Postgraduate Certificate

Microbiota and Intestinal Dysbiosis

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Postgraduate Certificate
Microbiota and Intestinal Dysbiosis

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Global University**
- Credits: **8 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/medicine/postgraduate-certificate/microbiota-intestinal-dysbiosis

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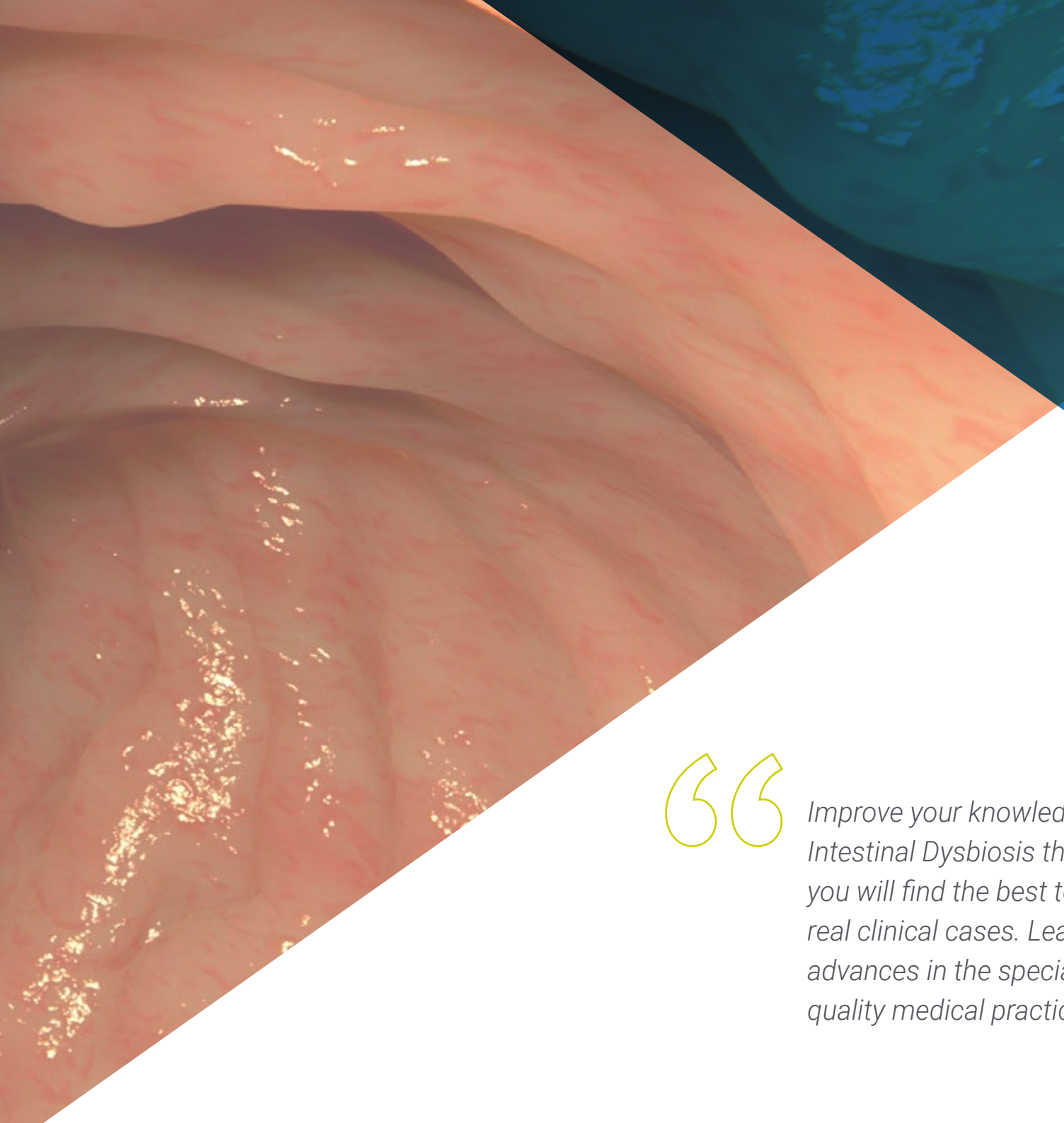
01

Introduction

Scientific research in the field of microbiota has been booming in recent decades, aimed both at the study of its characteristics and its impact on our health. The study of human microbiota opens the door to the knowledge of multiple diseases, especially the so-called functional diseases, with the microbiome being researchers' main workhorse.



Improve your knowledge in Microbiota and Intestinal Dysbiosis through this program, where you will find the best teaching material with real clinical cases. Learn here about the latest advances in the specialty to be able to perform a quality medical practice".

Of all these, the most complicated, diverse and extensive is that associated with the digestive system: Intestinal microbiota. These communities have a symbiotic and mutualistic behavior with human eukaryotic cells, are essential for the proper functioning of our body, maintain an important dialogue with the immune system and have homeostatic functions that condition our health.

Numerous pieces of scientific evidence have implicated the intestinal microbiome and its metabolic potential in various pathological conditions in recent years, giving rise to new therapeutic strategies to control and regulate this ecosystem. The study of this ecosystem is a field that is rapidly advancing scientifically, and it is universally accepted that to achieve an adequate state of health it is also necessary to have a "healthy" Microbiota.

Our Microbiota undergoes changes as a consequence of the influence of multiple factors, diet, lifestyle, pharmacological treatments..., generating alterations in this bacterial ecosystem; this abnormal interaction that the organism could have with it is related to certain processes: allergic, acute and chronic intestinal diseases, obesity and metabolic syndrome, neurological diseases, dermatitis and other alterations in the dermis and even some types of cancer.

This Postgraduate Certificate in Microbiota and Intestinal Dysbiosis provides ease of access to information and the interest aroused among the general population on topics related to the microbiota, its eubiosis and dysbiosis, problems related to them, probiotics and prebiotics and the growing market launching new products with very specific strains for very specific problems and diseases, etc. This makes it necessary for health professionals to be up to date on all scientific advances in this regard to offer the consumer and/or patients more accurate information on the subject, guiding them to recover and maintain that bacterial eubiosis to maintain a good state of health, in addition to collaborating in a positive way with the recommended medical treatment.

This **Postgraduate Certificate in Microbiota and Intestinal Dysbiosis** contains the most complete and up-to-date scientific program on the market. The most important features of the course are:

- Development of case studies presented by experts in Microbiota and Intestinal Dysbiosis.
- The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice.
- Latest information on Microbiota and Intestinal Dysbiosis.
- It contains practical exercises where the self-evaluation process can be carried out to improve learning.
- Special emphasis on innovative methodologies in Microbiota and Intestinal Dysbiosis.
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- Content that is accessible from any fixed or portable device with an Internet connection.

Update your knowledge through the Postgraduate Certificate in Microbiota and Intestinal Dysbiosis".

This Postgraduate Certificate may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge in Microbiota and Intestinal Dysbiosis, you will obtain a Postgraduate Certificate certificate from TECH Global University".

Increase your decision-making confidence by updating your knowledge through this program.

Make the most of the opportunity to learn about the latest advances in Microbiota and Intestinal Dysbiosis and improve your patient care.

The teaching staff includes teaching professionals, who bring their experience to this training program, as well as renowned specialists belonging to leading societies and prestigious universities.

The multimedia content developed with the latest educational technology will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive training program to train in real situations.

The design of this program is based on problem-based learning, by means of which the educator must try to solve the different professional practice situations that arise throughout the Postgraduate Certificate. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of Microbiota and Intestinal Dysbiosis with extensive teaching experience.

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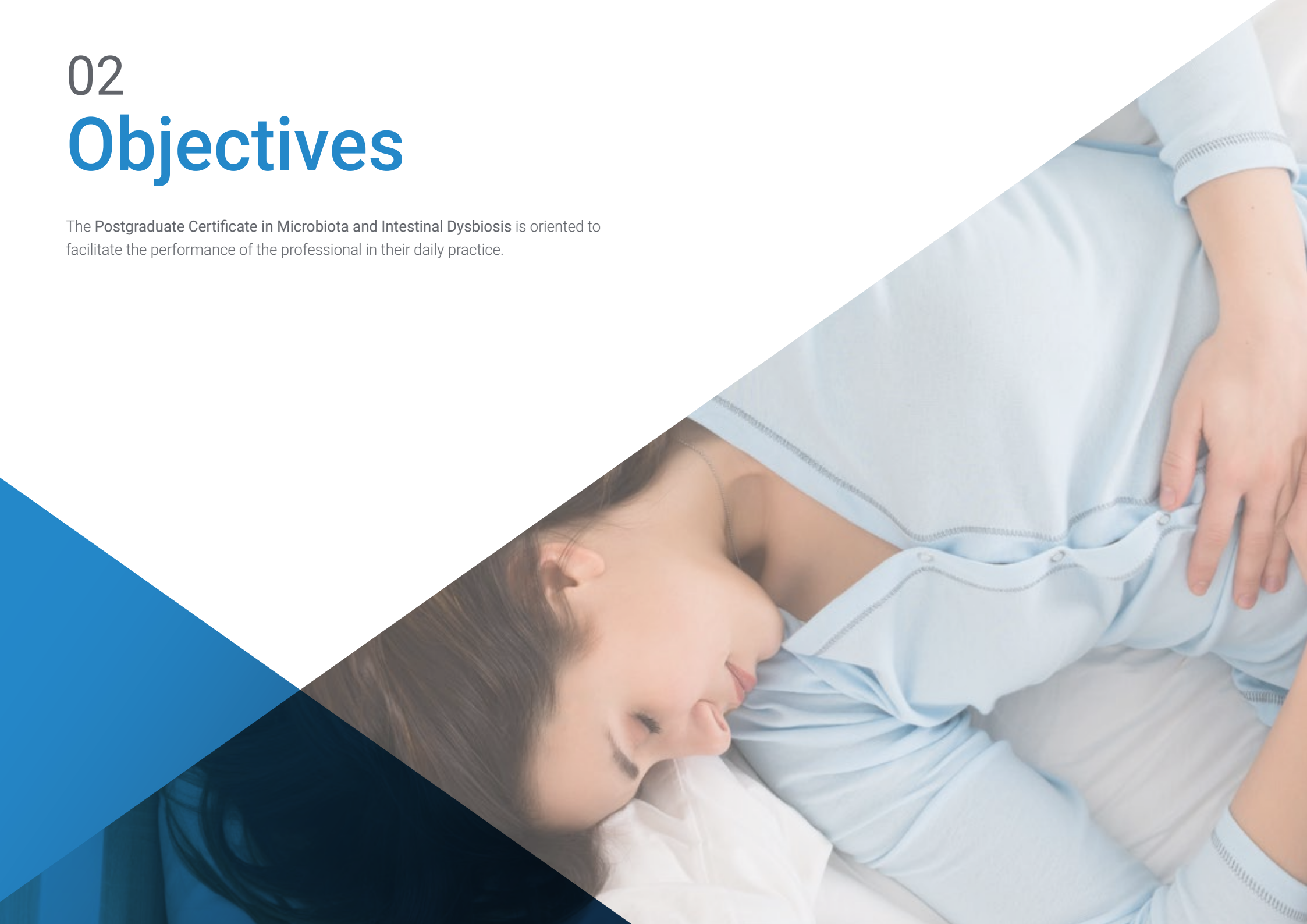
Objectives

The **Postgraduate Certificate in Microbiota and Intestinal Dysbiosis** is oriented to facilitate the performance of the professional in their daily practice.



This program will provide you with the skills to carry out your medical praxis with confidence and will help you to grow both personally and professionally".

General Objectives

- This course fulfills a need of today's society, a quality and up-to-date training program that allows the use of microbiological therapy as a preventive or therapeutic tool towards maintaining health.
- Offer a comprehensive and broad view of the current state of the field of human microbiota, in its broadest sense, the importance of the balance of this microbiota as a direct effect on our health, with the multiple factors that influence it positively and negatively.
- Argue with the backing of scientific evidence how the Microbiota and its interaction with many non-digestive, autoimmune pathologies or its relationship with the dysregulation of the immune system, the prevention of diseases, and as a support to other medical treatments is currently being given a high degree of importance.
- Promote work strategies based on the integral approach of the patient as a reference model, not only focusing on the symptomatology of the specific pathology, but also looking at its interaction with the Microbiota and how it may be influencing it.
- Encourage professional stimulus through continuing education and research.

Specific Objectives

- Update and clarify general and key terms for a full understanding of the subject such as Microbiome, Metagenomics, Microbiota, Symbiosis, Dysbiosis... etc.
- Study the microbial communities that coexist in symbiosis with humans, learning more about their structure and functions and how these communities can be altered due to factors such as diet, lifestyle, etc.
- Delve into the knowledge of the intestinal microbiota as the main axis of the human microbiota and its interrelation with the rest of the body, its study methods, and its applications in clinical practice to maintain a good state of health.
- Understand the relationship between intestinal pathologies: SIBO, irritable bowel syndrome (IBS), Crohn's disease... etc. and intestinal dysbiosis. Learn how to manage the different intestinal infections caused by viruses, bacteria, parasites, fungi modulating the altered intestinal microbiota.
- Delve into the bidirectional relationship between Microbiota and the Neuroimmunological System and study in depth the intestine-microbiota-brain axis and all the pathologies that are generated in its imbalance.
- Acquire an in-depth knowledge of all the oral and respiratory structure and the ecosystems that live in them, seeing how an alteration of these ecosystems have a direct relationship with many associated pathologies.
- Study the mechanisms by virtue of which Probiotics are postulated as preventive in the formation of dental cavities and periodontal diseases.
- Know how a negative change in our microbiota can lead to food intolerances and allergies.
- Delve into how drugs designed for humans can have a negative impact on the gut microbiota, in addition to the known impact of antibiotics.
- Know in depth the safety profile of Probiotics, given that although their use has spread in recent years thanks to their proven efficacy, both for the treatment and prevention of certain diseases, this does not mean that they do not generate adverse effects and potential risks.

Update your knowledge through the Postgraduate Certificate in Microbiota and Intestinal Dysbiosis".

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Course Management

The program includes in its teaching staff renowned experts in Microbiota and Intestinal Dysbiosis, who contribute their work experience to this training course. In addition, other specialists of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary manner.

Learn the latest advances in procedures in the field of Microbiota and Intestinal Dysbiosis from renowned professionals".

International Guest Director

Dr. Harry Sokol is internationally recognized in the field of **Gastroenterology** for his research on the **gut microbiota**. With more than 2 decades of experience, he has established himself as a true scientific authority thanks to his numerous studies on the role of **microorganisms in the human body** and their impact on **chronic inflammatory bowel diseases**. In particular, his work has revolutionized medical understanding of this organ, often referred to as the **«second brain.»**

Among Dr. Sokol's contributions, he and his team have opened a new line of advances on the bacterium **Faecalibacterium prausnitzii**. In turn, these studies have led to crucial discoveries about its **anti-inflammatory effects**, opening the door to **revolutionary treatments.**

In addition, the expert is distinguished by his **commitment to the dissemination of knowledge**, whether by teaching academic programs at the Sorbonne University or by publishing works such as the **comic book** The Extraordinary Powers of the Belly. His scientific publications appear continuously in **world-renowned journals** and he is invited to **specialized congresses**. At the same time, he carries out his clinical work at the **Saint-Antoine Hospital** (AP-HP/University Hospital Federation IMPEC/Sorbonne University), one of the most renowned hospitals in Europe.

On the other hand, Dr. Sokol began his **medical studies** at Paris Cité University, showing early on a strong interest in **health research**. A chance meeting with the eminent Professor Philippe Marteau led him to **Gastroenterology** and the enigmas of the **Intestinal Microbiota**. Throughout his career, he also broadened his horizons by training in the United States, at Harvard University, where he shared experiences with **leading scientists**. Upon his return to France, he founded his **own team** where he researches on **Fecal Transplantation**, offering state-of-the-art therapeutic innovations.

Dr. Sokol, Harry

- Director of Microbiota, Gut and Inflammation at Sorbonne University, Paris, France
- Specialist Physician at the Gastroenterology Department of the Saint-Antoine Hospital (AP-HP), Paris, France
- Group Leader at the Institut Micalis (INRA)
- Coordinator of the Center of Microbiome Medicine of Paris FHU
- Founder of the pharmaceutical company Exeliom Biosciences (Nextbiotix)
- President of the Fecal Microbiota Transplantation Group
- Medical Specialist in different hospitals in Paris
- Doctorate in Microbiology at the Université Paris-Sud
- Postdoctoral Fellowship at the Massachusetts General Hospital, Harvard University Medical School
- Degree in Medicine, Hepatology and Gastroenterology at Université Paris Cité

Thanks to TECH you will be able to learn with the best professionals in the world"

Management

Dr. Fernández Montalvo, Mª Ángeles

- Degree in Biochemistry from the University of Valencia
- Specialist Degree in Nutrition, Dietetics and Diet Therapy
- Expert in Microbiological Food Analysis
- Expert in Nutrition, Food, and Cancer. Prevention and Treatment.
- Expert in Vegetarian, Clinical, and Sports Nutrition
- Specialist in food intolerances and the study of the intestinal microbiota.
- Numerous courses on Intestinal microbiota, methods of analysis, and applications
- Diploma in Natural and Orthomolecular Medicine
- Expert in the current use of Nutricosmetics and Nutraceuticals in general.
- Expert in point-of-sale management in Pharmacies and Parapharmacies.
- Member of the Spanish Society of Probiotics and Prebiotics (SEPyP).
- Member of the Spanish Society of Dietetics (SEDCA)
- Member of the Spanish Society of Nutrition (SEÑ)

Professors

Dr. Álvarez García, Verónica
- Degree in Medicine
- Digestive system specialist at the Central Hospital of Asturias (HUCA)

Fernández Montalvo, Mª Ángeles
- Biochemist-Nutritionist-Phytotherapist head of the Natural life Nutrition and Integral Medicine Center
- Manager of Parapharmacy and director of several nutrition training courses

Dr. Gonzalez Rodríguez, Silvia P
- PhD in Medicine and Surgery from the University of Alcalá de Henares. Gynecology Specialist.
- Medical Subdirector, Research Coordinator and Clinical Chief of the Menopause and Osteoporosis Unit at the Velázquez Medical Cabinet (Madrid)

Dr. Lombó Burgos, Felipe
- PhD in Biology from the University of Oviedo and now a professor at the same university

Dr. López López, Aranzazu
- PhD in Biological Sciences. Researcher in oral microbiology at FISABIO foundation
- Public Health Research Center of Valencia

Dr. Méndez García, Celia
- PhD in Microbiology from the University of Oviedo Research at Novartis Laboratories (Boston)

Solís Sánchez, Gonzalo
- Neonatologist at the Hospital Universitario Central de Asturias (HUCA)
- Researcher, Associate Professor of the University of Oviedo

Dr. Álvarez García, Verónica
- Degree in Medicine
- Digestive system specialist at the Central Hospital of Asturias (HUCA)

Díaz Martín, Juan José
- Pediatric gastroenterologist at the Central Hospital of Asturias (HUCA)
- Member of the Spanish Society of Pediatric Gastroenterology, Hepatology, and Nutrition
- Associate Professor of Pediatrics at the University of Oviedo

Dr. Fernández Madera, Juan
- Degree in Medicine
- Specialist in Allergology and Clinical Immunology
- Specialist in Sports Medicine

Suárez Rodríguez, Marta
- Neonatologist of the Central University Hospital of Asturias (HUCA)
- Researcher and Professor of the Master's Degree in Early Care and the Master's Degree in Critical Care Nursing at the University of Oviedo and other training courses.

04

Structure and Content

The structure of the contents has been designed by a team of professionals from the best educational centers, universities, and companies in the national territory, aware of the relevance of current specialization in order to intervene in the training and support of students, and committed to quality teaching through New Educational Technologies.

This Postgraduate Certificate in Microbiota and Intestinal Dysbiosis contains the most complete and up-to-date scientific program on the market".

Module 1. Intestinal Microbiota II. Intestinal Dysbiosis

1.1. What is Intestinal Dysbiosis? Consequences.

1.2. Intestinal Barrier. Physiology. Function. Intestinal Permeability and Hyperpermeability. Relation between Dysbiosis and Intestinal Permeability and Hyperpermeability.

1.3. Relationship of Intestinal Dysbiosis and Other Types of Disorders: Immunological, Metabolic, Neurological and Gastric (Helicobacter Pylori).

1.4. Consequences of the Alteration of the Intestinal Ecosystem and its Relationship to Functional Digestive Disorders.

- 1.4.1. Inflammatory Bowel Disease IBD.
- 1.4.2. Chronic Inflammatory Bowel Diseases: Crohn's Disease. Ulcerative Colitis.
- 1.4.3. Irritable Bowel Syndrome (IBS) and Diverticulitis.
- 1.4.4. Intestinal Motility Disorders. Diarrhea. Diarrhea Caused by Clostridium Difficile. Constipation.
- 1.4.5. Digestive Disorders and Nutrient Malabsorption Problems: Carbohydrates, Proteins, and Fats.
- 1.4.6. Markers of Intestinal Inflammation: Calprotectin. Eosinophil Cationic Protein (ECP). Lysozyme.
- 1.4.7. Leaky Gut Syndrome. Permeability Markers: Alpha-1 Antitrypsin. Zonulin. Tight Junctions and their Main Function.

1.5. Alteration of the Intestinal Ecosystem and its Relationship with Intestinal Infections.

- 1.5.1. Viral Intestinal Infections.
- 1.5.2. Bacterial Intestinal Infections.
- 1.5.3. Intestinal Infections due to Parasites.
- 1.5.4. Fungal Intestinal Infections. Intestinal Candidiasis.

1.6. Composition of the Intestinal Microbiota in the Different Stages of Life.
   1.6.1. Variation in Gut Microbiota Composition from the Neonatal-Early Childhood Stage to Adolescence. "Unstable Period".
   1.6.2. Composition of the Intestinal Microbiota in Adulthood. "Stable Period".
   1.6.3. Gut Microbiota Composition in the Elderly "Unstable Stage". Aging and Microbiota.
1.7. Nutritional Modulation of Intestinal Dysbiosis and Hyperpermeability: Glutamine, Zinc, Vitamins, Probiotics, Prebiotics
1.8. Techniques for Quantitative Analysis of Microorganisms in Feces.
1.9. Current Lines of Research.

A unique, key, and decisive training experience to boost your professional development".

05

Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.
This teaching system is used in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.

Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization".

At TECH we use the Case Method

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you can experience a way of learning that is shaking the foundations of traditional universities around the world.

According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching potential or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in professional medical practice.

Did you know that this method was developed in 1912 at Harvard for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method".

The effectiveness of the method is justified by four fundamental achievements:

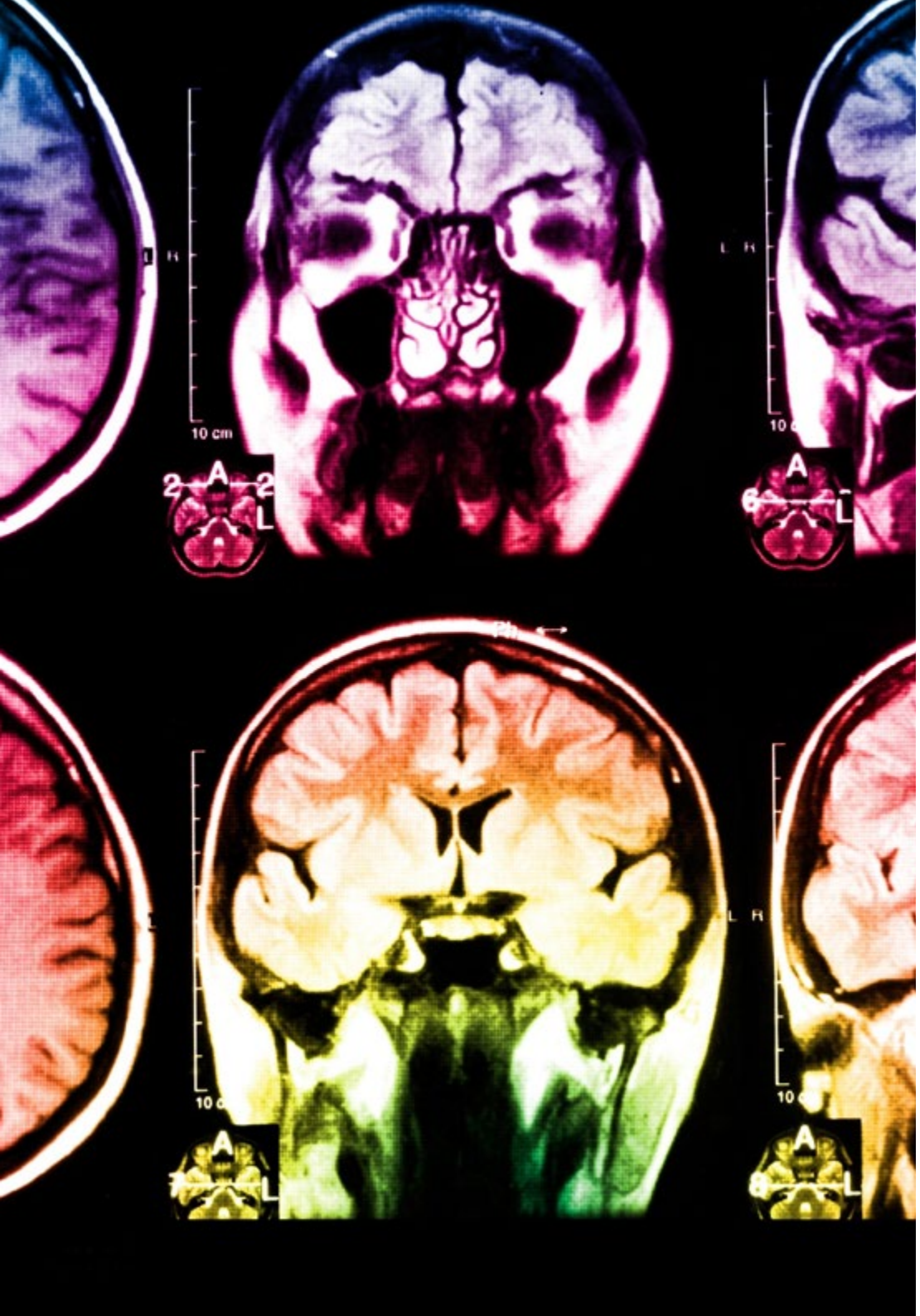
1. Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.

The physician will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

In our program, learning is not a linear process, but rather a spiral (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.

In this program you will have access to the best educational material, prepared with you in mind:

Study Material

All teaching material is produced specifically for the course by the specialists who teach the course, so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.

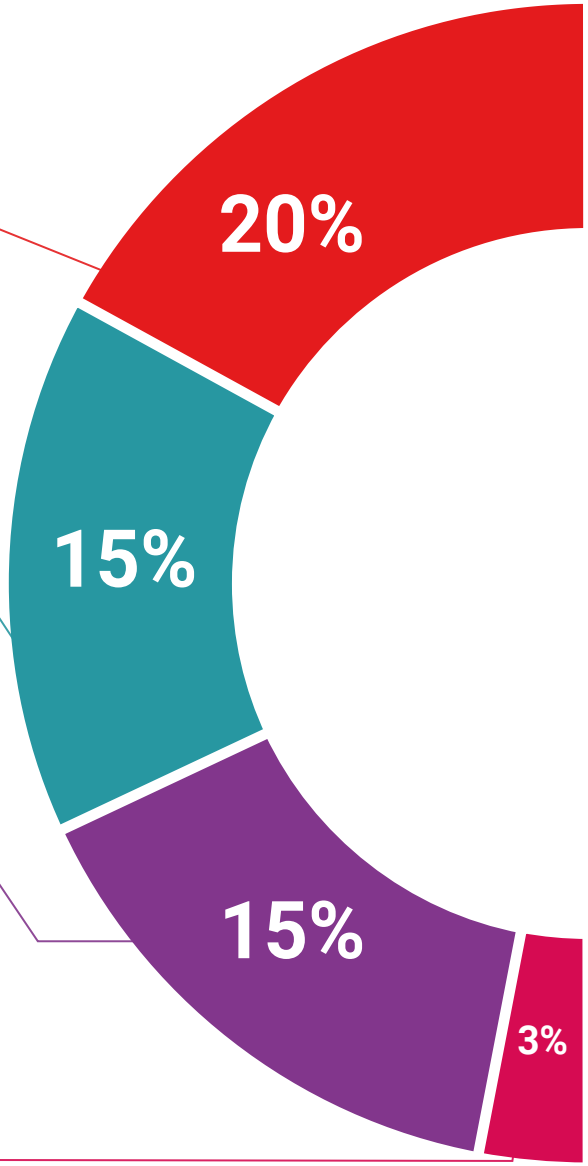
Interactive Summaries

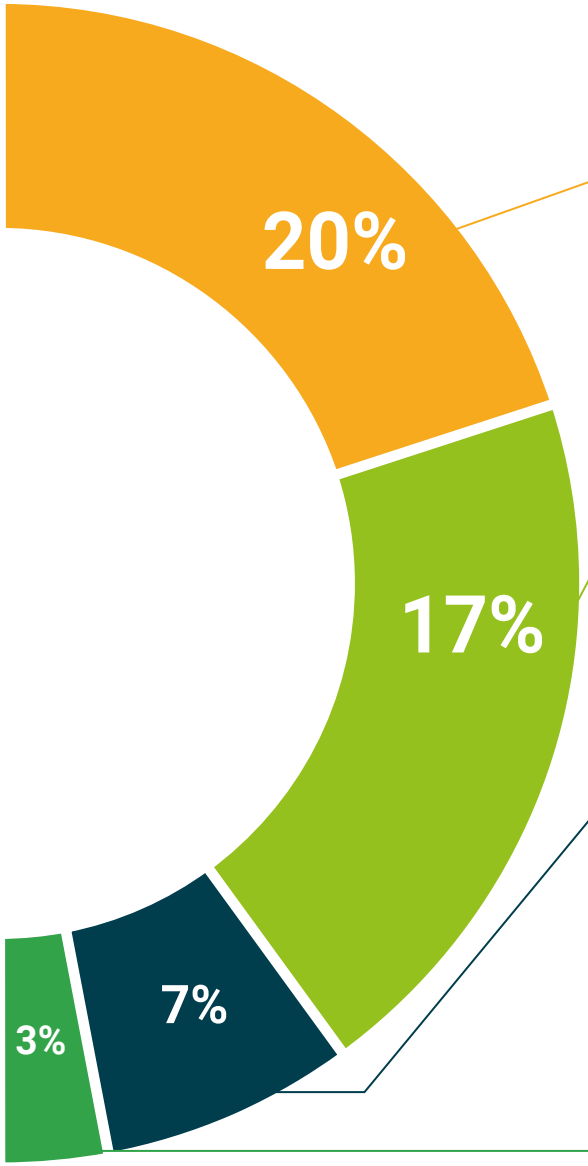
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Re-Testing

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence in our future difficult decisions.

Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.

06

Certificate

The Postgraduate Certificate in Microbiota and Intestinal Dysbiosis guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Global University.

Successfully complete this training and receive your diploma without the hassle of travel or paperwork".

This program will allow you to obtain your **Postgraduate Certificate in Microbiota and Intestinal Dysbiosis** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Microbiota and Intestinal Dysbiosis**

Modality: **online**

Duration: **6 weeks**

Accreditation: **8 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in Microbiota and Intestinal Dysbiosis

This is a program of 240 hours of duration equivalent to 8 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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