

## **Das 7. EU-Forschungsrahmenprogramm**

**- Fördermöglichkeiten für die TU Wien -**

**Spezifisches Programm "IDEAS"**

**- European Research Council -**

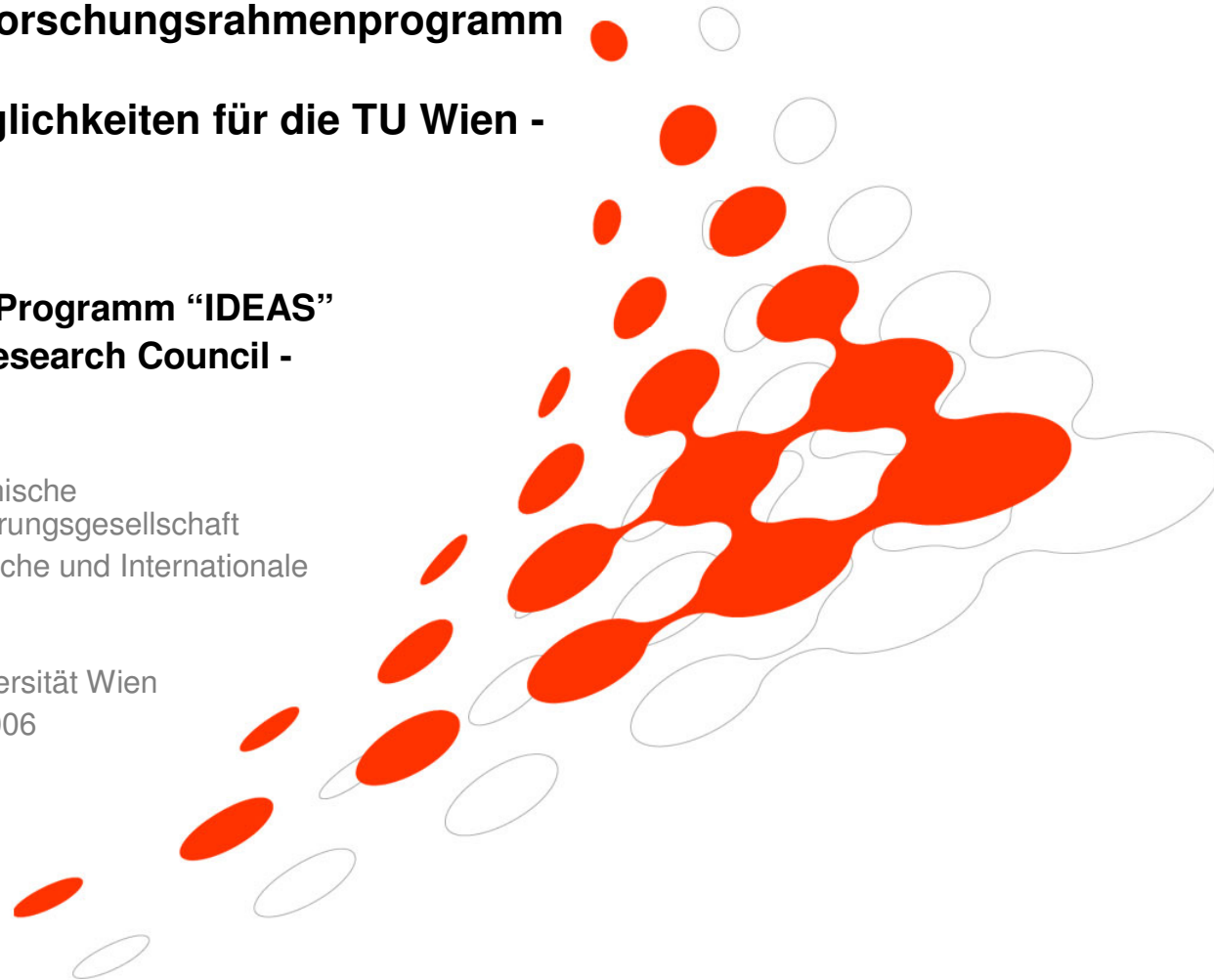
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FFG – Österreichische  
Forschungsförderungsgesellschaft

Bereich Europäische und Internationale  
Programme

Technische Universität Wien

15. Dezember 2006



## FP7: Structure and Budget\*)

### 4 Specific Programmes:

1. Cooperation
2. Ideas
3. People
4. Capacities

JRC: Non-nuclear actions

**TOTAL**

Mio €  
**32.365**  
**7.460**  
**4.728**  
**4.217**  
**1.751**  
**50.521**

\*) Council's agreement of 24 July 2006

## Cooperation – Implementation

### Trans-national cooperation realised through:

- Collaborative research
  - ⇒ Collaborative projects and Networks of Excellence
  - ⇒ Coordination and Support Actions
- Joint Technology Initiatives (JTI)
  - ⇒ Industry led strategic initiatives based on PPPs developed from European Technology Platforms (ETP)
- Coordination of national research programmes
  - ⇒ ERA-NET, ERA-NET PLUS, Art 169
- International Cooperation
  - ⇒ Enhanced third country participation in nine research themes
  - ⇒ Specific co-operation actions (CAs, SSAs) dedicated to third countries
- IDEAS – European Research Council
  - ⇒ ERC Starting Independent Researcher Grant Scheme
  - ⇒ ERC Advanced Investigator Grant Scheme
  - ⇒ Other Future Grant Schemes

## 1. Cooperation – 10 Research Themes

	<u>Mio €</u>
➤ Health	6.050
➤ Food, Agriculture, Biotechnology	1.935
➤ Information & Communication Technologies	9.110
➤ Nanosciences and Nanotechnologies, Materials and new Production Technologies	3.500
➤ Energy	2.300
➤ Environment (including Climate Change)	1.900
➤ Transport (including Aeronautics)	4.180
➤ Socio-economic Sciences and Humanities	610
➤ Space	1.430
➤ Security	1.250



## 3. People

### Marie Curie Actions

Mobility, career development for young and experienced researchers,  
interaction of academia and industry

#### Activity lines:

- Initial training of researchers: training networks: young researchers, chairs, training courses
- Life long training and career development: individual trans-national intra-European training, co-funding to training & mobility programmes
- Industry-Academia partnership and pathways
- International dimension

## Basic/Frontier research in the European Research Area

### ➤ EU activities in FP7

- ⇒ ERC → IDEAS
- ⇒ Marie Curie fellowships → PEOPLE
- ⇒ Research infrastructures → CAPACITIES
- ⇒ 10 Research themes → COOPERATION

### ➤ Intergovernmental

- ⇒ CERN
- ⇒ ESA
- ⇒ EMBL
- ⇒ etc.

### ➤ National

- ⇒ Research councils
- ⇒ Academies
- ⇒ etc.



## IDEAS - „Frontier Research“

### Aim:

- The ERC aims to create leverage towards structural improvements in the research system of Europe

### Objectives:

- to enhance the dynamism, creativity and excellence of European research at the frontier of knowledge
- *sole* evaluation criterion: **EXCELLENCE**



## IDEAS - „Frontier Research“

### Activities:

- investigator-driven“ frontier research projects across all fields of research by individual(s) teams competing on the basis of excellence for funding at European level
- Team:  
any grouping of researchers appropriate for the conduct of the projects
- Grants:
  - ⇒ will support projects carried out by **individual teams** which are headed by a single “**principle investigator**” of any nationality
  - ⇒ will be awarded to the institution (**applicant legal entity**) that will be engaging and hosting the principle investigator



## Why “Frontier Research” ?

- Research at the frontiers is:
  - ⇒ intrinsically risky
  - ⇒ characterised by an absence of disciplinary boundaries
  - ⇒ frequently useful
  
- Avoidance of outmoded distinctions:
  - ⇒ between “basic” and “applied” research
  - ⇒ between “science” and “technology”
  - ⇒ between “traditional” disciplines

## ERC – Structure and Organisation

### **I. The Scientific Council**

*Independent scientific governance*

### **II. The Executive Agency**

*Practical implementation and management of operations*

### **III. The European Commission**

*Providing the financial means and legal base*

### **IV. The Dedicated Implementation Structure (DIS)**

### **V. The Scientific Council Secretary-General**

## ERC – Structure and Organisation

### I. The Scientific Council:

- establishes the overall scientific strategy
- establishes the annual work programme (incl. calls for proposals, evaluation criteria)
- defines peer review methodology and process
- ensures the selection and accreditation of experts
- oversees the decisions on the type of research to be funded
- acts as guarantor of scientific quality
- controls quality of operations and management
- ensures the communication with the scientific community

## ERC – Structure and Organisation

### I. The Scientific Council: Mission 1/2

- will be the policy-setting supervisory body of the European Research Council. It will act on behalf of the scientific community in Europe to promote creativity and innovative research. It will direct the scientific strategy and oversee the operational management of the ERC, including the selection of proposals and funding decisions. It will ensure the independence and transparency of the ERC's operations.
- defines and decides on the overall scientific funding and management strategy of the ERC, including an annual work programme where the calls for proposals and the corresponding funding rules and selection criteria are defined.



## ERC – Structure and Organisation

### I. The Scientific Council: Mission 2/2

- decides on and oversees the ERC's operational management and the implementation of the work programme, including the outcome of calls for proposals, the execution of peer review and selection processes, the selection of experts, and the grant management. It will also assess the quality and achievements of operations, and make recommendations for improvements and future actions.
- ensures the transparency of ERC operations by establishing an open information strategy in communicating with the scientific community and stakeholders on the activities and achievements of the ERC.



## ERC – Scientific Council: Members

- Scientists are best placed to judge the excellence of forward-looking, investigator-driven research. Therefore, the governance of the ERC rests in the hands of a Scientific Council of 22 eminent researchers - drawn from across Europe - and spanning the spectrum of science and technology.
- The **22 founding members** of the Scientific Council of the ERC were nominated by the European Commission following an independent identification process involving wide consultation with Europe's research community. The composition of the Scientific Council and the combined experience of the members reflect the broad domains of enquiry in frontier research.
- The founding ERC Scientific Council elected Prof. Fotis Kafatos as its Chairman and Prof. Helga Nowotny and Dr. Daniel Estève as Vice-Chairs, thereby constituting the presidency of the ERC.

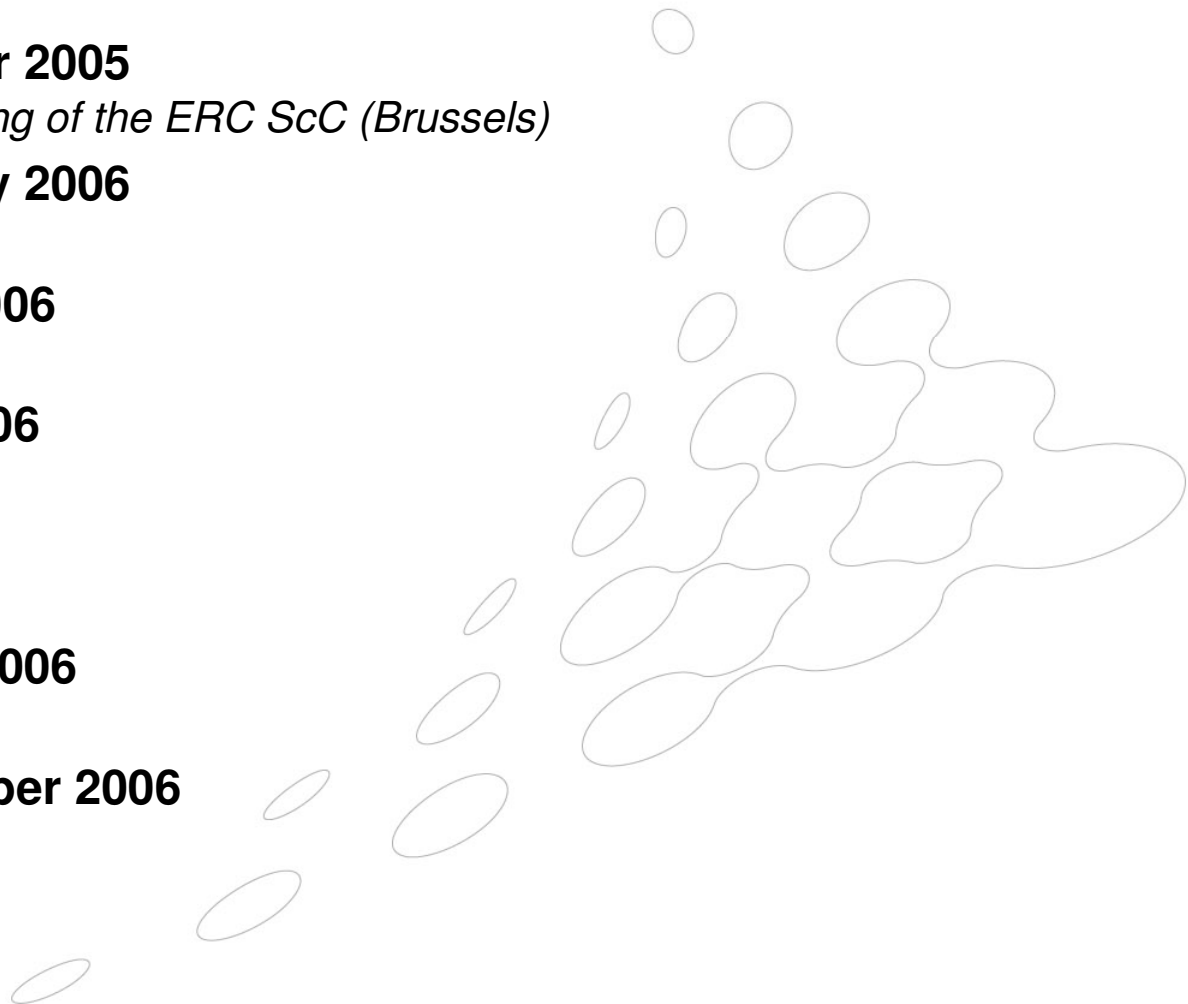


## ERC – Scientific Council: Chairs

- **Prof. Dr. Fotis C. KAFATOS (EL)**  
Current position: Chair of Immunogenomics at Imperial College London
  
- **Prof. Dr. Helga NOWOTNY, (AT)**  
Current position: Fellow, Wissenschaftszentrum Wien
  
- **Dr. Daniel ESTEVE (FR)**  
Current position: Research Director, CEA Saclay, Service de Physique de l'état condensé – SPEC

## ERC – Scientific Council: Meetings

- **18-19 October 2005**  
*Inaugural Meeting of the ERC ScC (Brussels)*
- **24-25 January 2006**  
*Brussels*
- **26-27 April 2006**  
*Vienna*
- **29-30 May 2006**  
*Copenhagen*
- **3-4 July 2006**  
*Helsinki*
- **5-6 October 2006**  
*London*
- **20-21 November 2006**  
*Ljubljana*





## ERC – Structure and Organisation

### II. The Executive Agency:

- executes annual work programme (established by the Scientific Council)
- implements calls for proposals and provide information and support to applicants
- organises peer review evaluation
- establishes and manages grant agreements
- administers scientific and financial aspects and follow-up of grant agreements

## ERC – Structure and Organisation

### III. The European Commission:

- provides financing through the EU framework programmes
- guarantees autonomy of the ERC
- assures the integrity and accountability of the ERC
- adopts annual work programmes as established by the Scientific Council

## ERC – Structure and Organisation

### IV. The Dedicated Implementation Structure (DIS):

- ERC Executive Agency (ERC EA) creation will be initiated shortly after FP7 adoption and is expected to be fully operational by mid-2008
- Commission (Directorate S) will provide the “interim” DIS, building up capacities and operational methods
- Transition of DIS to ERC EA as early as possible

## ERC – Structure and Organisation

### V. The Scientific Council Secretary-General

- Prof. Ernst-Ludwig Winnacker  
(Jan 2007 – June 2009)
  
- Prof. Andreu Mas-Colell  
(July 2009 – Dec 2011)
  
- Role:
  - ⇒ Ensure integrated operation of ERC
  - ⇒ Member of ERC board

## ERC – Structure and Organisation

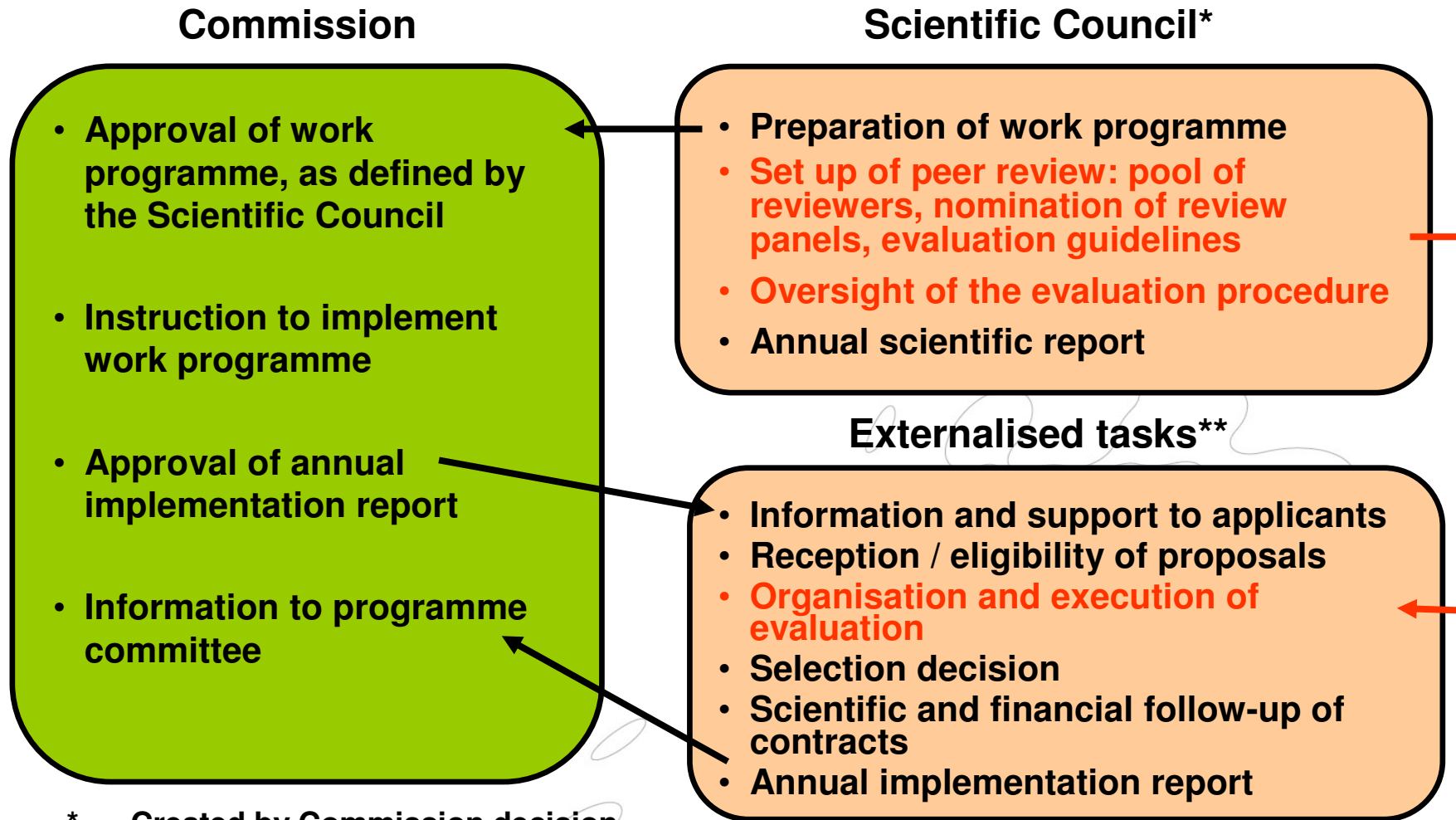
The European Research Council consists of a Scientific Council which establishes the scientific strategy, supervises its implementation and ensures the integrated operation of the ERC, and a Dedicated Implementation Structure which is in charge of the ERC's operational management.

### Scientific Council (ScC)

- Defines and decides on the ERC scientific strategy
- Monitors and controls the quality of ERC operations
- Communicates with the scientific community and other stakeholders

### Dedicated Implementation Structure (DIS)

- Operates and manages the ERC in accord with the ScC strategy
- Implements the funding procedures according to the guidelines established by the ScC, e.g. for proposal submission, the peer review evaluation and selection process, and grant management

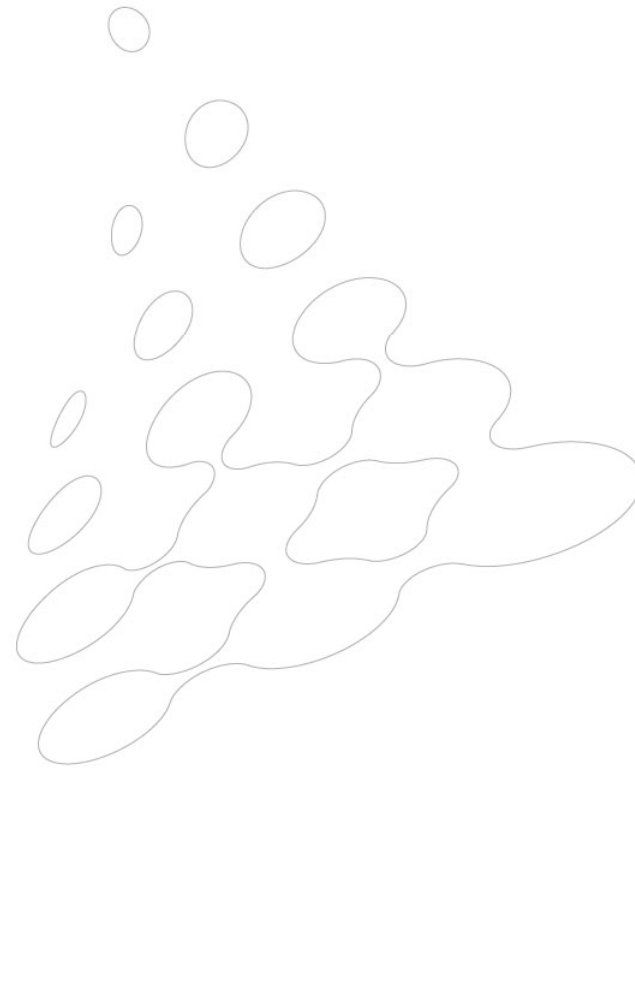


\* Created by Commission decision,  
\*\* Under the responsibility of the Commission



## ERC – Scientific Domains

- **Physical Sciences & Engineering**
- **Life Sciences**
- **Social Sciences & Humanities**



## ERC – Panels

- **20 Scientific Panels**
- **20 Panel Chairs**  
*(Internationally recognised senior scientists)*
- **200 Panel Members**  
*(Senior scientists in respective field)*
- **1000 - 2000 Referees**  
*(Consultation letter to European research organisations)*



## ERC – Panels: Social Sciences & Humanities

- **SH1 Individuals and organisations:**  
Economics, management, demography, geography, urban and environmental studies.
- **SH2 Institutions, behaviour, values and beliefs:**  
Anthropology, sociology, political science, law, communication, social studies of science and technology.
- **SH3 The human mind and its complexity:**  
Cognition, linguistics, psychology and philosophy.
- **SH4 Cultures and cultural diversity:**  
Literature, visual and performing arts, music and cultural studies.
- **SH5 The study of the past and of cultural artefacts:**  
Memory, history and archaeology.



## ERC – Panels: Physical Sciences & Engineering

- **PE1 Mathematical foundations:**  
Pure and applied mathematics, theoretical computer science and mathematical physics.
- **PE2 Fundamental constituents of matter:**  
High energy, particle, nuclear, plasma, atomic, molecular, gas and optical physics.
- **PE3 Structures and reactions:**  
Condensed matter (structure, electronic properties, fluids,...), statistical physics, nanosciences, reactions.
- **PE4 Material sciences and methods:**  
Material sciences, molecular architecture, analytical chemistry, synthesis (both inorganic and organic) and theory, physical and environmental chemistry, method development.
- **PE5 Information and communication:**  
Informatics and information systems, communication technology, computer science, intelligent systems.
- **PE6 Engineering sciences:**  
Electronics, product design, process design & control, construction methods, fluid and solid mechanics, energy systems, bio-engineering.
- **PE7 Universe sciences:**  
Astro-physics/chemistry/biology/geology; solar system; stellar, galactic and extragalactic astronomy; cosmology; space sciences, instrumentation.
- **PE8 Earth system science:**  
Physical geography, geology, geophysics, oceanography, climatology, ecology, global change, biogeochemical cycles, natural resources.



## ERC – Panels: Life Sciences

- **LS1 Molecular, cellular and developmental biology:**  
Biochemistry, molecular biology, metabolism, cell biology, signal transduction, embryology, structural biology.
- **LS2 Genetics, genomics, bioinformatics and systems biology:**  
Molecular genetics, cell genetics, genomics, transcriptomics, metabolomics, computational biology, biostatistics, biological modelling.
- **LS3 Organismic physiology, including infection and immunity:**  
Organogenesis, organ physiology, endocrinology, ageing, toxicology, parasitology, microbiology, virology, immunology.
- **LS4 Neurosciences:**  
Neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, systems neuroscience, neuroimaging.
- **LS5 Evolutionary, population and environmental biology:**  
Evolution, adaptation, population biology, biodiversity, ecotoxicology, marine biology, radiation biology, environmental risks, environmental medicine.
- **LS6 Applied medical and health sciences:**  
Clinical medicine, public health, psychiatry, surgery, epidemiology, biomedical engineering, veterinary medicine, pharmacology, medical ethics.
- **LS7 Applied biology and bioengineering, including agricultural sciences and biotechnology:**  
Genetic engineering, GMOs, synthetic biology, plant biology, fisheries, forestry, environmental biotechnology, industrial biotechnology, biomaterials, biohazards.

## ERC – Launch Strategy 2006/2007

- 2 funding streams operating on bottom-up basis
  - ⇒ ERC Starting Independent Researchers Grant  
(*ERC Starting Grant*)
  - ⇒ ERC Advanced Investigator Grants  
(*ERC Advanced Grant*)
- Application procedures simplified
- ERC will be flexible to adjust mechanisms and scientific strategies
- ERC will complement (but not duplicate) existing European research initiatives



## ERC – Funding Streams

### ERC Starting Grant

The objective is to provide adequate support to the independent careers of excellent researchers, whatever their nationality, located in or moving to the EU and associated countries, who are at the stage of establishing and leading their first research team or programme.

→ *Call for proposals to be published on 22 December 2006*

### ERC Advanced Grant

The objective is to encourage and support excellent, innovative investigator-initiated research projects by leading advanced investigators across the EU members states and associated countries. This funding stream will complement the “Starting Grant” scheme by targeting those researchers who have already established themselves as independent research leaders on their own right.

→ *Call for proposals at a later stage in 2007 (August 2007 ?)*



## ERC - Grants

- ERC grants will support projects carried out by **individual teams** which are headed by a single “**principle investigator**” of any nationality and, if necessary, include additional team-members. These teams could be of national or trans-national character.
- ERC grants will be awarded to the **institution (applicant legal entity)** that will be **engaging** and **hosting** the “principle investigator”, with the **commitment** that this institution will grant the “principle investigator” the **independence to manage the research funding for the duration of the project.**



## ERC - Starting Independent Researcher Grant 1/2

- support researchers at the start of their independent research career and **establishment of their first independent research team**
- provide a structure for transition from working under a supervisor to independent research
- supply grants to **support the creation of excellent new teams** which bring energy and new ideas to their disciplines

## ERC - Starting Independent Researcher Grant 2/2

- Main aim is the 3Rs: Retain, Repatriate, Recruit
- ~ 300 Mio € per year  
(approximately  $\frac{1}{3}$  of ERC annual budget)
- ~ 1400+ Starting Grants over 7 years of FP7
- ~ 250 Starting Grants per year
- each for up to 5 years
- 100 – 400 k€ per grant per year
- Community financial contribution in the form of a grant to the budget:
  - ⇒ max. 100% of the eligible direct costs
  - ⇒ 20% of the total eligible direct costs towards indirect cost  
→ flat rate





## ERC - Advanced Investigator Researcher Grant

- designed to support excellent investigator-initiated research projects by established investigators
- should complement the ERC Starting Grant scheme by targeting researchers who have already established their independence as team leaders
- 100 – 500 k€ per grant per year
- max. 2-3 Mio. € per grant
- ca. 200 grants per year

## Who can apply? - Individual teams

- The Team Leader (“Principal Investigator”) has the
  - ⇒ power to assemble his/her research group
  - ⇒ freedom to choose the research topic
  
- Individual teams should consist of **a grouping of researchers which meets the needs of the project, without “artificial” administrative constraints**; thus members may be drawn from one or several legal entities, from either within or across national boundaries, including third countries

## Who can apply? - European and International Teams

- Ideas (ERC specific programme) encourages participation of researchers from European and non-European countries
- Level of participation varies with regard to roles and funding
- Roles:
  - ⇒ *Principal Investigator: any nationality* hosted by an institution (applicant legal entity) in:
    - 27 EU Member States
    - Associated Countries (e.g. NO, IS, CH, IL), incl. ACC (TR, HR)
    - International European Interest Organisation (CERN, EMBL, etc.)
  - ⇒ *Team Members: any nationality*
    - 27 EU Member States
    - Associated Countries (e.g. NO, IS, CH, IL), incl. ACC (TR, HR)
    - International Cooperation Partner Countries (ICPC)
    - Industrialised Countries, e.g. Australia, Canada, Japan, USA

## ERC – Submission Procedure 1/3

- Proposals are submitted by the „Principle Investigator“ in agreement with the hosting institution is the „applicant legal entity“
- Applications in any field of research with particular emphasis on the frontier research of science
- Proposals of interdisciplinary nature which cross the boundaries between different panels
- Proposals in new and emerging fields
  - ⇒ High-risk
  - ⇒ high-gain
- Pre-registration of the proposals is required
  - ⇒ 3 weeks prior to the application deadline
- Two-stage application procedure (duento large number of expected proposals)
- Electronic Submission only (EPSS)

## ERC – Submission Procedure 2/3

### ➤ **Two-stage application procedure:**

- ⇒ at the first stage a proposal will be presented and evaluated by Scientific Panel members
- ⇒ describing the project and the qualifications of the principle investigator
- ⇒ successful applicants at the first stage will be invited to submit a more detailed proposal by the second stage deadline

### ➤ **Required elements:**

- ⇒ A) CV and a self-evaluation of the Principal Investigator's research achievements, including a brief "funding ID" specifying any current research grants and any on going application for work related to the proposal.
- ⇒ B) brief description of scientific and technical aspects of the project
- ⇒ C) description of the scientific environment and resources



## ERC – Submission Procedure 3/3

- Lengths of proposals (strict limits):
  - ⇒ Stage 1: 8 pages total (3+4+1)
  - ⇒ Stage 2: 16 pages total (4+10+2)
  
- In the „stage 2“ application a binding statement by the „applicant legal entity“ that the following conditions of independence are already or will be fulfilled must be provided:
  - ⇒ apply for funding independently of senior colleagues
  - ⇒ manage the research funding for the project and make appropriate resource allocation decisions
  - ⇒ publish as senior authors and invite as co-authors only those who have contributed substantially to the reported work
  - ⇒ supervise team members, including research students or others
  - ⇒ have access to reasonable space and facilities for conducting the researchs

## ERC – Call Deadlines

### ➤ ERC Starting Independent Researchers Grant

- ⇒ Call Identifier: ERC-2007-StG
- ⇒ Call Budget: 287 Mio. €
- ⇒ Call Publication: 22 December 2006
- ⇒ Call Deadline Stage 1: 15 May 2007
  - Evaluation: End of June, beginning of July 2007
  - Invitation for Stage 2: Midth of July 2007
- ⇒ Call Deadline Stage 2: Midth September 2007
  - Evaluation process end: November/December 2006

### ➤ ERC Advanced Investigator Grants:

- ⇒ Call Publication: July 2007 ?
- ⇒ Call Deadline: Winter/Spring 2007/08 ?



## ERC - Reapplications and multiple applications

Rules will apply to reapplications by Principal Investigators for ERC grants whose proposals are not judged to meet the threshold of quality, as well as for multiple applications within the same or different type of ERC grants:

- **No principal or collaborating investigator may be associated with more than one application** to the ERC during the same year
- A Principal Investigator **may not submit an application for an ERC grant during the calendar year following the submission of an unsuccessful application** unless that application was judged to meet the quality threshold for funding
- **Only one ERC grant by the Principal Investigator can be active at any time.** However, to secure continuity of funding, **ERC Starting grantees may apply for an Advanced Investigator Grant** during the last year of their Starting Grant award



## ERC – Peer Review Process

- The ERC's peer review process will be carried out by means of a structure of panels of independent high level scientists and scholars
- The ERC panels will be assisted by written reports of referees and may carry out interviews with the applying Principal Investigators at the second stage of the evaluation.
- The proposed research activities should respect fundamental ethical principles
- Proposals must meet a quality threshold in order to qualify for funding
- The assignment of the proposals to the various panels will take into account the subject of research of each proposal
- The number of proposals passing the first stage of the evaluation will be limited to avoid oversubscription at the second stage



## ERC – Eligibility criteria 1/2

### ➤ Eligible Principal Investigator

- ⇒ ERC actions are open to researchers of any nationality who would like to set their research activity up in **any European Union Member State (EU-25)** as well as any **Associated or Associated Candidate Country**
- ⇒ the Principal Investigator can be of **any age, nationality and country of residence**
- ⇒ He/she must have been **awarded his/her first PhD** (or equivalent doctoral degree) **more than 2 and less than 8 years** prior to the deadline of the call for proposals
- ⇒ Extensions (+ 3 years) of this period may be allowed only in case of eligible career breaks which must be properly documented
- ⇒ The cumulative eligibility period should not surpass 11 years following the award of the first PhD. No allowance will be made for part-time working (2 years of half-time working count as 2 years towards eligibility)



## ERC – Eligibility criteria 2/2

### ➤ Eligible Hosting Institution (Applicant Legal Entity)

- ⇒ must be situated in one of the European Union Member States, or one of the countries that are Associated to the Framework Programme including the countries that are candidates to become EU members
- ⇒ may also be an International European Interest Organisation (such as CERN, EMBL, etc.) or the European Commission's Joint Research Centre
- ⇒ will (normally) be the only participating legal entity
- ⇒ other legal entities (incl. in third countries) may be involved and receive funding to support the work of additional team members, if so specified in the grant award
  - the scientific added value has to be properly justified
  - and accepted during evaluation by the peer review panels

## ERC – Evaluation criteria 1/2

**Excellence is the sole criterion of evaluation.** It will be applied to the **evaluation of both the Principal Investigator and the research project.** The evaluation will also assess the extent to which the **research environment** enables the excellence of the project to be achieved.

### 1. **Principal Investigator: Potential to become a world class research leader**

- a) Quality of research output
- b) Intellectual capacity and creativity

### 2. **Quality of the proposed research project**

- a) Ground-breaking nature of the research
- b) Potential impact
- c) Methodology

## ERC – Evaluation criteria 2/2

### 3. Research Environment (only Stage 2)

- a) Transition to independence
- b) Host institution (normally applicant legal entity)
- c) Participation of other legal entities



## ERC – Application of Evaluation Criteria

- Panels and referees will **evaluate** and **score numerically** the proposals under the criteria of
  - ⇒ **Heading 1**: Potential of the Principal Investigator and
  - ⇒ **Heading 2**: Quality of the proposal
- Proposals will be evaluated under **Heading 3** criteria on a "**pass/fail**" basis and commented but **not scored**
- The **overall grading** of the proposals will integrate the **strengths** and **weaknesses** including these scores as well as an **overall appreciation of the proposal**
- **Threshold scores for quality, overall and for individual criteria**, will be used to establish the "**retained list**" of proposals which will be **ranked in order of priority for funding**
- Panels will establish a **recommended budget for the proposals retained at Stage 2**

## ERC – Documentation

- **Ideas Specific programme**
- **Ideas Work Programme**
- **Calls for proposals**
- **ERC Guide for applicants (inc. guidance notes for evaluators)**
- **ERC Rules on proposal submission, evaluation, selection and award procedures**
- **ERC grant agreement**
- **“FP7 in brief**

## ERC – Further Information

- <http://rp7.ffg.at/erc>
- <http://erc.europa.eu>
- <http://cordis.europa.eu/fp7/ideas.htm>
- [http://ec.europa.eu/research/future/index\\_en.cfm](http://ec.europa.eu/research/future/index_en.cfm)
- [http://europa.eu.int/comm/research/future/basic\\_research](http://europa.eu.int/comm/research/future/basic_research)



The logo for FFG (Federal Research Fund for Advanced Research) is displayed in the upper right. It consists of the letters 'FFG' in a bold, grey, sans-serif font. To the left of the letters is a grey circle containing a cluster of red dots of varying sizes, with a trail of red dots extending from the circle towards the left. The background of the slide features several large, overlapping circles in shades of grey and white, with a prominent red splash or brushstroke effect that overlaps the FFG logo and extends across the middle of the slide.

FFG

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