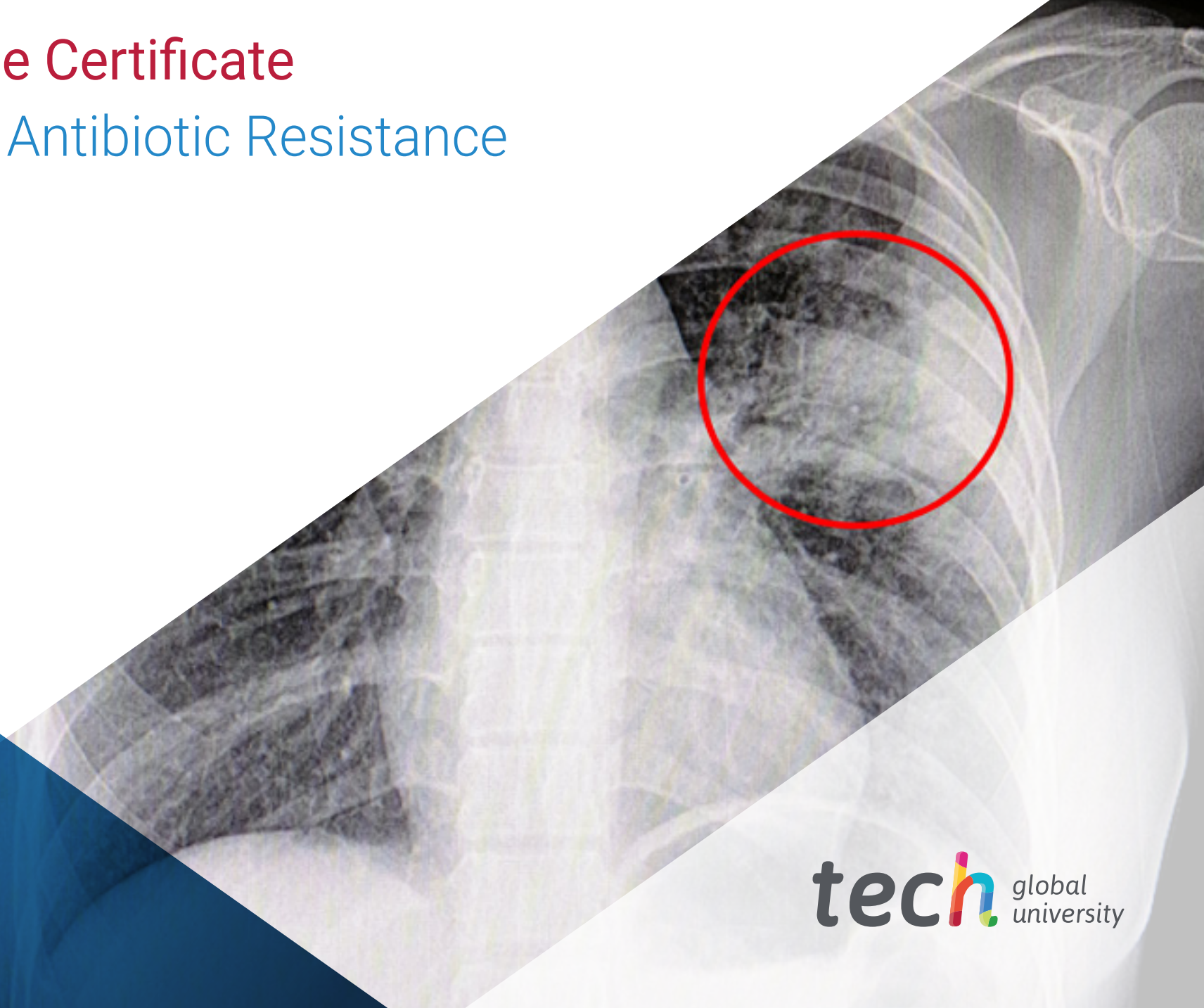


# Postgraduate Certificate

## Advances in Antibiotic Resistance





## Postgraduate Certificate Advances in Antibiotic Resistance

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 5 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/postgraduate-certificate/advances-antibiotic-resistance](http://www.techtitute.com/us/medicine/postgraduate-certificate/advances-antibiotic-resistance)

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# 01

# Introduction

Antibiotic resistance is one of the greatest threats to global health, food security and development. Hence the importance of medical professionals constantly updating their knowledge and adapting to new advances in the field. Therefore, it is essential that specialists participate in training programs such as this one, which teach them about the evolution of antibiotic resistance and new control mechanisms.





“ This Postgraduate Certificate in Advances in Antibiotic Resistance will generate a sense of security in the performance of your profession, which will help you grow personally and professionally”.

Antibiotics are the most widely used drugs worldwide and, although antibiotic resistance is a natural phenomenon, the misuse of antibiotics is accelerating the process. This means that certain infections are taking longer to cure with common treatments, which implies that research must continue to create new formulas to treat these pathologies.

In addition, it should be noted that antibiotic resistance can also increase medical costs, as medical stays can be prolonged. And, in the worst case, such infections can lead to death.

In fact, there are certain infections, such as pneumonia, tuberculosis or gonorrhoea, that are increasingly difficult to cure due to the lack of efficacy of certain drugs. Thus, the World Health Organization (WHO) warns that if urgent measures are not taken in this area, many common infections, for which effective treatments were available, will become life-threatening.

Antibiotic resistance has become a global problem because of the ease with which people now move from one country to another. Although some infections are more widespread in developing countries with scarce resources, they can reach the other side of the planet due to the evolution of tourism, which makes it necessary for healthcare professionals, regardless of the country in which they practice their profession, to be aware of the mechanisms for treating these pathologies.

To assist in the training of these specialists, this Course on Advances in Antibiotic Resistance provides information on the evolution and mechanisms of resistance, as well as showing international experiences in the control of antibiotic resistance.

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

- ♦ More than 75 practical cases presented by experts in Antibiotic Resistance. 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.
- ♦ The latest news on Antibiotic Resistance.
- ♦ The content of practical exercises where the self-evaluation process can be carried out to improve learning.
- ♦ Special emphasis is placed on innovative methodologies in Antibiotic Resistance.
- ♦ 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 program "Postgraduate Certificate in Advances in Antibiotic Resistance".*

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*This course may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in **Advances in Antibiotic Resistance**, you will obtain a certificate issued by **TECH Global University**".*

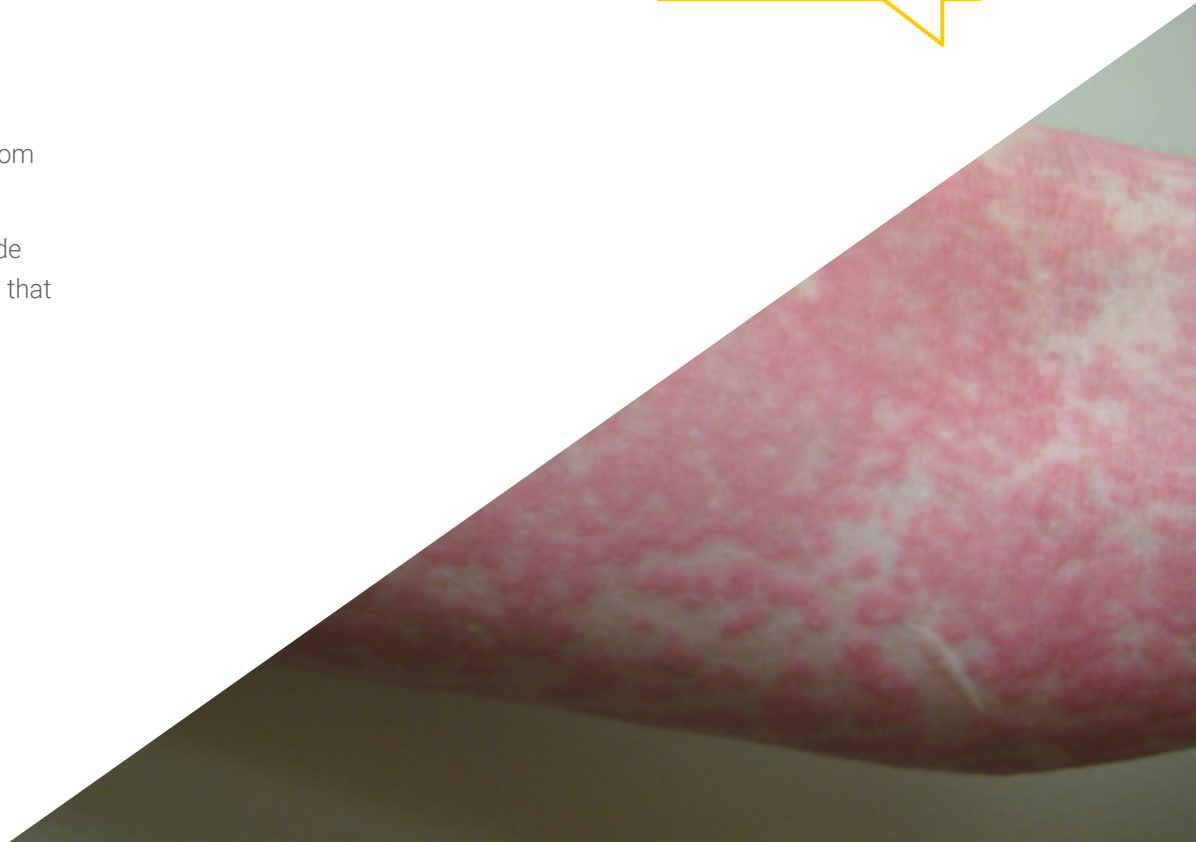
Its teaching staff includes professionals from the field of antibiotic resistance, who bring to this training the experience of their work, as well as renowned specialists from prestigious reference societies and universities.

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 professional must try to solve the different professional practice situations that arise throughout the course. For this purpose, the professional will be assisted by an innovative interactive video system designed by renowned experts in the field of Antibiotic Resistance with extensive experience.

*Increase your confidence in decision making by updating your knowledge through this course*

*Take the opportunity to learn about the latest advances in Antibiotic Resistance and improve the training of your students.*



# 02

# Objectives

The main goal of the course is to improve health professionals, based on the acquisition of the most updated and innovative scientific knowledge in the field of Antibiotic Resistance will allow them to develop skills for the correct and rational use of these drugs, making their daily clinical practice a bastion of the standards of the best scientific evidence available, with a critical, innovative, multidisciplinary and integrative sense.





“

*This program will provide you with a sense of confidence in your medical practice, which will help you grow personally and professionally”*



## General Objective

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- Guarantee the professional improvement, through the currentness, novelty and depth of the best scientific evidence on Antivirals for the correct use of these drugs and the adequate treatment of infectious diseases with a multidisciplinary and integrative approach that facilitates the control of these pathologies.

*Update your knowledge through  
this program in Advances in  
Antibiotic Resistance.*





## Specific Objectives

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- ◆ Provide students with advanced, in-depth, up-to-date, and multidisciplinary information that allows them to comprehensively approach the health-infectious disease process, the use of antibiotics, and antibiotic resistance.
- ◆ Provide training and practical/theoretical improvement that will enable a reliable clinical diagnosis supported by the efficient use of diagnostic methods to indicate an effective antimicrobial treatment.
- ◆ Assess and interpret the epidemiological sanitary characteristics and conditions of countries that are conducive to the emergence and development of antibiotic resistance.
- ◆ Explain the complex interrelationships between the host, the microorganism, and the antibiotic to be used.
- ◆ Address the most important elements among the resistance mechanisms of superbugs and other germs in a general sense.
- ◆ Emphasize the role of interpretative reading of an antibiogram and the identification of new resistance genotypes with clinical relevance.
- ◆ Describe the most important elements of the absorption, transportation, distribution, metabolism, and excretion of antibiotics.
- ◆ Justify the importance of controlling the use of antimicrobials as a means of reducing antibiotic resistance.
- ◆ Emphasize the role of immunity and new alternatives for the treatment of infections.
- ◆ Address the crucial issue of super-resistant microbes and their relationship to antimicrobial use based on the most up-to-date concepts.

# 03

# Course Management

Renowned and recognized medical specialists with numerous publications, teaching experience, and professional experience in many countries, where many of the diseases studied have a high morbimortality, participate in the teaching program. The teaching staff is made up of a multidisciplinary team from various medical specialties, as internal medicine, pediatrics, general surgery, gynecology and obstetrics, microbiology, pathological anatomy and pharmacology, among others.





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*Learn about , the latest advances in Antibiotic Therapy and Antibiotic Resistance from leading professionals"*

## International Guest Director

Dr. Dominique Franco is a specialist in liver surgery and treatment of hepatocellular carcinoma, with an extensive background in the field of **regenerative medicine**. Throughout his career, he has focused his research on **cell therapy** for liver diseases and **organ bioconstruction**, areas in which he has made innovative contributions. His work focuses on developing new treatment techniques that not only seek to improve the effectiveness of surgical interventions, but also to optimize the quality of life of patients.

He has held leadership roles in several prestigious institutions. He was **Head of the Department of Liver Surgery and Transplantation at the Hôpital Antoine-Béclère**, where he participated in medical milestones such as the first liver transplant performed in Europe. His extensive experience in advanced surgery and transplantation has allowed him to acquire a deep knowledge in the management of complex liver pathologies, becoming a reference in the medical field both nationally and internationally. In addition, he has been **Director Emeritus of Digestive Surgery at the University Paris-Sud**, where he has contributed to the training of new generations of surgeons.

Internationally, he is recognized for his contributions to the development of Regenerative Medicine. In 2014, he founded CellSpace, an association dedicated to promoting **tissue and organ bioengineering** in France, with the aim of bringing together researchers from different disciplines to advance this field.

He has published more than 280 scientific articles in international journals, addressing topics such as Liver Surgery, **hepatocellular carcinoma** and Regenerative Medicine. In addition, he is a member of the U-1193 research unit at Inserm and a consultant at the Institut Pasteur, where he continues his work as a consultant on cutting-edge projects, contributing to expand the **boundaries of medical knowledge** in his area of expertise.



## Dr. Franco, Dominique

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- Academic Director of the Institut Pasteur, Paris, France
- Vice President Health Cluster for Physician Competitiveness
- Head of the Digestive Surgery Department at Antoine-Béclère Hospital (APHP)
- Director Emeritus of Digestive Surgery at the University Paris-Sud
- Founder of CellSpace
- Member of the research unit U-1193 of Inserm
- President of the French National Academy of Surgery

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Dr. Quintero Casanova, Jesús

- ♦ Degree in Medicine and Surgery from the Medical University of Havana. Cuba.
- ♦ Specialist in Internal Medicine. "Héroes del Baire" Hospital.
- ♦ Professional Master's Degree in Tropical Diseases and Clinical Infectious Diseases from the Pedro Kuori Institute, Havana. Cuba.
- ♦ Head of the Department of Infectious Diseases of the Héroes del Baire Hospital.
- ♦ Member of the Cuban Society of Internal Medicine.
- ♦ Member of the Cuban Society of Teachers.
- ♦ Medical specialist in Africa (Chad) and Venezuela in (2009, 2013-15).
- ♦ Professor on the Medicine Degree and Internal Medicine Specialty at the Faculty of Medical Sciences of Isla de la Juventud.
- ♦ Professor in the Master's Degree in Infectious Diseases Professional Master's Degree at the Faculty of Medical Sciences of Isla de la Juventud.
- ♦ Member of state examining boards for the medicine degree and internal medicine.
- ♦ National Research Award in Cuba, 2002.
- ♦ Medical Science Teaching Award. Cuba.



## Professors

### Dr. Valle Vargas, Mariano

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Specialist in Internal Medicine. "Héroes del Baire" Hospital.
- ♦ Master's Degree in Health Biostatistics.
- ♦ Diploma in Epidemiology.
- ♦ Head of the Internal Medicine Department of the Héroes del Baire Hospital.
- ♦ Member of the Cuban Society of Internal Medicine.
- ♦ Member of the Cuban Society of Teachers.
- ♦ Medical specialist in Venezuela in 2009, 2007-10.
- ♦ Professor on the Medicine Degree and Internal Medicine Specialty at the Faculty of Medical Sciences of Isla de la Juventud.
- ♦ Professor of the Professional Master's Degree in Infectious Diseases in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of state examining boards for the medicine degree and internal medicine.
- ♦ Member of tribunals for national scientific events. Cuba
- ♦ Medical Science Teaching Award. Cuba.

### Dr. Dranguet Bouly, José Ismael

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Specialist in Internal Medicine and Intensive Therapy. "Héroes del Baire" Hospital.
- ♦ Master's Degree in Infectious Diseases from the Pedro Kouri Institute of Cuba.
- ♦ Head of the Internal Medicine Department of the Héroes del Baire Hospital.
- ♦ Member of the Cuban Society of Internal medicine and the Cuban Society of Intensive Therapy.
- ♦ Member of the Cuban Society of Teachers.
- ♦ Medical specialist in Mozambique, 2008-10.
- ♦ Professor on the Medicine Degree and Internal Medicine Specialty at the Faculty of Medical Sciences of Isla de la Juventud.
- ♦ Professor of the Professional Master's Degree in Infectious Diseases in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of state examining boards for the medicine degree and internal medicine.
- ♦ Member of tribunals for national scientific events. Cuba
- ♦ Medical Science Teaching Award. Cuba.
- ♦ Professor at the Catholic University of Santiago de Guayaquil Ecuador, 2018.

**Dr. Cantalapiedra Torres, Alejandro**

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Pediatrician. "Héroes del Baire" Hospital.
- ♦ Master's Degree in Infectious Diseases.
- ♦ Diploma in Medical Teaching.
- ♦ Diploma in Health Management.
- ♦ Member of the Cuban Society of Pediatrics.
- ♦ Professor in the Medicine Degree and Pediatrics Specialty in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of tribunals for national scientific events. Cuba.
- ♦ Medical Specialist in Haiti in 2000-01
- ♦ Medical Specialist in Antigua and Barbuda in 2008.

**Lic. Lawrence Carmenate, Arelis**

- ♦ Lic. In Microbiology from the University of Havana.
- ♦ Master's Degree in Infectious Diseases.
- ♦ Professor on the Medicine Degree in the Faculty of Medical Sciences in Isla de la Juventud
- ♦ Member of the Cuban Society of Microbiology.
- ♦ Member of the Associations of Teachers.
- ♦ Worked in Caracas, Venezuela from 2012 to 2014
- ♦ Participated in national and international Microbiology events in Cuba and Venezuela.

**Dr. Luís Dávila, Heenry**

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Specialist in Gynecology and Obstetrics at Héroes del Baire Hospital. Cuba.
- ♦ Professional Master's Degree in Comprehensive Care for Women.
- ♦ Head of the Neck Pathology Service at Héroes del Baire Hospital.
- ♦ Member of the Cuban Society of Gynecology and Obstetrics.
- ♦ Member of the Cuban Society of Teachers.
- ♦ Medical specialist in Guatemala, 2010-12.
- ♦ Professor on the Medicine Degree in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of state examining boards medicine.
- ♦ Member of tribunals for national scientific events. Cuba
- ♦ National research award. Cuba
- ♦ Medical Science Teaching Award. Cuba.

**Dr. Jiménez Valdés, Erlivan**

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Pediatrician. "Héroes del Baire" Hospital.
- ♦ Master's Degree in comprehensive childcare.
- ♦ Member of the Cuban Society of Pediatrics.
- ♦ Professor in the Medicine Degree and Pediatrics Specialty in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of tribunals for national scientific events. Cuba.
- ♦ Medical specialist in Venezuela in 2017.



**Dr. Batista Valladares, Adrián**

- ◆ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ◆ Specialist in Family and Community Medicine.
- ◆ Master's Degree in Clinical Infectology.
- ◆ Diploma in Diagnostic Ultrasound.
- ◆ Diploma in Healthcare Management.
- ◆ Head of Senior Citizen Services in Isla de la Juventud. Cuba.
- ◆ Member of the Cuban Society of Family Medicine.
- ◆ Professor of the medicine and family medicine degrees at the Faculty of Medical Sciences in Isla de la Juventud.
- ◆ Professor of the Professional Master's Degree in Infectious Diseases in the Faculty of Medical Sciences in Isla de la Juventud.
- ◆ Member of state examining boards for the medicine degree and family medicine.
- ◆ Member of tribunals for national scientific events. Cuba

**Lic. González Fiallo, Sayli**

- ◆ Degree in Hygiene and Epidemiology
- ◆ Master's Degree in Epidemiology
- ◆ Professor of the Faculty of Medical Sciences in Isla de la Juventud
- ◆ Director of the Health Analysis, Biostatistics, and Surveillance Unit of the Municipal Health Directorate. Isla de la Juventud.

# 04

# Structure and Content

The teaching program has been created by a group of professors and medical professionals from various medical specialties, with extensive medical, research and teaching experience in several countries in Europe, Africa, Central and South America, interested in integrating the latest and most current scientific knowledge of antibiotic resistance to ensure training and professional development to improve the daily clinical practice of professionals who care for patients or populations with infectious diseases.



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*This Postgraduate Certificate in Advances in Antibiotic Resistance contains the most complete and up-to-date scientific program on the market".*

## Module 1. Antibiotic Resistance

- 1.1. Emergence and Development of Antibiotic Resistance.
  - 1.1.1. Concept.
  - 1.1.2. Classification.
  - 1.1.3. Origins and Development.
- 1.2. Mechanisms of Antibiotic Resistance: An Update.
  - 1.2.1. Mechanisms of Antimicrobial Resistance.
  - 1.2.2. New Resistance Mechanisms.
- 1.3. Staphylococcal Resistance: Yesterday, Today, and Tomorrow.
  - 1.3.1. Evolution of Staphylococcal Resistance.
  - 1.3.2. Mechanisms of Staphylococcal Resistance.
- 1.4. Resistance of Gram-Positive Germs: Latest Recommendations.
  - 1.4.1. Evolution and Resistance of Gram-Positive Germs.
  - 1.4.2. Resistance Mechanisms of Gram-Positive Germs.
- 1.5. Resistance of Gram-Negative Germs: Current Clinical Implications.
  - 1.5.1. Evolution of Gram-Negative Germ Resistance.
  - 1.5.2. Resistance Mechanisms of Gram-Negative Germs.
- 1.6. Virus Resistance.
  - 1.6.1. Evolution of Virus Resistance.
  - 1.6.2. Virus Resistance Mechanisms.
- 1.7. Fungal Resistance.
  - 1.7.1. Evolution of Fungal Resistance.
  - 1.7.2. Mechanisms of Fungal Resistance.



- 1.8. Parasite Resistance: An Emerging Problem.
  - 1.8.1. Evolution of Parasite Resistance.
  - 1.8.2. Mechanisms of Parasite Resistance.
  - 1.8.3. Resistance to Antimalarials.
- 1.9. New Mechanisms of Antibiotic Resistance and Superbugs.
  - 1.9.1. Emergence and Progression of Superbacteria.
  - 1.9.2. New Resistance Mechanisms of Superbacteria.
- 1.10. Antibiotic Resistance Control Mechanisms and Programs.
  - 1.10.1. Antibiotic Resistance Control Strategies.
  - 1.10.2. Global Program and International Experiences in the Control of Antibiotic Resistance.

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*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.





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*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. Gervas, 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.

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*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 by the specialists who teach the course, specifically for 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

This Postgraduate Certificate in Advances in Antibiotic Resistance guarantees you, in addition to the most rigorous and updated training, the access to a Postgraduate Certificate issued by TECH Global University.





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*Successfully complete this training and receive your university degree without travel or laborious paperwork”.*

This program will allow you to obtain your **Postgraduate Certificate in Advances in Antibiotic Resistance** 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 Advances in Antibiotic Resistance**

Modality: **online**

Duration: **6 weeks**

Accreditation: **5 ECTS**



\*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.



## Postgraduate Certificate Advances in Antibiotic Resistance

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 5 ECTS
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Certificate

## Advances in Antibiotic Resistance

