Horizon Europe – Pillar I

Horizon Europe Info Day New Zealand

27 September 2021

Nishant Shandilya
Regional Coordinator
EURAXESS Australia and New Zealand
Outline

Marie Skłodowska-Curie Actions (MSCA)  European Research Council (ERC)

European Research Council
Established by the European Commission
Outline

Marie Skłodowska-Curie Actions (MSCA)

European Research Council (ERC)
A. Marie Skłodowska-Curie Actions (MSCA)

- Support the mobility, training and career development of researchers from all over the world through excellent doctorates, postdoctoral fellowships and collaborative projects
- Stimulating international, inter-sectoral and interdisciplinary cooperation
- For researchers at every stage of their career
- Promotion of attractive working and employment conditions (financing rate of up to 100%, Charter and Code)
- Support excellent research in all domains (bottom-up)
- Open to all organisations. Participation of non-academic sector strongly encouraged, especially industry and SMEs
- Impacting researcher careers, organisations, structures
### Aa. MSCA – Figures in Horizon 2020

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researchers, including PhD candidates</td>
<td>+65,000</td>
</tr>
<tr>
<td>50% of all third countries’ participations in H2020</td>
<td>50%</td>
</tr>
<tr>
<td>37% of researchers from outside of the EU</td>
<td>37%</td>
</tr>
<tr>
<td>6.2 billion € Under Horizon 2020</td>
<td>6.2 billion €</td>
</tr>
<tr>
<td>+1,000 Doctoral programmes</td>
<td>+1,000</td>
</tr>
<tr>
<td>+4,500 Companies supported</td>
<td>+4,500</td>
</tr>
<tr>
<td>42% Female researchers</td>
<td>42%</td>
</tr>
</tbody>
</table>
Ab. MSCA – Under Horizon Europe

1. MSCA Doctoral Networks → networks training PhD candidates
2. MSCA Postdoctoral Fellowships → postdoctoral researchers
3. MSCA Staff Exchanges → any type of research(-related) staff
4. MSCA COFUND → co-funding for training programmes
Ac. MSCA – Doctoral Networks

• **Multi-beneficiary action** to set up innovative *doctoral programmes*, including:
  • **Industrial Doctorates**
    ✓ Training in academia and industry
    ✓ Joint supervision
  • **Joint Doctorates**
    ✓ Joint collaborations leading to a joint/double/multiple doctoral degree
    ✓ Joint selection, supervision and governance structure
    ✓ Pre-agreement for joint degrees required

• **Target group**
  • *doctoral candidates*, i.e. researchers without a doctoral degree at the date of the recruitment; mandatory enrolment in a doctoral programme in at least 1 EU MS/AC (at least 2 for Joint Doctorates)

• **Focus** on *career development plan, supervision, training*: research and transferable skills

• **Who applies?**
  • *consortia* of universities, research institutions and research infrastructures, businesses including SMEs, and other socio-economic actors; each beneficiary to recruit at least 1 researcher
  • at least **three independent legal entities**, each established in a different MS or AC; minimum of 1 beneficiary from a MS (on top of this minimum, any entity from any third country can join)
Ad. MSCA – Postdoctoral Fellowships

- **Mono-beneficiary action** to support **postdoctoral research** and careers

- Architecture simplification - **Two types of Fellowships:**
  - **European Fellowships:** researchers of any nationality moving within or coming to Europe
  - **Global Fellowships:** European nationals or long-term residents in Europe to do research abroad
  - **Discontinuation of panels** (Career Restart, Reintegration, Society and Enterprise) – mainstreaming- replacement with **incentives**

- Continue funding **all research domains** including areas covered by **EURATOM**

- Improved guidance towards **career development** (plan & supervision)

- **Recruited researchers** – **Target groups**
  - **Mobility rule!!**: must not have resided or carried out their main activity (work, studies, etc.) in the country of the beneficiary (for EF), or the host organisation for the outgoing phase (for GF) for more than 12 months in the 36 months immediately before the call deadline.
  - In possession of **PhD** degree at the call deadline
  - **Up to 8 years** of research experience after PhD at the call deadline, with **exceptions**:
    - Years **outside research, career breaks, work outside Europe** (for those reintegrating to Europe) will not be counted
Ad. MSCA – Postdoctoral Fellowships

- **Who applies?**
  - Single legal entity established in an EU Member State or HE Associated country (specific conditions for EURATOM areas), jointly with the researcher

- **Duration**
  - European Fellowships: 12-24 months
  - Global Fellowships: 24-36 months (12-24 outgoing + 12 months mandatory return phase in Europe)
  - Secondments worldwide up to 1/3 of the fellowship duration (outgoing phase for Global Fellowships)
  - Optional additional placement of up to 6 months in a non-academic European organization, at the end of the fellowship (EF/GF) to build bridges between sectors

- **Seal of Excellence continues**
Ae. MSCA – Staff Exchanges

- **Multi-beneficiary action** to support **collaborative R&I activities through staff exchanges**

- **Target group**: any type of staff at any stage of career contributing to research activities (researchers, administrative & managerial staff, technicians, infrastructure operators…)

- **Focus** on international, inter-sectoral, interdisciplinary secondments leading to knowledge transfer between participating organisations and strengthening long-term collaborations. Emphasis on the added-value of the collaboration.

- **Who applies?**
  - consortia of universities, research institutions and research infrastructures, businesses including SMEs, and other socio-economic actors
  - **at least three independent legal entities in three different countries**, two of which established in a different EU Member State or Horizon Europe Associated Country.
  - If all participating organisations are from the same sector (i.e. either only academic or only non-academic), there must be at least one organisation from a non-associated Third Country
Af. MSCA – COFUND

• Mono-beneficiary action to co-fund new or existing national, regional, institutional schemes for doctoral training and postdoctoral fellowships

• Target groups
  • Doctoral candidates, i.e. researchers without a doctoral degree at the deadline of the co-funded programme's call; mandatory enrolment in a doctoral programme
  • Postdoctoral researchers, i.e. researchers with a doctoral degree at the deadline of the co-funded programme's call

• Focus
  • Spread best practices of the MSCA by promoting high standards in the recruitment process and excellent working conditions
  • Introduce sustainable structuring effects, by promoting excellent and sustainable research training
  • Encourage synergies with Cohesion policy funds as well as the Recovery and Resilience Facility. Programmes could focus on specific disciplines, notably when based on RIS³.

• Who applies?
  • Single legal entity established in an EU Member State or HE Associated country
  • A minimum of three researchers must be recruited.
# Ag. MSCA – WP 2021 - 2022 Calls

<table>
<thead>
<tr>
<th>CALL</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>opening</td>
<td>closing</td>
</tr>
<tr>
<td>Doctoral Networks</td>
<td>22/06/21</td>
<td>16/11/21</td>
</tr>
<tr>
<td>Postdoctoral Fellowships</td>
<td>22/06/21</td>
<td>12/10/21</td>
</tr>
<tr>
<td>Staff Exchanges</td>
<td>07/10/21</td>
<td>09/03/22</td>
</tr>
<tr>
<td>COFUND</td>
<td>12/10/21</td>
<td>10/02/22</td>
</tr>
</tbody>
</table>
Ah. MSCA – New Zealand Participation (2014 -2020)

H2020 Key facts and figures (2014-2020)

- Number of NZ researchers funded by MSCA: 68
- EU budget awarded to NZ organisations (EUR million): N/A
- Number of NZ organisations in MSCA: 12

<table>
<thead>
<tr>
<th>Action</th>
<th>Number of Participations of NZ organisations*</th>
<th>EU contribution (in EUR million) to NZ organisations</th>
<th>Number Of Projects</th>
<th>NZ researchers involved</th>
<th>Researchers going to NZ organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>COFUND</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>IF</td>
<td>15 (15)</td>
<td>N/A</td>
<td>15</td>
<td>27</td>
<td>15</td>
</tr>
<tr>
<td>ITN</td>
<td>5 (5)</td>
<td>N/A</td>
<td>5</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>RISE</td>
<td>26 (26)**</td>
<td>N/A</td>
<td>23</td>
<td>15</td>
<td>80</td>
</tr>
<tr>
<td>Total:</td>
<td>46 (46)**</td>
<td>N/A</td>
<td>43</td>
<td>68</td>
<td>95</td>
</tr>
</tbody>
</table>

* Number of Participations is the number of participations by organisations i.e. the total number of times that organisations in this country have participated in each action.
**In brackets - partner organisations (included in the total number).
Ah. MSCA – New Zealand Participation (2014 -2020)

Top NZ participating organisations in terms of number of participations

<table>
<thead>
<tr>
<th>Name</th>
<th>Number of participations</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE UNIVERSITY OF AUCKLAND</td>
<td>20</td>
</tr>
<tr>
<td>UNIVERSITY OF Otago</td>
<td>6</td>
</tr>
<tr>
<td>UNIVERSITY OF CANTERBURY</td>
<td>3</td>
</tr>
<tr>
<td>NATIONAL INSTITUTE OF WATER AND ATMOSPHERIC RESEARCH</td>
<td>3</td>
</tr>
<tr>
<td>Massey University</td>
<td>3</td>
</tr>
</tbody>
</table>
Ah. MSCA – New Zealand Participation (2014 -2020)
Ah. MSCA – New Zealand Participation (2014 -2020)
Outline

Marie Skłodowska-Curie Actions (MSCA)

European Research Council (ERC)

DO YOU WANT TO OPTIMISE YOUR CAREER IN RESEARCH?
B. European Research Council (ERC)

- EUR 16 billion ERC budget in Horizon Europe
- 17% of the entire Horizon Europe budget
Ba. ERC – In Figures

- >12,000 Total projects funded by ERC since 2007
- 85 Nationalities (ERC grantees)
- 35 EU and Associated Countries hosting ERC projects
- >150,000 publications reported by ERC projects
- >1,300 prestigious prizes awarded to ERC grantees
- >80,000 researchers and other professionals hired in ERC teams
**Bb. ERC – Grant Schemes**

- **Starting Grants**
  - 2-7 years after PhD
  - up to € 1.5 Mio
  - for 5 years
  - success rate: ~13.1%

- **Consolidator Grants**
  - 7-12 years after PhD
  - up to € 2 Mio
  - for 5 years
  - success rate: ~12.3%

- **Advanced Grants**
  - track-record of significant research achievements in the last 10 years
  - up to € 2.5 Mio
  - for 5 years
  - success rate: ~9.8%

- **Proof-of-Concept**
  - bridging gap between research - earliest stage of marketable innovation
  - lump sum €150,000 for ERC grantees, for 18 months

- **Synergy Grants**
  - 2 – 4 Principal Investigators
  - up to € 10.0 Mio, for 6 years
  - 1 PI can be based outside EU/AC
## Bc. ERC – 2021-2022 Call Calendar

<table>
<thead>
<tr>
<th></th>
<th>Starting Grant</th>
<th>Consolidator Grant</th>
<th>Advanced Grant</th>
<th>Synergy Grant</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP</td>
<td>2022</td>
<td>2022</td>
<td>2022</td>
<td>2022</td>
</tr>
<tr>
<td>Open</td>
<td>23-09-2021</td>
<td>19-10-2021</td>
<td>20-01-2022</td>
<td>15-07-2021</td>
</tr>
<tr>
<td>Budget</td>
<td>749M</td>
<td>776M</td>
<td>555M</td>
<td>297M</td>
</tr>
<tr>
<td>Estimated no. of grants</td>
<td>502</td>
<td>388</td>
<td>223</td>
<td>33</td>
</tr>
</tbody>
</table>
## Bd. ERC – Minimum Time Commitment

<table>
<thead>
<tr>
<th>Minimum percentage of the working time of a Principal Investigator that must be spent</th>
<th>Starting Grant</th>
<th>Consolidator Grant</th>
<th>Advanced Grant</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the ERC project</td>
<td>50%</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>In an EU Member State or Associated Country</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Be. ERC – Panel Structure

**Life Sciences (LS)**
- LS1 Molecules of Life: Biological Mechanisms, Structures and Functions
- LS2 Integrative Biology: from Genes and Genomes to Systems
- LS3 Cellular, Developmental and Regenerative Biology
- LS4 Physiology in Health, Disease and Aging
- LS5 Neuroscience and Disorders of the Nervous System
- LS6 Immunity, Infection and Immunotherapy
- LS7 Prevention, Diagnosis and Treatment of Human Diseases
- LS8 Environmental Biology, Ecology and Evolution
- LS9 Biotechnology and Biosystems Engineering

**Social Sciences and Humanities (SSH)**
- SH1 Individuals, Markets and Organisations
- SH2 Institutions, Governance and Legal Systems
- SH3 The Social World and Its Diversity
- SH4 The Human Mind and Its Complexity
- SH5 Cultures and Cultural Production
- SH6 The Study of the Human Past
- SH7 Human Mobility, Environment, and Space

**Physical Sciences & Engineering (PSE)**
- PE1 Mathematics
- PE2 Fundamental Constituents of Matter
- PE3 Condensed Matter Physics
- PE4 Physical & Analytical Chemical Sciences
- PE5 Synthetic Chemistry and Materials
- PE6 Computer Science and Informatics
- PE7 Systems and Communication Engineering
- PE8 Products and Processes Engineering
- PE9 Universe Sciences
- PE10 Earth System Science
- PE11 Materials Engineering

- 3 Domains / 27 Panels
- Operated by the Scientific Department B
Bf. ERC – How are the ERC proposal evaluated

For individuals calls: a single submission but a two-step evaluation

**STEP 1**
Remote assessment by Panel members see ONLY section 1: Synopsis and CV (Part B1)
Panel meeting
Proposal **Rejected** (Scores B&C)

**STEP 2**
Remote assessment by Panel members and Remote Reviewers of full proposals (Part B1+B2)
Panel meeting + interview StG, CoG and AdG
Proposal **Retained For step 2** (Score A)
Ranked list of proposal (Scores A&B)

Feedback to applicants
• ERC funds "frontier research", including applied research.
• The budget is distributed among the scientific panels as a function of demand.
• The panel descriptors do not represent ERC scientific priorities.
• Publication record is not decisive in selection decisions.
• The Host Institution is not an evaluation criterion.
Bh. ERC – Evaluation Process

Excellence is the sole evaluation criterion

Excellence of the Research Project
- Ground breaking nature
- Potential impact
- Scientific Approach

Excellence of the Principal Investigator
- Intellectual capacity
- Creativity
- Commitment
Bi. ERC – Some Rumors

Rumour 1: You can only apply for an ERC grant if you are a highly accomplished scientist.

\[
\text{NOT true: } \text{Accomplishments are appreciated in relation to your stage/seniority as giving some evidence of your capacity to conduct the research you propose and of creativity within the past 10-12 years of your career.}
\]

Rumour 2: To be successful, you need to continue on an established research line, to prove continuity and credibility

\[
\text{NOT true: Generally, the opposite is true.}
\]

Rumour 3: If you have already obtained an ERC grant you are less/more likely to get another one.

\[
\text{NOT true: Panels look at each proposal on its own merit and in comparison with the other applications, irrespectively of whether you have or have not obtained an ERC grant in the past. (Of course this does not apply for applications to a Proof of Concept grant.)}
\]

Rumour 4: The more socially or medically relevant a grant proposal is, the higher the chances of it getting funded.

\[
\text{NOT true: ERC funds frontier research, not research that promises to be only an incremental advancement of knowledge. This is irrespective of the field and whether it has societal, medical or clinical applications.}
\]
## Bj. ERC – Non-EU/AC Nationalities

<table>
<thead>
<tr>
<th>Non-EU/AC Principal Investigators</th>
<th>Starting and Consolidator grants</th>
<th>Advanced grants</th>
<th>Total grants</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>236</td>
<td>128</td>
<td>364</td>
</tr>
<tr>
<td>Canada</td>
<td>87</td>
<td>16</td>
<td>103</td>
</tr>
<tr>
<td>India</td>
<td>59</td>
<td>3</td>
<td>62</td>
</tr>
<tr>
<td>Russia</td>
<td>53</td>
<td>9</td>
<td>62</td>
</tr>
<tr>
<td>Australia</td>
<td>49</td>
<td>11</td>
<td>60</td>
</tr>
<tr>
<td>China</td>
<td>52</td>
<td>1</td>
<td>53</td>
</tr>
<tr>
<td>Japan</td>
<td>29</td>
<td>8</td>
<td>37</td>
</tr>
<tr>
<td><strong>New Zealand</strong></td>
<td><strong>17</strong></td>
<td><strong>6</strong></td>
<td><strong>23</strong></td>
</tr>
<tr>
<td>Argentina</td>
<td>19</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>111</td>
<td>13</td>
<td>124</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>712</strong></td>
<td><strong>196</strong></td>
<td><strong>908</strong></td>
</tr>
</tbody>
</table>

Over 8% of all ERC grants to PI of non-EU/AC Nationality
Bk. ERC – Trend

Proportion of evaluated proposals from non-EU/AC nationals by call year.
BI. ERC – Upcoming Webinar

Register: bit.ly/ERC-ANZ21
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