



# 2019

Annual Report

**A whole year deciphering  
unsolved diseases to  
improve people's lives**

A whole year committed to you

# Welcome to 2019: A year full of achievements and challenges



This year, 2019, has been intense and highly productive; it has been a year in which we have further consolidated all the fields in which we conduct impactful science of excellence. IRB Barcelona's research has been reflected in more than 160 articles, 87.5% falling in the first quartile and 71.8% in the first decile, with publications in journals with the highest international impact, such as Nature, Cell and Nature Genetics. We have made key findings in cancer, in aging and metabolism, and in the mechanisms of diseases, like those caused by viruses.

Our scientific capacity has been boosted with the incorporation of Toni Gabaldón, and in the field of innovation through the creation of the spin-off "Ona Therapeutics".

With regard to recognition, our researchers have received awards such as the "Ciutat de Barcelona" (Eduard Batlle) and the XXII Prize of the Royal Academy of Pharmacy of Catalonia (Joan J. Guinovart), among others.

At the international level, we have strengthened our presence in emblematic European projects such as ENABLE and CALIPER, and for another year we have organised two highly successful Biomed conferences, which are supported by the BBVA Foundation.

Finally, we wish to highlight our commitment to society, reflected in the organisation of numerous scientific dissemination activities and our Metastasis Challenge fundraising campaign, in which more than 4,000 people have collaborated.

In short, IRB Barcelona finds itself in an ideal position to tackle the challenges that will come in future years, and it will continue to work towards a healthier world.

**Francesc Posas Garriga**  
DIRECTOR OF IRB BARCELONA

# Committed to health research

This year, we have made major discoveries about diseases like cancer and fatty liver, and the Epstein-Barr virus. Our research groups have published more than 160 articles in journals such as *Nature*, *Cell* and *Nature Genetics*.



**160**  
Publications

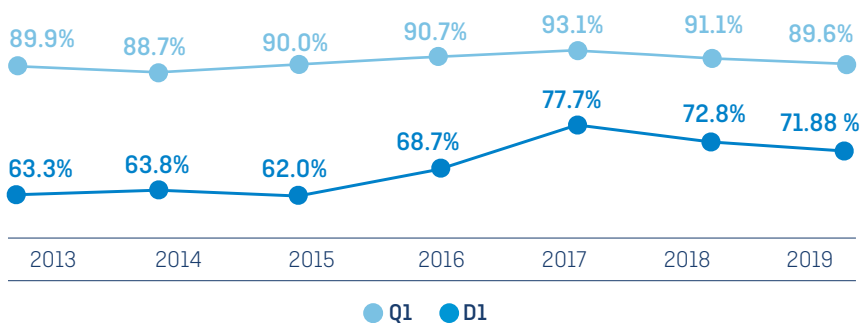


**87.5%**  
Q1 Publications  
SJR 2019



**71.88%**  
D1 Publications  
SJR 2019

## TRENDS IN Q1/D1 SINCE 2013



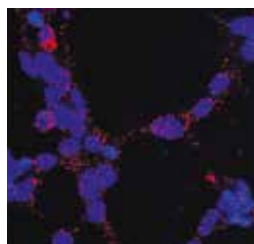
### Genetic alterations caused by cancer therapies identified.

Researchers at IRB Barcelona identified genetic footprints produced by some cancer treatments and have for the first time been able to calculate the genetic toxicity of some of these treatments. Published in *Nature Genetics*.



### The body responds to variations in light between the day and night independently of the brain.

In mice whose body clock does not work properly, each tissue still knows what time it is and can respond to changes in light intensity. The study was a collaboration between IRB Barcelona and the University of California, Irvine (US). Published in *Cell*.



### A possible therapeutic target for Kennedy's disease and prostate cancer identified.

Activation of a specific protein leads to a decrease in the formation of androgen receptor aggregates, which give rise to muscular atrophy in patients with Kennedy's disease, a rare condition for which no treatment is available. Published in *Nature Communications*.



# Innovation

It is our firm intention to bring value to the biomedical industry. The following summary captures the main outcomes of innovation activity at IRB Barcelona in 2019.



New technologies  
scouted

11



Active  
spin-offs

4



Active programmes  
in drug discovery

1



Priority patent  
applications  
and extensions

4



Research Agreements  
with public and  
private entities

17



Translational  
projects awarded  
7th BiomedTec call

4



Competitive  
PoC Grants  
awarded

3



**The IRB Barcelona spin-off Ona Therapeutics hits the road thanks to Sabadell Asabys.** A spin-off from IRB Barcelona and ICREA was founded by researchers Salvador Aznar-Benitah and Valerie Vanhooren, with investment from Sabadell Asabys. Based at the Barcelona Science Park, Ona Therapeutics focuses on the development of a new drug for the treatment of metastatic cancer.



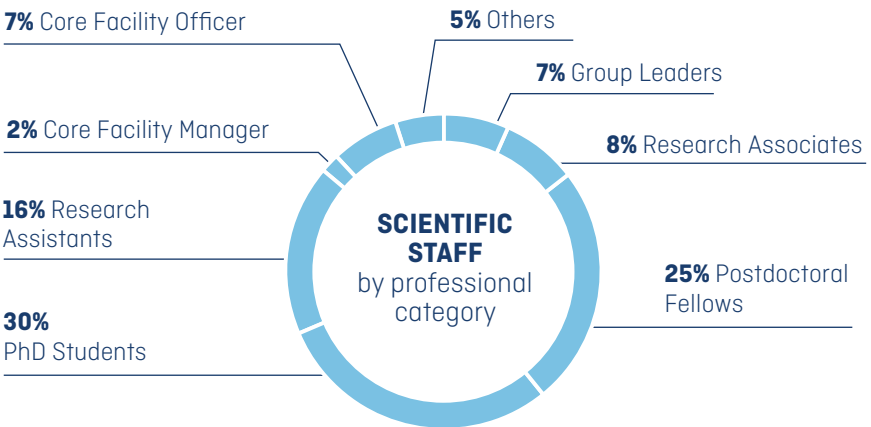
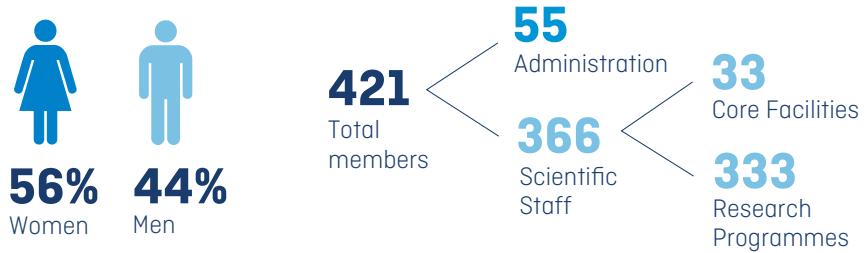
**The spin-off Nostrum Biodiscovery wins the 2019 Senén Vilaró Prize.** The spin-off from IRB Barcelona and the BSC-CNS received the Senén Vilaró Prize, given by the "Consejo Social" of the UB and the Bosch i Gimpera Foundation to the best innovative company. Nostrum Biodiscovery focuses on computational simulation to design new drugs and biotech molecules for the market.



**Launch of "StarLife", a new informatics infrastructure to boost biomedical research.** The joint initiative of IRB Barcelona, the Barcelona Supercomputing Center and the Centre for Genomic Regulation is an informatics cluster at the service of biomedical research of excellence and precision medicine. "StarLife" was funded by the Catalan Government, through the European Regional Development Fund, and by "la Caixa" Foundation.

# Our people

None of this would have been possible without our brilliant team; the greatest asset of IRB Barcelona.



## AWARDS



- **Salvador Aznar-Benitah.** “Fundación Carmen y Severo Ochoa 2019” award / “Constantes y Vitales a la Investigación biomédica y la Prevención en salud” award.
- **Gloria Pascual.** Scientific Innovation prize from the Pfizer Foundation.
- **Francesc Posas & Modesto Orozco.** 2018 ICREA Academia award
- **Eduard Batlle.** “Ciutat de Barcelona” prize.
- **Joan J Guinovart.** XXII Prize from the Royal Academy of Pharmacy of Catalonia.
- **Ana Janic.** Alumni of Excellence award.

# Funding organisations

We are grateful for the trust our donors and patrons have placed in us. Their support has enabled us to address new therapeutic approaches based on the best research.

## PROJECTS

# 174

National and International research projects and networks



■ Other projects (national, etc.) ■ Other international/EU ■ ERC Grants ■ Marie Curie

## 2019 BUDGET

12.7 Core funding  
(Catalan Government)

13.5 External funding



Budget



### La Marató awarded six projects that involve IRB Barcelona.

Eduard Batlle, Raúl Méndez, Salvador Aznar-Benitah, Roger Gomis, María Macías & Meritxell Teixidó.



### The AECC awarded funding to three researchers at IRB Barcelona.

Salvador Aznar-Benitah, Magdolna Djurec & Erika López Arribillaga.



### A grant from the Fundación Fero to study metastatic breast cancer.

Roger Gomis received a grant from the "Fundación Fero" to study metastatic breast cancer.

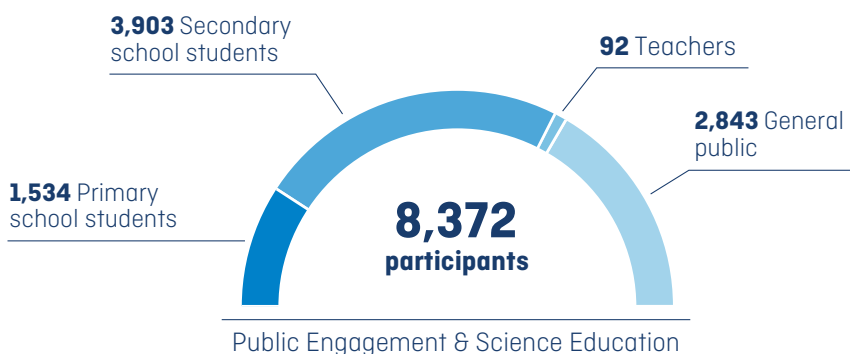


### "la Caixa" bolstered pioneering health research.

Eduard Batlle, Raúl Méndez, Meritxell Teixidó & Enrique Marcos.

# Society

We firmly believe in the importance of citizen engagement in science and of our contributions to the smooth running of the society in which we live. This year, we have promoted a wide range of scientific dissemination activities, launched the **#Metastasis-Challenge**, approved the new **IRB Barcelona Code of Conduct** and started the **CALIPER** project for gender equality.



### Open Day.

IRB Barcelona's 2019 Open Day brought together 1,500 people to raise money for cancer research while enjoying scientific talks, guided tours, a street science fair and the first scientific escape room to be held in a laboratory.



### #MetastasisChallenge.

On 13 March 2019, IRB Barcelona launched the #MetastasisChallenge, a fundraising campaign with the aim to call society to action in the fight against metastasis, accelerate research, recruit new talent, purchase cutting-edge technology and equip new laboratories.



### CALIPER, targeting gender equality.

IRB Barcelona joined the EU-funded CALIPER project, which intends to support the transformation of research institutions to more gender-equal entities.



### A focus on research integrity.

In June 2019, the IRB Barcelona Board of Trustees approved a new version of the Institute's Code of Conduct, adapted to the CERCA Code of Conduct, and the Procedure in Cases of Suspected Scientific Misconduct, which establish guidelines for the integrity of community members in their daily research.

# Thank you!

We want to thank all the people and organisations that have contributed to furthering our mission, namely to bring biomedical advances to society and thus improve quality of life.

## The Metastasis Challenge against cancer

Meet the **#MetastasisChallenge**

[www.metastasischallenge.com](http://www.metastasischallenge.com)

Through the **#MetastasisChallenge**, IRB Barcelona calls society to action in the fight against metastasis. We want to appeal to citizens, patients, organisations, public administration, companies and foundations to participate in raising €5 million, which will allow us to accelerate research, recruit new talent, purchase cutting-edge technology and equip new laboratories.

At IRB Barcelona, we believe that together we can muster the resources, energy and hope necessary to beat cancer.



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**IRB annual report 2019**



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