

# Professional Master's Degree

## Oncological Ophthalmology





## Professional Master's Degree Oncological Ophthalmology

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/pk/medicine/professional-master-degree-oncological-ophthalmology/master-oncological-ophthalmology](http://www.techtute.com/pk/medicine/professional-master-degree-oncological-ophthalmology/master-oncological-ophthalmology)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Skills

---

*p. 14*

04

Course Management

---

*p. 18*

05

Structure and Content

---

*p. 30*

06

Methodology

---

*p. 40*

07

Certificate

---

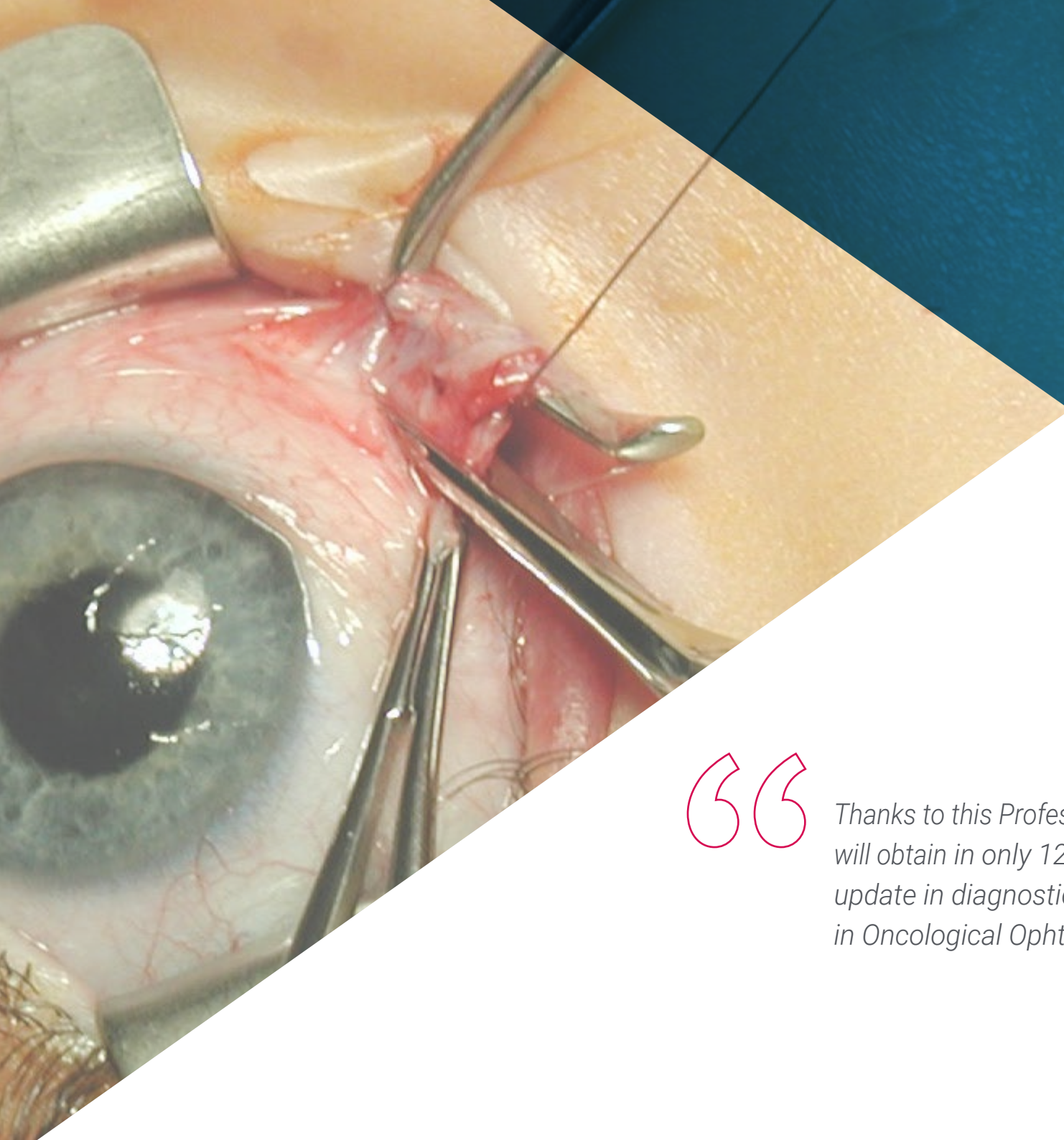
*p. 48*

# 01

# Introduction

Oncological Ophthalmology has undergone a significant evolution in recent years as a result of advances in targeted therapies, the efficacy of immunotherapy to treat certain ocular tumors, gene therapy or the improvement of Optical Coherence Tomography (OCT). These advances lead ophthalmologists to constantly update their knowledge of diagnostic and therapeutic procedures. To promote this update, TECH has developed this 100% online academic option that will lead the graduates to be up to date in Palpebral Tumors of the tear duct and orbital, Ocular Surface and Cornea or management of Retinoblastoma. All this, from a theoretical-practical approach that will allow the graduates to obtain a complete update with first level specialists.





“

*Thanks to this Professional Master's Degree you will obtain in only 12 months the most advanced update in diagnostic and therapeutic procedures in Oncological Ophthalmology"*

In recent years, there has been notable progress in the performance of specific diagnostic tests that allow the ophthalmologist to perform an in-depth study of the anatomical and functional status. In addition, thanks to new pharmacological, physical or surgical therapies, treatments have been improved with a hopeful prognosis for the patient.

In this scenario, the professionals who wish to be updated in the advances in this field will be able to do it through this university program designed by TECH. A program that will take the specialist to a complete update of their knowledge in Oncological Ophthalmology over 12 months.

It is an intensive program that delves from the first moment in Ocular Oncology, the most important radiological characteristics of intraocular and orbital tumor pathology, the main tumors of the eyeball and orbit, with special emphasis on the two most relevant malignant neoplasms of the eye: Uveal Melanoma and Retinoblastoma. In addition, this program goes a step further and offers the graduates a module oriented to the approach of the patient from the psychiatric and psychological aspect, which completes an already exhaustive syllabus in Ocular Tumors.

To achieve this goal of updating, students have access to video summaries of each topic, specialized readings or scenarios of simulated case studies that can be accessed comfortably from a digital device at any time of the day. Likewise, the Relearning system, based on the reiteration of content, will lead the professionals to progress naturally through the main concepts of this program and thus reduce the long hours of study.

A Professional Master's Degree that provides the flexibility that the ophthalmologists require to make their daily work and personal activities compatible with a quality program, developed by an excellent team of specialists with a high level of competence in this field.

This **Professional Master's Degree in Oncological Ophthalmology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of practical cases presented by experts in Oncological Ophthalmology
- ◆ Graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ 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



*Get the most detailed information on the most sophisticated tumor radiobiology techniques used today"*

“ *An academic option that will lead you to implement the best strategies to address both systemic and locally advanced or unresectable diseases*”

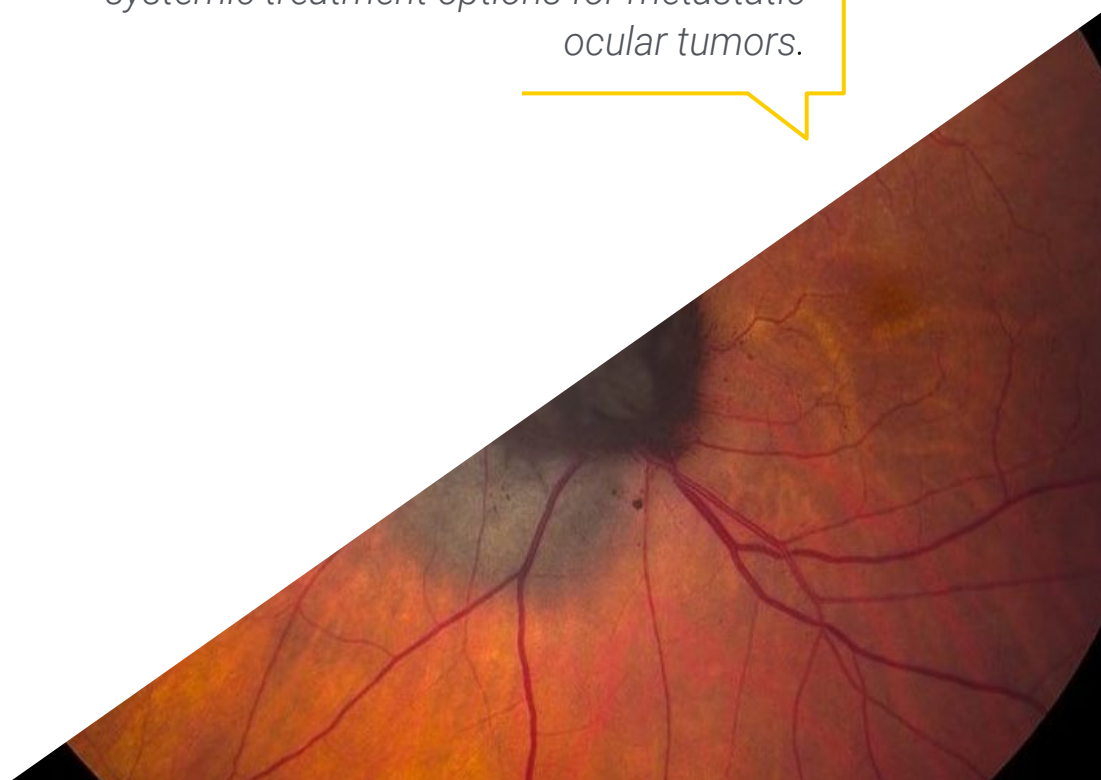
The program includes in its teaching staff professionals from the sector who pour into this training the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professionals with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby professionals must try to solve the different professional practice situations that arise throughout the program. For this purpose, the students will be assisted by an innovative interactive video system created by renowned experts.

*TECH adapts to your schedule and has designed a flexible program that is compatible with your professional responsibilities.*

*A university qualification that will allow you to delve into the management of the main systemic treatment options for metastatic ocular tumors.*



# 02

# Objectives

Throughout the 12 months of this program, the ophthalmologist will obtain a complete update on the different tumors from a theoretical-practical perspective. In addition, innovative didactic material is available, including detailed videos and clinical case studies, which will allow you to obtain a much closer and real vision of the existing diagnostic methods and therapeutic alternatives.





“

*Integrate into your medical practice the latest scientific evidence in the approach to Retinoblastoma and its follow-up in children”*



## General Objectives

---

- ◆ Update knowledge on the different tumors that can affect the eye and its appendages
- ◆ Deepen in the diagnostic-therapeutic approach of ocular neoplasms
- ◆ Delve into the main common characteristics of ocular neoplasms
- ◆ Deepen in the different tumor lesions that can affect the eyelids, the lacrimal drainage pathway and the orbit
- ◆ Investigate the different types of tumors that can be located on the ocular surface, cornea and conjunctiva
- ◆ Delve into the most recent research in Oncological Ophthalmology





## Specific Objectives

---

### Module 1. Ocular Oncology

- ◆ Update knowledge on tumor pathology affecting the eyeball and its appendages
- ◆ Deepen the knowledge of diagnostic techniques and the different therapeutic possibilities available

### Module 2. Palpebral, Tear Duct and Orbital Tumors

- ◆ Provide updated descriptive information on tumor pathology affecting the eyelids, lacrimal drainage duct and orbit, including differential diagnosis with neoplastic simulating lesions
- ◆ Delve into the different medical-surgical management options for eyelid, lacrimal drainage duct and orbital tumors, including prognosis and possible associated complications

### Module 3. Tumors of Ocular Surface and Cornea

- ◆ Provide updated information on tumor pathology affecting the eyelids lacrimal , drainage duct and orbit, including differential diagnosis with neoplastic simulating lesions
- ◆ Delve into the clinical skills necessary for the correct diagnosis of ocular surface tumors, including the management of complementary tests
- ◆ Deepen in the different types of surgical and non-surgical treatment for a correct therapeutic management of ocular surface tumors

### Module 4. Intraocular Tumors in Adults

- ◆ Provide the most up-to-date knowledge about adult intraocular tumors, including their diagnostic-therapeutic approach
- ◆ Offer a therapeutic approach and prognostic information to the adult patient with an intraocular tumor

### Module 5. Retinoblastoma

- ◆ Further in the knowledge of Retinoblastoma
- ◆ Identify the characteristics and forms of presentation of Retinoblastoma
- ◆ Offer the tools to be able to make the differential diagnosis with other conditions
- ◆ Describe the therapeutic management of patients with Retinoblastoma

### Module 6. Radiology Applied to Ocular Oncology

- ◆ Provide the most updated knowledge about the different imaging tests for intraocular and orbital tumor pathology
- ◆ Detail the indications and technical considerations of the different imaging tests in Ocular Oncology

### Module 7. Pathological Anatomy Applied to Ocular Oncology

- ◆ Deepen in the normal anatomy and histology of the eye
- ◆ Delve into the knowledge of the tumor pathology of the eyeball and related structures, reviewing the histopathological characteristics of the most frequent tumors
- ◆ Identify the main molecular alterations with clinical relevance present in Uveal Melanoma and Retinoblastoma

### Module 8. Medical Oncology Applied to Ocular Oncology

- ◆ Describe the basic principles and mechanisms of pharmacological action in the clinical practice of Medical Oncology
- ◆ Provide the most current knowledge for the diagnosis, treatment and follow-up of patients with the most frequent ocular tumors
- ◆ Deepen in the area of the most prevalent ocular tumors: melanomas, lymphomas and carcinomas

- ◆ Delve into the possible ocular toxicities that can be produced by the different systemic treatments used in Medical Oncology
- ◆ Deepen in the different tumors that can produce ocular metastasis, with special emphasis on their treatment
- ◆ Delve into the ocular tumors associated with the most frequent hereditary syndromes

#### **Module 9. Radiation Oncology Applied to Ocular Oncology**

- ◆ Provide the most advanced knowledge for the diagnosis, treatment and follow-up of patients with ocular oncology disease
- ◆ Deepen in the methodology of clinical and pathological classification of ocular tumor pathology
- ◆ Update knowledge in the area of tumor radiobiology
- ◆ Delve into the types of radiation beams used for the treatment of ocular pathology
- ◆ Deepen in the principles for the simulation and design of radiotherapy treatments
- ◆ Investigate the principles of radiation protection applied to radiotherapy treatments

#### **Module 10. Psychiatric and Psychological Aspects of Ocular Oncology**

- ◆ Deepen the psychological, emotional and behavioral responses of ocular oncologic pathology in the patient, his family and social environment
- ◆ Describe the management of information during the diagnostic and therapeutic process
- ◆ Identify the appearance of anxious-depressive clinical symptoms that need to be addressed by specialists in Clinical Psychology and/or Psychiatry, and to differentiate them from normal adaptive reactions
- ◆ Delve into the importance of teamwork and professional care involved in the multidisciplinary approach to ocular oncologic pathology





“

*Address the main complications derived from eye treatment thanks to the advanced content provided by this university program”*

# 03 Skills

This university program has been designed as a qualification that offers professionals an interdisciplinary vision, which goes beyond an update in Oncological Ophthalmology. This program will enable graduates to enhance their communication skills and to treat patients with ocular tumors with greater sensitivity and to manage the main pathologies using the most advanced treatments.



A close-up photograph of a person's eye, looking slightly to the right. The skin around the eye is marked with several purple ink lines, likely for medical or research purposes. The background is blurred, showing what appears to be a clinical or laboratory setting.

“

*Clinical case studies will allow you to avoid possible ocular toxicities that may be produced by the different systemic treatments used in Medical Oncology”*



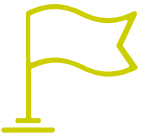
## General Skills

---

- ◆ Interpret the different complementary tests available in the diagnosis and follow-up of ocular tumor pathology
- ◆ Discern the different existing therapeutic options, their indications and possible adverse effects
- ◆ Perform a differential diagnosis between benign, premalignant and malignant tumor lesions, as well as lesions simulating neoplasms, located in eyelids, lacrimal excretory duct and orbit
- ◆ Apply the different medical-surgical management options currently available for the approach to eyelid, lacrimal drainage duct and orbital tumor pathology
- ◆ Perform a correct differential diagnosis with lesions simulating neoplasms, as well as between benign, premalignant and malignant lesions
- ◆ Handle the different complementary tests necessary in the diagnosis of ocular surface lesions
- ◆ Apply the different therapeutic options for the eradication of ocular surface tumor lesions
- ◆ Detect the key clinical signs to establish a differential diagnosis between pigmented and non-pigmented ocular fundus tumors
- ◆ Correctly apply systemic treatment planning in patients with ocular tumors







## Specific Skills

---

- ◆ Early detection and diagnosis of Retinoblastoma.
  - ◆ Indicate available imaging tests for the study of ocular and orbital neoplastic pathology.
  - ◆ Identify the main radiological features of the most frequent eye and orbit tumors.
  - ◆ Apply detection methods for the most relevant mutations present in Uveal Melanoma and Retinoblastomas.
  - ◆ Manage the main systemic treatment options in metastatic ocular tumors.
  - ◆ Manage the possible ocular side effects of treatments such as immunotherapy, chemotherapy and other targeted therapies.
  - ◆ Address the main ocular tumors associated with hereditary syndromes.
  - ◆ Perform appropriate treatment indications in patients diagnosed with ocular pathology
  - ◆ Identify the possible side effects of radiotherapeutic treatment.
  - ◆ Correctly interpret a radiotherapeutic treatment plan.
  - ◆ Apply radiation protection standards in radiotherapeutic treatment.
  - ◆ Acquire personal skills for the proper management of emotional and behavioral responses, mainly maladaptive, of oncology patients and their families during the diagnostic and therapeutic process.
- ◆ Perform an adequate pharmacological approach to the anxious-depressive symptomatology that may appear.
  - ◆ Perform the psychological interventions indicated for oncological patients and identify those who can benefit from such an approach.



*Intensify your skills to develop a correct communication with a patient undergoing an ocular oncologic process"*

# 04

# Course Management

The teaching team of the Professional Master's Degree is made up of a powerful group of professionals with extensive experience in the field of Ophthalmology and Oncology. In fact, it brings together medical specialists who have a valuable professional background in leading hospital institutions. This faculty, in addition to having a solid academic background, has a great teaching capacity and a strong commitment to the preparation of highly qualified professionals in this field. Likewise, these experts are constantly updated to be able to offer students the latest trends and advances in the field.

“

*Get a complete update in Oncological Ophthalmology  
from distinguished specialists in this field"*

## Management



### Dr. Garrido Hermosilla, Antonio Manuel

- ♦ Medical Specialist in Ophthalmology
- ♦ Specialist in the Ophthalmology Service of the Virgen Macarena University Hospital
- ♦ Specialist in Oculoplasty-Orbit and Ocular Oncology Units
- ♦ Specialist in National Reference Units (CSUR) for Adult and Childhood Intraocular Tumors
- ♦ Co-coordinator of Andalusian Reference Units (UPRA) for the Integral Management of the Anophthalmic Cavity and for Graves' Orbitopathy
- ♦ Tutor for Ophthalmology Interns



### Dr. Relimpio López, María Isabel

- ♦ Coordinator of the Adult Intraocular Tumors Unit at the CSUR of the Hospital Virgen Macarena
- ♦ Specialist Area Physician (FEA) in the Ophthalmology Service at the University Hospital Virgen Macarena (HUVVM)
- ♦ Specialist in the Retina and Ocular Oncology Units of the HUVVM
- ♦ Coordinator of the National Reference Unit (CSUR) for Adult Intraocular Tumors
- ♦ Specialist in the National Reference Unit (CSUR) for Childhood Intraocular Tumors
- ♦ Ophthalmologist in the European Network ERN-PaedCan for Retinoblastoma
- ♦ PhD in Medicine, University of Seville
- ♦ Clinical Tutor of Ophthalmology, Medical Degree, University of Seville

## Professors

### Dr. Parrilla Vallejo, María

- ◆ Ophthalmologist subspecialized in Glaucoma at the Virgen Macarena University Hospital
- ◆ Medical Specialist in Ophthalmology
- ◆ Area Specialist in the Ophthalmology Service of the Virgen Macarena University Hospital (HUVVM), in the Glaucoma and Ocular Oncology Units, and in the National Reference Unit for Adult Intraocular Tumors
- ◆ PhD in Medicine, University of Seville
- ◆ Tutor of Ophthalmology Resident Interns (MIR)
- ◆ Clinical tutor of Ophthalmology in the Degree of Medicine at the University of Seville

### Dr. Ángel Morilla, Francisco

- ◆ Medical Ophthalmology at Miranza Virgen de Luján Clinic
- ◆ Medical Specialist in Clinical Ophthalmology
- ◆ Specialist in the Ophthalmology Department of the Virgen Macarena University Hospital (HUVVM) in the Oculoplasty-Orbit Unit
- ◆ Ophthalmology Clinical Tutor
- ◆ Postgraduate Diploma in Ophthalmic Surgery by CEU Cardenal Herrera University
- ◆ Postgraduate Diploma in Diagnosis and treatment of ophthalmologic pathology at CEU Cardenal Herrera University
- ◆ Postgraduate Diploma in Glaucoma and Ophthalmopediatrics, CEU Cardenal Herrera University
- ◆ Postgraduate Diploma in Retina and uveitis, CEU Cardenal Herrera University

### Dr. Domínguez Serrano, Francisco de Borja

- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist Area Practitioner (FEA) in the Ophthalmology Service, Virgen Macarena University Hospital (HUVVM)
- ◆ Ophthalmologist in the Retina and Ocular Oncology Units of the HUVVM
- ◆ Ophthalmologist at the National Reference Unit (CSUR) for Adult Intraocular Tumors
- ◆ Clinical Tutor of Ophthalmology of the Medicine Degree at the University of Seville

### Dr. López Domínguez, Mireia

- ◆ Medical Specialist in Pediatric Ophthalmology at Miranza Virgen de Luján Clinic
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology service of the University Hospital Virgen Macarena (HUVVM) in the Ophthalmopediatrics-Strabismus and Ocular Oncology units, and in the National Reference Unit (CSUR) for Intraocular Tumors of Childhood
- ◆ Ophthalmology Clinical Tutor
- ◆ Master in Pediatric Ophthalmology at the Hospital Sant Joan de Déu
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma

### Dr. Soto Sierra, Marina

- ◆ Ophthalmologist of the Andalusian Ophthalmologic Institute
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Service of the Virgen Macarena University Hospital in the Uveitis and Ophthalmopediatrics-Strabismus Units
- ◆ Ophthalmology Clinical Tutor

**Dr. Gómez Escobar, Antonio José**

- ◆ Medical Specialist in Ophthalmology
- ◆ Medical Specialist in Geriatrics and Ophthalmology
- ◆ Specialist in the Ophthalmology service of the Virgen Macarena University Hospital, for the Macula and Ocular Oncology units, and the National Reference Unit (CSUR) for Adult Intraocular Tumors
- ◆ Ophthalmology Resident Medical Interns (MIR) Tutor
- ◆ Ophthalmology Clinical Tutor

**Dr. Díaz Ruiz, María Concepción**

- ◆ Medical Ophthalmology at the Virgen Macarena University Hospital
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Service of the Virgen Macarena University Hospital (HUVVM), in the Oculoplasty-Orbit and Ocular Oncology Units, and in the National Reference Unit (CSUR) for Adult and Childhood Intraocular Tumors
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma
- ◆ Co-coordinator of Andalusian Reference Unit (UPRA) for the Integral Management of the Anophthalmic Cavity and the Andalusian Reference Unit (UPRA) for Graves' Orbitopathy
- ◆ Ophthalmology Clinical Tutor

**Dr. Pérez Pérez, Manuel**

- ◆ Doctor Specialist in the Ophthalmology Service at Ophthalmology at Virgen Macarena University Hospital
- ◆ Collaborator of the Medical Oncology Service of the Virgen Macarena University Hospital
- ◆ Member of the Spanish Society of Pathological Anatomy

**Dr. Mataix Albert, Beatriz**

- ◆ Ophthalmology Specialist, Hospital Quirónsalud Sagrado Corazón, Seville
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Service of the University Hospital Virgen Macarena (HUVVM) in the Retina and Ocular Oncology Units and in the National Reference Unit (CSUR) for Adult Intraocular Tumors
- ◆ Coordinator of the Andalusian Reference Unit (UPRA) for the Comprehensive Management of Ocular Surface Tumors
- ◆ Ophthalmology Clinical Tutor
- ◆ PhD in Medicine, University of Granada

**Dr. Gessa Sorroche, María**

- ◆ Ophthalmologist at the Virgen Macarena Hospital
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Service of the University Hospital Virgen Macarena (HUVVM) in the Retina and Ocular Oncology Units and in the National Reference Unit (CSUR) for Adult Intraocular Tumors
- ◆ Coordinator of the Andalusian Reference Unit (UPRA) for Boston Keratoprosthesis
- ◆ Ophthalmology Clinical Tutor
- ◆ PhD in Medicine, University of Seville

**Dr. Casanovas Mercadal, Pilar**

- ◆ Medical Ophthalmology at the Virgen Macarena University Hospital
- ◆ Medical Specialist in Allergology and Ophthalmology
- ◆ Specialist in the Ophthalmology Department of the Virgen Macarena University Hospital (HUVVM)
- ◆ Ophthalmology Clinical Tutor

**Dr. Caro Magdaleno, Manuel**

- ◆ Medical Specialist in Ophthalmology of the Virgen Macarena University Hospital
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Department of the Virgen Macarena University Hospital (HUVVM) of the Cornea-Eye Surface Unit
- ◆ Coordinator of the Andalusian Reference Unit (UPRA) for Confocal Microscopy of the Anterior Pole
- ◆ Member of the of the RICORS Research Network for Inflammatory Diseases of the Instituto de Salud Carlos III
- ◆ Associate Professor in Ophthalmology
- ◆ PhD in Medicine, University of Seville

**Dr. Domínguez García, Belén**

- ◆ Medical Specialist in Ophthalmology of the Virgen Macarena University Hospital
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Service of the Virgen Macarena University Hospital (HUVVM) in the Retina and Ocular Oncology Units, and in the National Reference Unit (CSUR) for Adult and Childhood Intraocular Tumors
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma
- ◆ Ophthalmology Tutor

**Dr. Coca Gutiérrez, Lourdes María**

- ◆ Medical Ophthalmology at Miranza Virgen de Luján Clinic
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Service of the Virgen Macarena University Hospital (HUVVM) in the Retina and Ocular Oncology Units, and in the National Reference Unit (CSUR) for Adult and Childhood Intraocular Tumors
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma
- ◆ Clinical Tutor of Ophthalmology in Medical Degree

**Dr. Rodríguez De La Rúa Franch, Enrique**

- ◆ Head of Service and Director of the Clinical Management Unit of the Virgen Macarena University Hospital
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Service of the Virgen Macarena University Hospital (HUVVM)
- ◆ Coordinator of the Andalusian Reference Unit (UPRA) for Rare Eye Diseases
- ◆ Coordinator of the HUVVM Node of the RICORS Research Network for Inflammatory Diseases of the Instituto de Salud Carlos III
- ◆ PhD in Medicine, University of Valladolid

**Dr. Espejo Arjona, Francisco**

- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Service of the University Hospital Virgen Macarena (HUVM) in the Retina and Ocular Oncology Units and in the National Reference Unit (CSUR) for Adult Intraocular Tumors
- ◆ Coordinator of the National Reference Unit (CSUR) for Childhood Intraocular Tumors
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma
- ◆ Ophthalmology Clinical Tutor
- ◆ PhD in Medicine, University of Seville

**Dr. Fernández-Teijeiro Álvarez, Ana**

- ◆ Section Chief of the Pediatric Oncohematology Unit of the Virgen Macarena University Hospital
- ◆ Medical Specialist in Pediatrics
- ◆ Specialist in the Pediatrics Department of the Virgen Macarena University Hospital (HUVM)
- ◆ HUVM Node Coordinator European Network ERN-PaedCan Retinoblastoma Network
- ◆ President of the Spanish Society of Hematology and Oncology Emergencies (SEHOP)
- ◆ Pediatrics Resident Medical Interns (MIR) Mentor
- ◆ Pediatrics Clinical Tutor
- ◆ PhD in Medicine from the University of the Basque Country

**Dr. Torres García, Francisco Javier**

- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology service of the University Hospital Virgen Macarena (HUVM) in the Ophthalmopediatrics-Strabismus, Ocular Oncology units, and in the National Reference Unit (CSUR) for Intraocular Tumors of Childhood
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma
- ◆ Ophthalmology Clinical Tutor

**Dr. Saavedra Bejarano, Jonathan**

- ◆ Radiation Oncologist at the Virgen Macarena University Hospital
- ◆ Collaborator of the National Reference Unit for Adult Intraocular Tumors
- ◆ PhD in Medicine, University of Seville

**Dr. Lledó de Villar, María Leticia**

- ◆ Ophthalmologist at the Virgen Macarena University Hospital
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Department of the Virgen Macarena University Hospital (HUVM)
- ◆ PhD in Medicine, University of Seville
- ◆ Ophthalmology Clinical Tutor



**Dr. Infante Cossío, Mónica**

- ◆ Specialist in Ophthalmology at Virgen Macarena University Hospital
- ◆ Medical Specialist in Ophthalmology
- ◆ Specialist in the Ophthalmology Department of the Virgen Macarena University Hospital (HUVVM)
- ◆ Associate Professor in Ophthalmology
- ◆ PhD in Medicine, University of Seville

**Dr. Caparrós Escudero, Carlos**

- ◆ Medical Specialist in Radiodiagnosis
- ◆ Specialist Area Physician (FEA) in the Radiodiagnostic Service of the Virgen Macarena University Hospital (HUVVM) in the National Reference Units (CSUR) for Adult and Childhood Intraocular Tumors
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma
- ◆ Radiology Clinical Tutor

**Dr. Rosales Martínez, Eduardo**

- ◆ Medical Specialist in Radiodiagnosis of the Virgen Macarena University Hospital
- ◆ Medical Specialist in Radiodiagnosis
- ◆ Specialist of the Radiodiagnostic Service at the Virgen Macarena University Hospital (HUVVM), where he is also a Tutor of Internal Medical Residents (MIR) of Radiodiagnostics
- ◆ Radiology Clinical Tutor

**Dr. Busquier Cerdán, Teresa**

- ◆ Medical Specialist in Radiodiagnosis of the Virgen Macarena University Hospital
- ◆ Medical Specialist in Radiodiagnosis
- ◆ Specialist in the Radiodiagnosis Service of the Virgen Macarena University Hospital (HUVVM)
- ◆ Radiology Clinical Tutor

**Dr. Roquette Mateos, Mario**

- ◆ Medical Specialist in Radiodiagnosis of the Virgen Macarena University Hospital
- ◆ Degree in Medicine from the University of Seville
- ◆ Member of: Spanish Society of Medical Radiology, Spanish Society of Emergencies Radiology

**Dr. Mayorga Pineda, María**

- ◆ Medical Specialist in Radiodiagnosis of the Virgen Macarena University Hospital
- ◆ Medical Specialist in Radiodiagnosis
- ◆ Area Physician in the Radiodiagnostic Service of the Virgen Macarena University Hospital
- ◆ Members of the Spanish Society of Medical Radiology

**Dr. Ríos Martín, Juan José**

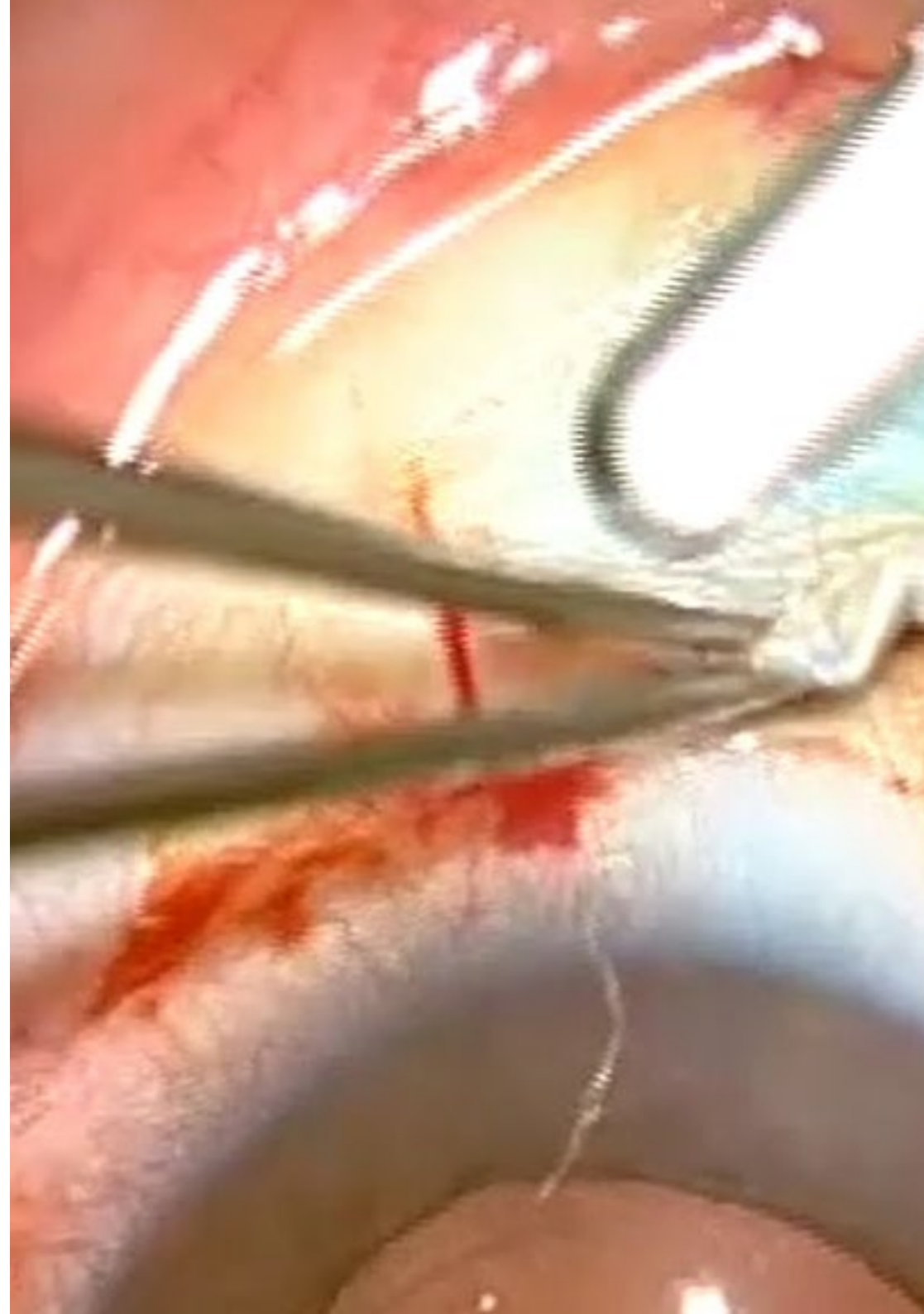
- ◆ Director of the Clinical Management Unit at the Virgen Macarena University Hospital
- ◆ Chief of Section of the Anatomic Pathology Department of the Virgen Macarena University Hospital
- ◆ Area Specialist of the Anatomical Pathology Department of the HUVM
- ◆ PhD in Medicine, University of Seville
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma

**Dr. Gutiérrez Domingo, Álvaro**

- ◆ Medical Specialist in Anatomic Pathology
- ◆ Specialist Area Physician (FEA) in the Ophthalmology Service at the University Hospital Virgen Macarena (HUVM)
- ◆ Member of the Spanish Pathological Anatomy Society

**Dr. Torres Gómez, Francisco Javier**

- ◆ Doctor Specialist in Ophthalmology at Virgen Macarena University Hospital
- ◆ Area Specialist in the Anatomical Pathology Service of the Hospital
- ◆ Surgical Pathologist at the High Resolution Hospital of Utrera
- ◆ PhD in Medicine, University of Seville
- ◆ Master's Degree in Clinical Management. CEU Cardenal Herrera
- ◆ Postgraduate Diploma in Dermatopathology
- ◆ Member of the Board of Directors of Spanish Society of Cytology



**Dr. Álamo de la Gala, María del Carmen**

- ◆ Medical Oncologist at the Virgen Macarena University Hospital
- ◆ Medical Oncologist at the Medical Oncology Department of the Virgen Macarena University Hospital
- ◆ Collaborator of the National Reference Unit for Adult Intraocular Tumors
- ◆ Member of the Andalusian Society of Medical Oncology

**Dr. Nogales Fernández, Esteban**

- ◆ Medical Oncologist at the Virgen Macarena University Hospital
- ◆ Medical Oncologist at the Medical Oncology Department of the Virgen Macarena University Hospital
- ◆ Collaborator of the National Reference Unit for Adult Intraocular Tumors
- ◆ Degree in Medicine, University of Seville

**Dr. Sevilla Ortega, Lourdes**

- ◆ Medical Specialist at Virgen Macarena University Hospital
- ◆ Medical Oncologist at the Virgen Macarena University Hospital
- ◆ Medical Specialist at the Medical Oncology Department of the Virgen Macarena University Hospital
- ◆ Researcher on Colorectal Cancer and Breast Cancer pathologies
- ◆ Member of the Spanish Society in Medical Oncology

**Dr. Carrasco Peña, Francisco de Asís**

- ◆ Section Chief at the Oncology Department of the Virgen Macarena University Hospital
- ◆ Collaborator of the National Reference Unit for Adult Intraocular Tumors
- ◆ PhD in Medicine, University of Seville

**Dr. Míguez Sánchez, Carlos**

- ◆ Head of the Radiation Oncology Department of the Virgen Macarena University Hospital
- ◆ Medical Director of the Clinical Management Unit of the Virgen Macarena University Hospital
- ◆ Collaborator of the National Reference Unit for Adult Intraocular Tumors
- ◆ Radiation Oncologist at the Virgen Macarena University Hospital
- ◆ PhD in Medicine, University of Seville

**Dr. Terrón León, José Antonio**

- ◆ Head of Radiological Protection at the Virgen Macarena University Hospital
- ◆ Specialist in Radiophysics at Virgen Macarena University Hospital
- ◆ Collaborator of the National Reference Units for Intraocular Tumors of the Adult and Childhood Intraocular Tumors
- ◆ PhD in Medical Physics, University of Seville
- ◆ Degree in Physical from the University of Seville
- ◆ Member of the European Network ERN-PaedCan for Retinoblastoma

**D. Baeza Monedero, Carlos Juan**

- ◆ Specialist in the Hospital Radiophysics Service of the Virgen Macarena University Hospital
- ◆ Specialist in the Hospitalary Radiophysics Service of the Virgen del Rocío University Hospital
- ◆ Collaborator of the National Reference Unit for Adult Intraocular Tumors
- ◆ Graduate in Physical Sciences from the Complutense University of Madrid

**Mr. Gallego Castro, Mario**

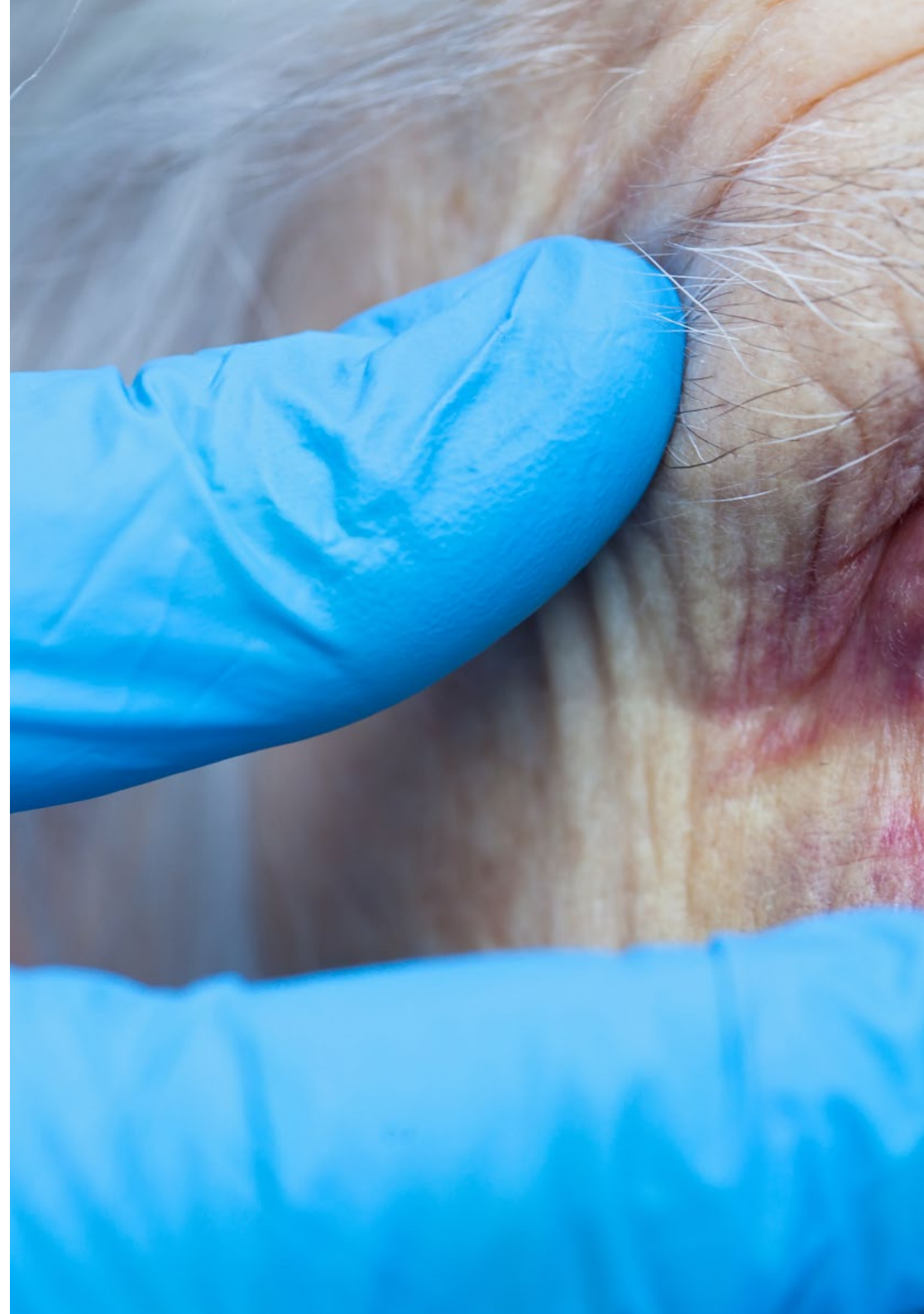
- ◆ Specialist in Radiophysics at Virgen Macarena University Hospital
- ◆ Specialist in Hospital Radiophysics Service of the Virgen Macarena University Hospital (HUVH)
- ◆ Collaborator of the National Reference Unit (CSUR) for Adult Intraocular Tumors
- ◆ Graduate in Physical Sciences from the University of Granada

**Ms. Márquez González, Irene**

- ◆ Psychiatrist in the Mental Health Clinical Management Unit of the Virgen Macarena University Hospital (HUVH)
- ◆ Psychiatrist at the Mental Health Liaison and Interconsultation Unit of HUVH
- ◆ Degree in Medicine from the University of Seville

**Ms. Polo Fernández, Ana Isabel**

- ◆ Clinical Psychology at Virgen Macarena University Hospital
- ◆ Psychiatrist in the Mental Health Clinical Management Unit of the Virgen Macarena University Hospital (HUVH)
- ◆ Psychiatrist at the Mental Health Liaison and Interconsultation Unit of HUVH
- ◆ Specialist in Clinical Psychology
- ◆ Degree in Psychology





**Dr. Velasco Barbancho, Elena**

- ◆ Clinical Psychology at Virgen Macarena University Hospital
- ◆ Psychiatrist in the Mental Health Clinical Management Unit of the Virgen Macarena University Hospital (HUVH)
- ◆ Psychiatrist at the Mental Health Liaison and Interconsultation Unit of HUVH
- ◆ Specialist in Clinical Psychology
- ◆ Degree in Psychology

# 05

# Structure and Content

The syllabus of this university program has been designed to offer in only 12 months, the most rigorous and exhaustive information on Oncological Ophthalmology. All this, agglutinated in a syllabus prepared by real specialists in this field and with quality teaching materials. Thus, the graduates will be able to update on Ocular Oncology and the advances in diagnostic techniques and treatments to deal with the most frequent tumors in young and adult patients.





“

*A syllabus made up of an extensive Virtual Library, accessible 24 hours a day, from any digital device with Internet connection"*

## Module 1. Ocular Oncology

- 1.1. Epidemiological Aspects of Ocular Tumors
  - 1.1.1. Definition of Neoplasms
  - 1.1.2. Risk Factors
  - 1.1.3. Epidemiology
- 1.2. Classification of Ocular Neoplasms
  - 1.2.1. According to Main Location
  - 1.2.2. According to Histological Subtype
  - 1.2.3. According to Age
- 1.3. Tumorigenesis
  - 1.3.1. Etiology of Cancer
  - 1.3.2. Immunology
  - 1.3.3. Genetics
- 1.4. Complementary Tests I
  - 1.4.1. Anterior Pole Imaging
  - 1.4.2. Retinography
  - 1.4.3. Wide Field Imaging
- 1.5. Complementary Tests II
  - 1.5.1. Fluorescein Angiography
  - 1.5.2. Indocyanine Green Angiography
  - 1.5.3. Autofluorescence
- 1.6. Complementary Tests III: Optical Coherence Tomography (OCT)
  - 1.6.1. Anterior Pole OCT
  - 1.6.2. Posterior Pole OCT
  - 1.6.3. Angio-OCT
- 1.7. Complementary Tests IV: Ultrasound
  - 1.7.1. Ultrasonic Biomicroscopy (BMU)
  - 1.7.2. Ocular Ultrasonography
  - 1.7.3. Doppler Ultrasound
- 1.8. Complementary Tests V: Orbit and Extension Study
  - 1.8.1. Computerized Axial Tomography (CAT)
  - 1.8.2. Positron Emission Tomography (PET) - CT Scan
  - 1.8.3. Magnetic Resonance Imaging (MRI)

- 1.9. Biopsies in Ocular Oncology
  - 1.9.1. Criteria for Taking Biopsies
  - 1.9.2. Technique in Orbit and Ocular Surface Neoplasms
  - 1.9.3. Technique in Intraocular Neoplasms
- 1.10. Treatments Used in Ocular Oncology
  - 1.10.1. Chemotherapy
  - 1.10.2. Radiotherapy
  - 1.10.3. Surgical Treatments

## Module 2. Palpebral, Tear Duct and Orbital Tumors

- 2.1. Benign Palpebral Tumors
  - 2.1.1. Classification
  - 2.1.2. Epidemiology
  - 2.1.3. Clinicopathological Characteristics
- 2.2. Premalignant Palpebral Tumors
  - 2.2.1. Classification
  - 2.2.2. Epidemiology
  - 2.2.3. Clinicopathological Characteristics
- 2.3. Malign Palpebral Tumors
  - 2.3.1. Classification
  - 2.3.2. Epidemiology
  - 2.3.3. Clinicopathological Characteristics
- 2.4. Palpebral Lesions Simulating Neoplasia
  - 2.4.1. Classification
  - 2.4.2. Epidemiology
  - 2.4.3. Clinicopathological Characteristics
- 2.5. Medical-surgical Management of Palpebral Tumors
  - 2.5.1. Medical Treatment
  - 2.5.2. Surgical treatment
  - 2.5.3. Complications
- 2.6. Tear Drainage System Tumors
  - 2.6.1. Benign Tumors
  - 2.6.2. Malignant Tumors
  - 2.6.3. Medical- Surgical Management



- 2.7. Benign Orbital Tumors
  - 2.7.1. Classification
  - 2.7.2. Epidemiology
  - 2.7.3. Clinicopathological Characteristics
- 2.8. Malign Orbital Tumors
  - 2.8.1. Classification
  - 2.8.2. Epidemiology
  - 2.8.3. Clinicopathological Characteristics
- 2.9. Orbital Lesions Simulating Neoplasia
  - 2.9.1. Classification
  - 2.9.2. Epidemiology
  - 2.9.3. Clinicopathological Characteristics
- 2.10. Medical-surgical Management of orbital Tumors
  - 2.10.1. Medical Treatment
  - 2.10.2. Surgical treatment
  - 2.10.3. Complications

### Module 3. Tumors of Ocular Surface and Cornea

- 3.1. Anatomy
  - 3.1.1. Anatomy of the Conjunctiva
  - 3.1.2. Vascularization
  - 3.1.3. Innervation
- 3.2. Non-pigmented Tumors I
  - 3.2.1. Squamous Neoplasm of the Ocular Surface (SNOS)
  - 3.2.2. Lymphoid Hyperplasia
  - 3.2.3. Lymphomas
- 3.3. Non-pigmented Tumors II
  - 3.3.1. Dermoid Cysts
  - 3.3.2. Papillomas
  - 3.3.3. Pyogenic Granuloma
- 3.4. Pigmented Tumors I
  - 3.4.1. Nevi
  - 3.4.2. Racial Melanocytosis
  - 3.4.3. Primary Acquired Melanocytosis

- 3.5. Pigmented Tumors II
  - 3.5.1. Secondary Acquired Melanocytosis
  - 3.5.2. Melanoma
  - 3.5.3. Simulating Injuries
- 3.6. Diagnosis I
  - 3.6.1. Slit Lamp Examination
  - 3.6.2. Impression Cytology
  - 3.6.3. Anterior Segment OCT
- 3.7. Diagnosis II
  - 3.7.1. Angio-OCT
  - 3.7.2. Confocal Microscopy
  - 3.7.3. BMU
- 3.8. Medical Treatment
  - 3.8.1. Mitomycin C Eyedrops
  - 3.8.2. 5-fluorouracil Eyedrops
  - 3.8.3. Interferon Eyedrops
- 3.9. Surgical treatment
  - 3.9.1. Biopsy / non touch technique
  - 3.9.2. Indications
  - 3.9.3. Contraindications
- 3.10. Prognosis
  - 3.10.1. Complications
  - 3.10.2. Recurrence
  - 3.10.3. Survival

### Module 4. Intraocular Tumors in Adults

- 4.1. Pigmented Non-tumorous Lesions of the Ocular Fundus
  - 4.1.1. Congenital Hypertrophy of the Retinal Pigment Epithelium
  - 4.1.2. Acquired Hypertrophy of the Retinal Pigment Epithelium
  - 4.1.3. Hyperplasia of the Retinal Pigment Epithelium

- 4.2. Pigmented Lesions of the Fundus
  - 4.2.1. Choroidal Nevus
  - 4.2.2. Melanocytoma
  - 4.2.3. Combined Hamartoma of the Retina and Retinal Pigment Epithelium
  - 4.2.4. Simple Congenital Hamartoma of the Retinal Pigment Epithelium
- 4.3. Suspicious Choroidal Nevus vs. Small Choroidal Melanoma
  - 4.3.1. Definition
  - 4.3.2. Risk Factors for Transformation
  - 4.3.3. Treatment
- 4.4. Choroidal Melanoma
  - 4.4.1. Epidemiology
  - 4.4.2. Risk Factors
  - 4.4.3. Prognostic Biomarkers
  - 4.4.4. Diagnostic Techniques
- 4.5. Choroidal Melanoma: Treatment
  - 4.5.1. Brachytherapy and Radiation Retinopathy
  - 4.5.2. Endoresection
  - 4.5.3. Enucleation
- 4.6. Melanoma of the Iris and Ciliary Body
  - 4.6.1. Diagnostic Techniques: BMU
  - 4.6.2. Differential Diagnosis
  - 4.6.3. Treatment
- 4.7. Intraocular Lymphoma
  - 4.7.1. Primary Vitreoretinal Lymphoma
  - 4.7.2. Primary Uveal Lymphoma and Primary Choroidal Lymphoma
  - 4.7.3. Secondary Choroidal Lymphoma
- 4.8. Choroidal Vascular Tumors
  - 4.8.1. Diffuse Choroidal Hemangioma and Sturge-Weber Syndrome
  - 4.8.2. Circumscribed Choroidal Hemangioma
  - 4.8.3. Treatment of Circumscribed Choroidal Hemangioma



- 4.9. Retinal Vascular Tumors
  - 4.9.1. Hemangioblastoma or Retinal Capillary Hemangioma
  - 4.9.2. Retinal Cavemous Hemangioma
  - 4.9.3. Racemose Hemangioma or Arterio-venous Malformations
  - 4.9.4. Vasoproliferative Tumor
- 4.10. Non-pigmented Choroidal tumors
  - 4.10.1. Choroidal Osteoma
  - 4.10.2. Choroidal Metastasis

## Module 5. Retinoblastoma

- 5.1. Epidemiology
  - 5.1.1. Introduction
  - 5.1.2. Incidence
  - 5.1.3. Prevalence
  - 5.1.4. Predisposing Factors
- 5.2. Genetics
  - 5.2.1. Rb Gene
  - 5.2.2. Genetic Presentations
  - 5.2.3. Genetic Tests
  - 5.2.4. Genetic Counseling
- 5.3. Clinical Symptoms
  - 5.3.1. Symptoms and Signs
  - 5.3.2. Growth Patterns
  - 5.3.3. Intraocular Seedings
- 5.4. Extraocular Involvement
  - 5.4.1. Trilateral Retinoblastoma
  - 5.4.2. Metastatic Retinoblastoma
  - 5.4.3. Second Tumors
- 5.5. Diagnosis
  - 5.5.1. Clinical Examination
  - 5.5.2. Complementary Tests
  - 5.5.3. Systemic Evaluation and Nuclear Magnetic Resonance Imaging (MRI)
  - 5.5.4. Differential Diagnosis
  - 5.5.5. Classification

- 5.6. Treatment I: Chemoreduction
  - 5.6.1. Treatment Objectives
  - 5.6.2. Systemic Chemotherapy
  - 5.6.3. Intra-arterial Chemotherapy
  - 5.6.4. Other Chemotherapy Modalities
- 5.7. Treatment II: Consolidation and Enucleation
  - 5.7.1. Cryotherapy, Hyperthermia and Photocoagulation
  - 5.7.2. Brachytherapy
  - 5.7.3. Enucleation
- 5.8. Therapeutic Response and Follow-up
  - 5.8.1. Patterns of Tumor Regression
  - 5.8.2. Ophthalmologic Follow-up
  - 5.8.3. Oncologic Follow-up
- 5.9. Complications
  - 5.9.1. Complications Derived from Systemic Treatment
  - 5.9.2. Complications Derived from the Ocular Treatment
  - 5.9.3. Other complications
- 5.10. Visual Development of the Child with Retinoblastoma
  - 5.10.1. Evaluation of the Visual Function of a Child with Retinoblastoma at Diagnosis
  - 5.10.2. Sensory and Motor Exploration
  - 5.10.3. Ophthalmologic Management

## Module 6. Radiology Applied to Ocular Oncology

- 6.1. Radiology in Ocular Oncology
  - 6.1.1. Technical Considerations
  - 6.1.2. Indications
  - 6.1.3. Protocols
- 6.2. Benign Intraocular Tumors
  - 6.2.1. Choroid-retinal Hemangiomas
  - 6.2.2. Retinal Melanocytoma
  - 6.2.3. Others

- 6.3. Malignant Intraocular Tumors I: Retinoblastoma
  - 6.3.1. Introduction
  - 6.3.2. Imaging Tests
  - 6.3.3. Radiological Differential Diagnosis: Coats disease, persistent hyperplastic primary vitreous, retinopathy of prematurity
- 6.4. Malignant Intraocular Tumors II: Uveal Melanoma
  - 6.4.1. Introduction
  - 6.4.2. Imaging Tests
  - 6.4.3. Clinical- Radiological Correlation
- 6.5. Malignant Intraocular Tumors III: Metastasis
  - 6.5.1. Introduction
  - 6.5.2. Imaging Tests
  - 6.5.3. Clinical- Radiological Correlation
- 6.6. Benign Orbital Tumors I
  - 6.6.1. Child Hemangioma
  - 6.6.2. Optic Tract Glioma
  - 6.6.3. Optic Nerve Sheath Meningioma
- 6.7. Benign Orbital Tumors II
  - 6.7.1. Pleomorphic Adenoma or Mixed Tumor of the Lacrimal Gland
  - 6.7.2. Dermoid Cysts
  - 6.7.3. Lipoma
- 6.8. Malign Orbital Tumors I
  - 6.8.1. Metastasis
  - 6.8.2. Lymphoproliferative Lesions
  - 6.8.3. Rhabdomyosarcoma
- 6.9. Malign Orbital Tumors II
  - 6.9.1. Lacrimal Gland Carcinomas
  - 6.9.2. Plasma Cell Tumors
  - 6.9.3. Others
- 6.10. Other Orbital Tumor Pathology for Differential Diagnosis
  - 6.10.1. Lymphatic Malformations: lymphangioma
  - 6.10.2. Arteriovenous Malformations
  - 6.10.3. Idiopathic Orbital Inflammatory Disease or Inflammatory Pseudotumor of the Orbit

## Module 7. Pathological Anatomy Applied to Ocular Oncology

- 7.1. Anatomy and Histology of the Eye
  - 7.1.1. Eye Anatomy
  - 7.1.2. Histology of the Eye
- 7.2. Tumors of the Ocular Orbit
  - 7.2.1. Pediatric Tumors of the Orbit
  - 7.2.2. Benign Tumors of the Orbit
  - 7.2.3. Malignant Tumors of the Orbit
- 7.3. Conjunctival and Corneal Tumors
  - 7.3.1. Epithelial Tumors
  - 7.3.2. Melanocytic Tumors
  - 7.3.3. Other tumours
- 7.4. Tumors of the Uvea (non-melanoma)
  - 7.4.1. Benign Melanocytes tumors
  - 7.4.2. Epithelial Tumors
  - 7.4.3. Other tumours
- 7.5. Uveal Melanoma
  - 7.5.1. Epidemiology
  - 7.5.2. Histopathology
  - 7.5.3. Molecular Aspects
- 7.6. Neurosensory Retinal Tumors
  - 7.6.1. Retinoblastoma
  - 7.6.2. Astrocytoma
  - 7.6.3. Vitreoretinal Lymphoma
- 7.7. Retinal Epithelial Tumors
  - 7.7.1. Benign Tumors
  - 7.7.2. Malignant Tumors
- 7.8. Optic Disc and Optic Nerve Tumors
  - 7.8.1. Primary Tumors
  - 7.8.2. Secondary Tumors

- 7.9. Lacrimal Gland Tumors
  - 7.9.1. Epithelial Tumors
  - 7.9.2. Hematolymphoid Tumors
  - 7.9.3. Secondary Tumors
- 7.10. Tear Drainage System Tumors
  - 7.10.1. Epithelial Tumors
  - 7.10.2. Other tumours

## Module 8. Medical Oncology Applied to Ocular Oncology

- 8.1. Systemic Treatment in Ocular Tumors
  - 8.1.1. Introduction
  - 8.1.2. Chemotherapy Mechanism of Action
  - 8.1.3. Mechanism of Action of Immunotherapy and Other Targeted Therapies
- 8.2. Localized Uveal Melanoma
  - 8.2.1. Adjuvant Systemic Treatment
  - 8.2.2. New Molecules
  - 8.2.3. Monitoring
- 8.3. Metastatic Uveal Melanoma I
  - 8.3.1. Chemoembolization of Hepatic Metastases
  - 8.3.2. Radiofrequency
  - 8.3.3. Other Local Techniques
- 8.4. Metastatic Uveal Melanoma II
  - 8.4.1. Immunotherapy
  - 8.4.2. Chemotherapy
  - 8.4.3. New Drugs
- 8.5. Ocular Lymphoma
  - 8.5.1. General Treatment Indications
  - 8.5.2. Chemotherapy
  - 8.5.3. Others
- 8.6. Palpebral Carcinomas
  - 8.6.1. Basal Cell Carcinoma
  - 8.6.2. Squamous Cell Carcinoma
  - 8.6.3. Others

- 8.7. Conjunctival Melanoma
  - 8.7.1. Diagnosis
  - 8.7.2. Treatment
  - 8.7.3. Monitoring
- 8.8. Ocular Toxicity Associated with Oncological Treatment
  - 8.8.1. Anti- EGFR Drugs
  - 8.8.2. BRAF and MEK Inhibitors
  - 8.8.3. Immuno-checkpoints
- 8.9. Ocular Metastases
  - 8.9.1. General Aspects
  - 8.9.2. Breast Cancer
  - 8.9.3. Cancer Lung and Others
- 8.10. Ocular Tumors Associated with Hereditary Syndromes
  - 8.10.1. General Considerations
  - 8.10.2. Neurofibromatosis
  - 8.10.3. Others

## Module 9. Radiation Oncology Applied to Ocular Oncology

- 9.1. Radiobiology
  - 9.1.1. Biological Radiation Injury
  - 9.1.2. Molecular Mechanisms
  - 9.1.3. The "5 R's" of Radiotherapy
- 9.2. Radiophysics I
  - 9.2.1. Magnitudes and Units of Measurement
  - 9.2.2. Interaction of Radiation with Matter
  - 9.2.3. External Radiotherapy Beams and Encapsulated Sources
- 9.3. Radiophysics II
  - 9.3.1. Dosimetry of Beams and Sources: Quality Control
  - 9.3.2. Treatment Design
  - 9.3.3. Treatment Volumes and Organs at Risk
- 9.4. Radiophysics III
  - 9.4.1. Radiation Protection: General Principles
  - 9.4.2. Regulations and Legislation
  - 9.4.3. Operational Radiation Protection

- 9.5. Special Treatment Techniques: Brachytherapy
  - 9.5.1. Fundamentals
  - 9.5.2. Methodology
  - 9.5.3. General Treatment Indications
- 9.6. Uveal Melanoma
  - 9.6.1. Diagnosis
  - 9.6.2. Treatment
  - 9.6.3. Monitoring
- 9.7. Ocular Lymphoma
  - 9.7.1. Diagnosis
  - 9.7.2. Treatment
  - 9.7.3. Monitoring
- 9.8. Retinoblastoma
  - 9.8.1. Diagnosis
  - 9.8.2. Treatment
  - 9.8.3. Monitoring
- 9.9. Ocular Metastases
  - 9.9.1. General Aspects
  - 9.9.2. Breast Cancer
  - 9.9.3. Lung Cancer
- 9.10. Benign Pathology
  - 9.10.1. Local Therapies: general
  - 9.10.2. Thyroid Ophthalmopathy or Graves' Orbitopathy
  - 9.10.3. Hemangiomas

## Module 10. Psychiatric and Psychological Aspects of Ocular Oncology

- 10.1. Psychological Responses to Cancer Illness
  - 10.1.1. Stress Factors
  - 10.1.2. Types of Personality
  - 10.1.3. Coping Styles
- 10.2. Emotional Responses to Cancer Illness
  - 10.2.1. Anxiety and Fear
  - 10.2.2. Sadness and Guilt
  - 10.2.3. Feeling of Shame

- 10.3. Mental Disorder in Cancer Patients
  - 10.3.1. Depression
  - 10.3.2. Anxiety
  - 10.3.3. Suicidal Behavior
- 10.4. Psychological Approach
  - 10.4.1. Types
  - 10.4.2. Patients
  - 10.4.3. Family and Environment Social
- 10.5. Psychopharmacological treatment
  - 10.5.1. Depression
  - 10.5.2. Anxiety
  - 10.5.3. Delirium
- 10.6. Key Aspects of Teamwork for Comprehensive Care
  - 10.6.1. Professional Care
  - 10.6.2. Accompaniment
  - 10.6.3. Importance of Nursing Personnel
- 10.7. Interpersonal Communication in Oncological Processes
  - 10.7.1. Professional Skills
  - 10.7.2. How to give bad news
  - 10.7.3. Patient Autonomy
- 10.8. Specific Aspects in Children and Adolescents
  - 10.8.1. Information
  - 10.8.2. Coping
  - 10.8.3. Family Approach
- 10.9. Maladaptive Behavior in Oncology Patients
  - 10.9.1. Therapeutic Non-compliance
  - 10.9.2. Psychological Factors
  - 10.9.3. Interventions
- 10.10. Psychological Intervention in Patients With Ocular Enucleation
  - 10.10.1. Grief
  - 10.10.2. Individual Intervention
  - 10.10.3. Family Approach



“

*Get a complete update on the latest advances in Radiation Oncology applied to Ocular Oncology”*

06

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, 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 Relearning, 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

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will 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 power 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.

“

*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 achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into 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.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This 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, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving 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 Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*Relearning 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 (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



This program offers the best educational material, prepared with professionals 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.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



07

# Certificate

The Professional Master's Degree in Oncological Ophthalmology guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree diploma issued by TECH Technological University.





“

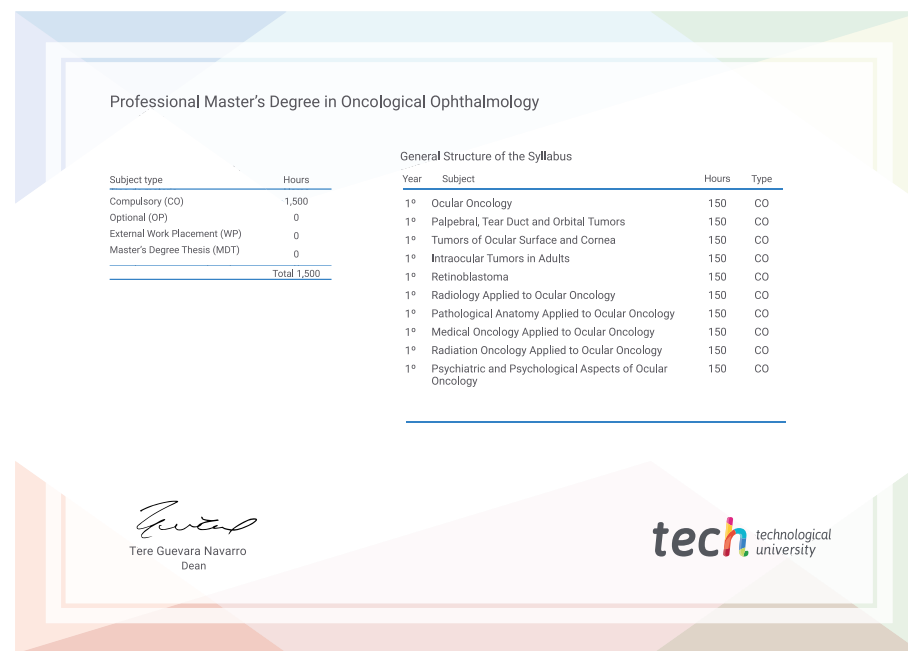
*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"*

This **Professional Master's Degree in Oncological Ophthalmology** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Oncological Ophthalmology**  
 Official N° of hours: **1,500 h.**



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

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

**tech** technological  
university

## Professional Master's Degree

### Oncological Ophthalmology

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree

## Oncological Ophthalmology