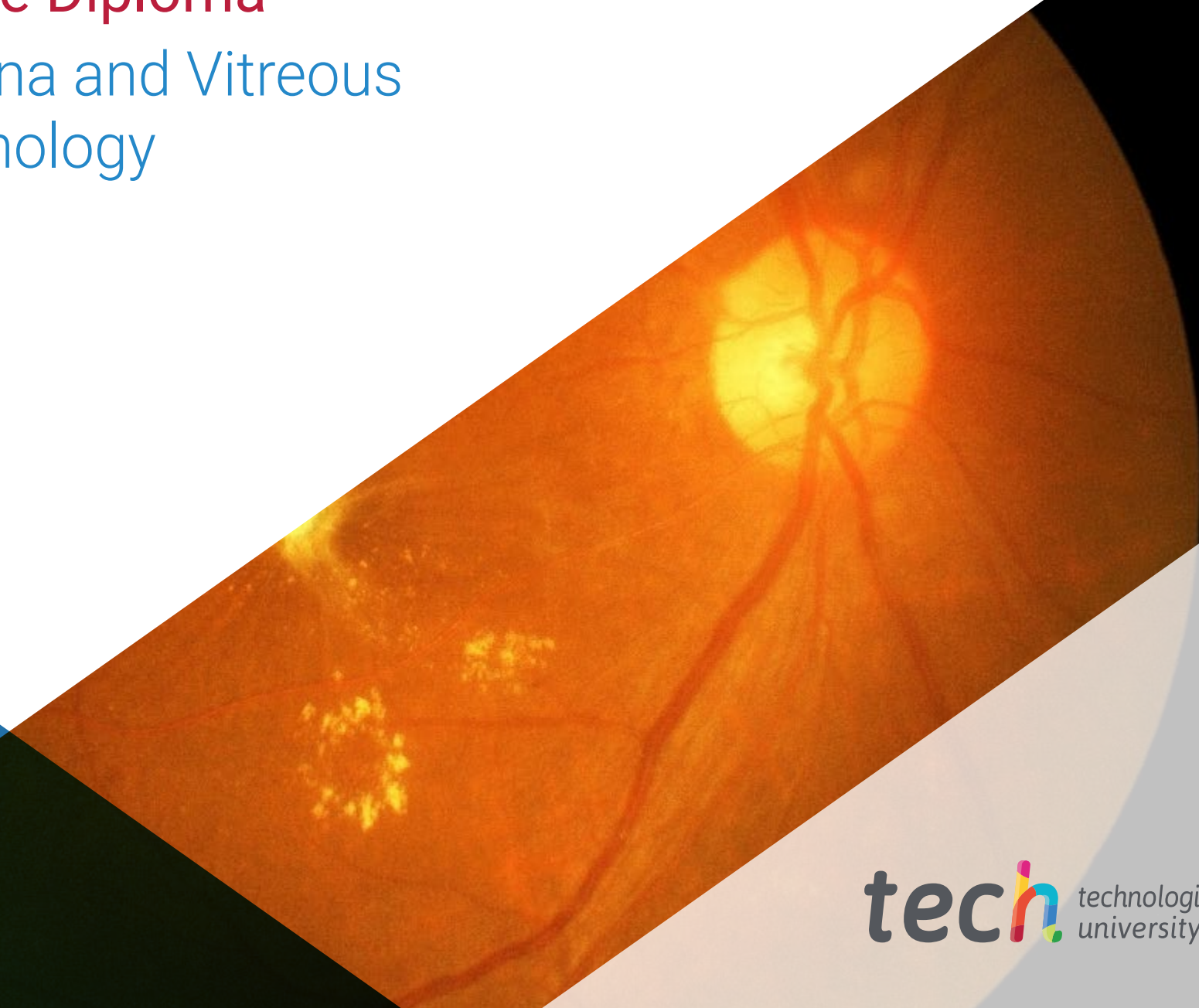


# Postgraduate Diploma

Macula, Retina and Vitreous  
Medical Pathology





## Postgraduate Diploma

### Macula, Retina and Vitreous Medical Pathology

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-macula-retina-vitreous-medical-pathology](http://www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-macula-retina-vitreous-medical-pathology)

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# 01

# Introduction

In this program, professionals will find the most up-to-date information on the market on Macula, Retina and Vitreous Medical Pathology, highlighting those diseases most frequently treated in ophthalmologists' and retinologists' offices, such as age-related macular degeneration. A unique study opportunity that you cannot miss.







“

*Know the main medical pathologies affecting the macula, retina and vitreous, and be able to use the most current exploratory techniques in your practice”*

Knowledge of the anatomy and physiology of vision is very important for the understanding of diseases and the symptoms they produce. Therefore, this Postgraduate Diploma aims to prepare professionals in this field, so that they can perform a quality praxis with their patients. For this purpose, TECH Technological University offers a detailed description of the most current exploratory techniques, focused on the care of patients with medical pathologies of the macula, retina or vitreous.

Diabetic retinopathy is one of the most common diseases that any retinologists or ophthalmologists will have in their practice. Knowledge of all its pathophysiology and possible complications facilitates diagnosis and, therefore, its study is also essential in this academic program.

Venous or arterial alterations are also relatively frequent in ophthalmologic consultations and their differential diagnosis will help in a quick intervention to facilitate a better recovery. In this Postgraduate Diploma, these pathologies are treated in depth and students will have all the necessary tools for diagnosis and treatment.

Finally, it is interesting to talk about AMD (Age-Related Macular Degeneration), one of the most frequent pathologies seen by retinologists. For this purpose, all aspects are discussed, from a perfect examination to the latest treatments to come in the near future. The genetics of AMD and the environmental factors that may influence its development are undoubtedly a very important point for the knowledge and first diagnosis of these patients.

The Postgraduate Diploma has a teaching staff specialized in ocular pathology and surgery, who contribute both their practical experience in their day-to-day private practice and their long experience in teaching at national and international level. In addition, it has the advantage of being a 100% online educational program, so students can decide from where to study and at what time to do it. Therefore, they will be able to flexibly self-direct their study hours.

This **Postgraduate Diploma in Macula, Retina and Vitreous Medical Pathology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of clinical cases presented by experts in ocular pathology and surgery
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ The presentation of practical workshops on procedures and techniques
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ Action protocols and clinical practice guidelines, which cover the most important latest developments in this specialist field
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Special emphasis on test-based medicine and research methodologies
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*Superior education such as this will allow you to get up to speed on the most appropriate and current diagnostic techniques"*

“

*This Postgraduate Diploma is the best investment you can make in education to update your knowledge in Macula, Retina and Vitreous Medical Pathology"*

The teaching staff includes a team of prestigious urologists, who bring their experience to this educational program, as well as renowned specialists from leading scientific societies.

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

The design of this program focuses on Problem-Based Learning, by means of which professionals must try to solve the different professional practice situations that are presented to them throughout the academic year. To do so, they will be assisted by an innovative interactive video system created by renowned experts in Macula, Retina and Vitreous Medical Pathology with extensive teaching experience.

*This 100% online Postgraduate Diploma will allow you to study from anywhere in the world. All you need is a computer or mobile device with an internet connection.*

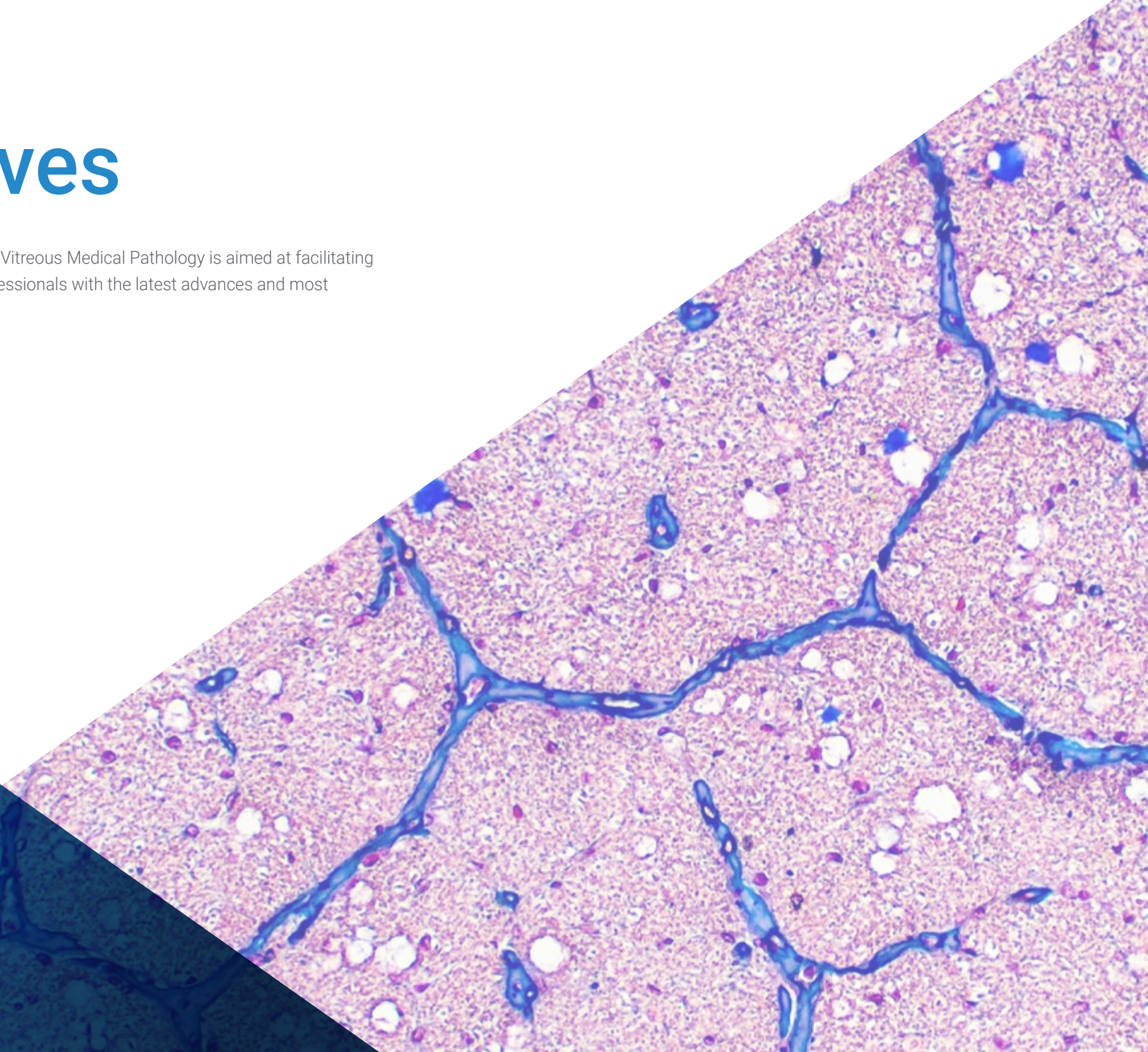
*Our innovative teaching methodology will allow you to study as if you were dealing with real cases, and therefore increasing your education.*



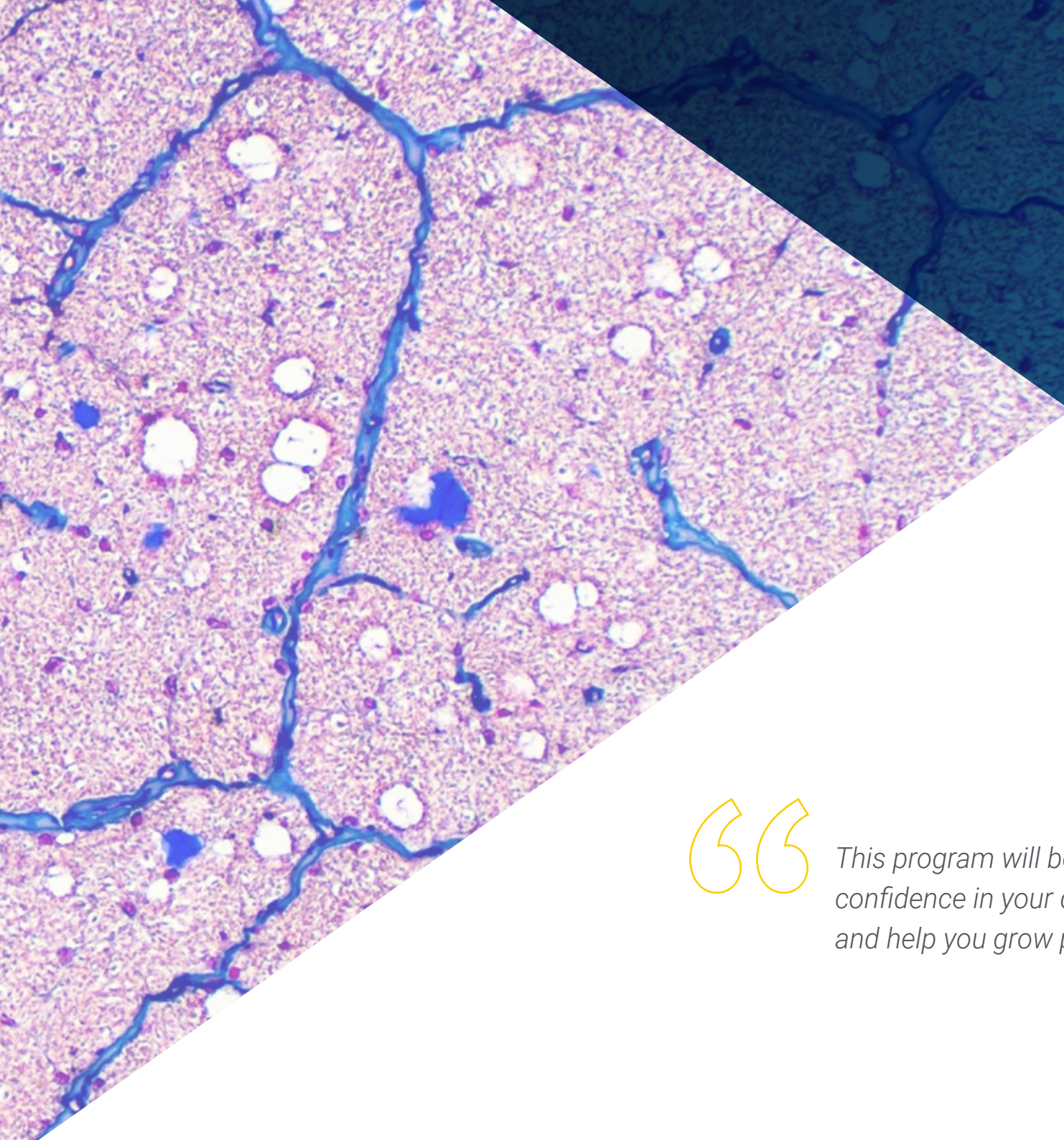


# 02 Objectives

The program in Macula, Retina and Vitreous Medical Pathology is aimed at facilitating the performance of healthcare professionals with the latest advances and most innovative treatments in the sector.







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*This program will both bring a sense of confidence in your daily healthcare activities and help you grow professionally"*





## General Objectives

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- Expand your knowledge about the anatomy and physiology of the retina, macula and vitreous
- Know in detail the physiology of colour vision and its functional tests
- Become familiar with the latest exploratory techniques such as angiography or OCT, for their application in a clinic
- Delve into the full breadth and depth of diabetic retinopathy and its possible treatments
- Have an in-depth knowledge of branch vein and central retinal vein thrombosis and its possible treatments
- Broaden knowledge of central retinal artery embolism and its treatment
- Understand macroaneurysms, macular telangiectasias, their differential diagnosis and their possible treatments
- Expand your knowledge of other retinal vascular pathologies
- Provide a comprehensive overview of in all aspects related to age-related macular degeneration



*Our goal is to achieve academic excellence and to help you achieve it too"*





## Specific Objectives

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### Module 1. Anatomy, Physiology and Exploratory and Functional Tests

- ◆ Learn about the ophthalmoscope and its examination lenses
- ◆ Understand the slit lamp and its exploratory alternatives
- ◆ Delve into the anatomy of the retina, macula and vitreous in all its possibilities
- ◆ Enhance knowledge of the ageing of the vitreous and the pathology it can cause
- ◆ An in-depth study of the physiology of vision and colour vision
- ◆ Knowledge of the optical pathway and its associated pathology
- ◆ Further explore the visual cortex

### Module 2. Vascular Pathology of the Macula and Retina

- ◆ Increase knowledge of electrophysiological tests that explore visual function
- ◆ Know retinography in all its modalities, fluorescein angiography and indocyanine green angiography
- ◆ Delve into the understanding of OCT and angio OCT
- ◆ Further in the study of autofluorescence
- ◆ In-depth study of ocular ultrasound
- ◆ Learn about the ocular physiology of diabetic retinopathy
- ◆ Understand the exploratory tests for diabetic retinopathy
- ◆ Delve into diabetic macular edema and its possible treatments
- ◆ Understanding proliferative diabetic retinopathy and the treatments to be performed
- ◆ Be aware of the complications that can occur in diabetic retinopathy
- ◆ Know how to identify branch vein and central retinal vein obstruction and know the tests for its diagnosis
- ◆ Know about the possible treatments to apply
- ◆ Know how to treat branch or central retinal arterial embolism

- ◆ Know the functional tests and possible treatments to be applied
- ◆ Learn about retinal arterial macroaneurysm
- ◆ Gain understanding of idiopathic macular telangiectasias, their classification and differential diagnosis, as well as their treatment
- ◆ Learn about ocular ischaemia syndrome
- ◆ Understand the ocular impact of high blood pressure
- ◆ Know how to identify Eales disease and the pathology associated with blood dyscrasias
- ◆ Know the differential diagnosis of macular and premacular haemorrhages and their possible treatments

### Module 3. Muscular Degeneration Related to Aging (AMD)

- ◆ Learn about the epidemiology and genetics of AMD
- ◆ Gain a thorough understanding of the histopathology of AMD
- ◆ Understand all aspects of clinical examination and consultation findings in AMD
- ◆ Learn about everything related to OCT and OCT and AMD
- ◆ Further study of the old and current classifications of AMD
- ◆ Learn about each and every one of the treatments that have been applied and are currently being applied in AMD
- ◆ Know how to apply the new treatments used in AMD
- ◆ Understand the unique situations related to AMD



03

# Course Management

The creation of the materials has been carried out by a team of leading professionals in ophthalmology, who perform their professional activity in the main hospitals in the country, transferring to the program the experience gained in their jobs throughout their careers.



“

*The best professionals in this field have joined forces to offer you the most specialised and up-to-date knowledge in the field"*

## Management



### Dr. Armadá Maresca, Félix

- ♦ Head of Service, Ophthalmology Department, University Hospital, La Paz, Madrid
- ♦ Director of the Department of Ophthalmology at the San Francisco de Asís University Hospital in Madrid
- ♦ Ophthalmologist of the Presidency of the Government, Vice-Presidency and High Foreign Officials
- ♦ External Collaborator of Several Companies in the Medical Sector
- ♦ Director of the research group "Ophthalmology", integrated in the Area of Pathology of Large Systems
- ♦ Professor in the Degree of Medicine at the Alfonso X El Sabio University
- ♦ Lecturer in the Master "Expert in Health Management in Ophthalmology" of the Ministry of Health of the Community of Madrid. 2020 Doctor of Medicine, Autonomous University of Madrid
- ♦ Doctor of Medicine, outstanding cum laude by unanimous decision, Alcalá de Henares University
- ♦ Degree in Medicine, University of Alcalá de Henares
- ♦ Specialist in Ophthalmology, Via MIR
- ♦ Certified Ophthalmic Photographer, University of Wisconsin, Madison, U.S.
- ♦ The Chalfont Project, Chalfont St Giles, HP8 4XU United Kingdom
- ♦ ESADE - Course in Strategic Management of Clinical Services
- ♦ IESE - VISIONA course, clinical management in ophthalmology
- ♦ Award to the Best Surgeon in recognition of his trajectory
- ♦ Member of the Spanish Society of Ophthalmology, Spanish Society of Retina Vitreous, Madrid Society of Ophthalmology, American Society and Refractive Surgery "ASCRS", American Academy of Ophthalmology, European Retina Society, "EURETINA"



## Professors

### Dr. López Gálvez, María Isabel

- Ophthalmologist in the Retina Unit of Clínica Baviera Valladolid
- Adjunct Physician at the University Hospital of Valladolid
- Associate researcher at the University of Valladolid
- Member of the scientific committee of the RetinaPlus Foundation

### Dr. Arias Barquet, Luis

- Head of the retina and vitreous section of the Ophthalmology Service at the University Hospital of Bellvitge
- Certified by the Digital Angiography Reading Center, New York, USA
- Collaborating Professor at the University of Madrid
- PhD with Extraordinary Award, Autonomous University of Barcelona
- Degree in Medicine and Surgery
- Member of American Academy of Ophthalmology, EURETINA, Spanish Society of Ophthalmology, Spanish Society of Retina and Vitreous, Catalan Society of Ophthalmology

### Dr. Gómez-Ulla de Irazazába, Francisco Javier

- Medical Director and founder of the Gómez-Ulla Ophthalmological Institute
- Researcher/consultant for Alcon, Allergan, Bayer Hispania S.L, Boehringer Ingelheim, Novartis Farmacéutica S.A Ophthotech, Roche, Santem, Zeiss
- Head of the Medical Retina and Ocular Diabetes Unit at the Ophthalmology Service of the University Hospital Complex of Santiago.
- Degree in Medicine from the University of Santiago de Compostela
- Doctor of Medicine
- Specialist in Ophthalmology
- Professor of Ophthalmology at the University of Santiago de Compostela
- Arruga Award of the Spanish Society of Ophthalmology
- Castroviejo Award of the Spanish Society of Ophthalmology
- Member of American Academy of Ophthalmology, Société Française d'Ophtalmologie, Panamerican Association of Ophthalmology, Spanish Society of Ophthalmology, Spanish Society of Retina and Vitreous, Galician Society of Ophthalmology, Limnopharma Advisory Committee

04

# Structure and Content

The structure of the syllabus has been designed by a team of professionals who are knowledgeable regarding the implications of medical education in the approach to patients, aware of the relevance of current education and committed to quality teaching through new educational technologies.

“

*This Postgraduate Diploma contains the most complete and up-to-date scientific program on the market”*



## Module 1. Anatomy, Physiology and Exploratory and Functional Tests

- 1.1. Historical Notes and Classical Exploration in Consultation
  - 1.1.1. History to Understand the Present
  - 1.1.2. The Ophthalmoscope and its Examination Lenses
  - 1.1.3. The Slit Lamp and its Examination Lenses
  - 1.1.4. Historical Notes of Current Exploration Techniques
- 1.2. Macula and Retina Anatomy
  - 1.2.1. Compared Anatomy
  - 1.2.2. Macula and Retinal Histology
  - 1.2.3. Vascularisation of the Retina and Macula
  - 1.2.4. Innervation of the Retina and Macula
- 1.3. Vitreous anatomy and Physiology
  - 1.3.1. Vitreous Embryology
  - 1.3.2. Composition of the Vitreous Gel
  - 1.3.3. Hyaloid Insertions and Adhesions
  - 1.3.4. Ageing and Alterations of the Vitreous Gel
  - 1.3.5. The Vitreous in Myopic Patients
  - 1.3.6. The Vitreous in Certain Systemic Diseases
  - 1.3.7. Vitreous as a Trigger for Various Retinal and Macular Pathologies
- 1.4. Physiology of Vision and Colour Vision
  - 1.4.1. Functional Layers of the Retina
  - 1.4.2. Photoreceptor Physiology
  - 1.4.3. Functional Circuits of the Retina
  - 1.4.4. Optical Route
  - 1.4.5. Physiology of the Visual Cortex
  - 1.4.6. Binocularity
  - 1.4.7. Colour vision
- 1.5. Macular Functional Testing
  - 1.5.1. Basis of Macular Functional Testing
  - 1.5.2. Electroretinogram, Electrooculogram and Evoked Potentials
  - 1.5.3. Multifocal Electroretinogram
  - 1.5.4. Microperimetry
- 1.6. Fundus Photography, Intravenous Fluorescein Angiography and Indocyanine Green Angiography
  - 1.6.1. Analogue and Digital Retinography
  - 1.6.2. Widefield Retinography, Most Important Current Platforms
  - 1.6.3. Properties of Sodium Fluorescein and its Adverse Effects
  - 1.6.4. Normal AFG Pattern (Angiofluoresceinography)
  - 1.6.5. Pathological Angiographic Patterns, Hyperfluorescence, Hypofluorescence and Window Effect
  - 1.6.6. Current Role and Clinical Indications of AFG
  - 1.6.7. Properties of Indocyanine Green and its Pharmacokinetics
  - 1.6.8. Pathological Angiographic Patterns of Indocyanine Green
- 1.7. Fundus Autofluorescence
  - 1.7.1. Autofluorescence Detection and Recording
  - 1.7.2. Autofluorescence Detection and Recording
  - 1.7.3. Normal Autofluorescence Patterns
  - 1.7.4. Pathologic Autofluorescence Patterns
  - 1.7.5. Autofluorescence in Retinal Diseases
- 1.8. Ultrasonic Retinal Evaluation
  - 1.8.1. Physical Bases of Ultrasound
  - 1.8.2. Current Platforms and Probes for Ocular Ultrasound Scans
  - 1.8.3. Current Ultrasound Methods and Modes
  - 1.8.4. Ocular Ultrasound Patterns



- 1.9. Optical Coherence Tomography
  - 1.9.1. Physical Principles of OCT (Optical Coherence Tomography)
  - 1.9.2. Historical Evolution of OCT
  - 1.9.3. Main OCT Platforms and Their Differential Characteristics
  - 1.9.4. Normal OCT Patterns
  - 1.9.5. Comparative Patterns of OCT Monitoring
  - 1.9.6. OCT in Major Macular and Interface Pathologies
- 1.10. Angiography Using Optical Coherence Tomography
  - 1.10.1. Basis of OCT Angiography
  - 1.10.2. Main Platforms for Performing AngioOCT
  - 1.10.3. Normal OCT Angiographic Patterns
  - 1.10.4. Analysis and Artifacts in OCT Angiography
  - 1.10.5. AngioOCT in the Main Macular Pathologies
  - 1.10.6. Clinical Angio OCT in Face
  - 1.10.7. Present and Future of Angio OCT

## Module 2. Vascular Pathology of the Macula and Retina

- 2.1. Diabetic Retinopathy
  - 2.1.1. Pathophysiology of Diabetic Retinopathy and Metabolic Control
  - 2.1.2. Exploratory Tests in Diabetic Retinopathy
  - 2.1.3. Biomarkers
  - 2.1.4. Diabetic Retinopathy Classification
  - 2.1.5. Non-proliferative Diabetic Retinopathy
  - 2.1.6. Diabetic Macular Edema
  - 2.1.7. Medical Treatment of Diabetic Macular Edema, Treatment Plans, Main Pharmaceuticals and Supporting Clinical Trials
  - 2.1.8. Pathophysiological Basis for Laser Treatment of DRNP and Diabetic Macular Edema
  - 2.1.9. Current Laser Types and Their Application in RDNP
  - 2.1.10. Laser Treatment Techniques and Patterns
  - 2.1.11. Proliferative Diabetic Retinopathy PDR
  - 2.1.12. Laser Treatment of PDR and its Combination With Intravitreal Pharmaceuticals
  - 2.1.13. Side Effects of Retinal Panphotocoagulation
  - 2.1.14. Management of Iris Rubeosis
- 2.2. Branch Retinal Vein and Central Retinal Vein Occlusion
  - 2.2.1. Systemic and Local Risk Factors
  - 2.2.2. Physiopathogenesis
  - 2.2.3. ORVR and CRVO Clinic
  - 2.2.4. Functional Tests for the Diagnosis of Venous Obstructions
  - 2.2.5. Medical Treatment of Venous Obstructions. Treatment Guidelines and Current Pharmaceuticals
  - 2.2.6. Current Status of Laser Treatment for Venous Obstructions
  - 2.2.7. Treatment of Neovascularisations Secondary to Venous Obstructions
- 2.3. Arterial Embolism and Central Retinal Artery Embolism
  - 2.3.1. Pathophysiology
  - 2.3.2. Arterial Branch Occlusion
  - 2.3.3. Central Retinal Artery Occlusion
  - 2.3.4. Cilioretinal Artery Occlusion
  - 2.3.5. Arterial Occlusion Associated with Venous Occlusion
  - 2.3.6. Examination of the Patient With Retinal Arterial Obstruction
  - 2.3.7. Medical Treatment of Retinal Artery Blockage
- 2.4. Retinal Arterial Macroaneurysm
  - 2.4.1. Definition, Pathophysiology and Anatomy
  - 2.4.2. Retinal Macroaneurysm Clinic
  - 2.4.3. Diagnostic Tests for Retinal Macroaneurysm
  - 2.4.4. Differential Diagnosis of Retinal Macroaneurysm
  - 2.4.5. Retinal Macroaneurysm Treatment
- 2.5. Idiopathic Macular Telangiectasia
  - 2.5.1. Pathophysiology and Classification of Retinal Telangiectasia
  - 2.5.2. Examination of retinal Telangiectasia
  - 2.5.3. Type 1 Juxtafoveal Telangiectasia
  - 2.5.4. Type 2 Perifoveolar Telangiectasia
  - 2.5.5. Type 3 Occlusive Telangiectasia
  - 2.5.6. Differential Diagnosis of Macular Telangiectasia
  - 2.5.7. Idiopathic Macular Telangiectasia Treatment
- 2.6. Ocular Ischaemia Syndrome
  - 2.6.1. Definition and Pathophysiology of Ocular Ischaemia Syndrome
  - 2.6.2. IOS Clinic
  - 2.6.3. IOS Screening and Diagnosis
  - 2.6.4. Differential Diagnosis
  - 2.6.5. IOS Treatment



- 2.7. Arterial Hypertension and its Retinal Pathology
  - 2.7.1. Pathophysiology of AHT
  - 2.7.2. Malignant Arterial Hypertension
  - 2.7.3. Classification of Hypertensive Retinopathy by Fundoscopic Severity and its Clinical Signs
  - 2.7.4. Semiology of Hypertensive Retinopathy
  - 2.7.5. AHT Clinic
  - 2.7.6. AHT Treatment and its Retinal Repercussions
- 2.8. Retinal Pathology Associated With Blood Dyscrasias
  - 2.8.1. Definition and Classification of Retinopathy Associated With Blood Dyscrasias
  - 2.8.2. Screening for Retinopathies Associated With Dyscrasia
  - 2.8.3. Retinal Pathology Associated With Anemic Syndromes, Classification and Ophthalmologic Manifestations
  - 2.8.4. Retinal Pathology Associated with Leukemias, Classification, Ophthalmologic Manifestations, Ocular Involvement
  - 2.8.5. Retinal Pathology Associated With Blood Hyperviscosity Syndromes Classification and Ocular Manifestations
  - 2.8.6. Retinal Pathology Associated With Bone Marrow Transplantation and Graft-Versus-Host Disease
- 2.9. Eales' Disease
  - 2.9.1. Definition and Etiopathogenesis of Eales' Disease
  - 2.9.2. Clinical Symptoms
  - 2.9.3. Exploratory Tests in Eales' Disease
  - 2.9.4. Differential Diagnosis
  - 2.9.5. Medical Treatment, Laser Treatment and Surgical Treatment of Eales' Disease
- 2.10. Macular and Premacular Hemorrhages
  - 2.10.1. Definition and Etiopathogenesis of Macular and Premacular Hemorrhages
  - 2.10.2. Clinical and Etiological Diagnosis
  - 2.10.3. Exploratory Functional Tests
  - 2.10.4. Treatment of Macular and Premacular Hemorrhages. Laser Treatment, Surgical Treatment
  - 2.10.5. Complications of macular and Premacular Hemorrhages

### Module 3. Muscular Degeneration Related to Aging (AMD)

- 3.1. Epidemiology of AMD
  - 3.1.1. Introduction
  - 3.1.2. International Classification Systems, Classification History
  - 3.1.3. Incidence
  - 3.1.4. Prevalence
  - 3.1.5. Etiopathogenesis.
  - 3.1.6. Risk Factors
- 3.2. Genetics of Age-related Macular Degeneration
  - 3.2.1. Introduction
  - 3.2.2. Genetic Studies Associated with AMD
  - 3.2.3. Complement H Factors and Loci Involved in AMD
  - 3.2.4. Other Factors Implicated in AMD
- 3.3. Histopathology of AMD
  - 3.3.1. Ocular Ageing, Changes in the Various Retinal Structures
  - 3.3.2. Histological Changes in the Developmental Form of AMD
  - 3.3.3. Changes in the Various Retinal Structures and Pigmented Epithelium
  - 3.3.4. Drusas
  - 3.3.5. Incipient Atrophy
  - 3.3.6. Geographical Atrophy
  - 3.3.7. Neovascular Age-related Macular Degeneration
- 3.4. Clinical and Angiographic Findings in AMD. AFG and ICG.
  - 3.4.1. Clinical Signs and Symptoms of AMD
  - 3.4.2. Drusas
  - 3.4.3. Pigment Changes
  - 3.4.4. Geographical Atrophy
  - 3.4.5. Pigment Epithelium Detachment DEP
  - 3.4.6. Subretinal Neovascular Complexes
  - 3.4.7. Disciform Shapes
  - 3.4.8. Angiographic Study with Fluorescein and Indocyanine Green. Current Applications of the Technique

- 3.5. Optical Coherence Tomography and Angio-OCT in Age Macular Degeneration
  - 3.5.1. OCT and AngioOCT as a Basis for Disease Monitoring
  - 3.5.2. Initial Information on the Technology
  - 3.5.3. OCT in Early Stages of the Disease
  - 3.5.4. OCT and AngioOCT in Geographic Atrophic Forms of the Disease
  - 3.5.5. OCT and AngioOCT in Quiescent Forms
  - 3.5.6. Exudative AMD and its Examination with OCT and AngioOCT
  - 3.5.7. OCT in Retinal Pigment Epithelial Detachments
  - 3.5.8. OCT and AngioOCT in Other Forms of Presentation of AMD
  - 3.5.9. Importance of OCT in Clinical Trials for Drug Development and Drug Comparisons in AMD
  - 3.5.10. Prognostic Factors of OCT and AngioOCT in AMD. Biomarkers
- 3.6. Updated Classification of AMD and its Correspondence with Previous Classifications
  - 3.6.1. Type 1 Neovascularisation
  - 3.6.2. Type 2 Neovascularisation
  - 3.6.3. Type 3 Neovascularisation
  - 3.6.4. Type 1 Aneurysmal Dilatations or Polypoidal Choroidal Vasculopathy
- 3.7. Treatment of Atrophic and Degenerative Forms of AMD
  - 3.7.1. Introduction
  - 3.7.2. Diet and Nutritional Supplements in AMD Prevention
  - 3.7.3. The Role of Antioxidants in the Evolutionary Control of the Disease
  - 3.7.4. What would be the ideal business mix?
  - 3.7.5. Role of Sun-Protection in AMD
- 3.8. Disused Treatments for Neovascular Forms of AMD
  - 3.8.1. Laser Treatment in AMD, Historical Implications
  - 3.8.2. Types of Lasers for Retinal Treatment
  - 3.8.3. Mechanism of Action
  - 3.8.4. Historical Results and Recurrence Rate
  - 3.8.5. Indications and Instructions for Use
  - 3.8.6. Complications
  - 3.8.7. Transpupillary Thermotherapy as a Treatment for AMD
  - 3.8.8. Epiretinal Brachytherapy for the Treatment of AMD





- 3.9. Current Treatments for Neovascular Forms of AMD
  - 3.9.1. Photodynamic Therapy for Some Cases of AMD. Historical Recollections of Their Use
  - 3.9.2. Macugen
  - 3.9.3. Ranibizumab
  - 3.9.4. Bevacizumab
  - 3.9.5. Aflibercept
  - 3.9.6. Brolucizumab
  - 3.9.7. Role of Corticosteroids for some types of AMD
- 3.10. New Treatments for Exudative AMD
- 3.11. Combined Therapies for AMD
- 3.12. Systemic Impact of Intravitreal Drugs for AMD
  - 3.12.1. Cardiovascular Risk Factors in AMD
  - 3.12.2. Half-life of Different Intravitreal Drugs in AMD
  - 3.12.3. Adverse Effects in Major Studies of Intravitreal Drugs

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*A unique, key, and decisive educational experience to boost your professional development”*



05

# 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.



# 06 Certificate

The Postgraduate Diploma in Macula, Retina and Vitreous Medical Pathology guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.





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

This **Postgraduate Diploma in Macula, Retina and Vitreous Medical Pathology** 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 **Postgraduate Diploma** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Macula, Retina and Vitreous Medical Pathology**

Official N° of hours: **425 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma 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  
online training  
development language  
virtual classroom



## Postgraduate Diploma

Macula, Retina and  
Vitreous Medical  
Pathology

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

# Postgraduate Diploma

Macula, Retina and Vitreous  
Medical Pathology