# Scientific Report







INSTITUT DE RECERCA CONTRA LA LEUCÈMIA JOSEP CARRERAS Per un futur sense leucèmia

Headquarters

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### Photography

Photographic archives of the Josep Carreras Leukaemia Foundation and the Josep Carreras Leukaemia Research Institute





I recovered from leukaemia thanks to the extraordinary work of the doctors and nurses who looked after me. Like many grateful patients, I also benefited from the perseverance of scientists searching for a cure for this disease.

Since the day we were established we have always offered financial assistance for research, through grants, university funding and, mainly, by providing funding for projects and the creation of laboratories and other scientific infrastructures.

We can not stop until leukaemia becomes a totally curable disease. The creation of the Josep Carreras Leukaemia Research Institute is the latest sign of what drives us forward: our unceasing determination to battle against this disease until we defeat it.

Thanks to the extraordinary team of doctors, experts in life sciences, the support of the Generalitat de Catalunya, and the solidarity of our generous donors, our Institute is now a reality.

I would like to thank you for your interest in our institution and invite you to join us in our crusade.

Josep Carreras President Board of Trustees Josep Carreras Leukaemia Research Institute (IJC)

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# About us



### Welcome



Once again the IJC's annual report is testimony to the excellent research being carried out at the three Josep Carreras campuses. Our congratulations are due, therefore, to everyone for their magnificent work and scientific rigour.

2012 was a year in which progress was made in the fight against leukaemia. It was a year of combined scientific efforts, continuing cooperation and commitment to society.

A centre totally capable of synchronising research, health care, innovation and teaching, something of fundamental importance for achieving scientific excellence.

One of the highlights of the IJC's leadership was the laying of the foundation stone for the new building in Badalona



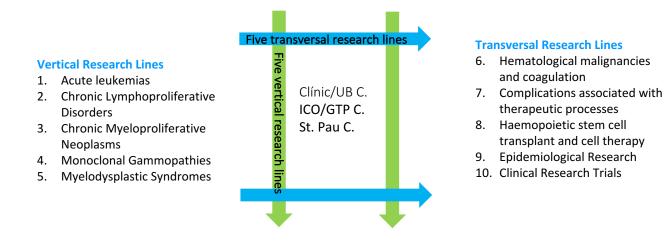
With all this in mind, I would like to invite you to discover more from the following pages about the activities in 2013, activities which have earned this centre a leading position in biomedical research to confront leukaemia.

#### **Evarist Feliu**

President Comissió Delegada Institut de Recerca contra la Leucèmia Josep Carreras (IJC)

### Who we are and what we do

The Josep Carreras Leukaemia Research Institute (IJC), a Generalitat de Catalunya Research Centre (CERCA), was established with the aim of promoting biomedical research into, and the development of, personalised medicine in the field of malignant blood diseases, especially leukaemia. It is a centre without precedent which, with the work and dedication of researchers from around the world, uses the most innovative technologies to try to vanquish leukaemia and other malignant blood diseases.



The IJC has three independent and coordinated scientific campuses: the Hospital Clínic-UB Campus, located at the research facilities of Barcelona's Hospital Clínic, and those of the University of Barcelona (UB) Faculty of Medicine; the Catalan Institute of Oncology/Germans Trias i Pujol Campus in Badalona, located near the Germans Trias i Pujol University Hospital and its research foundation and the Autonomous University of Barcelona (UAB) Germans Trias i Pujol Teaching Unit; and thirdly, the Sant Pau Campus and its research foundation, located within the health care facilities of the Hospital de la Santa Creu i Sant Pau and the UAB's Sant Pau teaching unit. The IJC's Hospital Clínic-UB Campus reaffirms the UB Faculty of Medicine and the Hospital Clínic's scientific commitment to excellence in the field of hematology, which commenced with the work of Prof. Farreras Valentí and which has been able to continue thanks to the extraordinary work carried out by Prof. Ciril Rozman and those who studied under him.



### Mission

Our mission is to carry out research into the basic, epidemiological, preventive, clinical and transferable aspects of leukaemia and other malignant blood diseases.

### Vision

The Josep Carreras Leukaemia Research Institute's vision is for the research it does to identify new therapeutic targets that will make it possible to develop more precise and less aggressive treatments. We aspire to understanding the origin and development of leukaemias and other malignant blood diseases in order to prevent them. We are working so that, in the future, all leukaemias will be curable.

### Values

### Altruism

We are inspired by the example of Josep Carreras and the professional staff he has chosen to found the Institute that bears his name. Financial donations, be they public or private, are used in the most efficient way by simplifying administrative procedures and reducing the secondary costs of our main mission.

### Sharing

We take full advantage of all possible synergies, we promote continuing cooperation, the creation of new alliances and group work. We also promote the dissemination of information about leukaemia and encourage citizen participation.

### Talent

We aspire to attracting, promoting and creating talent.

### Perseverance

We will continue until all leukaemias can be cured.

### Respect

We protect the dignity and respect the rights of everyone who has a relationship with the Institute, especially those who collaborate on our projects. Our work is as stalwart as the patients and families who participate in the project, and our sponsors and staff.



## Our team



### Governing bodies

The highest governing body is the Board of Trustees, on which are represented: the Josep Carreras Foundation, the Catalan Government Ministry of Business and Knowledge, the Catalan Government Ministry of Health, the Autonomous University of Barcelona (UAB), the University of Barcelona (UB), Badalona Town Council, the Directorate General for Health Research and Planning, the Catalan Institute of Oncology, the Northern Metropolitan Territorial Area Administration, the Catalan Foundation for Research and Innovation, the Hospital Clínic/August Pi i Sunyer Institute for Biomedical Research (Idibaps), the UB Hospital Coordination Committee and the Research Centres of Catalonia Institution Foundation (iCERCA).

#### **Board of Trustees**

President

**Mr. Josep Carreras Coll** President of the Josep Carreras Foundation and the Josep Carreras Leukaemia Research Institute

First Vice-president Catalan Government Minister of Business and Knowledge

Second Vice-president Catalan Government Minister of Health

Members Rector Autonomous University of Barcelona (UAB) Rector University of Barcelona (UB)

Mayor of Badalona

Director General for Research, Catalan Government Ministry of Business and Knowledge

Director General for Health Research and Planning

Deputy Director General for Health Research and Innovation

Director General Catalan Institute of Oncology

Administrator Northern Metropolitan Territorial Area

Secretary for Universities and Research, Catalan Government Ministry of Business and Knowledge

Director Catalan Foundation for Research and Innovation

**Research Director Hospital Clínic - IDIBAPS** 

Treasurer of the Josep Carreras Leukaemia Foundation

Vice-president of the Josep Carreras Leukaemia Foundation

Trustee of the Josep Carreras Leukaemia Foundation

Administrator of the Josep Carreras Leukaemia Foundation

Vice-rector for Research and Transferability, Autonomous University of Barcelona (UAB)

University of Barcelona Hospital Coordination Committee

Secretary

Director of the Research Centres of Catalonia Institution Foundation (iCERCA)



#### **Delegate committee**

President

**Prof. Evarist Feliu**, Coordinator of the ICO-Germans Trias i Pujol Campus

#### Members

PRICS coordinator, Catalan Government Ministry of Health

Director General, Catalan Government Ministry of Health, Directorate General Health Resources Planning Regulation

Directorate General for Research, Catalan Government Ministry of Business and Knowledge

Director iCerca, CERCA Institution, Research Centres of Catalonia

Administrator, Josep Carreras International Foundation

University of Barcelona Commissioner for Hospital Coordination

Vice-rector for Strategic Projects and Planning, Autonomous University of Barcelona

#### **CoExternal Scientific Committee**

President Prof. Lucio Luzzatto, Instituto Toscano Tumori Firenze

Members Prof. Robert Sackstein, Dana-Farber/Harvard Cancer Center Boston Prof. Francesco Lococo, Università degli Studi di Roma "Tor Vergata" Prof. Alberto Orfao, CIC Centro de Investigación del Cáncer Salamanca. Prof. Brigitte Schlegelberger, University of Hannover

**Internal Scientific Committee** 

#### **UB-Clínic Campus**

Álvaro Urbano Ispizúa (Internal Scientific Committee Coordinator) Pablo Menéndez (Campus Research Director) Jordi Esteve Reyner Armando López Guillermo Joan Bladé Creixentí Francisco Cervantes Requena

#### **ICO-GTiP** Campus

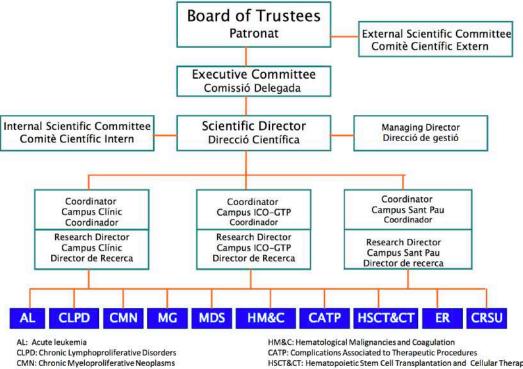
Evarist Feliu Frasnedo (President of the Delegate Committee) Francesc Solé (Campus Research Director) Josep M<sup>a</sup> Ribera Santasusana Lurdes Zamora Plana José Tomás Navarro Ferrando Juan Manuel Sancho Cía

#### Sant Pau Campus

Jordi Sierra Josep Nomdedeu Joan Carles Souto Ramon Mangues Carol Moreno



### Organisational chart



MG: Monoclonal Gammopathies MDS: Myelodysplasic Syndromes HSCT&CT: Hematopoietic Stem Cell Transplantation and Cellular Therapy ER: Epidemiologic Research CRSU: Clinical Research Support Unit

#### **Scientific directors**



**Campus ICO-GTP** Francesc Solé



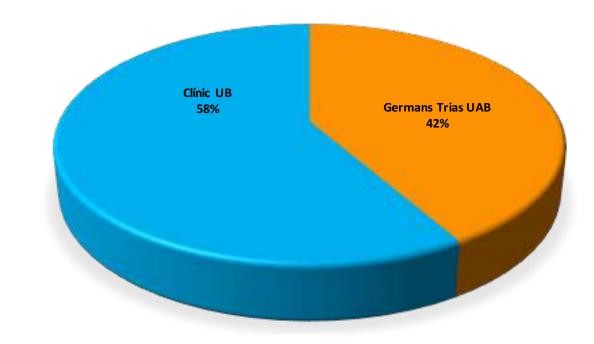
**Campus Clinic-UB** Pablo Menéndez



**Campus Sant Pau** Jordi Sierra

Staff professionally linked with the Hospital

	IJC ICO	IJC	IJC
	Germans Trias UAB	Clínic UB	Shared
Lead researchers	1	1	
Pre-doctoral researchers	4	3	
Post-doctoral researchers		1	
Researchers funded from competitive resources			
Technology platform staff			
Support staff		2	
Management and administration staff			12
General services and maintenance			
Staff professionally linked with the IJC	5	7	12



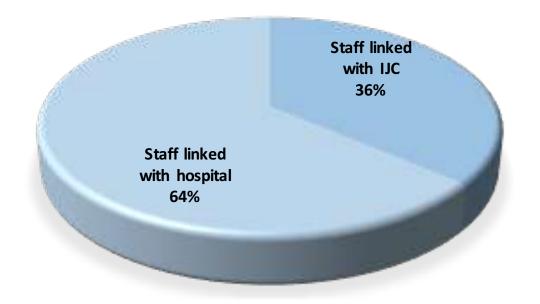
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At the three hospitals where the IJC has a presence there has always been a great willingness to participate in clinical research. And there are clinics with a very considerable background in basic sciences. Integration, in this respect, must therefore not be just a question of maintaining present levels, but of increasing them in order to enhance the added value it represents in both the health sciences and in clinical practice.







## Financial data



### Income statement Balance sheet

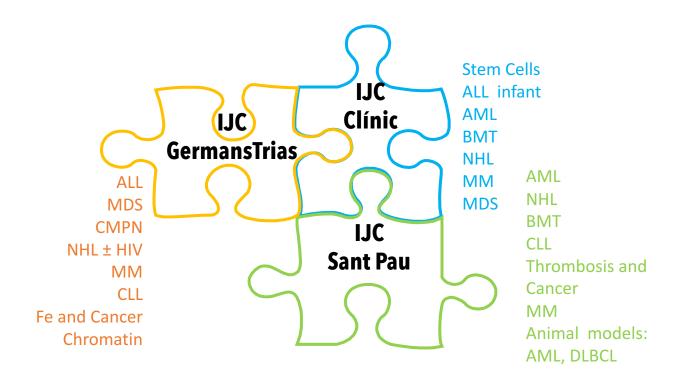
Income from activities	€502.014,45
Services rendered	€29.995,50
Official subsidies for activities	€343.991,82
Other subsidies. donations…	€128.027,13
Self-constructed assets	
Supplies	<b>-</b> €78.289,94
Other income from activity	
Staff costs	-€185.473.96
Wages and salaries	
Social security expenses	
Other expenses	<i>-</i> €177.190,69
External services	-€173.211,54
Taxes	-€3.979,15
Losses. depreciation…	
Other current period losses	€0,00
Fixed asset depreciation	<i>-</i> €71.219,23
IJC Subsidy	€10.258,55
Other income	-€0,50
OPERATING INCOME	€98,68
Financial income	€1.503,12
Financial expenses	€0,00
Subsidy return expenses	
Exchange rate differences	<b>-€</b> 98,68
Financial result	€1.404,44
Surplus / deficit before tax	€1.503,12
Tax on profit	
SURPLUS / DEFICIT OF THE FINANCIAL YEAR	€1.503,12

ASSETS	
Non-current assets	€1.697.368,16
Intangible fixed assets	€1.035.610,75
Tangible fixed assets	€630.981,78
Long-term investments in	
group and associated entities	€0,00
Long-term financial	€30.775,63
investments	630.173,03
Current assets	€1.332.525,77
Stock	€0,00
Users, sponsors and other	€669.185,18
debtors from activities	
Other credits with the public	
administration Short-term financial	
investments	€0,00
Short-term accruals	€0.00
Cash and others	
	€663.340,59
TOTAL ASSETS	€3.029.893,93
LIABILITIES	
Net assets	€2.133.661,08
Equity	€869.934,31
Start-up funds	€868.427,55
Special funds	
Profit or loss from previous	<b>C</b> 2 C4
years	€3,64
Year profit or loss	€1.503,12
Subsidies. donations and legacies	€1.263.726,77
Non-current liabilities	€231.802,28
Long-term debt	€231.802,28
Current liabilities	€664.430,57
Short-term provisions	200 11 100,01
Short-term debt	€507.430,19
Creditors for activities and	2507.450,19
others	€147.040,79
Short-term debts with group	
and associated entities	€9.959,59
Current tax liabilities and	
other debts with the public	
administration .	
Short-term accruals	€0,00
TOTAL (LIABILITIES + NA)	€3.029.893,93

# Scientific activity



### Research groups





### Research projects

IP	Projects 2012	Amount
Kiko Sole	ISCIII AES PIS	€309.629,00
Kiko Sole	REDES ISCIII	€168.000,00
Ruth Muñoz	RyC MINECO	€183.600,00
		€661.229,00





### **Competitive funding granted**

	ICO Germans UAB	Clínic UB	
Active projects (national)	2		1
Projects awarded (national)	2		1
Projects tendered (national)			
Active projects (international)			
Projects awarded (international)			
Projects tendered (international)			
Projects awarded (public)	1		1
Projects awarded (private)	1		4
Active research networks	1		
Research networks awarded			

Competitive funding granted (€)	€477.629,00	€183.600,00
Non-competitive funding granted (€)	€12.521,00	€169.751,00
Sum total competitive and non-competitive overheads		
granted	€95.525,00	



### Technology platforms

#### **Cytogenetics platform**

The Josep Carreras Leukaemia Research Institute cytogenetics platform is directed by Dr. Francesc Solé. The platform includes the Catalan Institute of Oncology's (ICO) Cytogenetics Laboratory and the 32K Bacterial Artificial Chromosome (BAK) library.

#### Affymetrix Microarrays Platform

The Affymetrix<sup>®</sup> Microarrays Platform (AMP) is a service focused on microarray DNA and RNA solutions provided by Affymetrix. The main aim is to find solutions, based on basic research, applied research and diagnosis, that lead towards personalised medicine.

#### **Blood cancer samples**

The administration of the collection, processing and storage of blood cancer samples. These samples are stored in a collection called 'Collection of samples from patients with hematologic neoplasms'.

#### **Fluidigm Platform**

The Fluidigm platform is used to create integrated fluid circuits (IFCs) which are single-use biochips which automate PCR reactions using the volumes of nanolitres from two samples and reagents to produce consistent results.





### **Clinical trials**

Clinical trials are a fundamental part of our research. In this regard, the IJC evaluates treatments, the efficacy of drugs, and the suitability of equipment.

It enables new treatments to be tested to prevent, relieve or cure diseases.



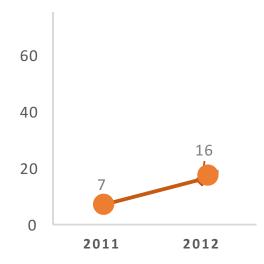


# Scientific production

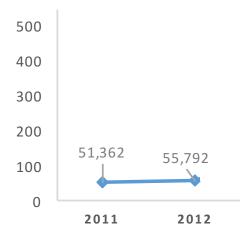


### **Publications**

### Indexed articles



### **Global impact factor**



2015



# Teaching activities



### Teaching

The IJC provides a high-quality teaching programme for students, scientists, technicians and others with an interest in achieving a solid and up-to-date grounding in the field of leukaemia and malignant blood diseases.

The IJC organises a Doctorate in Hematology, a Master's degree in malignant blood diseases and it participates in the teaching for degrees in medicine and biomedicine.





### Formació

The IJC organises complementary training activities at all levels, from scientific conferences, monthly seminars and technology sessions, to specialised courses.

Training courses 4

Scientific conference

Scientific seminars 8



### Sessions Internes

MDS GRUP FRANCESC SOLE Mar Mallo Vera Ademà

MPN GROUP LURDES ZAMORA, BLANCA XICOY Laura Palomo

> GLICOLSILATION GROUP FUMI YAMAMOTO Emili Cid

> > ALL GROUP JM RIBERA Eulalia Genescà Jordi Ribera

IRON GROUP MAYKA SANCHEZ Jorge Couso

CHROMATIN GROUP MARCUS BUSCHBECK Roberto Malinvemi Julien Douet



### Courses

### Application of cytogenetics and FISH to the study of myelodysplastic syndromes. Celgene Internacional.

Directors: Francesc Solé. In collaboration with: Mar Mallo, Vera Ademà, Laura Palomo. Blanca Espinet, Marta Salido.

Badalona, May 2012

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Directors: Francesc Solé. In collaboration with: Mar Mallo, Vera Ademà, Laura Palomo. Blanca Espinet, Marta Salido.

### Badalona, June 2012 Cytogenetics and Molecular

CUBIMOL. Paper: Cytogenetic and genetic changes in myelodysplastic syndromes.

Speaker: Francesc Sole Madrid, September 2012



### Fluorescence in situ hybridization



# Cooperation



### Agreements

The IJC makes a great effort to establish continuing cooperation agreements, and it focuses on broadening its strategic alliances and agreements with the pharmaceutical industry, as well as other private organisations.

At the present time the following institutions are connected with the IJC:



## Communication



### Communication

The IJC knows that it is of prime importance to tell people about the work we do if we are to strengthen our bonds with society and its citizens. The desire to integrate social corporate responsibility into our management model is closely linked to the organisational values of the Josep Carreras Foundation.

To this end, the IJC has actively participated in scientific dissemination and in the creation of scientific vocations.

### Scientific conference at the Josep Carreras Leukaemia Research Institute



#### Science week, Badalona town council



## Upcoming challenges



### Upcoming challenges

The new Institute in Badalona



The new Institute will have two premises: at the Hospital Clínic Campus, under the purview of the University of Barcelona Faculty of Medicine; and at the new building at the ICO/Germans Trias i Pujol Campus, under the purview of the Autonomous University Barcelona, in Badalona.

For the construction of the new building Badalona town council has ceded a plot of 4,550 square metres in the environs of the Hospital Germans Trias i Pujol next to the Institute for Predictive and Personalised Cancer Medicine (IMPPC).

These new facilities mark a positive and hopeful step forward for leukaemia patients.

#### The third Campus at Sant Pau



In 2013 work will continue on the creation of the third Campus at Hospital de Sant Pau, under the coordination of Prof. Jordi Sierra. At the moment, there are already a number of research groups that are publishing their work under the name of the Josep Carreras Leukaemia Research Institute.







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