GEOTHERMAL SPRING SCHOOL 2021
Course “Boost your career with EU projects/funds”
Fabienne Brutin (Ayming)
Welcome

Course: Boost your career with EU projects/funds

Main objectives

- Give an overview on Research funding / Fundraising
- Provide few tips on funds applications
- Help to include such opportunities in your career
Speaker

Fabienne Brutin

Chemistry & process engineer
20 years experience in EU/French R&D projects applications and management
PMP® certified (Project Management Professional)

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Agenda

A progressive immersion!

- Overview of European research funding
- Research project construction and tips
Session 1 - Overview of European research funding
Introduction

The EU funds are available to all categories of researchers
  • well-established researcher,
  • looking for Post-Doc funding
  • or considering starting a PhD,

The EU funds are also available regardless
  • Country (member states, associated countries),
  • Disciplines or
  • Sector.

The EU provides grants to help researchers to
  • Carry out research and innovation project,
  • Get additional skills,
  • Develop cross disciplinary, international and intersectoral experience and
  • Boost international careers
Horizon Europe

Biggest EU R&I programme covering 2021 – 2027

Budget 95.5 Billion €

Rationale:

- Strengthen the scientific and technological bases of the Union
- Stimulate competitiveness, including that of European industry
- Realize the Union's strategic political priorities
- Contribute to responding to global issues
Horizon Europe

Specific objectives of the Programme

- Support the creation and diffusion of high-quality knowledge
- Strengthen the impact of R&I in supporting EU policies
- Foster all forms of innovation and strengthen market deployment

Optimise the Programme's delivery for impact in a strengthened ERA

Pillar 1
Open Science
- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

Pillar 2
Global Challenges and Industrial Competitiveness
- Health
- Inclusive and Secure Society
- Digital and Industry
- Climate, Energy and Mobility
- Food and natural resources
- Joint Research Centre

Pillar 3
Open Innovation
- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

Strengthening the European Research Area
- Sharing excellence
- Reforming and Enhancing the European R&I system
Rationale of EU funds

Cover a wide range of Research and innovation activities all along the Technology Readiness Level (TRL) scale.

PROOF OF CONCEPT FUNDING

1. BASIC RESEARCH
2. RESEARCH TO FEASIBILITY
3. TECHNOLOGY DEVELOPMENT

PROTOTYPE DEVELOPMENT

4. TECHNOLOGY DEMONSTRATION
5. SYSTEM / SUBSYSTEM DEVELOPMENT

CORPORATE/EQUITY INVESTMENT

6. SYSTEM TEST, LAUNCH AND OPERATIONS
7. COLLABORATIVE PROJECTS
8. MSCA / ERC PROJECTS
9. PROTOTYPE DEVELOPMENT
EU fundraising all along your career

- Students
- Post Graduates
- Post-docs
- Young Researchers
- Associated Professor
- Junior Professor/Junior Researcher
- ERC Consolidators
- ERC Starters
- MSCA
- Erasmus
- Senior Professor
- Full Professor
- ERC Advanced
EU fundraising all along your career

<table>
<thead>
<tr>
<th>Duration (Months)</th>
<th>ERC ADG</th>
<th>ERC CONSOLIDATOR GRANT</th>
<th>ERC STARTING GRANT</th>
<th>MSCA STAFF EXCHANGES</th>
<th>MSCA POST DOCTORAL FELLOWSHIPS</th>
<th>MSCA COFUND</th>
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<td>1, 2, 3, 4, 5</td>
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<td>18M</td>
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MSCA Doctoral Networks

Young Researcher

Established Researcher

PhD

Years after PhD
ERASMUS+

The EU's programme to support education, training youth and sport

Funding for programmes, projects and scholarships

Fosters EU-EU and EU-international cooperation

Available for Programme countries (EU) and Partner countries (worldwide)

Two main actions:
- Mobility of individuals
- Cooperation for innovation and the exchange of good practices
MSCA actions

What are the Marie Skłodowska-Curie actions?

A European Union programme dedicated for

• **Structuring** researcher career
• Train a **new generation of researchers**
• **Enhance creative and innovative** potential of researchers
• **Foster excellence**

MSCA keywords

• **Attractivity** to research
• **Intersectoral** mobility and societal needs addressing
• Societal and innovation **impacts**
• Cross cutting issues addressing such as **Open science and Responsible Research and Innovation**
• **Strong emphasis** to the implementation and adoption of the **Charter & code for researchers and Principles for Innovative Doctorate Training**.
MSCA actions

What do MSCA projects offer?

• **Excellent working conditions**: employment contracts, social security, environment

• Opportunities to **work and being trained with the best researchers** in Europe (and worldwide)

• **Complementary skills development**

• **Prestigious career opportunities**!
20 YEARS OF MARIE SKŁODOWSKA-CURIE ACTIONS IN NUMBERS: FUNDING AND PARTICIPANTS

MSCA Budget in EUR million

<table>
<thead>
<tr>
<th>Year</th>
<th>Budget (EUR million)</th>
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<tr>
<td>FP4-FP6</td>
<td>3230</td>
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<tr>
<td>FP7</td>
<td>4750</td>
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<tr>
<td>Horizon 2020</td>
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</table>

Researchers funded through MSCA (all projects combined)

<table>
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<tr>
<th>Year</th>
<th>Researchers Funded</th>
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</thead>
<tbody>
<tr>
<td>FP4-FP6</td>
<td>30,000</td>
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<tr>
<td>FP7</td>
<td>50,000</td>
</tr>
<tr>
<td>Horizon 2020</td>
<td>65,000</td>
</tr>
</tbody>
</table>

EU commission data (MSCA factsheet)
H2020 interim assessment data

40% of MSCA supported researchers are women

140 nationalities have received MSCA funding

100% of MSCA researchers experience international mobility

High competition confirms the interest for those instruments

60% of MSCA fellows believe MSCA support accelerated their career

MSCA fellows are twice as likely as the average researcher to have publications that belong to Top 1%, Top 5% and Top 10% of cited publications
# Marie Skłodowska-Curie Actions

## Doctoral Networks
- High quality research training through international, interdisciplinary and intersectoral actions
- International networks of research organisations from the academic and non-academic sectors
- Researchers at doctoral level (less than 4 years of full-time research experience and no doctoral degree)

## COFUND
(Cond-Funding of Regional, National and International Programme)
- Regional, national or international programmes to foster excellence in researcher training, mobility and career development
- Organisations funding or managing doctoral or fellowship programmes
- Researchers at doctoral and post doctoral level

## Post-Doctoral Fellowships
- Opportunities to work on personal research programs by moving between countries and possibly sectors to acquire new skills
- Individual researchers together with the host organisation
- Postdoctoral researchers

## Staff Exchanges
- The exchange of staff members to develop sustainable collaborative projects and transfer of knowledge
- International networks of research organisations from the academic and non-academic sectors
- Researchers, technical, administrative and managerial staff of any nationality and at all career levels
MSCA – Doctoral Networks

Objectives:

• To train a new generation of creative, entrepreneurial and innovative early-stage researchers,
• To raise excellence and structure research and doctoral training,
• To provide enhanced career perspectives.

Projects:

• International networks of organisations (public / private)
• All domains in a bottom-up & multidisciplinary approach
• Meaningful exposure to international and intersectoral dimensions of research
• Fellowships of 3 to 36 months
MSCA – COFUND

Objectives

• The COFUND scheme aims to stimulate regional, national or international programmes to foster excellence in researchers’ training, mobility and career development.
• Focus on international, intersectoral and interdisciplinary research training as well as transnational and cross-sectoral mobility of researchers at all stages of their career.
• Development and broadening of the research competencies of researchers.

Projects

• One beneficiary that will fund and manage Doctoral Programme or Fellowship Programme: recruiting, supervising, hosting, training researchers
• Partnering organisations will support the beneficiary in the various actions especially secondments.
• Duration of the programme: from 3 to 5 years
• Vacancies internationally advertised, specific mobility rules apply
MSCA – Postdoctoral Fellowships

Objectives

• Enhance the creative and innovative potential of experienced researchers through advanced training as well as international & intersectoral mobility
• Focus notably on:
  • The return and (re)integration of European researchers from outside Europe and those who have previously worked in Europe
  • The promotion of career restart

Projects

• Individual researcher with PhD degree with a research institution out of the country where the researcher carried out his/her main activities
• General mobility rule
• No pre-defined research topics
MSCA – Staff Exchanges

Objectives

• Collaboration between academic and non academic institutions, from Europe / outside Europe
• Organisation of staff exchanges (secondments from 1 to 12 months)
• Enhancement of knowledge transfer (international and intersectoral) and sharing of ideas and R&I culture

Projects

• At least 3 independent participants in 3 different countries, of which min 2 from MS/AC
• Preferably at least 1 academic & 1 non academic (mandatory if all partners from MS/AC)
• Staff concerned: ER/ESR, managerial staff, administrative and technical staff
EUROPEAN RESEARCH COUNCIL

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 792037.
What is ERC?

An autonomous funding body led by scientists.

Funding **excellent researchers of any nationality**, to carry out **frontier research**, via annual competitions.

In all fields of science and humanities, with bottom-up approach.

**Substantial grants** (2.0 Mio Euro-3.5 Mio E).

Recognised label of excellence.

International, top level peer-review process - 25 panels distributed in 3 scientific domains (10 Physical Sciences, 9 Life sciences and 6 Social Sciences and Humanities).

Individual projects: 1 researcher (no pre-established networks), 1 Host Institution, 1 project, 1 selection criterion (**EXCELLENCE**).
**ERC funding schemes**

**Starting Grants (StG)**
- starters (2-7 years after PhD)
- up to €2.0 Mio for 5 years

**Consolidator Grants (CoG)**
- consolidators (7-12 years after PhD)
- up to €2.75 Mio for 5 years

**Advanced Grants (AdG)**
- track-record of significant research achievements in the last 10 years
- up to €3.5 Mio for 5 years

**Synergy Grants (SyG)**
- 2 – 4 Principal Investigators
- up to €15.0 Mio for 6 years

**Proof of Concept (PoC)**
- bridging gap between research - earliest stage of marketable innovation
- up to €150,000 for ERC grant holders
EUROPE’S TOP RESEARCH GRANTS

About one-fifth of projects funded by prestigious European Research Council grants make scientific breakthroughs, according to its qualitative self-assessments.

- Scientific breakthrough
- Incremental scientific contribution
- Major scientific advance
- No appreciable scientific contribution

<table>
<thead>
<tr>
<th>Year</th>
<th>Scientific Breakthrough</th>
<th>Major Scientific Advance</th>
<th>Incremental Scientific Contribution</th>
<th>No Appreciable Scientific Contribution</th>
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<tr>
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Session 2 – Research project application
Project application life cycle

01 Proposal positioning/maturation
   Several months

02 Partnership building
   Several weeks to several months

03 Writing
   3 to 6 weeks

04 Evaluation
   5 months

05 Grant preparation and signature
   3 months
Proposal positioning:

2 steps

1) Analysis of the context
   • Key documents and call information
   • Instrument/Funding scheme
   • Topic description
   • External factors

=> Strategic positioning

2) Definition of the project concept, structuration of project:
   • Innovations & objectives
   • Impacts (science, technologies, products & markets, societal challenges, dissemination & exploitation)
   • Consortium (expertise & value chain)

=> Elaborating your roadmap for the application preparation
Proposal positioning:
For most of projects, a balance between 3 main criteria

**EXCELLENCE**
Innovation “potential” vs SOA
Competitive results generation
Methodology
Ambition & objectives

**IMPACTS**
Sustained impacts from project results
Exploitation for further research
Commercial exploitation (economy, jobs & competitiveness creation)
Dissemination & communication of results

**IMPLEMENTATION**
Quality of the implementation
Innovation management
Risks
Operational capacity

Respective weight of each criteria is not the same for all the instruments
Proposal positioning:

In ERC projects, “excellent science” is the criterion to obtain funding

Excellence of the Research Project

✔ Ground breaking nature
✔ Potential impact
✔ Scientific Approach Feasibility

Excellence of the Principal Investigator

✔ Intellectual capacity
✔ Creativity
✔ Commitment
Proposal positioning:

Key criteria for success

Relevance of the project idea/concept
- In particular regarding the topic listed in the Work Programme
- Complementary to the projects already funded in the past
- Importance of project positioning before writing the proposal

Quality/ excellence (not only scientific!)/ ambition of the project proposal
- Importance of first impression: abstract and first pages, concept in a “nutshell”
- Importance of presentation (writing, clarity, demonstration: don’t just give affirmations without proofs)
- Specificity, relevance and clarity

Quality/ excellence and experience of the consortium
- Clear knowledge/experience of state of the art
- Reputation/ pertinence/ complementarity of the actors in a given field, past participations in projects
- “Operational capacity” (from the work plan and CVs of key persons)
Proposal positioning: key criteria of success

Impact of the project in different levels
- Strengthen the EU S&T leadership (scientific community)
- New technologies to solve societal challenges (political and social)
- Contribution to EU roadmaps (ETPs) and new products to market to strengthen the EU economy (industry)

Networking/lobbying/clarification
- Early interaction with EU at the strategic level of Work Programme writing, networking,..
- Any clarification regarding call/topic description, if possible validation of the approach: Project officer in charge of the call, National Contact Points (NCP): http://www.horizon2020.gouv.fr/cid74103/le-reseau-des-pcn.html
- Information and “push” after submission/ranking: NCP, contacts of partners.
Project application life cycle

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Partnership building: value chain principle

Reservoir characterization and productivity optimization

Technology integrators

End-users

Heat and power business case:

Assessment and recommendations

Oil wells conversion business case:

Coordination, communication, dissemination and exploitation

IND  RTO  UNI
Partnership building: practical

Details you should pay attention to:

• Organization already participated in collaborative projects (reputation, capacities,..)?

• Capabilities of the contact person to speak/write/work in English?

• Contact person motivated to build a project?

• Contact person/organization ready to work in collaboration?

• Companies: financial capacity to conduct a project
Project application life cycle

01 Proposal positioning/maturation
   Several months

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03 Writing
   3 to 6 weeks

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   5 months

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   3 months
Proposal content in 2 parts

Proposal (technical annex) template (R&I, I actions):

Section 1: Excellence
- Objectives, relation to the work-programme (challenge&topic), concept & methodology, positioning of the project (TRL), ambition (SoA, innovation potential)

Section 2: Impact
- Expected impacts (technological, economical, environmental, societal)
- Dissemination, exploitation, communication

Section 3: Implementation
- Work-plan/activities, deliverables, milestones
- Consortium and project/innovation management, risks, resources

Section 4: Members of the consortium incl. third parties

Section 5: Ethics and Security

Page limits: 15, 30, 50 or 70 pages for cover page + Sections 1-3 incl. tables
Proposal content in 2 parts

Proposal (technical annex) template (ERC):

Research proposal (Part B1)

- a – Extended synopsis 5p
- b – Curriculum vitae (with funding ID) 2p
- c – Track-record 2p

Research proposal (Part B2) - not evaluated in Step 1

- Scientific proposal 15p
- a – State-of-the-art and objectives
- b – Methodology
- c – Resources
Proposal Writing vs. Building a project

- Performances (objectives, deliverables, impacts)
- Resources (€, partners, expertise)
- Time (implementation, planning, milestones, risks)
Project application life cycle

01. Proposal positioning/maturation
   - Several months

02. Partnership building
   - Several weeks to several months

03. Writing
   - 3 to 6 weeks

04. Evaluation
   - 5 months

05. Grant preparation and signature
   - 3 months
Evaluation and Selection Process*

- Proposal submitted (100)
  - Admissibility and eligibility check [EC]
    - Non admissible/ eligible proposal (< 5)
      - Evaluation using award & selection criteria [External evaluators]
        - Excellence Impact Implementation
          - Fail to pass thresholds (< 40)
            - Consensus group/ Panel [Experts, EC]
              - Not selected for ranking (< 20)
                - List of 15 proposals for funding

*Can be slightly different for some calls

Horizon 2020 typical process

*Evaluation and Selection Process*

Horizon 2020 typical process

*Can be slightly different for some calls
Evaluation and Selection Process (ERC)

Proposal (technical annex) template (ERC):

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Research proposal (Part B2) - not evaluated in Step 1

• Scientific proposal 15p
• a – State-of-the-art and objectives
• b – Methodology
• c – Resources

Horizon 2020 ERC typical process

2 steps evaluation process

Step 1
Panel members (generalists and with multidisciplinary approaches) see only Part B1 of proposal

Step 2: Both Part B1 and B2 are sent to specialists around the world (specialized external referees)
Project application life cycle

01 Proposal positioning/maturation
   Several months

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Conclusion

Be aware of opportunities offered by funded projects

And do not hesitate to candidate!
Conclusion

Get informed  Apply  Boost your CV
Conclusion

General recommendations regarding your starting career:

- Be open
- Get involved
- Be Mobile
- Collaborate
- Network
- Apply for funding
Conclusion
If you are preparing an application, please remind

Story telling
Preparation
Impacts
Be inspired!

Stefan W. Hell (Max Planck Institute for Biophysical Chemistry in Göttingen and German Cancer Research Centre in Heidelberg), German Physician

- **Marie Skłodowska-Curie Actions Individual fellow (previous Post Doctoral Fellowship name)** at the University of Turku in 1996-1997
- **Coordinator for three Marie Skłodowska-Curie Actions fellowships.**
- **He received his Nobel Prize in Chemistry in 2014** «for the development of super-resolved fluorescence microscopy».

_Hell emphasises the role that the Marie Curie Actions played in his success, saying "If I hadn’t gotten that, I would probably have dropped out"_
Thank you
Thanks !
Thank you very much for your attention

This work was performed in the framework of the H2020 MEET EU project which has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 792037