

# Professional Master's Degree Neuro-Oncology

Endorsed by:





## Professional Master's Degree Neuro-Oncology

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

Website: [www.techitute.com/pk/medicine/master/master-neuro-oncology](http://www.techitute.com/pk/medicine/master/master-neuro-oncology)

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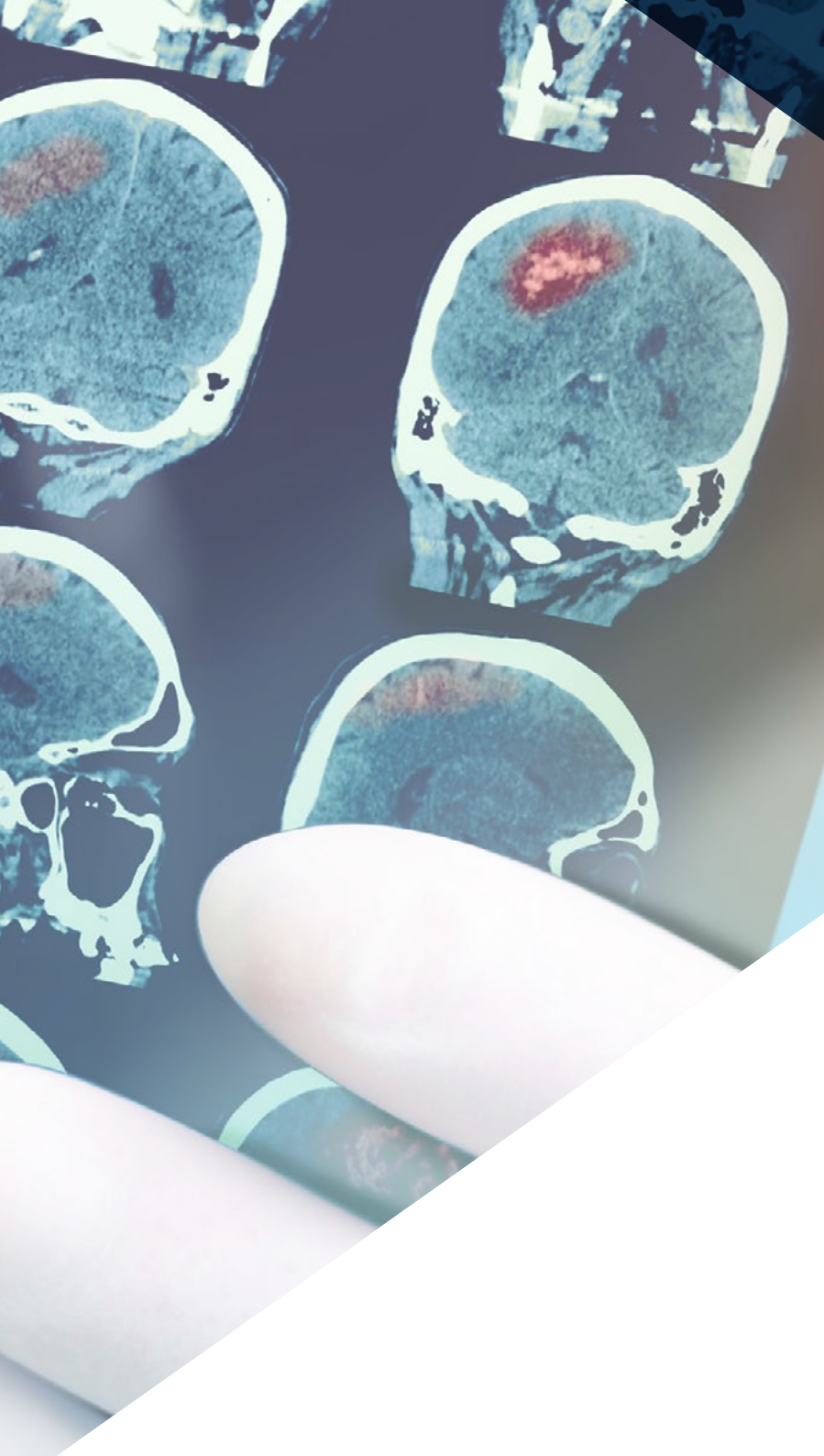
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# 01

# Introduction

The field of Neuro-Oncology is evolving rapidly, with promising ongoing research that has the potential to influence clinical management in the short- to medium-term future. Many important advances have been reported recently, and other promising research will substantially impact the field in the coming years, especially in the areas of high-grade gliomas and brain metastases. This program presents an overview of the current state of the field, highlighting the most recent key advances and that will undoubtedly influence clinical management. This way, specialists will have access to the latest scientific postulates in a fully online program, which is completely flexible and adaptable to the most demanding of professional circumstances.





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*Learn about the latest advances  
in Neuro-Oncology”*

As a this educational program will, we will see how the histological heterogeneity of glioblastoma makes total eradication impossible, because residual cancer cells invade the parenchyma, which remains invisible to any radiographic technique. In this way, we analyze the diagnostic and therapeutic management of both primary and metastatic brain tumors. We will discuss current technologies used for the resection of gliomas, such as awake craniotomy, fluorescence-guided surgery, neuronavigation, neuroendoscopy, among many others.

Another advance that will be widely seen comes from the field of genomics whose advances have made it possible to learn that more than half of pediatric brain tumors have genetic abnormalities that could help in diagnosis or treatment, which is reflected in the recent decision of the World Health Organization to classify such tumors by genetic alterations, rather than by tumor type. Therefore, precision medicine for pediatric brain tumors is now a reality, and possibly in the near future also for adult brain tumors.

Immunotherapy has shown promise for the treatment of glioblastoma multiforme. This is because glioblastoma multiforme exhibits powerful adaptive capabilities, a relative lack of immunogenicity, an immunosuppressive tumor microenvironment and intratumoral heterogeneity. Therefore, experts agree that immune-targeted therapies are likely to play a central role in improving the durability of treatment.

To facilitate student learning, TECH has created this advanced program based on the exclusive Relearning methodology. In addition, exclusively for this program, the university has had the support of a guest director, a relevant international figure in the field of Neuro-Oncology and Neurosurgery, who will share with the graduates several masterclasses in video format talking about his contributions to this medical field, as well as sharing his expert experience with the graduates.

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

- ◆ Development of more than 75 clinical cases presented by Neuro-Oncology experts
- ◆ Its graphic, schematic and practical contents provide scientific and assistance information on those disciplines that are essential for professional practice
- ◆ Diagnostic-therapeutic developments on assessment, diagnosis, and intervention in Neuro-Oncology. It contains practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Iconography of clinical and diagnostic imaging tests
- ◆ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ◆ With special emphasis on evidence-based medicine and research methodologies in Neuro-Oncology
- ◆ All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*The teaching staff will be formed by a clinical team of the highest level, as well as by a guest director of international relevance in the field of Neuro-oncology"*

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*This Professional Master's Degree may be the best investment you can make when selecting a refresher program, for two reasons: in addition to expanding your knowledge in Neuro-Oncology, you will obtain a Professional Master's Degree from TECH Technological University"*

*Increase your decision-making confidence by updating your knowledge through this Professional Master's Degree.*

*Take the opportunity to learn about the latest advances in Neuro-Oncology and improve the care of your patients.*

The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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

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



02

# Objectives

The structure of the contents has been designed by a team of professionals from the best hospitals and universities, aware of the relevance of current training to intervene in the diagnosis and treatment of oncological neurological pathology, and committed to quality teaching through new educational technologies.







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*Update your competences in Brain Tumors and Neuro-oncologic Complications in Pediatrics means of the most innovative theoretical-practical methodology of the online educational Panorama”*



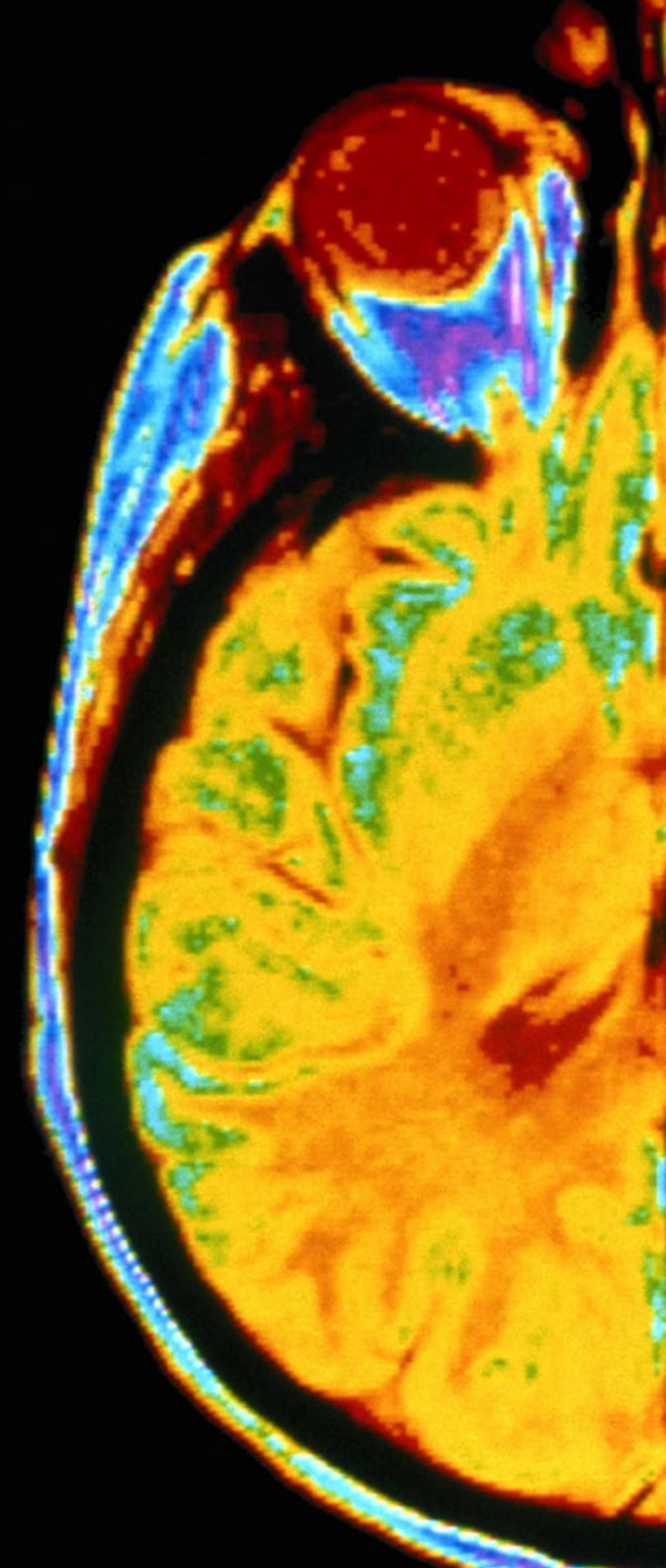
## General Objective

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- ♦ Create a global and up-to-date vision of Neuro-Oncology and all its aspects, allowing the student to acquire useful knowledge and, at the same time, generate interest in expanding the information and discovering its application in their daily practice

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



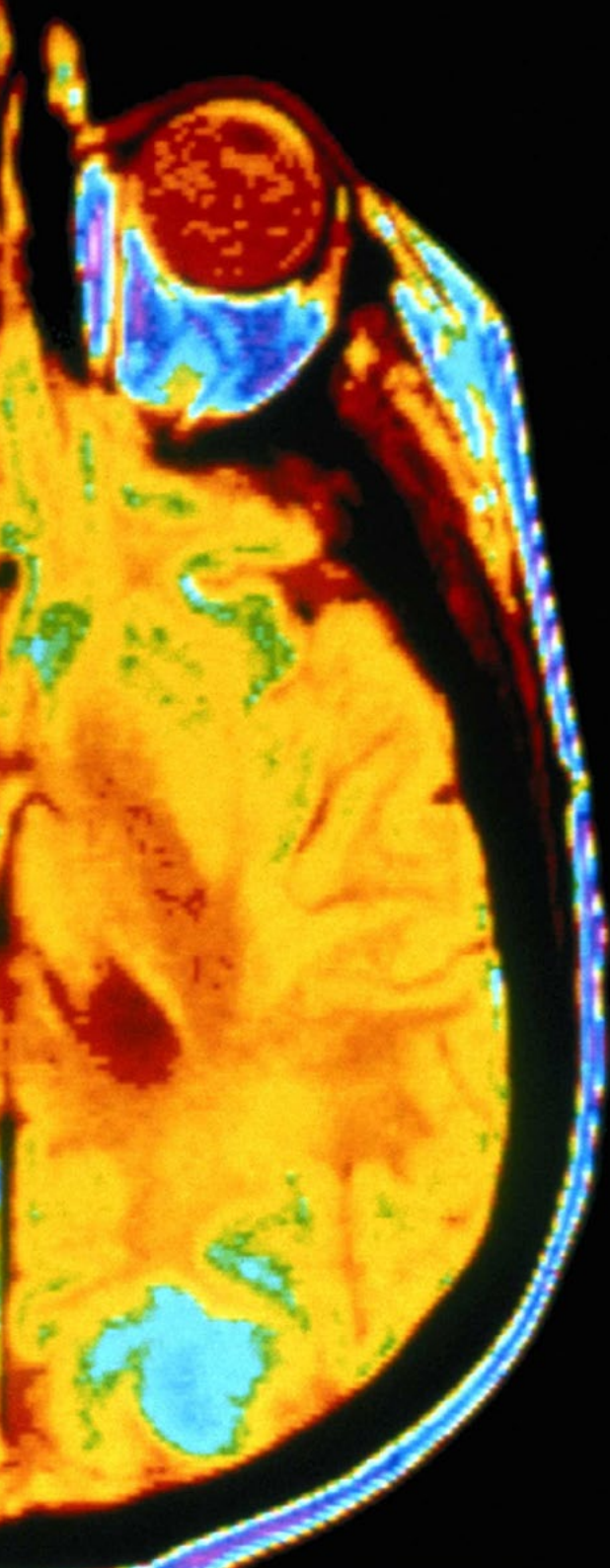


## Specific Objectives

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### Module 1. Brain Tumors Biology

- Update knowledge in the molecular biology of cancer, especially in relation to the concept of genetic heterogeneity, reprogramming of the microenvironment in neurological tumors and the role of the immune response in cancer control
- Provide and expand knowledge on immunotherapy, as an example of a clear scientific advance in translational research, and one of the most promising lines of research in cancer treatment
- Learn how advances in the molecular biology of brain tumors have been incorporated into anatomopathological diagnosis, many of them as a result of extensive genetic research on the origin of these neoplasms, their behavior according to the molecular pattern expressed and the therapeutic viability of attacking certain mutations with new chemotherapies
- Learn about the new "World Health Organization (WHO) Classification of Primary Tumors of the Central Nervous System", which incorporates for the first time the need for molecular biology markers for the correct classification of astrocytic, oligodendroglial and medulloblastoma tumors
- Describe the utility of liquid biopsy, focused on the genomic analysis of circulating tumor DNA, for a more adequate diagnosis of brain gliomas, enabling their classification



### **Module 2. Radiology in the Management of Brain Tumors**

- ♦ Delve into the new magnetic resonance techniques in neuro-oncology
- ♦ Manage the most recent developments in computed tomography for the management of neuro-oncological complications Value the role of nuclear medicine in the diagnosis of neuro-oncologic complications
- ♦ Analyze the different types of primary tumors of the central nervous system

### **Module 3. Neurosurgery of Brain Tumors**

- ♦ Describe an accurate surgical strategy in the treatment of patients with primary brain tumors
- ♦ Delve into neuromonitoring in brain tumor surgery
- ♦ Develop new techniques to assist in neuro-oncological surgical treatments
- ♦ Define the different surgeries and protocols for the awake patient

### **Module 4. Radiotherapeutic and Pharmacological Management of Brain Tumors**

- ♦ Know the radiotherapy management of brain metastases and primary brain tumors
- ♦ Delve into the impact of recent clinical trial results on clinical practice

### **Module 5. Diagnostic and Therapeutic Algorithms for Brain Tumors**

- ♦ Study treatment algorithms for anaplastic astrocytomas, oligodendrogliomas and glioblastomas
- ♦ Develop the monitoring and management of immune-related adverse events

### **Module 6. Pediatric Brain Tumors and Neuro-ologic Complications**

- ♦ Delve into the preoperative management and current considerations in pediatric brain tumor surgery
- ♦ Know the main neuro-oncological complications in children with systemic cancer

### **Module 7. Special Brain Tumors**

- ♦ Study the algorithm for the treatment of Germ Cell Tumors
- ♦ Develop the new techniques in Skull Base Surgery
- ♦ Delve into the Management of Malignant Skull Base Tumors
- ♦ Explore the latest developments in brain tumors and neurofibromatosis

### **Module 8. Cerebral and Leptomeningeal Metastases**

- ♦ Develop new immunotherapy treatments concerning brain metastases
- ♦ Understand the role of chemotherapy in the treatment of brain metastases

### **Module 9. Paraneoplastic Syndromes and Comorbidities in Neurological Cancers**

- ♦ Study paraneoplastic cerebellar degeneration, paraneoplastic sensory neuronopathy and more paraneoplastic syndromes
- ♦ Address new developments in the approach to necrotizing myopathies and paraneoplastic dermatomyositis
- ♦ Know the neurological complications of leukemia, digestive tumors, nephrouinary cancer and sarcomas
- ♦ Delve into the neuro-oncology of gynecological cancer



#### **Module 10. Neurological and Medical Complications in Cancer**

- ◆ Describe the main neurological complications in radiotherapy, chemotherapy and immuno-biological therapies
- ◆ Develop methods for prevention and early detection of cognitive impairment
- ◆ Know the management of infectious, cardiovascular, endocrinological and nutritional comorbidities
- ◆ Delve into the palliative management of the symptoms of brain tumors

#### **Module 11. The Future Collaborative World in Neuro-Oncology**

- ◆ Know the main virtues of Big Data, networking and collaborative online world in neuro-oncology
- ◆ Develop the components of clinical management in Oncology

# 03

## Competencies

After passing the assessments of the Professional Master's Degree in Neuro-Oncology, the physician will have acquired the professional skills necessary for a quality and up-to-date practice based on the latest scientific evidence. Thanks to the extensive faculty and a special emphasis on all the most important techniques and developments produced in recent years, the academic experience becomes much more enriching and effective for the specialist.





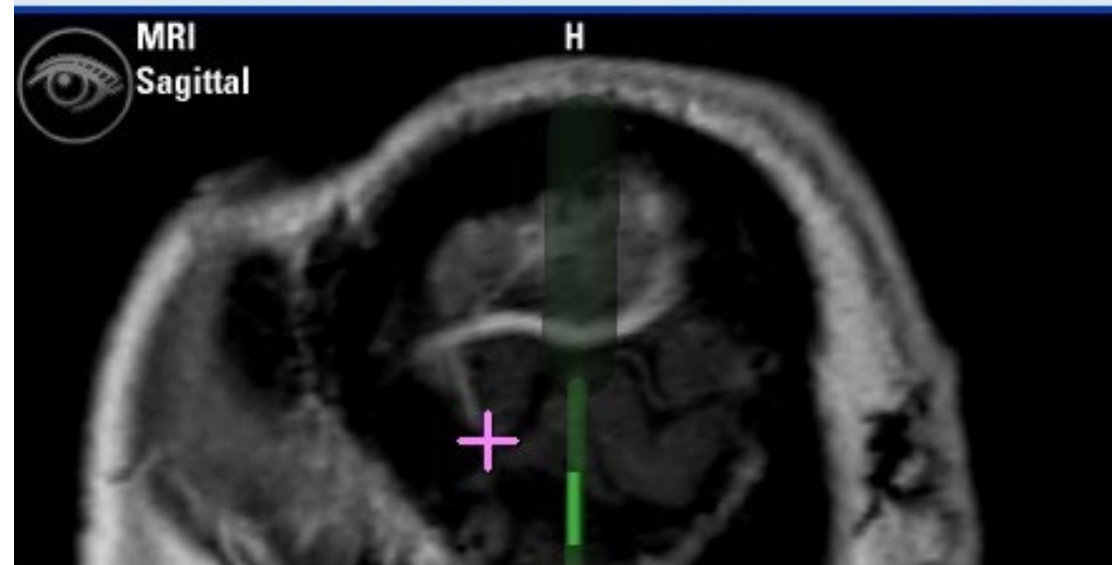
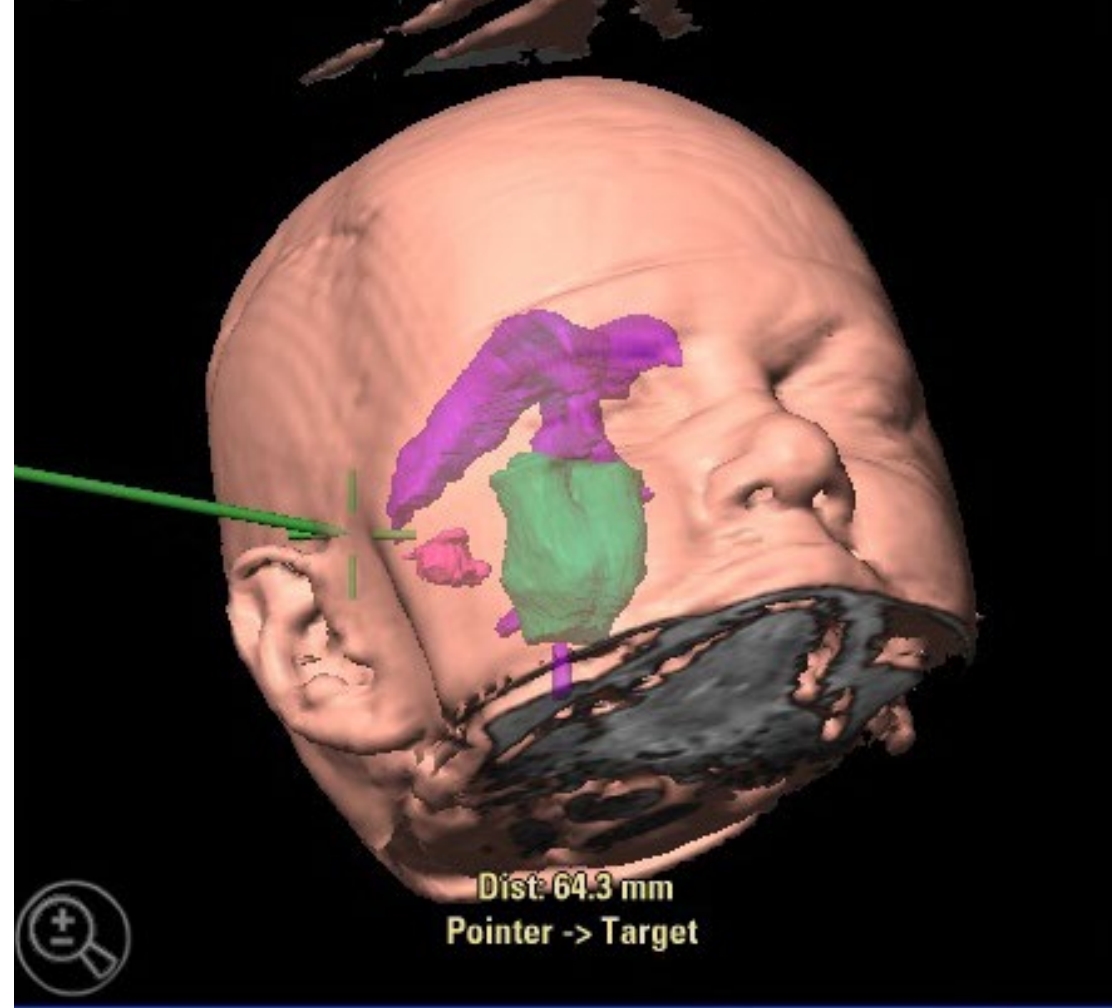
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*With this program you will be able to master the new diagnostic and therapeutic procedures in Neuro-Oncology”*



## General Skills

- Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study
- Enable Students to integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities related to the application of their knowledge and judgments
- That students know how to communicate their conclusions and the knowledge and ultimate reasons that support them, to specialized and non-specialized audiences in a clear and unambiguous manner
- Acquire the learning skills that will enable them to continue studying in a manner that will be largely self-directed or autonomous







## Specific Skills

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- Expand knowledge of next-generation sequencing (NGS) as an emerging technology that can detect a wide variety of molecular alterations, including single nucleotide variations (SNVs), insertions and deletions (indels) and copy number variations (CNVs), making it an attractive, efficient and cost-effective molecular platform for the classification of brain tumors according to WHO criteria
- Analyze how the advances of the last decades in both diagnosis and treatment of cancer have managed to increase survival, which has led to an increase in neurological complications
- Learn the basics of clinical management since the neuro-oncology specialist must be a specialist who occupies a key position in the organization, management and communication
- Review the vast majority of different cancers that warrant neurological management and show the specific issues for each tumor
- Learning how the development of technology has been introduced in the new neuro-oncological care equipment, allowing stereotactic surgery, the evolution of neuroimaging techniques, neuronavigation, neuroendoscopy, as well as the appearance of specialized instruments for cranial base surgery, high-speed bone cutting equipment, ultrasonic aspiration, fluorescence-guided surgery with aminolevulinic acid (5-ALA), intelligent operating rooms and the recent availability of radiological neuroimaging tests installed in the operating rooms
- Create a global and up to date vision of the exposed topics that will allow the student to acquire useful knowledge and at the same time, generate interest in expanding the information and discovering its application in their daily practice
- Learn the basics of brain, brainstem and spinal cord radiotherapy, as well as the different techniques available and their efficacy in order to understand the role of each technique for central nervous system tumor management
- Understand the radiological advances that allow a differential diagnosis between brain tumors and inflammatory processes, make it possible to precisely define the field of resection, and provide information on prognosis and follow-up after treatment



*The latest advances in care and diagnosis in Neuro-Oncology through an interactive, accessible and high-level Professional Master's Degree"*

04

# Course Management

The program's teaching staff includes leading specialists in Neuro-Oncology, and other related areas, who bring their years of work experience to this training program. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.





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*Learn the latest advances in procedures in the field of Neuro-Oncology, from leading professionals"*

## International Guest Director

Dr. Lawrence Recht is an eminence in the international clinical field for the multiple contributions he has developed within the field of Neuro-oncology. He is a distinguished professional with **more than four decades of experience in the management of cancer and its early detection, an area to which he has dedicated dozens of investigations.** Thanks to his exhaustive work in the knowledge of the brain tumor, he has established the importance of discovering how and why it evolves previously in order to be able to treat it at an early stage, rather than focusing efforts on treating the neoplasm itself. Based on this, today this pathology is addressed more effectively and efficiently in tens of thousands of patients around the world.

He has a distinguished academic curriculum, including his undergraduate training at Columbia, as well as additional **training in Neuro-Oncology at Memorial Sloan Kettering Cancer Institute in New York.** He has also a PhD in Medicine, an activity that has led him to collaborate and direct various research programs in prestigious centers such as Stanford Health Care, the Stanford Cancer Institute and the Wu Tsai Neurosciences Institute, all of them focused on the field of Neurology and Neurosurgery.

On the other hand, he has **authored and co-authored dozens of articles indexed in international clinical journals such as the Journal of Neurosurgery, American Journal of Pathology or the Journal of the National Comprehensive Cancer Network.** This has allowed him to contribute to the knowledge of the diagnosis and treatment of brain tumors, using methods such as magnetic resonance and computed tomography to improve the detection and characterization of these lesions. In addition, he has made great advances in designing therapeutic approaches to treat neurological tumors, **bringing together the understanding of the underlying biology of these conditions.**



## Dr. Recht, Lawrence

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- International Expert in Neuro-Oncology and Neurosurgery
- Stanford Professor of Neurology and Neurological Sciences
- Professor of Neurosurgery at Stanford
- MD at Columbia P&S School of Medicine
- University of Minnesota Medical School Residency
- Clinical Fellowship at Memorial Sloan-Kettering Cancer Center in New York City
- Clinical certification by the American Board of Psychiatry and Neurology
- Director of more than a dozen clinical trials in tumor measurement
- Author and co-author of more than 3 dozen indexed articles for medical journals internationally.
- Member of: Bio-X, Stanford Cancer Institute, Neuroscience Institute Wu Tsai

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

## Address



### Dr. Oruezábal Moreno, Mauro Javier

- ♦ Head of the medical Oncology Service at La Paz University Hospital since 2017
- ♦ Doctor of Medicine from the Complutense University Madrid (UCM)
- ♦ Master's Degree in Bioinformatics and Biostatistics from the Universitat Oberta de Catalunya
- ♦ Master's Degree in Bioinformatics Analysis, Pablo de Olavide University
- ♦ Research Fellow at University of Southampton
- ♦ Graduate in Medicine and Surgery from the Universidad de Navarra
- ♦ Member of: Spanish Society of Medical Oncology and the Spanish Group of Digestive Tumors (TTD)



### Dr. Lagares Gómez Abascal, Alfonso

- ♦ Head of Neurosurgery Department 12 de Octubre University Hospital
- ♦ Coordinator of the Neurotraumatology and Subarachnoid Hemorrhage research group at the at the 12 de Octubre University Hospital in Madrid I+12 Research Institute)
- ♦ Associate Professor of Neurosurgery at the Carlos III University of Madrid
- ♦ Professor of Neurosurgery at the Complutense University of Madrid
- ♦ Doctorate in Medicine from the Autonomous University Madrid
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Specialist in Neurosurgery at the University Hospital 12 de Octubre
- ♦ Master's Degree in Medical Management and Clinical Management by the ENS

## Professors

### Dr. Dueñas Porto, Marta

- ♦ Researcher at the Centro de Investigaciones Energéticas, Ambientales y Tecnológicas (CIEMAT)
- ♦ Researcher at the Fundación para la Investigación Biomédica I+12 (I+12 Biomedical Research Foundation)
- ♦ Head of the Genomics Department at the Center for Genetic Engineering and Biotechnology (CIEMAT)
- ♦ Researcher at the Center for Genetic Engineering and Biotechnology
- ♦ Ph.D. in Molecular Biology from the Universidad Autónoma de Madrid.(UAM)
- ♦ Degree in Biological Sciences from the HU
- ♦ Member of the Profarma Technical Committee

### D. Paramio Gonzalez, Jesús María

- ♦ Head of Division of the Molecular Oncology Unit
- ♦ Division Head of the Molecular Oncology Unit at the Energy, Environmental and Technological Research Center (CIEMAT)
- ♦ Researcher at the Institute for Biomedical Research of the 12 de Octubre University Hospital
- ♦ Specialist in Cellular Biology at the Centro de Investigaciones Energéticas, Environmental y Tecnológicas (CIEMAT)

### Velastegui Ordoñez, Alejandro

- ♦ Oncologist at the Rey Juan Carlos University Hospital. Spain
- ♦ Rotation at the Digestive Tumors Clinical Research Unit of the National Cancer Research Center(CNIO)
- ♦ Specialty in Clinical Immunology at the Gregorio Marañón General University Hospital
- ♦ Specialty in Medical Oncology at Fundación Alcorcón University Hospital
- ♦ Degree in Medicine from the University Catholic of Santiago de Guayaquil

### Dr. García Pérez, Daniel

- ♦ Neurosurgery Service, 12 de Octubre University Hospital, Madrid

### Dr. Hernández Laín, Aurelio

- ♦ SP of Neuropathology Service at the 12 de Octubre University Hospital
- ♦ Associate Professor of Health Sciences at the Complutense University of Madrid(UCM)
- ♦ Doctor of Medicine from the Autonomous University Madrid(UAM)
- ♦ Member of the Spanish Pathological Anatomy Society and its of Neuropathology Working Group

### Dr. Toldos González, Oscar

- ♦ Gynecology and Obstetrics Department of the 12 from Octubre University Hospital
- ♦ Associate Professor of in the Health Sciences Department of Legal Medicine, Psychiatry and Pathology in Complutense University of Madrid.(UCM)
- ♦ Co-inventor of the method for the diagnosis of Essential Thrombocythemia and the kit to perform it
- ♦ Member of: Spanish Society of Endocrinology and Nutrition (SEEN) and Spanish Society of Anatomic Pathology (SEAP)

### Dr. Astudillo González, Aurora

- ♦ PhD in Medicine and Former Scientific Director of the Principality of Asturias Biobank
- ♦ Former Professor of Pathological Anatomy at the University of Oviedo
- ♦ Associate Professor at the University of Oviedo and linked to the Central University Hospital of Asturias
- ♦ TEDx Talks Speaker
- ♦ European Board of Neuropathology
- ♦ European Board of Pathology

### **Dr. López López, Rafael**

- ♦ Head of the Medical Oncology Department, Complej. Hospitalario Universitaria de Santiago de Compostela
- ♦ Director of the Translational Medical Oncology Group of the Instituto de Investigación Sanitaria de Santiago de Compostela
- ♦ Creator of the Medical Oncology Service at the Txagorritxu Hospital. Vitoria, España
- ♦ Research Physician in the Department of Oncology at the Free University Hospital Ámsterdam
- ♦ Main researcher of more than 100 clinical trials, highlighting the field of translational research in translational research in solid tumors
- ♦ Author of more than 200 articles in prestigious national and international journals
- ♦ Founding partner of the company Nasasbiotech
- ♦ PhD in Medicine from the Autonomous University Madrid(UAM)
- ♦ Permanent member of the Royal Academy of Medicine and Surgery of Galicia
- ♦ Member of: European Society for Medical Oncology(ESMO), Spanish Society of Medical Oncology (SEOM), American Society of Clinical Oncology (ASCO) and American Association for Cancer Research (AACR)

### **Dr. De las Peñas Bataller, Ramón**

- ♦ Medical Director of the Oncology Consortium of the General Universitario Hospital of Castellón
- ♦ President of the Spanish Research Group on Orphan and Infrequent Tumors (GETTHI)
- ♦ Degree in Medicine and Surgery from the University of Valencia
- ♦ Specialist in Neurology
- ♦ Specialist in Medical Oncology

### **Dr. Ribalta, Teresa**

- ♦ Pathologist and Neuropathologist at Hospital Clínic of Barcelona, IDIBAPS
- ♦ Specialist in Neuropathology
- ♦ Head of the Department of Pathology and director of the biobank of the Hospital Sant Joan de Déu
- ♦ Head of the Pediatric Pathology Service at the Clinical Hospital of Barcelona
- ♦ Professor and lecturer of Anatomic Pathology at the University de Barcelona
- ♦ Degree in Medicine from the University of Barcelona

### **Dr. Vidal Sarró, Noemí**

- ♦ Assistant Physician at the Neuropathology Service of the Hospital de Bellvitge
- ♦ Associate physician in the area of Anatomical Pathology at the Hospital Sant Joan de Deu
- ♦ Associate physician in the area of Anatomical Pathology at the Hospital Silver
- ♦ Physician specialized in Neurology at the Neuropathology Institute of the University Hospital of Bellvitge
- ♦ Pathologist at Hospital Quironsalud

### **Dr. Rueda Fernández, Daniel**

- ♦ Head of the Biomarker Discovery and Pharmacogenomics Unit at PharmaMarr
- ♦ Head of Genetic Studies in Hereditary Cancer at Hospital university 12 de Octubre
- ♦ Molecular Biologist at Gemolab S.L
- ♦ Research Scientist at Sylentis
- ♦ PhD in Biochemistry and Molecular Biology from the Universidad Complutense de Madrid (UCM)
- ♦ Biochemistry Degree from the Complutense University of Madrid(UCM)



**Dr. Martín Medina, Patricia**

- ♦ SP of Radiodiagnostics Service at the 12 de Octubre University Hospital
- ♦ Specialist in the area of Radiodiagnostics and Diagnostic Imaging at La Esperanza MH
- ♦ Specialist in the area of Radiodiagnostics and Diagnostic Imaging at Gabinete Velázquez MH
- ♦ Member of: Spanish Society of Neuroradiology (SENOR), Spanish Society of Medical Radiology (SERAM)
- ♦ Co-author of the March 2020 SENOR Case of the Month

**Dr. Salvador Álvarez, Elena**

- ♦ Physician specialized in the Radiodiagnostic Service at the Hospital Universitario 12 de Octubre
- ♦ Physician specialized in the Radiodiagnosis and Diagnostic Imaging Service at the University Hospital HM Puerta del Sur
- ♦ Associate Professor of Health Sciences in the area of Radiology and Physical Medicine in Complutense University of Madrid
- ♦ Speaker at the V Congress of the Federation of Spanish Neuropsychology Associations
- ♦ Member of: Federation of Spanish Neuropsychology Associations (FANPSE)

**Dr. Koren Fernández, Laura**

- ♦ Associate Physician at Hospital Universitario HM Montepríncipe in the from Radiodiagnostic and Diagnostic Imaging area
- ♦ SP of Radiodiagnostics Service at the 12 de Octubre University Hospital
- ♦ Member of the Spanish Society of Medical Radiology
- ♦ Speaker at the 34th National Congress in Pamplona

**Dr. Ramos González, Ana**

- ♦ Head of Neuroradiology Service at 12 de Octubre University Hospital
- ♦ Physician specialized in the Radiodiagnostic Service at the Hospital Universitario 12 de Octubre
- ♦ Physician specialized in Radiodiagnosis and Diagnostic Imaging at Torreldones MH, Sanchinarro MH and Puerta del Sur MH
- ♦ Associate Professor in Radiology and Physical Medicine at the Complutense University of Madrid (UCM)
- ♦ PhD in Medicine from the University of Cantabria
- ♦ Author and co-author of more than twenty scientific articles related to radiodiagnostics, radiology, its tools and tests

**Dr. Romero Coronado, Juan**

- ♦ Physician specialized in the Neuroradiology Service at the Hospital Universitario 12 de Octubre. Madrid
- ♦ Neuroradiologist at Sanchinarro Hospital MH
- ♦ Head of the Neuroradiology Unit at Sanitas
- ♦ General Radiologist at the Milenium Medical Center Núñez de Balboa. Madrid, Spain
- ♦ Neuroradiology at Los Madroños Hospital
- ♦ Associate Professors at Alfonso X el Sabio University
- ♦ Master's Degree in Artificial Intelligence in Healthcare at the MIT Sloan School of Management of Management
- ♦ Postgraduate Diplomain Neurobiology and Neurosciences from the University Pontificia of Salamanca

**Dr. Hilario Barrio, Amaya**

- ♦ SP of Radiodiagnostics Service at the 12 de Octubre University Hospital
- ♦ Associate Professor of Health Sciences in the Departments of Radiology, Rehabilitation and Physiotherapy in UCM
- ♦ Director of the X National Course of Neuroradiology
- ♦ PhD in Medicine from the University of the Basque Country/Euskal Herriko Unibertsitatea (UPV/EHU)
- ♦ Member of: Spanish Society of Neuroradiology (SENOR)

**Dr. Jover Díaz, Raquel**

- ♦ SP of the Nuclear Medicine Department of the Ramón y Cajal HU
- ♦ Responsible for Patient Safety in the SEMNIM
- ♦ Representative of Patient Safety in Nuclear Medicine at the Ministry of Health
- ♦ SP of Nuclear Medicine and Molecular Imaging in the University Hospital San Juan de Alicante
- ♦ SP of Nuclear Medicine and Molecular Imaging at the Hospital San Jaime. Torrevieja, Alicante
- ♦ SP of Nuclear Medicine and Molecular Imaging at the Mediterranean PET Center
- ♦ Head of the Nuclear Medicine Service of the Rey Juan Carlos Hospital
- ♦ PhD with research proficiency from the UMH

**D. Sánchez Rubio, Javier**

- ♦ Specialist Area Physician at the University Hospital of Getafe
- ♦ Postgraduate certificate in Health Technology Assessment from the Pompeu Fabra University (UPF)
- ♦ Master in Pharmaceutical Sciences, Universidad Complutense de Madrid (UCM)

**Dr. Gómez Grande, Adolfo**

- ♦ SP of Nuclear Medicine Service at the 12 de Octubre University Hospital
- ♦ Researcher at the Carlos III National Center for Cardiovascular Research
- ♦ Associate Professor of Health Sciences in the Departments of Radiology, Rehabilitation and Physiotherapy in Complutense University of Madrid.(UCM)
- ♦ Co-author of the article Diabetes mellitus secundaria a enfermedad relacionada con la IgG4 (Diabetes mellitus secondary to IgG4-related disease) published in the scientific journal Endocrinology, Diabetes and Nutrition

**Dr. Blanco, Juan Antonio**

- ♦ Associate Physician of the Diagnostic Imaging Service of the Central Radiodiagnostic Unit at the Hospital university Infanta Cristina
- ♦ Associate Physician of the Diagnostic Imaging Service at the Hospital Universitario Fundación Alcorcón
- ♦ Collaborating physician in teaching practice at the Department of Radiology and Physical Medicine in the Faculty of Medicine, Complutense University of Madrid.(UCM)
- ♦ PhD in Medicine and Surgery from the Autonomous University of Madrid(UAM)
- ♦ Specialist in Radiodiagnostics at the Hospital Clínico San Carlos. Madrid
- ♦ Member of the Head and Neck Tumors Committee of the Hospital university Infanta Cristina

**Dr. Ruiz Solís, Sebastián**

- ♦ SP of Nuclear Medicine Service at the 12 de Octubre University Hospital. Madrid
- ♦ Associate Professor of Health Sciences in Radiology and Physical Medicine in Complutense University of Madrid.(UCM)
- ♦ Professor of the XXVI Advanced Course on Medical Oncology of the Spanish Society of Medical Oncology (SEOM)
- ♦ PhD in Medicine from the Complutense University Madrid (UCM)
- ♦ Co-author of several journal articles and book chapters related to diagnostic tests and associated with the neurological area

**Dr. Pascual Martín, Beatriz**

- ◆ Neurosurgery Department
- ◆ 12 de Octubre University Hospital of Madrid

**Dr. Ruiz, Eva**

- ◆ Research Director, Ipsos Healthcare

**Dr. Jiménez Roldán, Luis**

- ◆ Head of Quality and Patient Safety at the Neurosurgery Department of the Hospital Universitario 12 de Octubre
- ◆ SP of Neurosurgery Service at the 12 de Octubre University Hospital
- ◆ Clinical practice teaching collaborator associated with surgical pathology at Complutense University of Madrid
- ◆ PhD in Medicine by the UCM
- ◆ Participant in multiple clinical trials and research projects at the 12 de Octubre University Hospital
- ◆ Member of the Spanish Society of Neurosurgery in the groups of Neuro-Oncology, Spine and Functional Neurosurgery

**Dr. Osejo Altamirano, Vanesa**

- ◆ Clinical Neurophysiologist for Intraoperative Monitoring at the 12 de Octubre University Hospital
- ◆ Neurophysiologist at the Varela de Seijas
- ◆ PhD in Medicine from the Autonomous University Honduras
- ◆ Medical specialist in Clinical Neurophysiology at the University Hospital of La Princesa
- ◆ Member and collaborator in the Spanish Sleep Society(SES)

**Dr. Iglesias, Lorena**

- ◆ Director of the Electromyography and Evoked Potentials Unit of the Varela de Seijas Center for Neurological Studies
- ◆ SP of Clinical Neurophysiology at Hospital La Luz
- ◆ Associate Physician of the Neurophysiology Service at the 12 de Octubre University Hospital
- ◆ Associate Physician of Clinical Neurophysiology in the Neuromuscular Unit at Clinical Hospital San Carlos
- ◆ Award for the best oral communication in the category of Sleep at the 44th Annual Meeting of the Spanish Neurophysiological Society(SENFC)

**Dr. Pérez Nuñez, Ángel**

- ◆ Head of Neurosurgery Department 12 de Octubre University Hospital
- ◆ Neuro-oncology Specialist at UCSF Brain Tumor Centre. San Francisco
- ◆ Researcher in the Neuro-Oncology and Neurotraumatology group at the Hospital 12 de Octubre Research Institute i+12
- ◆ Associate Professor in Health Sciences at Complutense University of Madrid
- ◆ PhD in Medicine from the Complutense University of Madrid
- ◆ Founder of the Multidisciplinary Neuro-Oncology Unit of the 12 de Octubre University Hospital
- ◆ Founder of from Neuro-Oncology Research Group of the 12 de Octubre University Hospital
- ◆ Member of the Tumor Group of the Spanish Society of Neurosurgery (SENEC)

### **Dr. Sepulveda Sánchez, Juan Manuel**

- ♦ Coordinator and Head of the Multidisciplinary Neuro-Oncology Unit of the 12 de Octubre University Hospital
- ♦ Chief of the Multidisciplinary Neuro-Oncology Unit at MD Anderson Cancer Center
- ♦ Director of the Neuro-Oncology Program of the Neurology Service at the Ruber Internacional Hospital
- ♦ Specialist in Medical oncology at the university 12 de Octubre Hospital
- ♦ Associate Neurologist at Getafe University Hospital
- ♦ Associate Neurologist at Sanatorio Nuestra Señora del Rosario
- ♦ PhD in Medicine from the Complutense University of Madrid
- ♦ Master's Degree in Molecular Oncology by the National Cancer Research Center and the European School of Oncology
- ♦ President of the Spanish Research in Neuro-oncology Group (GEINO)

### **Dr. García Romero, Juan Carlos**

- ♦ Associate Physician of the Neurosurgery Service of the Navarra Hospital Complex
- ♦ Specialist in Neurosurgery at the Hospital Viamed Los Manzanos
- ♦ Speaker at the National Congress of the Spanish Society of Surgery
- ♦ Co-author of several chapters of Intraoperative Neurophysiology

### **Dr. González León, Pedro**

- ♦ SP of Neurosurgery Service at the 12 de Octubre University Hospital
- ♦ Disseminator in the area of Functional Neurosurgery at the 12 de Octubre University Hospital
- ♦ Degree in Medicine from the University of Alcalá
- ♦ President of the Association of Medical Specialists of Madrid (AFEM)
- ♦ Collaborator and columnist in several journalistic media

### **Dr. Martín Munarriz, Pablo**

- ♦ Associate Physician in the Pediatric Neurosurgery Service at the 12 de Octubre University Hospital
- ♦ Specialist in Pediatric Neurosurgery at the CSUR
- ♦ Several practical stays abroad: John Hopkins Hospital (Baltimore, EE/ UU.), UMPC Hospital (University of Pittsburgh Medical Center, Pittsburgh, EE. UU.), INI Hospital (International Neuroscience Institute, Hannover, Alemania) and at Sao Paulo, Brasil
- ♦ Clinical Fellowship in Pediatric Neurosurgery, with surgical and care practice at the SickKids Hospital (The Hospital for Sick Children, Toronto, Canada)
- ♦ PhD in Surgery from the Complutense University Madrid (UCM)
- ♦ Member of: Neurotraumatology and Subarachnoid Hemorrhage Research Group of the Neurosciences Area of the I+12 Research Institute, Spanish Society of Neurosurgery (SENEC), Spanish Society of Pediatric Neurosurgery (SENEPE), European Neurosurgery Society (EANS) and International Society of Pediatric Neurosurgery (ISPN)

### **Dr. Navarro Main, Blanca**

- ♦ Neuropsychologist at the 12 de Octubre University Hospital. Madrid
- ♦ Specialist in speech therapy intervention and language disorders
- ♦ Collaborating professor of the Master's Degree in Neuropsychology at the Universitat Oberta de Catalunya (UOC)
- ♦ PhD in the Department of Basic Psychology II, Universidad Nacional de Educación a Distancia (UNED)
- ♦ Expert in Clinical Neuropsychology

**Dr. Dualde Beltrán, Diego**

- ♦ Specialist in Neurology at the University Hospital of Valencia
- ♦ Associate Professor of Radiology and Physical Medicine in the Universitat de València
- ♦ Doctor in Medicine from the University of Valencia
- ♦ Author of the book Estudio comparativo de la organización estructural y funcional de la pineal en la especie ovina (Comparative study of the structural and functional organization of the pineal gland in sheep)
- ♦ Co-author of several research articles related to the neurological area

**Dr. Burón Fernández, María del Rosario**

- ♦ Physician of the Internal Medicine Service at Hospital Universitario Infanta Cristina
- ♦ Specialist in Internal Medicine
- ♦ Degree in Medicine and Surgery

**Dr. Gómez Aparicio, Marian**

- ♦ SP of the Radiation Oncology Service at the Hospital General Universitario de Ciudad Real
- ♦ Degree in Medicine
- ♦ Specialist in Oncology with mention in the radiotherapy area
- ♦ Speaker of the Spanish Group of Genitourinary Tumors
- ♦ Speaker at the III Course of SBRT Stereotactic and Extracranial Radiotherapy

**Dr. Bruna Escuer, Jordi**

- ♦ Coordinator of the Neuro-oncology Unit de Hospital in Bellvitge University Hospital
- ♦ Researcher at the Bellvitge Biomedical Research Institute()
- ♦ Neurology Service Specialist at the Duran i Reynals Hospital
- ♦ Member of the Neuroplasticity and Regeneration Research Group at the Universitat Autònoma de Barcelona
- ♦ Degree in Medicine from the Autonomous University of Barcelona(UAB)

**Dr. Zazpe, Idoya**

- ♦ Head of the Neurosurgery Service at the Navarra Hospital Complex
- ♦ Tutor of MIR residents at the University of Navarra
- ♦ Editor of the Spanish Journal of Neurosurgery
- ♦ PhD in Medicine from the University of Navarra
- ♦ Master's Degree in Health Management
- ♦ Fellowship of the North American Skull Base Society
- ♦ Member of: European Association of Neurosurgical Societies (EANS) and Spanish Society of Neurosurgery (SENEC)

**Dr. Paredes Sansinenea, Igor**

- ♦ Physician specialized in the Neurosurgery Service at the Hospital Universitario 12 de Octubre. Madrid
- ♦ Neurosurgeon at the Hospital Virgen de la Salud, Toledo Toledo
- ♦ Professor of Neurology and Neurosurgery at the CTO Academy
- ♦ Associate Professor of the Department of Surgery, Faculty of Medicine, Complutense University of Madrid
- ♦ Doctor of Medicine
- ♦ Fellow of the European Board of Coloproctology
- ♦ Master's Degree in Sleep: Physiology and Medicine by the Faculty of Biology in the University of Murcia
- ♦ Pedro Mata Award 2015, 2017, 2017, 2018 and 2019 of the Neurosurgery Society of the Autonomous Community of Madrid (SONCAM)

**Dr. Pardo Moreno, Francisco Javier**

- ♦ Head of the Neurology Department at the Hospital Universitario Rey Juan Carlos
- ♦ Director of Health Sustainability at the Hospital Universitario Rey Juan Carlos
- ♦ Neurologist at the Fundación Alcorcón University Hospital
- ♦ Specialist in Neurology at the university Foundation Jimenez Diaz Hospital
- ♦ Coordinator of Red Neurosalud
- ♦ Associate Professor of Neurology linked to the Rey Juan Carlos University
- ♦ Doctor of Medicine and Surgery, from the Complutense University of Madrid
- ♦ Master's Degree in Health Management from the Universidad a Distancia de Madrid
- ♦ Master's Degree in Healthcare Management
- ♦ Master's Degree in Clinical Management, Medical and Health Address Care Management

**Dr. Martín Soberón, Mari Cruz**

- ♦ Associate Physician in Medical Oncology at the Infanta Elena University Hospital
- ♦ Associate Physician in Medical Oncology at the 12 de Octubre University Hospital
- ♦ Physician specialized in Oncology at the Albacete University Hospital Complex
- ♦ Professor of the Master's Degree in Neurological Oncology at the CEU Cardenal Herrera University
- ♦ PhD in Medical-Surgical Nursing Sciences, Universidad Complutense de Madrid (UCM)
- ♦ Master in Medical Oncology by the Spanish Society of Medical Oncology(SEOM)
- ♦ Online Master's Degree in Palliative Care from the University of Valladolid

**Dr. Simarro, Ana**

- ♦ SP of Neurology Service at the 12 de Octubre University Hospital
- ♦ Collaborator in the Conference on Basic Neurology and updating of knowledge in the COM Jaén

**Dr. Simó Parra, Marta**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario de Bellvitge
- ♦ Researcher in the Neuro-oncology Group at the Bellvitge Institute for Biomedical Research IDIBELL
- ♦ PhD in Medicine from the University of Barcelona
- ♦ Member of: Cognition and Brain Plasticity Unit and Spanish Society of Neurology (SEN)

**Dr. Mañe Martínez, Juan Manuel**

- ♦ Associate Physician of the Medical Oncology Department, Cruces University Hospital
- ♦ Physician specialist and researcher at the Biocruces Bizkaia Institute
- ♦ Teacher in the Master of in Basic Oncology the University of the Basque Country/Euskal Herriko Unibertsitatea (UPV/EHU)
- ♦ Speaker at the Cruces Hospital Medical Oncology Association with the topic Standard Chemotherapy in Ovarian Cancer
- ♦ President of the Spanish Research in Neuro-oncology Group (GEINO)

**Dr. Pérez Altozano, Javier**

- ♦ Specialist in the Medical Oncology Service at the Hospital Virgen de los Lirios
- ♦ Medical Oncologist at the Lilly Clinic
- ♦ Associate Physician of Medical Oncology at the General University Hospital of Elche
- ♦ Associate Physician of Medical Oncology at the Vega Baja Hospital in Orihuela, Spain
- ♦ Master's Degree in Clinical and Medical Care Management
- ♦ Master's Degree in Immuno-Oncology
- ♦ Expert in Medical Management and Health Services Management
- ♦ Expert in Molecular Biology of Lung Cancer
- ♦ Member of: Spanish Society of Oncology

**Dr. Azkona Uribelarrea, Eider**

- ♦ Specialist in the Medical Oncology Service at Cruces University Hospital in Bilbao
- ♦ Physician specialist and researcher at the Biocruces Bizkaia Institute
- ♦ Teacher of the Professional Master's Degree in Basic and Clinical Oncology in the Polytechnic University of Valencia (UPV)
- ♦ Researcher at the Biocruces Bizkaia Institute
- ♦ PhD in of Health Sciences from the University of the Basque Country/Euskal Herriko Unibertsitatea (UPV/EHU)

**Dr. Coloma Palomar, Virginia**

- ♦ Oncologist at the Hospital Clínico San Carlos
- ♦ Oncologist at the General University Hospital of Valencia
- ♦ Fellow of the Spanish Group of Head and Neck Tumors for rotation at the Institut Gustave Roussy. Villejuif, France
- ♦ Degree in Medicine and Surgery from the University of Valladolid specialized in Medical Oncology
- ♦ Member of the Spanish Society of Medical Oncology(SEOM)

**Dr. Castaño-León, Ana María**

- ♦ Associate Physician of the Neurosurgery Service at the 12 de Octubre University Hospital
- ♦ Residency at the Neurosurgery Department of the University of California. San Francisco
- ♦ PhD in Medical and Surgical Sciences from the Complutense University of Madrid(UCM)
- ♦ Bachelor in Medicine and Surgery from the Autonomous University of Madrid(UAM)
- ♦ Specialist in Neurosurgery at the University Hospital 12 de Octubre
- ♦ Member of the Neurotraumatology and HSA Group of the imas12 Institute

**Dr. Panero Perez, Irene**

- ♦ Physician specialized in the Neurosurgery Service at the Hospital Universitario 12 de Octubre
- ♦ Collaborates in the research activity of the Neurotraumatology group at the Hospital 12 de Octubre Research Institute (I+12)
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid
- ♦ Specialist in Neurosurgery at the University Hospital 12 de Octubre
- ♦ Master's Degree in Clinical Problem Solving at the University of Alcalá
- ♦ Master's Degree in Aesthetics Medicine from the CEU Cardenal Herrera University
- ♦ International training as an observer in the Neurosurgery Service at Adenbrookes Hospital

**Dr. Baro Fernández, María**

- ♦ Specialist in hemato-oncologic pediatric at the University Hospital 12 de Octubre
- ♦ PhD in Medicine from the Complutense University Madrid (UCM)
- ♦ Degree in Medicine from the Complutense University of Madrid
- ♦ Specialty in Pediatrics with special attention to the area of Oncology
- ♦ Co-author of 9 journal articles for the Spanish Association of Pediatrics (AEP)

**Dr. Pérez Alonso, Vanesa**

- ♦ Pediatric hemato-oncologist at the 12 de Octubre University Hospital
- ♦ Doctor of Medicine from the Complutense University of Madrid
- ♦ Speaker at the Congress and member of the Spanish Group of Cancer Patients(GEPAC) GEPAC
- ♦ Member of: Children's Oncology Association of Madrid (ASION in spanish) and the Spanish Cancer Patients' Group (GEPAC in spanish)

**Dr. Guerra García, Pilar**

- ♦ SP of Pediatric hemato-oncology at the 12 de Octubre University Hospital
- ♦ Member of the Translational Research Group in Childhood Cancer, Hematopoietic Transplantation and Cell Therapy of the Research Institute of La Paz University Hospital
- ♦ Co-author of more than DoS dozen research articles indexed in international journals and cited in databases such as PubMed
- ♦ Speaker at the X National Congress of the Spanish Society of Pediatric Hematology and Oncology(SEHOP)

**Dr. Camacho Salas, Ana**

- ♦ Area Specialist in the Section of Child Neurology at the Hospital Universitario 12 de Octubre
- ♦ Teaching collaborator of the Faculty of Medicine at the Complutense University of Madrid
- ♦ PhD in Medicine and Surgery from the Complutense University of Madrid
- ♦ Specialist in Pediatric Neurology by the Spanish Society of Pediatric Neurology (SENEP)
- ♦ Member of the Board of Directors, Spanish Society of Pediatric Neurology (SENEP Therapy)

**Dr. Andrés Conejero, Raquel**

- ♦ Specialist in the Medical Oncology Service at the Hospital Lozano Blesa Clinical University
- ♦ Associate Professor at University of Zaragoza
- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Clinical Oncology
- ♦ Speaker of: Executive Committee of the Spanish Society of Medical Oncology Section (SEOM) and GEICAM

**Dr. Grande García, Carlos**

- ♦ SP of Hematology and hemotherapy Service at the 12 de Octubre University Hospital
- ♦ Associate Professor in the Department of Medicine at the Complutense University of Madrid
- ♦ Collaborator in the teaching of Hematology and in the subject of Medical Pathology at the Complutense University Madrid
- ♦ Tutor of Specialists in Training in the specialty of Hematology and Hemotherapy at the Complutense University of Madrid
- ♦ PhD in Medicine and Surgery from the Autonomous University of Madrid(UAM)
- ♦ Master's Degree in Hematopoietic Transplantation of the UV
- ♦ Member of the Spanish Society of Hematology and Hemotherapy (SEHH)

**Dr. Fernandez Alén, Jose Antonio**

- ♦ Head of Neurosurgery Department La Princesa University Hospital
- ♦ Neurosurgeon at the 12 de Octubre University Hospital
- ♦ Associate Professor of the Surgery Department at the Autonomous University of Madrid
- ♦ Residents Tutor at the Complutense University of Madrid
- ♦ PhD in Medicine from the Complutense University of Madrid
- ♦ Master's Degree in Innovation and Management in Health Systems by IE Business School
- ♦ Member of the Editorial Committee of the Journal Neurosurgery

**Dr. Iranzo Gómez, Patricia**

- ♦ Medical Director of the Hospital San Carlos of the transfer HLA Group
- ♦ SP of Neurology Service at the 12 de Octubre University Hospital
- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Clinical Neurology
- ♦ Co-author of several scientific articles



**Dr. Márquez Rodas, Iván**

- ♦ Coordinator of the Heredofamiliar Cancer Unit at the Gregorio Marañón General University Hospital
- ♦ SP of the Medical Oncology Service at the Hospital General: Universitario Gregorio Marañón
- ♦ Researcher at the Biomedical Research Foundation of the General Universitario Gregorio Marañón University Hospital
- ♦ Doctor of Medicine from the Autonomous University Madrid (UAM)
- ♦ Master's Degree in Health Direction and Management by UNIR
- ♦ Postgraduate Diploma in Clinical Genetics from UAH
- ♦ SEOM Accreditation of Excellence for Genetic Counseling in Hereditary Cancer

**Dr. Fernández Ruiz, Alexia**

- ♦ SP of the Medical Oncology Service at the Hospital Clínico Universitario Lozano Blesa
- ♦ SP of Medical Oncology at the Hospital of Barbastro
- ♦ Doctor in Medicine from the University of Zaragoza
- ♦ Author and co-author of journal articles and collaborator in collective works related to Cancer and its comorbidities

**Dr. Quilez Bielsa, Elisa**

- ♦ Specialist in the Medical Oncology Service at the Hospital Lozano Blesa University
- ♦ Master's Degree in Initiation to Research in Medicine
- ♦ First prize +MIR 2018 by the Spanish Society of Medical Oncology(SEOM)
- ♦ Member and collaborator as speaker of the Spanish Society of Medical Oncology (SEOM)

**Dr. Bermejo Guerrero, Laura**

- ♦ Neurologist at the 12 de Octubre University Hospital
- ♦ Researcher specialised in Neurology
- ♦ Degree in Medicine

**Dr. Eiriz Fernández, Carla**

- ♦ Neurosurgeon at the Hospital Ribera Povisa
- ♦ Specialist in Neurosurgery at the University Hospital 12 de Octubre
- ♦ Master's Degree in Neurosciences for Physicians at CEU Cardenal Herrera University
- ♦ Tumor Clinical Observer at the University of California, California, USA
- ♦ Postgraduate Diploma in English for Medicine at the CEU Cardenal Herrera University
- ♦ Writer of scientific articles for the official organ of the Spanish Society of Neurosurgery

**Dr. Quintanar Verdúñez, Teresa**

- ♦ Specialist in the Medical Oncology Service at the Hospital of Elche General: University
- ♦ Specialist in the Medical Oncology Service at the Hospital Vega Baja
- ♦ Specialist in Oncology in the Clinical and Translational Research Unit at the General de Elche At Hospital
- ♦ Tutor of resident doctors at the General university de Elche At Hospital
- ♦ Teacher of the Master's Degree in Clinical and Surgical Research at the Miguel Hernández University
- ♦ Coordinator of the Scientific Committee for the Platform for Evaluation + MIR
- ♦ Member of the Spanish Society of Medical Oncology(SEOM)
- ♦ Speaker and member of the Spanish Breast Cancer Research Group Foundation(GEICAM)

**Dr. Domínguez González, Cristina**

- ♦ Associate Physician of the Neurology Service at the 12 de Octubre University Hospital
- ♦ Researcher of the research group on Rare, Mitochondrial and Neuromuscular Diseases of the Instituto de Investigación Sanitaria (i+12)
- ♦ Doctor of Medicine from the Complutense University of Madrid
- ♦ Alberto Rábano 2020 award for his doctoral thesis

**Dr. Rodríguez López, Claudia**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre. Madrid
- ♦ Researcher at the Center for Molecular Biology Severo Ochoa
- ♦ Researcher at the Deutsche Zentrum für Neurodegenerative Erkrankungen
- ♦ Bachelor of Medicine from the Autonomous University Madrid (UAM)
- ♦ Degree in Physics from the National Distance Education University(UNED)
- ♦ Specialization in Neurology
- ♦ Course for Residents in Neurodegenerative Dementias of the Spanish Society of Neurology (SEN)
- ♦ Training Course in Sleep Disorders for Residents and Adjuncts of Neurology of the Spanish Neurology Society SEN SEN)
- ♦ National End of Career Award by the Ministry of Science, Innovation and Universities

**Dr. Labiano Fontcuberta, Andrés**

- ♦ SP of Neurology Service at the 12 de Octubre University Hospital
- ♦ PhD in Medical-Surgical Nursing Sciences, Universidad Complutense de Madrid (UCM)
- ♦ Postgraduate studies in advanced neuroimaging techniques and their applications at the UMA
- ♦ Research Fellowship by the Spanish Research Institute Carlos III
- ♦ Fellow of Clinical Research in Multiple Sclerosis Carlos III Institute

**Dr. Gonzalez de la Aleja, Jesús**

- ♦ Associate Physician of the Neurology Service at the 12 de Octubre University Hospital
- ♦ Researcher at the Institute for I+12 Research of the 12 de Octubre University Hospital
- ♦ Specialist in Clinical Neurology
- ♦ Author and co-author of more than a dozen scientific articles and collective works

**Dr. Rábano Suarez, Pablo**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ♦ Physician specialized in the area of MH Montepíncipe University Hospital
- ♦ Coordinator of the New Technologies Committee of the Spanish Society of Neurology and TecnoSEN
- ♦ Member of the team Winner won the Neurochallenge of the LXXIII Annual Meeting of the Spanish Society of Neurology
- ♦ Member of the Madrid Association of Neurology (AMN)
- ♦ First prize in the II Clinical Case Competition of the Madrid Association of Neurology (AMN)

**Dr. Ballesteros Plaza, Loreto**

- ♦ Physician specialized in the Neurology Section at the Hospital Universitario Infanta Cristina
- ♦ Editor of the Neurology content portal, Neurwikia
- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Neurology
- ♦ Co-author of several scientific articles published in Neurology journals
- ♦ Collaborator in the IX Conference on Preventive Medicine and Public Health

**Dr. Ortega Casarrubios, María Ángeles**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ♦ President of the Ethics Committee for Health Care at the 12 de Octubre University Hospital
- ♦ Specialist in the Neurology area at the Infanta Sofia University Hospital
- ♦ Specialist in the area of Neurology at La Paz University
- ♦ Doctorate in Medicine from the Autonomous University Madrid
- ♦ Master's Degree in Bioethics from the Universidad Pontificia Comillas ICAI-ICADE
- ♦ Training course for trainers in Bioethics by the Fundación Universitaria de Ciencias de la Salud

**Dr. Moreno García, Sara**

- ♦ Associate Neurology of the Neurology Specialty Center at the 12 de Octubre University Hospital
- ♦ Coordinator of the Demyelinating Diseases Unit of the Neurology Department of the university 12 de Octubre University Hospital
- ♦ Neurologist in the inpatient ward, in consultation of demyelinating diseases and in the Emergency Department of the university 12 de Octubre University Hospital
- ♦ Neurology Medical resident tutor at the university 12 de Octubre Hospital
- ♦ Master's Degree Online in Neuro-immunology from the Autonomous University of Barcelona
- ♦ Master's Degree in Clinical Neurology from Editorial Médica Panamericana
- ♦ Expert in Multiple Sclerosis
- ♦ Expert in Differential Diagnosis of Demyelinating Diseases

**Dr. Calleja Salas, Patricia**

- ♦ Neurology Service, 12 de Octubre University Hospital, Madrid

**Dr. Herrero San Martín, Alejandro**

- ♦ SP of Neurology Service at the 12 de Octubre University Hospital
- ♦ Researcher in the area of Neurodegenerative Diseases in the Group I+12 of the Hospital university 12 de Octubre
- ♦ PhD in Medicine from the Autonomous University Madrid(UAM)
- ♦ Specialist in Neurology associated with sleep at the university 12 de Octubre Hospital
- ♦ Member of: Sleep Institute and the Spanish Society of Neurology (SEN)

**Dr. Galán Sánchez-Seco, Victoria**

- ♦ SP of the Demyelinating Diseases Unit of the Virgen de la Salud Hospital
- ♦ SP of the Demyelinating Diseases Unit of the Hospital Clínico San Carlos

- ♦ SP of Neurology Service at the 12 de Octubre University Hospital
- ♦ PhD in Medicine from the Complutense University Madrid (UCM)
- ♦ Speaker for the Federation of Multiple Sclerosis Associations of Madrid at various medical congresses
- ♦ Member and collaborating speaker of the Spanish Society of Neurology(SEN)

**Dr. Panadés de Oliveira, Luísa**

- ♦ Neurologist and epileptologist at Hospital del Mar
- ♦ Neurologist in the area of Epilepsy and Muscular Disorders at Hospital Clínico San Carlos
- ♦ Professor of Neurology and Neurosurgery at AMIR
- ♦ PhD in Medicine at the University Hospital 12 de Octubre
- ♦ Postgraduate degree in Genomics and Precision Medicine from the International University of La Rioja (UNIR)
- ♦ Master's Degree in Neuro-immunology from the Autonomous University Madrid(UAB)
- ♦ International rotations at the Federal University of Minas Gerais and at the Ruprecht-Karls-Universität Heidelberg

**Dr. López Blanco, Roberto**

- ♦ Physician specialized in Neurology from the Functional Recovery Unit of the Hospital Virgen de la Poveda
- ♦ Medical specialist in Neurology at the Hospital Universitario Rey Juan Carlos
- ♦ Researcher in the analysis of the effect of afferent mechanical stimulation on tremor in patients with this specific condition
- ♦ PhD in Research in Medical-Surgical Nursing Sciences, Universidad Complutense de Madrid (UCM)
- ♦ PhD in Medicine from the Complutense University Madrid (UCM)
- ♦ Specialty in Neurology at the 12 de Octubre University Hospital

**Dr. Gonzalo Martínez, Juan Francisco**

- ♦ Associate Physician of the Neurology Service at the 12 de Octubre University Hospital
- ♦ Support Neurologist in the Motor Neuron Diseases Unit at the Research Institute of the Hospital Universitario 12 de Octubre (i+12)
- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Clinical Neurology
- ♦ Author of the poster "Hemichorea como debut de Diabetes no cetósica" ("Hemichorea as a debut of non-ketotic Diabetes") at the LXIII Annual Meeting of the Spanish Society of Neurology

**Dr. Uriarte, David**

- ♦ Associate Physician of Neurology at the Hospital Complex of Jaén
- ♦ Neurology Service, from 12 de Octubre University Hospital, Madrid. Madrid
- ♦ Lecturer at the III Course of Neurology in Images and Videos
- ♦ Speaker at COLMED in the conference "Basic Neurology"
- ♦ Member of: Spanish Society of Neurology (SEN) and the Illustrious Official College of Physicians of Jaén

**Dr. Sánchez Sánchez, Carmen**

- ♦ Associate Physician of the Neurology Service at the 12 de Octubre University Hospital
- ♦ Neurological Collaborator in the Ophthalmology Department of the Hospital Universitario 12 de Octubre
- ♦ Director of the Economic Area of the Spanish Society of Neurology
- ♦ Coordinator of the Study Group on Clinical Management and Quality of Care in Neurology of the Spanish Neurology Society (SEN SEN)
- ♦ Co-author of more than thirty scientific articles

**Dr. Martín García, Hugo**

- ♦ SP in the Neurology Section at the University Hospital Infanta Cristina
- ♦ Editor of the Neurology digital content portal Neurowikia
- ♦ Author of the poster "Análisis de la Diplopia en la consulta de Neurología" ("Analysis of Diplopia in the Neurology consultation" for the LXXII Annual of the Spanish Neurology Society SEN SEN Meeting)
- ♦ Co-author of several research articles related to cognitive disorders and the analysis of their derivations

**Dr. Puente Muñoz, Ana Isabel**

- ♦ Associate Head of the Clinical Neurophysiology Service at Hospital La Luz
- ♦ Head of the Clinical Neurophysiology Unit at the Hospital Universitario Central de la Cruz Roja San José y Santa Adela
- ♦ Coordinator of the Sleep and Electroencephalography Unit at Hospital Quirónsalud Sur
- ♦ Coordinator of the Sleep Unit at Hospital university Sanitas La Moraleja
- ♦ Resident Internist in Clinical Neurophysiology at San Carlos Clinical Hospital
- ♦ Author and co-author of scientific articles and books related to her specialty
- ♦ Speaker at numerous Clinical Neurophysiology Congresses

**Dr. Sánchez Tejerina, Daniel**

- ♦ Specialist in the Neuromuscular Diseases Unit at Hospital Universitario Valle de Hebrón
- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ♦ Director of the research project on biomarkers in Amyotrophic Lateral Sclerosis
- ♦ Researcher in Neuromuscular Diseases at the Vall d'Hebron University Hospital and Vall d'Hebron Research Institute
- ♦ Rotation in the Movement Disorders Unit at Columbia University Medical Center. New York
- ♦ Postgraduate certificate in Statistics in Health Sciences, within the continuing education program of the Autonomous University of Barcelona

**Dr. González Sánchez, Marta**

- ♦ SP of Neurology Service at the 12 de Octubre University Hospital
- ♦ Neurology specialist Physician at Centro Médico Carpetana
- ♦ Specialist in Cognitive Neurology and Dementias at the UCSF Memory and Aging Center
- ♦ Researcher at the Research Institute Healthcare Hospital 12 de Octubre in the area of Neurodegenerative Diseases of the
- ♦ PhD in Medical-Surgical Nursing Sciences, Universidad Complutense de Madrid (UCM)
- ♦ Santiago Ramón y Cajal 2021 Award "To the best article in basic research
- ♦ Member of the Madrid Association of Neurology (AMN)

**Dr. Guerrero Molina, María Paz**

- ♦ Neurology Service, 12 de Octubre University Hospital, Madrid

**Dr. León Ruiz, Moisés**

- ♦ MIR of Clinical Neurophysiology at La Paz University Hospital
- ♦ SP of Neurology Service at the Sureste University Hospital
- ♦ SP of Neurology at Quirónsalud de San José Hospital
- ♦ SP of Neurorehabilitation at the San Vicente Clinic
- ♦ Member and disseminator of the Spanish Society of Neurology (SEN)
- ♦ Main author of numerous scientific articles for the journal Neurology Official Publication of the Spanish Society of Neurology, as well as for other prestigious international journals (New England Journal of Medicine, Journal of Neurology, Journal of Clinical Neurology, Tremor and Other Hyperkinetic Movements, Acta Neurologica Belgica, etc.)

**Dr. Benito León, Julián**

- ♦ Associate Physician in the Neurology Department at the SERMAS Hospital
- ♦ Expert specialized in the field of neurological pathologies and issuance of legal medical reports

- ♦ Associate Physician of Neurology at INSALUD and SERMAS
- ♦ Associate Professor in Health Sciences at the Complutense University of Madrid
- ♦ PhD in Medicine from the Complutense University of Madrid
- ♦ Degree in Medicine and Surgery from the University of Alcalá de Henares
- ♦ Specialist in Clinical Neurology
- ♦ Expert in Medical Assessment in the Field of Neurology

**Dr. Cabrera Gonzalez, Miguel Luis**

- ♦ Head of IT, Hospital Universitario Son Espases Palma de Mallorca, Spain
- ♦ Degree in Medicine and Surgery
- ♦ Senior Engineer of Computer Science

**Dr. Puertas Martín, Verónica**

- ♦ Professor of the Master's Degree in Pediatric Palliative Care
- ♦ PhD in Clinical Research in Pediatrics from the University of Valladolid
- ♦ Degree in Medicine from the University of Valladolid
- ♦ Specialist in Pediatrics and Specific Areas at the University Hospital Río Hortega Valladolid, Spain
- ♦ Physician Specialized in the Area of Child Neurology at the Hospital Infantil Universitario Niño Jesús

**Dr. Saiz Díaz, Rosa Ana**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ♦ Teaching coordinator in the Neurodidacta platform in courses related to Epilepsy
- ♦ Specialist in Neurology and Neurophysiology
- ♦ Member of: Spanish Society of Neurology (SEN) and Madrid Association of Neurology (AMN)

**Dr. Yebra Fernández, Eva**

- ◆ Specialist Area Practitioner in the Diagnostic Hematology Oncology Service at the Hammersmith Hospital London
- ◆ Physician specialized in Hematology and Hemotherapy at the Hospital Virgen de la Salud
- ◆ Physician specialized in Hematology and Obstrety Medicine Severo Ochoa University Hospital
- ◆ Physician specialist at Imperial College Healthcare NHS Trust
- ◆ Speaker at the LXIII of the Spanish Society of Hematology and Hemotherapy National Congress as a member of the oral communication group for the topic liquid biopsy molecularly characterizes b lymphomas at diagnosis allowing its use in subsequent monitoring

**Dr. Villarejo Galende, Alberto**

- ◆ Head of Neurology Service at 12 de Octubre University Hospital
- ◆ Associate Physician from the Neurology Unit of La Luz Clinic
- ◆ Associate Professor in the Department of Medicine at the Complutense University of Madrid
- ◆ Tutor of Neurology Residents
- ◆ PhD in Medicine from the Complutense University of Madrid
- ◆ Postgraduate Certificate in Statistics in Health Sciences

**Dr. Garzo Caldas, Nicolás**

- ◆ SP of Neurology at Can Misses Hospital
- ◆ Neurologist at university Nuestra Señora del Rosario Hospital
- ◆ Neurologist at the 12 de Octubre University Hospital
- ◆ Clinical observer at the NHS Hospital Foundation Trust
- ◆ PhD in Medicine from the University of Santiago de Compostela (USC)
- ◆ Master's Degree in Neuro-immunology from the Autonomous University Madrid(UAB)

**Dr. Arcediano del Amo, Alberto**

- ◆ Specialist in the Medical Oncology Service at the Hospital of Guadalajara: University
- ◆ Member of the team promoting the Cardio-Onco-Hematology Unit of the Hospital university de Guadalajara
- ◆ Member and researcher in the Spanish Society of Medical Oncology(SEOM)
- ◆ Member of the Scientific Committee of the XI National Meeting of Prostate Cancer, Renal Cancer and Bladder Cancer
- ◆ Co-author of the book Archivos Clínicos de Cáncer de Mama. Volume V

**Dr. Martínez-Salio, Antonio**

- ◆ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ◆ Editor of the Neurology content web portal Neurowikia
- ◆ PhD in Medicine from the Complutense University Madrid (UCM)
- ◆ Member of: Neurogeriatrics Study Group, Neuropathic Pain Study Group, Neurorecordings Scientific Team, Spanish Society of Neurology (SEN)

**Dr. Díaz Guzmán, Jaime**

- ◆ Coordinator of the Stroke Unit of the university 12 de Octubre Hospital
- ◆ Associate Professor of Health Sciences at the Complutense University of Madrid
- ◆ PhD in Medicine from the Complutense University of Madrid
- ◆ Specialist in Neurology at the 12 de Octubre University Hospital
- ◆ Author of more than a dozen scientific articles
- ◆ Co-author of the book Cien escalas en la Neurología ("One Hundred Scales in Neurology)

**Dr. Ostos, Fernando**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ♦ Professor of Pharmacology and Toxicology at the Complutense University of Madrid(UCM)
- ♦ Contributor to the journal Neurorecordings
- ♦ Co-author of several scientific articles related to the neurological and cognitive health areas
- ♦ Member of: I+12 Research Group at Hospital Universitario 12 de Octubre and Madrid Neurology Association (AMN)

**Dr. Ruíz Ortíz, Mariano**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ♦ Neurology Associate Physician at 12 de Octubre University Hospital
- ♦ Neurologist in the Quirónsalud Group at Hospital la Luz and Centro Médico Quirónsalud Valle del Henares
- ♦ Professor at the AMIR Academy in MIR studies
- ♦ Master's Degree in Neuroimmunology from the Autonomous University of Barcelona
- ♦ Master's Degree in Clinical Medicine from the Camilo José Cela University

**Dr. Méndez Guerrero, Antonio**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ♦ Medical collaborator in the project Calligraphy to stop Parkinson's disease
- ♦ Member of the Madrid Association of Neurology (AMN)
- ♦ Speaker at the XII Annual Meeting of the AMNE on the topics Infundibulohypophysitis as a manifestation of systemic lymphoma and stroke mimic by Listeria

**Dr. Domingo Santos, Ángela**

- ♦ Associate Physician of the Neurology Service at the 12 de Octubre University Hospital
- ♦ Professor and speaker in courses of the Neurology Area at Hospital General La Mancha Centro
- ♦ PhD in Medicine from the Carlos III University of Madrid
- ♦ Author of several research articles
- ♦ Collaborator and researcher in the book Neurology and Neurosurgery

**Dr. Sánchez Tornero, Mario**

- ♦ Physician specialized in the Neurology Service at the Hospital Universitario 12 de Octubre
- ♦ Researcher in the Program for the Promotion of I+ D+ i in the project i+12 of the 12 de Octubre University Hospital
- ♦ Speaker at the XLI Annual Meeting of the Spanish Society of Pediatric Neurology (SENEP)
- ♦ Member of: Spanish Society of Neurology (SEN) and Madrid Association of Neurology (AMN)

**Dr. Sancho, Aintzane**

- ♦ Physician specialized in the Medical Oncology Service at the Hospital Universitario de Cruces
- ♦ Associate Physician of Oncology at Osakidetza-Basque Health Service
- ♦ Associate Physician in the Medical Oncology Association at Hospital Universitario de Cruces
- ♦ Professor of the Master's Degree in Basic and Clinical Oncology at the University of the Basque Country/Euskal Herriko Unibertsitatea
- ♦ Oncology internship tutor at Hospital Universitario de Cruces
- ♦ Co-author of more than 30 scientific articles

**Dr. Yebra Yebra, Miguel**

- ♦ Specialist in Internal Medicine at the Ramón y Cajal University Hospital
- ♦ Internist at Quirónsalud. Madrid
- ♦ Physician Specialist of the Internal Medicine Department at Rey Juan Carlos University Hospital
- ♦ Degree in Medicine and Surgery from the University of Alcalá de Henares
- ♦ Specialist of Internal Medicine at the university 12 de Octubre Hospital
- ♦ More than a dozen publications in scientific journals
- ♦ Co-author of more than a dozen books and chapters related to the medical field

**Dr. De la Morena Vicente, Maria Asunción**

- ♦ Associate Physician, Neurology Specialist, Hospital Universitario Infanta Cristina, Madrid
- ♦ Area Physician specialized in Neurology at the Hospital Clínico San Carlos, Madrid
- ♦ Specialist in Neurology
- ♦ Research Project Manager of the Fundación para la Investigación Biomédica at the Hospital Clínico San Carlos
- ♦ Medical Specialist in Neurology, private professional activity in Centro de Estudios Neurológicos, Hospitales Sanitas, Centro Médico ICE and Hospital Sanitas La Moraleja
- ♦ Collaborator in Practical Teaching in the Department of Medicine of the Complutense University of Madrid (UCM)
- ♦ Bachelor in Medicine and Surgery from the Autonomous University of Madrid(UAM)
- ♦ Doctorate courses in Neurosciences at the UCM School of Medicine
- ♦ Specialty in Neurology via MIR at the Clinical Hospital San Carlos, Madrid

- ♦ Specific Training Program in Epilepsy of the Spanish Society of Neurology, carried out at the Epilepsy Unit of the Hospital Clinic of Barcelona
- ♦ Member of: Spanish Neurology Society, Spanish Epilepsy Society, Madrid Neurology Association, Research Committee at the Infanta Cristina University Hospital and Innovation Committee for the Health Research Institute of the Puerta de Hierro Majadahonda University Hospital

**Dr. Botella Romero, Francisco**

- ♦ Head of the Endocrinology and Nutrition Service at the Albacete University Hospital Complex and Management of Integrated Attention
- ♦ Associate Physician in the Puerta de Hierro Clinic
- ♦ Researcher specialized in Endocrinology and Nutrition
- ♦ Coordinator of the Nutrition Area of the Spanish Society of Endocrinology and Nutrition

**Dr. Blanco Palmero, Victor**

- ♦ Neurologist of the Unidad de Memoria del Hospital Ruber Internacional
- ♦ Neurologist of the Cognitive Impairment and General Neurology Unit of the 12 de Octubre University Hospital
- ♦ Researcher at the i+12 Research Institute at the Hospital Universitario 12 de Octubre in the Neurodegenerative Diseases Group
- ♦ Degree in Medicine and Surgery from the University of Valladolid
- ♦ Master's Degree in Research Methodology: Design and Statistics in Health Sciences by the Universitat Autònoma de Barcelona
- ♦ Postgraduate Diploma in Digital Teaching for Medicine at the CEU Cardenal Herrera University



**Dr. Mejías Estévez, Manuel**

- ♦ Coordinator of the Palliative Care Working Group of the Spanish Society of Primary Care Physicians
- ♦ Independent Advisor to the Technical Committee of the Palliative Care Strategy of the National Health System
- ♦ Director of the Training and Research Department at the SantÁngela Institute specializing in Chronic Illness, Mental Illness, Advanced Illness and Palliative Care
- ♦ Family Doctor for different instances and centers of the Andalusian Health System
- ♦ Master's Degree in Palliative Care from the University Pontificia Comillas
- ♦ Master's Degree in Care for Caregivers of Dependent Persons from the University of Seville
- ♦ Expert in Pain in Primary Care by the University of Cadiz

**Dr. Vicente Martín, Cristina**

- ♦ Associate Head of the Internal Medicine Department of the Palliative Care Unit at the Hospital Universitario Rey Juan Carlos, Madrid
- ♦ Internal Medicine Area Specialist at the Hospital General Universitario Nuestra Señora del Prado
- ♦ Internal Medicine Specialist at the Severo Ochoa University Hospital with attention in the Acute Palliative Care Unit
- ♦ Palliative Care Area Specialist at the San José Institute Foundation
- ♦ Area Physician Specialist in Palliative Care at the University Hospital Rey Juan Carlos
- ♦ Area Physician Specialist in Internal Medicine at the University Hospital Infanta Elena
- ♦ Associate Professor at the University Alfonso X el Sabio

- ♦ Specialist in Internal Medicine at Severo Ochoa University Hospital
- ♦ Master's Degree in Palliative Medicine and Supportive Care of the Cancer Patient by the Autonomous University of Madrid
- ♦ Master's Degree in Design and Statistics in Health Sciences from the Autonomous University of Barcelona

**Dr. Weber Sánchez, Alejandro**

- ♦ Director of Advanced Laparoscopic Surgery at Hospital Ángeles de las Lomas
- ♦ General Surgery Specialty at the General Hospital of Mexico
- ♦ Consultant Specialist in Laparoscopic Surgery at the General Hospital of Mexico
- ♦ PhD in Health Sciences, University Anáhuac, North of Mexico
- ♦ Postgraduate Certificate in Innovations from the Anáhuac University. Technological for the 21st Century Teacher
- ♦ Master's Degree in Bioethics from the Institute of Humanities of the Universidad Anáhuac
- ♦ Master's Degree in Teacher Training from the University Anáhuac
- ♦ Certificate Recovery Specialist by the Grief Recovery Institute
- ♦ Professor of the Basic Surgical Course in Accidents and/or Iatrogenies in Endoscopic Surgery by Johnson & Johnson Medical Mexico
- ♦ Professor of the Basic Course of Laparoscopic Surgery in Cholangiography and Biliary Tract Management at the Professional Support Center by Johnson & Johnson Medical
- ♦ Professor of the II Basic Course of Laparoscopy in Cholangiography and Biliary Tract Management at the Mexican Association of Laparoscopic Surgery by Johnson & Johnson Medical Mexico
- ♦ Author of the book Manual de Endosutura, by Johnson & Johnson Medical Mexico 1a. Ed. Mexico, D. F

**Dr. Llamas Velasco, Sara**

- ♦ SP of Neurology Service at the 12 de Octubre University Hospital
- ♦ Researcher at the Center for Biomedical Research Network in Neurodegenerative Diseases (CIBERNED)
- ♦ PhD in Medical-Surgical Nursing Sciences, Universidad Complutense de Madrid (UCM)
- ♦ Co-author of more than 40 scientific articles related to the neurological area
- ♦ Principal collaborator in 2 research projects Alzheimer, prevention from childhood and NEDICES (Neurological Disorders in Central Spain)

**Dr. Olivas Varela, José Ángel**

- ♦ Director of the Soft Management of Internet and Learning (SMILe) Research Group
- ♦ Research Collaborator of the Berkeley Initiative in Soft Computing (BISC) of the University of California
- ♦ Research Collaborator at the Artificial Intelligence Center at SRI International at Stanford University
- ♦ Research Collaborator of the Aerospace Engineering and Services Group (INSA-NASA)
- ♦ Director of the IT Department of Project & Portfolio Management (PPM)
- ♦ Consultant in Intelligent Systems for companies such as Southco, Danone or ATT
- ♦ Member of the Spanish Association for Artificial Intelligence

**Mr. Perdices Ramirez, Javier**

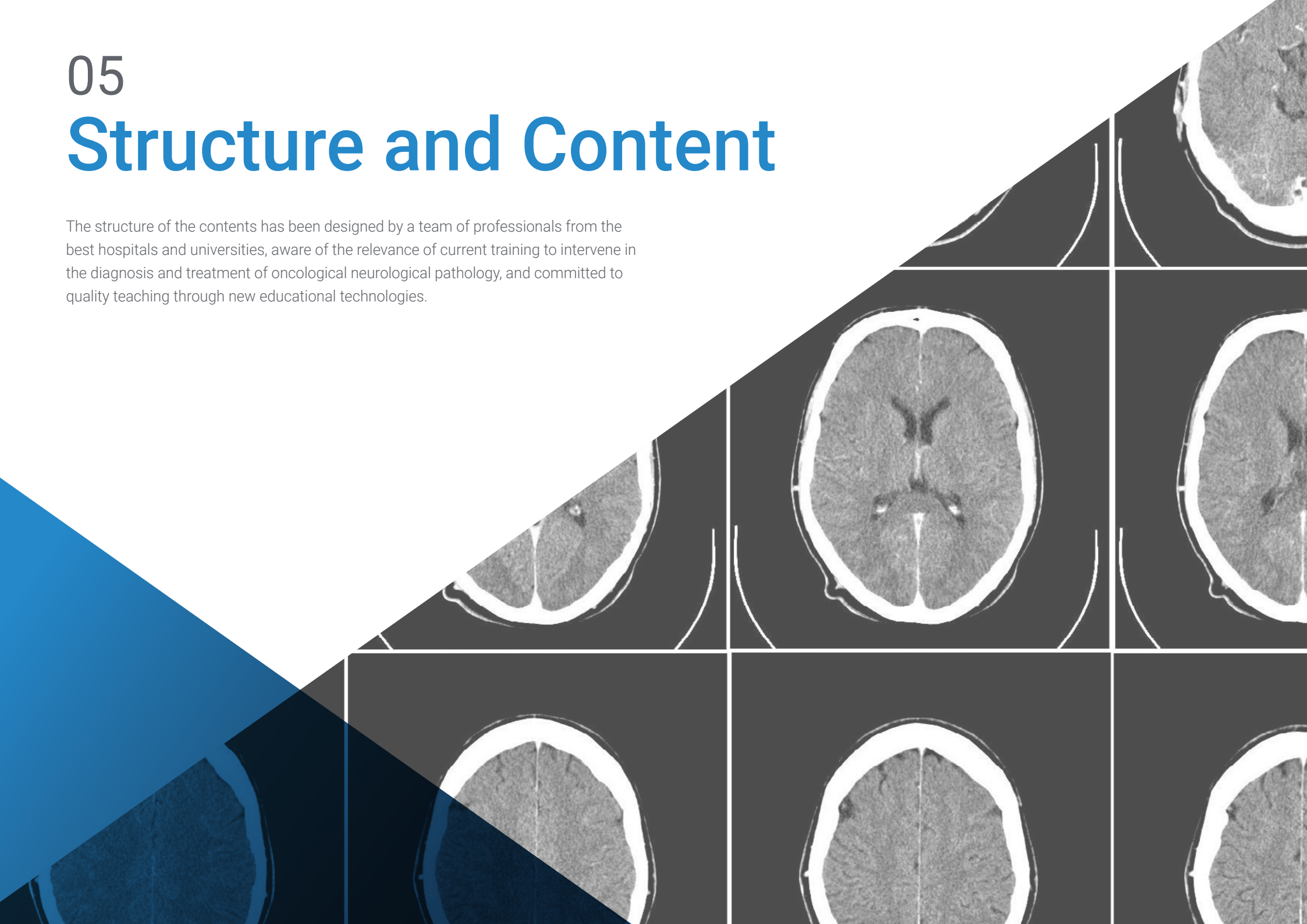
- ♦ Healthcare Senior Account Executive for Spain at Amazon Web Services
- ♦ CEO and Board Member at ChipCard Salud
- ♦ CIO at Redsys Health
- ♦ Senior Management Consultant at Minsait
- ♦ Director of E-Health at Ártica Telemedicina of the CMC Group
- ♦ Managing Director and Founding Partner at Ártica Telemedicina del Grupo CMC
- ♦ Researcher at ETSIT in the Bioengineering and Telemedicine Group
- ♦ Graduate in Telecommunications Engineering from the Polytechnic University of Madrid (UPM)
- ♦ Master's Degree in ICT Health Systems by the Universitat Oberta de Catalunya (Open University of Catalonia)(UOC)
- ♦ Postgraduate Certificate in Advanced Studies and Research Sufficiency from the Polytechnic University of Madrid (UPM)



05

# Structure and Content

The structure of the contents has been designed by a team of professionals from the best hospitals and universities, aware of the relevance of current training to intervene in the diagnosis and treatment of oncological neurological pathology, and committed to quality teaching through new educational technologies.





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*Update your skills with a multidisciplinary and dynamic Professional Master's Degree, perfect for updating your knowledge in Neuro-Oncology”*

### Module 1. Brain Tumors Biology

- 1.1. Molecular Mechanisms of Cancer
- 1.2. Tumor Immunology: Basis of Cancer Immunotherapy
- 1.3. Reprogramming of the Tumor Microenvironment
- 1.4. Epidemiology of Adult Primary Brain Tumors
- 1.5. Neuropathology of Primary Tumors of the Central Nervous System
- 1.6. Neuropathology of Metastases and Complications of Systemic Tumors
- 1.7. Role of the Biobank in Clinical Research
- 1.8. GEINO-GETHI Registry: a Big Step ForwardBORRAR
- 1.9. Molecular Classification of Brain Tumors
- 1.10. What is the Future of Molecular Diagnostics for Brain Tumors?
- 1.11. Understanding the New Technology: Next Generation Sequence (NGS) in Clinical Practice
- 1.12. Immunotherapy and Biomarkers
- 1.13. Liquid Biopsies: Fashion or Future?

### Module 2. Radiology in the Management of Brain Tumors

- 2.1. Magnetic Resonance Imaging
  - 2.1.1. Primary Tumors of the Central Nervous System
  - 2.1.2. Central Nervous System Metastases
- 2.2. New Magnetic Resonance Techniques in Neuro-Oncology
  - 2.2.1. Spectrometry
  - 2.2.2. Tractography
  - 2.2.3. Diffusion Tensor
- 2.3. Magnetic Resonance Imaging as a Prognostic and Follow-Up Tool in Treatment
- 2.4. PET-CT and PET-MRI in the Management of Gliomas
- 2.5. Computed Tomography (CT) in the Approach to Neuro-Oncologic Complications
- 2.6. Role of Nuclear Medicine in the Diagnosis of Neuro-Oncologic Complications

### Module 3. Neurosurgery of Brain Tumors

- 3.1. General Surgical Strategy in the Treatment of Patients with Primary Brain Tumors
- 3.2. Neuromonitoring in Primary Brain Tumor Surgery
  - 3.2.1. Neurophysiological Basis
- 3.3. Neuromonitoring in Brainstem and Spinal Cord Tumor Surgery
- 3.4. New Technologies to Aid Surgical Treatment
  - 3.4.1. Neuronavigation.
  - 3.4.2. Intraoperative Imaging
  - 3.4.3. Fluorescence
- 3.5. Awake Patient Surgery
  - 3.5.1. Indications
- 3.6. Awake Patient Surgery
  - 3.6.1. Anesthetic Considerations
- 3.7. Awake Patient Surgery
  - 3.7.1. Neuropsychological Evaluation and Preparation Protocols
- 3.8. Surgery in Special Locations
  - 3.8.1. Supplementary Motor Area
- 3.9. Surgery in Special Locations
  - 3.9.1. Language Preservation

### Module 4. Radiotherapeutic and Pharmacological Management of Brain Tumors

- 4.1. Radiation Therapy Management of Primary Brain Tumors
- 4.2. Radiation Therapy Management of Brain Metastases
- 4.3. Clinical trials: New Concepts Based on Precision Medicine
- 4.4. Results of Clinical Trials and Meta-Analyses with the Greatest Impact on Brain Tumor Clinical Practice
- 4.5. Real World Data Studies: Generating Knowledge

## Module 5. Diagnostic and Therapeutic Algorithms for Brain Tumors

- 5.1. Low-Grade Gliomas
  - 5.1.1. Latest Developments in Diagnosis and Treatment
- 5.2. Current Results in Gliomas with Checkpoint Inhibitors
- 5.3. Management of Truncal Gliomas
- 5.4. Management of Spinal Cord Glial Tumors
- 5.5. Treatment Algorithm of Anaplastic Astrocytoma
- 5.6. Treatment Algorithm for Low-Grade Oligodendroglioma
- 5.7. Treatment Algorithm for High-Grade Oligodendroglioma
- 5.8. Treatment Algorithm for Glioblastoma Multiforme
- 5.9. Antiangiogenic Treatment of Glioblastoma Multiforme
- 5.10. Immunotherapy Treatment of Glioblastoma Multiforme
- 5.11. Evaluation of the Efficacy of Immunotherapy in Neuro-Oncology
- 5.12. Monitoring and Management of Immune-Related Adverse Events
- 5.13. Treatment of Primary Brain Tumors in Older Adults
  - 5.13.1. What is the Best Strategy?

## Module 6. Pediatric Brain Tumors and Neuroncologic Complications

- 6.1. Brain Tumors in the First Decades of Life
  - 6.1.1. Epidemiology
  - 6.1.2. Histology and Prognostic Considerations
- 6.2. Brain Tumors in the First Decades of Life
  - 6.2.1. Surgery Considerations
  - 6.2.2. Perioperative Management
- 6.3. Oncologic Treatment in Primary CNS Tumors in Childhood
- 6.4. Neuro-Oncologic Complications in Children with Systemic Cancer

## Module 7. Special Brain Tumors

- 7.1. Algorithm for the Treatment of Germ Cell Tumors
- 7.2. Primary Central Nervous System Lymphoma
- 7.3. Ependymoma
- 7.4. New Techniques in Skull Base Surgery
  - 7.4.1. Introduction to the Endoscopic Technique
    - 7.4.1.1. Indications
    - 7.4.1.2. Complications
    - 7.4.1.3. Management
- 7.5. Management of Malignant Skull Base Tumors
  - 7.5.1. Chordomas
  - 7.5.2. Chondrosarcomas
- 7.6. Craneofaringioma
- 7.7. Solitary Fibrous Tumor/Hemangiopericytoma
  - 7.7.1. Update on a Rare and Difficult to Manage Tumor
- 7.8. Brain Tumors Associated with Hereditary Cancer Syndromes
- 7.9. Von Hippel - Lindau Disease and Hemangioblastoma
  - 7.9.1. Management
- 7.10. Brain Tumors and Neurofibromatosis

## Module 8. Cerebral and Leptomeningeal Metastases

- 8.1. Diagnostic and Therapeutic Algorithm for Brain Metastases
- 8.2. Role of Surgery and Radiosurgery in the Treatment of Brain Metastases
- 8.3. The Role of Chemotherapy in the Treatment of Cerebral Metastases.
- 8.4. Immunotherapy Treatment of Brain Metastases
- 8.5. Leptomeningeal Metastases as a Complication of Systemic Tumors
- 8.6. Spinal Cord Involvement as a Complication of Systemic Tumors
  - 8.6.1. Metastases in the Peripheral Nervous System as a Complication of Systemic Tumors

## Module 9. Paraneoplastic Syndromes and Comorbidities in Neurological Cancers


- 9.1. Concept and Pathogenesis of Paraneoplastic Syndromes of the Nervous System
- 9.2. Concept of Paraneoplastic Encephalomyelitis and Multifocal Syndromes
- 9.3. Diagnosis and Treatment of Paraneoplastic Limbic Encephalitis
- 9.4. Paraneoplastic Cerebellar Degeneration
- 9.5. Paraneoplastic Sensory Neuronopathy and Paraneoplastic Neuropathies
- 9.6. Identification and Treatment of Paraneoplastic Opsoclonus-Myoclonus
- 9.7. Lamber-Eaton Paraneoplastic Syndrome
- 9.8. Peripheral Nervous System Hyperexcitability Syndromes and Paraneoplastic Stiff Person Syndrome
- 9.9. Approach to Necrotizing Myopathy and Paraneoplastic Dermatomyositis
- 9.10. Lung Cancer and Neurological Comorbidity
- 9.11. Neurological Complications Associated with Digestive Tumors
- 9.12. Breast Cancer and Neuro-Oncologic Complications
- 9.13. Neurological Complications of Nephrouroinary Cancer
- 9.14. Gynecologic Cancer Neuroncology
- 9.15. Head and Neck Cancer and Neurological Comorbidity
- 9.16. Neurological Complications of Sarcoma
- 9.17. Melanoma and Neurological Complications
- 9.18. Neurological Complications of Lymphoma
- 9.19. Neurological Complications of Leukemia
- 9.20. Plasma Cell Dyscrasias and Neurological Comorbidity

## Module 10. Neurological and Medical Complications in Cancer

- 10.1. Management of Epileptic Seizures and Systemic Cancer
- 10.2. Prevention and Early Detection of Cognitive Impairment as a Complication of Systemic Cancer
- 10.3. Stroke and Cerebrovascular Complications in the Cancer Patient
- 10.4. Diagnosis and Management of Headache Associated with Neuroncological Problems
- 10.5. Hydrocephalus and Intracranial Hypertension as a Complication in Cancer
- 10.6. Neurological Complications of Radiotherapy
- 10.7. Neurological Complications of Chemotherapy





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- A close-up photograph of a person's head, showing the back and side of the scalp. The hair is pulled back, and there are several dark, wavy lines drawn on the skin, likely indicating surgical incision sites or areas of interest for a medical procedure. The background is slightly blurred, showing what appears to be a clinical or hospital setting.
- 10.8. Neurological Complications of Immunobiological Therapies
  - 10.9. Neurological Complications of Bone Marrow Transplantation
  - 10.10. Management of Infectious Comorbidities
  - 10.11. Management of Cardiovascular Comorbidities
  - 10.12. Management of Endocrinological Comorbidities
  - 10.13. Management of Nutritional Comorbidities
  - 10.14. Outpatient Care of Patients with Neuro-oncologic Pathology
  - 10.15. Palliative Care: from Pre-Oncology Assessment to End-of-Life Care
  - 10.16. Palliative Management of Symptoms in Brain Tumors
  - 10.17. Why do Patients with Brain Tumors Present to the Emergency Department and How Can Outcomes be Improved?

## Module 11. The Future Collaborative World in Neuro-Oncology

- 11.1. Basis of Clinical Management
  - 11.1.1. Organizational Aspects in Oncology
    - 11.1.1.1. Transversality
    - 11.1.1.2. High Tech and High Touch
    - 11.1.1.3. Organizational Innovation
    - 11.1.1.4. Tendency to Concentration of Cases
  - 11.1.2. Components of Clinical Management in Oncology
    - 11.1.2.1. Service Portfolio Development
    - 11.1.2.2. Patient Orientation
    - 11.1.2.3. Networking
    - 11.1.2.4. R+D+I Fundraising
    - 11.1.2.5. Results Oriented
- 11.2. Informed Consent: Are We Really Informing Our Patients?
- 11.3. Decision support Systems in Oncology Based on Artificial Intelligence
  - 11.3.1. Artificial Intelligence, Machine Learning, and Knowledge-Based Systems
  - 11.3.2. Decision Support Systems and their Applications in the Field of Medicine and Oncology
  - 11.3.3. The New Challenge of Big Data
- 11.4. Technological Platforms for Patient Monitoring and Control
- 11.5. The Collaborative Online World

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 Neuro-Oncology 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 Neuro-Oncology** contains the most complete and up-to-date scientific program on the market.

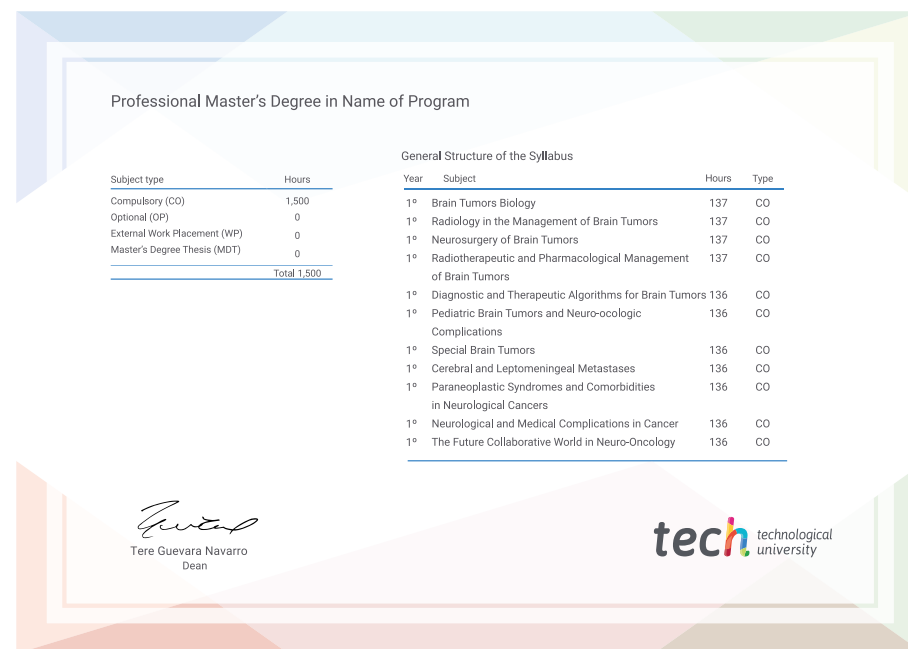
After the student has passed the assessments, they will receive their corresponding Professional Master's Degree diploma issued by TECH Technological University via tracked delivery\*.

The certificate issued by **TECH 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 Neuro-Oncology**

Official N° of Hours: **1,500 hours.**

Endorsed by: GETTHI



\*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.



## Professional Master's Degree

### Neuro-Oncology

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

# Professional Master's Degree Neuro-Oncology

Endorsed by:

