

# Postgraduate Certificate

## Clinical Genetics of Nephro-urological Diseases



## Postgraduate Certificate Clinical Genetics of Nephro-urological Diseases

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/clinical-genetics-nephro-urological-diseases](http://www.techtute.com/us/medicine/postgraduate-certificate/clinical-genetics-nephro-urological-diseases)

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# 01

# Introduction

Advances in molecular genetics have considerably changed the classification of hereditary glomerular or cystic kidney diseases. In addition, new diseases with phenotypic manifestations, which can be very heterogeneous, have been identified thanks to the study of mutations in several genes. Therefore, for proper diagnosis or treatment and to guide and advise the family, it is important to carry out a correct genetic approach.



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*Develop a comprehensive approach that includes familial risk screening, prevention, reproductive intervention and other aspects requires state-of-the-art knowledge in clinical genetics of neurological diseases"*

A wide variety of hereditary renal and urological diseases are currently known. These diseases affect children and adults alike and in some cases are often diagnosed in childhood, but their final stage does not develop until maturity.

In this course we will present a detailed description of several hereditary nephro-urological diseases such as polycystic kidney disease, Alport syndrome, Fabry disease and metabolic diseases among others through theoretical texts and resolution of clinical cases extracted from daily practice both at the level of molecular diagnosis and genetic counseling.

“*Acquire the ability to work with the most advanced genetic tools, and take a step ahead of the needs that the labor market will increasingly demand from medical professionals*”

This **Postgraduate Certificate in Clinical Genetics of Nephro-urological Diseases** offers you the characteristics of a high-level scientific, educational, and technological course. These are some of its most notable features:

- ◆ Latest technology in online teaching software.
- ◆ Highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand.
- ◆ Practical cases presented by practising experts.
- ◆ State-of-the-art interactive video systems.
- ◆ Teaching supported by telepractice.
- ◆ Continuous updating and recycling systems.
- ◆ Self-regulating learning: full compatibility with other occupations.
- ◆ Practical exercises for self-evaluation and learning verification.
- ◆ Support groups and educational synergies: questions to the expert, debate and knowledge forums.
- ◆ Communication with the teacher and individual reflection work.
- ◆ Availability of content from any fixed or portable device with internet connection.
- ◆ Supplementary documentation databases are permanently available, even after the course.

“*Acquire the most interesting advances in clinical genetics of nephrourological diseases and open new professional paths*”





*Basic knowledge for the diagnosis, treatment and prevention of hereditary neurological diseases, most of them little known”*

This program has been developed by professionals from different clinical genetics clinics in which they contribute their experience in daily practice, in the care of patients and families with a variety of hereditary disorders, both in genetic counseling and in prevention programs and prenatal and preconception counseling. The faculty involved in the course also carries out important research work in the field of Genetics.

The course addresses, in its different modules, the basic and necessary knowledge for the management of patients and their diseases in a clinical genetics practice. It offers a practical approach to the different techniques most commonly used for the diagnosis of hereditary diseases, as well as the interpretation of their results. It offers an approach to the diseases that cause the highest number of consultations in daily practice in a Clinical Genetics service.

The course contains theoretical text about the subject matter, and practical examples taken from clinical cases that will facilitate understanding and the acquisition of in-depth knowledge.

*Include in your work capacity the knowledge for the management of patients with nephrourological diseases from the genetic approach.*

*A training program that masterfully combines intensity and flexibility, making its objectives easily and comfortably achievable by the professional.*



# 02 Objectives

Currently not all hospitals have genetics units and it is foreseeable that all healthcare centers will have genetics units in the coming years. Students in this program will deepen the knowledge required to work as clinical geneticists both in the field of diagnosis and counseling in these units or to be part of multidisciplinary groups of medical services, where patients with hereditary diseases are treated.







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*Acquire the ability to apply genetics to the treatment of nephrourological diseases in just a few weeks”*



## General Objectives

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- ◆ Know the historical evolution of knowledge in the area of genetics.
- ◆ Learn the use of genetic analysis for diagnostic purposes.
- ◆ Learn about all known hereditary cancer syndromes.
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- ◆ Recognize genetic diseases affecting the sensory organs and know how to manage them.
- ◆ Detail the molecular basis and mechanisms for the diagnosis of endocrine diseases.
- ◆ Know the genetic diseases affecting the central and peripheral nervous system.
- ◆ Learn about genetic nephrourological diseases, such as Fabry disease or Alport Syndrome.
- ◆ Addressing the different major pediatric diseases.
- ◆ Review hematological, metabolic and deposit, cerebral and small vessel diseases.







## Specific Objectives

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- ◆ Global training in the most common nephrological and urological pathologies.
- ◆ Comprehensive approach for its identification and clinical diagnosis considering previous explorations, both analytical and anatomo-pathological studies already performed as well as other complementary explorations.



*Advance in your profession by paving your way in what is shaping up to be one of the most exciting fields in medicine today and in the future"*

03

# Course Management

For our course to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.



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*A course created and directed by experts in clinical genetics who will take you through the most up-to-date and complete knowledge and give you the real and contextual vision of this area of work”*



## International Guest Director

With an outstanding scientific career in the field of Molecular Genetics and Genomics, Dr. Deborah Morris-Rosendahl has devoted herself to the analysis and diagnosis of specific pathologies. Based on her excellent results and prestige, she has taken on professional challenges such as directing the NHS South East Genomic Laboratory Hub in London.

The research of this world-class expert has focused on the identification of novel disease-causing genes for both single-gene disorders and complex neuropsychiatric conditions. Her particular interest in neuroevolutionary processes has led her to determine genotype-phenotype associations, various cortical developmental conditions, and to refine genotype-phenotype correlations for Lissencephaly, Primary Microcephaly and Microcephaly Syndromes.

She has also turned her attention to inherited cardiac and respiratory conditions, areas in which her laboratory is charged with specialized testing. On the other hand, her team has been dedicated to designing cutting-edge methodologies to offer innovative genomic diagnostics, consolidating her reputation as a leader in this field globally.

Dr. Morris-Rosendahl began her education in science at the University of Cape Town, where she obtained an honors degree in Zoology. To continue her studies, she joined the Mammalian Research Institute at the University of Pretoria. With the advent of recombinant DNA technology, she immediately redirected her efforts to Human Genetics, completing her PhD in that field at the South African Institute of Medical Research and the University of the Witwatersrand.

However, she has carried out postdoctoral research in South Africa, the United States and Germany. In Germany, she became Director of the Diagnostic Laboratory of Molecular Genetics at the Institute of Human Genetics, University Medical Center Freiburg. Recently, she has been collaborating with several multidisciplinary teams in the UK.



## Dra. Morris-Rosendahl, Deborah

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- Scientific Director of the NHSE South East Genomic Laboratory Hub, London, UK
- Asmarley Principal Investigator in the Molecular Genetics and Genomics Group at the British Heart and Lung Institute
- Scientific Director, Genomic Innovation Unit, Guy's and St. Thomas' NHS Foundation Trust, UK
- Head of Clinical Genetics and Genomics Laboratory, Royal Brompton and Harefield Hospitals Clinical Group, UK  
Head of the Molecular Genetics Diagnostic Laboratory at the Institute of Human Genetics, University Medical Center Freiburg, Germany
- Research Fellow at the Institute of Mammalian Research, University of Pretoria
- Postdoctoral Fellow at Baylor College of Medicine, Houston, Texas, United States
- Postdoctoral stay awarded the Alexander von Humboldt Research Fellowship
- Doctorate in Human Genetics at the South African Institute of Medical Research and the University of the Witwatersrand  
B.Sc. in Zoology at the University of Cape Town

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

## Management



### Dr. S. Tahsin Swafiri Swafiri, M.D.

- Degree in Medicine and General Surgery (University of Extremadura - Badajoz).
- Specialist in Clinical Biochemistry and Molecular Pathology (Puerta de Hierro University Hospital, Majadahonda).
- Master's Degree in Rare Diseases (University of Valencia).
- Attending physician in Clinical Genetics at the University Hospitals of Infanta Elena, Rey Juan Carlos I, Fundación Jiménez Díaz and General de Villalba.
- Associate Professor of Genetics at the Francisco de Vitoria University School of Medicine (Pozuelo de Alarcón- Madrid).
- Health Research Institute - Jiménez Diaz Foundation University Hospital.



*An impressive teaching staff, made up of professionals from different areas of expertise, will be your teachers during your training: a unique opportunity not to be missed"*

## Professors

### Dr. Lorda Sánchez, Isabel María

- ◆ Degree in Medicine and Surgery from the University of Zaragoza. Year 1988.
- ◆ Doctor of Medicine from the University of Zurich. Year 1991.
- ◆ Personal Professional Accreditation in Human Genetics (AEGH).
- ◆ Member of the Spanish Association of Human Genetics (AEGH).
- ◆ Member of the European Cytogenetics Association (ECA).
- ◆ Hospital Coordinator of Familial Hereditary Cancer for the Community of Madrid.

### Dr. Rodríguez Pinilla, Elvira

- ◆ Attending Physician. Genetics Service. Jiménez Diaz Foundation University Hospital. Madrid. 2017-2020.
- ◆ Degree in Medicine and General Surgery from the Complutense University of Madrid (1972-1979).
- ◆ Doctor of Medicine and Surgery, Complutense University of Madrid (1992).
- ◆ Diploma: "Epidemiology in Action: a course for public health professional" U.S. Department of Health and Human Services. Public Health Service. Centers for Disease Control. Atlanta, Georgia (USA) (1988).
- ◆ Accredited in Human Genetics by the Spanish Association of Human Genetics. (2005).
- ◆ Puericulturist Medical Doctor. Diploma in Puericulture and Preventive Pediatrics. School of Puericulture of the Spanish Society of Puericulture: Course XXVII (87th Promotion). Course 2011- 2012.





# 04

# Structure and Content

The contents of this program have been developed by the different experts of this course, with a clear purpose: to ensure that our students acquire each and every one of the skills they require to become true experts in this field.

A complete and well-structured program that will take you to the highest standards of quality and success. Expert patients participate in the preparation of the program, which adds a very original and close perspective, with real cases and situations that are not only clinical but also social. It has a holistic perspective, not just a medical one, making it of interest to healthcare professionals of any kind.





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*A complete syllabus that covers the essential aspects and new developments in clinical genetic intervention in nephrourological diseases with hereditary factor"*

## Module 1. Genetics of Nephro-urological Diseases.

- 1.1. Polycystic Kidney Disease.
- 1.2. Hereditary Tubulopathies.
- 1.3. Hereditary Glomerulopathies.
- 1.4. Atypical Hemolytic Uremic Syndrome.
- 1.5. Congenital Renal and Urothelial System Congenital Malformations.
- 1.6. Malformative Syndromes Associated with Renourethral Malformation.
- 1.7. Gonadal Dysgenesis.
- 1.8. Hereditary Kidney Cancer.





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*A comprehensive teaching program, structured in teaching units organized to achieve fast and effective learning, with a focus on practical application"*



05

# Methodology

This training 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 the physician's professional 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 training, 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

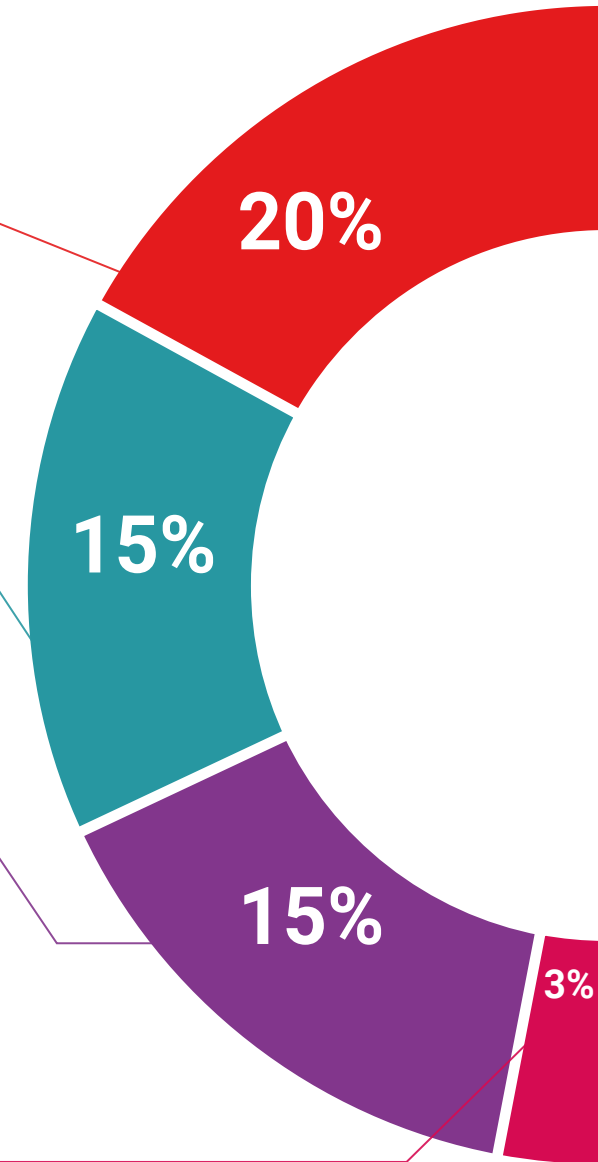
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

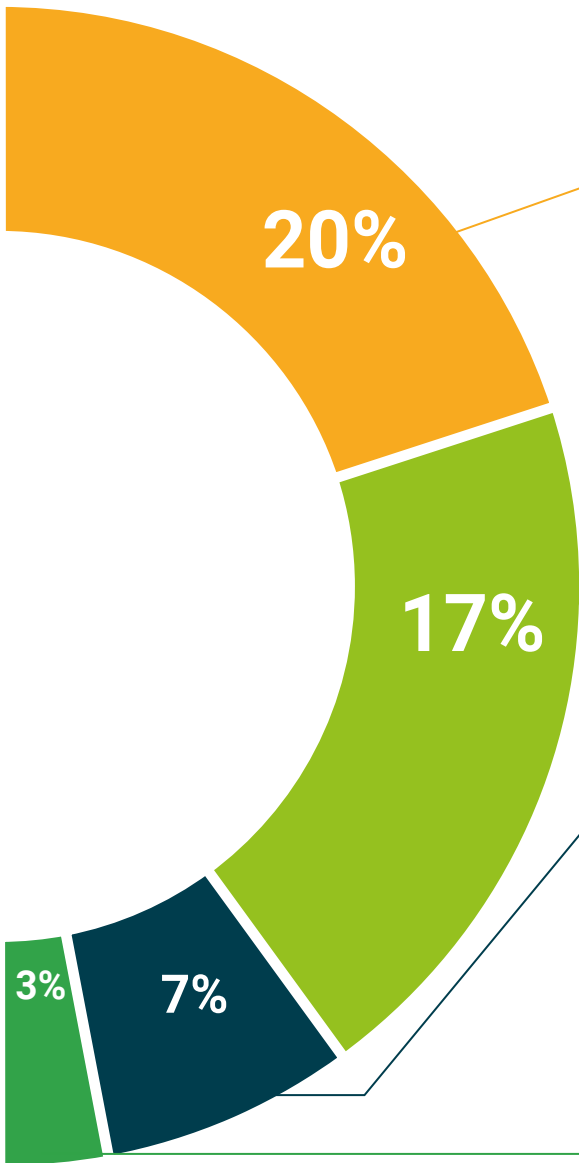


#### Additional Reading

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

Through a different and stimulating learning experience, you will be able to acquire the necessary skills to take a big step in your training. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.



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*Add a Course in Clinical Genetics of Nephro-urological Diseases to your CV and become a highly competitive professional"*

This program will allow you to obtain your **Postgraduate Certificate in Clinical Genetics of Nephro-urological Diseases** 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 Clinical Genetics of Nephro-urological Diseases**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**





health future  
confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
virtual classroom



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