



# Postgraduate Certificate

# Brain Tumor Molecular Biology

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Global University

» Credits: 6 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/medicina/curso-universitario/biologia-molecular-tumores-cerebrales

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With the advances made in recent years, molecular biology has acquired a fundamental role in the diagnosis of brain tumors. Next Generation Sequencing is a major development for precision oncology, allowing the selection of specific treatments based on the detection of predictive molecular biomarkers. Together with the most recent studies in brain tumor biology and epidemiology, this is knowledge that specialists must have access to for a comprehensive and effective, up-to-date treatment. With this in mind, this program was created, combining the main advances in Brain Tumor Molecular Biology with the most effective practical methodology. Specialists will be brought up to date through an entirely online process, having the flexibility to combine this program with their most demanding responsibilities.



# tech 06 | Introduction

Thanks to developments in the field of molecular biology, neurological oncology has benefited from important advances in the diagnostic field of brain tumors. It is undeniable that molecular diagnostics is the future and present when dealing with neurological neoplasms, so specialists must be up to date with everything related to this new technology.

For this reason, this program makes an exhaustive review of the most recent scientific studies and postulates concerning the brain tumor biology and epidemiology. With a multitude of real clinical cases and highly interesting complementary readings, specialists will have access to a multimedia library full of high-quality content, specifically aimed at updating them in the most important subjects for their daily practice.

In addition, it has the advantage of being 100% online, with no face-to-face classes or fixed schedules. Specialists decide when, where and how to take on the entire educational workload, since all of the contents are accessible from any device with an Internet connection. This way, the program adapts to all kinds of situations and demands, both occupational and professional, being a preferential option to access the latest developments in Brain Tumor Molecular Biology.

This **Postgraduate Certificate in Brain Tumor Molecular Biology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- More than 75 clinical cases presented by experts in Brain Tumor Molecular Biology
- The graphic, schematic, and practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice.
- Diagnostic-therapeutic developments on the evaluation, diagnosis, and intervention in Brain Tumor Molecular Biology. 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 Brain Tumor Molecular Biology
- 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.





This Postgraduate Certificate is the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge in Brain Tumor Molecular Biology, you will obtain a qualification from TECH Global University"

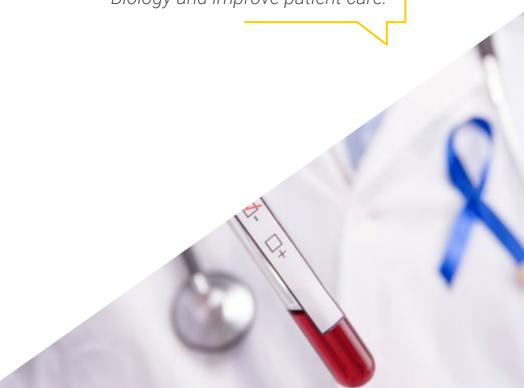
Its teaching staff includes professionals in the field of Brain Tumor Molecular Biology, who bring to this training the experience of their work, in addition to recognized specialists belonging to leading scientific societies.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare in real situations.

This program's design focuses on Problem-Based Learning, through which doctors must try to solve the different professional practice situations that arise during the academic year. For this purpose, specialists will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of Brain Tumor Molecular Biology with extensive teaching experience.

Increase your decision-making confidence by updating your knowledge through this Postgraduate Certificate.

Take the opportunity to learn about the latest advances in Brain Tumor Molecular Biology and improve patient care.







# tech 10 | Objectives

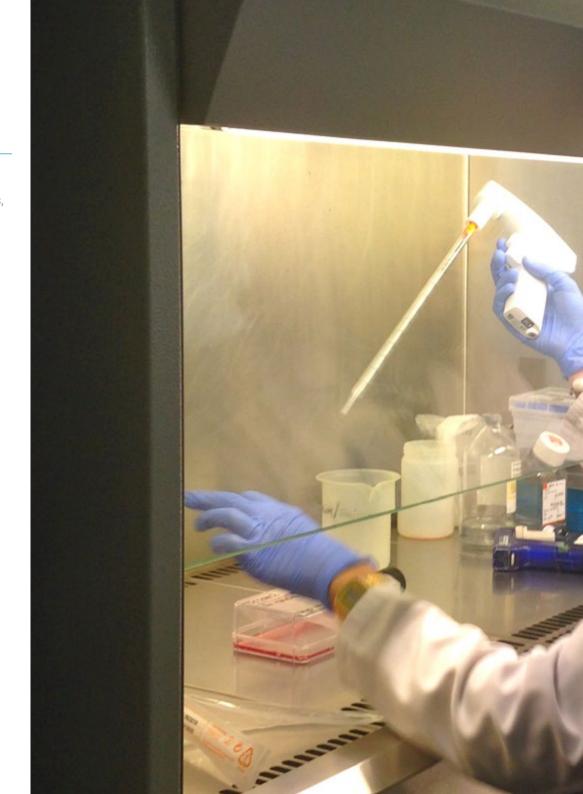


# **General Objective**

• Create a global and up-to-date vision of Brain Tumor Molecular Biology and all its aspects, allowing students to acquire useful knowledge while generating interest in expanding the information and discovering its application in their daily practice



Make the most of this opportunity and take the leap to get up to date on the latest developments in Neurologic Oncology"





## **Specific Objectives**

- 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, therefore enabling their classification







### **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

- International Expert in Neurological 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



### Address



### Dr. Oruezábal Moreno, Mauro Javier

- Head of the medical Oncology Service at La Paz University Hospital since 2017.
- PhD in Medicine from the Complutense University of Madrid.
- Master's Degree in Bioinformatics and Biostatistics UOC-UB
- Master's Degree in Bioinformatics Analysis, Pablo de Olavide University
- Research Fellow at University of Southampton
- Degree in Medicine and Surgery, Navarra University
- Member of the Spanish Society of Medical Oncology, 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 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.
- Neurosurgery Specialist, 12 de Octubre University Hospital
- Master's Degree in Medical and Clinical Management from the National School of Health.

### **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.
- Degree in Biological Sciences from the University of la Havana.
- Member of the Profarma Technical Committee

### Dr. Paramio Gonzalez, Jesús María

- Head of Division of the Molecular Oncology Unit of CIEMAT
- Researcher at the Institute for Biomedical Research of the 12 de Octubre University Hospital
- Specialist in Cellular Biology at CIEMAT

### Dr. Astudillo González, Aurora

- Doctor in Medicine Former Scientific Director of the Principality of Asturias Biobank
- 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 linked to the Central University Hospital of Asturias.
- TEDx Talks Speaker
- European Board of Neuropathology
- European Board of Pathology

### Velastegui Ordoñez, Alejandro

- Oncologist at the Rey Juan Carlos University Hospital
- Rotation at the Digestive Tumors Clinical Research Unit of the National Cancer Research Center
- 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. Hernández Laín, Aurelio

- SP of Neuropathology Service at the 12 de Octubre University Hospital, Madrid
- Associate Professor of Health Sciences at the Complutense University of Madrid
- Doctorate in Medicine from the Autonomous University Madrid
- Member of the Spanish Pathological Anatomy Society and its of Neuropathology Working Group

### Dr. Toldos González, Oscar

- SP of Pathological Anatomy Service at the 12 de Octubre University Hospital, Madrid
- Associate Professor of in the Health Sciences Department of Legal Medicine, Psychiatry and Pathology of Complutense University of Madrid.
- Co-inventor of the method for the diagnosis of Essential Thrombocythemia and the kit to perform it.
- Members of the Spanish Society of Endocrinology and Nutrition.
- Member of the Spanish Society of Pathological Anatomy Medicine.

### Dr. Bermejo Guerrero, Laura

- Neurology the 12 de Octubre University Hospital, Madrid
- Researcher specialised in Neurology
- Degree in Medicine

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### Dr. Rueda Fernández, Daniel

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

### Dr. López López, Rafael

- Head of the Medical Oncology Department, Complexo 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 in Vitoria
- Research Physician in the Department of Oncology at the Free University Hospital in Amsterdam
- 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
- Degree in Medicine from the Autonomous University Madrid.
- Permanent member of the Royal Academy of Medicine and Surgery of Galicia
- Member of: ESMO, Spanish Society of Medical Oncology (SEOM), American Society of Clinical Oncology (ASCO) and American Association for Cancer Research (AACR)

### Dr. Martín Medina, Patricia

- SP of Radiodiagnostics Service at the 12 de Octubre University Hospital, Madrid
- 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 the Spanish Society of Neuroradiology Medicine
- Member of the Spanish Society of Medical Radiology
- Co-author of the "Case of the month" March 2020 of the SENR

### Dr. Ruiz, Eva

Account and Research Director at Ipsos Healthcare

### Dr. Salvador Álvarez, Elena

- SP of Radiodiagnostics Service at the 12 de Octubre University Hospital
- SP of Radiodiagnosis and Diagnostic Imaging in Puerta del Sur MH
- 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 FANPSE

### Dr. Koren Fernández, Laura

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

### Dr. Calleja Salas, Patricia

• Neurology Service, 12 de Octubre University Hospital, Madrid

### Dr. De las Peñas Bataller, Ramón

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

### Dr. Ribalta, Teresa

- Specialist in Neuropathology
- Pathologist and Neuropathologist at Hospital Clínic of Barcelona, IDIBAPS
- 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 Universitat de Barcelona
- Degree in Medicine from the University of Barcelona

### Dr. Romero Coronado, Juan

- SP of Neuroradiology Service at the 12 de Octubre University Hospital, Madrid
- Neuroradiologist at Sanchinarro Hospital MH
- Head of the Neuroradiology Unit at Sanitas
- General radiologist in Millenium Núñez de Balboa Sanitas
- 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. 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
- SP of Neurology at the Institute of Neuropathology at Hospital Bellvitge
- Pathologist at Hospital Quirón

### Dr. Ramos González, Ana

- Head of Neuroradiology Service at 12 de Octubre University Hospital
- Diagnostic Imaging SP of the Radiodiagnostic Service 12 de Octubre University Hospital,
   Madrid
- Specialist in Radiodiagnosis and Diagnostic Imaging at Torrelodones MH, Sanchinarro MH and Puerta del Sur MH
- Associate Professor in Radiology and Physical Medicine at the Complutense University of Madrid
- 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. Blanco, Juan Antonio

- Associate Physician of the Diagnostic Imaging Service of the Central Radiodiagnostic Unit at the Hospital Infanta Cristina of Parla
- Associate Physician of the Diagnostic Imaging Service of the Alcorcón Hospital Foundation
- Physician collaborating in practical teaching at the Department of Radiology and Physical Medicine of the Faculty of Medicine
- Physicist of the Faculty of Medicine of the Complutense University of Madrid.
- Degree in Medicine and Surgery from the Autonomous University of Madrid.
- Specialist in Radiodiagnostics at the Hospital Clínico San Carlos de Madrid
- Member of the Head and Neck Tumors Committee of the Hospital Infanta Cristina.

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### Dr. Hilario Barrio, Amaya

- SP of Radiodiagnostics Service at the 12 de Octubre University Hospital, Madrid
- Associate Professor of Health Sciences in the Departments of Radiology, Rehabilitation and Physiotherapy in Complutense University of Madrid.
- Director of the X National Course of Neuroradiology
- PhD in Medicine from the University of the Basque Country
- Member of the Spanish Society of Neuroradiology

### Dr. Jover Diaz, 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 de Torrevieja
- 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 Miguel Hernández University

### Dr. Ruiz Solís, Sebastián

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

### Dr. Gómez Grande, Adolfo

- SP of the Nuclear Medicine Service at the 12 de Octubre University Hospital from Madrid.
- 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.
- Co-author of the article Diabetes mellitus secondary to IgG4-related disease published in the scientific journal Endocrinology, Diabetes and Nutrition.

### Dr. Jiménez Roldán, Luis

- Head of Patient quality and Safety of the Neurosurgery Service in the of the HU 12 de Octubre
- SP of the Neurosurgery Service at the 12 de Octubre University Hospital, Madrid
- Clinical practice teaching collaborator associated with surgical pathology at Complutense University of Madrid.
- PhD in Medicine from the Complutense University of Madrid.
- 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 the La Princesa
- Member and collaborator in the Spanish Sleep Society

### 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

### Dr. Pérez Nuñez, Ángel

- Head of Section of the Neurosurgery Service at 12 de Octubre University Hospital
- Specialist in Neuro-oncology at UCSF Brain Tumor Centre in 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.
- Founding member of the Multidisciplinary Neuro-Oncology Unit of the 12 de Octubre University Hospital
- Founding member of the Neuro-Oncology Research Group of the 12 de Octubre University Hospital
- Member of the Tumor Group of the Spanish Society of Neurosurgery

### Dr. Pascual Martín, Beatriz

• Neurosurgery Service, 12 de Octubre University Hospital, Madrid

### Dr. González León, Pedro

- SP of Neurosurgery Service at the 12 de Octubre University Hospital, Madrid
- Disseminator in the area of Functional Neurosurgery at the 12 de Octubre University Hospital
- Degree in Medicine from the University of Alcalá
- President of AFEM
- Collaborator and columnist in several journalistic media.

### Dr. Navarro Main, Blanca

- Specialist in speech therapy intervention and language disorders
- Specialist in speech therapy intervention and language disorders.
- Collaborating professor of the Master's Degree in Neuropsychology at the UOC
- PhD in the Department of Basic Psychology II at UNE
- Expert in Clinical Neuropsychology

### Dr. Dualde Beltrán, Diego

- Specialist in Neurology at the University Hospital of Valencia
- Associate Professor of Radiology and Physical Medicine at 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. Gómez Aparicio, Marian

- SP of the Radiation Oncology Service of the General Hospital of Ciudad Real
- Degree in Medicine
- Specialty 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

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### 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
- Member of the European Association of Neurosurgical Societies (EANS) and the Spanish Society of Neurosurgery (SENEC)
- Fellowship of the North American Skull Base Society

### 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. Sánchez Rubio, Javier

- Specialist Area Physician at the University Hospital of Getafe
- Postgraduate certificate in Health Technology Assessment Pompeu Fabra University
- Master's Degree in Pharmaceutical Sciences. Complutense University of Madrid

### Dr. Pérez, Vanesa

- Professor in Pediatric Hemato-oncology at the 12 de Octubre UH
- Doctor of Medicine from the Complutense University of Madrid.
- Member of the Children's Oncology Association of Madrid
- Speaker at the GEPAC Congress and member of the Spanish Group of Cancer Patients

### Dr. Paredes Sansinenea, Igor

- SP of the Neurosurgery Service at the 12 de Octubre University Hospital, Madrid
- Neurosurgeon at the Hospital Virgen de la Salud, 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 of the University of Murcia
- Pedro Mata Award 2015, 2017, 2017, 2018 and 2019 of the Neurosurgery Society of the Autonomous Community of Madrid

### Dr. Sepulveda Sánchez, Juan Manuel

- Coordinator of the Neuro-Oncology Multidisciplinary Unit at of the 12 de Octubre HU
- Head of the Neurology Service at MD Anderson
- Director of the Neuro-Oncology Program of the Neurology Service at the Ruber Internacional Hospital
- Specialist in Medical oncology at the 12 de Octubre Hospital
- Associate Neurologist at Getafe University Hospital
- Adjunct 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 Neuro-oncology Group (GEINO)

### 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: Johns Hopkins Hospital (Baltimore, USA), UMPC Hospital (University of Pittsburgh Medical Center, Pittsburgh, USA), INI Hospital (International Neuroscience Institute, Hanover, Germany) or in Sao Paulo, Brazil.
- 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 of Madrid.
- Member of the research group: Neurotraumatology and subarachnoid hemorrhage of the Neurosciences Area of the I+12
- Member of the Spanish Society of Neurosurgery (SENEC), the Spanish Society of Pediatric Neurosurgery (SENEPe), the European Neurosurgery Society (EANS) and the International Society of Pediatric Neurosurgery (ISPN)

### Dr. Pardo Moreno, Francisco Javier

- Head of the Neurology Department at the UH Rey Juan Carlos
- Director of Health Sustainability at the Hospital Rey Juan Carlos de Madrid
- Neurologist at the Alcorcón Hospital Foundation
- 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
- PhD in 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 Management and Healthcare Management from CEU

### Dr. Martín Soberón, Mari Cruz

- Associate Physician in Medical Oncology at the University Hospital Infanta Elena
- Associate Physician in Medical Oncology at the 12 de Octubre University Hospital
- SP of Oncology at the University Hospital of Albacete
- Professor of the Master's Degree in Neurological Oncology at the CEU Cardenal Herrera University
- PhD in Medical and Surgical Sciences from the Complutense University of Madrid
- Master in Medical Oncology by the Spanish Society of Medical Oncology
- Online Master's Degree in Palliative Care from the University of Valladolid

### Dr. Simó Parra, Marta

- SP of the Neurology Service at the Bellvitge Hospital
- Researcher in the group of Neuro-Oncology IDI BELL
- PhD in Medicine from the University of Barcelona
- Member of Cognition & Brain Plasticity Unit
- · Member of the Spanish Society of Neurology

### Dr. Guerra García, Pilar

- SP of Pediatric Hemato-Oncology at the 12 de Octubre University Hospital in Madrid
- 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 2 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

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### Dr. Mañe Martínez, Juan Manuel

- Associate Physician at the Medical Oncology Service at Cruces Hospital in Bilbao
- Specialist physician and researcher at the Biocruces Bizkaia Institute
- Lecturer in the Master's Degree in Basic Oncology at the University of the Basque Country
- Speaker at the Cruces Hospital Medical Oncology Association with the topic "Standard Chemotherapy in Ovarian Cancer"
- Members of the Spanish Neuro-oncology Research Group

### Dr. Pérez Altozano, Javier

- SP of the Medical Oncology Service at the Hospital Virgen de los Lirios de Alcoy
- 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
- 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 the Spanish Society of Oncology

### Dr. Bruna Escuer, Jordi

- Coordinator of the Neuro-Oncology Unit at the Bellvitge UH
- 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

### Dr. Burón Fernández, María del Rosario

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

### Dr. Azkona Uribelarrea, Eider

- Specialist in the Medical Oncology Service at Cruces University Hospital in Bilbao.
- Specialist physician and researcher at the Biocruces Bizkaia Institute
- Lecturer in the Master's Degree in Basic and Clinical Oncology at the UPV
- Researcher at the Biocruces Bizkaia Institute
- PhD in Health Sciences from the University of the Basque Country

### 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, 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.
- Master's Degree in Hematopoietic Transplantation at the University of Valencia
- Member of the Spanish Society of Hematology and Hemotherapy..

### 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
- Degree in Medicine and Surgery from the University of Valladolid specialized in Medical Oncology.
- Member of the Spanish Society of Medical Oncology

### Dr. Castaño-León, Ana María

- Associate Physician at the Neurosurgery Service of the 12 de Octubre 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
- Bachelor in Medicine and Surgery from the Autonomous University of Madrid
- Specialist in Neurosurgery at the 12 de Octubre At Hospital
- Member of the Neurotraumatology and HSA Group of the imas12 Institute

### Dr. Fernandez Alén, Jose Antonio

- Head of the Neurosurgery Department at the University Hospital de la Princesa
- Neurosurgeon at the 12 de Octubre University Hospital of Madrid.
- 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. Baro Fernández, María

- Specialist in Pediatric Hemato-oncology at the 12 de Octubre UH
- Doctor of Medicine from the Complutense University of Madrid.
- 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

### Dr. Camacho Salas, Ana

- SP in the Section of Child Neurology in the 12 de Octubre UH
- Associate Professor at the Faculty of Medicine of 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 SENEP Board of Directors

### Dr. Andrés Conejero, Raquel

- SP of the Medical Oncology Service at the Hospital Clínico Universitario Lozano Blesa.
- Associate Professor at University of Zaragoza.
- Degree in Medicine and Surgery
- · Specialist in Clinical Oncology
- Member of the Executive Committee of the SEOM Section
- Member of GEICAM

### 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

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### Dr. Iranzo Gómez, Patricia

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

### 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. Quintanar Verdúguez, Teresa

- SP of Medical oncology Service at the General of Elche UH
- SP of the Medical Oncology Service at the Vega Baja Orihuela Hospital
- Specialist in Oncology in the Clinical and Translational Research Unit at the General de Elche UH
- Tutor of resident doctors at the General de Elche UH
- 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
- Speaker and member of the Spanish Breast Cancer Research Group Foundation

### Dr. Quilez Bielsa, Elisa

- SP of the Medical Oncology Service at the Lozano Blesa UH
- Master's Degree in Initiation to Research in Medicine
- First prize +MIR 2018 by the Spanish Society of Medical Oncology
- Member and collaborator as a speaker of the SEOM

### Dr. Panero Perez, Irene

- SP of Neurosurgery at the 12 de Octubre University Hospital
- 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 12 de Octubre At Hospital
- Master's Degree in Clinical Problem Solving at the University of Alcalá de Henares
- Master's Degree in Aesthetic Medicine iTECH University CEU Cardenal Herrera
- International training as an observer in the Neurosurgery Service at Adenbrookes Hospital

### Dr. Eiriz Fernández, Carla

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

### 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 Gregorio Marañón University Hospital in Madrid
- Researcher at the Biomedical Research Foundation of the Gregorio Marañón University Hospital
- Doctorate in Medicine from the Autonomous University Madrid
- Master's Degree in Health Management and Administration at the International University of La Rioja.
- Postgraduate Diploma in Clinical Genetics from the University of Alcalá de Henares
- SEOM Accreditation of Excellence for Genetic Counseling in Hereditary Cancer

### Dr. Gonzalez de la Aleja, Jesús

- Associate Physician of the Neurology Department at the 12 de Octubre University Hospital of Madrid.
- 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

- SP of Neurology Service at the 12 de Octubre University Hospital
- SP at Madrid Montepríncipe Univeristy Hospital
- Coordinator of the SEN New Technologies Committee TecnoSEN
- Member of the team that won the Neurochallenge of the LXXIII Annual Meeting of the Spanish Society of Neurology
- Member of the Madrid Neurology Association
- First prize in the II Clinical Case Competition of the AMN

### Dr. Ortega Casarrubios, María Ángeles

- SP of Neurology at the 12 de Octubre University Hospital
- President of the Ethics Committee for Health Care at the 12 de Octubre University Hospital
- SP of Neurology of the Infanta Sofia University Hospital
- SP of Neurology at La Paz University Hospital
- Doctorate in Medicine from the Autonomous University Madrid
- Master's Degree in Bioethics from the Universidad Pontificia Comillas ICAI-ICADE
- Course for trainers in Bioethics, Fundación Ciencias de la Salud

### Dr. Moreno García, Sara

- Neurologist at the Neurology Specialty Center of the 12 de Octubre University Hospital of Madrid
- Coordinator of the Demyelinating Diseases Unit of the Neurology Department of the 12 de Octubre University Hospital
- Neurologist in the inpatient ward, in consultation of demyelinating diseases and in the Emergency Department of the 12 de Octubre University Hospital
- Neurology residents teacher
- Neurology resident tutor at the 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

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### Dr. Rodríguez López, Claudia

- SP of Neurology Service at the 12 de Octubre University Hospital of Madrid
- Researcher at the Center for Molecular Biology Severo Ochoa
- Researcher at the Deutsche Zentrum für Neurodegenerative Erkrankungen
- Degree in Medicine from the Autonomous University Madrid
- Degree in Physics from the National Distance Education University
- Specialization in Neurology
- SEN Resident Course in Neurodegenerative Dementias
- Training Course in Sleep Disorders for Residents and Adjuncts of Neurology of the SEN
- National End of Career Award by the Ministry of Science, Innovation and Universities

### Dr. Ballesteros Plaza, Loreto

- SP of the Neurology Section at the Infanta Cristina UH
- 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. Domínguez González, Cristina

- Physician of the Neurology Department of the 12 de Octubre UH
- 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. Labiano Fontcuberta, Andrés

- SP of Neurology Service at the 12 de Octubre University Hospital of Madrid
- PhD in Biomedical Science from the Complutense University of Madrid
- Postgraduate studies in advanced neuroimaging techniques and their applications at the University of Malaga
- Research Fellowship by the Spanish Research Institute Carlos III
- Fellow of Clinical Research in Multiple Sclerosis Carlos III Institute

### 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
- Doctor of Medicine from the Complutense University of Madrid.
- Speaker for the Federation of Multiple Sclerosis Associations of Madrid at various medical congresses
- Member and collaborating speaker of the Spanish Society of Neurology

### 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 in Genomics and Precision Medicine from the UNIR
- Master's Degree in Neuro-immunology from the Universitat Autònoma de Barcelona
- International rotations at the Federal University of Minas Gerais and at Ruprech
- Karls-Universität Heudelberg

### Dr. López Blanco, Roberto

- Medical specialist in Neurology at the Functional Recovery Unit of the Hospital Virgen de la Poveda
- Medical specialist in Neurology at the Hospital Universitario Rey Juan Carlos
- PhD Candidate in Research in Medical and Surgical Sciences at the Complutense University of Madrid
- Degree in Medicine from the Complutense University of Madrid.
- 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 UH
- Support Neurologist at the Motor Neuron Diseases Unit of the I+12 Research Institute of the 12 de Octubre Hospital
- Degree in Medicine and Surgery
- Specialist in Clinical Neurology
- Author of the poster "Hemicrorea 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. Sánchez Sánchez, Carmen

- Associate Physician of the Neurology Service at the 12 de Octubre UH
- Collaborator in the Ophthalmology Fields of the 12 de Octubre University Hospital
- 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 SEN
- · Co-author of more than thirty scientific articles

### Dr. Martín García, Hugo

- SP of the Neurology Section at the Infanta Cristina UH
- 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 SEN Meeting
- Co-author of several research articles related to cognitive disorders and the analysis of their derivations

### 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 I+12 of the Hospital 12 de Octubre
- Degree in Medicine from the Autonomous University Madrid.
- Specialist in Neurology associated with sleep at the 12 de Octubre Hospital
- Member of the Sleep Institute
- Member of the Spanish Society of Neurology

### Dr. Puente Muñoz, Ana Isabel

- Associate Chief of the Clinical Neurophysiology Service at Hospital La Luz.
- Head of the Clinical Neurophysiology Unit at Hospital Central de la Cruz Roja.
- Coordinator of the Sleep and Electroencephalography Unit at Hospital Quirónsalud Sur.
- · Coordinator of the Sleep Unit at Hospital 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. De la Morena Vicente, Maria Asunción

- Specialist in Neurology
- · Assistant Physician Specialist Neurology Infanta Cristina University Hospital, Madrid
- · Resident Neurology Physician, San Carlos Clinical Hospital, Madrid
- Neurology Area Specialist, San Carlos Clinical Hospital, Madrid
- Research Project Manager at the Fundación Investigación Hospital Clínico San Carlos
- Medical Specialist in Neurology private professional activity. Center for Neurological Studies. Sanitas Hospitals, ICE Medical Center and Sanitas La Moraleja Hospital
- Collaborator in Practical Teaching at the Department of Medicine, Faculty of Medicine UCM
- Degree in Medicine and Surgery. Autonomous University of Madrid
- Degree in Medicine and Surgery Faculty of Medicine Complutense University, Madrid
- Specialist in Neurology via MIR at the Hospital Universitario Clínico San Carlos Madrid
- Specific Training Program in Epilepsy of the Foundation of the Spanish Society of Neurology Performed at the Epilepsy Unit of the Hospital Clinic of Barcelona
- Member of Spanish Neurology Society, Spanish Epilepsy Society, Madrid Neurology Association, Infanta Cristina Hospital Research Committee, Innovation Committee, Puerta de Hierro Hospital Research Institute.

### Dr. Cabrera Gonzalez, Miguel Luis

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

### Dr. Sánchez Tejerina, Daniel

- Specialist in the Neuromuscular Diseases Unit at Vall d'Hebron Hospital
- SP of Neurology Service at the 12 de Octubre University Hospital
- Director of the research project on biomarkers in Amyotrophic Lateral Sclerosis
- Researcher in neuromuscular diseases at Vall d'Hebron University Hospital and VHIR
- Rotation at the Movement Disorders Unit at Columbia University Medical Center in New York
- Postgraduate certificate in Statistics in Health Sciences, within the continuing education program of the Autonomous University of Barcelona

### 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 expertise in the field of neurology

### Dr. Guerrero Molina, María Paz

• Neurology Service, 12 de Octubre University Hospital, Madrid

### Dr. González Sánchez, Marta

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

### Dr. Uriarte, David

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

### Dr. Garzo Caldas, Nicolás

- SP of Neurology at Can Misses Hospital
- Neurologist at Nuestra Señora del Rosario Hospital
- Neurologist at the 12 de Octubre Hospital
- Clinical observer at the NHS Hospital Foundation Trust
- PhD in Medicine from the University of Santiago de Compostela.
- Master's degree in Neuroimmunology from the Universitat Autónoma de Barcelona

### Dr. León Ruiz, Moisés

- MIR at La Paz University Hospital of Madrid
- 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. Domingo Santos, Ángela

- Associate Physician of the Neurology Service at the 12 de Octubre UH
- Lecturer and speaker in courses at La Mancha Centro in the area of Neurology (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. Díaz Guzmán, Jaime

- Coordinator of the Stroke Unit of the 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 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. 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 Biomedical Sciences from the Complutense University of Madrid
- Co-author of more than 40 scientific articles related to the neurological area
- Principal collaborator in 2 research projects: Alzheimer, prevention from childhood, NEDICES (Neurological Disorders in Central Spain)

### Dr. Saiz Díaz, Rosa Ana

- SP of Neurology Service at the 12 de Octubre University Hospital
- Teaching coordinator in the Neurodidacta platform in courses related to Epilepsy
- Specialist in Neurology and Neurophysiology.
- Member of the Spanish Society of Neurology
- Member of the Madrid Neurology Association

### Dr. Arcediano del Amo, Alberto

- SP of the Medical Oncology Service at the HGU of Guadalajara
- Member of the team promoting the Cardio-Onco-Hematology Unit of the Hospital de Guadalajara
- Member and researcher of the Spanish Society of Medical Oncology
- 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. Villarejo Galende, Alberto

- Head of Neurology Section at 12 de Octubre University Hospital
- Associate Physician in 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. Puertas Martín, Verónica

- SP in Pediatric Neurology at the Niño Jesús University Hospital
- 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 Faculty of Valladolid
- Specialist in Pediatrics and specific areas at the University Hospital Río Hortega in Valladolid

### Dr. Yebra Fernández, Eva

- SP of Diagnostic hematology oncology service at Hammersmith Hospital in London.
- SP of Hematology and Hemotherapy at the Virgen de la Salud Hospital
- SP of Severo Ochoa University Hospital
- Physician specialist at Imperial College Healthcare NHS Trust
- Speaker at the LXIII SEHH 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. Martínez-Salio, Antonio

- SP of Neurology Service at the 12 de Octubre University Hospital
- Member of the Neurogeriatrics Study Group and the Neuropathic Pain Study Group
- Member of the scientific team of Neurorecordings
- Editor of the Neurology content web portal Neurowikia
- PhD in Medicine from the Complutense University of Madrid.
- Member of the Spanish Society of Neurology

### Dr. Ruíz Ortíz, Mariano

- SP of Neurology Service at the 12 de Octubre University Hospital
- Neurologist at Quirón Salud (Hospital la Luz, Madrid and Centro Médico Quirón Salud Valle del Henares)
- AtteAssociate Physician of Neurology, 12 de Octubre Hospital
- Professor at the Academia de Estudios MIR SL (AMIR)
- Master's Degree in Neuroimmunology from the Autonomous University of Barcelona
- Master's Degree in Clinical Medicine from the Camilo José Cela University

### Dr. Sánchez Tornero, Mario

- SP of Neurology Service at the 12 de Octubre University Hospital
- Researcher in the Program for the Promotion of I-D-i in the i+12 of the 12 de Octubre University Hospital of Madrid
- Speaker at the XLI Annual Meeting of the Spanish Society of Pediatric Neurology (SENEP)
- Member of the Spanish Society of Neurology
- Member of the Madrid Neurology Association

### Dr. Ostos, Fernando

- SP of Neurology Service at the 12 de Octubre University Hospital
- Professor of Pharmacology and Toxicology at the Complutense University of Madrid
- Contributor to the journal Neurorecordings
- Co-author of several scientific articles related to the neurological area and cognitive health
- Member of the research group I+12 of the 12 de Octubre Hospital
- Member of the Madrid Neurology Association

### 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 12 de Octubre Hospital 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 Autónoma de Barcelona
- Postgraduate Diploma in Digital Teaching for Medicine at the CEU Cardenal Herrera University.

### Dr. Méndez Guerrero, Antonio

- SP of Neurology Service at the 12 de Octubre University Hospital
- Medical collaborator in the project Calligraphy to stop Parkinson's disease
- Member of the Madrid Neurology Association
- 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. Sancho. Aintzane

- SP of the Medical Oncology Service at Cruces Hospital in Bilbao
- Associate Physician of Oncology in Osakidetza
- Associate Physician at the Cruces Hospital Medical Oncology Association for the fight against Cancer
- Teacher of the Master's Degree in Basic and Clinical Oncology of the UPV-EHU
- Oncology internship tutor at Cruces University Hospital
- Co-author of more than 30 scientific articles.

### Dr. Yebra Yebra, Miguel

- Specialist in Internal Medicine at the Ramón y Cajal Hospital
- · Internist at Quirón Salud de Madrid
- Medical specialist in the Internal Medicine Service of the Rey Juan Carlos of Móstoles
- Degree in Medicine and Surgery from the University of Alcalá de Henares
- Specialist of Internal Medicine at the 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. Botella Romero, Francisco

- Head of the Endocrinology and Nutrition Service at the Albacete University Hospital Complex and Management of Integrated Attention
- Associate Physician of 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. 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 of the SantÁngela Institute (ISA) for Chronic 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 of 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 in the Internal Medicine Service of the Palliative Care Unit at the Rey Juan Carlos UH
- SP in Palliative Care at the Instituto Fundación San José
- SP in Internal Medicine Infanta Elena University Hospital
- SP in Palliative Care at the Rey Juan Carlos University Hospital
- Associate Professor, University Alfonso X
- 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, Luis 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 from the Universidad Anahuac Mexico Norte
- Postgraduate certificate in Innovations from the Universidad Anáhuac -Tecnológicas para el Profesor (Technological Innovations for the Teacher) of the XXI Century
- Master's Degree in Bioethics from the Institute of Humanities of the Universidad Anáhuac
- Master's Degree in Teacher Training from the University Anáhuac
- Certified Grief Recovery by the Institute Grief Recovery Specialist
- Leaders Academy Johnson & Johnson Institute

### 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 Informatics Department at PPM
- Consultant in Intelligent Systems for companies such as SOUTHCO, DANONE or ATT
- Member of the Spanish Association for Artificial Intelligence

### Dr. García Pérez, Daniel

• Neurosurgery Service, 12 de Octubre University Hospital, Madrid

### Dr. Perdices Ramírez, Javier

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



Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"

# **Structure and Content**

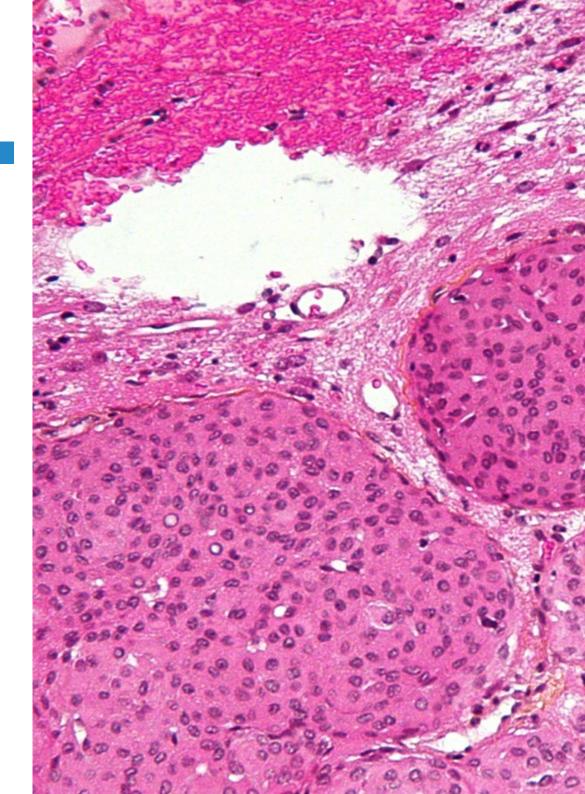
The content structure has been designed by a team of professionals from the best hospitals and universities in the country, aware of the relevance in current knowledge to intervene in the diagnosis and treatment of Brain Tumor Molecular Biology, and are committed to quality teaching through new educational technologies. ribin (Total&Direct)



## tech 38 | Structure and Content

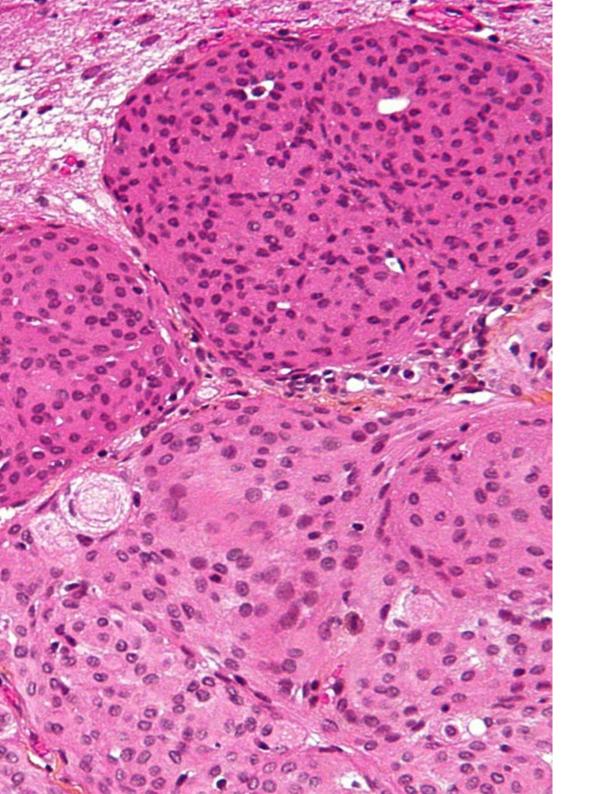
#### Module 1. Brain Tumors Biology

- 1.1 Biology and Epidemiology of Brain Tumors
  - 1.1.1. Molecular Mechanisms of Cancer
  - 1.1.2. Tumor Immunology: Basis of Cancer Immunotherapy
  - 1.1.3. Reprogramming of the Tumor Microenvironment
  - 1.1.4. Epidemiology of Adult Primary Brain Tumors
  - 1.1.5. Neuropathology of Primary Tumors of the Central Nervous System
  - 1.1.6. Neuropathology of Metastases and Complications of Systemic Tumors
  - 1.1.7. Role of the Biobank in Clinical Research
  - 1.1.8. GEINO-GETHI Registry: a Big Step ForwardBORRAR
- 1.2 Molecular Biology in the Diagnosis of Brain Tumors
  - 1.2.1. Molecular Classification of Brain Tumors
  - 1.2.2. What is the Future of Molecular Diagnostics for Brain Tumors?
  - 1.2.3. Understanding the New Technology: Next Generation Sequence (NGS) in Clinical Practice
  - 1.2.4. Immunotherapy and Biomarkers
  - 1.2.5. Liquid Biopsies: Fashion or Future?

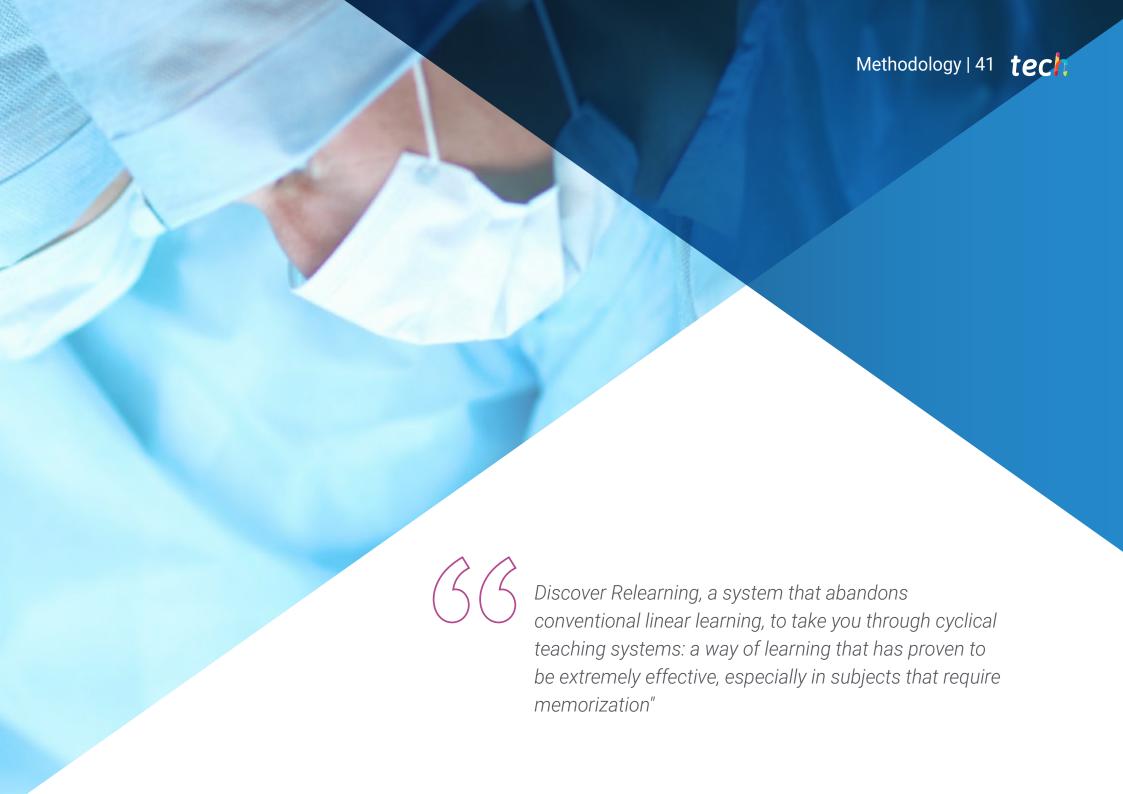




An unique, key, and decisive educational experience to boost your professional development"







## tech 42 | Methodology

#### 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:

- 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 Harvard case method with the best 100% online teaching methodology available: Relearning.

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.

The physician will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-theart software to facilitate immersive learning.



## Methodology | 45 tech

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.

## tech 46 | Methodology

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 adapted in 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.

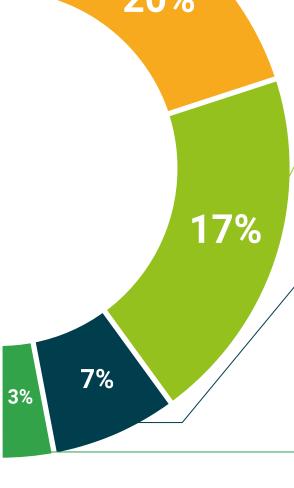
The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### **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.









## tech 50 | Certificate

This program will allow you to obtain your **Postgraduate Certificate in Brain Tumor Molecular Biology** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: Postgraduate Certificate in Brain Tumor Molecular Biology

Modality: online

Duration: 6 weeks

Accreditation: 6 ECTS



Mr./Ms. \_\_\_\_\_, with identification document \_\_\_\_\_ has successfully passed and obtained the title of:

#### Postgraduate Certificate in Brain Tumor Molecular Biology

This is a program of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024



tech global university

# Proin Tumor Molecular

Brain Tumor Molecular Biology

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

