



Faculty of Medical Biochemistry and Biotechnology

RESEARCH STRATEGY

2024-2029

September, 2024

EXECUTIVE SUMMARY

The Faculty of Medical Biochemistry and Biotechnology is a comprehensive and interdisciplinary research institution committed to advancing scientific knowledge and innovation in the areas of healthcare, biotechnology, and environmental sustainability. The research conducted at the Faculty aligns with the core mission to contribute to economic growth, sustainable development, and the betterment of society, with a special focus on human health, medical biotechnology, and environmental protection.

At the Faculty of Medical Biochemistry and Biotechnology, we strive for excellence in research and the application of innovative knowledge that addresses global health challenges, promotes sustainable solutions in biotechnology, and contributes to environmental sustainability. Our faculty plays a distinctive role in advancing biochemistry, biotechnology, molecular medicine, and sustainable healthcare practices, both regionally and internationally. We empower our faculty, students, and stakeholders to engage in cutting-edge research and development that spans local, national, and global contexts.

➤ **Key Strategic Areas**

1. **Engage in Collaborative Research Projects with International and Domestic Institutions:** The Faculty of Medical Biochemistry and Biotechnology will actively engage in research projects with esteemed foreign and domestic research institutions. This collaboration will help establish a global presence in scientific research and scholarship. Faculty research teams will focus on identifying and pursuing national and international research funding opportunities, strengthening the Faculty's expertise in medical biochemistry, biotechnology, and public health.
2. **Build a Critical Mass of Research Capacity in Key Thematic Areas:** The Faculty will focus on developing a critical mass of research expertise by fostering a research-driven culture. Academic staff will be encouraged and incentivized to participate in contract research and consulting. By strengthening our consulting services, the Faculty aims to become a national and international leader in medical biotechnology and sustainable health solutions, engaging with both public and private sectors.
3. **Establish a Research Fund:** To support the Faculty's research ambitions, a dedicated research fund will be created. This fund will be sourced from research grants, private sector collaborations, and contributions from philanthropic organizations. The goal is to ensure a sustainable and diversified funding base for the Faculty's research projects and initiatives.
4. **Prioritize Research Excellence through Both Quantitative and Qualitative Metrics:** The Faculty will adopt rigorous research metrics that both quantitatively and qualitatively assess the quality and impact of research activities. These metrics will be integrated into staff development plans to enhance research outputs and reputation, ensuring that the Faculty's research remains at the forefront of global scientific advancements.
5. **Provide Organizational Support for Faculty Research through Grant Programs:** The Faculty will establish research grant programs to support individual and collaborative faculty research projects. These grants will include Lead Scholar Research Grants for senior researchers and Young Scholar Research Grants to foster early-career researchers. These grants will ensure sustained support for innovative research in biochemistry, biotechnology, and medical science.
6. **Develop Research Projects Aligned with Industry Needs:** To enhance the relevance and impact of research, the Faculty will collaborate closely with industry stakeholders such as pharmaceutical companies, healthcare providers, the energy sector, and environmental organizations. Joint research initiatives will be developed in thematic areas such as sustainable healthcare solutions, green biotechnology, and environmental health, with industry funding and expertise guiding these projects.

7. **Create Shared Research Facilities and Foster Interdisciplinary Collaboration:** The Faculty will invest in shared research facilities and promote interdisciplinary research collaborations across various academic departments and external research institutes. These facilities will support collaborative research in fields like molecular medicine, biochemistry, environmental biotechnology, and public health. Interdisciplinary research will enhance the Faculty's capacity to address complex global health challenges and contribute to sustainable development.
8. **Establish an Advisory Committee for Research Enhancement:** An Advisory Committee will be established within the Faculty to provide strategic guidance on the enhancement of research and scholarly activities. This committee will oversee the Faculty's research direction and ensure alignment with national and international research priorities.

➤ **Research and Scholarly Activities of the Faculty of Medical Biochemistry and Biotechnology**

- **Active Engagement in Research:** Faculty members engaged in research are instrumental in bridging the gap between innovation and education. Students will have the opportunity to participate in ongoing research projects, gaining hands-on experience in cutting-edge biotechnological and biochemical research.
- **Student Involvement:** Students will be actively involved in research through internships, collaborative projects, and thesis opportunities that address real-world problems in healthcare, biotechnology, and environmental sustainability. This involvement will allow students to gain valuable research skills and experience that enhance their employability and professional development.
- **Interdisciplinary Research Impact:** The Faculty's research will span across multiple disciplines, ensuring that projects have a broad societal impact, addressing public health issues, medical innovations, and environmental challenges. This interdisciplinary approach will provide solutions that improve public health outcomes, support the sustainable use of natural resources, and contribute to economic growth.
- **Reputation and Recognition:** The Faculty's research excellence will enhance its national and international reputation, positively influencing its perceived value by prospective students, faculty, research collaborators, and industry stakeholders. Strong research outputs will elevate the Faculty's standing within the global academic community and contribute to the reputation of its graduates in the job market.

➤ **Vision for Research and Scholarship**

- **Global Leadership in Research:** The Faculty of Medical Biochemistry and Biotechnology will become the leading academic research institution in Kosovo and the region for interdisciplinary research in healthcare, biotechnology, and environmental sustainability. It will be recognized for its cutting-edge contributions to scientific innovation and for integrating its research directly into education.
- **Excellence in Sustainable Biotechnology:** The Faculty will be a recognized leader in the field of sustainable biotechnology and environmental health, driving innovation in the medical and biotechnology sectors. Its research will be grounded in the principles of sustainability, contributing to solutions for global health challenges.
- **Integration of Research and Teaching:** The Faculty will continue to integrate its research findings into the curriculum, ensuring that students benefit from the latest scientific discoveries. By fostering an environment of research-led teaching, the Faculty will maintain its status as an academic hub for innovation.
- **National and International Recognition:** Through the establishment of strategic partnerships, research grants, and the development of high-impact research projects, the Faculty will gain national and international recognition. It will become a key player in regional and global research networks, with its work contributing to broader societal goals.

- **Research Culture and Innovation:** The Faculty will nurture an entrepreneurial and collaborative research culture, where staff are encouraged to innovate and collaborate with industry, government, and non-governmental organizations. This culture will support sustainable research practices and contribute to impactful projects that improve public health and contribute to the economy.

➤ **Goals for Realizing Our Vision**

- **Increase Research Funding:** The Faculty will increase its research funding by securing national and international research grants, contract research, and partnerships with the private and public sectors. The aim is to diversify funding sources and build a robust financial base for long-term research sustainability.
- **Enhance Reputation and Influence:** The Faculty will enhance its reputation by focusing on high-quality research metrics that demonstrate its capabilities in biotechnology, biochemistry, and sustainable healthcare. These metrics will be used to build the Faculty's visibility and academic standing.
- **Provide Expert Advisory Services:** The Faculty will assist the healthcare community, private sector, and governmental agencies through high-level advisory support on research initiatives and strategic collaborations aimed at advancing public health and sustainability.
- **Foster Industry Collaboration:** The Faculty will pursue partnerships with industry stakeholders to apply its research directly to real-world challenges, creating a bridge between scientific knowledge and practical solutions in healthcare, biotechnology, and environmental sustainability.

➤ **Actions for enhancing research and scholarship at Faculty of Medical Biochemistry and Biotechnology**

1. Participation in Research Projects with Foreign and Domestic Research Institutions

Goal: To increase the Faculty's research potential by partnering with reputable international and national research institutions in specialized areas of medical biochemistry and biotechnology. This is key to raising the Faculty's profile and fostering an exemplary research reputation both in Kosovo and internationally.

Research Areas:

- Biochemistry and molecular biology in health and disease
- Biotechnology in personalized medicine
- Cancer research and treatment methodologies
- Genetic engineering and gene therapy
- Stem cell research and regenerative medicine
- Bioinformatics and computational biology
- Environmental biotechnologies and bio-remediation
- Biotechnology in drug development and vaccine research
- Immunology and immune response biochemistry
- Clinical and diagnostic biochemistry
- Application of CRISPR technology
- Biochemical markers for early disease detection

Actions:

- The Faculty Research Sub-Commission will create working groups to identify key research opportunities in collaboration with renowned foreign and domestic institutions.
- Secure partnerships for interdisciplinary research in the above-listed areas.
- Organize workshops and research symposia to develop detailed research strategies, including funding applications.

Timeline:

- First workshop for strategy development by March 2025, with plans finalized by the Fall of 2025.
- A continuous review cycle of collaborative opportunities with research projects starting from Fall 2025.

Goals:

- Complete at least 5 collaborative research programs with international and national institutions by 2029.
- Submit and secure funding for at least EUR 300,000 in grants during 2028-2029.

Success:

- Measured by the number of collaborative research projects initiated and grants awarded.

2. Strengthening Contract Research and Consultancy in Medical Biochemistry and Biotechnology

Goal: To cultivate an "entrepreneurial" research culture by empowering academic staff to engage in contract research and develop a consultancy service for both national and international markets.

Actions:

- Empower academic staff to explore consulting and contract research opportunities in areas such as biochemistry-based diagnostics, biotechnological product development, environmental biotechnology, and bioinformatics.
- Conduct an external analysis of the consulting market within medical biochemistry and biotechnology.
- Establish a resource-based analysis to identify the core competencies of faculty members for contract research.

Timeline: From 2024 to 2029.

Goals: Secure 10 contract research and consulting services within the 5-year period valued at EUR 300,000.

Success: Measured by the number of contract research agreements and consultancy projects signed.

3. Establishment of a Research Fund for Faculty of Medical Biochemistry and Biotechnology

Goal: To increase funding for research by establishing a sustainable research fund sourced from internal budgets, external grants, and private sector donations.

Actions:

- Create a working group to identify funding sources for biochemistry and biotechnology research.
- Collaborate with the Financial Office and Steering Board to allocate internal funds for interdisciplinary research.
- Seek partnerships with the private sector (e.g., biotech companies, pharmaceutical companies) and foreign donors to raise funds for research initiatives.

Timeline: Ongoing from 2024 to 2029.

Goals: Raise a research fund totaling EUR 250,000 over the 5-year period.

- Secure both internal and external funding for targeted research projects.

Success: Achieved research fund value of EUR 250,000.

4. Emphasize Excellence in Research and Scholarly Activities through Metrics

Goal: To enhance the quality and visibility of research within the Faculty using a set of established quantitative and qualitative research metrics.

Actions:

- Develop a comprehensive system for measuring research quality, including the number of prestigious scientific awards, citation indices, publications in high-impact journals, and invited plenary talks.
- Integrate research quality indicators into the development plans of faculty staff.
- Focus on achieving publication in high-ranking journals related to medical biochemistry, biotechnology, and bioengineering.

Timeline: Develop metrics and integrate them by March 2025.

Goals: Establish research quality standards comparable to top European and US biochemistry and biotechnology schools.

Success: Measured by prestigious awards, journal rankings, citation impact, and invited speaking opportunities at international conferences.

5. Provide Organizational Support for Faculty Research through Lead and Young Scholar Grants

Goal: To increase individual and group faculty research through enhanced organizational support, including research grants and mentorship programs for young scholars.

Actions:

- Provide teaching load flexibility for Lead Scholars and Group Research Heads.
- Introduce Lead Scholar Research Grants and Young Scholar Research Grants to support both experienced and emerging researchers.
- Allocate resources for mentoring, research productivity, and travel support for young scholars.

Timeline: Policy changes by March 2025, with ongoing grants and mentorship available by Fall 2025.

Goals: Implement policies for supporting at least 5 Lead Scholars and 5 Young Scholars with dedicated grants and mentorship by 2029.

Success: Success will be measured by the number of faculty members supported and their progress in achieving notable research milestones.

6. Develop Industry-Oriented Research Projects in Biotechnology

Goal: To collaborate with industry stakeholders (biotech companies, healthcare providers, pharmaceutical firms) to develop research projects that align with the needs of the market.

Actions:

- Form a working group to liaise with industry partners to identify research areas of mutual interest, such as drug development, genetic testing, or sustainable biotech solutions.
- Secure joint funding for industry-driven research initiatives.

Timeline:

- Working group appointed by March 2025.
- At least two joint research projects per annum.

Goals: Develop 2 industry-based research initiatives per year.

Success: Measured by the number of joint research projects and their funding.

7. Build and Maintain Shared Research Facilities for Interdisciplinary Research

Goal: To foster interdisciplinary research by developing shared research facilities and support systems that promote collaboration across various faculties.

Actions:

- Establish joint working groups with other faculties (e.g., Faculty of Health Sciences, Faculty of Engineering) to pool resources for advanced research.
- Develop a Journal of Biotechnology and Medical Biochemistry with a focus on interdisciplinary approaches.

Timeline:

- Plan for shared research facilities by March 2025.
- Launch two volumes of the journal per year starting from 2026.

Goals: Index the journal in EBSCO within 5 years and SCOPUS within 8 years.

Success: Achieve indexing in SCOPUS within 8 years.

8. Establish Advisory Committee for Research Oversight

Goal: To increase faculty engagement in research decision-making and policy development.

Actions: Establish an Advisory Committee consisting of academic leaders and key stakeholders to guide the development of research strategies and initiatives.

Timeline: Establish by March 2025.

Goals: Ensure meaningful faculty involvement in shaping the research direction of the Faculty.

Success: Evidence of increased research output, quality, and funding secured.

FACULTY OF MEDICAL BIOCHEMISTRY AND BIOTECHNOLOGY

ANNUAL ACTION PLAN FOR IMPLEMENTATION OF FIVE YEAR RESEARCH ACTION PLAN

2024-2029

Faculty of Medical Biochemistry and Biotechnology intends to use the following annual action plan to implement the five year research action plan. The annual action plan is aligned with the Five Year Plan of Faculty of Medical Biochemistry and Biotechnology. The strategic goal focuses on developing research capacity by engaging in research projects with international and national research institutions. This structured approach allows the Faculty of Medical Biochemistry and Biotechnology to track progress, ensure accountability, and make adjustments if necessary to achieve its goals within the five-year period.

Strategic Goals and Outcomes	Performance Metric	Actions	Target	Time frame	Strategic Outcome for Realization of Five-Year Plan	Annual Actions	Timeframe	Responsible Actors	Performance Metric
OUTCOME 3.1: Participate in research projects with serious foreign and domestic research institutions	Value in EUR of research projects	Apply and win research grants funded by foreign governments and other local institutions	300,000 EUR	2024 - 2029	Pinpoint research projects and identify domestic and foreign research institutions for collaboration.	Establish a working group to identify and target research areas in biotechnology and medical biochemistry with international collaborations.	March 2025	Working Group (WG)	WG established by March 2025 and 5 targeted research programs finalized by 2025
OUTCOME 3.2: Build partnerships with industry for research projects	Number of industry partnerships formed	Develop partnerships with biotechnology companies, pharmaceutical firms, and medical research institutions	3-5 partnerships	2024 - 2029	Strengthen ties between the Faculty and the biotechnology industry for applied research.	Create a liaison team to engage with industry stakeholders for joint research projects.	Ongoing from 2024	Liaison Team, Industry Relations Office	Number of partnerships and joint projects signed

OUTCOME 3.3: Enhance faculty research expertise through international collaborations	Number of faculty involved in international projects	Facilitate faculty participation in international research programs in biochemistry and biotechnology	10 faculty members	2024 - 2029	Elevate the research quality of the Faculty by increasing faculty involvement in international collaborative projects.	Identify faculty members interested in international collaborations and assist them with proposal submissions.	Ongoing, Review annually	Faculty of Medical Biochemistry and Biotechnology	Number of successful international collaborations involving faculty
OUTCOME 3.4: Develop a sustainable research culture within the Faculty	Number of grants won, number of publications	Empower faculty to engage in research through internal funding, grants, and publications in peer-reviewed journals	EUR 300,000 in grants and 10 peer-reviewed publications per year	2024 - 2029	Build a sustainable research culture supported by grants, publications, and ongoing collaboration.	Provide training on grant writing, set up internal research funding opportunities, and incentivize publications.	Ongoing	Research Sub-Commission, Faculty Members	Number of grants won and research publications
OUTCOME 3.5: Increase student involvement in research activities	Percentage of students involved in research projects	Develop programs that encourage undergraduate and graduate student participation in research projects.	30% student involvement annually	2024 - 2029	Encourage student involvement in research as a key part of the Faculty's research culture.	Integrate research into the curriculum and promote student participation in Faculty-led research projects.	Ongoing	Academic Coordinators, Research Council	Percentage of students participating in research activities
OUTCOME 3.6: Establish dedicated funding for research and	Establish a Research Fund of EUR 150,000	Create a research fund sourced from external grants, internal	EUR 150,000 raised	2024 - 2029	Ensure the Faculty has dedicated financial resources for supporting research	Identify funding opportunities from government grants, private sector	Ongoing	Faculty Financial Office, Research	Amount of funds raised for research purposes

innovation		resources, and private sector donations			and innovation initiatives.	donations, and international agencies.		Council	
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