



Associazione Italiana per la Ricerca sul Cancro

**Rendiamo il cancro sempre più curabile.**

## **How to cope with an AIRC grant application**

### **Lessons from peer reviewing**

This presentation is meant as a series of suggestions for the correct writing of an AIRC application. To apply, please read the AIRC Call for proposals 2012, where all the eligibility requirements and rules are listed.

AIRC Peer Review Office

Milan, January 2012

1. Some information about AIRC:  
history and mission
2. How do we fund research?  
A brief tour of our funding streams
3. Submitting a grant application to AIRC:  
tips for applicants

## Some information about AIRC

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AIRC was founded in 1965 at the National Cancer Institute in Milan.

Since then, AIRC has become the major Italian charity with:

- nearly 1.800.000 donor members
- about 3000 researchers supported all over Italy

### Our mission

- **Funding research** carried out at scientific institutions for the cure and research on cancer, university laboratories and hospitals in Italy.
- **Completing the education** of young researchers in Italy and abroad by offering fellowship awards for further study.
- **Informing the public and raising awareness** of progress in cancer research.

**In 2010 AIRC invested € 89.212.701 to support cancer research in Italy**



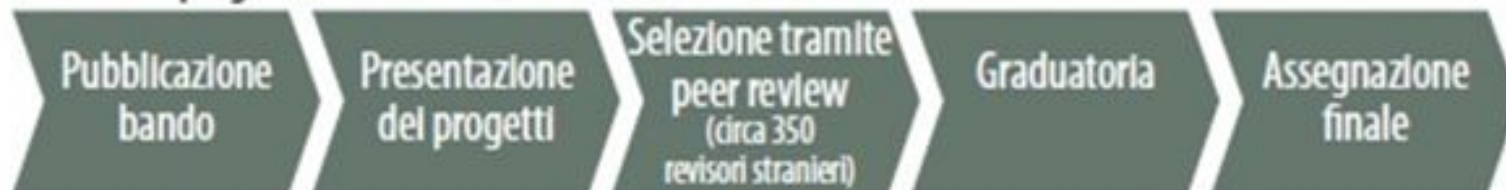
## Some information about AIRC

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forma i giovani ricercatori e sostiene nel tempo gli scienziati di maggior valore



seleziona i progetti da finanziare in base a crediti di merito

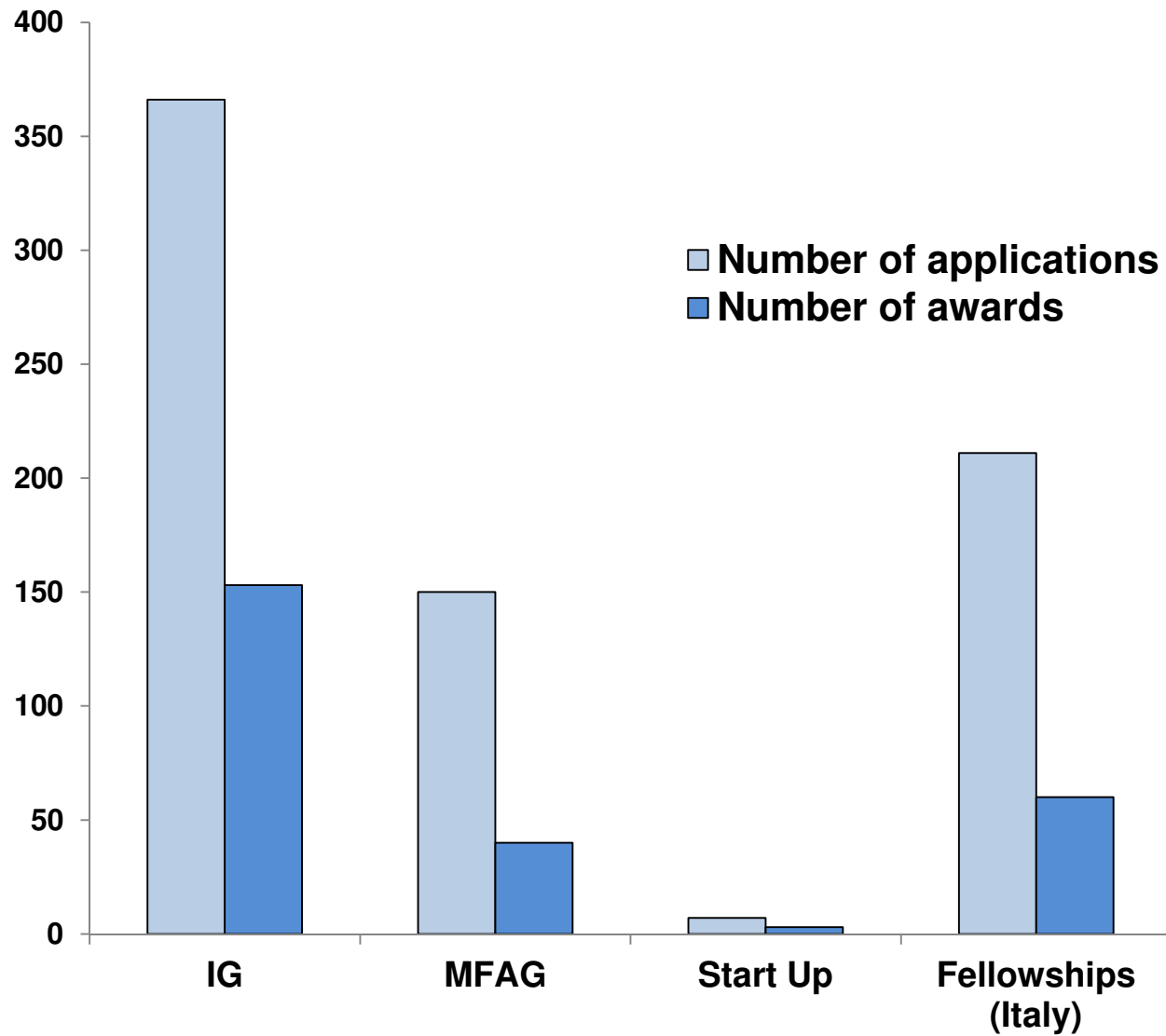


## Types of AIRC grants 2012

Type of funding	Funding limit (€/year)	Funding time (years)	Eligibility criteria
Investigator Grant (IG)	-	3	Last author papers
My First Airc Grant (MFAG)	up to 100.000	3	First and/or last author papers ≤ 40 yo
Start-Up	150.000	3+2	First and/or last author papers Experience abroad ≤ 35 yo
Fellowships (Italy and abroad)	-	1-3	≤ 6 years from degree ( <i>laurea</i> )

## Results of our 2011 peer review process

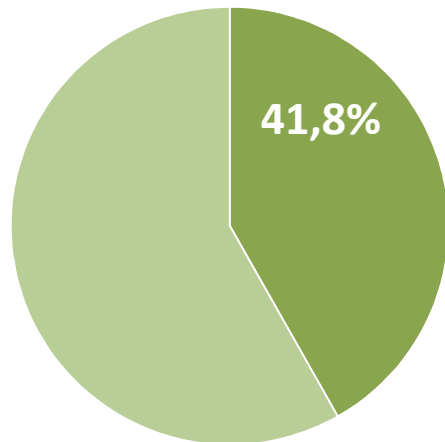
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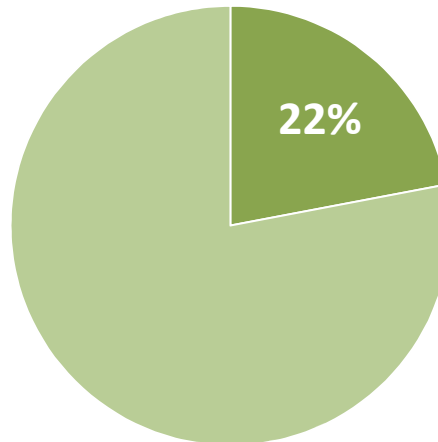
## Success rates for the Investigator Grants 2011

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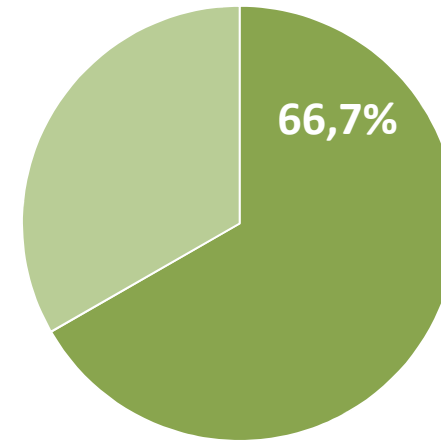
**Success rate  
all applicants**



**Success rate  
new applicants**



**Success rate  
applicants previously  
funded by AIRC**



All the IG proposals go through the same evaluation process. Statistically, first time applicants have a lower success rate than more experienced investigators.

## Our peer review

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## Non Italian reviewers (approx. 400): where they work

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Country	%
Austria	1,1
Australia	0,4
Belgium	1,1
Canada	1,9
Denmark	0,8
Finland	1,5
France	3,8
Germany	11,5
Greece	0,8
Ireland	0,4
Israel	3,1
Japan	1,1
New Zealand	0,4
Norway	1,1
Singapore	0,4
South Africa	0,4
Spain	1,9
Sweden	4,2
Switzerland	3,1
The Netherlands	4,6
United Kingdom	11,1
Uruguay	0,4
USA	44,8

# CTS AIRC 2011 (24 members)



The screenshot shows a web browser window displaying the AIRC website. The page is titled "AREA RICERCATORI" and features a navigation menu with "BANDI/CALLS", "MODULISTICA", "CTS 2011", and "CSB 2011". A "PERSONAL AREA" section includes a registration form with fields for "Username:" and "Password:", a "Login" button, and a link for "Forgot username or password?". The main content area is titled "I Componenti del Comitato Tecnico Scientifico AIRC" and contains the following text:

**I Componenti del Comitato Tecnico Scientifico AIRC**

Il CTS e il complesso sistema di selezione dei progetti messo in atto da AIRC sono un'assoluta garanzia per i soci dell'Associazione del corretto impiego dei fondi raccolti.

«Il Comitato Tecnico Scientifico dell'AIRC è composto da 24 ricercatori, uomini e donne che ricoprono un ruolo di primo piano nell'oncologia italiana e che mettono a disposizione dell'Associazione le proprie competenze.

Ciascuno ha la propria specializzazione: sei si occupano di ricerca clinica ed epidemiologia, mentre dodici si dedicano ai progetti di ricerca di base e traslazionale.

La "squadra" si è impegnata a fondo in uno dei suoi più importanti compiti istituzionali, vale a dire la valutazione e la selezione dei progetti di

**Direttore Scientifico AIRC:**  
Maria Ines Colnaghi

**I componenti del CTS 2011:**

- **Professor Enrico Avvedimento**  
Università di Napoli Federico II - Napoli
- **Professoressa Cosima Baldari**  
Università di Siena - Siena
- **Dottor Gastavio Baldassarre**  
Centro di Riferimento Oncologico - Aviano
- **Dr.ssa Anna Maria Biroccio**  
Istituto Regina Elena - Roma
- **Prof. Stefano Cascine**  
Università Politecnica delle Marche - Torrette di Ancona
- **Professor Francesco Ceccconi**  
Università di Roma "Tor Vergata" - Roma
- **Professor Fortunato Ciardiello**  
Seconda Università di Napoli - Napoli
- **Prof. Anacleto Columbano**  
Università di Cagliari - Cagliari
- **Dottorssa Maria Grazia Daidone**  
Istituto Nazionale Tumori - Milano

[https://www.direzionescientifica.airc.it/cts\\_componenti.asp](https://www.direzionescientifica.airc.it/cts_componenti.asp)



Rendiamo il cancro sempre più curabile.10

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Reviewer assignments are made in compliance with **conflict of interest rules** to ensure a review free from inappropriate influence.

## AIRC rules on conflict of interests

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The following circumstances represent conflicts of interest:

1. The reviewer works in the same institution of the applicant
2. There are ties of kinship between the reviewer and the applicant
3. The reviewer and the applicant are collaborating on a research project (or have been in the past five years)
4. There are personal or scientific conflicts between the reviewer and the applicant

Reviewers in conflict with an applicant for any of the reasons listed above are excluded from the review of that application.

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## Our review criteria

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- significance and relevance to cancer
- innovation
- approach and feasibility
- expertise and track record of the applicant
- adequacy of the budget requested
- experience in mentoring and training (fellowships)

## Our peer review

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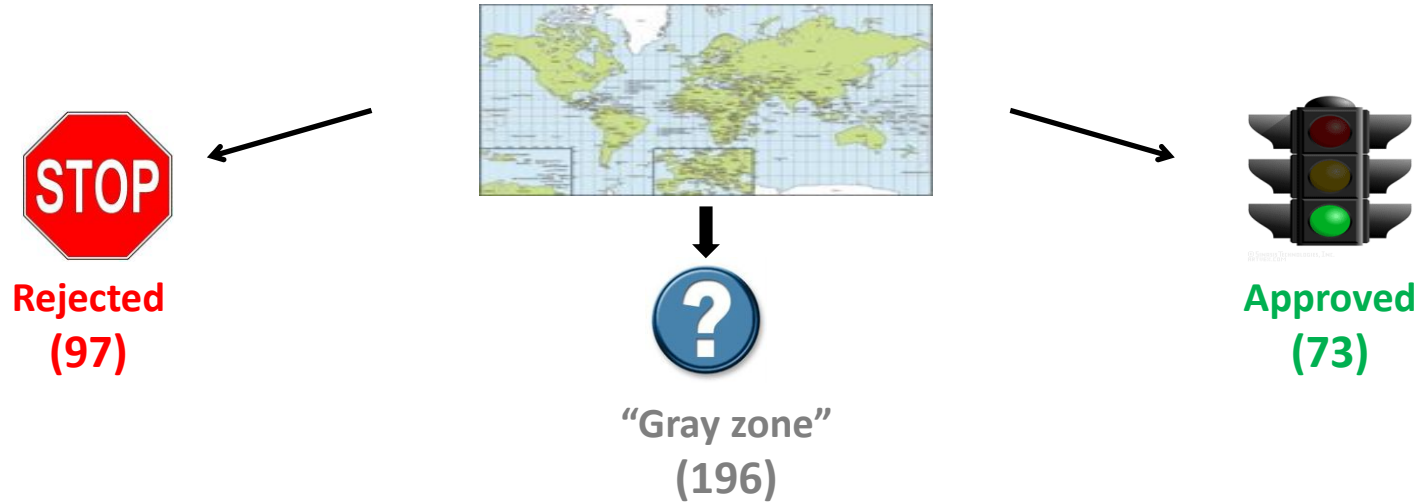
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In case of **discrepancy** among the scores and comments from the reviewers the application is evaluated by a fourth reviewer acting as an **editor**.

At the end of the review process, **applications are ranked** based on their scientific merit, and the most competitive are submitted to the AIRC Board of Directors with a recommendation for funding.

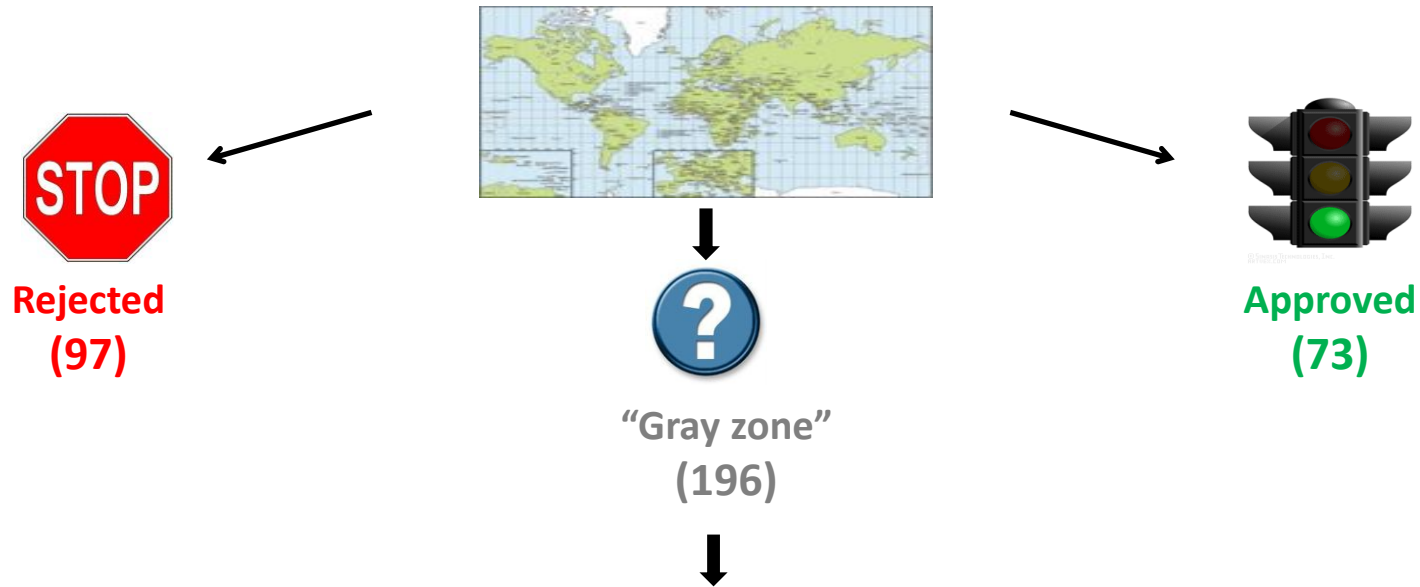
# Peer review IG 2011

First step: 366 applications assigned to  $\approx$  400 foreign reviewers + 24 members of the CTS



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First step: 366 applications assigned to  $\approx$  400 foreign reviewers + 24 members of the CTS



Second step: 24 members of the CTS in study section meeting



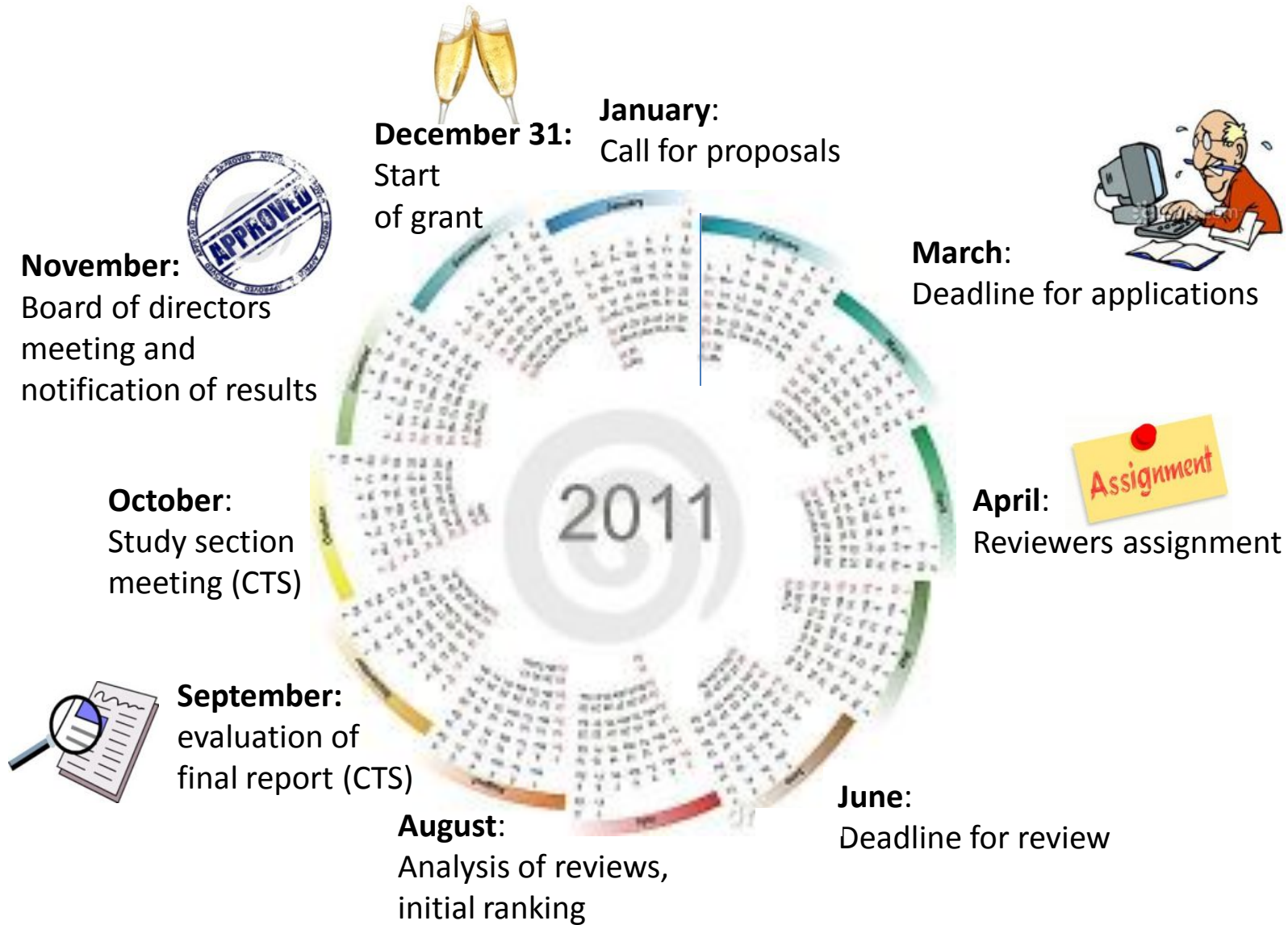
Gray zone:  
rejected (116)

Gray zone:  
approved (80)

REJECTED, TOTAL: 213

APPROVED, TOTAL: 153

# Timeline



## Monitoring the productivity of AIRC researchers

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- Publications on scientific journals
- *Final report* analysis in case of previous fundings
- *Site visits* (for 5-year grant programs, e.g Start Up)
- AIRC staff attendance at scientific meetings, retreats, etc.

# How to cope with an AIRC grant?

A few suggestions before submitting your grant to AIRC

This presentation is meant as a series of suggestions for the correct writing of an AIRC application. To apply, please read the AIRC Call for proposals 2012, where all the eligibility requirements and rules are listed.

# Eligibility criteria

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Principal Investigators (PI), of any nationality, must work in Italy and:

**MFAG:** ≤ 40 years old  
at least one first-author publication

**Start-up:** ≤ 35 years old  
experience abroad  
**strong track record** (*first and/or last author publications*)

**IG:** scientific independence and leadership  
at least one last-author publication  
**strong track record** (*commensurate with career stage/age*)

**If the total Impact Factor of all papers published by an applicant in the last five years is below 50, the probability of success are extremely low:  
in 2010, the approval rate was 2.7% for IG and 4.5% for MFAG**

# The application form

- >> My Submissions
- >> My Publications
- >> Change profile
- >> Change password
- >> Logout

❗ Form incompletely filled out    
 ❖ Form completely filled out

PLEASE CLICK ON THE FOLLOWING LINKS AND FILL OUT EACH FORM OF THE APPLICATION	
Principal Investigator *	❗
Your Contact Data *	❗
Administrative Data *	❗
Project Keywords *	❖
Abstract *	❗
Revision	❗
Proposal main Body *	❗
Personnel Involved in the Research *	❗
Description of the Work for every unit of Personnel *	❗
Budget Form *	❗
Direct Research Cost Justification *	❗
Fellowships Costs Justification *	❗
Indirect Costs Justification *	❗
Overhead Costs Justification *	❗
Existing/Pending Support	❗
Existing/Pending Support Justification	❗
Education and Training of the PI *	❗
Research and Professional Experience of the PI *	❗
Research Interruptions and Justification	❗
Publications *	❖
Reviewers to be excluded	❗
Addendum A - Papers in press	❗
Addendum B - Formal letter of collaboration	❗
Addendum C - Clearance from ethical committee	❗
Addendum D - Institutional letter indirect costs/overhead	❗
Addendum E - Authorship	❗

For your convenience, you can always interrupt and resume your work on the application.

**CREATE PDF DRAFT**

Save and/or print the entire application and check that the inserted data are correct.  
 For your convenience, the PDF Draft can be created, saved and/or printed even if the application is not complete.

❗ CREATE PDF DRAFT

# Title

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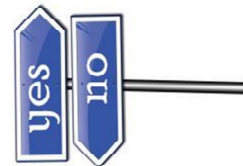
The title must be sharp and effective

- What is the question?
- What is the scientific problem related to cancer?

*“Control of direct and immune-mediated antitumor activities of IRF-8 by epigenetic drugs in colorectal cancer”*

*“Dissecting p63 functions in skin cancer initiation and progression”*

*“Plasma microRNA profiling as first line screening test for lung cancer detection: a prospective study”*



*“Post-translational modification of proteins”* ?

*“Terminal differentiation opposes transformation, functional bases”*

*“Calpains as anticancer targets”*

# Abstract



You should answer the following questions:

- What is your key aim?
- Why is your question important and how you will answer?
- What advance will be made?

# Abstract

- Get it focused and balanced: do not give too much of **introduction**, go straight to the point describing **aims**, **experimental design** and **expected outputs**
- Do not exceed in length, one page is more than enough

NO

YES

<p><b>Introduction</b> Clear cell renal cell carcinoma (ccRCC) is the most common type of renal cancer, comprising the 70-80% of the cases. In line with this most of the results of treatment of kidney cancer largely reflect results in ccRCC. The elucidation of the molecular mechanisms that drive ccRCC tumorigenesis has provided insights into potential therapeutic targets and opened the door for recent dramatic advances in the treatment of advanced ccRCC. New improvements will be obtained with the introduction of molecular classification schemes reflecting the complex biology and heterogeneity of ccRCC. Genetics of ccRCC is dominated by the inactivation of the VHL tumour suppressor gene which is present in 80-90% of cases. Large-scale sequencing activities have identified a second major ccRCC cancer gene, with truncating mutations in 41% of cases and several new cancer genes in ccRCC including UTX (KDM6A), JARID1C (KDM5C) and SETD2 present in fewer than 15% of ccRCCs. Results of current studies indicate that microRNAs have a remarkable impact on the understanding of RCC pathogenesis. Several microRNAs are downstream effector molecules of the HIF-induced hypoxia response due to VHL inactivation. Wide gene expression profiling to classify ccRCC tumor subsets distinguished two groups: group A tumors overexpressing genes associated with hypoxia, angiogenesis, fatty acid metabolism, and organic acid metabolism and group B tumors overexpressing a more aggressive panel of genes that regulate epithelial-to-mesenchymal transition, the cell cycle, and wound healing. We have recently investigated the use of laser capture microdissection (LCM) and reverse-phase protein arrays (RPPA) to determine the signaling pathway status in tumor cells in a panel of 16 primary clear cell renal cancers. RPPAs have been used to measure the activation state of 76 key signaling proteins that are spanning many signaling pathways known to be important in tumorigenesis, extravasation, and metastatic process.</p> <p>The statistical analysis of results suggests that ccRCCs could be divided into at least three major functional groups, one group with higher activation of mTOR and two groups with higher levels of HIFalpha different with respect to a low or high pro-autophagic LC3B expression. Because the subset of differentially expressed proteins appear to be pathway linked and these pathways are targets for the drugs usually used in the ccRCC treatment, we think that further studies in this direction may lead to the development of criteria useful for treatment selection of the patients.</p>	<p>intro</p>	<p><b>Introduction</b> Metastatic or unresectable relapsing mesenchymal tumors represent an unmet medical need with a dismal prognosis. Though new hope has been brought by targeted therapies, this approach failed to cure patients for the occurrence of either primary or acquired resistance.</p>
<p><b>Aims</b> The present application proposes to elucidate a hitherto unknown part of the signaling and biology of ccRCC disease and their relationships with clinical-pathological characteristics of tumors.</p>		<p>aims</p>
<p><b>Experimental design</b> The present application proposes to elucidate a hitherto unknown part of the signaling and biology of ccRCC disease and their relationships with clinical-pathological characteristics of tumors.</p>	<p>exp. design</p>	
<p><b>Expected outputs</b> These studies will generate new knowledge useful for other types of cancer.</p>		<p>outputs</p>



# Keywords

- Keywords have a role in the first match between about 500 grants applications and 400 referees for each round of reviews (reviewers assignments).
- It is important to choose them accurately to get the most appropriate match.

## Do not choose a set of keywords that are:

- too vague (e.g.: genetics + animal model + genomics)
- too similar with each other (e.g. DNA damage + DNA repair)

## Try to choose a set that combines the key features of your research plan.

Examples:

- dendritic cells + Nf-kB family + colorectal cancer + animal model
- Cell cycle checkpoint G1/S + DNA repair + Genomic/Genetic instability + Translesion synthesis + yeast



# Proposal main body

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## Focus and keep it simple

*“The PI does not realize that sometimes **less is more**. A collection of tasks not related to each other is not a project.”*

# Proposal main body

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## Focus and keep it simple

*“The PI does not realize that sometimes **less is more**. A collection of tasks not related to each other is not a project.”*

## No fishing expeditions

*(unless supported by preliminary data)*

*“This is mainly a ‘fishing’ expedition. On the one hand, it is possible for fishermen to catch fish. On the other hand, one would like some indication that fish are really present in these waters..”*



## Proposal main body

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### **Feasibility: preliminary data**

*“While the initial idea is excellent, the proposal is poorly prepared and **does not contain any preliminary data** to support the feasibility of the proposed approach.”*

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### Feasibility: preliminary data

*“While the initial idea is excellent, the proposal is poorly prepared and **does not contain any preliminary data** to support the feasibility of the proposed approach.”*

### Feasibility: statistical analysis

*“The experimental plan is seriously flawed. Some of the studies are **too small to achieve statistically powered results.**”*

# Proposal main body

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## Feasibility: preliminary data

*“While the initial idea is excellent, the proposal is poorly prepared and **does not contain any preliminary data** to support the feasibility of the proposed approach.”*

## Feasibility: statistical analysis

*“The experimental plan is seriously flawed. Some of the studies are **too small to achieve statistically powered results.**”*

## Feasibility: experience in the proposed research field

*“It is not clear that the investigator has the **experience** to do the work”.*

# Proposal main body

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## **Caveat and pitfalls**

Grants often fail because “if the first experiment fails (i.e. the hypothesis was wrong and you disprove it), they have nothing to do”

You need to highlight possible caveat and pitfalls of your project and describe alternative strategies to reach the project’s purposes.

# Personnel

The screenshot shows the AIRC website interface. The main header includes the AIRC logo and the text 'ASSOCIAZIONE ITALIANA PER LA RICERCA SUL CANCRO'. The page title is 'AREA RICERCATORI'. A navigation menu on the left includes 'BANDI/CALLS', 'MODULISTICA', 'CTS 2011', 'CSB 2011', and 'MY AREA'. The 'MY AREA' section lists 'Collocazi Laura', 'My Submissions', 'My Publications', 'Change profile', 'Change password', and 'Logout'. The main content area is titled 'TEST\_IG\_per\_Laura\_2012' and 'Personnel Involved in the Research'. It contains a table with the following data:

NAME AND DATE OF BIRTH	ROLE ON PROJECT	CLINICIAN	FELLOWSHIP REQUIRED	MAN/YEAR EFFORT	
- no data -	PI		N	0	
Total Man/Year on Project				0	

Below the table are 'Index' and 'Add' buttons. The footer contains 'Copyright ©2009-2011 AIRC - Privacy' and 'Powered by Ekman'.

- Personnel involved must have an appropriate expertise
- Provide a CV of personnel members (1 page in English each) to describe their expertise/experience
- Too many «To Be Defined» (TBD) in the personnel section are strongly discouraged

# Budget

	1st year (€)	2nd year (€)	3rd year (€)	TOTAL (€)
<b>Direct research costs</b>				
- Consumables and supplies*	0	0	0	€ 0,00
- Small bench instrumentation*	0	0	0	€ 0,00
- Services*	0	0	0	€ 0,00
- Maintenance contracts*	0	0	0	€ 0,00
- Publication costs*	0	0	0	€ 0,00
- Meetings and travel costs*	0	0	0	€ 0,00
<b>Fellowships*</b>	€ 0,00	0	0	€ 0,00
<b>Indirect costs*</b>	0	0	0	€ 0,00
<b>Subtotal</b>	€ 0,00	€ 0,00	€ 0,00	€ 0,00
<b>Overhead*</b>	0	0	0	€ 0,00
<b>AMOUNT REQUESTED</b>	€ 0,00	€ 0,00	€ 0,00	€ 0,00
<b>AMOUNT GRANTED</b>				

(\*) mandatory fields

- Ask for what you really need to carry out the proposed research plan (no reverse engineering).

- AIRC discourages the purchased of large instrumentation

- Reviewers will know whether the budget is inflated and can recommend budget cuts, which AIRC WILL undertake.

*"Each and every component of the budget is inflated given the relatively straightforward nature of much of the programme. I recommend a 40% reduction in the total budget requested."*

- Make sure the financial request is in line with the number of people that will be involved in the project.

*"This budget is overestimated for the few people that will be actively working on the research plan."*

# Publications

- Emphasis is on prior track record: first/last author publications are considered part of the **feasibility** of the project.
- Relevance of prior publications should be related to cancer.


## Publications \*

To insert the publications, please click on **ADD**.

Please mark those publications that are relevant to the proposal, those with acknowledgement to AIRC and identify those in which the applicant is: first author or co-first author (CFA); last author (L), first corresponding author (FC), or corresponding author (CA). To avoid incomplete information, the system requires an obligatory answer as 'yes', 'no', or 'none of the above'.

- A complete and accurate information about **authorship** is necessary to provide correct bibliometric parameters for the evaluation of applicants' CV.
- Applicants will be asked to underwrite a document to certify the information provided is correct.

**LEGEND:** **I.F.:** Impact factor **First:** First Author **CFA:** Co-First Author **L:** Last Author  
**FC:** First Corresp. Author **CA:** Corresp. Author **AIRC Ackn.:** AIRC Acknowledged

PUBLICATION	I.F.	AUTHOR First/CFA	AUTHOR L/FC/CA	RELEVANT	AIRC Ackn.	
Mendoza-Maldonado R, Paolinelli R, Galbiati L, Giadrossi S, Giacca M  Interaction of the retinoblastoma protein with Orc1 and its recruitment to human origins of DNA replication.  PLoS One. 2010 Nov 9;5:e13720 <b>PMID: 21085491</b>	4,351	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NONE OF THE ABOVE	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NONE OF THE ABOVE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	

## Summing up...

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- **Why would AIRC want to fund this project?** Tell us directly.
- **Preliminary data are very important.** Show the key figures.
- **Keep the grant simple** and have one (or more) clear hypotheses to test
- Present clear but concise descriptions of experiments to be performed (**you don't need lots of experimental details**).
- **Do not cram too much text onto the form** (spaces and diagrams help).
- If **statistics are relevant** (i.e. number of sample, patients etc), please get it right!
- What is the fallback position? Make sure to have **contingency plans**.
- **Why is the PI suitable to conduct the research?**
- Ask for an **amount of money that is consistent** with the proposed experiments.
- **Get several people to read it:** an expert to tell you any missing points, a generalist to tell you if they understand it.
- **Don't leave it too late to do a proper job.**

## Contact us:

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[airc.direzione-scientifica@airc.it](mailto:airc.direzione-scientifica@airc.it)

AIRC Calls for proposals can be found at:

<https://www.direzionescientifica.airc.it/>

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