

# Open Science and CRG: a branching tree in different directions

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**OPEN SOURCE**

**OPEN PEER REVIEW**

**OPEN DATA**

**OPEN METHODS**

**CITIZEN SCIENCE**

**OPEN ACCESS**

**STAKEHOLDER  
ENGAGEMENT**

**RESEARCH INTEGRITY  
AND REPRODUCIBILITY**





- ✓ Scientific focus on life sciences and biomedicine – the “**complexity of life**” (from genes, cells to organs and humans)
- ✓ Founded in 2000 in Barcelona
- ✓ 498 staff - 60% foreign researchers (41 nationalities)
- ✓ 27 groups + 7 core facilities
- ✓ International PhD/postdoc programmes
- ✓ >200 publications/year (~70% gold OA)
- ✓ **Open science as pillar in strategy plan (2017-2021)**



“The CRG will embrace key aspects of Responsible Research and Innovation (RRI) and Open Science: **research integrity, FAIR data, gender equality, transparency, and public engagement**”

**BOTTOM-UP  
“researchers”**



**TOP-DOWN**





*“I am open in order to be more efficient. When you think about the most efficient systems it is clear that this system is open”.*

Gullaume Filion, CRG – International Open Access Week 2017





**RESEARCH INTEGRITY  
AND REPRODUCIBILITY**





nextflow

A computational platform that enables **reproducibility** in bioinformatics and **big data**  
**Cedric Notredame, CRG**

## Course@CRG (September 2017):

- International course launched before publication
- 31 participants from all over the world
- Hackathon and community building

**£2m target as Barcelona genomics business sets up in Cambridge**



An example of **Open Innovation**:  
new start-up, Lifebit, in Cambridge

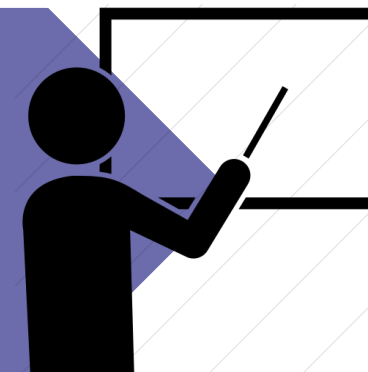
## POLICY

- Code of Conduct and Good Practice
- Code of good scientific practice
- Intellectual Property
- Conflict of Interest and Scientific Misconduct



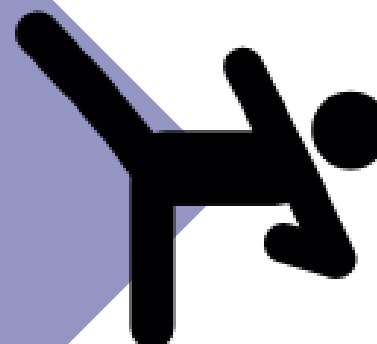
## TRAINING

- “Science in Action” for PhD students
- EPIGEUM online training for all new researchers
- Specialized sessions for junior researchers
- Embedding RI in technical courses



## PRACTICE

- PRBB WG on Good Scientific Practice
- Word café on integrity in scientific publishing
- PRBB survey
- Other awareness events



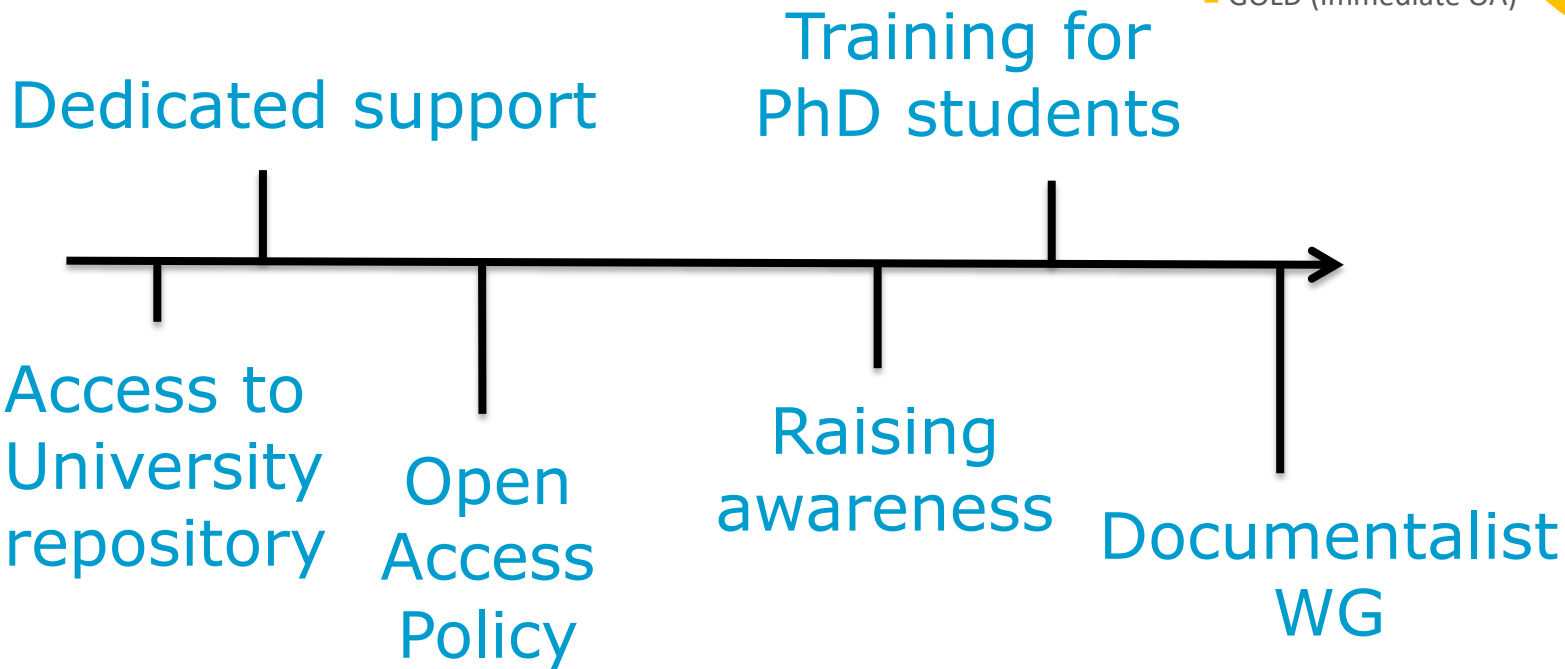
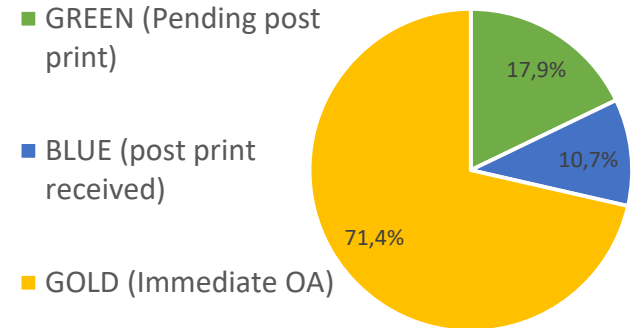


A large, ancient tree with a thick, gnarled trunk and sprawling branches, covered in moss, standing in a forest. The tree's trunk is massive and textured, with many smaller branches extending outwards. The leaves are a vibrant green, and the ground is covered in brown leaves. The overall scene is a lush, green forest.

**OPEN ACCESS**



Open Access to CRG  
Publications 2017







**STAKEHOLDER  
ENGAGEMENT**



*From May 2017 to April 2021, 9 organizations seek to “embed” **RRI principles** (ethics, gender, governance, open access, public engagement, and science education) in Research Performing and Funding Organisations by implementing the concept of **open science in fundamental research**.*

[www.orion-openscience.eu](http://www.orion-openscience.eu)

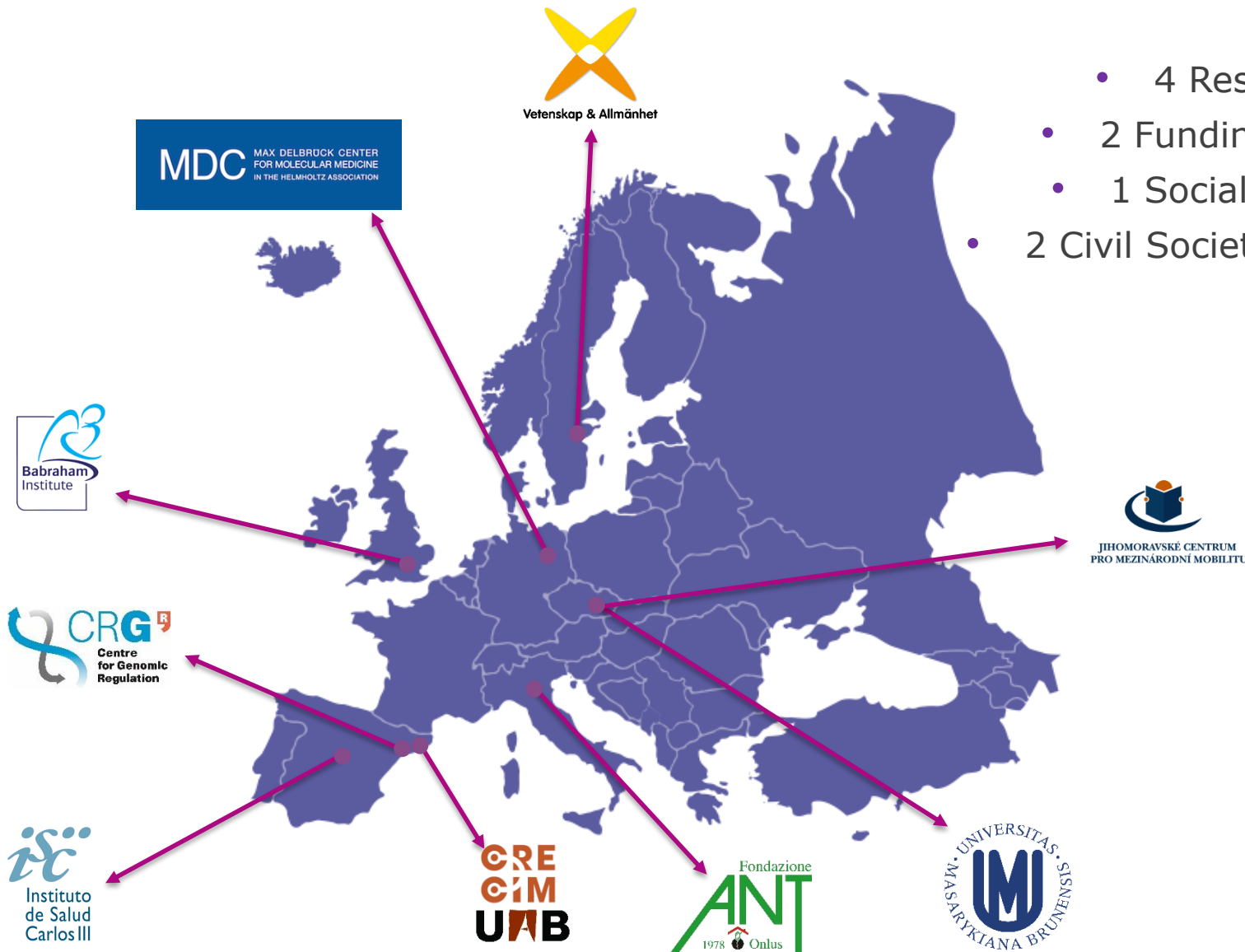
A background image showing a group of people in a workshop or meeting setting, with a blue overlay. The text 'Co-creation and training material' is overlaid on the left side of the image.

Co-creation and  
training material

for a more participatory  
and inclusive research

See all activities

- 4 Research Institutes
- 2 Funding Organizations
- 1 Social Sciences group
- 2 Civil Society Organizations





*The project will use tools as training, public dialogues and citizen science initiatives to **promote institutional and cultural changes in scientists, institutions and funders.***



## “OPEN EXPERIMENTS”

- Participatory funding schemes
- Open dialogues on research strategy
- Public dialogues on genome editing
- Citizen science on fundamental research





## **RESEARCH EVALUATION**

- Benchmarking with EU-LIFE institutes
- Developing good practice in peer-review evaluation

## **DATA MANAGEMENT**

- Developing policy
- Preparing guidelines and training
- Tackling data infrastructure
- Developing expertise

## **STAKEHOLDER ENGAGEMENT**

- Engaging scientists
- Experimenting new citizen science projects on fundamental research
- Open dialogues on CRG research with multiple actors



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- CRG scientists

## *ORION team*

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