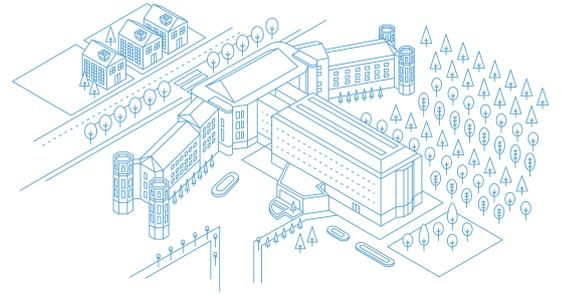


# CNIO FRIENDS

## newsletter

Latest news from the Spanish National Cancer Research Centre



### HIGHLIGHT

## Ten marathons for the fight against cancer

At first, we may think that science and sports have few things in common, but undertaking both disciplines requires dedicated effort and perseverance.

This was the thought that inspired Marcos Argumosa, from Santander, to finish his tenth consecutive marathon on 26 April to help raise funds for 'CNIO Friends' in aid of cancer research.

The response to his challenge, both in the social media as well as in the places that he visited along the way, has been amazing and it reflects the social awareness of these issues.

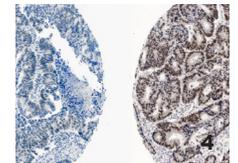
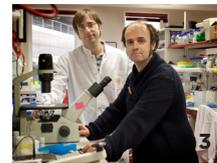
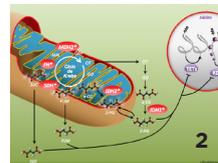
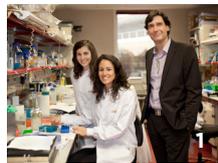
Thank you Marcos for your generous challenge, it has helped us to raise public awareness of the need to support cancer research. And thanks to all of you who have already supported our work at the CNIO, either by buying kilometres of these solidarity races or through other channels. Your collaboration motivates us to keep working on this important cause that affects us all.

—MARIA A. BLASCO  
Director



### CNIO SCIENCE NEWS

Researchers from the CNIO Tumour Suppression Group, led by Manuel Serrano, have developed an anti-obesity treatment effective in mice and monkeys, with no apparent signs of side effects or toxicities. The next step will be to study if this molecule might be effective in humans **(1)**. Alberto Cascón and Mercedes Robledo, from the Hereditary Endocrine Cancer Group led by Robledo, have identified the gene MDH2 as a new piece that is involved in hereditary neuroendocrine tumours. The discovery might enable genetic diagnosis prior to the appearance of the disease **(2)**.



The team of Óscar Fernández-Capetillo has succeeded in doubling the life span of mice suffering from premature ageing. The experiments may explain the beneficial effects of folic acid, which is clinically used to alleviate the degenerative symptoms associated with ageing **(3)**. Scientists led by Nabil Djouder, head of the Growth Factors, Nutrients and Cancer Group, have identified an oncogene (MCRS1) regulated by nutrients. Blocking this protein may prove to be an effective treatment for cancer or metabolic diseases such as diabetes **(4)**.

### OUR CENTRE

From 23 to 25 March, the CNIO held the international conference 'New Trends in Anticancer Drug Development', sponsored by Celgene.

For three days, researchers and oncologists from all over the world met at the CNIO to share and review the latest advances in oncology-related immunotherapy, epigenetics, stem cells and personalised medicine.

On the other hand, thanks to an agreement with the Hospital 12 de Octubre, in Madrid, the Clinical Research Programme headed by the oncologist Manuel Hidalgo has incorporated two new Clinical Research Units: the H120-CNIO Lung Cancer Clinical Research Unit, led

by Luis Gonzaga Paz-Ares, and the H120-CNIO Haematological Malignancies Clinical Research Unit, headed by Joaquín Martínez-López.

With the creation of these two new Units, the CNIO reinforces its Clinical Research Programme, which covers the study of tumours with higher incidence in Spain, including colorectal and haematological as well as breast, prostate and lung cancer.

We have also created the Electron Microscopy Unit, led by Jasminka Boskovic, and the Crystallography Unit, headed by Inés Muñoz. These Units will further strengthen the biotechnological capability of the Centre.



## «We will study why cancer from other organs originate metastasis in the brain»

After working for five years at the Memorial Sloan-Kettering Cancer Center in New York, one of the most renowned research centres worldwide, the researcher Manuel Valiente has returned to Spain to establish his own laboratory at the CNIO, devoted to the study of brain metastases. This is the first laboratory in Spain, and one of few in the world, fully dedicated to this research line.

### How important is the research on brain metastasis?

This is a very interesting project from a clinical perspective, because up to 30% of patients with cancer are likely to develop brain metastasis. Nowadays, people suffering from brain metastasis have a poor prognosis, due to the inexistence of an effective treatment, added to the loss of quality of life derived from metastasis-related neurocognitive deficits.

In many cases, chemotherapeutic treatments that successfully reduce metastasis to other organs are not able to do so in the brain. From a therapeutic perspective, some oncologists refer to the brain as a 'sanctuary' for metastasis; we need to be able to access the brain so we can apply new treatments.

### What is your research strategy?

My group will focus on understanding how metastatic cells reach the brain

and how they are able to survive there. Most cases of brain metastases originate from tumours in the lung, breast and, to a lesser extent, the skin, kidney, and colon; for all of them, those cancer cells have to carry out a common mechanism that allows them to dodge the defensive barriers of the brain against foreign cells. We will search for that common mechanism to combat metastasis.

### Why have you decided to establish your laboratory at the CNIO?

I was keen on merging my two main interests, neurological research and metastasis, in order to carry out a different approach to the problem. We want to be a leading laboratory in this field. We are going to build knowledge together with clinical researchers, in order to create new opportunities for improving treatments. This is why the CNIO, which counts with a Clinical Research Programme, is an ideal place to carry out the project.



**Manuel Valiente**  
CNIO Brain Metastasis  
Group Leader

## PROFILE



**Margarita Salas**  
Centro de Biología Molecular  
Severo Ochoa (CSIC-UAM), Madrid

On 14 April, the renowned researcher Margarita Salas visited the CNIO to give a talk about "My life with phage ø29". Her visit is part of the 'CNIO Women in Science Office' seminar series, which give visibility to the work of women scientists.

Salas highlighted two of the many satisfactions provided by her long and prolific scientific career. On the one hand, to have had the opportunity of

being involved in teaching: scientists currently working at the CNIO are former students of Salas, such as CNIO Director Maria Blasco, Manuel Serrano, Marisol Soengas and Juan Mendez.

The second satisfaction she pointed out is to witness the practical application of her scientific work in areas as diverse as biotechnology, archaeology, genomics and forensics. Salas mentioned one of her great mentors, the Spanish Nobel Laureate Severo Ochoa, who stated that quality basic research can have unforeseen applications that ultimately benefit humanity.

Margarita Salas was the first Spanish scientist to become a Member of the US National Academy of Sciences. From 1992 to 1993 she was the Director of the Centro de Biología Molecular Severo Ochoa, the only woman to date to hold this position.

## INVITED SEMINARS

**DISTINGUISHED SEMINARS**  
**20 MARCH**  
**THIJN BRUMMELKAMP**  
Netherlands Cancer Institute (The Netherlands)

**24 APRIL**  
**STEPHEN WEST**  
London Research Institute (United Kingdom)

## CNIO WOMEN IN SCIENCE OFFICE SEMINARS

**10 MARCH**  
**CARMEN VELA**  
Secretariat of State of Research, Development and Innovation (Spain)

**14 APRIL**  
**MARGARITA SALAS**  
CBMSO, CSIC-UAM (Spain)

