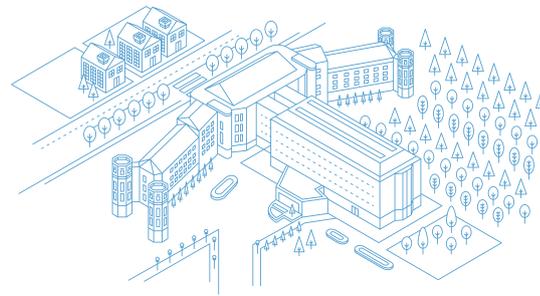


CNIO FRIENDS

newsletter

Latest news from the Spanish National Cancer Research Centre



COLUMN

The adventure of the unknown

The most significant developments in human history were achieved because scientists were curious enough to search for the unknown. On this past Books' Night, on April 26, we addressed this subject celebrating Victor Frankenstein, the scientist immortalised by British author Mary Shelley in Frankenstein, or the Modern Prometheus, one of the masterpieces of modern science fiction. Thanks to the support of "la Caixa", we met at CaixaForum Madrid with writers Fernando Marias, Lorenzo Luengo and Cristina Higuera to look at Frankenstein as a lover of knowledge rather than a mad scientist.

The purpose of our panel discussions are to provide a means of bringing science – an integral part of human culture – closer to society. Along similar lines, we also organise CNIO Arte, an initiative to support cancer research by purchasing a work of art by photographer Chema Madoz inspired by the work of physicist Ignacio Cirac. For more information, please send an email to cnioysociedad@cnio.es

Thanks to an individual donation received through the 'CNIO Friends' platform, we were able to launch a call for applications for the postdoctoral contract programme 'Eva Plaza/CNIO Friends'. The selected candidate will have the opportunity to carry out a 2-year postdoctoral stay at the CNIO doing research into triple-negative breast cancer, which is one of the rarest but also most aggressive forms of breast cancer – and among those with few treatment options. Our most recent supporters include Asociación Supernenas and Asociación Social Los Fuertes de El Espinar (Segovia). Also, we receive many new donations every week. Thank you all for your support!

—MARIA A. BLASCO
Director

CNIO SCIENCE NEWS

An international study co-led by CNIO has identified a 'sensor' that activates cell migration. This finding can help broaden knowledge of how tumour invasion and metastasis are initiated (+). Researchers from the Hereditary Endocrine Cancer Group have identified a new gene involved in the development of two rare endocrine tumours – paraganglioma and pheochromocytoma. This finding can help broaden the number of families that may benefit from prevention, early detection and monitoring programmes (+).

Researchers from the Experimental Oncology Group have published the results of a study that shows the full regression of pancreatic

cancer in mice upon combined inhibition of two cell components. No full regression had been observed in advanced pancreatic cancer in experimental models before (+). The Microenvironment and Metastasis Group has been able to assess melanoma progression using a new liquid biopsy technique. They tested the fluid obtained from the drainage implanted after surgery, which is normally disposed of as medical waste. This method can detect melanoma patients with risk of recurrence and thus may help doctors decide who should undergo adjuvant therapy. The future goals are to verify whether liquid biopsy can be used to analyse blood directly and to explore its potential use in other tumours (+).

OUR CENTRE

Lustgarten Foundation and Stand Up to Cancer (USA) have granted one million dollars to a project co-led by CNIO and Columbia University to explore genetic factors and the potential relationship of the microbiome and the immune system with pancreatic cancer. The project is aimed at identifying high-risk populations for this type of cancer. The individuals could then be selected for screening to detect their cancer early and, therefore, improve their survival. The project is co-led by Núria Malats, Head of the Genetic and Molecular Epidemiology Group at CNIO, and Raúl Rabadán, Professor at Columbia University.

Manuel Valiente, Héctor Peinado and Marisol Soengas, Heads of the Brain Metastasis, Microenvironment and Metastasis, and Melanoma Groups, respectively, were awarded with the Ramón Areces Foundation Grants for Research Projects in Life Sciences and Matter. The funds will be channelled into cancer

research projects. Also, in March, Valiente was one of the 20 Spanish scientists selected by the Ministry of Science to participate in an event entitled 'Meeting with Science: Research in Spain in the 21st Century', organised by the Royal Household of Spain.

The Seve Ballesteros Foundation challenge was held in April with the aim of raising funds for the Seve Ballesteros Foundation Brain Tumour Group, led by Massimo Squatrito at CNIO. The Group focuses on glioma, one of the most common types of brain tumours.

In addition, CNIO and the Sociedad Española de Oncología Médica (SEOM) have reached a collaboration agreement whereby medical doctors and other health professionals working in cancer will have the opportunity to integrate in the CNIO's laboratories for training stays in the context of the CNIO Training for MDs Programme.



“Our test will improve overall survival for patients with melanoma”

When melanoma is surgically removed, some patients are said to be ‘cancer-free’ and they do not get additional treatment. However, should the fluid obtained in the drain implanted after surgery be tested using the liquid biopsy technique rather than being disposed of as medical waste, the test might predict a high or low risk of cancer recurrence. Patients with a high risk of late recurrence would get post-surgery treatment. This is a recent finding by the Microenvironment and Metastasis Group at CNIO, who have discovered that there are biomarkers in the fluid collected from surgically treated patients that reveal the presence of specific mutations and help determine the risk of the cancer coming back after some time. This is very important in melanoma, since it is an aggressive tumour type that metastasises in a large number of patients. Researchers will now try to confirm whether the liquid biopsy technique could be even easier to perform directly on blood samples and whether it can be used in other types of tumours as well.

We interview Héctor Peinado, Head of the Microenvironment and Metastasis Group at CNIO.

What is the current status and future prospects to accurately determine the risk of melanoma recurrence?

The truth is, we strongly need to find biomarkers that help determine the risk of recurrence. Currently, all the patients meeting clinical risk criteria undergo treatment. Tests are required to help determine the specific treatment for each patient and also to improve pharmacological response, tailoring it according to the characteristics of individual patients.



Héctor Peinado
Head, Microenvironment and Metastasis Group, CNIO

Photo: CNIO

How can your finding help achieve diagnostic improvement?

Our study has confirmed that, in melanoma patients, we can identify populations with higher risk of recurrence using a highly sensitive, accurate test of the fluid that is collected from the drainage tube inserted after surgery. Our test could be used to determine patients’ prognosis after lymphadenectomy and also to improve classification. Patients with a higher risk of recurrence would get post-surgery treatment, and so we could extend their survival based on molecular criteria.

Could the applicability of your method be translated to clinical practice?

Yes. The method is performed in collaboration with clinical laboratories and could easily be applied in clinical practice. Hospitals could apply it in patients with melanoma or other tumours whose treatment involves lymphadenectomy and in patients who have a sentinel node examined. Our technique only requires collecting seroma fluid and establishing the relevant protocol for collection, storage and analysis. We tested it in a group of 16 patients over a two-year follow-up. We are now planning to conduct a clinical study involving more patients.

PROFILE



Photo: SEOM

Ruth Vera
SEOM

As it happens in other professional fields, in oncology, the number of women exceeds that of men... except in managerial positions. In April, we welcomed Ruth Vera, President of the Sociedad Española de Oncología Médica (SEOM), who participated in one of our WISE

Seminars, organised by the Women in Science Office, where we try to raise awareness and deepen understanding of gender issues. Vera wondered whether the forms of leadership should be changed and proposed a formula to do away with the gender gap in oncology: education, choice, freedom and lack of self-imposed limitations.

Ruth Vera obtained her degree in Medicine and Surgery at the University of Valencia. She specialised in Medical Oncology at Vall d’Hebron Hospital. Vera chairs SEOM, is the Head of the Medical Oncology Service at the Navarra Hospital Complex, and is a member of the European Society of Medical Oncology (ESMO) and the American Society of Clinical Oncology (ASCO). She is also a member of the Research Committee of the Navarra Health Service and is responsible for Cancer Strategy in the Community of Navarra.

INVITED SEMINARS

DISTINGUISHED SEMINARS

8 MARCH
W. KIMRYN RATHMELL
Vanderbilt University (United States)

29 MARCH
MAGDALENA GÖTZ
Helmholtz Zentrum München (Germany)

5 APRIL
KATHRIN PLATH
University of California, Los Angeles (United States)

12 APRIL
KATHERINE L. NATHANSON
University of Pennsylvania (United States)

26 APRIL
CHARLES M. PEROU
University of North Carolina (United States)

WOMEN IN SCIENCE OFFICE SEMINARS

5 MARCH
LUZ CASAL
Singer and composer (Spain)

9 APRIL
RUTH VERA
SEOM (Spain)

