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Publisher, layout and typesetting
Josep Carreras Leukaemia Research Institute

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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The new Institute in Badalona
The third Campus at Sant Pau
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.

Vertical Research Lines
1. Acute leukemias
2. Chronic Lymphoproliferative Disorders
3. Chronic Myeloproliferative Neoplasms
4. Monoclonal Gammopathies
5. Myelodysplastic Syndromes

Transversal Research Lines
6. Hematological malignancies and coagulation
7. Complications associated with therapeutic processes
8. Haemopoietic stem cell transplant and cell therapy
9. Epidemiological Research
10. Clinical Research Trials

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 Clinic'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 Clinic/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 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 Clinic - 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

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

ICO-GTIP Campus
Evarist Feliu Frasnedo (President of the Delegate Committee)
Francesc Solé (Campus Research Director)
Josep Mª 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

Board of Trustees
Patronat

External Scientific Committee
Comitè Cientific Extern

Executive Committee
Comissió Delegada

Managing Director
Direcció de gestió

Internal Scientific Committee
Comitè Cientific Intern

Scientific Director
Direcció Científica

Scientific directors

Campus ICO-GTP
Francesc Solé

Campus Clinic-UB
Pablo Menéndez

Campus Sant Pau
Jordi Sierra
<table>
<thead>
<tr>
<th>Category</th>
<th>IJC ICO</th>
<th>IJC</th>
<th>IJC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germans Trias UAB</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Clinic UB</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Shared</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead researchers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-doctoral researchers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-doctoral researchers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Researchers funded from competitive resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology platform staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support staff</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Management and administration staff</td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>General services and maintenance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff professionally linked with the IJC</td>
<td>5</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Staff professionally linked with the Hospital</td>
<td>28</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Income from activities</th>
<th>€502,014,45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services rendered</td>
<td>€29,995,50</td>
</tr>
<tr>
<td>Official subsidies for activities</td>
<td>€343,991,82</td>
</tr>
<tr>
<td>Other subsidies, donations...</td>
<td>€128,027,13</td>
</tr>
<tr>
<td><strong>Self-constructed assets</strong></td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td>€78,289,94</td>
</tr>
<tr>
<td>Other income from activity</td>
<td></td>
</tr>
<tr>
<td><strong>Staff costs</strong></td>
<td>€185,473,96</td>
</tr>
<tr>
<td>Wages and salaries</td>
<td></td>
</tr>
<tr>
<td>Social security expenses</td>
<td></td>
</tr>
<tr>
<td><strong>Other expenses</strong></td>
<td>€177,190,69</td>
</tr>
<tr>
<td>External services</td>
<td>€173,211,54</td>
</tr>
<tr>
<td>Taxes</td>
<td>€3,979,15</td>
</tr>
<tr>
<td>Losses, depreciation...</td>
<td></td>
</tr>
<tr>
<td>Other current period losses</td>
<td>€0,00</td>
</tr>
<tr>
<td><strong>Fixed asset depreciation</strong></td>
<td>-€71,219,23</td>
</tr>
<tr>
<td><strong>IJC Subsidy</strong></td>
<td>€10,258,55</td>
</tr>
<tr>
<td><strong>Other income</strong></td>
<td>-€0,50</td>
</tr>
<tr>
<td><strong>OPERATING INCOME</strong></td>
<td>€98,68</td>
</tr>
<tr>
<td><strong>Financial income</strong></td>
<td>€1,503,12</td>
</tr>
<tr>
<td><strong>Financial expenses</strong></td>
<td>€0,00</td>
</tr>
<tr>
<td><strong>Subsidy return expenses</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Exchange rate differences</strong></td>
<td>-€98,68</td>
</tr>
<tr>
<td><strong>Financial result</strong></td>
<td>€1,404,44</td>
</tr>
<tr>
<td><strong>Surplus / deficit before tax</strong></td>
<td>€1,503,12</td>
</tr>
<tr>
<td><strong>Tax on profit</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SURPLUS / DEFICIT OF THE FINANCIAL YEAR</strong></td>
<td>€1,503,12</td>
</tr>
</tbody>
</table>

## Balance sheet

### ASSETS

<table>
<thead>
<tr>
<th>Non-current assets</th>
<th>€1,697,368,16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangible fixed assets</td>
<td>€1,035,610,75</td>
</tr>
<tr>
<td><strong>Long-term investments in group and associated entities</strong></td>
<td>€0,00</td>
</tr>
<tr>
<td><strong>Long-term financial investments</strong></td>
<td>€30,775,63</td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
<td>€1,332,525,77</td>
</tr>
<tr>
<td>Stock</td>
<td>€0,00</td>
</tr>
<tr>
<td>Users, sponsors and other debtors from activities</td>
<td>€669,185,18</td>
</tr>
<tr>
<td><strong>Other credits with the public administration</strong></td>
<td></td>
</tr>
<tr>
<td>Short-term financial investments</td>
<td>€0,00</td>
</tr>
<tr>
<td>Short-term accruals</td>
<td>€0,00</td>
</tr>
<tr>
<td>Cash and others</td>
<td>€663,340,59</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>€3,029,893,93</td>
</tr>
</tbody>
</table>

### LIABILITIES

<table>
<thead>
<tr>
<th>Net assets</th>
<th>€2,133,661,08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>€869,934,31</td>
</tr>
<tr>
<td>Start-up funds</td>
<td>€868,427,55</td>
</tr>
<tr>
<td><strong>Special funds</strong></td>
<td></td>
</tr>
<tr>
<td>Profit or loss from previous years</td>
<td>€3,64</td>
</tr>
<tr>
<td>Year profit or loss</td>
<td>€1,503,12</td>
</tr>
<tr>
<td><strong>Subsidies, donations and legacies</strong></td>
<td>€1,263,726,77</td>
</tr>
<tr>
<td><strong>Non-current liabilities</strong></td>
<td>€231,802,28</td>
</tr>
<tr>
<td>Long-term debt</td>
<td>€231,802,28</td>
</tr>
<tr>
<td><strong>Current liabilities</strong></td>
<td>€664,430,57</td>
</tr>
<tr>
<td>Short-term provisions</td>
<td></td>
</tr>
<tr>
<td><strong>Short-term debt</strong></td>
<td>€507,430,19</td>
</tr>
<tr>
<td>Creditors for activities and others</td>
<td>€147,040,79</td>
</tr>
<tr>
<td><strong>Short-term debts with group and associated entities</strong></td>
<td>€9,959,59</td>
</tr>
<tr>
<td><strong>Current tax liabilities and other debts with the public administration</strong></td>
<td></td>
</tr>
<tr>
<td>Short-term accruals</td>
<td>€0,00</td>
</tr>
<tr>
<td><strong>TOTAL (LIABILITIES + NA)</strong></td>
<td>€3,029,893,93</td>
</tr>
</tbody>
</table>
Scientific activity
Research groups

IJC GermansTrias

IJC Clínic

IJC Sant Pau

Stem Cells
- ALL infant
- AML
- BMT
- NHL
- MM
- MDS

AML
NHL
BMT
CLL
Thrombosis and Cancer
MM
Animal models:
AML, DLBCL

ALL
MDS
CMPN
NHL ± HIV
MM
CLL
Fe and Cancer
Chromatin
## Research projects

<table>
<thead>
<tr>
<th>IP</th>
<th>Projects 2012</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiko Sole</td>
<td>ISCIII AES PIS</td>
<td>€309,629,00</td>
</tr>
<tr>
<td>Kiko Sole</td>
<td>REDES ISCIII</td>
<td>€168,000,00</td>
</tr>
<tr>
<td>Ruth Muñoz</td>
<td>RyC MINECO</td>
<td>€183,600,00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>€661,229,00</strong></td>
</tr>
</tbody>
</table>
## Competitive funding granted

<table>
<thead>
<tr>
<th></th>
<th>ICO Germans UAB</th>
<th>Clinic UB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active projects (national)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Projects awarded (national)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Projects tendered (national)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active projects (international)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projects awarded (international)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projects tendered (international)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projects awarded (public)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Projects awarded (private)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Active research networks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research networks awarded</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Competitive funding granted (€)</th>
<th>Non-competitive funding granted (€)</th>
<th>Sum total competitive and non-competitive overheads granted (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>€477,629,00</td>
<td>€183,600,00</td>
<td>€95,525,00</td>
</tr>
<tr>
<td></td>
<td>€12,521,00</td>
<td>€169,751,00</td>
<td></td>
</tr>
</tbody>
</table>
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® 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
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.
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
1

Scientific seminars
8
Courses

Application of cytogenetics and FISH to the study of myelodysplastic syndromes. Celgene Internacional.
Badalona, May 2012

Application of cytogenetics and FISH to the study of myelodysplastic syndromes. Celgene Internacional.
Badalona, May 2012

Application of cytogenetics and FISH to the study of myelodysplastic syndromes. Celgene Internacional.
Badalona, June 2012

CUBIMOL. Paper: Cytogenetic and genetic changes in myelodysplastic syndromes.
Speaker: Francesc Sole
Madrid, September 2012
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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Tel. (+34) 93 414 55 66

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