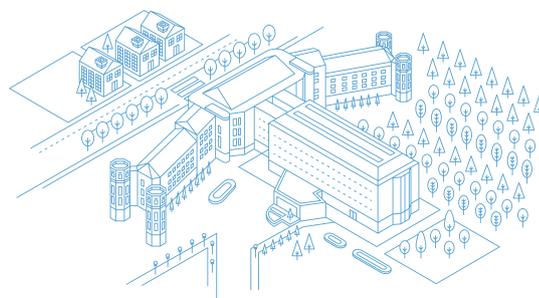


# CNIO FRIENDS

## newsletter

Latest news from the Spanish National Cancer Research Centre



 COLUMN

 CNIO SCIENCE NEWS

### Friends forever

Every new person who joins our initiative fills us with enthusiasm. Some on behalf of large companies, others are prepared to donate part of their savings and, even a few, donate the legacy of their lifetime. They are all motivated by a feeling of solidarity and by the conviction that laying the foundations of research today, will pave the way towards the development of a cure for cancer in the future.

Over these two months, we have had the opportunity to spend an afternoon with many of you in which we showed you what we do at the CNIO, and during which you reminded us, once again, of the importance of staying in touch with the people. Our Centre's doors are always open to welcome all you.

On top of your encouragement, the support received during this time brings special joy to us. On June 29th we announced a collaboration agreement with Juegaterapia. The CNIO had the pleasure to open its doors to members of this foundation and the singer and songwriter Alejandro Sanz, who came as the Juegaterapia Goodwill Ambassador. As a result of this partnership, a Postdoctoral Fellowship will be awarded for a period of two years to investigate childhood cancers.

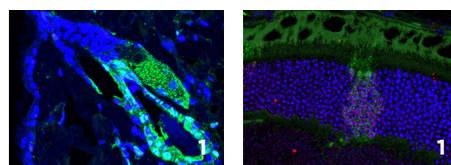
We hope our friendship with Juegaterapia (and with all of you) will last forever.

—MARIA A. BLASCO  
Director



From left to right: Mónica Esteban, Chairperson of Juegaterapia, María A. Blasco, Director of CNIO, and Alejandro Sanz, Juegaterapia's Goodwill Ambassador / CNIO

The Telomere and Telomerase Group has succeeded in creating mice in the laboratory with hyper-long telomeres and with reduced molecular ageing, thereby avoiding the use of what to date has been the standard method: genetic manipulation. This new technique, based on epigenetic changes and described in the pages of Nature Communications, avoids the manipulation of genes in order to delay molecular ageing. The paper shows that pluripotent stem cells that carry hyper-long telomeres can give rise to organisms with telomeres that remain young at the molecular level for longer. The study also underlines the importance of this new strategy in generating



embryonic stem cells and iPS cells with long telomeres for use in regenerative medicine (1). The Breast Cancer Clinical Research Unit, headed by Miguel Ángel Quintela, has published an important finding in Cell Reports regarding antiangiogenic agents, one of the most commonly used drug types to treat cancer. This paper describes a resistance mechanism to Tyrosine Kinase Inhibitors or TKIs –compounds that belong to the antiangiogenic family– and, more importantly, a way to revert it. Working on mouse models with spontaneous breast and lung cancer, they noted that adding an antidiabetic agent (phenformin) to the antiangiogenic drugs inhibited tumour growth by 92% and prolonged median overall survival of mice by more than 40%. The authors will launch an independent clinical study in the next few months to study the reversion of resistance to antiangiogenic drugs using phenformin (2).

 OUR CENTRE

At the CNIO, summer is synonymous with students: those selected for the summer training programme have already arrived. Eight youngsters, selected among more than 750 candidates worldwide, will spend eight intense weeks with us learning the ins and outs of scientific research.

In the laboratories, they will meet leading experts, such as Óscar Fernández-Capetillo, head of the Genome Instability Group, and Marcos Malumbres, head of the Cell Division and Cancer Group. Both are elected members of the European Molecular Biology Organization (EMBO); an honour conferred in “recognition of their contributions to scientific excellence” and as a “tribute to their research and achievements”. They will be joining their CNIO colleagues, María A. Blasco, Manuel Serrano,

Mariano Barbacid, Alfonso Valencia and Erwin F. Wagner, who are already members of this institution.

The Familial Cancer Conference was also recently held in Madrid. This event, which brought together leading international experts in the field, was organised by the CNIO jointly with the European School of Oncology (ESO) and the journal Nature Reviews Clinical Oncology.

On a different note, on May 5, the La Encantá Secondary School (Rojales, Alicante) organised a race to collect funds for ‘CNIO Friends’. Likewise, a charity concert was held in Jávea on May 11 in support of this initiative. We also had friend supporters collecting funds at the Edinburgh marathon. A real privilege.



## «Melanoma is an example of how investment in research leads to results for patients»

Last May, an international team headed by Marisol Soengas, head of the CNIO Melanoma Group, received funding from L’Oreal Paris USA, and from the Melanoma Research Alliance (MRA); the largest private funder of melanoma research worldwide.

### What are you going to investigate with the funds provided by MRA-L’Oreal Paris USA?

This project deals with the most singular aspect of melanoma: metastasis. This is the only type of tumour in which lesions with a minimal thickness (- two millimetres) have the capability of disseminating throughout the body. However, in some patients this process takes months, while in others it may take years. At the moment, there are no molecular markers that allow us to predict how and when metastasis is going to occur. To solve this problem, we are joining forces with basic and clinical groups with the aim of discovering what triggers the metastasis process and what mechanisms differentiate fast-growing melanomas from those that remain “dormant”. We also want to validate treatments that attack active cells, such as those that are “hidden” during dormant phases.

### The group you have formed consists of women. Is it necessary to promote the leadership of women in research?

As in many other fields, there is a lack of women in leadership positions. In



**Marisol Soengas**  
Head of the  
Melanoma Group

fact, less than 10 % of the groups that cooperate with the MRA are headed by women scientists (among them, one that I directed myself). On the other hand, in this project, which has incentivised the participation of women, more than 30 projects were submitted. It is important to stress that these projects went through a double assessment process: initially, one that assessed their scientific quality (regardless of the gender of the participants), and then their impact on the leadership of women.

### May is the melanoma awareness month. What has been achieved and what challenges still have to be met?

Fortunately, we have made excellent progress regarding our knowledge of melanoma and its treatment. We have identified mutations that allow for genetically-targeted therapies and we have developed strategies to activate a patient’s immune system, all of which are revolutionising this field of study. In particular, thanks to immunotherapy, in less than 10 years we have gone from 10 % to 60 % of patients in whom we can effectively inhibit metastasis. Melanoma is, therefore, a clear example of how investing in basic and clinical research can be translated into immediate benefits for patients.

## PROFILE



**María Teresa Fernández de la Vega**  
Former Deputy Prime Minister

“As a woman, I have no country”, wrote Virginia Woolf in *Three Guineas* (1938), an essay in which the author upholds the values of education, work and feminist militancy as a way to prevent World War II. Almost 90 years later, women are still taking their place in History, always being relegated to the background. “We are subalterns: we can speak but we are not heard”, complained María Teresa Fernández de la Vega, Executive President of the

Women for Africa Foundation, in her talk entitled ‘Recalled and Forgotten Feminist Memories’, which was given at the CNIO in May as part of the Women in Science (WISE) seminar series.

Memories of women who managed to become teachers in the mid-nineteenth century in Spain and who became “the first great feminists in our country”, asserted De la Vega. Memories of Margarita Nelken, Victoria Kent and Concepción Arenal, who were members of parliament during the Second Republic, in spite of the fact that they were not entitled to vote. Memories of the person who struggled and won that right to vote: Clara Campoamor. Memories of the rights that our mothers, grandmothers and great-grandmothers fought for. The decriminalisation of adultery, the right to decide, the recognition of women as human beings independent of their fathers or husbands. And something forgotten, the fact that one half of History has been omitted. De la Vega cited Marcela Lagarde: “We shall not be resigned to being considered as emerging beings forever”.

## INVITED SEMINARS

### DISTINGUISHED SEMINARS

**6 MAY**  
**ANDRÉS MOYA**  
University of Valencia (Spain)

**13 MAY**  
**ANNA M. WU**  
David Geffen School of Medicine at UCLA (USA)

**20 MAY**  
**MATHIAS HEIKENWÄLDER**  
German Cancer Research Center DKFZ (Germany)

**3 JUNE**  
**STEPHAN HERZIG**  
Institute for Diabetes and Cancer IDC (Germany)

### CNIO WOMEN IN SCIENCE OFFICE SEMINARS

**10 MAY**  
**MARÍA TERESA FERNÁNDEZ DE LA VEGA**  
Former Deputy Prime Minister and Executive President of the Women for Africa Foundation (Spain)

