

Cancer Center
Clínica Universidad
de Navarra

SCIENTIFIC REPORT 2023



Clínica
Universidad
de Navarra



Cancer
Center



The Cancer Center Clínica Universidad de Navarra (CCUN) is the oncology center at the University of Navarra that integrates – in its two locations in Pamplona and Madrid – the healthcare provision, research, and teaching activity in Oncology of the entire University of Navarra.

It began its journey in 2017, as a joint venture between the Clínica Universidad de Navarra, the Centre for Applied Medical Research (Cima), the Medicine, Nursing, Sciences, Pharmacy faculties, and the Tecnum School of Engineering, all at the University of Navarra. The project now represents the evolution of more than 40 years of experience in cancer at the University of Navarra.

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FOREWORD



The year 2023 has been a very special year for the Cancer Center Clínica Universidad de Navarra. It will stay in our memories because of the public presentation of an exciting project: firstly, at the end of January we brought together, in Pamplona, all the specialists and researchers from the centers of the University of Navarra that make up the CCUN and then, on the 2nd of February – taking advantage of the World Cancer Day – we put on a gala in Madrid, bringing together authorities, colleagues from public and private hospitals, scientific and patient associations, parties from industry and technological backgrounds, pharmaceutical companies, donors, and the media.

We want to be a comprehensive cancer center, with quality care, teaching, and research excellence. This first edition of the scientific report allows us to summarize the fruits of the constant and patient work undertaken by our translational researchers, mainly in the Cima Universidad de Navarra, and of the efforts of the Clinic's specialists to understand more about disease and find better cures, all integrated into the one overarching aim of the Cancer Center Clínica Universidad de Navarra..

We already have 43 research groups, all working with a common goal: to better understand cancer in order to care for patients in a more personalized way, improving their quality of life and achieving a cure. These groups are engaged in almost 170 lines of research and in 2023, they obtained funding for 75 new projects and published their progress in 280 scientific articles in international journals.

If in January and February we presented ourselves in Pamplona and Madrid, in June we went to Paris to make ourselves known to our European counterparts from the Organization of European Cancer Institutes (OECI), which integrates more than 70 institutions dedicated to oncological research and the provision of care. We returned with the joy of being a member of an institution that brings together all the European cancer centers and with a drive that, since then, has guided us to obtain the accreditation for the Cancer Center Clínica Universidad de Navarra as a comprehensive cancer center, something that will help us – just like our quiet and irreplaceable research work – to offer our patients the best outcomes for their illnesses.

Dr. Antonio González

Director of the Cancer Center Clínica Universidad de Navarra

1. THE CANCER CENTER CLÍNICA UNIVERSIDAD DE NAVARRA

1.1. Organizational chart

The Cancer Center Clínica Universidad de Navarra is the oncology center of the University of Navarra and adheres to the **comprehensive cancer center model**. Its mission is to integrate, coordinate, and enhance – adhering to the most demanding international standards – all the cancer-related care, research, and teaching activity that takes place in the Clinic, Cima, and other centers in the University of Navarra such as the biomedical and health area faculties, the Culture and Society Institute (ICS), TECNUN School of Engineering, and the Institute of Data Science and Artificial Intelligence (DATAi).

Having joined the **European Organization of Cancer Institutes (OECI)** in June 2023, the CCUN is now recognized as a ‘Center of Research Excellence’ by the **Scientific Foundation of the Spanish Association Against Cancer**.

This panel is governed by a **General Council**, chaired by María Iraburu (rector of the University of Navarra), which includes Paloma Grau (vice-rector for Research and Sustainability), Joseba Campos (general director of the Clínica Universidad de Navarra), José Andrés Gómez Cantero (general director of the Cima Universidad de Navarra), Esperanza Lozano (director of the Clínica Universidad de Navarra in Madrid), and Marta Ferrer (dean of the Faculty of Medicine).

I. CCUN GOVERNING BODIES

A. EXECUTIVE COMMITTEE

Permanent Committee:

Antonio González
(director)
José María Gutiérrez
de Cabiedes (executive
director)
Rubén Pío
(scientific director)
Gabriel Canel
(research manager)
María Ángeles Soferas
(director of the Nursing
Area)
Rafael Martínez Monge
(spokesperson)

Committee Members:

Jorge Baixauli
Felipe Calvo
María Dolores Lozano
Antonio Pineda-Lucena
Felipe Prósper
María Rodríguez
Javier Rodríguez
Bruno Sangro

B. INTERNAL SCIENTIFIC COMMITTEE

Jesús San Miguel
(president)
Rubén Pío
(scientific director)
Ana Fortuño (secretary)

Members:

Antonio González
Juan José Lasarte
Ignacio Melero
Matías Ávila
Felipe Prósper
Antonio Pineda-Lucena
Cristian Smerdou
Bruno Paiva
Luis Montuenga
Marta Alonso
Maite Huarte
Mikel Hernáez
Bruno Sangro
Ana Patiño
Rafael Martínez Monge
Julián Sanz
José Luis Pérez Gracia
Josepmaría Argemí
Mariano Ponz
Eduardo Castañón
Gabriel Canel
José María Gutiérrez
de Cabiedes

C. EXTERNAL SCIENTIFIC AND ADVISORY COMMITTEE

This committee is made up of scientists and high-level professionals with complementary knowledge who advise on the definition of the center's strategy and evaluate the progression of the different areas of the Cancer Center.

Jean Charles Soria
Ignace Vergote
Guido Kroemer
Josep Taberner
Begoña Barragán García
Cristina Ruiz Ortega
Cristina Garmendia
Mendizábal
Kurt Schalper
Kenneth C. Anderson
Vincenzo Valentini

1.2. Multidisciplinary areas

The Clínica Universidad de Navarra Cancer Center organizes clinical care for tumors through fourteen multidisciplinary areas that include the professionals, services, and departments involved in the diagnosis, treatment, and research of each of these tumor types at the two locations.

Each area has specific care protocols in place and integrates a personalized medicine program adapted to each one, as well as basic and translational research projects, a line of clinical trials and retrospective case registration, and in areas where it is appropriate, hereditary cancer programs.

AREAS

Head and Neck Cancer Area
Gynecological Cancer Area
Gastrointestinal Cancer Area
Hematological Cancer Area
Liver and Pancreas Cancer Area
Breast Cancer Area
Pediatric Cancer Area
Skin Cancer and Melanoma Area
Prostate Cancer Area
Lung Cancer Area.
Thyroid Cancer and Endocrine Tumor Area
Urological Cancer Area
Sarcoma Area
Central Nervous System Tumor Area

1.3. Research

The research areas of the CCUN are disease-oriented and involve the functional collaboration of multidisciplinary scientific teams that work with a translational approach.

AREAS

Gynecological Cancer Research Area

Breast Cancer Research Area

Melanoma and Non-Melanoma Skin Cancer Research Area

Neuro-Oncology, Sarcomas, And Pediatric Tumors Research Area

Onco-Hematology Research Area

Respiratory Tract Tumor Research Area

Liver And Digestive Tumor Research Area

Urological Tumor Research Area

GROUPS

The research work is carried out through **43 groups** (35 consolidated, 6 emerging, and 2 associated clinical groups).

Group	Principal investigator	Co-Principal investigator
Adhesion and Metastasis	Fernando Lecanda Cordero	Rafael Martínez-Monge
Aptamer Cancer Therapeutics	Fernando Pastor Rodríguez	
Computational Biology	Angel Rubio Díaz-Cordovés	
Biomaterials and Nanomedicine	Maria J Blanco Prieto	
Selenated Derivatives as Cancer Therapies, Trypanosomes and other Pathologies	Carmen Sanmartín Grijalba	Daniel Plano Amatriain
Vaccine Development	Pablo Sarobe Ugarriza	
Digital Medicine Lab	Rubén Armañanzas Arnedillo	
Dynamics of the Anti-Tumor Immune Response	Álvaro Teijeira Sánchez	
Epidemiology and Public Health	Miguel Ángel Martínez González	
Tumor Escape and New Targets	Juan Dubrot Armendáriz	
Combined Translational Immunotherapy Strategies	Ignacio Melero Bermejo	
Medical Physics and Biophysics	Javier Burguete Mas	Juan Diego Azcona Armendáriz
CCUN Pancreatobiliary Cancer Group	Silve Vicent	Mariano Ponz Sarvisé
Prostate Cancer Research Group	Bernardino Miñana López	
Breast Cancer Research Group	Marta Santisteban Eslava	
University of Navarra Lymphoma Group	José Ángel Martínez Climent	Sergio Roa Gómez
Renal and Urothelial Tumors Group	Felipe Villacampa Aubá	Daniel Sánchez Zalabardo

Group	Principal investigator	Co-Principal investigator
Translational Hematology	Felipe Prósper Cardoso	
Hepatology: Carcinogenesis	Carmen Berasain Lasarte	Maria Arechederra Calderón
<i>Immunotherapy Strategies in Peritoneal Carcinomatosis</i>	Fernando Aranda Vega	
Translational Immunomics in Hematological Neoplasms	Bruno Paiva	
Immunomodulation and the Tumor Microenvironment	Juan José Lasarte Sagastibelza	Teresa Lozano
Innovation for the Promotion of Family and Community Health	Navidad Canga Armayor	
Innovation for Person-Centered Care	Ana Carvajal Valcárcel	Maddi Olano Lizarraga
<i>Interdisciplinary Theragnosis and Radiosomics</i>	Felipe A. Calvo Manuel	
<i>Machine Learning for Biomedicine</i>	Mikel Hernaez Arrazola	
Palliative Medicine	Carlos Centeno Cortés	María Arantzamendi Solabarrieta
Metabolism, Epigenetics, and Liver Cancer	Matías Antonio Ávila Zaragoza	Maite García Fernández de Barrena
Myelodysplastic Neoplasms	Irene Gañán Gómez	
Neuro-Oncology, Sarcomas, and Pediatric Tumors	Jaime Gállego Pérez de Larraya	Marta M Alonso Roldán
<i>Non-Coding RNA and the Cancer Genome</i>	Maite Huarte Martínez	
Obesity and Cancer	Gema Frühbeck Martínez	Victoria Catalán Goñi
Applied and Translational Onco-Immunology	Miguel Fernández de Sanmamed Gutiérrez	
Hepatic Oncology	Bruno Sangro	
Translational Oncology	Rubén Pío Osés	Antonio González Martín
Medical Chemistry	Antonio Pineda-Lucena	
<i>Screening, Early Detection, Biomarkers, and New Therapeutic Targets in Lung Cancer</i>	Luis Montuenga Badía	Luis Seijo Maceiras
Microphysiological Systems and Quantitative Biology	Carlos Ortiz de Solórzano Aursua	
Adoptive Cellular Therapy	Sandra Hervás Stubbs	
Cancer Gene Therapy	Cristian Smerdou Picazo	
Gene Therapy in Hereditary Tumors	Gloria González Asequinolaza	
Cytokine-Based Therapies	Pedro Berraondo López	
<i>Therapeutic Non-Coding RNA and Integrated Stress in Cancer</i>	Puri Fortes Alonso	Josepmaría Argemí Ballbe

The efforts of all the groups have manifested in the elaboration of **168 different lines of research**.

1.4. CCUN data from 2023

1.4.1 Professionals

518
professionals

- 199 Cima
- 194 Clínica Universidad de Navarra
- 30 Faculty of Nursing
- 20 Faculty of Pharmacy and Nutrition
- 14 Faculty of Medicine
- 11 Faculty of Science
- 11 ICS - Culture and Society Institute
- 8 IdiSNA - Navarra Health Research Institute
- 7 DATAi - Institute of Data Science and Artificial Intelligence
- 7 Cima LAB Diagnostics
- 5 Tecnun - School of Engineering
- 4 CIBER - Centre of Networked Biomedical Research
- 8 Others

Professional profiles

281
doctors

107
doctoral

83
research technicians

47
Others

1.4.2 Publications (2022)

280
scientific publications

186
in the first-quartile

1.4.3 Competitive projects

75
competitive projects

27
national grant awards

12
international grant awards

1.4.4 Innovation

51
collaboration agreements

2
active licenses

1.4.5 Impact in the media

66
Press releases and news on cancercenter.cun.es

1.913
national and international media impressions

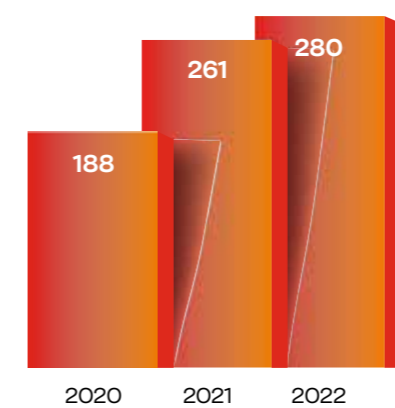
2. SCIENTIFIC ACTIVITY

2.1. Scientific production in data

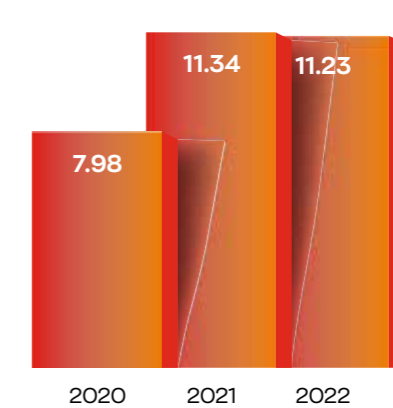
During 2022, the scientific activity of the CCUN gave rise to:

Publications	280
First-quartile	186
First-decile	78
Top-3	20
Median impact factor	11.23

Publications



IF



2.1.1. Selection of featured publications from 2022

Oncolytic DNX-2401 Virus for Pediatric Diffuse Intrinsic Pontine Glioma

Alonso MM et al.
New England Journal of Medicine
Cancer Division

First-decile. Top 3



Teclistamab in Relapsed or Refractory Multiple Myeloma

San Miguel J et al.
New England Journal of Medicine
Cancer Division

First-decile. Top 3



Stratification of radiosensitive brain metastases based on an actionable S100A9/RAGE resistance mechanism

Calvo A et al.
Nature Medicine
Cancer Division

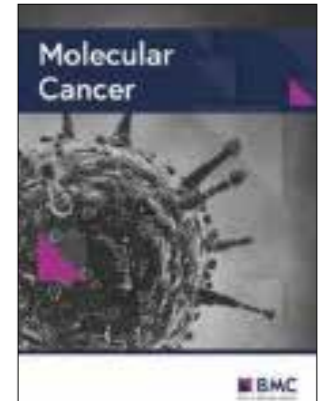
First-decile. Top 3



IL-6/STAT3 signaling in tumor cells restricts the expression of frameshift-derived neoantigens by SMG1 induction

Pastor F.
Molecular Cancer
Technological Innovation Division

First-decile. Top 3



Circulating Tumor Cells for the Staging of Patients With Newly Diagnosed Transplant-Eligible Multiple Myeloma

Paiva B et al.
Journal of Clinical Oncology
Cancer Division

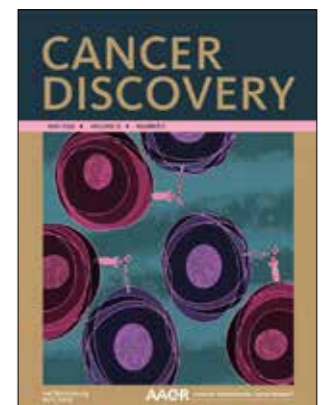
First-decile.



Tumor ENPP1 (CD203a)/Haptoglobin Axis Exploits Myeloid-Derived Suppressor Cells to Promote Post-Radiotherapy Local Recurrence in Breast Cancer

Martinez-Monge R, Lecanda F et al.
Cancer Discovery
Cancer Division

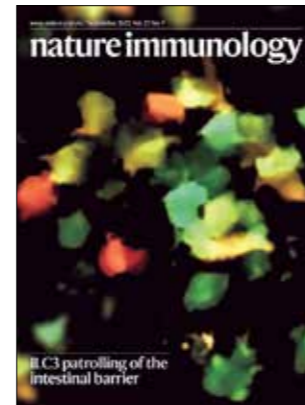
First-decile.



In vivo CRISPR screens reveal the landscape of immune evasion pathways across cancer

Dubrot J et al.
Nature Immunology
Cancer Division

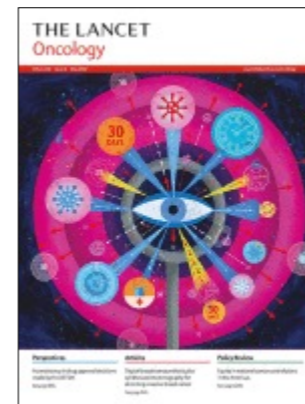
First-decile.



High-dose radiotherapy and risk-adapted androgen deprivation in localised prostate cancer (DART 01/05): 10-year results of a phase 3 randomised, controlled trial.

Calvo FA et al.
Lancet Oncology

Primer decil. Top3



Talquetamab, a T-Cell-Redirecting GPRC5D Bispecific Antibody for Multiple Myeloma.

Rodríguez-Otero P et al.
New England Journal of Medicine

First-decile. Top3



Sustained minimal residual disease negativity in newly diagnosed multiple myeloma and the impact of daratumumab in MAIA and ALCYONE.

San-Miguel J et al.
Blood

First-decile. Top3



miRNome profiling of lung cancer metastases revealed a key role for miRNA-PD-L1 axis in the modulation of chemotherapy response.

Montuenga LM et al.
Journal of Hematology & Oncology

First-decile. Top3



Preclinical Characterization and Phase I Trial Results of a Bispecific Antibody Targeting PD-L1 and 4-1BB (GEN1046) in Patients with Advanced Refractory Solid Tumors.

Melero I. et al.
Cancer Discovery

First-decile.



The importance of liver functional reserve in the non-surgical treatment of hepatocellular carcinoma

D'Avola D et al..
Journal of Hepatology

First-decile.



Next-generation sequencing of bile cell-free DNA for the early detection of patients with malignant biliary strictures.

Avila MA et al.
Gut

First-decile.



Charting roadmaps towards novel and safe synergistic immunotherapy combinations.

Sanmamed M et al.
Nature Cancer

First-decile.



YES1 Is a Druggable Oncogenic Target in SCLC.

Calvo A et al.
Journal of Thoracic Oncology

First-decile.



Interplay Between Duration of Androgen Deprivation Therapy and External Beam Radiotherapy With or Without a Brachytherapy Boost for Optimal Treatment of High-risk Prostate Cancer A Patient-Level Data Analysis of 3 Cohorts

Martinez-Monge R et al.
JAMA Oncology

First-decile.



2.2. Competitive projects

During 2023, the following was achieved:

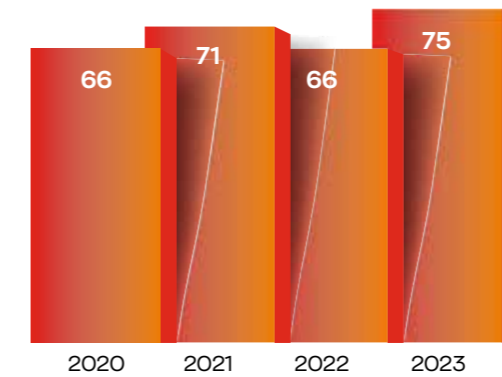
75
new
competitive
projects
273 active

27
new
national
grant awards
117 active

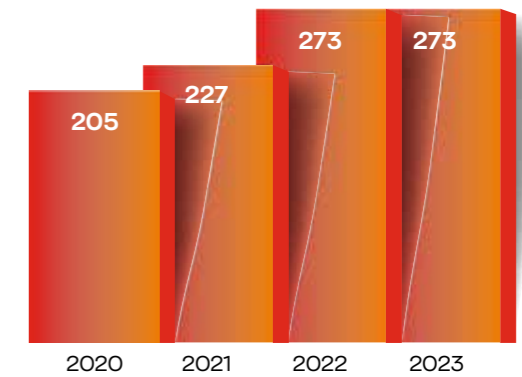
12
new
international
grant awards
43 active

€ 60.655.981
Total amount of grant awards

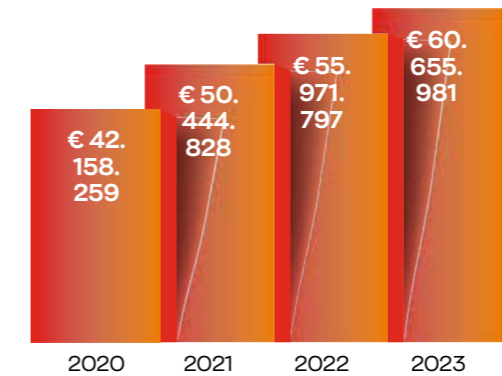
New competitive projects



Active projects



Total amount of grant awards



2.3. Innovation

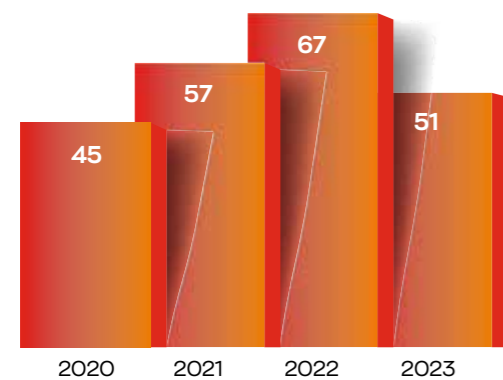
Contracts:

51
new
contracts

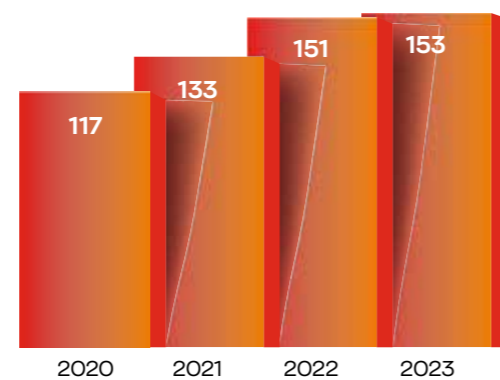
153
active
contracts

€ 17.133.373,27
Total amount in contracts

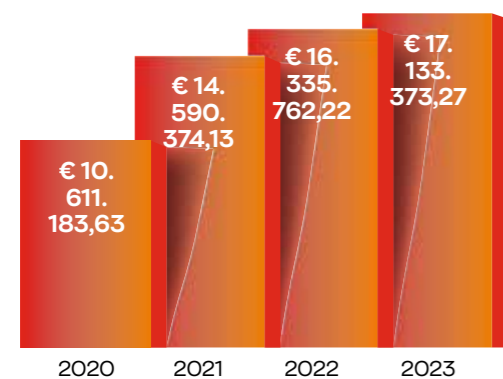
New contracts



Active contracts



Total amount in contracts



2.4. Training and talent

2.4.1 Scientific events

Training sessions

9/1/23	Immunology and Immunotherapy Program	Álvaro Teijeira
19/1/23	Gene Therapy and Regulation of Gene Expression Program	Patrick Theunissen
20/1/23	Solid Tumors Program	Judith Jiménez
9/2/23	Gene Therapy and Regulation of Gene Expression Program	Josep María Argemí
13/2/23	Immunology and Immunotherapy Program	Iñaki Eguren
19/2/23	Gene Therapy and Regulation of Gene Expression Program	José Antonio Mérida
23/2/23	Gene Therapy and Regulation of Gene Expression Program	Marc Güel
6/3/23	Immunology and Immunotherapy Program	Noelia Casares
17/3/2023	Solid Tumors Program	Marta Alonso
23/3/23	Gene Therapy and Regulation of Gene Expression Program	Richard Jenner
3/4/23	Immunology and Immunotherapy Program	Belén Aparicio
20/4/23	Gene Therapy and Regulation of Gene Expression Program	Diego Herrero
4/5/23	Gene Therapy and Regulation of Gene Expression Program	Daniel Elvira
15/5/23	Immunology and Immunotherapy Program	Leticia Corrales
22/5/2023	Immunology and Immunotherapy Program	Sandra Hervás-Stubbs
25/5/23	Gene Therapy and Regulation of Gene Expression Program	Iván Peñuelas
26/5/23	Solid Tumors Program	Paula Schiapparelli
5/6/23	Immunology and Immunotherapy Program	Enrique Conde
5/6/2023	Weizmann Institute	Alon Chen
29/6/23	Gene Therapy and Regulation of Gene Expression Program	Laura Prat
10/10/23	Solid Tumors Program	Beatriz Tavira
16/10/2023	Solid Tumors Program	Iker Ausejo-Mauleon
25/10/20	Solid Tumors Program	Fernando de Miguel
27/10/23	Solid Tumors Program	Marta Redondo
27/10/2023	Institute for Research in Biomedicine (IRB) Barcelona	Roger Gomis
5/12/2023	Technological Innovation Program	John D Lambris
14/12/23	Solid Tumors Program	Elena Sotillo

03|03|23

**IBC2023: Scientific workshop
on precursor hematological
malignancies**

13|06|23

**Particle Therapy Cooperative
Group (PTCOG) Annual Meeting**

Considered the most relevant event
worldwide in the field of proton therapy.
More than 1,300 professionals from 54
countries attended

**30|03|23**

Future Begins Now

The first symposium on new experimental
treatments, organized by the Cancer Center Clínica
Universidad de Navarra

**18|10|23**

**AstraZeneca Center of Excellence in
Lung Cancer**

Training for professionals from Mexico, Costa Rica,
Colombia, and Argentina



2.4.2 Theses defended

27
theses
defended

9
with an international
mention

PhD candidate: Tendobi Mbamba Baluanda
Viva date: 12 January 2023

PhD candidate: María de los Ángeles Gimeno
Viva date: 3 March 2023

PhD candidate: Irene Peris Martínez
Viva date: 13 March 2023

PhD candidate: Marta Domingo Osle
Viva date: 17 May 2023

PhD candidate: Itziar Cenzano Armendáriz
Viva date: 26 May 2023

PhD candidate: Ane Amundarain Iraola
Viva date: 29 May 2023

PhD candidate: Javier Melchor Sánchez
Viva date: 21 June 2023

PhD candidate: Amaia Etxebeste Mitxelorena
Viva date: 27 June 2023

PhD candidate: Belén Aparicio de la Torre
Viva date: 3 July 2023

PhD candidate: Claudia Augusta Di Trani
Viva date: 4 July 2023

PhD candidate: Xabier Martínez de Morentín
Iribarren
Viva date: 17 July 2023

PhD candidate: Nora Astráin Redín
Viva date: 26 July 2023

PhD candidate: Irene Olivera Valle
Viva date: 8 September 2023

PhD candidate: Cátia Patrícia Simoes Pinto
Viva date: 12 September 2023

PhD candidate: Assunta Cirella
Viva date: 18 September 2023

PhD candidate: Francisco Javier González Vaz
Viva date: 17 October 2023

PhD candidate: Ainhoa Goñi Salaverri
Viva date: 2 November 2023

PhD candidate: Ester Palmeiro
Viva date: 3 November 2023

PhD candidate: José María Herranz Alzueta
Viva date: 24 November 2023

PhD candidate: Yaiza Senent Valero
Viva date: 24 November 2023

PhD candidate: Souhaila El Moukhtari
Viva date: 27 November 2023

PhD candidate: Miriam Gutiérrez Jimeno
Viva date: 28 November 2023

PhD candidate: Íker Ausejo Mauleón
Viva date: 15 December 2023

PhD candidate: Inmaculada Aguilera Buenosvinos
Viva date: 15 December 2023

PhD candidate: Alejandro García-Consuegra
Viva date: 18 December 2023

PhD candidate: Sara del Mar Rodríguez Escobar
Viva date: 19 December 2023

PhD candidate: Nerea Berastegui Zufiaurre
Viva date: 20 December 2023

2.4.3 Accolades

The CRIS Against Cancer Foundation finances three research projects with more than 3 million euros

“We work so that research has more resources to carry out studies, tests, and projects, with the commitment of civil society. We promote the vocation of medical researchers.”

Marta Cardona, director of the CRIS Against Cancer Foundation

Three research programs have received €3,180,000 in grants in recent years from the Cancer Research Innovation Science (CRIS) Against Cancer Foundation, an independent organization that raises funds to support research in Spain, the UK, and France. The projects focus on the study of melanoma, multiple myeloma, and lung, ovarian, and kidney cancer and are directed by doctors Bruno Paiva, María Rodríguez, and Miguel Fernández de Sanmamed.



CCUN research into the most aggressive pediatric brain tumor receives the II Dr. Baselga Scholarship

The FERO Foundation reminds us that “very few children with this diagnosis survive beyond the second year, which highlights the urgent need to find a more effective and long-lasting treatment.”

Dr. Marta Alonso, researcher in the Pediatric Cancer Area, has received the II Dr. Baselga Scholarship, the most important grant awarded by the FERO Foundation, which promotes the development of translational oncological research. This €300,000 grant will be used to finance research into diffuse midline glioma, work that Dr. Alonso directs in the Laboratory of Advanced Therapies for Pediatric Solid Tumors at the Cima Universidad de Navarra.



Dr. Jaime Gállego receives the award for best research project of the year from the European Association of Neuro-oncology

“It is a recognition for patients who participated in the study and for their families, and is the work of a very large team that labors tirelessly to cure children and adults with brain tumors.”

The European Association of Neuro-oncology (EANO) has awarded its annual research award to Dr. Jaime Gállego Pérez de Larraya, coordinator of the Central Nervous System Tumors Area and co-director of the Cima Laboratory of Advanced Therapies for Pediatric Solid Tumors, for a project offering potentially promising results in terms of the survival of children with brainstem glioma, a pediatric brain tumor with a poor prognosis.

The research results of this team of medical specialists and translational researchers from the Clínica Universidad de Navarra and Cima were published in the New England Journal of Medicine. The judges valued not only the quality of the publication, but also the overall career of Dr. Gállego.



SEOM rewards the training, work, and research of three young oncologists from the CCUN

The scientific society has awarded the “Somos Futuro” (We are Future) prize to Dr. Anna Vilalta, the “Doctoral thesis for young researchers” award to Dr. Ignacio Matos, and a scholarship to Dr. Alejandro Gallego to launch a research project to investigate endometrial cancer.

The Spanish Society of Medical Oncology (SEOM) has awarded prizes and a research grant to three young CCUN specialists during its recent conference held in Barcelona. This is a series of distinctions intended to reward the work of Medical Oncology resident doctors based on their educational and professional merits and the completion of doctoral theses on topics related to oncology and precision medicine.



**Dr. Ignacio Melero,
XX Burdinola
Research Prize**

His most notable contributions have focused on immunotherapy strategies based on the 4-1BB (CD137) receptor and his pioneering work on immunotherapy for hepatocarcinoma, which has transformed medical practice

Dr. Ignacio Melero has been awarded the XX Burdinola Research Award, a prize that recognizes his career in translational research in cancer immunotherapy.

Since 1998, Dr. Melero has led a multidisciplinary team at the Cima Universidad de Navarra that works on immunotherapy with cell therapy techniques, gene therapy, and monoclonal antibodies. He combines his research activity at the CCUN and the Oxford Centre of Immuno-Oncology (OXCIO), a new center attached to the Departments of Medicine and Oncology at the British university



**The BBVA Leonardo
Scholarship for
Dr. Alvaro Teijeira**

Thanks to this grant, he will study a new biological drug that improves the effectiveness of immunotherapy.

UA project by Dr. Alvaro Teijeira Sánchez, researcher at the Cima Immunology and Immunotherapy Program, has been awarded one of the 58 Leonardo Scholarships from the BBVA Foundation program (which had received more than 1,100 applications) to promote research and cultural creation.

His project focuses on studying a new biological drug that improves the effectiveness of immunotherapy against cancer. "Many patients do not respond to cancer immunotherapy because of a lack of adequate immune cell infiltration into tumors. So, our objective is to generate a new type of biological drug that facilitates the entry of specific antitumor immune cells and sensitizes tumors to current immunotherapies," explained Dr. Teijeira.



The European Federation of Immunology Societies awards an Excellence Scholarship to the researcher in training, Ángela Bella

Ángela Bella, a PhD student in the Cima Immunology and Immunotherapy Program, has received the Mobility Scholarship awarded by the European Federation of Immunology Societies to promote the training of young researchers at institutions in the European Union. She is one of the two Spanish students who received this scholarship in this call, in which a total of ten excellence scholarships were awarded.

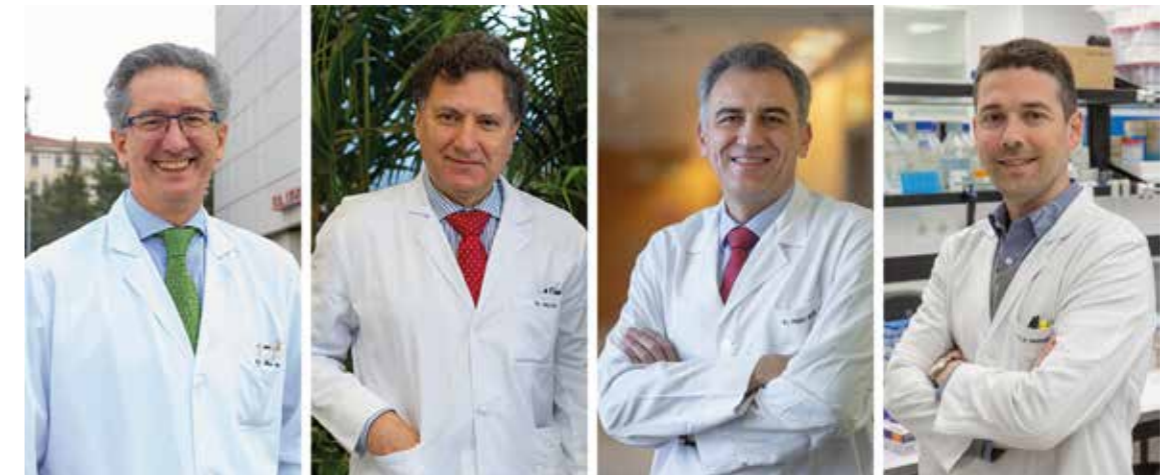
Ángela Bella will move to the Department of Oncology at the University Medical Center (UMC) in Amsterdam (Netherlands) to study new strategies for the treatment of peripheral metastases.



Four doctors are among the most cited researchers in the world

'Highly Cited Researchers' is a prestigious list prepared by Clarivate Analytics. In the 2023 edition, it recognized 7,125 scientists from 6 countries, which included 104 Spaniards.

Doctors Jesús San Miguel, Ignacio Melero, José Luis Pérez Gracia, and Miguel Fernández de Sanmamed appeared in the latest edition of the 'Highly Cited Researchers' list of the most cited scientists in the world. The list includes Dr. San Miguel and Dr. Melero for the fourth consecutive year and Dr. Pérez Gracia for the second time, while Dr. Fernández de Sanmamed appears for the first time.



Dr. Rodríguez Otero gives an educational session at the American Medical Oncology Association conference.

“CAR-T therapy has demonstrated great efficacy in the treatment of patients who have exhausted the usual therapeutic alternatives and earlier lines of treatment.”

Dr. Paula Rodríguez Otero, specialist in the Hematological Cancer Area, has presented an educational session at the annual American Association of Medical Oncology (ASCO) conference in Chicago, the most important meeting in the world for this specialty. The specialist explained the latest clinical results available with CAR-T cell therapy in different patient populations with an unmet clinical need and where standard treatments offer more modest results.



La Sexta rewards the scientific career of Jesús San Miguel

Dr. San Miguel was the Director of Clinical and Translational Medicine at the University of Navarra (2013–2023). In 2021, he received the Gregorio Marañón National Research Award. He is the author of more than 950 articles in the most important scientific journals and 120 book chapters and monographs.

Dr. Jesús San Miguel, senior consultant at the CCUN, has received the Constantes y Vitales Award for Biomedical Research and Prevention in Health from Diana Morant, Minister of Science and Innovation. This is the ninth year the awards have been given by the television network La Sexta and the AXA Foundation, which Dr. San Miguel can now add to the accolades he has already received for his scientific career.

According to its organizers, the Constantes y Vitales Awards aims to “recognize, support, and strengthen the research and prevention work of Spanish science and scientists in the field of health.”



3. INNOVATION AND KNOWLEDGE TRANSFER

3.1. Patents and research management

21
active
patents

1
new patents
requested

3.2. Innovation

The starting point of research into new drugs is to understand the real needs of patients and the mechanisms of the disease.

The first phases of discovery are carried out at the Cima Universidad de Navarra and their subsequent development is carried out with the help of pharmaceutical companies until these new drugs are made available to patients in the different care areas of the Clínica Universidad de Navarra Cancer Center.

In 2023, 53 collaboration agreements were reached to promote research and technology transfer.

53
collaboration
agreements

3.3. Other strategic alliances

A cancer research agreement with the Weizmann Institute of Sciences

Cima and the Weizmann Institute of Sciences in Israel have signed a cancer research agreement. The objective of this agreement is to launch three pioneering biomedical projects that combine artificial intelligence, cutting-edge genetic technology, and advanced therapies. These projects are aimed at improving the treatment of lung and pancreatic cancer, two of the most lethal tumor types, and multiple myeloma, the second most common blood cancer.

The agreement was made possible thanks to the initiative and contribution of the Alberto Palatchi Foundation, a philanthropic organization with multiple purposes, including promoting biomedical research and technological innovation.



The CCUN joins the European Organization of Cancer Institutes

The European Organization of Cancer Institutes (OEI) has admitted the Clínica Universidad de Navarra Cancer Center as a new member, after it presented its candidacy at the annual assembly of the European institution, held in Paris.

The acceptance of the Cancer Center Clínica Universidad de Navarra into the OEI was a step required for its future accreditation by the same organization as an integral or comprehensive cancer center.

As Dr. Antonio González, director of the CCUN stated, “the OEI endorses the objectives of the European Plan to Fight Cancer, which is aiming to develop a network of comprehensive cancer centers throughout all the European Union countries by 2025 so that in 2030, the majority of patients who require specialized treatment can access one of these centers and thus, receive the most appropriate treatments in the fight against oncological pathologies.”



An alliance with Johns Hopkins to promote proton therapy training in Spain

The Cancer Center Clínica Universidad de Navarra has reached a collaboration agreement with the Johns Hopkins Proton Therapy Center (Washington DC) to promote training and research in proton therapy among professionals in the Spanish National Health System. With this objective, it will offer training sessions through the Faculty of Medicine to improve research and treatments with radiotherapy technologies, with plans in the coming years to extend these treatments nationally.

Likewise, as part of this agreement, the Clínica Universidad de Navarra will reinforce specialized training of its oncologists, radiologists, physicists, dosimetrists, and biomedical engineers, with the implementation of learning and observation sabbaticals at the Johns Hopkins Proton Therapy Center facilities. In Washington, course participants will be able to learn about the American labs' equipment and working methods first-hand. In addition, they will delve into the fundamentals of proton therapy, clinical tests, and the most promising use indications that they can then apply in their own clinical practice.



The first clinical study of selective stimulation of 4-1BB protein as an immunotherapy for advanced solid tumors, in conjunction with Roche

Along with the pharmaceutical company Roche, the CCUN is leading a pioneering immunotherapy trial in patients with advanced solid tumors in which targeted activation of the novel protein 4-1 BB (RO7122290) by another target protein (FAP) has been tested. The results were published on the cover of the high-impact scientific journal Science Translational Medicine and show the ability of this type of treatment to stimulate an antitumor immune response.

Currently, more than 80% of patients do not adequately respond or show resistance to immunotherapy with monoclonal immunomodulatory antibodies. Thus, this research team opted to activate the 4-1BB receptor as a therapeutic option. The costimulatory activity of this protein in creating an antitumor immune response constitutes one of the main mechanisms under investigation to increase the effectiveness of treatments.



A BMS-supported clinical trial shows that CART therapy improves survival of early relapsed multiple myeloma patients

A phase III clinical trial has shown, for the first time, that CART lymphocyte therapy significantly prolongs survival in patients with multiple myeloma who had relapsed after 2-4 prior lines of treatment. This was the result of a clinical trial in which the CCUN participated, carried out in hospitals around the world and published in the New England Journal of Medicine.

The project, promoted by Bristol Myers Squibb, involved the participation of almost 20 national and international centers from 13 different countries, with the Clínica Universidad de Navarra Cancer Centre recruiting the most patients.



Researchers, specialists, and students receive the 2022 grants from the AECC in Navarra



AECC LAB grant. Dr. Alvaro Teijeira. To identify new ways to enhance the action of patient immune system cells against cancer to improve the effectiveness of immunotherapy.



AECC Researcher Grant. Dr. María Arechederra. Do develop and validate new liquid biopsy strategies for the early detection of liver cancer, which will allow earlier diagnosis and improve prognoses.



Junior Clinical Grant in the Navarra Territory. Dr. María Marcos Jubilar. To investigate how CAR-T cell treatment, and the secondary inflammation it produces, affects coagulation in order to identify parameters to optimize preventive treatment of these complications.



Globalization Grant. Dr. Antonio González. For research into personalized medicine in ovarian cancer thanks to an ERA PerMED grant, and to **Dr. Ignacio Melero**, to search for immunotherapy targets for liver metastases thanks to a TRANSCAN grant.



Laboratory Experience Program Grant. Aitana Ortiz. An intern student at the Cima Universidad de Navarra.

4. CLINICAL TRIALS

In 2023, 95 new clinical trials were managed and more than 1,000 CCUN patients were able to access a total of 469 studies. The trials recruited 445 new patients in 2023.

95	+1.000	469	445
new clinical trials	patients	studies	new patients

5.5. CCUN IN THE MEDIA



1,2 millones a la CUN para investigar la inmunoterapia en el melanoma

El programa CRIS financiará el trabajo del especialista del Cancer Center de la clínica Miguel Fernández

PAMPLONA – El especialista del Cancer Center la Clínica Universidad de Navarra Miguel Fernández de Sanmamed ha obtenido una ayuda de 1,25 millones de euros del programa CRIS de Excelencia para investigar la inmunoterapia en el melanoma y el cáncer de riñón. El trabajo, señala el experto, pretende “desarrollar modelos traslacionales que puedan reproducir la interacción entre el sistema inmu-

ne de un paciente frente a su propio tumor”, unos modelos que son “absolutamente esenciales porque a día de hoy no tenemos herramientas de este tipo que nos ayuden a refinar las mejores estrategias de inmunoterapia antes de aplicarlas en ensayos clínicos”. Gracias al programa CRIS de Excelencia podrá estudiar las causas de fracaso de inmunoterapia en pacientes con melanoma y cáncer de riñón, y a partir de este estudio diseñar estrategias orientadas a superar las barreras que impiden que la inmunoterapia funcione en estos pacientes, de forma que “los resultados permitirán diseñar ensayos clínicos más personalizados y más racionales,

buscando extender el éxito de la inmunoterapia”. En el marco del Día de la Ciencia, la Fundación CRIS entregó ayer sus galardones anualmente a la investigación contra el cáncer por un valor cercano a los 10 millones de euros a catorce investigadores y dos unidades de investigación hospitalarias. La Fundación CRIS tiene el objetivo a largo plazo de curar esta enfermedad promoviendo y financiando la investigación con fondos de la sociedad civil y por ello Mariano Barbacid, del Centro Nacional de Investigaciones Oncológicas y encargado de clausurar el acto, hizo un llamamiento a donantes y reclamó “más financiación pública”. – *Diario de Noticias*

infosalus / Investigación

Diseñan una calculadora que identifica un grupo de pacientes oncológicos con mejor pronóstico

El Cancer Center Clínica Universidad de Navarra lidera un ensayo pionero de inmunoterapia frente a tumores sólidos avanzados

Se trata del primer estudio clínico de la estimulación selectiva de la proteína 4-1BB como inmunoterapia frente a tumores sólidos avanzados. En el ensayo clínico han participado 115 pacientes a los que se ha administrado dosis semanales intravenosas de esta terapia como agente único o en combinación con Atezolizumab.

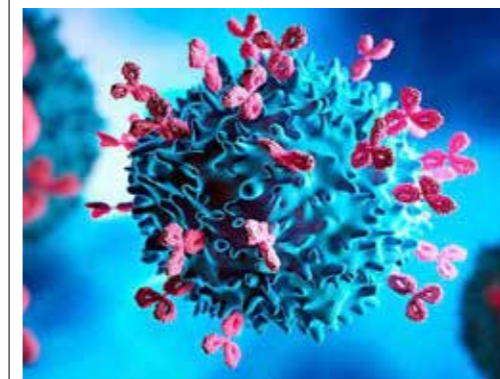
NUEVA OPORTUNIDAD PARA TUMORES HUÉRFANOS DE TERAPIA

Oncología. La proteína HER2 es una diana a la que se dirigen muchos tratamientos contra el cáncer de mama. Este mismo marcador podrá utilizarse a partir de ahora frente a otros tumores, como el de ovario o vejiga

Por **Pilar Pérez** (Chicago)

En el cáncer, como en la vida, hay clases. No sólo de pacientes con más o menos probabilidades de vivir sino tumores más o menos famosos, que cuentan con más recursos en investigación. Sí, suena cruel, pero es así. «El cáncer de mama tiene un componente social muy importante», cuenta Miguel Martín, presidente de Geicam (Grupo Español de Investigación en Cáncer de Mama) y jefe de Oncología Médica en el Hospital Universitario Gregorio Marañón. «La figura de la mujer ha hecho que se hagan más esfuerzos. Además, ella participa más en los ensayos, se ocupa y preocupa de la enfermedad». No obstante, las investigaciones en cáncer de mama han abierto la puerta a otros tumores, menos frecuentes, pero más agresivos y con menos opciones terapéuticas. En este caso, un marcador asociado al cáncer de mama, el HER2, se ha observado también en otros tumores. ¿Y si el HER2 está en más tumores que en el de mama podremos tratarlos de la misma forma a todos? La respuesta que han encontrado los investigadores ha sido positiva. ¿Con el mismo fármaco? Sí: en el Congreso de la Sociedad Americana de Oncología Médica

(ASCO) han presentado los resultados de un trabajo, el estudio Destiny-Pantumoz, que muestra cómo el empleo de un anticuerpo conjugado, trastuzumab-deruxtecan, se puede usar de forma transversal en varios tipos que tumores que comparten la sobreexpresión HER2, como los ginecológicos (endometrio, cérvix y ovario), genitourinario (vejiga), tracto biliar y páncreas, entre otros. Algunos tipos de células cancerosas de estos tumores producen una serie de cantidades anormales de esta proteína. Se cree que esto provoca que las células malignas se multipliquen con rapidez, lo que les permite viajar y colonizar otras partes del organismo. Por ello, «medir la cantidad de esta proteína en algunos tipos de células cancerosas sirve para planificar el tratamiento», explica Antonio González Martín, director del Cancer Center Clínica Universidad de Navarra y uno de los participantes españoles en el estudio. «Con este estudio vamos a cambiar la práctica clínica porque le vamos a dar una solución terapéutica a un subgrupo infrecuente de pacientes», remarca, esperanzada, Aranzazu Manzano, coordinadora clínica de la Unidad de Terapias Experimentales en Cáncer del Hospital Clínico San Carlos de Madrid.



Paula Rodríguez, hematóloga: «Sí que hay pacientes con mieloma que se curan»



La doctora considera que, en los últimos quince años, el abordaje de esta enfermedad y su pronóstico «ha cambiado completamente»
20 Jun 2023. Actualizado a las 11:03h.

Una investigación revela el perfil genético como clave en el desarrollo de cáncer en fumadores

Un trabajo llevado a cabo en Navarra ha indagado en la causa que lleva a que algunos fumadores tengan más propensión que otros a desarrollar un cáncer de pulmón

Desarrollan un nuevo sistema para predecir la evolución de los tumores de endometrio

Basado en la inteligencia artificial, permite predecir la agresividad de las células y ayudar a determinar el tratamiento de las pacientes



Newsweek sitúa a siete departamentos de la CUN entre los cien mejores del mundo de su especialidad

El Cancer Center Clínica Universidad de Navarra es el primer centro oncológico español, el 28º del mundo

La lucha contra el cáncer: lo que se investiga y lo que necesitan los pacientes

Más de un millón de diagnósticos de cáncer se han visto retrasados, o nunca se produjeron, como consecuencia del impacto que la pandemia del covid-19 tuvo en el normal funcionamiento de los servicios sanitarios europeos, lo que pudo tener graves consecuencias.

Rubén Pío, Director de la División de Cáncer del Cima Universidad de Navarra / Director Científico del Cancer Center Clínica Universidad de Navarra (CCUN), *Universidad de Navarra*

En buenas manos



Dr. Bartolomé Beltrán

Cáncer y protonterapia

Los avances en la medicina son importantes para tratar al nuevo paciente del siglo XXI. Uno que está empoderado, informado y que es partícipe de las decisiones que se tomen en su tratamiento. Uno de los últimos contra el cáncer es la protonterapia. Gracias a las propiedades físicas de los protones, esta terapia es, en la actualidad, la técnica radioterápica más avanzada y segura para tratar determinados tipos de cáncer. Aplicados en dosis específicas, los protones pueden actuar con precisión en el interior de los tejidos, consiguiendo un mayor efecto tumoricida y una mayor protección del tejido sano.

Para abordar las últimas novedades en este ámbito Madrid acogió la 61ª edición de la reunión anual del Grupo Cooperativo de Terapia de Partículas (Ptcog, en sus siglas en inglés). En él participaron más de 1.300 profesionales de 54 países. Tal y como señaló durante su inauguración el Dr. Alejandro Mazal, jefe del Servicio de Física Médica del Centro de Protonterapia Quirónsalud, «estamos orgullosos de que Madrid acoja esta reunión de primer nivel, ya que, con la apertura de nuevos centros prevista en España para los próximos años, nos vamos a convertir en uno de los países con más número de centros por habitante, lo que nos permitirá facilitar el acceso a más pacientes y seguir acumulando evidencia científica sobre sus beneficios».

A la inauguración oficial del congreso acudieron el presidente del Ptcog, Marco Durante, y representantes del Centro de Protonterapia Quirónsalud y el Cancer Center Clínica Universidad de Navarra, que participan como co-organizadores del congreso dado que actualmente son los únicos centros que cuentan con esta tecnología en España. Además, se impartieron cursos de formación intensiva pensados tanto en los nuevos proyectos de unidades o centros de protonterapia de España como a la hora de favorecer el acceso a profesionales de América Latina, donde esta terapia también comenzará a utilizarse en los próximos años.

THE OBJECTIVE

Sociedad

Descubren cómo se forma y evoluciona la leucemia

El hallazgo abre nuevas vías para el desarrollo de tratamientos contra esta patología

Descubren una de las causas de resistencia a la inmunoterapia del cáncer de pulmón más frecuente



Adolfo Galán y José Montalbán, investigadores de IISGONC en el CNIL