The European Research Council

ERC in the European Research Landscape

Jean-Pierre BOURGUIGNON
ERC President
The ERC after Seven Years
What is ERC?

The ERC supports excellence in frontier research through a bottom-up, individual-based, pan-European competition with host institution in EU or Associated State.

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**Strategy**
- Support for the individual scientist – no networks!
- Global peer-review
- No predetermined subjects (bottom-up)
- Support of frontier research in all fields of science and humanities

**Legislation**
- Scientific governance: independent Scientific Council with 22 members including the ERC President; full authority over funding strategy
- Support by the ERC Executive Agency (autonomous)
- Quality as the only criterion aiming for excellence
ERC Achievements

- 4,300 top researchers funded (65% are at an early-career stage); 64 nationalities represented
- Highly competitive (average success rate tending to 10%)
- Grants located in almost 600 different institutions in 29 countries
- 50% of grantees in 50 institutions
- Benchmarking effect: impact on national programmes and agencies; national funding for best "runners-up"
- Efficient and fast grant management
- Highly recognized by the research community beyond Europe
ERC Funding Schemes

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

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

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

Proof-of-Concept
- bridging gap between research - earliest stage of marketable innovation
- up to €150,000 for ERC grant holders
# ERC Calls

## Starting and Consolidator grant calls 2007-2013

<table>
<thead>
<tr>
<th></th>
<th>Total number of applications</th>
<th>Evaluated*</th>
<th>Funded</th>
<th>success rates**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting Grant 2007</td>
<td>9.167</td>
<td>8.787</td>
<td>299</td>
<td>3,4</td>
</tr>
<tr>
<td>Starting Grant 2009</td>
<td>2.503</td>
<td>2.392</td>
<td>245</td>
<td>10,2</td>
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<tr>
<td>Starting Grant 2010</td>
<td>2.873</td>
<td>2.767</td>
<td>436</td>
<td>15,8</td>
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<tr>
<td>Starting Grant 2011</td>
<td>4.080</td>
<td>4.005</td>
<td>486</td>
<td>12,1</td>
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<tr>
<td>Starting Grant 2012</td>
<td>4.741</td>
<td>4.652</td>
<td>566</td>
<td>12,2</td>
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<tr>
<td>Starting Grant 2013</td>
<td>3.329</td>
<td>3.255</td>
<td>300</td>
<td>9,2</td>
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<tr>
<td>Consolidator Grant 2013</td>
<td>3.673</td>
<td>3.604</td>
<td>311</td>
<td>8,6</td>
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<tr>
<td>Starting and Consolidator Grant</td>
<td>30.366</td>
<td>29.462</td>
<td>2.643</td>
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</table>

* withdrawn and ineligible proposals not taken into account

** percentage of funded proposals in relation to evaluated proposals
### Advanced Grant Calls 2008-2013

<table>
<thead>
<tr>
<th></th>
<th>Total number of applications</th>
<th>Evaluated*</th>
<th>Funded</th>
<th>Success rates**</th>
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</thead>
<tbody>
<tr>
<td>Advanced Grant 2008</td>
<td>2.167</td>
<td>2.034</td>
<td>282</td>
<td>13.9</td>
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<tr>
<td>Advanced Grant 2009</td>
<td>1.584</td>
<td>1.526</td>
<td>245</td>
<td>16.1</td>
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<tr>
<td>Advanced Grant 2010</td>
<td>2.009</td>
<td>1.967</td>
<td>271</td>
<td>13.8</td>
</tr>
<tr>
<td>Advanced Grant 2011</td>
<td>2.284</td>
<td>2.245</td>
<td>301</td>
<td>13.4</td>
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<tr>
<td>Advanced Grant 2012</td>
<td>2.304</td>
<td>2.269</td>
<td>319</td>
<td>14.1</td>
</tr>
<tr>
<td>Advanced Grant 2013</td>
<td>2.408</td>
<td>2.363</td>
<td>290</td>
<td>12.3</td>
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<tr>
<td>Advanced Grant</td>
<td>12.756</td>
<td>12.404</td>
<td>1.708</td>
<td>13.9</td>
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</tbody>
</table>

* withdrawn and ineligible proposals not taken into account

** percentage of funded proposals in relation to evaluated proposals
## Other calls 2011-2013

<table>
<thead>
<tr>
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<th>Total number of applications</th>
<th>of which</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Evaluated*</td>
<td>Funded</td>
<td>success rates**</td>
</tr>
<tr>
<td>Proof of Concept 2011 - 1&amp;2</td>
<td>151</td>
<td>139</td>
<td>51</td>
<td>36,7</td>
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<tr>
<td>Proof of Concept 2012 - 1&amp;2</td>
<td>143</td>
<td>120</td>
<td>60</td>
<td>50,0</td>
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<tr>
<td>Proof of Concept 2013 - 1&amp;2</td>
<td>292</td>
<td>279</td>
<td>67</td>
<td>24,0</td>
</tr>
<tr>
<td><strong>Proof of Concept</strong></td>
<td><strong>586</strong></td>
<td><strong>538</strong></td>
<td><strong>178</strong></td>
<td><strong>36,9</strong></td>
</tr>
<tr>
<td>Synergy Grant 2012</td>
<td>710</td>
<td>697</td>
<td>11</td>
<td>1,6</td>
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<tr>
<td>Synergy Grant 2013</td>
<td>449</td>
<td>427</td>
<td>13</td>
<td>3,0</td>
</tr>
</tbody>
</table>

* withdrawn and ineligible proposals not taken into account

** percentage of funded proposals in relation to evaluated proposals
Evaluation Criteria

Quality of research as sole criterion, to apply to:

The project

- **Ground-breaking nature of the research:** Important challenge? Substantially beyond the current state of art? High-gain/high-risk
- **Potential impact:** Possibility of a major breakthrough?
- **Scientific Approach:** Feasibility, novel concepts/methodology

Principal Investigator

- **Intellectual capacity and creativity:** Track-record, evidence of creative independent thinking
- **Commitment:** Willing to devote a significant part of working time (50% minimum for StG, 40% for CoG, 30% for AdG)
Who Evaluates the Proposals?

Panel members: typically 400 per call
- High-level scientists
- Recruited by ScC from all over the world
- Chairperson and 12-15 members

Remote referees: typically 2000 per call
- Each referee evaluates only a small number of proposals
Evaluation Process

STEP 1

Remote assessment by Panel members
Section 1 of the proposal \textit{(Synopsis, PI)}

Panel meeting

Proposals retained for Step 2

STEP 2

Remote assessment of the \textit{full proposal} by Panel members and External reviewers

Panel meeting (includes interviews for StG and CoG)

Ranked list of proposals
ERC Starting and Consolidator Grants

The applicant’s profile

“Am I competitive enough?”

- Potential for research independence
- Evidence of scientific maturity
- At least one (StG) /several (CoG) publications without participation of PhD supervisor

Promising track-record of early achievements

- Significant publications
- Invited presentations in conferences
- Funding, patents, awards, prizes
ERC Advanced Grants

The applicant’s profile

- *Track-record of significant research achievements in the last 10 years*
- *Exceptional leadership and mentorship*
- *International recognition*
Creative Freedom for Grantees

ERC offers independence, recognition & visibility

• to work on a research topic of own choice, with a team of own choice
• to gain true financial autonomy for 5 years
• to negotiate with the host institution the best conditions of work
• to move with the grant to any place in Europe if necessary (portability of grants)
• to attract additional funding and gain recognition; ERC is a quality label
• to attract top team members (EU and non-EU) and collaborators
• ERC calls are open to researchers of any nationality, age or current place of work in the world (but at least 50% of work time in Europe)

*) Host institution refers to the organisation with which the first grant agreement was signed
Host Institution

The institution that engages and hosts the PI.

Any type of legal entity: universities, research centres, business research units … as long as it is in MS or AC.

For FP7 contracts, it receives 20% overhead.

Commitment of HI: to ensure that the PI may

- apply for funding independently,
- manage research and funding for the project,
- publish independently as senior author,
- have access to reasonable space and facilities.
Grant Distribution to Countries of HI

Over 4300 projects have been selected, one fifth corresponding to women PIs.

*) Host institution refers to the organisation with which the first grant agreement was signed.
Grant Distribution to Countries of HI

*) Host institution refers to the organisation with which the first grant agreement was signed

correlation: 0.97

ERC grants

Publications within the 10% most cited

* Europan Union funding for Research & Innovation
Grant Distribution vs. R&D Expenditure

correlation: 0.81

GERD in 2010 (million euro)

ERC grants in country (EU and five Assoc. C.)
Success Rates per Country of HI
Mobility of Researchers
ERC Grantees Age Distribution

Age of the grantees at the time of application

Number of grantees

Starting and Consolidator Grant

Advanced Grant

ERC 2007-2013
# Developing a New Generation

## Reported ERC team members (May 2013)

*simple head count (995 projects; 6800 team members)*

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage (ERA)</th>
<th>Percentage (NON-ERA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-docs</td>
<td>72%</td>
<td>28%</td>
</tr>
<tr>
<td>PhD students</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>Other (incl admin)</td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td>Students</td>
<td>87%</td>
<td>13%</td>
</tr>
<tr>
<td>Senior staff</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>Researcher</td>
<td>9%</td>
<td>91%</td>
</tr>
<tr>
<td>Technicians</td>
<td>9%</td>
<td>91%</td>
</tr>
</tbody>
</table>
ERC Grantees with non-ERA Nationality

TOTAL number of grantees with non-ERA nationality: 208 StG/CoG and 102 AdG
The ERC

The Next Seven Years
ERC Scientific Council

- Prof. Klaus BOCK (Chemistry)
- **Prof. Jean-Pierre BOURGUIGNON** (Mathematics), ERC President
- Prof. Nicholas CANNY (History)
- Prof. Sierd A.P.L. CLOETINGH (Earth Sciences)
- Prof. Tomasz DIETL (Physics)
- Prof. Daniel DOLEV (Computer Sciences)
- Prof. Athene DONALD (Biological Physics)
- Dr. Barbara ENSOLI (Medicine)
- Prof. Pavel EXNER (Applied Mathematics & Mathematical Physics), ERC Vice-President
- Prof. Reinhard GENZEL (Astrophysics)
- Prof. Carl-Henrik HELDIN (Molecular Cell Biology), ERC Vice-President
- Prof. Timothy HUNT (Biology)
- Prof. Matthias KLEINER (Engineering)
- Prof. Eva KONDOROSI (Biology)
- Prof. Mart SAARMA (Biology)
- Prof. Nuria SEBASTIAN GALLES (Psychology), ERC Vice-President
- **Prof. Nils Christian STENSETH** (Ecology & Evolution)
- **Prof. Martin STOKHOF** (Philosophy)
- Prof. Anna TRAMONTANO (Biochemistry)
- Prof. Isabelle VERNOS (Molecular and Cell Biology)
- Prof. Reinhilde VEUGELERS (Economics)
- **Prof. Michel WIEVIORKA** (Sociology)
## ERC Panel Evaluation Structure

### Life Sciences
- LS1 Molecular & Structural Biology & Biochemistry
- LS2 Genetics, Genomics, Bioinformatics & Systems Biology
- LS3 Cellular and Developmental Biology
- LS4 Physiology, Pathophysiology & Endocrinology
- LS5 Neurosciences & neural disorders
- LS6 Immunity & infection
- LS7 Diagnostic tools, therapies & public health
- LS8 Evolutionary, population & environmental biology
- LS9 Applied life sciences & biotechnology

### Social Sciences and Humanities
- SH1 Individuals, institutions & markets
- SH2 The social world, diversity and common ground
- SH3 Environment, space and population
- SH4 The Human Mind and its complexity
- SH5 Cultures & cultural production
- SH6 The study of the human past

### Physical Sciences & Engineering
- PE1 Mathematics
- PE2 Fundamental constituents of matter
- PE3 Condensed matter physics
- PE4 Physical & Analytical Chemical sciences
- PE5 Materials & Synthesis
- PE6 Computer science & informatics
- PE7 Systems & communication engineering
- PE8 Products & process engineering
- PE9 Universe sciences
- PE10 Earth system science
ERC in Horizon 2020

- **Essential features maintained:**
  - Same schemes, same principles, same selection procedures/criteria
  - Independent Scientific Council with full authority over funding strategy
  - Executive Agency with autonomous operation

- **Increased overall budget (13.1 Bn € in current prices for 2014-2020):**
  - Still excellent opportunities for top research talents

- **Strengthening the Scientific Governance of the ERC:**
  - Strengthening the links between the Scientific Council and the Executive Agency
  - Merging positions of President of ERC and Secretary General
  - (Almost) full-time President based in Brussels
  - 3 Vice-Chairs elected from amongst the Scientific Council members
“The ERC must have a funding capacity that exceeds at least 5% of existing (sub)national funding, at a minimum of 4bn € per year”. LERU input to the independent review of the ERC (2009)
ERC 2014

Budget 2014

- StG 485 M€ ~ 370 grants
- CoG 713 M€ ~ 400 grants
- AdG 450 M€ ~ 200 grants
- Proof of Concept 15 M€ ~ 100 grants
Budget 2015 (provisional)

- StG 411 M€ ~ 315 grants
- CoG 603 M€ ~ 340 grants
- AdG 640 M€ ~ 285 grants
- Proof of Concept 15 M€ ~ 100 grants
Publication date of first calls planned for Autumn 2014.

Three ERC grants will again be available: Starting (StG), Consolidator (CoG), and Advanced Grants (AdG).

The Scientific Council will analyse the pilot phase of the ERC Synergy Grant before deciding on future calls. No Synergy call under Work Programme 2015.

Restrictions on applications will apply to the 2015 calls based on the outcome of the evaluation of the 2014 calls (same in Work Programme 2014).

Overhead rate: 25%
# Work Programme 2015

<table>
<thead>
<tr>
<th>ERC calls</th>
<th>Budget</th>
<th>Call Publication</th>
<th>Submission Deadline(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Starting Grants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ERC-2015-StG</td>
<td>410 M€</td>
<td>October 2014</td>
<td>February 2015</td>
</tr>
<tr>
<td><strong>Consolidator Grants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ERC-2015-CoG</td>
<td>605 M€</td>
<td>November 2014</td>
<td>March 2015</td>
</tr>
<tr>
<td><strong>Advanced Grants</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Proof of Concept</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DL2: May 2015</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>DL3: October 2015</td>
</tr>
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A view of Bulgaria in ERC
Success Rates per Country of HI

Success rates per country of HI

- France: 16
- The Netherlands: 14
- UK: 14
- Austria: 13
- Germany: 13
- Belgium: 12
- Denmark: 10
- Sweden: 9
- Hungary: 7
- Spain: 7
- Cyprus: 6
- Estonia: 6
- Ireland: 6
- Portugal: 5
- Finland: 5
- Italy: 3
- Greece: 3
- Latvia: 3
- Czech Republic: 3
- Croatia: 3
- Switzerland: 23
- Israel: 17
- Norway: 7
- Iceland: 2
- Turkey: 2

*) First legal signatories of the first grant agreement taken into account
# ERC Grants Based in Bulgaria

<table>
<thead>
<tr>
<th>ERC Call</th>
<th>HI name</th>
<th>Project Title</th>
<th>Domain</th>
<th>PI name</th>
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</thead>
<tbody>
<tr>
<td>ERC-2007-StG</td>
<td>Centre for Advanced Study Sofia</td>
<td>Negotiating Modernity: History of Modern Political Thought in East-Central Europe</td>
<td>Social Sciences &amp; Humanities</td>
<td>Dr. Balázs Trencsényi</td>
</tr>
<tr>
<td>ERC-2008-AdG</td>
<td>New Bulgarian University</td>
<td>Balkan Histories: Shared, Connected, Entangled</td>
<td>Social Sciences &amp; Humanities</td>
<td>Prof. Roumen Daskalov</td>
</tr>
</tbody>
</table>
Top HIs in Newer EU Member States

Central European University (HU) 6
University of Cyprus (CY) 5 1
University of Warsaw (PL) 6
Alfred Renyi Institute of Mathematics (HU) 4 1
University of Szeged (HU) 2 2
Eotvos Lorand University (HU) 2 2
Budapest University of Technology and Economics (HU) 3
International Institute of Molecular and Cell Biology (PL) 1
Institute of Experimental Medicine (HU) 1
University of Tartu (EU) 2
Charles University Prague (CZ) 2
Institute of Mathematics (CZ) 2
Institute of Organic Chemistry and Biochemistry (CZ) 2
Biological Research Center (HU) 1

Advanced
Starting/Consolidator
PoC
Panel Members by Country of HI

* Number of instances that experts of a certain country of origin are contributing to the ERC peer review

Based on the StG, CoG and AdG calls 2007-2013
Some Issues Raised for the Future of ERC
Some Technical Issues Raised

- How significant are the limitations of peer review and what can be done to mitigate these?
- How can the highest quality of experts be motivated to engage?
- How to tackle the gender issue in an effective way?
Some more Political Issues Raised

- **Does Europe have too much or too little competition for research funding?**
- **Do European universities and research entities provide the appropriate career paths for the next generation of researchers?**
- **Does Europe have too much or too little concentration of research funding on elite institutions?**
- **How can ERC contribute to enhance capacity building and quality research in countries not yet so successful in the ERC calls?**
- **Can we move beyond a "techno-nationalist" discourse in research policy?**
The European Research Council

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