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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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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.

2013 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.

Highlights of the IJC’s leadership are the construction of the new building in Badalona and the agreements about the SUMA project between the Germans Trias Institute (IGTP) and the Institute for Predictive and Personalised Cancer Medicine (IMPPC).

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 of the Delegate Committee
Josep Carreras Leukaemia Research Institute (IJC)
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
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

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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

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-Clinic 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-GTìP 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 Nomdeudeu
Joan Carles Souto
Ramon Mangues
Carol Moreno
Organisational chart

Scientific directors

ICO-GTP Campus
Francesc Solé

Clinic-UB Campus
Pablo Menéndez

Sant Pau Campus
Jordi Sierra
<table>
<thead>
<tr>
<th>Category</th>
<th>IJC ICO</th>
<th>IJC</th>
<th>IJC Sant Pau UAB</th>
<th>IJC Shared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germans Trias UAB</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic UB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sant Pau UAB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff professionally linked with the IJC</td>
<td>7</td>
<td>16</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Staff professionally linked with the Hospital</td>
<td>28</td>
<td>14</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Table: Staff Distribution

- Lead researchers: 1 (ICO) + 2 (Shared) = 3
- Pre-doctoral researchers: 3 (ICO) + 5 (Shared) = 8
- Post-doctoral researchers: 1 (ICO) + 5 (Shared) = 6
- Support staff: 2 (ICO) + 4 (Shared) = 6
- Management and administration staff: 1 (ICO) + 11 (Shared) = 12
- General services and maintenance staff: 7 (ICO) + 16 (Shared) = 23
- Staff professionally linked with the Hospital: 28 + 14 + 8 = 48

Diagram: Staff Distribution

- Clinic UB: 70%
- Germans Trias UAB: 30%
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

In 2013 there was an increase of more than 230% in income from the capture of public funds and the provision of services.

With regard to expenses, 50% of the IJC's outlay corresponds to staffing. There was an increase in total expenses of 250%, corresponding to the incorporation of new staff. At this early stage the evolution of income, expenses and investments gives a negative result of €130,661.49.

<table>
<thead>
<tr>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income from activities</td>
</tr>
<tr>
<td>Services rendered</td>
</tr>
<tr>
<td>Official subsidies for activities</td>
</tr>
<tr>
<td>Other subsidies. donations…</td>
</tr>
<tr>
<td>Self-constructed assets</td>
</tr>
<tr>
<td>Supplies</td>
</tr>
<tr>
<td>Other income from activity</td>
</tr>
<tr>
<td>Staff costs</td>
</tr>
<tr>
<td>Wages and salaries</td>
</tr>
<tr>
<td>Social security expenses</td>
</tr>
<tr>
<td>Other expenses</td>
</tr>
<tr>
<td>External services</td>
</tr>
<tr>
<td>Taxes</td>
</tr>
<tr>
<td>Losses. depreciation…</td>
</tr>
<tr>
<td>Other current period losses</td>
</tr>
<tr>
<td>Fixed asset depreciation</td>
</tr>
<tr>
<td>IJC Subsidy</td>
</tr>
<tr>
<td>Other income</td>
</tr>
<tr>
<td>OPERATING INCOME</td>
</tr>
<tr>
<td>Financial income</td>
</tr>
<tr>
<td>Financial expenses</td>
</tr>
<tr>
<td>Subsidy return expenses</td>
</tr>
<tr>
<td>Exchange rate differences</td>
</tr>
<tr>
<td>Financial result</td>
</tr>
<tr>
<td>Surplus / deficit before tax</td>
</tr>
<tr>
<td>Tax on profit</td>
</tr>
<tr>
<td>SURPLUS / DEFICIT OF THE FINANCIAL YEAR</td>
</tr>
</tbody>
</table>
# Balance sheet

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-current assets</td>
<td>€41,352,233.70</td>
</tr>
<tr>
<td>Intangible fixed assets</td>
<td>€2,262,756.67</td>
</tr>
<tr>
<td>Tangible fixed assets</td>
<td>€1,841,497.75</td>
</tr>
<tr>
<td>Long-term investments in group and associated entities</td>
<td>€0.00</td>
</tr>
<tr>
<td>Long-term financial investments</td>
<td>€30,979.28</td>
</tr>
<tr>
<td>Current assets</td>
<td>€2,242,398.23</td>
</tr>
<tr>
<td>Stock</td>
<td></td>
</tr>
<tr>
<td>Users, sponsors and other debtors from activities</td>
<td>€1,595,717.09</td>
</tr>
<tr>
<td>Other credits with the public administration</td>
<td></td>
</tr>
<tr>
<td>Short-term financial investments</td>
<td></td>
</tr>
<tr>
<td>Short-term accruals</td>
<td>€1,687.27</td>
</tr>
<tr>
<td>Cash and others</td>
<td>€644,993.87</td>
</tr>
<tr>
<td>TOTAL ASSETS</td>
<td>€6,377,631.93</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIABILITIES</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net assets</td>
<td>€2,130,941.60</td>
</tr>
<tr>
<td>Equity</td>
<td>€857,188.17</td>
</tr>
<tr>
<td>Start-up funds</td>
<td>€986,342.90</td>
</tr>
<tr>
<td>Special funds</td>
<td></td>
</tr>
<tr>
<td>Profit or loss from previous years</td>
<td>€1,506.76</td>
</tr>
<tr>
<td>Year profit or loss</td>
<td>-€130,661.49</td>
</tr>
<tr>
<td>Subsidies, donations and legacies</td>
<td>€1,273,753.43</td>
</tr>
<tr>
<td>Non-current liabilities</td>
<td>€1,279,765.13</td>
</tr>
<tr>
<td>Long-term debt</td>
<td>€1,279,765.13</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>€2,966,925.20</td>
</tr>
<tr>
<td>Short-term provisions</td>
<td></td>
</tr>
<tr>
<td>Short-term debt</td>
<td>€1,109,012.32</td>
</tr>
<tr>
<td>Creditors for activities and others</td>
<td>€1,394,548.90</td>
</tr>
<tr>
<td>Short-term debts with group and associated entities</td>
<td>€9,913.13</td>
</tr>
<tr>
<td>Current tax liabilities and other debts with the public administration</td>
<td></td>
</tr>
<tr>
<td>Short-term accruals</td>
<td>€453,450.85</td>
</tr>
<tr>
<td>TOTAL (LIABILITIES + NA)</td>
<td>€6,377,631.93</td>
</tr>
<tr>
<td>Year</td>
<td>Income (€)</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>2012</td>
<td>502,014.45</td>
</tr>
<tr>
<td>2013</td>
<td>1,159,986.81</td>
</tr>
<tr>
<td>2014</td>
<td>1,875,004.95</td>
</tr>
<tr>
<td>2015</td>
<td>3,378,582.43</td>
</tr>
<tr>
<td>2016</td>
<td>3,603,917.96</td>
</tr>
</tbody>
</table>

Evolution of Income
Scientific activity
Research groups

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

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

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## Research projects

<table>
<thead>
<tr>
<th>IP</th>
<th>Projects 2013</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eulalia Genesca</td>
<td>Tecnico apoyo ISCIII</td>
<td>€49,500,00</td>
</tr>
<tr>
<td>Clara Bueno</td>
<td>Miquel Servet ISCIII</td>
<td>€151,053,00</td>
</tr>
<tr>
<td>Alvaro Urbano</td>
<td>Infraestructuras MINECO</td>
<td>€450,000,00</td>
</tr>
<tr>
<td>Clara Bueno</td>
<td>ISCIII AES PIS</td>
<td>€146,077,00</td>
</tr>
<tr>
<td>Damià Romero</td>
<td>ISCIII PFI</td>
<td>€53,629,00</td>
</tr>
<tr>
<td>Pablo Menendez</td>
<td>Era net ISCIII</td>
<td>€112,000,00</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>€962,259,00</strong></td>
</tr>
</tbody>
</table>
## Competitive funding granted

<table>
<thead>
<tr>
<th>Category</th>
<th>ICO Germans UAB</th>
<th>Clinic UB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active projects (national)</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Projects awarded (national)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Projects tendered (national)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active projects (international)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Projects awarded (international)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Projects tendered (international)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projects awarded (public)</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Projects awarded (private)</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Active research networks</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Research networks awarded</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Funding granted (€)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive funding granted</td>
<td>€49,500,00</td>
<td>€962,259,00</td>
</tr>
<tr>
<td>Non-competitive funding granted</td>
<td>€85,755,00</td>
<td>€346,919,00</td>
</tr>
<tr>
<td>Sum total competitive and non-competitive overheads granted</td>
<td>€99,907,00</td>
<td>€205,950,00</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.

In 2013 the following theses were presented at the IJC:

**Clinical-biological characterization of myelodysplastic syndromes with deletion 5q**
Doctoral student: Mar Mallo Fajula. UAB.
Director: Francesc Solé Badalona, June 2013

**Cytogenetic Characterization of Splenic Lymphoma of the Marginal Zone**
Doctoral student: Marta Salido. UAB.
Director: Francesc Solé
Barcelona, October 2013
The IJC organises complementary training activities at all levels, from scientific conferences, monthly seminars and technology sessions, to specialised courses.

Training courses
3

Scientific conference
1

Scientific seminars
16
Courses

Application of cytogenetics and FISH to the study of myelodysplastic syndromes. Celgene Internacional.
Badalona, May 2013

Application of cytogenetics and FISH to the study of myelodysplastic syndromes. Celgene Internacional.
Badalona, May 2013

Application of cytogenetics and FISH to the study of myelodysplastic syndromes. Celgene Internacional.
Badalona, June 2013

CUBIMOL. Paper: Cytogenetic and genetic changes in myelodysplastic syndromes.
Speaker: Francesc Sole
Madrid, September 2013
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
Headquarters
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Barcelona
Tel. (+34) 93 414 55 66

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