



CERCA

Research Centres of Catalonia

Fostering excellence
in research for
the benefit of society

Novembre 2018

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The Catalan System of R&I

CATALONIA

Catalonia is the top destination in Southern Europe in terms of projects, job creation and capital investment



THE FDI LIFE SCIENCES INDUSTRY IN CATALONIA ACCOUNTS FOR



- 16%
of population
- 20%
of GDP
- 23%
of R&D investment
- 25.5%
of all Spanish exports

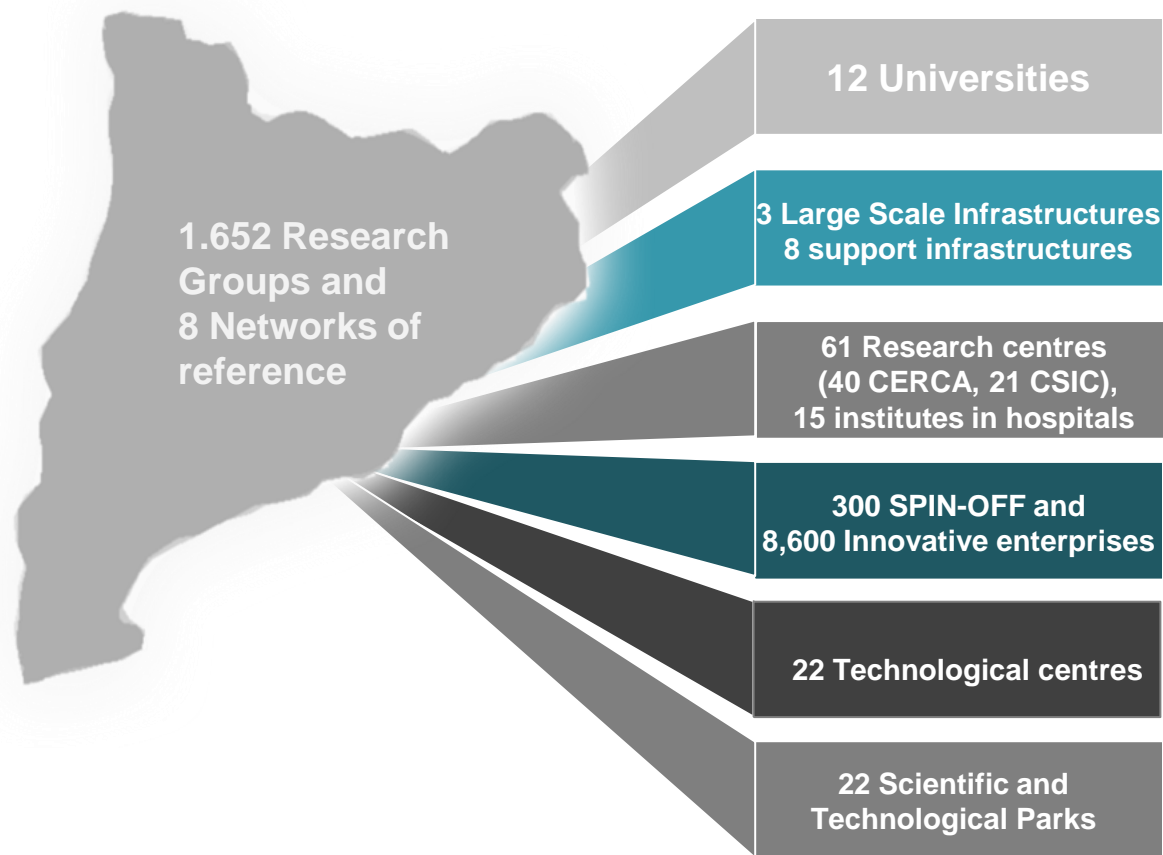
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The Catalan System of R&I



Around 25,000 researchers: 14,000 in universities, 5,000 in CERCA centres, 1,300 in CSIC centres and 5,000 in hospital research institutes.

Some 45,000 people work in R+I in Catalonia, approximately 1.50% of the employed population (data SOUTH, INE and IDESCAT)

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40 CERCA Centres

A collective effort



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Who is part of the CERCA Centres?

- Government of Catalonia
- Universities
- Enterprises and banks
- Town Halls
- Philanthropic foundations
- Others

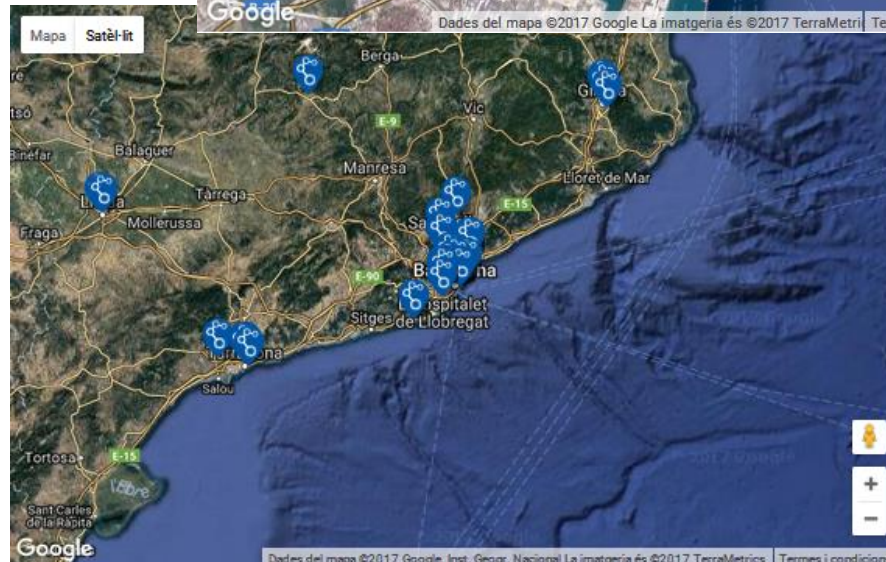
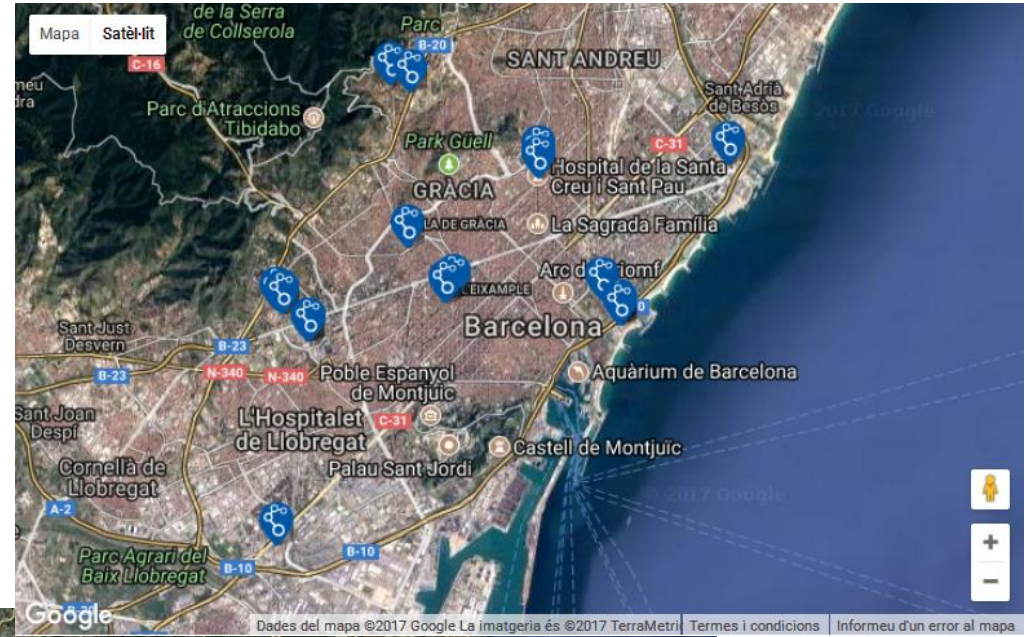
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Mainly located in Barcelona and Universities Campus



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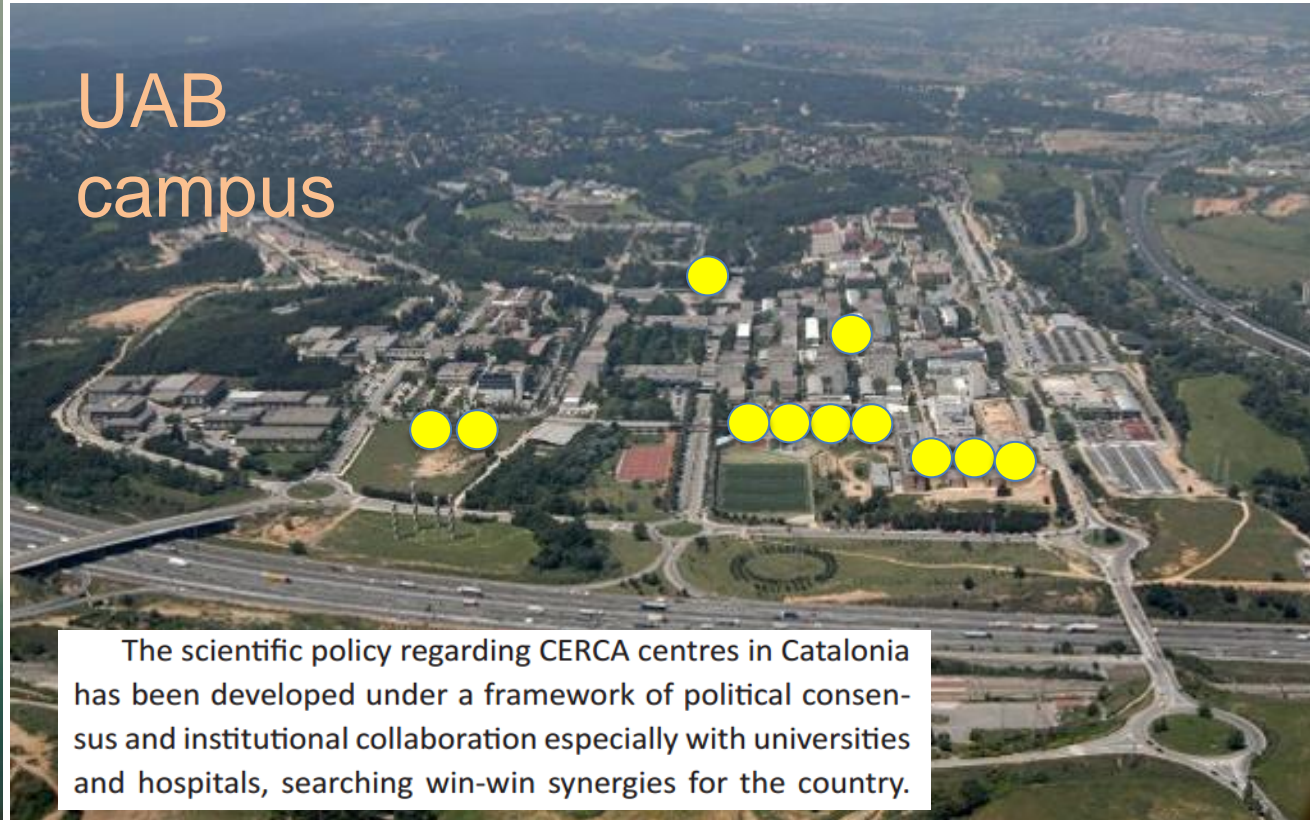
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UAB campus



The scientific policy regarding CERCA centres in Catalonia has been developed under a framework of political consensus and institutional collaboration especially with universities and hospitals, searching win-win synergies for the country.

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Excellence as the basis of their activity

2012 -2014 Data WoS Thomson Reuters

	Articles	Highly cited papers	%
CNRS	101.380	2.461	2,43%
CSIC	32.486	1.037	3,19%
Max Planck	30.032	1.342	4,47%
CERCA	20.263	1.116	5,51%

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Good results in the main competitive calls for proposals in Europe



Total: 142 ERCs

- Starting grants (StG) 45
- Advanced grants (AdG) 32
- Consolidator grants (CoG) 24
- Synergy grants (SyG) 1
- Proof of concept grants (PoC) 40

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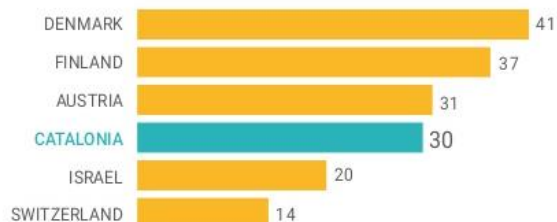
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Good results in the main competitive calls for proposals in Europe

H2020 FUNDS ATTRACTED TO CATALONIA SHOW THE COMPETITIVENESS AND EXCELLENCE OF INSTITUTIONS, COMPANIES AND RESEARCHERS



Country	Inhabitants (in M)	M€	Funding received per population (ratio)
DENMARK	5.603	230.33	41
FINLAND	5.427	119.79	37
AUSTRIA	8.489	265.73	31
CATALONIA	7.547	226.77	30
ISRAEL	7.797	154.91	20
SWITZERLAND	8.037	108.67	14

CATALONIA HAS ATTRACTED 73% MORE FUNDS FROM THE H2020 THAN THE TWO FIRST YEARS OF THE FP7. The two first years of H2020, Catalonia received 226.8 M€. Compared to other countries from the European Research Area (ERA) and with similar population, Catalonia overcomes Israel and Switzerland in absolute figures

Source: AGAUR from Eurostat 2013 / CORDA 2015

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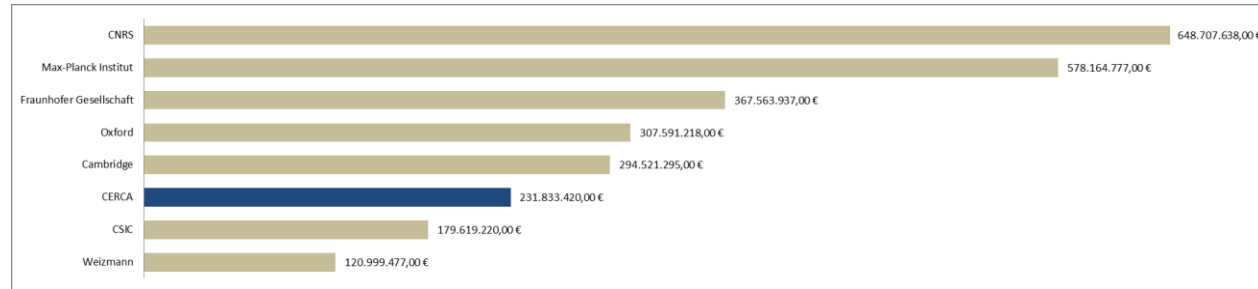
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Good results in the main competitive calls for proposals in Europe

H2020 funds attracted to Catalonia show the competitiveness
and excellence of institutions and researchers



Catalonia has attracted 73% more funds from the H2020 than the two first years of the FP7. The two first years of H2020, Catalonia received 226,8M€. Compared to other countries from the European Research Area (ERA) and with similar population, Catalonia overcomes Israel and Switzerland in absolute figures.

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Return to the society in the form of companies, products, therapies, knowledge...

Companies. Investees

Companies owned by CIMNE or CIMNE Tecnologia for industrialization, and market of technologies worldwide.

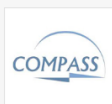
1st Generation since 1996 to 2010



Quantech ATZ

<http://www.quantech.es>

Company established in 1996. Owned by UPC professors and CIMNE researchers. Model: licensing of technologies developed in CIMNE. Development and marketing of simulation software for production processes. Main products: Stampack, Vulcan, and customised industrial software solutions.



Compass Ingeniería y Sistemas S.A.

<http://www.compassis.com>

Company founded in 2001. Created by CIMNE researchers and participated by Shareholder and licensing of technologies. Development and marketing of soft maritime engineering, in particular for off-shore wind turbines. Main products: SeaFEM, and Lognoter.



Soluciones Integrales de Formación y Gestión Structuralia S.A.

<http://www.structuralia.com>

Company founded in 2001 by CIMNE and Tesela (OHL). Model: Shareholding technologies. Company devoted to online learning services for engineering cc Spain. The company was sold to Kaplan Group in 2011.



Buildair Ingeniería y Arquitectura S.A.

<http://www.buildair.com>

Company founded in 2001 by a group of CIMNE researchers and UPC profess Tecnología. Model: shareholding. Company specialized in the design, product inflatable structures for a wide range of applications in architectural engineerin



Ingenia A.I.E.

<http://www.ingenia.aero>

Company founded in 2004 as a cluster between 8 companies with CIMNE, Mc CIMNE, Quantech and Compass. Engineering consultancy services and prom the aeronautical sector.

2nd Generation after 2011



Buildair APAC

<http://www.buildair.com/es/buildair-asia>

Company founded in 2011 as a joint venture between Buildair, CIMNE Tecnología and Singapore local partners. Model: Shareholding and licensing of technologies. Marketing and commercialization of BuildAir technologies and products in Asia-Pacific region.



Computational and Information Technologies S.A.

<http://www.citechsa.com>

Company founded in 2012 and owned by CIMNE Tecnología. Model: shareholding. Development and exploitation of technologies related to data analysis and used for several industrial processes.



RSM Gassó Cimne Energy S.L.

<http://www.inerybcn.com/?lang=en>

Company founded in 2012 by RSM Technology CIMNE Gassó. Model: Shareholding and Licensing of technologies. Inergy offers solutions focusing on the combination of advanced engineering energy services and pioneered own proprietary products.



Tecnoloxias Avanzadas para el Ocio S.L.

<http://www.beaching.com/>

Company founded in 2012 by CIMNE Tecnología. Model: Shareholder and licensing of technologies.



Lyncos Technologies S.L.

<http://www.lyncos.com>

Company founded in 2011 by a group of researchers and participated by CIMNE Tecnología. Model: Shareholder. Service provider for remote devices management through the Cloud.



Portable Multimedia Solutions S.L.

<http://www.portablemultimediasolutions.com>

Company founded in 2014 and participated by Cimne Tecnología. Model: Shareholder and licensing of technologies. Specialized in the development and marketing of mobile pavilions incorporating multimedia technology for the leisure, sport and events sectors, among others.



Fresh Water Nature

Company founded in 2012 owned by Cimne Tecnología. Model: Shareholder and licensing of technologies. Specialized in the development of solutions for obtaining fresh water from desalination of sea water and distillation of waste water.

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Instrumentation

Radiantis™ state-of-the-art Instrumentation provides compact and effective solutions for the diagnosis and manipulation of laser beams for a broad range of applications. Designed for ease of use and simple installation, these systems can be either combined with Radiantis™ families of OPOs and harmonic generators or independently with other lasers and applications.

SeaWave NIR Spectrometer

Print



A top of the range NIR spectrometer, showing the smallest footprint in the market for its class, the highest acquisition speed (>1000spectra/second) and excellent resolution (3nm) for a broad detection range in the NIR 1700nm.

Continue Reading

PowerSense Optical Power Meter

Print



An extremely compact, fully-integrated optical power meter incorporating both the detector head and power source under the same enclosure. The widest range of power (across 1 nW to 20 W) is measured with a single detector head. This eliminates the need to acquire several heads for different power ranges, increasing portability and reducing cost.

Continue Reading

Origin Spectrophotometer



Origin™ is a compact, portable spectrophotometer, extremely compact and easy to use. Based on this spectrophotometer, a robust and accurate analysis is possible.

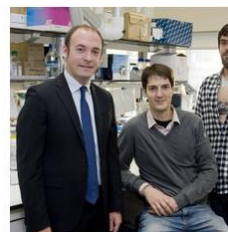
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Training

- Undergraduates
- Master students
- PhD students
- Postdoctoral researchers
- Complementary training

News

June 15, 2017
Congratulations Dr. Bahamonde!

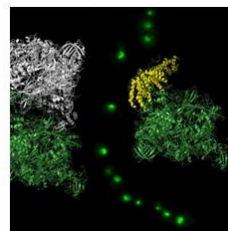


Un estudi revela els canvis biològics en càncer de mama entre el tumor primari i la metastasi

20 ABR 2017

Com més temps passa entre que s'origina el tumor fins a l'aparició de metastasi, més agressiu és el càncer de mama.

Els investigadors de l'IDIBAPS i l'IRB Barcelona també han demostrat que en un 40% dels casos el subtipus del tumor de mama canvia entre el càncer inicial i la metastasi.



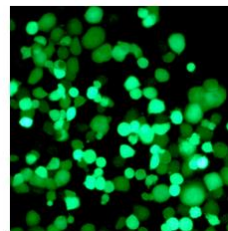
Descobreixen com la cèl·lula para de créixer quan li manquen nutrients

16 MAR 2017

Revelen un mecanisme que frena la producció de noves proteïnes quan no arriben aliments a la cèl·lula.

La cèl·lula controla el seu estat de creixement formant diferents acoblaments de l'ARN polimerasa I.

El treball té implicacions en la investigació del càncer.



Creem virus que ataquen de forma selectiva les cèl·lules tumorals

16 MAR 2017

Investigadors de l'IDIBAPS i l'IRB Barcelona demostren l'eficàcia d'una nova estratègia per aconseguir que els virus infectin només a les cèl·lules del tumor i preservin les dels teixits sants.

És un abordatge innovador que aprofita que les cèl·lules tumorals i les sants tenen perfils diferents en l'expressió de determinades proteïnes per aconseguir que el virus només infecti les primeres.



We pave the way for your research career in Chemistry

ICIQ has a strong commitment to offer training programmes for undergraduates, graduate students and doctoral researchers. We prepare a new generation of researchers with the skills and knowledge needed to tackle the most important challenges in chemical research. We are also eager to prepare graduates and post-graduate students to undertake research careers in chemistry.

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Regular evaluation of its scientific and management activities



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Featured sponsorship recipients and from private donors

- Fundació **Cellex i Dr. Pere Mir**
- Fundació Bill i Melinda **Gates**
- Fundació Ester **Koplowitz**
- **Pere Balsells**
- Fundació **La Caixa**
- Fundació **Josep Carreras**
- (...)



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Main issues for the future

BIG Data agreement CERCA / Barcelona
Supercomputing Center

Balancing gender issue

BIG Science projects

Opening / closing / merging centres

Growth in KTT

Fund-Raising

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A clear vision rigorously implemented without extreme resources allocation and in the short term have driven to the creation of R&D centres able to be competitive at national and international level.

Prof. Andreu Mas-Colell

Minister of Economy and Knowledge of Catalonia
(2010-2016)

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CERCA Research Centres

Details

Health and Medical Sciences

IDIBAPS – August Pi i Sunyer Biomedical Research Institute

www.idibaps.org

ISGLOBAL – Barcelona Centre for International Health Research

www.isglobal.org

IDIBELL – Bellvitge Biomedical Research Institute

www.idibell.cat

IRB Lleida – Biomedical Research Institute of Lleida

www.irbleida.org

CRG – Centre for Genomic Regulation

www.crg.es

CMR[B] – Centre of Regenerative Medicine in Barcelona

www.cmr.b.eu

IDIBGI – Girona Biomedical Research Institute

www.idibgi.org

IGTP – Health Sciences Research Institute of the Germans Trias i Pujol Foundation

www.germanstrias.org

IMIM – Hospital del Mar Medical Research Institute

www.imim.cat

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Details

Health and Medical Sciences

IrsiCaixa – Institute for AIDS Research

www.irsicaixa.es

IBEC – Institute for Bioengineering of Catalonia

www.ibecbarcelona.eu

IRB Barcelona – Institute for Research in Biomedicine

www.irbbarcelona.org

IJC – Josep Carreras Leukemia Research Institute

www.carrerasresearch.org

IISPV – Pere Virgili Health Research Institute

www.iispv.cat

IR-Sant Pau – Sant Pau Institute of Biomedical Research

www.santpau.es

VHIO – Vall d'Hebron Institute of Oncology

www.vhio.net

VHIR – Vall d'Hebron Research Institute

www.vhir.org

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CERCA Research Centres Details

Life Sciences

CREAF – Centre for Ecological Research and Forestry Applications

www.creaf.uab.es

CRAG – Centre for Research in Agricultural Genomics

www.cragenomica.es

Agrotecnio – Centre for Research in Agrotechnology

www.agrotecnio.org

CTFC – Forest Science and Technology Centre of Catalonia

www.ctfc.cat

IRTA – Institute of Agrifood Research and Technology

www.irta.cat

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CERCA Research Centres Details

Sciences

ICRA – Catalan Institute for Water Research

www.icra.cat

ICN2 – Catalan Institute of Nanoscience and Nanotechnology

www.icn2.cat

ICP – Catalan Institute of Palaeontology Miquel Crusafont

www.icp.cat

CRM – Centre for Mathematical Research

www.crmcat

IFAE – Institute for High Energy Physics

www.ifae.es

ICIQ – Institute of Chemical Research of Catalonia

www.iciq.es

ICFO – Institute of Photonic Sciences

www.icfo.eu

IEEC – Institute of Space Studies of Catalonia

www.ieec.cat

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Engineering and Architecture

IREC – Catalonia Institute for Energy Research
www.irec.cat

CVC – Computer Vision Center
www.cvc.uab.net

CIMNE – International Center for Numerical Methods in Engineering
www.cimne.com

i2CAT – Internet and Digital Innovation in Catalonia
www.i2cat.net

CTTC – Telecommunications Technological Center of Catalonia
www.cttc.cat

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Social Sciences

CED – Centre for Demographic Studies

www.ced.uab.cat

CREI – Centre for Research in International Economics

www.crei.cat

Humanities

ICRPC – Catalan Institute for Cultural Heritage Research

www.icrpc.cat

IPHES – Catalan Institute for Human Palaeoecology and Social Evolution

www.iphes.cat

ICAC – Catalan Institute of Classical Archaeology

www.icac.cat