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**Project Biotech-Tunisia/ CBHE Erasmus+
610246-EPP-1-2019-1-TN-EPPKA2-CBHE-SP**



Biotech Tunisia Newsletter

**Modernization of the
biotechnology teaching for a
better employability of Graduates
in Tunisia**

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October
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BiotechTunisia



biotech tunisia

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Biotech



WELCOME

Dear Students, PhD Students and Post-Doctoral Fellows, Dear Fellow Professors and Researchers, Dear Academic Leaders, Dear Actors of the Socio-Economic World...

On behalf of the editorial board as well as on behalf of all national, international, and associated partners of the Biotech-Tunisia project, I welcome you to the first quarterly newsletter (July - October 2023) of the project.

Through this issue and the next ones, we are delighted to share with you the new activities of the Biotech-Tunisia project. Detailed information about this project can be found on the www.biotech-tunisia.com project website as well as on the associated social and professional networks.

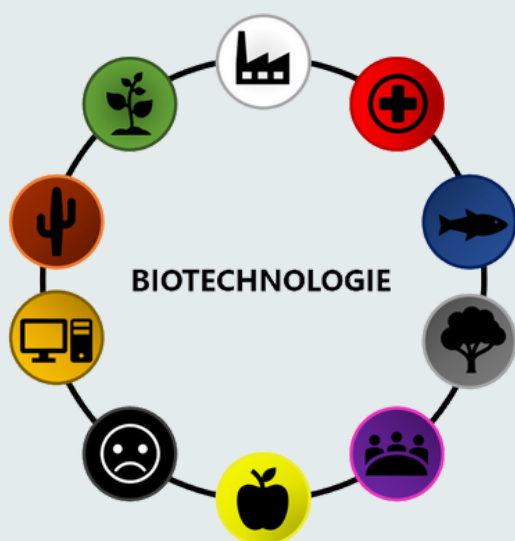
The reading committee of this bulletin presents the activities of the project through a varied and light content, allowing you to consult the various information related to the project and the field of biotechnology in Tunisia and in the partner countries (Italy, Finland, Portugal). Indeed, in each issue, you will have an appointment with various sections: Editorial, Events, News, Testimony, Point of View, etc., and many more.

Finally, I would like to reiterate our deepest thanks for your interest in this project.

Have a good read and kind regards!

**ON BEHALF OF THE EDITORIAL BOARD
EDITOR-IN-CHIEF
PR. MANEL BEN M'HADHEB**

PRESENTATION OF BIOTECH-TUNISIA PROJECT



Biotech-Tunisia is a European Structural Project of the Erasmus+ CBHE Programme (Capacity Building in Higher Education), bringing together a consortium consisting of four Tunisian Universities ([University of Monastir UM](#), [University of Sfax US](#), [University of Jendouba UJ](#) and [University of Manouba UMA](#)), the Tunisian Ministry of Higher Education and Scientific Research ([MESRS](#)), three European Universities (the University of Applied Sciences of Tunisia) and the University of Applied Sciences of Tunisia. Tampere ([TAMK](#)) in Finland, the University of Turin ([UniTo](#)) in Italy and the Catholic University of Porto [UCP](#) in Portugal) and five associated partners (The [BiotechPôle](#) of Sidi Thabcut, the Institut Pasteur de Tunis [IPT](#), the National Agency for the Promotion of Scientific Research [ANPR](#), the Biotechnology Center of Sfax [CBS](#) and the Tunisian Association of Biotechnology Students [ATEB](#)).

The main objective of the project is to modernize university training in Biotechnology within the Tunisian partner institutions of the project.

Its specific objectives are:

- i) Improving the skills and qualifications of young graduates to improve their integration into the socio-economic environment affecting the different applications of biotechnology: pharmaceutical, cosmetic, and biomedical (red biotechnology), industrial (white biotechnology), agri-food (green biotechnology), environmental (yellow biotechnology), and marine (blue biotechnology),
- (ii) Strengthening and anchoring the entrepreneurial spirit in the biotechnology sector among new graduates,
- (iii) Promoting and introducing new learning approaches among trainers,
- (iv) Improving and strengthening the management and governance capacities of the project's partner academic institutions.

The Biotech-Tunisia project is designed and coordinated by the University of Monastir, it is funded by the European Commission for the period from 15 January 2020 to 15 July 2024 within the framework of the European Erasmus+ Program (CBHE, KA2, SP) under the reference: 610246-EPP-1-2019-1-TN- EPPKA2-CBHE-SP. To disseminate and disseminate the news, activities, results, and deliverables of the project to a wide audience, the consortium has created since the start of the project a dynamic website that can be consulted on the www.biotech-tunisia.com link, a Facebook page, a LinkedIn page, and this newsletter.

PR MANEL BEN M'HADHEB
INTERNATIONAL COORDINATOR
OF BIOTECH-TUNISIA PROJECT
UNIVERSITY OF MONASTIR

WHY BIOTECH-TUNISIA?



Today, we realize the importance of biotechnology in the economic fields, particularly in the field of innovation and contribution to the creation of companies to strengthen the industrial fabric. The promotion of biotechnology tailored to Tunisia's priority needs and problems will help promote its autonomy in several economic sectors. The emergence of new technologies in biotechnology in recent years has encouraged the renewal of industrial strategies and the development of innovative companies that create new jobs. The Tunisian university has experienced a clear massification in terms of training, following the increase in the number of students in the early 2000s; The field of life sciences is the most affected. Indeed, in addition to the five already existing Faculties of Science with fundamental and applied training in Biology (Tunis, Bizerte, Sfax, Gabes and Gafsa), four new Higher Institutes of Biotechnology (Monastir, Sfax, Sidi Thabet and Béja) have been created in addition to two other Institutes of Applied Biology (Tunis and Mednine) for a common university training objective. This has contributed to the increase in the unemployment rate of young graduates at all levels (Bachelor's, master's and PhD) especially in the Biology and Biotechnology specialty.

In a noteworthy development, the Biotech-Tunisia project is aligning with Tunisia's ongoing higher education reforms as a key participant in the Erasmus+ program. This strategic initiative aims to synchronize the Tunisian education system with the European model, enhancing the competitiveness, employability, and transversal mobility of its students. European universities involved in the project will contribute significantly by sharing expertise and best practices, focusing on developing quality training programs aligned with international standards and the socio-economic needs of Tunisia. This collaboration represents a crucial milestone in bridging the gap between Tunisian education and global benchmarks, promising a positive impact on the overall educational landscape. The transfer of knowledge and adoption of successful practices from European partners are expected to elevate education standards in Tunisia, meeting the dynamic requirements of the contemporary global landscape.

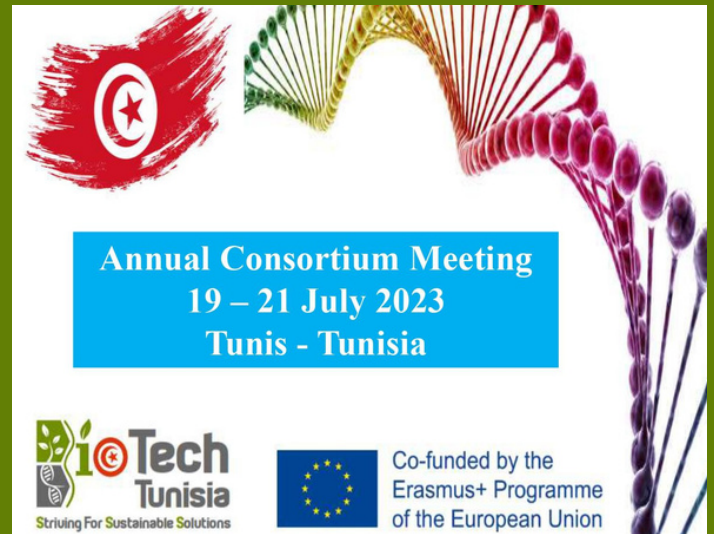
The Biotech-Tunisia project aligns seamlessly with Tunisia's higher education reforms within the Erasmus+ program. Focused on harmonizing the education system with the European model, the initiative aims to enhance student competitiveness, employability, and transversal mobility. European universities, as integral project members, will contribute through know-how transfer and best practices. This collaboration seeks to establish quality training programs aligned with international standards and tailored to Tunisia's socio-economic needs. This dynamic partnership signifies a proactive step in elevating Tunisia's education system, reflecting the collective commitment of Erasmus+ partners to global educational benchmarks.

PR JAWHAR GHARBI
UNIVERSITY OF MONASTIR



ANNUAL CONSORTIUM MEETING

Tunis Science City - Tunisia
19 - 21 July 2023



A MAJOR MILESTONE IN THE INTERNATIONAL PARTNERSHIP

BY PR NOUREDDINE CHATTI, UUNIVERSITY OF MONASTIR

Tunis played host to the annual meeting of the Biotech-Tunisia project consortium from July 19 to 21, 2023. The gathering, characterized by a meticulously structured agenda, served as a triennial strategic platform for the essential exchange of information and knowledge among key stakeholders, propelling the project towards its overarching objectives.

The spotlight of the event was on Professor Manel BEN M'HADHEB, the project coordinator, who took the stage to kick off proceedings. Following her address, representatives from European partners, namely Dr Giuseppe SERRAO from Turin, Dr Syed MUBAREZ from Tampere, and Professor Cristina SILVA from Porto, provided comprehensive insights into the project. Each speaker delved into the intricacies of the initiative, elucidating its ambitious objectives and detailing the various planned activities. Notably, they underscored the significance of the institutions involved, shedding light on the collaborative efforts driving the project's potential impact





On the second day of the Biotech-Tunisia project consortium meeting, the inauguration took place with representatives from the Ministry of Higher Education, personally mandated by the Minister. The esteemed attendees included the Director General of Higher Education (DGES), the Director General of University Renovation (DGRU), and the coordinator of the Tunisian Erasmus+ office, all expressing strong support for the project. During the ceremony, they emphasized the project's crucial significance and affirmed the Ministry's dedication to achieving the established objectives. This official support solidified the collaborative efforts between the academic sector and governmental bodies for a united front in attaining the project's goals.



On the third day of the Biotech-Tunisia project consortium meeting, the focus shifted to crucial administrative and financial aspects. A detailed statement of expenditure and a thorough overview of the budgetary situation across partner institutions were presented and discussed. Simultaneously, amidst financial deliberations, European partners enjoyed a well-planned social activity, exploring the vibrant city of Tunis and its cultural attractions. This blend of productivity and leisure reflects the project's commitment to a holistic approach.



In conclusion, the annual meeting of the Biotech-Tunisia project solidified its standing as a pivotal event, fostering a dynamic exchange of knowledge among partners. The extensive discussions, centered on both progress and activity planning, established the groundwork for a robust and promising international collaboration.

SCIENTIFIC MISSION CATHOLIC UNIVERSITY OF PORTUGAL

Porto, 10-14 July 2023



“Capacity building, cooperation on innovation and good practices with the aim of modernizing biotechnology training in Tunisia”

BY MME CHIRAZ GOUIDER, DR NOUR SGHAIER AND DR RYM NASRI

As a component of the Biotech-Tunisia Project's initiatives, a delegation of 10 active members representing two Tunisian universities, Monastir and Sfax, along with representatives from the central administration of the Tunisian Ministry of Higher Education and Scientific Research, undertook a scientific mission from July 9 to July 15, 2023, at the [Catholic University of Porto](#) in Portugal.



Testimony

“As a teacher-researcher in Biotechnology, I was able to fully benefit from the activities of the Bio-excellence workshop, in particular the topics addressing the importance of appropriating new pedagogical methods of teaching and integrating entrepreneurial training.”

— MC Rym Nasri- ISBM



During this mission, the project members attended to the work of the Workshop.

BIOEXCELLENCE Sharing Best practices for Biotechnology Research and Education





At the cutting edge of technology!

The scientific mission concluded with a visit to the facilities of the Portuguese company "PERFINOX," a manufacturer of cutting-edge machinery employed in the production lines of the agri-food industries.

Active participation

Members of the Tunisian delegation played a proactive role in the workshop organized by the Portuguese partner, the Catholic University of Porto. The event gathered officials, experts, and researchers specializing in governance, university training development, and innovation within the biotechnology field. Delving into various topical issues, the discussions included approaches to enhancing the quality of biotechnology programs and exploring innovative pedagogical practices to bolster learners' expertise. A significant focus was placed on the importance of integrating innovation and entrepreneurship into biotechnology curricula, aiming to better prepare learners for the professional world. The workshop served as a platform for a robust exchange of ideas and practices among participants.

Sharing atmosphere

The exchanges occurred in a highly collaborative atmosphere, allowing all participants, including administrative managers and teacher-researchers, to delve into the Portuguese experience. This facilitated reflection on potential innovations and partnerships in biotechnology. Simultaneously, it gave Portuguese partners the opportunity to gain insights into Tunisian universities offering biotechnology education and engage in ongoing research. The interactive discussions promoted a rich exchange of ideas and perspectives, enhancing understanding of unique approaches and possibilities in both contexts.



This workshop was succeeded by a visit to the Biotechnology Research Center of the Catholic University of Porto, known as "CBQF." This visit provided the Tunisian delegation with a comprehensive understanding of the state-of-the-art equipment, facilities, and premises at the disposal of researchers affiliated with the Catholic University of Porto



This scientific mission proved to be highly enriching. The exchange of experiences and interactions among the members of the Tunisian delegation and various stakeholders—including managers, staff, teachers, researchers, and socio-economic partners—yielded fruitful outcomes, paving the way for potential future collaborations.

MISSION SCIENTIFIQUE UNIVERSITÉ DES SCIENCES APPLIQUÉES DE TAMPERE EN FINLANDE

Tampere, 25-29 september 2023



« Modernization of the biotechnology teaching for a better employability of Graduates in Tunisia »

BY DR MARIEM HARRABI, DR MYRIAM OUDNI M'RAD AND DR OLFA AYARI

As an integral component of the [Biotech-Tunisia Project](#), a delegation of 22 project members representing four Tunisian universities: Monastir, Sfax, Manouba, and Jendouba, along with representatives from the central administration of the [Tunisian Ministry of Higher Education and Scientific Research](#), undertook a scientific mission from September 25 to 29, 2023, at the Tampere University of Applied Sciences in Finland ([TAMK](#)).

As part of their mission, the Tunisian delegation actively participated in a series of training sessions at TAMK University, focusing on best practices in higher education and contemporary pedagogy. Guided by esteemed experts, these sessions introduced innovative ideas and potential perspectives for teaching and learning within the Tunisian university setting. The engagement aimed to enrich the delegation's understanding of modern educational methodologies and enhance their knowledge base for application in the Tunisian higher education landscape.

The pivotal role of tutoring in supporting students was highlighted as a key element in the educational framework at TAMK.





PROGRAMMES TO SUPPORT ENTREPRENEURSHIP

Proakatemia's curriculum, HUBS, and the Talent Factory are championing collaborative learning and advocating for a higher education curriculum that prioritizes sustainable entrepreneurship. During the visit, the delegation had the privilege of hearing from Sami Ekmark, the founder of the start-up Commu, shedding light on how universities support entrepreneurs, with a particular mention of the impactful Platform 6 incubator



Theatre can be used in management and leadership education



Testimony



During our mission, I discovered the critical importance of collaboration between academia, industry and entrepreneurship to drive innovation. These exchanges highlighted existing synergies and offered me enriching perspectives on the power of cooperation.

Dr olfa Ayari- ISBM

In a series of illuminating workshops, TAMK revealed key insights into its strategic efforts to adapt and modernize curricula, aligning with the evolving landscape of higher education. Delving into contemporary pedagogical approaches, the sessions not only explored their theoretical foundations but also delved into their practical applications, providing a comprehensive view of 21st-century higher education practices.

Beyond academia, visits to local industries like VISU, VMT, and the municipality of Ruovesi sparked insightful discussions. These exchanges explored various collaboration models between the university and the private sector, offering valuable perspectives on fostering partnerships beyond the academic sphere.



The Tunisian delegation found themselves immersed in a diverse array of sessions and meetings that underscored the critical role of collaboration between academia, industry, and entrepreneurship within the realms of research and innovation. These interactions highlighted the essential synergy between these domains, emphasizing their collective power to propel innovation forward.

In a mission that unfolded as an enlightening exploration, the delegation deepened their comprehension of the transformative influence generated by the collaboration between universities, industries, and entrepreneurship in the realms of research and innovation. The significance of students as pivotal drivers of innovation emerged as a key insight, underlining their crucial role in shaping the future of groundbreaking advancements.

BIOTECH-TUNISIA: ONLINE TRAININGS UNDER THE SPOTLIGHT OF SCIENCE AND ENTREPRENEURSHIP

Biotech-Tunisia: Online Trainings under the Spotlight of Science and Entrepreneurship

BY DR YOSR HAFFANI, UNIVERSITY OF MANOUBA

In a groundbreaking development from July 5 to 7, 2023, the Biotech-Tunisia project entered a new era through a series of online trainings conducted within the WP11 RD&I framework. This transformative initiative unfolded in close collaboration with the University of Torino (UNITO), a distinguished Italian partner renowned for its bio-industrial park. Delving into the intricacies of entrepreneurship and the establishment of biotechnology startups, these sessions drew upon world-renowned expertise. UNITO, with its unparalleled proficiency in technology transfer, played a central role in bringing this invaluable knowledge to the forefront.

The bio-industrial park, a stronghold specializing in life sciences and biotechnology, has emerged as a nucleus devoted to research, development, and collaborative endeavors. Providing essential infrastructure, services, and a conducive environment for partnerships, it stands as a haven for a diverse ecosystem comprising companies, startups, research institutes, and organizations dedicated to the realm of biotechnology. This dynamic space serves as a melting pot where the driving forces of medical research, genomics, and various other domains converge for impactful advancements.

The inaugural training session, led by Dr. Giuseppe SERRAO, shared valuable insights from his 15-year journey in knowledge transfer and entrepreneurship. Dr. SERRAO highlighted the significance of the Turin Bio-Industrial Park and the success story of the company 2i3T, offering participants enriched knowledge and real-world success stories in the intersection of academia, industry, and entrepreneurship.

Co-funded by the Erasmus+ Programme of the European Union

Tech Tunisia

Biotech Tunisia Project: « Modernization of the Biotechnology Training for a Better Employability of Graduates in Tunisia »

WP Research, Development & Innovation (RD&I)

Online Training

« 2i3T sharing experiences in Knowledge Transfer & Entrepreneurship, what we have learned through +15 years »

Dr Giuseppe SERRAO
2i3T Company,
University of Torino UniTO, Italy

UNIVERSITÀ DI TORINO

Wednesday 5th July, 2023
13H00 – 15H00 pm (Tunis hour)

Led by Prof. Giorgio MERLO and Dr. Valentina VENSATO from UNITO's Department of Molecular Biotechnology, the second session focused on essential aspects of cell therapies. Participants gained insights into the intricate science, operational activities, and organizational prerequisites for advancing cell-based therapeutic approaches. This contributed to the comprehensive learning experience within the Biotech-Tunisia project.

Co-funded by the Erasmus+ Programme of the European Union

Tech Tunisia

Biotech Tunisia Project: « Modernization of the Biotechnology Training for a Better Employability of Graduates in Tunisia »

WP Research, Development & Innovation (RD&I)

Online Training

« The science, the activity and the organization needed for cell-based therapies »

Pr Giorgio MERLO/
Dr Valentina FONSATO
Dept Molecular Biotechnology,
University of Torino UniTO, Italy

UNIVERSITÀ DI TORINO

Thursday 6th July, 2023
13H00 – 16H00 pm (Tunis hour)

The concluding session, orchestrated by Dr. Sara Falvoa, offered participants a compelling exploration into the realm of startup creation, using a case study centered on the bio-industrial park. Dr. Falvoa illuminated the pivotal role of the science park in fostering innovation in biomedical research, underscoring its dedication to cultivating an ecosystem that nurtures collaboration, research, and the advancement of new technologies and solutions. This immersive experience provided a profound glimpse into the future trajectory of biotechnology.

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Tech Tunisia

Biotech Tunisia Project: « Modernization of the Biotechnology Training for a Better Employability of Graduates in Tunisia »

WP Research, Development & Innovation (RD&I)

Online Training

« The science, the activity and the organization needed for cell-based therapies »

Pr Giorgio MERLO/
Dr Valentina FONSATO
Dept Molecular Biotechnology,
University of Torino UniTO, Italy

UNIVERSITÀ DI TORINO

Thursday 6th July, 2023
13H00 – 16H00 pm (Tunis hour)

Passionate individuals from all Tunisian universities, including researchers, doctoral students, and post-doctoral fellows in biology and health-focused biotechnology, actively engaged in three virtual training sessions. With nearly 100 registered attendees, the event highlighted the enthusiastic participation within the Tunisian academic community, successfully uniting a diverse group committed to advancing knowledge in these fields.