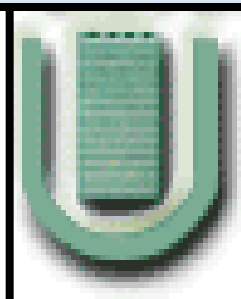


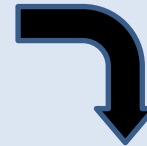
Mobility and Career: round trip for brains drain

Olivia Pulci
Dept. of Physics, University of Rome Tor Vergata

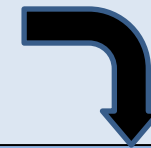


Prepare your career!!

ERASMUS

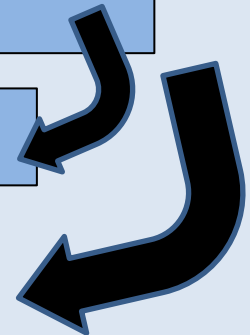


MSCA*: PhD in DN



MSCA*: Post-Doc Individual Fellowships (PF)

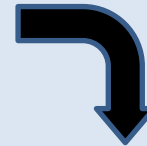
Return of brains: Rita Levi Montalcini



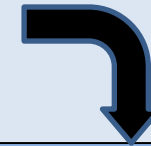
Return of brains: ERC, FIS

Prepare your career!!

ERASMUS

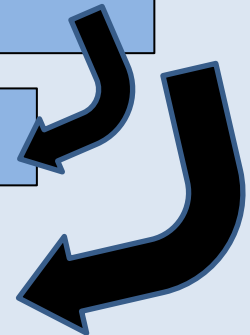


MSCA*: PhD in DN



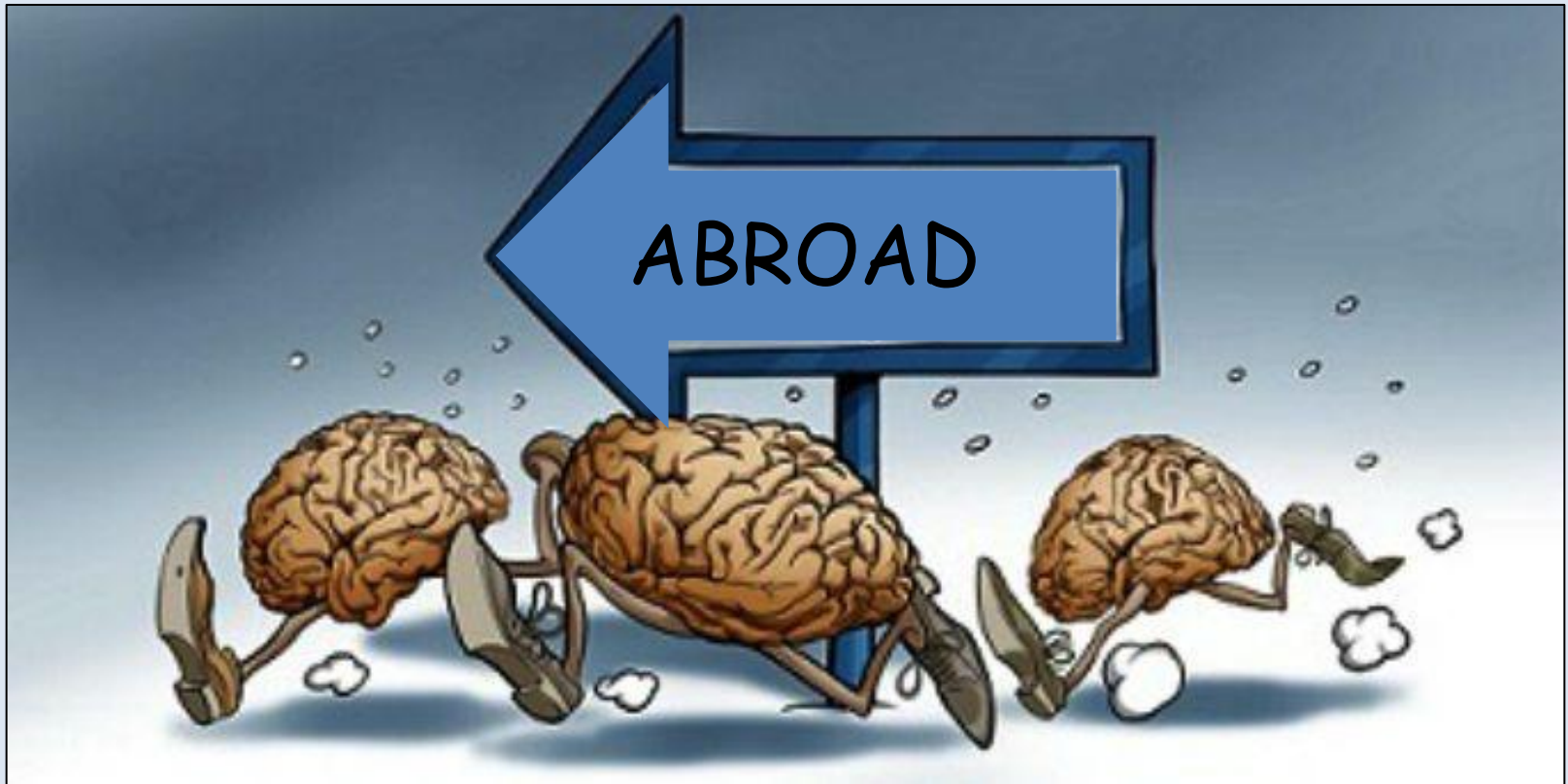
MSCA*: Post-Doc Individual Fellowships (PF)

Return of brains: Rita Levi Montalcini



Return of brains: ERC, FIS

Citizens of the world (1): LT, LM, PhDs





+ ERASMUS+



- ERASMUS (since 1987)
- European Community Action Scheme for the Mobility of University Students
- The name of the program derives from the Dutch humanist and theologian Erasmus of Rotterdam (fifteenth century): he traveled several years throughout Europe to understand its different cultures. Created by Sofia Corradi in 1969 ("ERASMUS mother")

0



With a budget of several billion euros, it gives over 15 million Europeans and not European the opportunity to study, train, gain experience abroad.

What is the ERASMUS programme?

The ERASMUS Programme supports the mobility of students for study purposes and internships at University (and/or companies) in the EU



It gives a European university student the opportunity to carry out a period of study legally recognized by his/her university in a foreign university (3-12 months)

For bachelor's, master's students, recent graduates, and doctoral students



ERASMUS+

Il programma dell'UE per l'istruzione, la formazione, la gioventù e lo sport

Practical aspects

The call for applications to participate in the ERASMUS Programme is published every year between the end of January and February of the previous Academic Year.

The locations depend on the agreements made by the various professors of the degree course and are chosen in the 27 EU countries plus Iceland, Liechtenstein, Norway, Switzerland and Turkey

The ranking is made on the basis of merit (number of credits acquired and average of marks).

The ERASMUS student is exempt from paying tuition fees in the host country because he/she pays them in the country of origin.



ERASMUS+

Il programma dell'UE per l'istruzione, la formazione, la gioventù e lo sport

The University ERASMUS office will provide for the activation of intensive foreign language courses (English, French, German and Spanish) in the second half of July for departing students.

Departures are in September (1st semester) or February (2nd semester) approximately, but depend on the duration of the scholarship

A few months before leaving, it is necessary to agree with the coordinator of your degree course (Prof. Di Ciaccio for Physics, O.P. for STM) and with the coordinator of the host university the program to be carried out (Learning Agreement).

Recent graduates can also participate in trainship scholarships (2-12 months) but must apply before graduating and do the internship within 1 year of graduation

WHY ERASMUS?

Enriches life, opens the mind

- Almost 80% of graduates have experience abroad find a job within 3 months
- important for the Curriculum Vitae

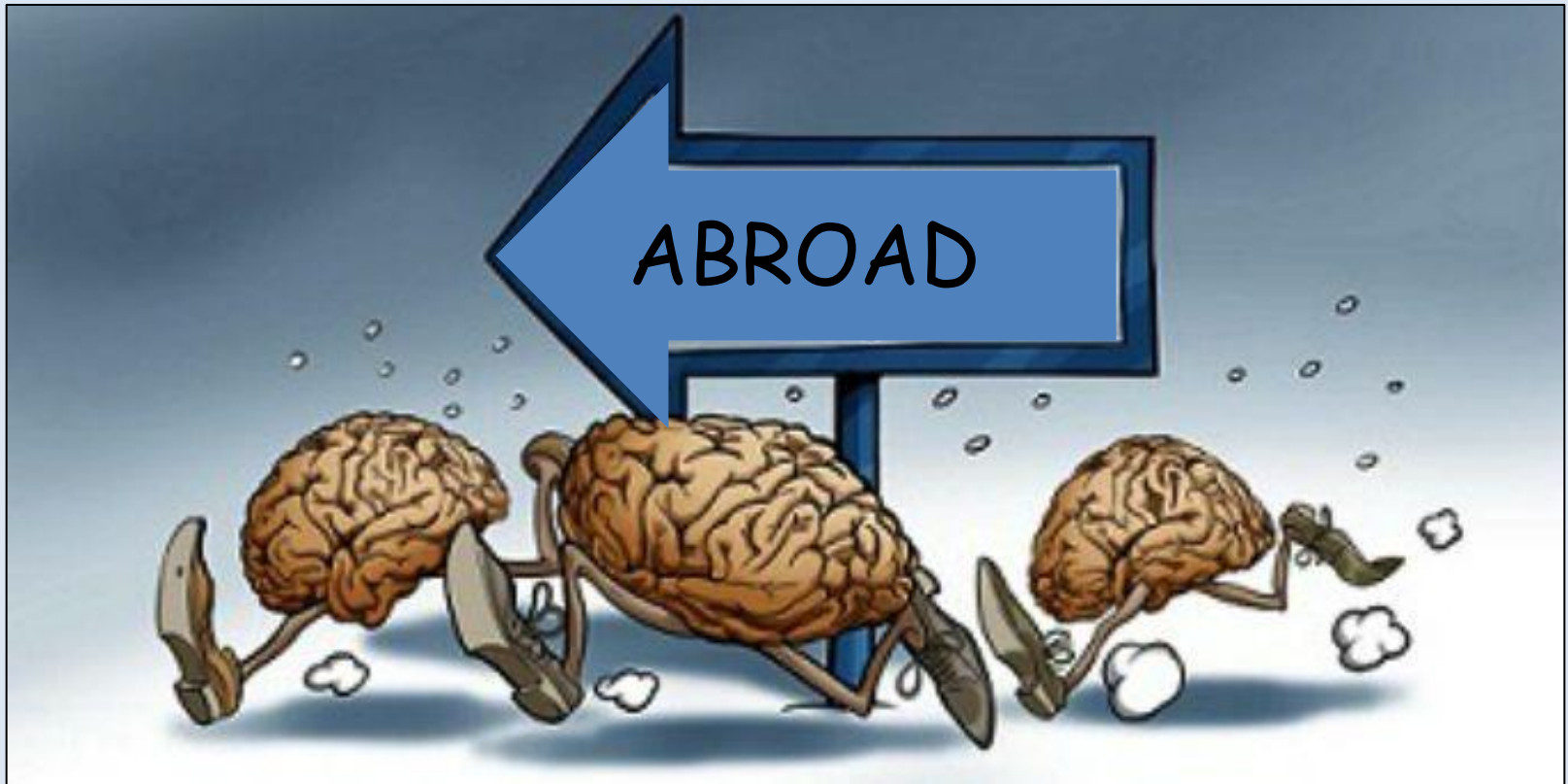
•SOFT SKILLS:

1. Digital 51%
2. Business 69%
3. Problem solving 76%
4. Critical thinking 79%
5. Foreign Language 88%
6. Interpersonal skills 91%
7. Spirit of adaption 91%

Info: ilenia.travaglini@uniroma2.it
erasmus@scienze.uniroma2.it
<https://scienze.uniroma2.it/category/erasmus-per-attivita-di-studio-allestero/>

during LT, LM, Master Thesis, recent graduates, PhD Thesis

Citizens of the world (2): international LM (master)





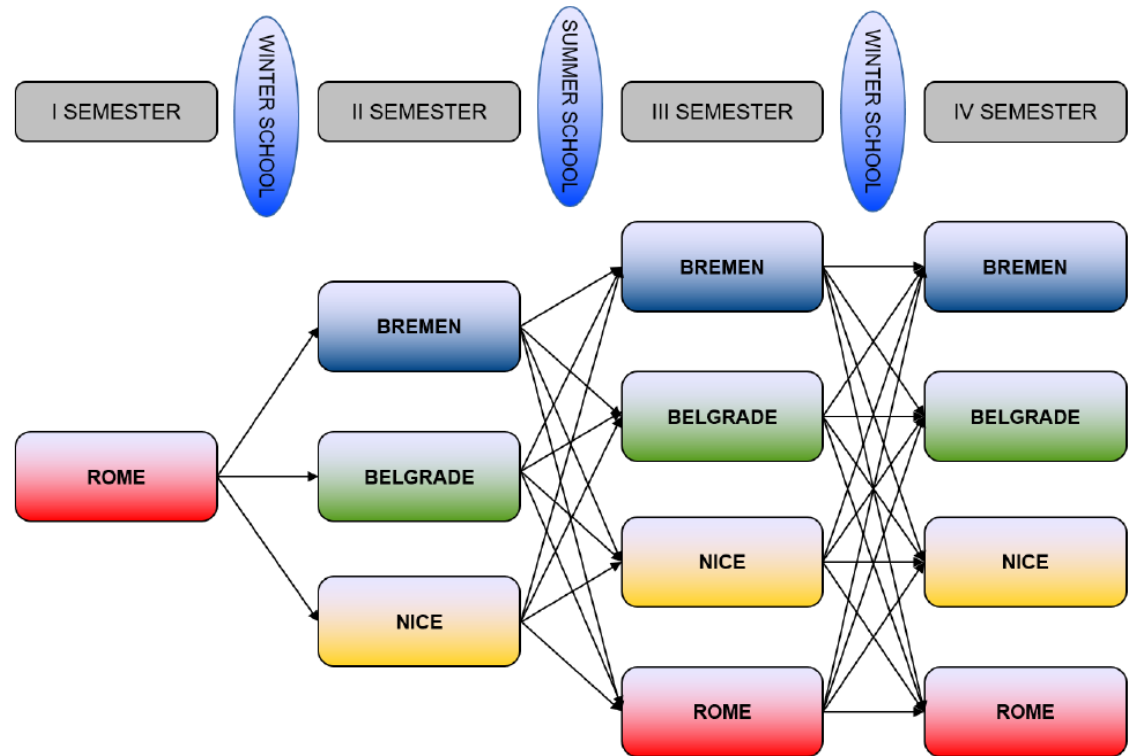
ERASMUS MUNDUS *Joint Master*

- Masters delivered by multiple university and run across various countries
- Students from all over the world can apply
- Scholarships (1400 euro/month) available for the best students
- Find your opportunity here

https://www.eacea.ec.europa.eu/scholarships/erasmus-mundus-catalogue_en

For info Prof. Dario Del Moro
dario.delmoro@roma2.infn.it

Here in ToV: MASS (Master in Astrophysics and Space Science)



For info Prof. Claudio Goletti
claudio.goletti@roma2.infn.it

Here at ToV: GREENANO

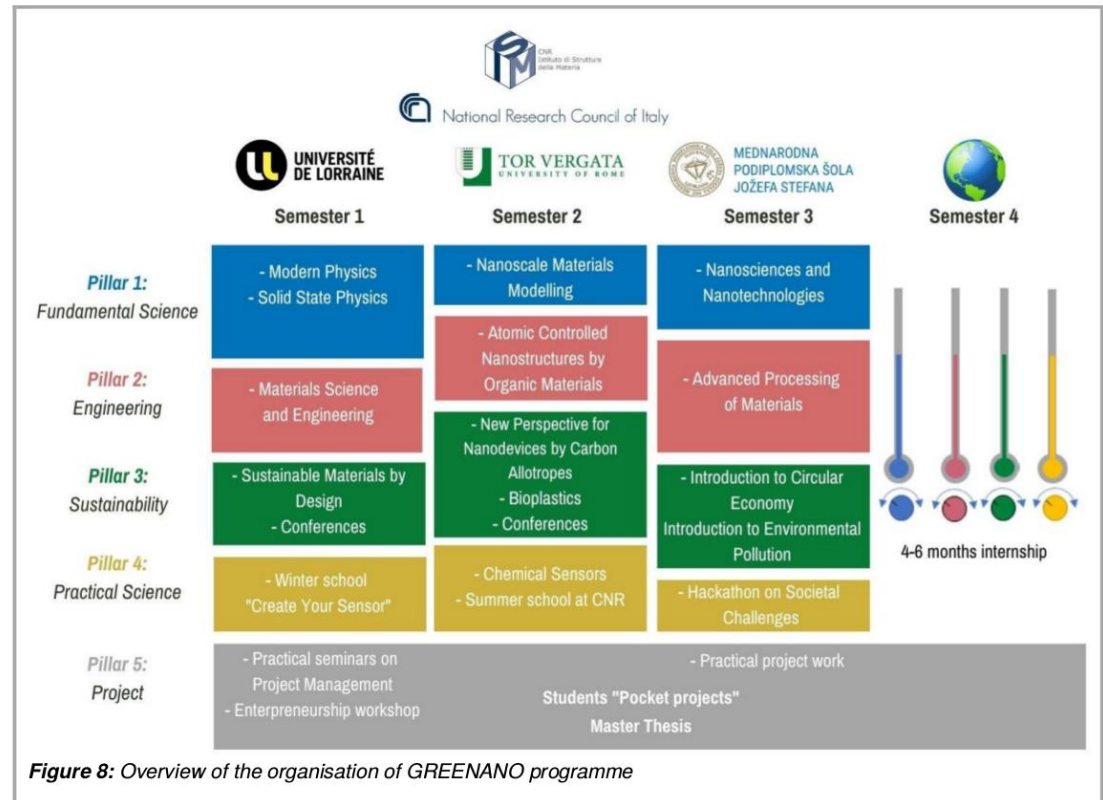


Figure 8: Overview of the organisation of GREENANO programme

1st Cohort

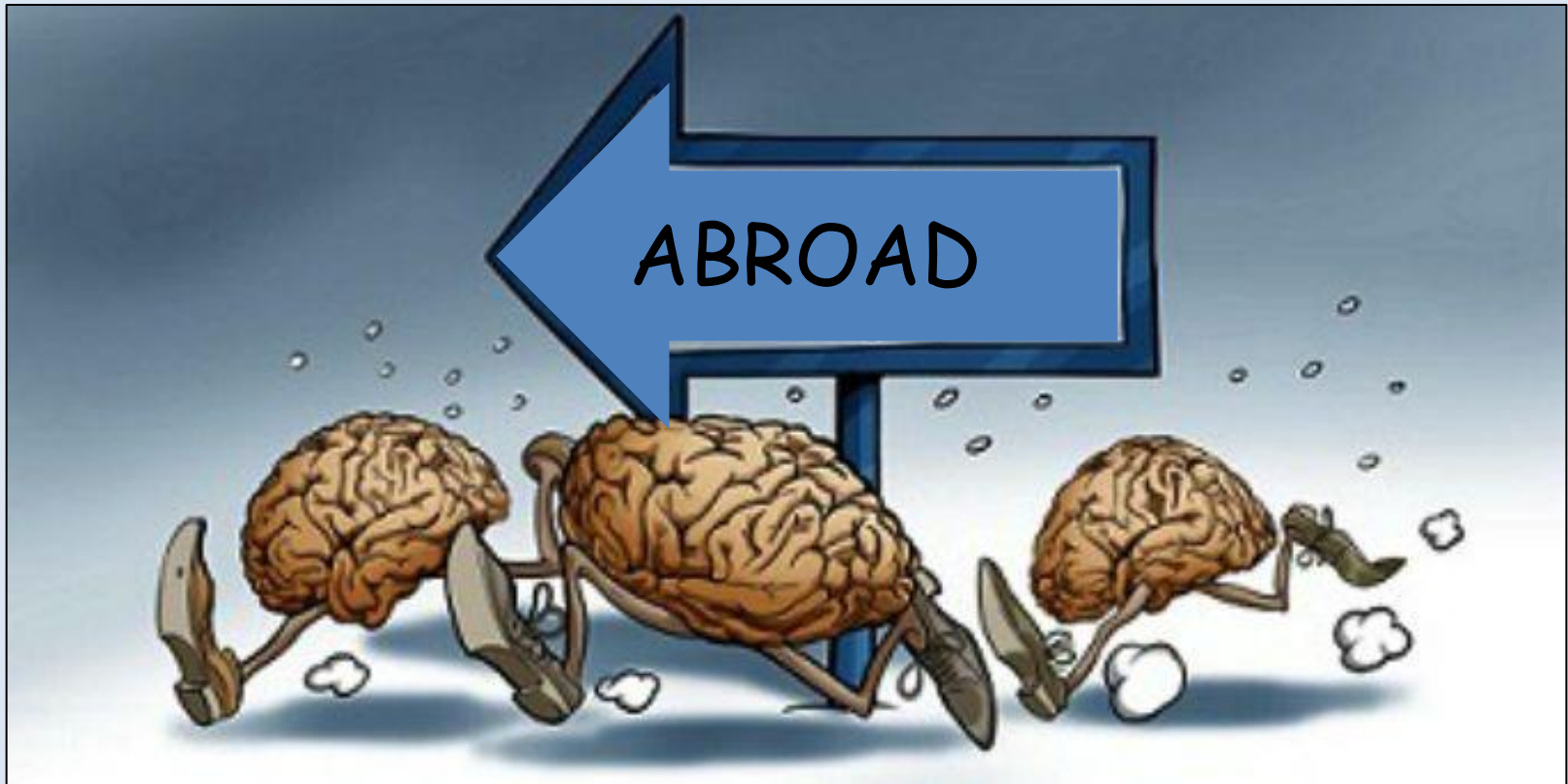


Apply at <https://www.greenanomaster.eu/>

2nd Cohort



Citizens of the world (3): PhD/postdocs ABROAD



THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON Europe 2021–2027

HORIZON 2020

(2014-2020)

Past:

FP6: 2002-2006

FP7: 2007-2013

Give me a lever and a place to stand, and I will move the world (Archimedes)



EXCELLENT SCIENCE

**INDUSTRIAL
competitiveness**

INNOVATION

Pillar 1

Excellent Science

European Research Council

Marie Skłodowska-Curie
Actions

Research Infrastructures

Pillar 2

Global Challenges and
European Industrial
Competitiveness

Clusters

- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre

Pillar 3

Innovative Europe

European Innovation Council

European innovation
ecosystems

European Institute of
Innovation
and Technology

Widening Participation and Strengthening the European Research Area

Widening participation and spreading excellence

Reforming and Enhancing the European R&I system



Horizon Europe

THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021–2027)

Pillar 1 Excellent Science

European Research Council

Marie Skłodowska-Curie
Actions

Research Infrastructures

Pillar 2 Global Challenges and European Industrial Competitiveness

- Clusters
- Health
 - Culture, Creativity and Inclusive Society
 - Civil Security for Society
 - Digital, Industry and Space
 - Climate, Energy and Mobility
 - Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre

Pillar 3 Innovative Europe

European Innovation Council

European innovation
ecosystems

European Institute of
Innovation
and Technology

Widening Participation and Strengthening the European Research Area

Widening participation and spreading excellence

Reforming and Enhancing the European R&I system



Horizon Europe

THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021–2027)

Pillar 1

Excellent Science

European Research Council

Marie Skłodowska-Curie
Actions

Research Infrastructures

Pillar 2

Global Challenges and
European Industrial
Competitiveness

- Clusters
- Health
 - Culture, Creativity and Inclusive Society
 - Civil Security for Society
 - Digital, Industry and Space
 - Climate, Energy and Mobility
 - Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre

Pillar 3

Innovative Europe

European Innovation Council

European innovation
ecosystems

European Institute of
Innovation
and Technology

Widening Participation and Strengthening the European Research Area

Widening participation and spreading excellence

Reforming and Enhancing the European R&I system

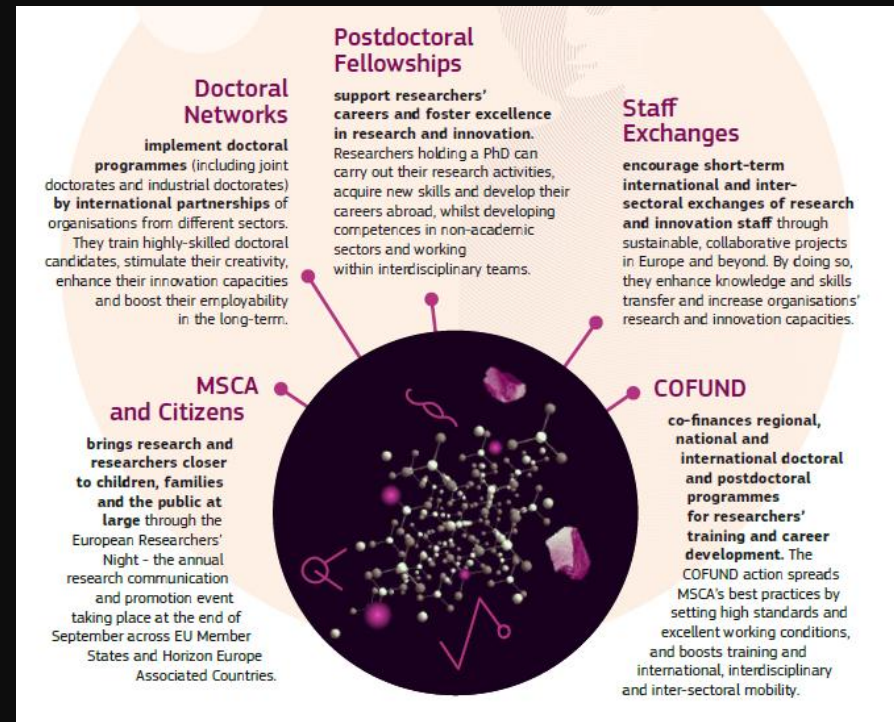


Horizon Europe

THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021–2027)

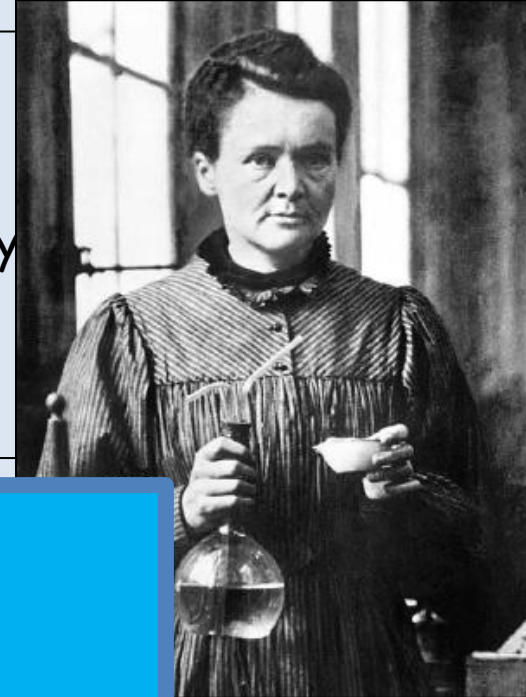
5 MSC ACTIONS

- Excellence, Mobility, Bottom-Up, and opened to the world
- Excellent recruitment, working conditions and inclusiveness



MSCA: Developing Talents, Advancing Research

- Supporting researcher training and career development
- Funding **excellent** research, bottom-up
- Promoting research **mobility**
- Stimulating **international**, intersectorial and interdisciplinary cooperation
- Impacting researcher **careers**, organisations, structures



5 MSC Actions in HORIZON EUROPE

- Doctoral Networks (DN)
- Postdoctoral Fellowships (PF)
- Staff Exchanges (SE)
- COFUND
- MSCA and Citizens (previous Researchers Night)



Prepare your career!!

ERASMUS

MSCA*: PhD in DN

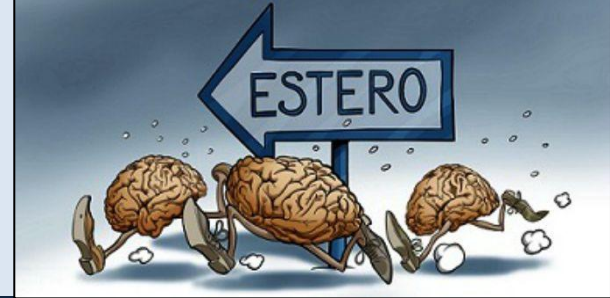
MSCA*: Post-Doc Individual Fellowships (PF)

Return of brains: Rita Levi Montalcini

Return of brains: ERC, FIS

DN: DOCTORAL NETWORK (for PhDs)

<https://euraxess.ec.europa.eu/>



Constrains: the student must not be resident in the host country for more than of 12 months in the 3 years immediately preceding the deadline of the call

- **Industrial Doctorates (IDN)**, composed of at least 2 beneficiaries of 2 different Member or Associated Countries, of which at least one must be a academic institution and another non-academic body, which present a program joint doctoral program aimed mainly at "industry-oriented" research.
- **Joint Doctorates (JDN)**, composed of at least 3 beneficiaries from 3 different Member or Associated Countries, who have a Joint doctoral programme aimed at awarding the doctoral degree Joint, double or multiple. International, cross-sectoral, interdisciplinary

For the ESR (month/man)			For the institution: (month/man)	
Salary	mobility allowance	family allowance	Research costs	general costs
€ 3.270,00	€ 600,00	€ 500,00	€ 1.800,00	€ 1.200,00

HOW?

Just look for announcements, and apply

<https://euraxess.ec.europa.eu>

[ask Profs. Luca Biferale](#)
[Mauro Sbragaglia,](#)
[Enrico Perfetto](#)

AQTIVATE (Horizon Europe,
2023-2027)

Advanced computing,
Quantum algorithms and data-
driven Approaches for science,
Technology and Engineering

<https://aqtivate.ucy.ac.cy/>

AQTIVATE Beneficiaries

University of Cyprus (Cyprus), The Cyprus Institute (Cyprus), Telecom Paris, Institut Mines-Télécom (France), Università degli Studi di Roma "Tor Vergata" (Italy), Kungliga Tekniska Högskolan (Sweden), Università degli Studi di Padova (Italy), Forschungszentrum Jülich GmbH (Germany), Bergische Universität Wuppertal (Germany), Technische Universität Berlin (Germany)



UNIVERSITÀ
DEGLI STUDI
DI PADOVA



Prof. M. Sbragaglia,

L. Biferale,

R. Benzi

TIMES

Time Resolved sImulations in QuantuM MatERials

Starting date: March 2024

9 NODES IN ALL EUROPE

+ Synergy with several experimental and industry partners across Europe and USA

And High Performance Computer Centers, SMEs, big-data facilities



AIM OF THE PROJECT

Theoretical and computational methods to study the ultrafast quantum phenomena in novel materials

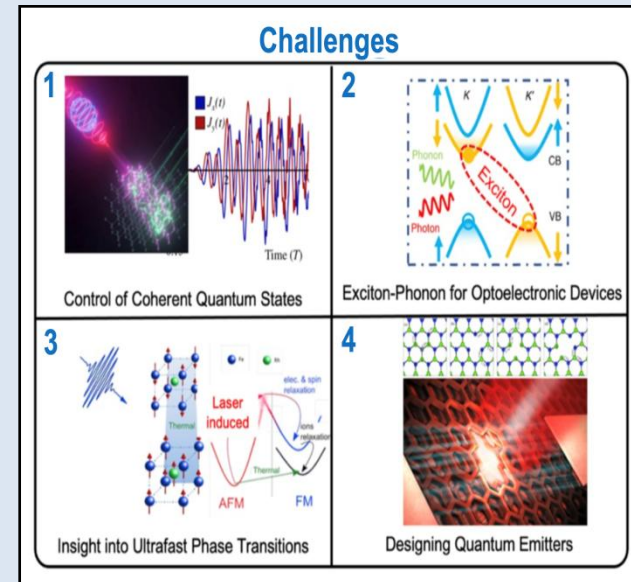
APPLICATIONS

Quantum computing, opto-electronics, renewable energy

CONTACTS:

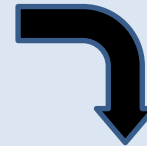
Prof. Enrico Perfetto, Prof.ssa Maurizia Palummo

<https://euraxess.ec.europa.eu>



Prepare your career!!

ERASMUS



MSCA*: PhD in DN



MSCA*: Post-Doc Individual Fellowships (PF)

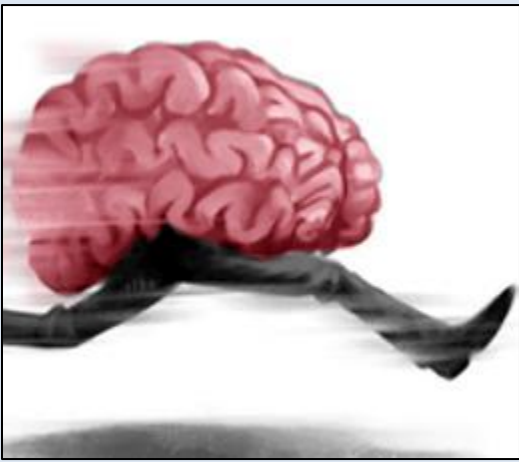
Return of brains: Rita Levi Montalcini



Return of brains: ERC, FIS

Marie Curie INDIVIDUAL Post-Doctoral FELLOWSHIPS

Who?
 Experienced researchers (ER)
 from all over the world



Why?

- Postdoc in host institution at your choice.
- **Boost of the career**
- Very good economical and social treatment

How?

- 1) Decide host
- 2) Contact him/her
- 3) Write an excellent project

Where?
 Europe (European IF)
 Everywhere (Global IF)

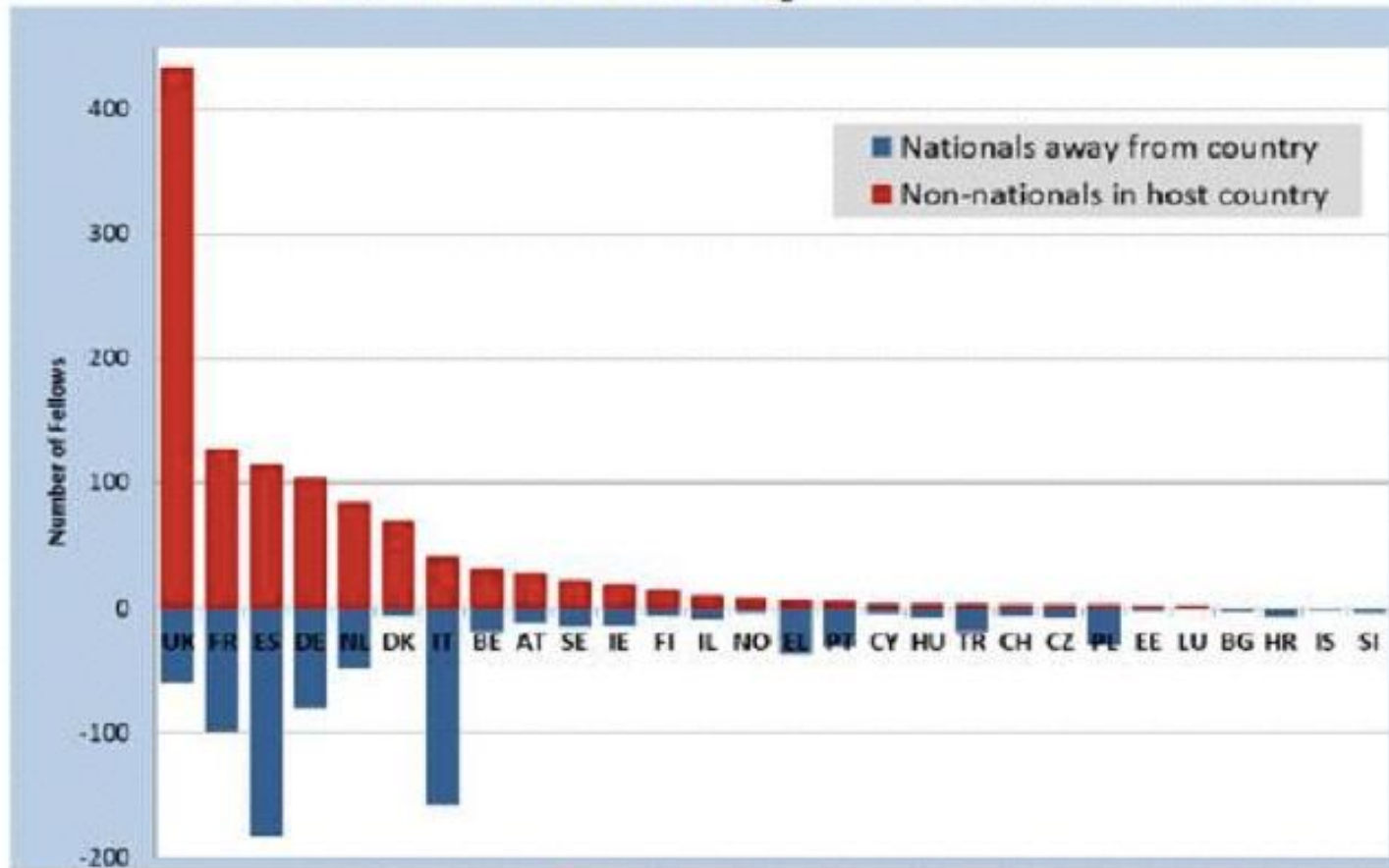
2 Eligibility Criteria:

- Experienced researchers (PhD or equivalent)
- Mobility

Cost Unit for the ER (month/man)			cost unit for the Institution (month/man)	
Salary	mobility	family	Research Costs	General Costs
€ 4880,00	€ 600,00	€ 500,00	€ 800,00	€ 650,00

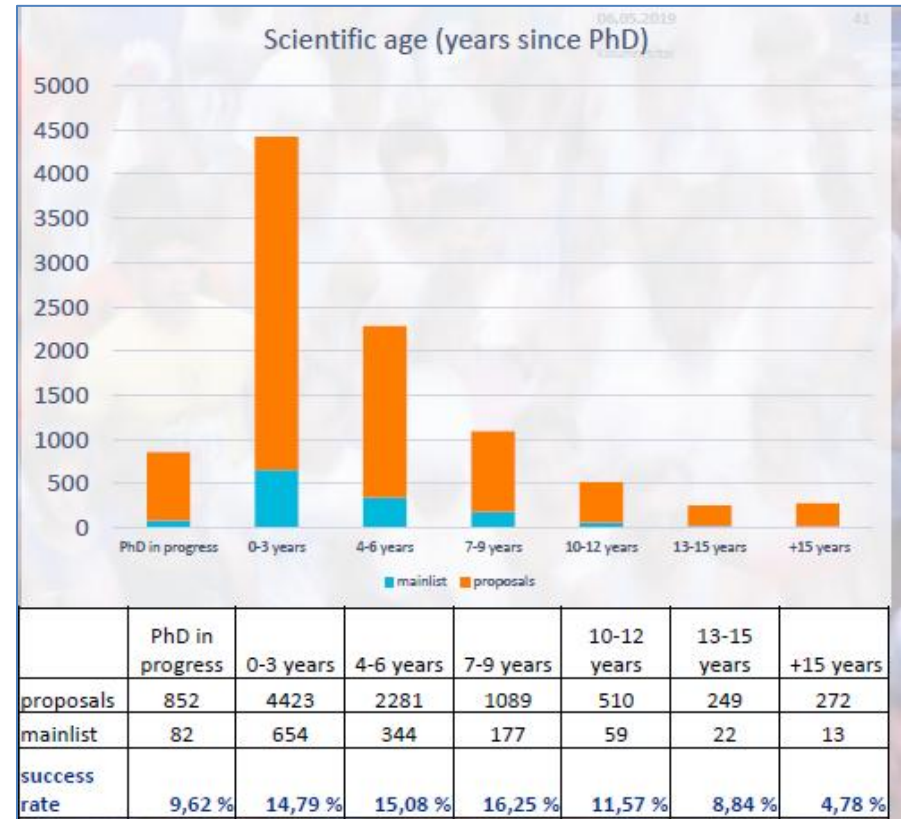
For info Prof. Olivia Pulci

IF-EF 2014: Mobility of researchers



	UK	FR	ES	DE	NL	DK	IT	BE	AT	SE	IE	FI	IL	NO	EL	PT	CY	HU	TR	CH	CZ	PL	EE	LU	BG	HR	IS	SI
Non-nationals in host country	434	127	114	103	84	69	42	32	29	23	20	15	11	9	7	6	4	4	4	3	3	3	2	2	1	1	1	1
Nationals away from country	60	98	183	80	49	6	158	19	12	15	14	6	9	4	36	31	5	8	19	6	8	30	2	0	3	7	1	4

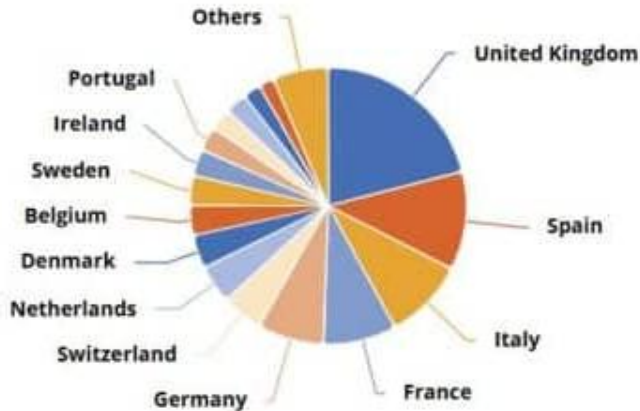
WHEN TO APPLY.....



RESULTS FOR 2025 Marie Curie Individual Fellowships

Proposals by country of coordinator

Postdoctoral Fellowships 2025 submission figures



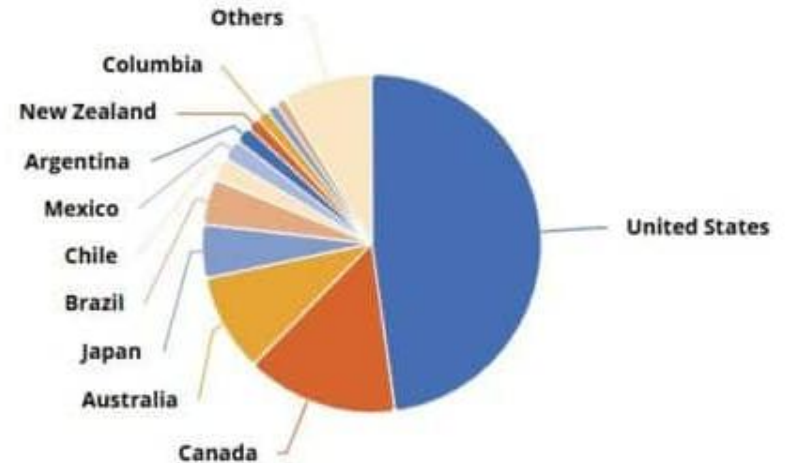
- **European** Fellowships :

- 15,820 applications

- **Global** Fellowships: 1,238 applications

Proposals by outgoing country - Global Fellowships

Postdoctoral Fellowships 2025 submission figures



About 12% success rate

9.6% success rate



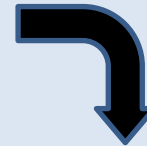
Con le GLOBAL e' possibile
la «Chiamata Diretta»

Home, sweet home

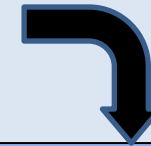


Prepare your career!!

ERASMUS

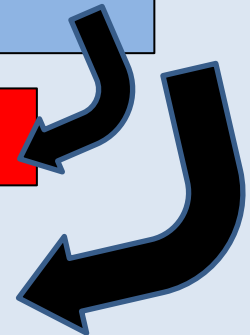


MSCA*: PhD in DN



MSCA*: Post-Doc Individual Fellowships (PF)

Return of brains: Rita Levi Montalcini



Return of brains: ERC, FIS



The Rita Levi Montalcini programme



- Financed by MIUR
- 24 young researchers per year
- Brain re-entry

Criteria:

Young researchers who have been permanently (*) abroad for at least 3 years and with a PhD for no more than 6 years
Evaluated on the basis of the CV and a research project
(Funding ~200kE)

Advantages:

They return to Italy with a position as Tenure Track researcher (after 3 years, if in possession of a national QUALIFICATION, upgrade to Associate Professor)

Esempi: Proff. Camilli, Tombesi, Mancini...etc

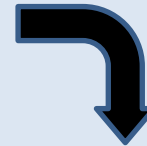
(*)impegno active and continuous commitment of at least 30 months over the 3 years

home sweet home

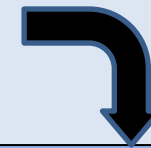


Prepare your career!!

ERASMUS

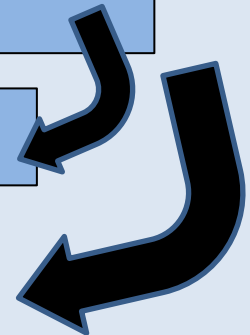


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Return of brains: Rita Levi Montalcini



Return of brains: **ERC**, FIS

European Research Council (ERC)



“The ERC's mission is to encourage the highest quality research in Europe through competitive funding and to support investigator-driven frontier research across all fields, on the basis of scientific excellence.” 17% of the overall Horizon2020 budget

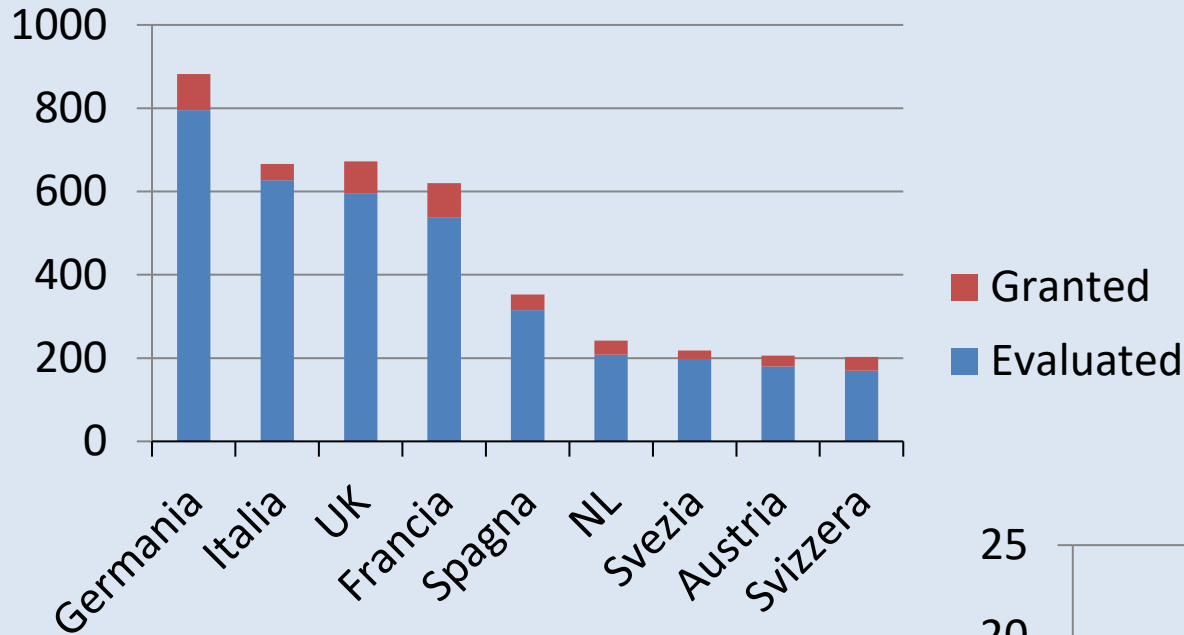
- Investigator-driven, or bottom-up
- New promising research areas
- Sole criterion: EXCELLENCE
- Support the best of the best frontiers research
- High risk—high gain
- Academic freedom

- ERC starting grants:2-7 anni dal PhD
- ERC consolidator grants: 7-12 anni dal PhD
- ERC advanced grants: >12 anni dal PhD
- ERC proof of concept: link ricerca-mercato

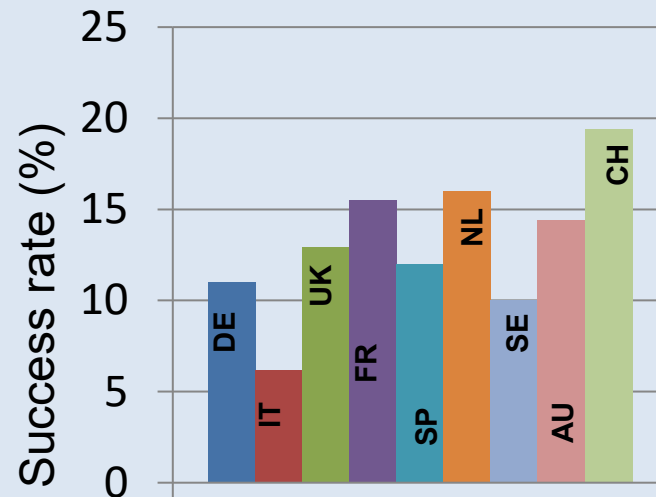
1. In all cases, the CV must be excellent.
2. No limits of age, nationality.
3. What matters is to have a great idea
4. High budget (>1MEuro) and "personal" (transportable)
5. Upgrades/hiring programs at many universities.

Examples: Proff. Luca Biferale, Lucio Cerrito, Mauro Sbragaglia,
Tommaso Giovannini.....

STATISTICS 2007-2020 FOR STARTING GRANTS (budget <1.5 Meuro, 5 years) PE2+PE3



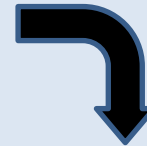
Top 9 Countries



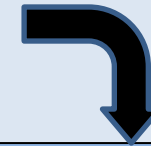
Average success rate (all Country):
10.6%
Italy much below

Prepare your career!!

ERASMUS

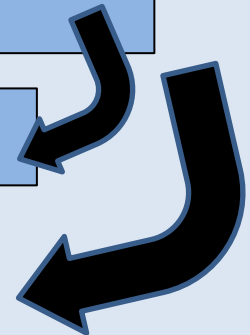


MSCA*: PhD in DN



MSCA*: Post-Doc Individual Fellowships (PF)

Return of brains: Rita Levi Montalcini



Return of brains: ERC, FIS



FIS programme

- It is the 'italian' ERC, financed by MUR
- Low success rate
- Excellent science
- Starting, Consolidator, Advanced
- You may get a Tenure Track or Professorship
- <https://fis-submission.mur.gov.it/>

Ask for example Dr. Flaminia Giacomini

There is a world of possibilities
out there

Thank you for your attention

