

EMBL in Italy : European Molecular Biology laboratory and its national network

Phil Avner
Head of EMBL Rome



EMBL's Core Principles

EMBL

Scientific
excellence

Collaboration

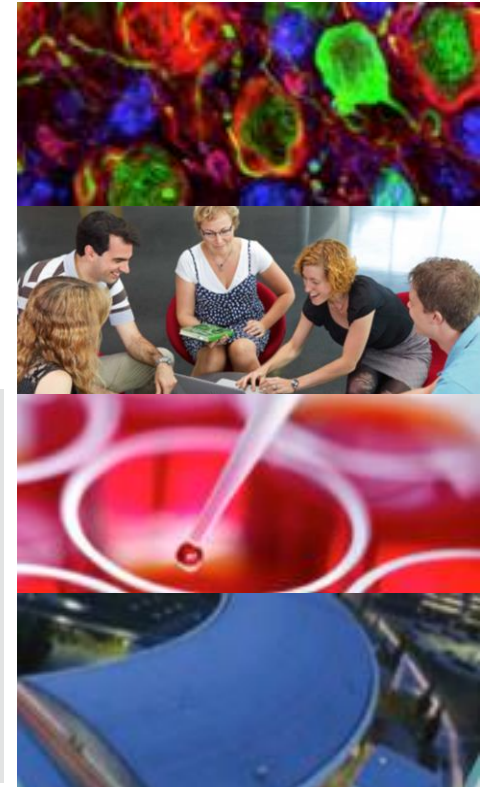
Staff turnover

Scientific
freedom

Internationality
and
diversity

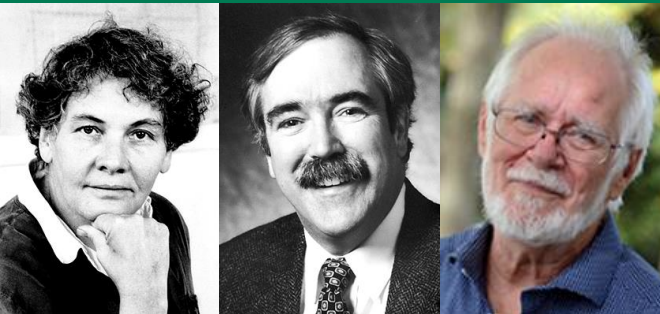
Cutting-edge
infrastructure

Young talent and
early
independence



Excellent science

3 Nobel Prize winners



Christiane
Nüsslein-Volhard

Eric F.
Wieschaus

Jacques
Dubochet

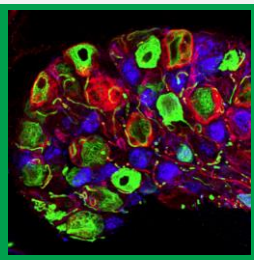


> 30%
of group leaders hold
ERC grants

31
scientists in
Thomson Reuters' list of Highly Cited
Researchers



EMBL ranks
in top
10
research
institutes

> 45%
of EMBL's publications in the top
5%
of journals in biochemistry, genetics
and molecular biology

EMBL's missions

	Excellent fundamental research
	Infrastructure and Services
	Advanced training

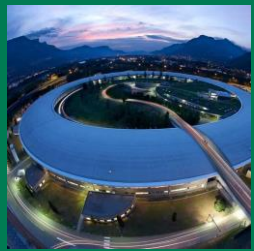


Technology development, transfer and industry	
Integration of European life science research	

EMBL sites: Over 1700 people and more than 80 nationalities



EMBL-EBI
Bioinformatics



Grenoble
Structural biology



Barcelona
Tissue biology and disease modelling



Hamburg
Structural biology



Heidelberg
Life sciences



Rome
Epigenetics and neurobiology



EMBL and Italy



- Italian Nationals working for EMBL at present = **11**
- Italian Nationals having worked at EMBL over last 5 years = **52**

In both cases 3rd most important country

- **706** Italian EMBL Alumni worldwide, of which **221** in Italy

Training

Internal

**200 PhD students,
250 postdocs**

EMBL International PhD
Programme

EMBL Postdoctoral
Programme

General Training and
Development

External

~ 7000 guests per year

EMBL Courses and
Conferences

EMBL Visitor Programme

Online training

European Learning Lab
for the Life Sciences (ELLS)



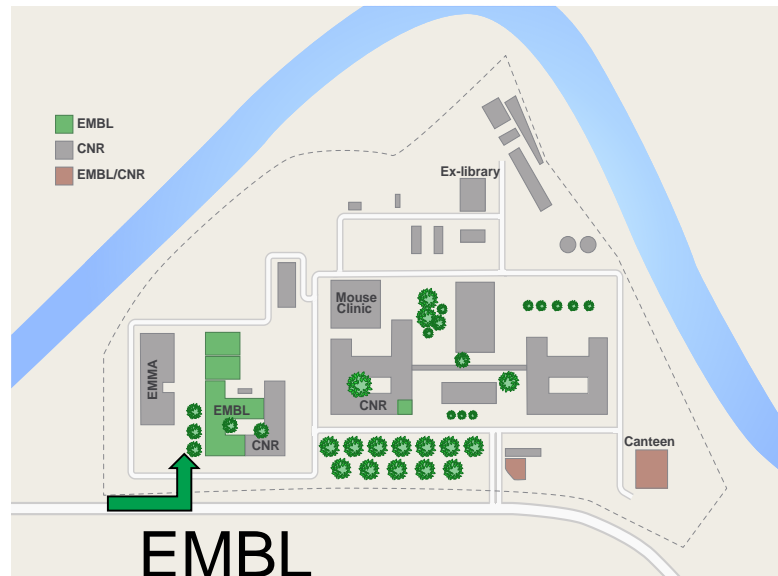
Italian participation in Courses and Conferences at EMBL

- Close to **800** participants in **2017-2018**
- **14** Italian nationals received EMBL Corporate Partnership Fellowships in 2018
- In 2018, **26 off-site events** were organised in Italy with over 2800 participants

People on site at EMBL Rome at Monterotondo

At EMBL Rome **84** staff members, of whom:

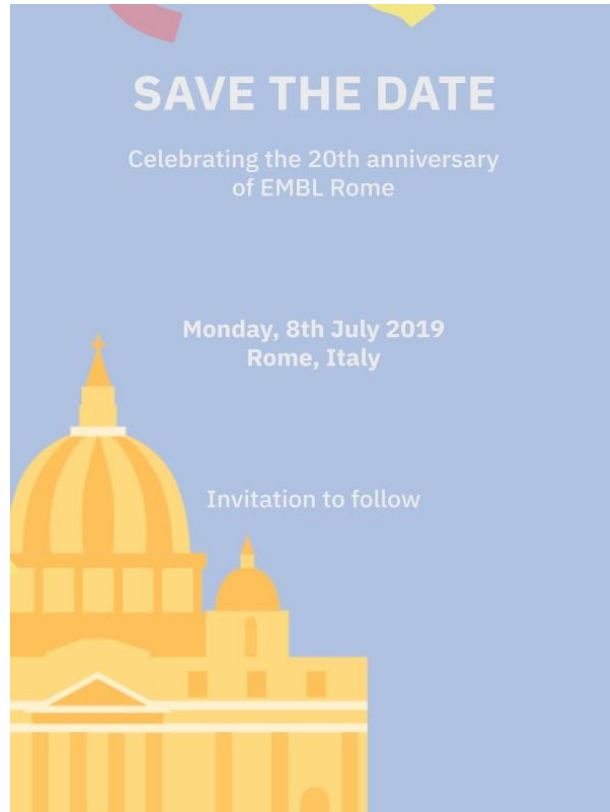
- 9** Italian Postdoc Fellows
- 13** Italian PhD Fellows
- 14** Italian interns (Masters)
- 41** non-Italians



IBCN-EMMA
104 of which 59
scientific personnel

EMBL Rome 20th Anniversary

Monday 8th July 2019



**Refocusing of Research in Rome
around Neurobiology & Epigenetics
and their interface**

EMBL Rome Renovation



Reinforcing Collaborations with Italian Institutes

- Joint High Level Seminar Programme in Neurobiology and Epigenetics between La Sapienza and EMBL Rome
- EMBL in Italy Alumni Meetings (Rotating Meetings)
- REBIT-POD Joint Fellowship Scheme between EMBL Rome, EMBL EBI and IIT signed in 2018, started 2019

Postdoctoral Fellowships with Italian Institute of Technology (IIT)

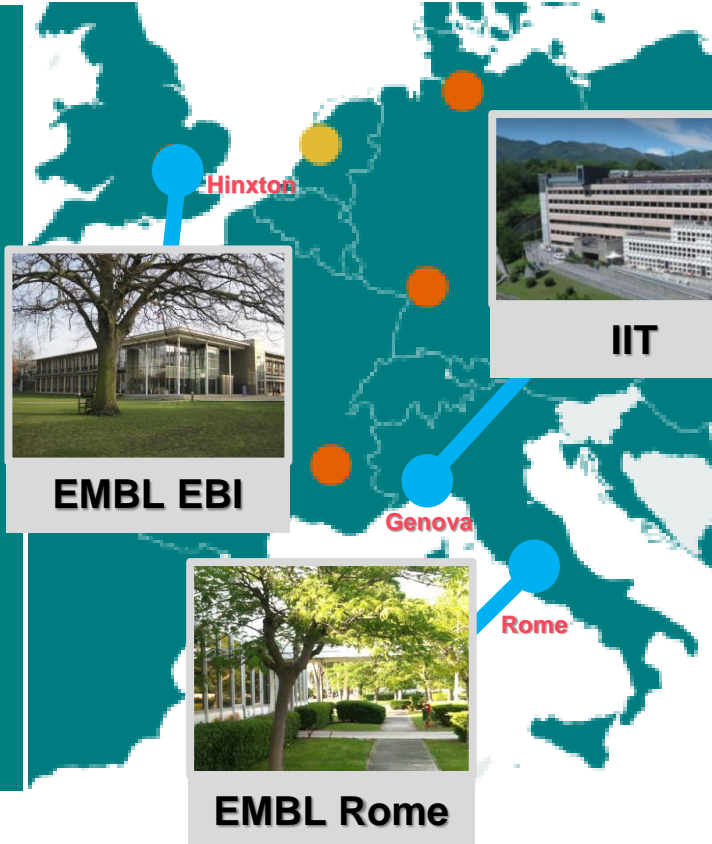
REBIT-POD

Interdisciplinary postdoc fellowships

across 2 groups

EMBL-IIT

2-3 fellowships per year



EMBL Rome

Epigenetics
Neurobiology

IIT

Nanotechnology
Neuroscience
Robotics

EMBL EBI

Bioinformatics
Human data annotation

EMBL and Tara

Molecular biology in oceans research



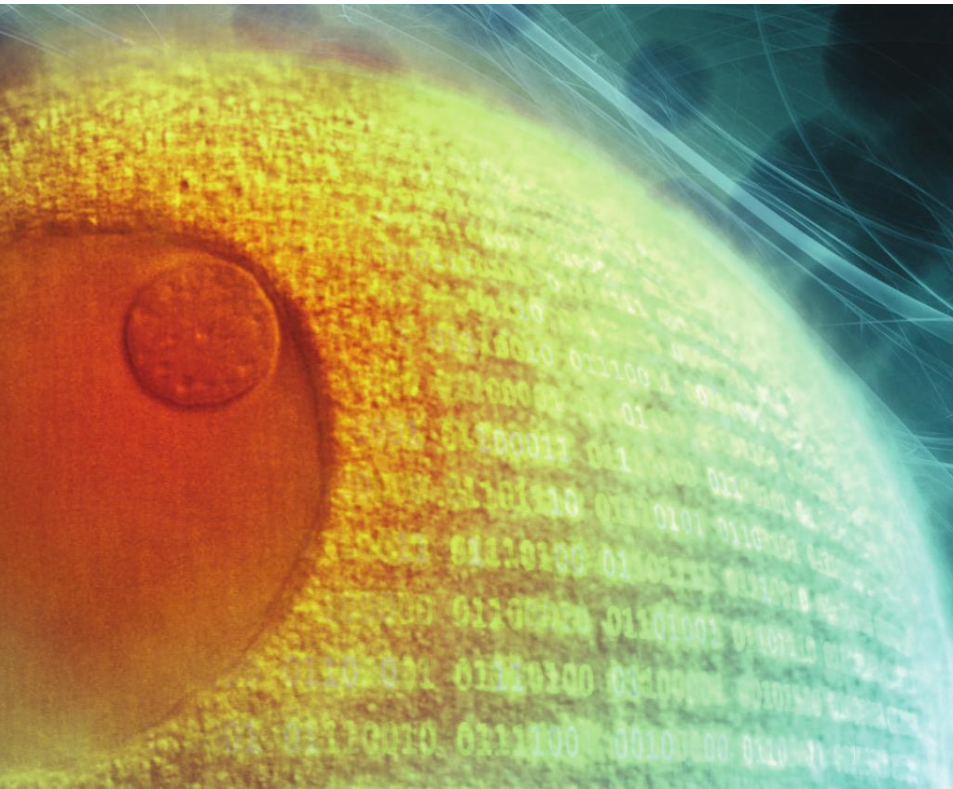
05/11/2019

13

A large three-masted sailing ship, the Tara, is shown sailing on a deep blue sea under a clear blue sky with scattered white clouds. The ship has white sails and a dark hull with an orange stripe near the waterline. The name 'Tara' is visible on the side of the hull. Several crew members in orange gear are visible on the deck. A green horizontal bar is overlaid on the image, containing the title text.

Tara Stopover in Rome : Talking about Microplastics

Understanding life



**Research
Programme
2017–2021:**

**DIGITAL
BIOLOGY**

Bridging scales:
molecules to
ecosystems

The big data
challenge

Towards human
biology and molecular
medicine

Looking ahead: The next EMBL programme

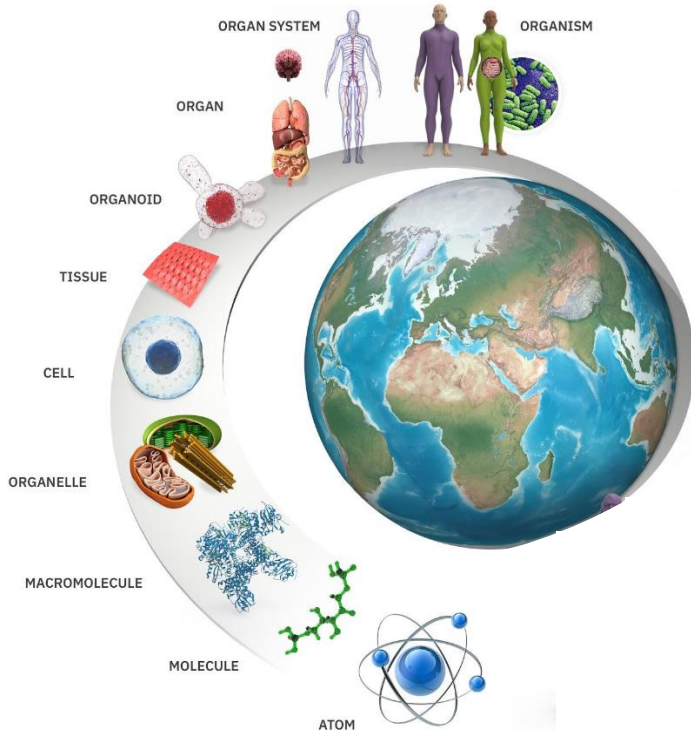
Leading European science

Bringing change

Opening EMBL's horizons



From Atoms to Ecosystems: Towards an understanding of organisms in their environment



Build on our current programme to bring novel molecular and mechanistic insights into biodiversity

Integrate environmental information into the study of organisms with new research and services

Understand impact of humans on the environment and of the environment on humans

Address societal concerns surrounding human and planetary health
(eg UN declared that 2021 – 2030 would be the Decade on Ecosystem Restoration)

Provide solutions - not just alerts - to global challenges:
antibiotic resistance, biodiversity collapse, climate change, pollution

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EMBL wants to measure and understand:

- The dynamic behaviours of living systems
- Changes over different scales of time
- Perturbation effects
- Population effects
- Genetic and environmental effects

At the molecular level
At a mechanistic level

Using quantifiable methods and new technologies

Theory to understand complexity

Thank You !!