research Community Development

13. Monitoring of Research Projects

The national and international partnerships established by Lucian Blaga University of Sibiu (LBUS) have consistently demonstrated the capability of the academic community to generate innovative, evidence-based solutions that address a broad range of technical, economic, and social development challenges. By engaging in collaborative projects with partners both within Romania and abroad, researchers at LBUS have shown their ability to integrate multidisciplinary approaches, combine theoretical knowledge with practical applications, and contribute to societal progress through high-quality research outputs. These partnerships not only enhance the visibility and impact of the university at the international level but also strengthen the capacity of the local academic ecosystem to respond to emerging challenges in science, technology, and public policy.

To ensure the effective management of research projects, the Research, Development, and Innovation Support Service (RDISO) assigns a dedicated responsible officer to each project. This officer acts as the primary liaison between project directors and the administrative structures of LBUS, maintaining continuous communication throughout the life of the project. Their role is central to coordinating the execution of research contracts, ensuring that the objectives and expected outcomes are achieved in accordance with the approved budget, and verifying that actual expenditures align with project plans.

The RDISO officer also oversees compliance with all institutional work instructions related to project implementation. These include the hiring and remuneration of research personnel, the execution of procurement procedures, the reimbursement of internal and external travel expenses, and the calculation of overhead and indirect costs. By systematically monitoring these processes, the officer ensures that projects operate smoothly, meet contractual obligations, and adhere to both university and funder regulations.

During the course of a project, if amendments to funding contracts become necessary – such as changes in budget allocation, project duration, or objectives – project directors are responsible for submitting the proposed amendments to the RDISO. The service then facilitates institutional approval, after which the documents are forwarded to the contracting authorities, funding agencies, or other relevant beneficiaries, ensuring transparency, accountability, and compliance with contractual requirements.

Through these coordinated efforts, the academic community in Sibiu has consistently demonstrated its ability to conduct research of high societal relevance, offering well-founded, practical solutions to technical, economic, and social challenges. The combination of national and international collaboration, effective project management, and rigorous administrative oversight reinforces LBUS's position as a leading institution capable of producing impactful research outcomes that contribute to both local development and the broader scientific community.

14. Practices to Avoid Pseudoscientific Publications

What is a pseudo-scientific publication?

A pseudo-scientific publication (commonly referred to as a “predatory publisher”) is characterized in the specialized literature as “a publication whose primary reason for existence is profit generation rather than the promotion and dissemination of high-quality studies.” Such entities often present themselves as legitimate academic outlets, but their practices prioritize financial gain over scholarly integrity.

In practice, a predatory publisher may appear as “a seemingly reputable publication that charges authors for the editing, printing, marketing, and distribution of a scientific work but, in fact, does nothing more than print the book, bypassing editorial rigor, peer-review practices, and the valuable marketing strategies of reputable academic publishers.” This description highlights the core problem: authors are often misled into paying significant fees for services that are either inadequately performed or entirely absent, undermining the credibility of their research and the wider academic record.

Furthermore, the phenomenon is not limited to individual journals but may “refer to a single journal or a publishing house that produces multiple journals, and the pseudo-scientific aspect lies in charging fees from authors without providing peer-review, editorial, and preservation practices that uphold the standards of academic rigor.” In other words, the issue is systemic: the predatory model can encompass entire publishing operations, where revenue is prioritized above quality assurance, editorial oversight, and the long-term preservation of scholarly content.

Distinctive Features

A pseudo-scientific publication can often be recognized through a set of specific characteristics that signal a lack of academic rigor and professional editorial standards. One of the most noticeable indicators is an unprofessional or non-academic website. Such a website may exhibit several warning signs, including:

- Poor and informal text composition, with language that is unpolished, riddled with grammatical or typographical errors, or overly promotional rather than scholarly in tone.
- Inappropriate content, such as irrelevant information, exaggerated claims, or material unrelated to the stated research focus.
- Lack of clarity or specificity regarding fundamental aspects of the journal, including its objectives, scope, editorial board, peer-review process, and publication policies. This opacity often makes it difficult for prospective authors or readers to assess the credibility of the publication.

- A homepage primarily designed to solicit authors rather than to serve the academic community, featuring excessive calls for manuscript submissions, promises of rapid publication, or highlighted fees, instead of emphasizing readership, academic contribution, or engagement with scientific discourse.
- Multidisciplinary Scope of the Publication - Journals claiming to cover an unusually wide range of disciplines or topics, often with no clear editorial focus, may indicate a predatory approach aimed at attracting as many submissions as possible. While some legitimate journals are interdisciplinary, an excessively broad scope without clearly defined thematic guidelines is often a red flag. A credible journal clearly specifies its subject areas, editorial scope, and audience, whereas predatory journals often attempt to appeal to authors from unrelated fields.
- Indexing in International Databases - Predatory publishers frequently claim indexing in obscure, unverified, or fake databases such as Global Impact Factor, Scientific Indexing Service, or other lesser-known services. Researchers should verify whether the journal is included in authoritative, widely recognized indexing services like Web of Science, Scopus, PubMed, or other reputable platforms. Misleading claims of indexing are a common tactic to create the appearance of credibility.
- Quality of Recently Published Works - Examination of recent publications, including monographs, journal issues, or individual articles, is crucial. Publications lacking rigorous peer review, careful editing, and thorough proofreading are strong indicators that the journal does not maintain high academic standards. Look for poorly formatted articles, incomplete references, inconsistent methodology, and superficial analyses, all of which suggest that proper editorial procedures may not have been followed.
- Indicators of Inappropriate Author or Publisher Behavior - Research the publisher and authors by searching online for the titles, journals, and author names. Warning signs include retractions, plagiarism, self-plagiarism, image manipulation, or other unethical practices. An excessive number of negative reviews or reports of misconduct may indicate systemic issues with the publisher. Researchers should remain vigilant for patterns of repeated unethical practices that suggest institutionalized malpractice.
- Falsification and Misrepresentation - Predatory publishers often employ multiple forms of falsification. This may include listing editors who are non-existent or unrelated to the journal, providing fabricated impact indicators (e.g., "view factor" or "Copernicus value"), or falsely claiming to be indexed in reputable databases. Misrepresenting editorial practices, peer-review processes, or the journal's credibility is common. Transparency regarding fees, services, and publication standards is often lacking.
- Unrealistic Promises and Guaranteed Acceptance - Be wary of guarantees that a manuscript will be accepted before submission or promises of an expedited,

guaranteed peer-review process. Legitimate academic journals do not make such assurances. Predatory journals may also overstate the speed or certainty of acceptance as a marketing strategy to attract submissions from inexperienced or desperate authors.

- Unsolicited Invitations - Predatory publishers frequently send unsolicited, often overly flattering or poorly written emails requesting manuscript submissions. Legitimate journals usually receive submissions initiated by authors rather than through aggressive solicitation. Researchers should carefully verify the legitimacy of any email invitations, avoid clicking on suspicious links, and consider contacting the editorial office directly.
- Lack of Credible Presence in Recognized Resources - Examine whether the journal or publisher appears in authoritative lists, databases, or directories commonly used in your discipline. Legitimate inclusion usually requires verification and credibility. Additionally, check the publisher's membership in professional associations, societies, or academic publishing organizations, but remain cautious as predatory publishers often imitate legitimate names.
- Reputation Among Peers - Consult colleagues, mentors, and university librarians regarding the credibility of the journal or publisher. Peer and librarian insight is invaluable, as they can provide knowledge about predatory practices and alert you to patterns of misconduct or questionable quality. A journal with little or no positive recognition among your professional network is a potential warning sign.
- Inappropriate or Disproportionate Fees - Evaluate publication fees relative to the services provided. Predatory publishers often request high fees without offering legitimate peer review, editing, or distribution. While high fees may be reasonable in subscription journals, university presses, or open-access journals to cover production and preservation costs, predatory journals often fail to justify the cost. Assess whether the fee requested aligns with the publisher's history, the promised services, and their ability to deliver credible publication outcomes.
- Additional Red Flags - Beyond these primary indicators, other warning signs may include: lack of clear contact information, unclear or absent editorial policies, repetitive use of stock images, poor website design with broken links, and the use of aggressive marketing tactics targeting early-career researchers.

Editorial Requirements of Authentic Scientific Publications

A critical perspective on scientific journals can be strengthened by applying a selection filter based on a series of criteria specific to any such publication:

- “Scope of the journal”
- “Embargo period”

- “Presence of a peer-review process” (single-blind, double-blind, or open peer review)
- “Time to publication of the article” (approximately 4–6 months)
- “Article Processing Charges (APCs)”
- “Article Submission Charges (ASCs)”
- “Absence of advertising”
- “Indexing of the journal in international databases”
- “Authorship remuneration”

Classification of Pseudo-Scientific Publications

According to the presentation delivered during the event “International Open Access Week 2021 at the National Library of the Republic of Moldova, The Way We Open Knowledge Matters: Building Structural Equity,” pseudo-scientific publications can be classified into three types:

- Pseudo-scientific journals (predatory journals)
- Hijacked or cloned journals (hijacked journals)
- Pseudo-scientific conferences (predatory conferences)

Useful tools for identifying potential pseudo-scientific publications

Referring to the aforementioned source, several categories of tools are widely recognized as effective aids in identifying pseudo-scientific or predatory publications:

- Blacklists - These are curated lists of journals and publishers that have been flagged for engaging in predatory practices, lacking proper peer review, or failing to adhere to standard academic publishing ethics. Blacklists provide a quick reference for researchers to assess the credibility of a journal before submitting their work.
- Checklists for Evaluating Pseudo-Scientific Journals and Conferences - These structured checklists offer step-by-step guidance to researchers for critically assessing journals, conferences, or publishers. They typically include criteria such as editorial board transparency, indexing status, peer-review rigor, fee structures, and quality of published articles. By following such checklists, authors can systematically detect warning signs of predatory or pseudo-scientific practices.
- Guides for Identifying Pseudo-Scientific Publications - Comprehensive guides provide detailed instructions on recognizing predatory journals and conferences. They combine practical advice, case studies, and examples of common red flags, enabling researchers to make informed decisions about where to submit their work and avoid exploitative publishing practices.

Among the most influential tools in this domain is Beall's List of Predatory Journals and Publishers, which was developed between 2010 and 2017 by the American librarian and

scholar Jeffrey Beall. This resource, widely referred to as the "blacklist," systematically cataloged publishers and journals suspected of predatory practices, serving as a valuable reference point for the academic community. The list includes information on publishers' behaviors, website characteristics, indexing claims, and other factors that may indicate predatory activity.

Researchers can access Beall's List here to check whether a journal or publisher under consideration has been flagged, helping them avoid submitting to outlets that do not meet recognized standards of scholarly publishing.

PART VII – Research Evaluation and Impact

15. Responsible Research and Innovation

Responsible Research and Innovation (RRI) is an approach actively promoted by the European Union with the goal of ensuring that research and innovation activities are conducted in a manner that aligns closely with societal needs, ethical standards, and sustainable development objectives. RRI emphasizes a proactive and collaborative approach, whereby researchers, academic institutions, policy-makers, and citizens engage throughout the entire research and innovation process. This collaborative engagement is intended to anticipate potential social, ethical, environmental, and economic impacts of scientific and technological developments, while simultaneously maximizing the societal benefits that these processes can generate. By incorporating public values, stakeholder perspectives, and ethical considerations from the earliest stages of research, RRI seeks to foster a more socially responsive and accountable research ecosystem.

Responsible science represents a broader and more comprehensive institutional framework that integrates key principles of ethical conduct, transparency, accountability, and societal responsibility across the full research lifecycle. It is designed to ensure that all stages of research – from conceptualization and experimental design to data collection, analysis, interpretation, and dissemination – adhere to high standards of integrity, quality, and openness. According to the responsible science policy established at the University of Jyväskylä (JYU), responsible science encompasses several interrelated and mutually reinforcing domains. These include research integrity, which safeguards the honesty, reliability, and reproducibility of research; open science, which facilitates broad access to publications, data, and research outputs; responsible research assessment, which evaluates the quality and societal relevance of research without bias or undue emphasis on quantity; sustainable research practices, which minimize environmental and societal impact; and transparent communication of research results, which ensures that scientific findings are accurately and clearly conveyed to both academic and public audiences (University of Jyväskylä. (2024). Responsible Science).

The overarching objective of responsible science is to strengthen the credibility, reliability, and legitimacy of scientific research, while simultaneously enhancing the societal impact and relevance of academic knowledge. By embedding responsible practices throughout the research lifecycle – covering stages such as project planning, experimental design, data management, ethical review, dissemination, and knowledge translation – research institutions contribute to fostering public trust in science. Furthermore, responsible science ensures that the outcomes of research serve not only the academic community but also broader societal interests, supporting evidence-based decision-making, innovation, and policy development. In this context, responsible science and RRI together create a framework in which ethical considerations, public engagement, and societal benefits are central to the production and dissemination of scientific knowledge,

transforming research into a socially accountable and impactful endeavour that responds to both current and future challenges.

Reference

Within the framework of European research policy, Responsible Research and Innovation (RRI) is commonly associated with a set of interconnected dimensions that together aim to ensure that research and innovation activities are ethically sound, socially relevant, and broadly beneficial. One of the primary dimensions is ethics, which requires that all research activities respect fundamental human rights, adhere to established ethical standards, and incorporate careful consideration of potential social, environmental, and societal impacts. Another essential dimension is public engagement, emphasizing the importance of dialogue and interaction between researchers, policy-makers, and society at large, enabling citizens to contribute to the research process, voice concerns, and participate in shaping research agendas. Gender equality is also a core component, promoting equitable participation of women and men in research teams, leadership positions, and decision-making roles, while addressing systemic barriers that may impede inclusivity.

Open access represents a further dimension, ensuring that scientific knowledge, research data, and publications are widely disseminated and accessible to all stakeholders, both within and outside the academic community. This openness supports transparency, fosters collaboration, and maximizes the societal impact of research. Closely linked to this is science education, which strengthens public understanding of scientific processes, critical thinking, and evidence-based reasoning, empowering citizens to engage meaningfully with research findings and innovation outcomes. Finally, research governance under RRI emphasizes the need for transparent, accountable, and well-regulated research practices, including the establishment of clear policies, oversight mechanisms, and standards for responsible conduct throughout the research lifecycle.

Integrating RRI principles into institutional research management yields multiple benefits, including the reinforcement of public trust in science, the enhancement of the societal relevance of research outputs, and the promotion of innovations that are ethically responsible and socially desirable. Universities, therefore, are encouraged to adopt strategies that foster interdisciplinary collaboration, actively involve citizens and other stakeholders in research initiatives, and ensure transparent communication of research results to broader audiences.

Within the context of Lucian Blaga University of Sibiu (LBUS), the operationalization of RRI principles may involve the development of dedicated institutional policies and guidelines aimed at embedding ethics, open science practices, and stakeholder engagement into all aspects of the research process. This could include measures such as mandatory ethics training for researchers, the establishment of transparent mechanisms for public participation in research projects, policies that ensure equitable representation in research teams, and initiatives to make publications, datasets, and

findings widely accessible. By embedding these practices, LBUS can ensure that its research not only meets high academic standards but also addresses societal challenges, aligns with European research policy priorities, and promotes responsible innovation that benefits both the academic community and society as a whole.

Responsible Artificial Intelligence and Digital Research Ethics

The rapid advancement of artificial intelligence (AI), big data analytics, and digital research infrastructures has fundamentally transformed the landscape of scientific inquiry, creating unprecedented opportunities for discovery while simultaneously introducing complex ethical challenges for the global research community. As these technologies become increasingly embedded in research processes, responsible research practices must evolve to address ethical considerations related not only to the outcomes of research but also to the design, development, deployment, and use of advanced digital tools and systems. The growing reliance on algorithmic decision-making, large-scale data processing, and automated analysis raises important questions regarding transparency, accountability, bias, and the protection of individual rights. In this context, frameworks such as the European Commission's Ethics Guidelines for Trustworthy Artificial Intelligence (European Commission. (2019). *Ethics Guidelines for Trustworthy Artificial Intelligence.*) emphasize the need for a proactive and structured approach to ensuring that technological innovation remains aligned with fundamental ethical principles and societal expectations.

Responsible AI refers to the development and application of artificial intelligence systems in ways that respect ethical norms, human rights, and shared societal values. Within the European Union, the concept of responsible AI is embedded in a broader regulatory and ethical framework, including initiatives such as the proposed Artificial Intelligence Act, which establishes guidelines for the safe, transparent, and accountable use of AI technologies. These frameworks highlight several core principles that should guide researchers and institutions when integrating AI into scientific practice, ensuring that innovation does not come at the expense of ethical responsibility or public trust.

One of the central principles of responsible AI is **transparency and explainability**. AI systems used in research should be as transparent and interpretable as possible, particularly when they influence scientific conclusions or policy-relevant outcomes. Researchers are expected to thoroughly document the datasets used, the structure and logic of algorithms, and the training and validation procedures applied in developing AI models. This level of documentation not only facilitates the verification and reproducibility of results but also allows other researchers and stakeholders to understand how conclusions were reached, thereby strengthening scientific rigor and accountability.

Equally important is the principle of **fairness and non-discrimination**, which addresses the risk that AI systems may reproduce or even amplify existing biases present in data. Biases can emerge at multiple stages of the research process, including data collection, dataset selection, model design, and evaluation. Responsible research practices

therefore require researchers to critically assess and mitigate such biases, ensuring that AI-driven outcomes do not disadvantage particular groups or produce unjust or discriminatory effects. This involves careful dataset curation, the use of bias-detection methods, and ongoing evaluation of model performance across diverse populations and contexts.

The principle of **data protection and privacy** is particularly significant in the context of digital research, where large volumes of data – often including sensitive personal information – are processed and analyzed. Compliance with legal frameworks such as the General Data Protection Regulation (GDPR) is essential, requiring researchers to implement robust measures for data anonymization, secure storage, controlled access, and responsible data sharing. Ethical data management goes beyond legal compliance, encompassing a broader commitment to respecting the rights, dignity, and autonomy of research participants throughout the data lifecycle.

Another key dimension is **accountability and human oversight.** While AI systems can support or automate complex analytical tasks, they do not replace human responsibility. Researchers, institutions, and project leaders remain accountable for the ethical implications of the outputs generated by AI systems. This necessitates the maintenance of meaningful human oversight, particularly in high-stakes or sensitive research areas, ensuring that automated processes are subject to critical evaluation and that decisions can be justified and, if necessary, challenged.

In addition, the **ethical governance of digital research infrastructures** has become increasingly important as universities and research institutions rely on sophisticated digital environments for data storage, computational modeling, and collaborative work. Effective governance frameworks should ensure secure and reliable data management, establish transparent and fair data-sharing policies, and promote the responsible use of shared infrastructures. This includes defining clear roles and responsibilities, implementing cybersecurity measures, and ensuring that access to digital resources is managed in an equitable and ethical manner.

Integrating responsible AI principles into research governance frameworks contributes to ensuring that technological innovation is aligned with ethical values and societal expectations (Floridi, L., et al. (2018)).

16. Gender Equality in Research

Gender equality is widely recognized as a fundamental priority within the European Research Area, reflecting a broader commitment to fairness, inclusivity, and excellence in scientific research and innovation. It is not only a guiding principle but also a concrete eligibility requirement for participation in major European funding frameworks such as Horizon Europe. In this context, research institutions are strongly encouraged – and in many cases required – to develop and implement Gender Equality Plans (GEPs). These plans serve as structured, strategic instruments designed to promote equal opportunities,

address systemic inequalities, and prevent all forms of discrimination within academic and research environments. By embedding gender equality into institutional policies and practices, universities and research organizations contribute to a more balanced and equitable research ecosystem that supports both individual career development and institutional performance.

A comprehensive Gender Equality Plan typically encompasses a wide range of interconnected areas that address both structural and cultural dimensions of inequality. One key focus is achieving gender balance in leadership and decision-making positions, ensuring that women and men are equitably represented in governance structures, executive roles, and research management bodies. This includes not only increasing representation but also creating transparent and fair selection processes that mitigate unconscious bias. Another important area is equal access to research funding and career advancement opportunities, which involves monitoring funding distribution, promotion criteria, and evaluation processes to ensure that all researchers have fair and unbiased access to professional development pathways.

Equally significant is the promotion of work–life balance, supported by institutional policies that recognize and accommodate family responsibilities and caregiving roles. This may include flexible working arrangements, parental leave policies, and support services that enable researchers to balance professional and personal commitments without compromising career progression. The integration of the gender dimension in research and innovation content is another critical component, encouraging researchers to consider how sex and gender variables may influence research questions, methodologies, data interpretation, and outcomes. This approach not only enhances inclusivity but also improves the scientific quality and societal relevance of research findings.

Furthermore, Gender Equality Plans address the prevention of gender-based discrimination and harassment within academic environments. This involves the establishment of clear codes of conduct, reporting mechanisms, and support systems for individuals affected by inappropriate behavior. Creating a safe, respectful, and inclusive workplace culture is essential for enabling all researchers to contribute fully and confidently to scientific endeavors.

The effective implementation of gender equality policies plays a crucial role in fostering inclusive research environments where individuals can develop their careers based on merit, skills, and achievements rather than being constrained by structural or cultural barriers. Such environments not only enhance individual well-being and professional satisfaction but also contribute to institutional excellence by attracting and retaining diverse talent. Moreover, integrating gender perspectives into research design and innovation processes leads to more robust and comprehensive scientific outcomes, as it takes into account the diverse experiences, needs, and expectations of different social groups. This, in turn, increases the societal relevance, applicability, and impact of research results.

In light of these considerations, universities are encouraged to adopt coherent and long-term institutional strategies that promote gender equality across all aspects of research activity. This includes embedding gender-sensitive approaches into research governance frameworks, ensuring fairness and transparency in recruitment and promotion procedures, and systematically incorporating gender considerations into the development and implementation of research projects. By doing so, higher education institutions not only comply with European policy requirements but also actively contribute to building a more equitable, innovative, and socially responsive research landscape.

17. Open Access Compliance in Horizon Europe Projects

Open access to scientific publications constitutes a fundamental requirement within the Horizon Europe Framework Programme (2021–2027), reflecting the European Union's strong commitment to ensuring that publicly funded research outputs are widely accessible to the scientific community and society at large. Under this framework, beneficiaries of Horizon Europe funding are obliged to guarantee that all peer-reviewed scientific publications resulting from funded projects are made openly available without delay. This requirement is rooted in the principle that knowledge generated through public investment should be treated as a public good, accessible not only to researchers but also to policy-makers, industry stakeholders, educators, and citizens. By removing barriers to access, open access policies aim to accelerate scientific progress, foster innovation, and enhance the societal value of research.

In practical terms, compliance with open access requirements involves the systematic deposit of scientific publications in trusted digital repositories at the time of publication. These repositories may be institutional, such as university-managed platforms, or thematic, dedicated to specific research domains. The goal is to ensure long-term preservation, accessibility, and visibility of research outputs. Authors have the flexibility to meet these requirements through two primary pathways, each with its own characteristics and advantages.

The first pathway, known as **Green Open Access**, involves depositing a version of the publication – typically the accepted manuscript after peer review but before final publisher formatting – into an institutional or subject-specific repository. This approach allows authors to publish in traditional subscription-based journals while still ensuring that a version of their work is freely accessible. The second pathway, **Gold Open Access**, entails publishing directly in open access journals or platforms that provide immediate and unrestricted public access to the final, published version of the article. In this case, the publisher makes the article openly available upon publication, often supported by article processing charges (APCs) covered by research funding or institutional agreements.

To ensure that open access publications are easily discoverable, citable, and interoperable across digital systems, Horizon Europe requires that deposited works include persistent identifiers, most commonly Digital Object Identifiers (DOIs). These

identifiers provide a stable and permanent link to the publication, facilitating citation, tracking, and integration into research information systems. In addition, publications must be accompanied by rich and standardized metadata, including information such as authorship, institutional affiliation, funding sources, keywords, and abstracts. Proper metadata enhances the visibility of research outputs in search engines, databases, and indexing services, thereby increasing their reach and impact.

Another essential requirement under Horizon Europe is the use of open licenses for scientific publications, with a preference for widely recognized frameworks such as **Creative Commons licenses, particularly the CC BY (Attribution) license**. These licenses allow users to read, download, share, reuse, and build upon published work, provided that appropriate credit is given to the original authors. By facilitating lawful reuse and redistribution, open licensing supports collaboration, knowledge transfer, and the development of new research, educational materials, and innovations based on existing findings.

Collectively, these open access practices play a crucial role in enhancing the visibility, accessibility, and overall impact of publicly funded research. They enable faster dissemination of knowledge, promote interdisciplinary collaboration, and ensure that research findings can inform policy, industry applications, and societal development. In this way, open access under Horizon Europe not only strengthens the scientific ecosystem but also reinforces the principle that research should serve the broader public interest, contributing to a more transparent, inclusive, and knowledge-driven society.

Open Science Practices in European Universities

Open Science represents a profound and ongoing transformation in the way scientific knowledge is created, shared, validated, and ultimately used within society. Moving beyond traditional, closed models of research dissemination, Open Science promotes a more inclusive, transparent, and collaborative approach that reshapes every stage of the research lifecycle – from the initial formulation of research questions to the publication, evaluation, and reuse of results. This paradigm shift is driven by the recognition that scientific knowledge gains value when it is openly accessible, reproducible, and responsive to societal needs. As digital technologies continue to evolve, they further enable new forms of collaboration, data sharing, and interdisciplinary research, reinforcing the importance of Open Science as a cornerstone of modern research systems.

Within the European Research Area (ERA), Open Science has become a central policy priority, reflecting a coordinated effort to align research practices across countries and institutions. European policies actively promote principles such as transparency in methodologies, open access to publications and data, collaborative knowledge production, and the engagement of diverse stakeholders – including researchers, industry actors, policy-makers, and citizens. By embedding these principles into research governance frameworks, the ERA seeks to create a more efficient, trustworthy, and impactful research environment. Open Science is thus not only a technical or procedural

shift but also a cultural transformation that encourages openness, accountability, and shared responsibility in the production of knowledge.

European universities play a crucial role in operationalizing Open Science principles at the institutional level. Increasingly, they are integrating these principles into their strategic planning, research support services, and evaluation systems. This includes developing policies that mandate or encourage open access publishing, establishing institutional repositories for research outputs, promoting responsible research data management in line with FAIR principles, and supporting training initiatives that equip researchers with the skills needed to engage in open and collaborative science. Universities also foster interdisciplinary collaboration and encourage partnerships beyond academia, thereby expanding the reach and relevance of scientific work.

The integration of Open Science practices significantly contributes to improving the accessibility of research, ensuring that scientific outputs are available not only to academic peers but also to broader audiences, including practitioners, educators, and the general public. At the same time, it enhances the reproducibility of research by encouraging the sharing of data, methods, and protocols, allowing other researchers to verify and build upon existing findings. Furthermore, Open Science strengthens the societal relevance of research by facilitating knowledge exchange and enabling research outcomes to inform policy-making, innovation, and public debate.

In this broader context, Open Science can be understood as a key driver of a more democratic and impactful research system – one that values openness, inclusivity, and collaboration as essential components of scientific excellence. By embedding these principles within institutional and European-level policies, the research community contributes to building a more transparent, efficient, and socially responsive scientific ecosystem (European Commission. (2021). Open Science Policy).

Open science practices typically encompass several complementary components:

- **Open Access to Scientific Publications**. Open access policies ensure that research results are freely accessible to the scientific community and the general public. Researchers are encouraged to deposit their publications in institutional or disciplinary repositories and to publish in journals that support open access models. This approach increases the visibility and impact of scientific results and facilitates knowledge dissemination across disciplinary and geographical boundaries.
- **Open Research Data**. The open science paradigm encourages researchers to make research data available whenever possible, in accordance with the FAIR principles (Findable, Accessible, Interoperable, and Reusable). Research data repositories provide long-term preservation of datasets and allow other researchers to reuse data for new analyses or interdisciplinary studies. At the same time, data sharing must respect ethical, legal, and confidentiality constraints, particularly when personal or sensitive data are involved.
- **Transparency of Research Methods**. Open science also promotes transparency in research methodologies, including the sharing of research protocols, software

code, algorithms, and methodological documentation. Such practices contribute to improving the reproducibility of scientific results and support collaborative research.

- **Open Peer Review and Open Evaluation**. In some scientific fields, open science practices extend to the peer-review process, where reviewer identities or review reports may be made publicly available. Open peer review can enhance transparency and accountability in the evaluation of scientific publications.
- **Citizen Science and Public Engagement**. Citizen science initiatives involve the participation of non-professional researchers in scientific activities such as data collection, analysis, and dissemination of results. These initiatives contribute to strengthening the relationship between science and society while increasing public awareness of scientific processes.

European research programs such as Horizon Europe strongly promote the adoption of open science practices. Beneficiaries of European research funding are encouraged to ensure open access to publications, develop data management plans, and deposit research outputs in trusted repositories (European Commission. (2022). Open Science in Horizon Europe).

By integrating open science practices into institutional policies, universities contribute to strengthening the accessibility, transparency, and societal impact of academic research (University of Jyväskylä (2024). Responsible Science. https://www.jyu.fi/en/research/responsible-science).

18. Research Evaluation and Impact Indicators

The evaluation of research performance increasingly relies on a combination of quantitative indicators and qualitative assessments that reflect the scientific quality, societal relevance, and innovation potential of research activities.

Traditional evaluation indicators often include a set of well-established, primarily quantitative measures that focus on academic productivity, visibility, and competitiveness within the scientific community. These indicators typically reflect outputs that are relatively easy to measure and compare across disciplines and institutions. They include:

- number of scientific publications, reflecting research productivity and output over a given period;
- citation metrics and journal impact indicators, used as proxies for the scientific influence and visibility of research results;
- research funding obtained through competitive grants, indicating the ability to attract external resources and recognition from funding bodies;
- participation in international research collaborations, demonstrating integration into global scientific networks;
- h-index and related author-level metrics, capturing a combined measure of productivity and citation impact;

- number of conference presentations and invited talks, reflecting academic visibility and recognition by peers;
- editorial and peer-review activities, including participation in journal editorial boards or scientific committees;
- number of research projects coordinated or led, indicating leadership capacity in managing scientific initiatives;
- success rate in grant applications, providing insight into competitiveness in funding competitions;
- affiliation with high-impact journals or prestigious academic publishers, often used as a proxy for research quality;
- collaboration indicators such as co-authorship patterns, especially with highly ranked institutions or researchers;
- awards, distinctions, and academic honors received within the scientific community.

However, contemporary research policy frameworks increasingly emphasize the importance of responsible research assessment, which seeks to capture a broader and more meaningful range of research contributions and impacts beyond traditional academic metrics. These approaches recognize that the value of research extends into society, the economy, education, and public life. As a result, evaluation criteria are expanding to include:

- contributions to addressing societal challenges and supporting sustainable development goals, including research with direct policy or societal relevance;
- dissemination of research results to non-academic audiences, such as through public lectures, media engagement, policy briefs, or science communication initiatives;
- active engagement with industry, public institutions, and civil society organizations, including collaborative projects and knowledge transfer activities;
- development of innovative technologies, patents, prototypes, and other forms of intellectual property with practical applications;
- educational and training contributions, including curriculum development, mentoring, supervision, and capacity-building activities;
- contributions to open science practices, such as sharing data, publishing in open access formats, and developing open-source tools or software;
- involvement in citizen science initiatives and public participation in research processes;
- impact on public policy, professional practice, or societal behavior, including evidence-based recommendations and advisory roles;
- promotion of diversity, equity, and inclusion within research teams and institutional environments;
- contributions to interdisciplinary and transdisciplinary research addressing complex real-world problems;
- development of research infrastructures, databases, or platforms that support the broader scientific community;

- long-term societal, cultural, or environmental impact of research activities, even when not immediately measurable.

In line with initiatives such as the San Francisco Declaration on Research Assessment (DORA) and the Coalition for Advancing Research Assessment (CoARA), universities are encouraged to adopt evaluation practices that move beyond simple bibliometric indicators and recognize diverse forms of research impact.

Developing balanced research evaluation frameworks contributes to fostering high-quality research environments while encouraging responsible, collaborative, and socially relevant scientific activities.

Responsible research assessment represents an emerging approach to evaluating scientific performance that emphasizes qualitative evaluation of research contributions rather than relying exclusively on quantitative metrics. According to the principles promoted by the JYU, responsible assessment frameworks should consider a broad range of scholarly contributions, including publications, research data, software, policy contributions, educational materials, and societal engagement (University of Jyväskylä (2024). Responsible Assessment of Research and Researchers at JYU).

Responsible assessment practices encourage institutions to avoid excessive reliance on journal-based metrics such as Journal Impact Factor when evaluating individual researchers. Instead, evaluation processes should focus on the intrinsic quality, originality, and relevance of the research outputs.

Furthermore, responsible research assessment recognizes the collaborative nature of contemporary scientific work. Contributions to interdisciplinary teams, participation in international research networks, and engagement with societal stakeholders should also be acknowledged in evaluation processes.

Research analytics tools are increasingly used by universities to support evidence-based research management and strategic decision-making. According to the University of Jyväskylä's research analytics framework, these tools enable institutions to analyze research outputs, collaboration networks, and emerging scientific trends.

Research analytics can assist universities in monitoring publication performance, identifying potential research partnerships, and evaluating the broader societal impact of research activities. However, the responsible use of research analytics requires careful interpretation of bibliometric indicators and should always be complemented by qualitative expert assessment (University of Jyväskylä (2024). Research Analytics).

Adopting responsible research assessment principles contributes to improving transparency, fairness, and inclusivity in research evaluation and aligns institutional practices with international initiatives such as the San Francisco Declaration on Research Assessment (DORA) and the Coalition for Advancing Research Assessment (CoARA).

19. Research Security and Responsible International Collaboration

Research activities are increasingly characterized by international collaboration, cross-border knowledge exchange, and the use of shared global research infrastructures. Scientific progress today often depends on the ability of researchers, institutions, and countries to work together across geographical and disciplinary boundaries, combining expertise, resources, and perspectives to address complex global challenges such as climate change, public health, digital transformation, and sustainable development. These collaborative dynamics are supported by large-scale infrastructures, open data platforms, and international funding mechanisms that facilitate mobility, data sharing, and joint innovation.

At the same time, this growing interconnectedness introduces a range of potential risks and vulnerabilities that must be carefully managed. International collaboration may expose research systems to challenges related to research security, including the protection of intellectual property, the safeguarding of sensitive or strategic data, and the prevention of unauthorized access to research results or infrastructures. Risks may also arise from differences in regulatory frameworks, ethical standards, or data protection regimes across countries, potentially leading to unintended misuse of scientific knowledge or breaches of confidentiality. In certain fields – particularly those involving dual-use technologies, advanced digital systems, or critical infrastructures – the implications of such risks can extend beyond academia, affecting economic competitiveness, national security, and societal well-being.

In response to these evolving challenges, the European Union has increasingly emphasized the importance of research security as a core component of responsible research governance within the European Research Area (ERA). Research security can be understood as a comprehensive framework of institutional policies, procedures, and practices aimed at protecting the integrity, reliability, and trustworthiness of research activities. It encompasses measures designed to safeguard intellectual property, ensuring that innovations and discoveries are appropriately protected and not subject to unauthorized transfer or exploitation. It also involves the protection of sensitive data, including personal data, confidential research information, and strategically important datasets, through secure data management practices and compliance with legal frameworks such as the GDPR.

Furthermore, research security includes the protection of critical research infrastructures, such as laboratories, databases, digital platforms, and high-performance computing systems, from cyber threats, unauthorized access, or physical interference. Institutions are encouraged to implement robust cybersecurity measures, access controls, and risk assessment procedures to mitigate potential vulnerabilities. Another important dimension is the management of research partnerships and international cooperation, where due diligence processes, transparency in collaboration agreements, and clear rules regarding data sharing and intellectual property rights are essential for ensuring that collaborations remain mutually beneficial and ethically sound.

Responsible International Collaboration

International collaboration remains a cornerstone of contemporary scientific research, enabling the pooling of expertise, resources, and perspectives necessary to address complex global challenges such as climate change, public health crises, digital transformation, and sustainable development. Through cross-border partnerships, universities and research institutions can participate in large-scale projects, access advanced infrastructures, and contribute to knowledge production at a global level. At the same time, such collaborations must be carefully structured to ensure that they align with ethical standards, legal requirements, and institutional policies. As a result, universities are encouraged not only to expand international partnerships but also to embed responsible practices that safeguard the integrity and security of research activities.

Responsible international collaboration is guided by several key principles, as outlined in European policy frameworks (European Commission. (2021). Horizon Europe Programme Guide):

• **Transparency in Research Partnerships**. Transparency is fundamental for building trust and ensuring the effective functioning of international collaborations. Research institutions should establish clear, formal agreements that define project objectives, roles and responsibilities of partners, timelines, and expected outcomes. These agreements should also explicitly address issues such as intellectual property rights, authorship, data ownership, and data management practices. Transparent communication throughout the project lifecycle helps prevent misunderstandings, ensures accountability, and facilitates equitable collaboration among partners from different institutional and cultural contexts.

• **Protection of Intellectual Property and Sensitive Knowledge**. International research collaborations often involve the exchange of valuable knowledge, including technological innovations, proprietary data, and research materials. Some of this information may have strategic, commercial, or even security-related significance. Institutions must therefore implement robust policies to protect intellectual property rights and ensure that sensitive knowledge is handled responsibly. This includes defining ownership and usage rights in advance, applying appropriate confidentiality agreements, and carefully managing the transfer of knowledge to prevent unauthorized use, misappropriation, or exploitation.

• **Compliance with Legal and Ethical Frameworks**. Cross-border research activities must comply with a wide range of legal and ethical requirements, which may vary between jurisdictions. These include export control regulations governing the transfer of sensitive technologies, data protection laws such as the GDPR, and ethical standards related to research involving human participants, personal data, animals, or environmentally sensitive materials. Institutions and researchers must ensure that all collaborative activities adhere to these frameworks, conducting due diligence and seeking appropriate approvals when necessary. Compliance not only reduces legal risks but also reinforces the credibility and integrity of research partnerships.

• **Responsible Use of Research Results**. Researchers and institutions share a collective responsibility to ensure that the outcomes of scientific research are used in ways that

benefit society and do not cause harm. This is particularly important in areas with dual-use potential, where research findings may have both civilian and military applications. Responsible use requires careful consideration of the potential implications of research results, including unintended consequences or misuse. Institutions are encouraged to establish guidelines and oversight mechanisms that promote ethical reflection and ensure that research outputs contribute to peaceful, sustainable, and socially beneficial objectives.

• **Research Security Risk Management**. Managing risks associated with international collaboration is an essential component of responsible research governance. Institutions should adopt proactive strategies to identify, assess, and mitigate potential risks related to data security, intellectual property, geopolitical factors, and partner reliability. This includes developing institutional policies, risk assessment frameworks, and support mechanisms that help researchers navigate complex collaboration environments while maintaining high standards of security and integrity.

In this context, research security management has emerged as a structured approach to addressing these challenges. Key elements of effective research security management include (European Commission. (2022). Tackling Research Security Risks in International Cooperation):

• **Risk Assessment**. A systematic evaluation of potential risks is essential before and during research collaborations. Institutions should assess factors such as the nature of the research, the sensitivity of technologies involved, the strategic importance of the research area, and the profile of partner organizations. Risk assessment processes enable institutions to identify vulnerabilities and implement appropriate safeguards, ensuring that collaborations proceed in a controlled and informed manner.

• **Data and Information Security**. Protecting research data is a critical priority in the digital age. Institutions must implement secure data storage systems, encryption technologies, and controlled access procedures to prevent unauthorized access, data breaches, or loss of sensitive information. Cybersecurity measures should be regularly updated to address evolving threats, and data management practices should align with both legal requirements and best practices in information security.

• **Training and Awareness**. Ensuring that researchers and administrative staff are aware of research security issues is key to effective risk management. Training programs should cover topics such as responsible data management, intellectual property protection, cybersecurity practices, and ethical considerations in international collaboration. By building awareness and competence, institutions empower researchers to identify potential risks and act responsibly in their collaborative activities.

• **Institutional Support Structures.** Universities should establish dedicated support mechanisms to assist researchers in navigating research security challenges. These may include legal advisory services, data protection officers, research integrity offices, and specialized research support units. Such structures provide guidance on compliance, risk

assessment, and best practices, helping researchers make informed decisions and ensuring that institutional policies are consistently applied across projects.

Research Security in the Horizon Europe Framework

The Horizon Europe programme places strong emphasis on responsible international cooperation, highlighting the need to balance the opportunities offered by global scientific partnerships with the protection of European strategic interests and the preservation of research integrity. Beneficiaries of Horizon Europe funding are expected to implement robust safeguards and institutional measures that ensure research activities fully comply with European Union regulations, ethical standards, and established best practices for responsible research conduct (European Commission. (2020). A New European Research Area for Research and Innovation). This includes not only compliance with legal frameworks, such as export controls, data protection laws, and intellectual property rights, but also adherence to ethical principles governing research with human participants, environmental considerations, and dual-use technologies.

Within this framework, research institutions are encouraged to adopt comprehensive internal procedures that guide responsible collaboration with international partners. Such procedures should foster transparency in the establishment of research agreements, clearly define the roles and responsibilities of all participants, and ensure accountability throughout the project lifecycle (European Commission. (2023). EU Approach to Research Security). Clear guidelines regarding intellectual property management, data sharing, authorship, and ethical oversight are essential for preventing misunderstandings and safeguarding both the quality and integrity of the research process. Furthermore, these procedures can help mitigate risks associated with unintentional knowledge transfer or participation in research collaborations that could compromise strategic or sensitive European technologies.

Integrating research security principles into institutional governance structures enables universities to create resilient research systems capable of navigating the complexities of international collaboration while maintaining compliance with EU policies. This involves developing risk assessment frameworks, providing training and awareness programs for researchers and administrative personnel, and establishing advisory structures such as research integrity offices, legal support teams, and data protection officers (OECD. (2022). Research Security: Safeguarding Science in an Open Research Environment). By embedding these mechanisms into organizational practices, universities not only protect their strategic interests and uphold ethical standards but also enhance their capacity to fully leverage the benefits of global scientific collaboration, including access to advanced infrastructures, interdisciplinary expertise, and innovative research opportunities.

Ultimately, responsible international cooperation under Horizon Europe is about balancing openness with security: fostering scientific innovation and cross-border knowledge exchange while ensuring that European research remains trustworthy, ethically grounded, and strategically protected. The careful integration of research security principles strengthens institutional resilience, reinforces public trust in science,

and promotes sustainable, socially responsible, and internationally impactful research practices.

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