



Grant Writing - A short guide to survival and success

Walter Kolch &
Lauren Montague



Agenda

- 1) Which grants can I apply for? (Lauren Montague)
- 2) Grantsmanship – the theory (Walter Kolch)
- 3) Break
- 4) Why did this grant fail and this one succeed? - practical examples (Walter Kolch)
- 5) So what should I do now? – a surgery for individual needs (Lauren & Walter)

Which grants can I apply for?

Lauren Montague
SBI Grants Manager

Looking for help in all the wrong places

- Lab mates who have never submitted a grant before
- Internet rumour chat sites “score obsession”
- Most grant writing workshops (except this one, of course!)
- Faculty / Staff who have never received funding



Tips from the desk of the grant manager



Find a successful story and try to replicate it!

Get copies of successful proposals - network through this and other University Research Offices – websites list past recipients

Find a mentor who has served on a review panel

Edit, Edit, Edit.....get help from pros

Finding Opportunities – Show me the money!



Universities employ people to review suitable funding opportunities – put their expertise to work for you!

- UCD Research Intranet
<https://intranet.ucd.ie/research/>



- Other University Websites – “Research Office= Sponsored Programs= FP7 EU Grants Office”

Finding Opportunities – Show me the money!

Writing a grant

- The basics

The screenshot shows a web browser window displaying the UCD Research Intranet page for finding funding opportunities. The browser's address bar shows the URL: <https://intranet.ucd.ie/research/findafundingopportunity/>. The page header includes the UCD logo and the text "Research Intranet Taighde Inlíon". A search bar is located in the top right corner with the text "SEARCH Research Intranet" and a "GO" button. Below the header, a navigation menu lists various options: "Research Information and Support", "Find a Funding Opportunity", "Funding Databases", "Research Bulletin", "Prepare a Proposal", "Getting an Award Started", "Research Project Management", "Research Outputs", and "Research Commercialisation". The main content area is titled "Find a Funding Opportunity" and contains a paragraph of text: "UCD Research identifies funding opportunities on a weekly basis, including opportunities from US and EU Trusts and Foundations. Funding opportunities with set deadlines are contained in the Research Funding Call Calendar while those which have rolling deadlines are listed below. If you require further information on any of the funding opportunities please contact research@ucd.ie". Below this text are two main sections: "Research Funding Call Calendar" (with a calendar icon) and "Funding Databases" (with logos for Research Professional, European Commission CORDIS, GRANTS.GOV, esa space for europe, and Ted-tenders electronic daily).

Rolling Call Funding Opportunities

Choose a research area:

Choose another research area (if multi-disciplinary):

What type of research activity:

Finding Opportunities – Show me the money!

Writing a grant

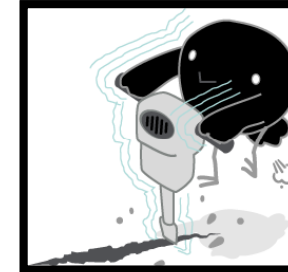
- The basics

Rolling Call Funding Opportunities

Choose a research area:

Choose another research area (if multi-disciplinary):

What type of research activity:



Search Results

[Clear filter](#)

Alexander von Humboldt Foundation - Humboldt Research Fellowship for experienced researchers

[View full details](#)

The Foundation promotes cooperation between scientists and scholars from Germany and abroad. This scheme provides sponsorship for a research stay at a research institution in Germany lasting from 6 to 18 months for outstanding academics who completed their doctorate less than 12 years ago and whose work demonstrates an independent academic profile. The fellowship is flexible and can be divided up into as many as three stays within three years.

Topics: Humanities and Humanistic Social Sciences

Please note that there is a separate application process for this funding source and researchers must contact the UCD Development Office if they intend to submit an application to this call. The contact person is Jessica Kavanagh (jessica.kavanagh@ucd.ie or 7161268).

Alexander von Humboldt Foundation - Humboldt Research Fellowship for postdoctoral researchers

[View full details](#)

The Alexander von Humboldt Foundation promotes cooperation between scientists and scholars from Germany and abroad. This scheme provides sponsorship for a research stay at a research institution in Germany lasting from 6 to 24 months. Applicants must have completed doctorate less than 4 years ago.

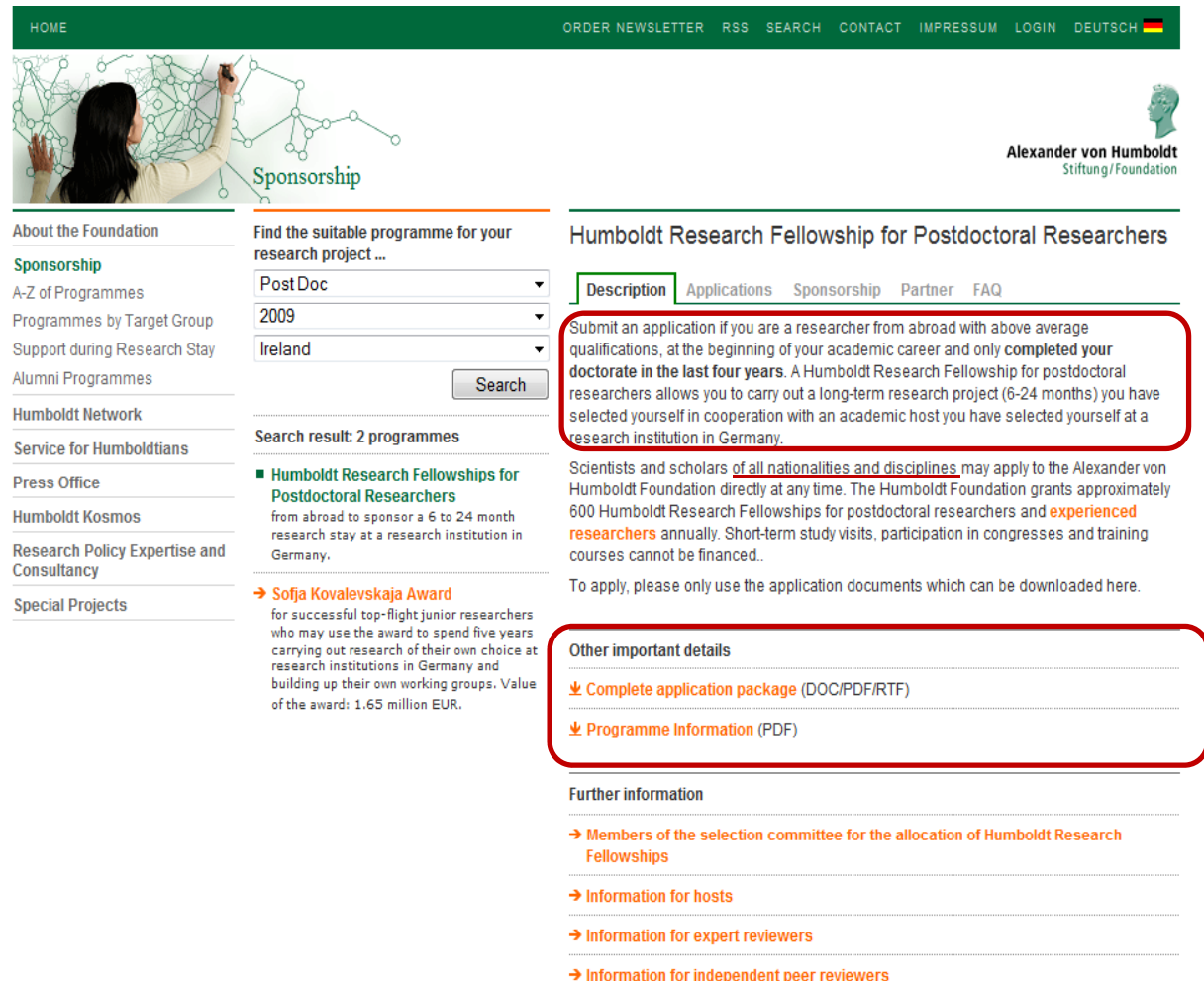
Topics: All disciplines


Please note that there is a separate application process for this funding source and researchers must contact the UCD Development Office if they intend to submit an application to this call. The contact person is Jessica Kavanagh (jessica.kavanagh@ucd.ie or 7161268).


Finding Opportunities – Show me the money!


Writing a grant

- The basics



HOME ORDER NEWSLETTER RSS SEARCH CONTACT IMPRESSUM LOGIN DEUTSCH 

 Sponsorship

Alexander von Humboldt
Stiftung/Foundation 

About the Foundation
Sponsorship
A-Z of Programmes
Programmes by Target Group
Support during Research Stay
Alumni Programmes
Humboldt Network
Service for Humboldtians
Press Office
Humboldt Kosmos
Research Policy Expertise and Consultancy
Special Projects

Find the suitable programme for your research project ...

Post Doc
2009
Ireland
Search

Search result: 2 programmes

- **Humboldt Research Fellowships for Postdoctoral Researchers**
from abroad to sponsor a 6 to 24 month research stay at a research institution in Germany.
- **Sofja Kovalevskaja Award**
for successful top-flight junior researchers who may use the award to spend five years carrying out research of their own choice at research institutions in Germany and building up their own working groups. Value of the award: 1.65 million EUR.

Humboldt Research Fellowship for Postdoctoral Researchers

Description Applications Sponsorship Partner FAQ

Submit an application if you are a researcher from abroad with above average qualifications, at the beginning of your academic career and only **completed your doctorate in the last four years**. A Humboldt Research Fellowship for postdoctoral researchers allows you to carry out a long-term research project (6-24 months) you have selected yourself in cooperation with an academic host you have selected yourself at a research institution in Germany.

Scientists and scholars of all nationalities and disciplines may apply to the Alexander von Humboldt Foundation directly at any time. The Humboldt Foundation grants approximately 600 Humboldt Research Fellowships for postdoctoral researchers and **experienced researchers** annually. Short-term study visits, participation in congresses and training courses cannot be financed.

To apply, please only use the application documents which can be downloaded here.

Other important details

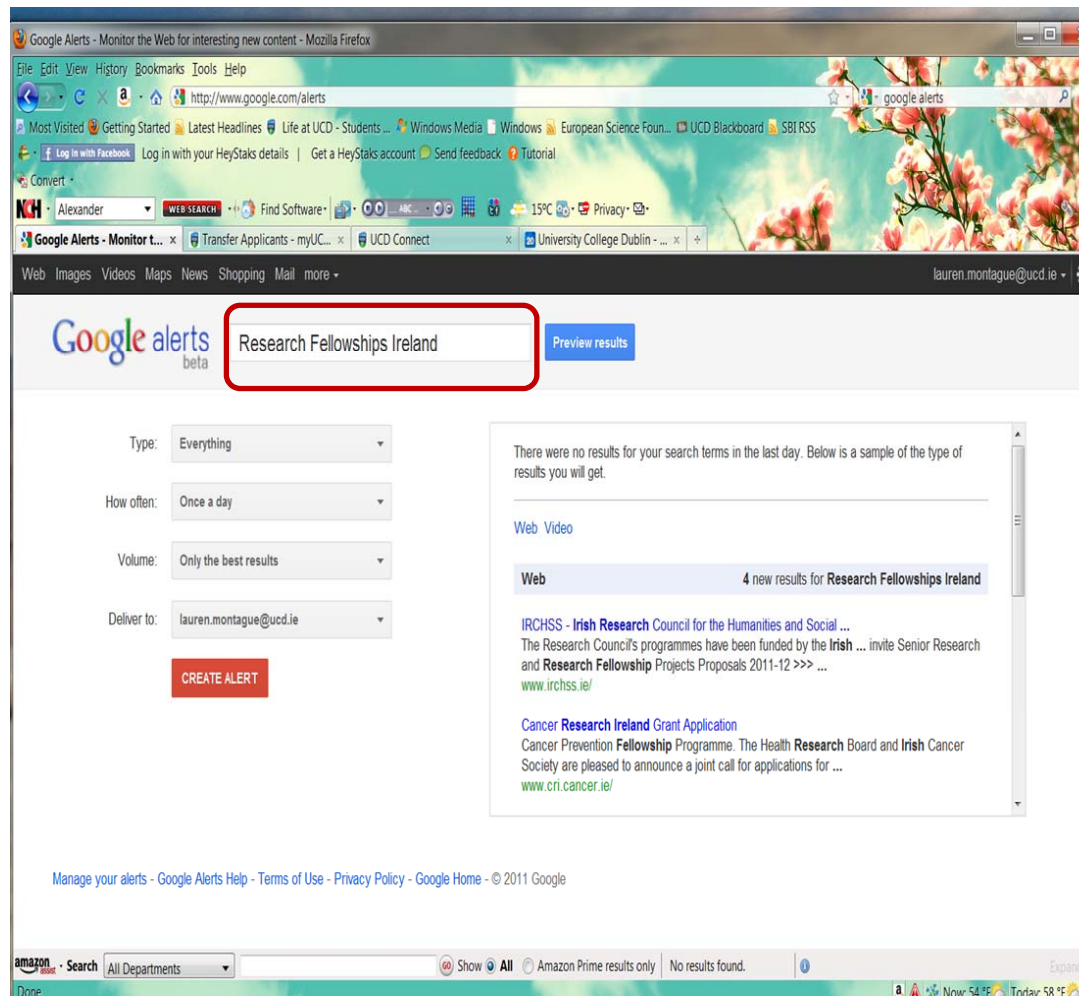
- 📄 [Complete application package \(DOC/PDF/RTF\)](#)
- 📄 [Programme Information \(PDF\)](#)

Further information

- [Members of the selection committee for the allocation of Humboldt Research Fellowships](#)
- [Information for hosts](#)
- [Information for expert reviewers](#)
- [Information for independent peer reviewers](#)

Finding Opportunities – Show me the money!

Unusual research interests or background? – Try Google Alerts



Finding Opportunities – Show me the money!

Broad vs. Specific Search – Try Google Alerts

The screenshot shows a Mozilla Firefox browser window displaying the Google Alerts interface. The search term "Post Doctoral Research Fellowships Ireland" is entered in the search box and is highlighted with a red rectangle. The interface includes a "Preview results" button and several filter options: Type (Everything), How often (Once a day), Volume (Only the best results), and Deliver to (lauren.montague@ucd.ie). A "CREATE ALERT" button is visible below the filters. The results section, titled "Web" and "5 new results for Post Doctoral Research Fellowships Ireland", lists several relevant links:

- IRCHSS - Schemes: Scheme 2 - Post-Doctoral Fellowship**: The Irish Research Council for Humanities and Social Sciences has launched 2011-2012 Government of Ireland Postdoctoral Fellowships and the European ... www.irchss.ie/schemes/scheme02/index.html
- Research Fellowships - National University of Ireland**: 1 day ago ... It is expected that in each case, the research undertaken will result in a ... Three NUI Fellowships have been established at post-doctoral level ... www.nui.ie/awards/research.asp
- Post-doctoral Fellowship Scheme - Environmental Protection ...**: Doctoral Scholarship Scheme | Post-doctoral Fellowship Scheme | Masters ... The EPA invites regularly for proposals for research fellowships to enhance ... www.epa.ie/researchandeducation/research/.../postdoctoral/
- Fourth Level Ireland - Resources**: It provides funding for postgraduate research students and post-doctoral researchers through post-doctoral research fellowships and the PhD ...

 A weather widget for Dublin, Ireland is visible in the bottom right corner, showing "Partly Cloudy", "Wind SW@", "Humidity: 77", "UV: 1 (Low)", and "Now: 55 °F". At the bottom of the browser window, an Amazon search bar is partially visible with the text "amazon - Search All Departments" and "Found 50+ results." The name "Christopher Zimmer" is visible in the bottom left corner of the browser's address bar area.

Finding Opportunities – Show me the money!

From General to Specifics – Try Google Alerts

The screenshot shows the Google Alerts interface in a Mozilla Firefox browser. The search term "Marie Curie IIF Fellowships" is entered in the search box and is highlighted with a red rectangle. The "Preview results" button is visible to the right of the search box. Below the search box, there are several dropdown menus for configuring the alert: "Type" is set to "Everything", "How often" is "Once a day", "Volume" is "Only the best results", and "Deliver to" is "lauren.montague@ucd.ie". A red "CREATE ALERT" button is located below these settings. On the right side, a preview of search results is shown, indicating "5 new results for Marie Curie IIF Fellowships". The results include links to "Marie Curie Incoming International Fellowships (IIF) - CORDIS", "Marie Curie International Incoming Fellowships (IIF) for Developing Countries", and "Marie Curie Documents and Websites".

Manage your alerts - Google Alerts Help - Terms of Use - Privacy Policy - Google Home - © 2011 Google

Finding Opportunities – Show me the money!

Writing a grant

- The basics

Web Images Videos Maps News Shopping Mail more ▾

Google alerts
beta

Search terms: Marie Curie IIF Open [Preview results](#)

Type: Everything ▾

How often: Once a day ▾

Volume: Only the best results ▾

Deliver to: cokerpelli@mac.com ▾

Create Alert

There were no results for your search terms in the last day. Below is a sample of the type of results you will get.

Web 5 new results for Marie Curie IIF Open

[Results: Marie Curie \(IIF\)](#)

Apr 8, 2011 ... You are here: Homepage > Application and **Open** Calls > Last Calls (results) ... 2011-03-17 New Call for **Marie Curie** Fellowships ...
[eu.tuebingen.mpg.de/...and.../results-marie-curie-iif.html](#)

[MARIE CURIE INTERNATIONAL INCOMING FELLOWSHIPS \(IIF\) - European ...](#)

Mar 16, 2011 ... **Marie-Curie** Actions Calls: FP7-PEOPLE-2011-IIF. Information Package | Electronic ... Theme: **Marie-Curie** Actions. **Open** or close this section ...
[cordis.europa.eu/fp7/dc/index.cfm?fuseaction=usersite...](#)

[Marie Curie Documents and Websites](#)

Marie Curie Fellowships & Grant: IEF, IOF, IIF & CIG 16.03.11 00:00. PEOPLE 2011: Calls for Individual Fellowships **open!** 20.10.10 17:44 ...
[www.euresearch.ch/index.php?id=190](#)

[EU FP7 Marie Curie People program IOF IEF IIF tips](#)

Dec 22, 2010 ... EU FP7 **Marie Curie** People program IOF IEF IIF tips ... This action, **open** towards the rest of the world, aims to respond to the needs for ...
[hubpages.com/.../EU-FP7-Marie-Curie-People-program-IOF-I...](#)

[Marie Curie IEF, IIF and IOF Calls for Proposals Launched ...](#)

Mar 21, 2011 ... FP7-PEOPLE-2011-IIF – **Marie Curie** International Incoming Fellowships (IIF) ... **Marie Curie** funding schemes are bottom-up and **open** to all ...
[research.blogs.lincoln.ac.uk/.../marie-curie-ief-iif-and-iof-calls...](#)

Finding Opportunities – Show me the money!

Other Research Universities troll the internet for opportunities that are public
 Use their expertise to your advantage – Such as <http://www.euresearch.ch> ★★

The screenshot shows the EURESEARCH website, which is described as 'your Swiss guide to European research'. The page features a navigation menu with options like 'FP7 Framework Programme', 'COST', 'Enterprise Europe Network', and 'About Euresearch'. A sidebar on the left lists 'Documents & websites' and 'Information Sheets and R&D Guide'. The main content area includes a section for 'Marie Curie Fellowships & Grant: IEF, IOF, IIF & CIG' with a table of opportunities.

| Action | Description | Call opens | Deadline | Docs |
|--|---|------------|------------|---|
| IEF Intra-European Fellowship | IEF aims at helping experienced researchers to get new skills. Mobility rule applies: from a MS/AC to another MS/AC. Overall budget: € 120 mio | 13.03.2012 | 16.08.2012 | InfoSheet Important documents available at the opening of the call |
| IOF International Outgoing Fellowship | IOF aims to reinforce the international dimension in the career of European researchers willing to acquire new skills in a top research institution based in a third country. Mobility rule applies: 2 years in a third country + 1 year in an MS/AC. | 13.03.2012 | 16.08.2012 | InfoSheet Important documents available at the opening of the call |

Some Starting Places – Tried and True

IRELAND



<http://www.ircset.ie/> Emphasis on innovation

- Post Graduate Scholarship Scheme
- Postdoctoral Fellowships Scheme
- The Enterprise Partnership Scheme
- Rolling calls throughout the year

It is intended to have the results of the **EMBARK POSTGRADUATE SCHOLARSHIP COMPETITION 2011** posted up on our website on **Thursday 21st April (IRCSET Website)**



Some Starting Places – Tried and True

EU FUNDING SOURCES – Framework Program FP-7

MARIE CURIE FELLOWSHIP SCHEMES

http://cordis.europa.eu/fp7/people/home_en.html

“dedicated to stimulating researchers' career development”

Highly competitive – extremely prestigious - lucrative!!!

[Marie Curie Intra-European Fellowships for Career Development \(IEF\)](#)

[Marie Curie European Reintegration Grants \(ERG\)](#)

[Marie Curie International Reintegration Grants \(IRG\)](#)

[Marie Curie Co-funding of Regional, National, and International Programmes \(COFUND\)](#) - euraxess -

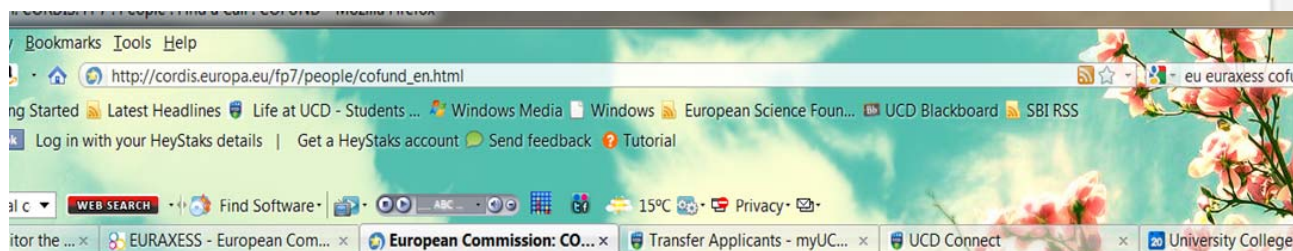
http://cordis.europa.eu/fp7/people/cofund_en.html#COFUND



Some Starting Places – Tried and True



http://cordis.europa.eu/fp7/people/cofund_en.html#COFUND

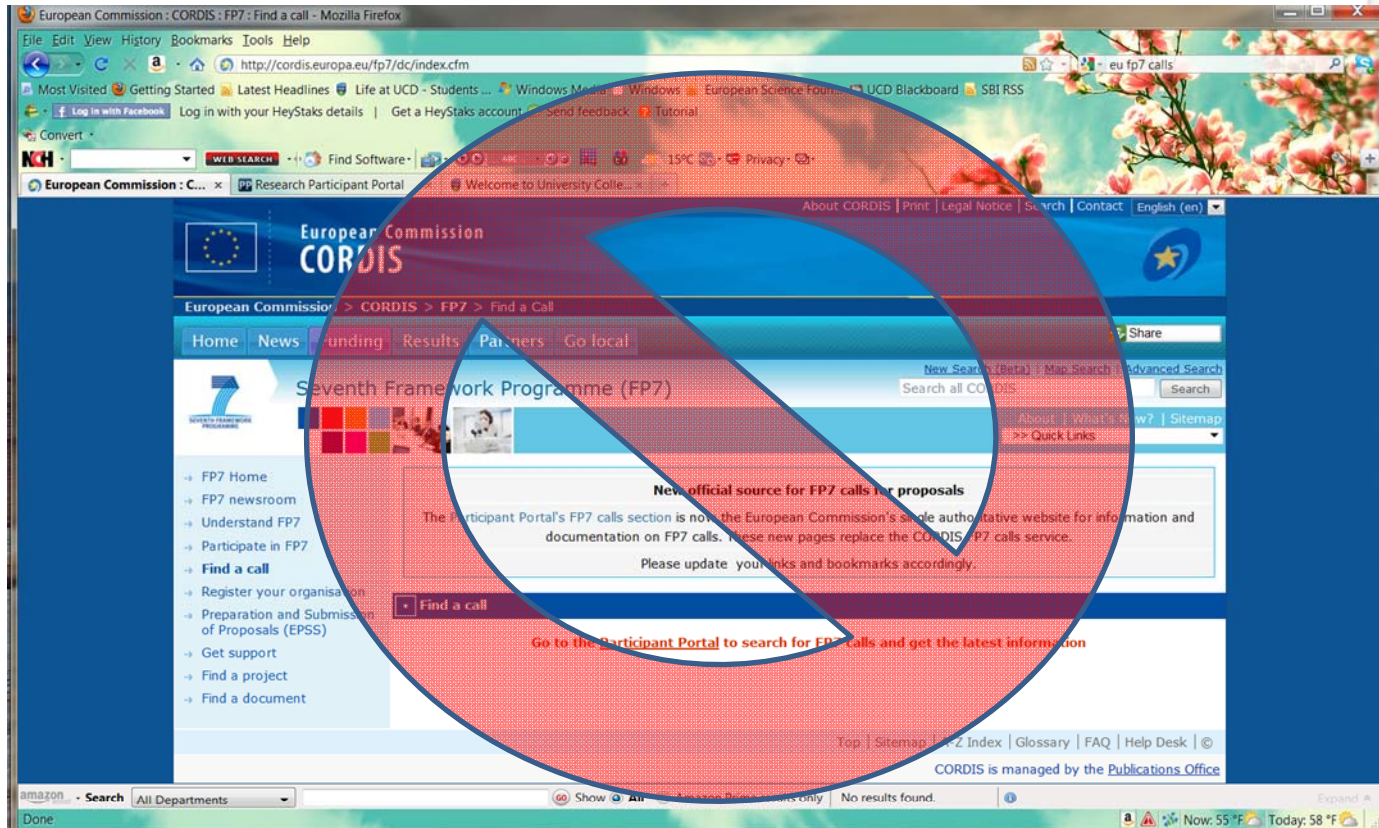


| Funding organisation | Link to Programme | Closing date of next call | Geographical scope | Scientific Area | Required research experience | Programme Summary |
|---|---|---------------------------|--|--|--|-------------------|
| VIB | http://www.vib.be/postdoc | 2011-08-31 | any country | integrative biology, omics technologies in life sciences | PhD | |
| Foundation for Science and Technology of Portugal | WELCOME II | 2013-12-31 (closed) | Worldwide (incoming) | Exact, natural and health sciences, engineering, social sciences and humanities, including all scientific topics | Post-Docs residing in Third Countries for the last three years having the nationality of a EU Member State or FP7 Associated Country | |
| Austrian Science Fund | SCHROEDINGER FELLOWS | 0000-00-00 (continuous) | Worldwide (outgoing), with a return phase | All disciplines (Science and Humanities) | Postgraduate at least 4 years of research | |
| EMBO | EMBO Long-Term Fellowships | 2013-12-31 (closed) | Worldwide | Life Sciences | PhD | |
| CERN | CERN-COFUND | 2013-12-31 (closed) | Worldwide (incoming to CERN in Geneva); possibility of outgoing for 3rd year | Particle physics, engineering, computing | Postgraduate with 4-10 years of research experience | |
| NBIP Ireland | CEMP Post-doctoral Fellowships | 2013-12-31 (closed) | Worldwide | Biophotonics and Imaging | PhD | |
| CELES | CERES - CEI Research Fellowship Programme | 2013-12-31 (closed) | 17 CEI Member States: Albania, Austria, Belarus, Bosnia and Herzegovina | Physics, math, genetics, biotechnology, neuroscience, nano-science, bioinformatics. | PhD or 4 years of research | |



Not obvious –EU Website now Participant Portal

<http://ec.europa.eu/research/participants/portal/page/people&state=open>



Lost ? Send email to lauren.montague@ucd.ie

Not obvious –EU Website now Participant Portal

<http://ec.europa.eu/research/participants/portal/page/people&state=open>

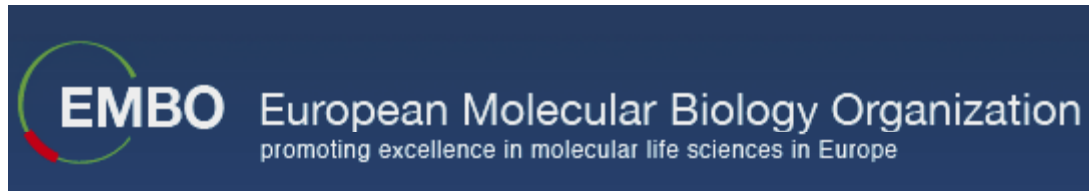
The screenshot shows the Research Participant Portal interface. The main content area is titled 'PEOPLE' and includes a 'Marie-Curie Actions' section. A table lists two Marie-Curie Actions:

| Call Identifier | Call Title | Publication Date | Cut-off Dates | Deadline |
|-----------------------|--|------------------|---------------|------------|
| FP7-PEOPLE-2012-IRSES | Marie Curie International Research Staff Exchange Scheme (IRSES) | 2011-07-20 | | 2012-01-18 |
| FP7-PEOPLE-2012-ITN | Marie Curie Initial Training Networks 2012 (ITN) | 2011-07-20 | | 2012-01-12 |



Lost ? Send email to lauren.montague@ucd.ie

Other Fellowship Opportunities



DEADLINES

Long-Term Fellowships

15 February

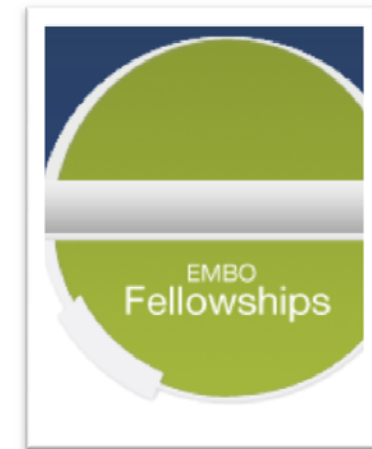
15 August

Short-Term Fellowships

Open all year

Molecular Medicine Sabbaticals

1 August



<http://www.embo.org/programmes/fellowships.html>

Other Fellowship Opportunities – Specific Groups



<http://www.womeninscience.co.uk/>

L'OREAL Fellowships for women –

Because you're worth it !!!

Look for your unique niche –
nationality, expertise and search



Other Fellowship Opportunities worth a look

wellcometrust | *Celebrating 75 Extraordinary Years*

Sir Henry Wellcome Postdoctoral Fellowships

<http://www.wellcome.ac.uk/Funding/Biomedical-science/Funding-schemes/WTX033549.htm>

This is an annual competition.

This is an annual competition. Details of the 2012 competition:

- * Deadline for preliminary applications: **1 November 2011**
- * Deadline for full applications: **31 January 2012**
- * Shortlisted candidate interviews: **28-30 May 2012**

Your fellowship may not start until your PhD is awarded, and must be taken up within one year of the grant being awarded.



TWO to THREE – STAGE
PROCESS !!

Other Fellowship Opportunities worth a look

wellcometrust | *Celebrating 75 Extraordinary Years*

Sir Henry Wellcome

Research Career Development Fellowships in Basic Biomolecular Science

<http://www.wellcome.ac.uk/Funding/Biomedical-science/Funding-schemes/Fellowships/Basic-biomedical-fellowships/WTD004431.htm>

Applications for this scheme are considered twice a year.
Details of the next round of applications:

- * Next preliminary application deadline: **23 September 2011**
- * Invited full application deadline: **5 December 2011**
- * Expert Review Group review: **April/May 2012**
- * Shortlisted candidate interviews: **June 2012**

Schedule for full applications submitted for 1 July 2011
deadline:

- * Expert Review Group review: October/November 2011
- * Shortlisted candidate interviews: December 2011

Late applications will not be accepted at any stage.



TWO to THREE – STAGE
PROCESS !!

Other Fellowship Opportunities worth a look



HUMAN FRONTIER SCIENCE PROGRAM
FUNDING FRONTIER RESEARCH INTO COMPLEX BIOLOGICAL SYSTEMS

<http://www.hfsp.org/>

HFSP fellowships support top postdoctoral researchers that propose innovative, ground-breaking projects that have the potential to advance the knowledge in their field of study and open a new approach to the research problem.



Two international programs for basic research training are available:

Long-Term Fellowships (LTF) are reserved for applicants with a Ph.D. in a biological discipline to embark on a new project in a different field of the life sciences. Preference is given to applicants who propose an original study in biology that marks a departure from their previous Ph.D. or postdoctoral work so as to learn new methods or change study system.

Cross-Disciplinary Fellowships (CDF) are open to applicants with a Ph.D. from outside the life sciences e.g. in physics, chemistry, mathematics, engineering or computer sciences who have had limited exposure to biology during their previous training. Applicants for the CDF should propose a significant departure from their past research by changing e.g. from material science or physics to cell biology, from chemistry to molecular biology, or from computer science to neuroscience.

The deadline for registration is 25 August and the submission deadline is 8 September 2011.

Grantsmanship

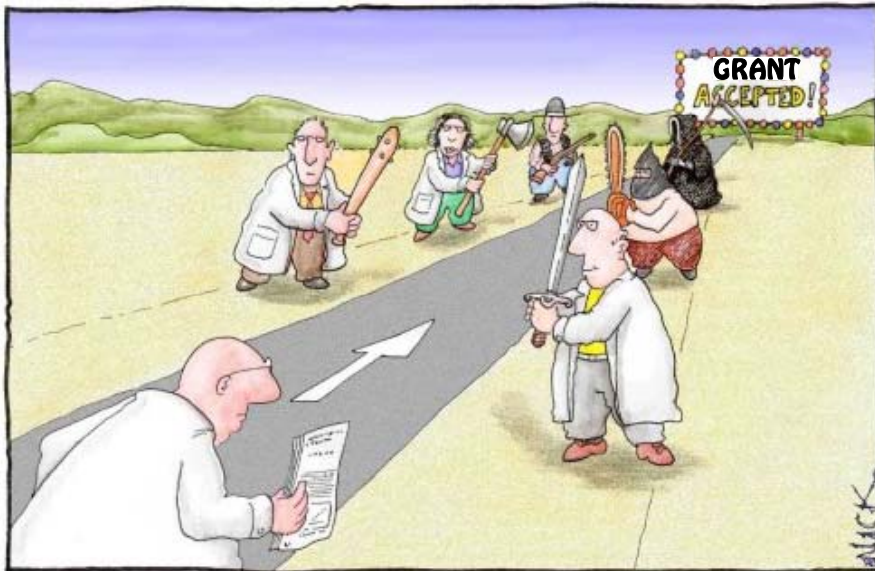
THINK
BIG





Writing a grant

- The basics
- The proposal
- The process
- Fellowships
- The help



Definition of grant

Research Grant

A sum of money or financial support provided to a worker or researcher for performing **innovative or novel work**.

Mosby's Medical Dictionary, 8th edition. © 2009, Elsevier.

Myths & Facts

A grant proposal is a political affair.

> It is not, as usually the funding recommendation is made by an independent panel of peer scientists.

In a grant proposal I need to say what the reviewers want to hear. Therefore, I need to anticipate who will review it.

> This is a waste of time: (1) you very rarely will guess right; and (2) it reflects lack of confidence in your work and proposal

My proposal needs to be cheap, this will increase my chance to get funded.

> Absolutely wrong. You need to observe the limit of the award, and within these limits apply for the money you need.

A grant proposal is a purely scientific affair.

> No, it is not. **A grant proposal is a sales pitch**

What do I sell?

A grant proposal is a sales pitch.
A good sales pitch needs passion,
ambition, vision & credibility



You sell

- Yourself
- Your vision
- Your ideas
- Your track record and/or preliminary results

**These are the points you need to bring across. They do not fall out of the sky.
You need to prepare yourself.**

Selling yourself

Why should an agency award a grant to you?

- Do not dwell on your weak points

- Consider your strong points:
 - What have you achieved?
 - What distinguishes you from your competitors?
 - What puts you in a position to achieve the proposed goals?
 - Why should the agency trust your skills? Do you have a track record, i.e. publications relevant to the proposal?

Selling your vision

Selling a vision is the single most important item!

To sell a vision you need to have one!



➤ What excites you about your research?

➤ What are the big questions? – Do not be shy!

I have no special talent. I am only passionately curious (Albert Einstein)

➤ If you had all the money in the world, what would you work on?

➤ For which of your ideas would you be prepared to spend weekends in the lab?

These are the good ones!

Selling your ideas

Why is your idea good & worth funding?

- Does it address an interesting question? ✓
- Will the answer change the field or open a new view? ✓
- Can you say it in one sentence? ✓

If the answers are yes, the idea is good!

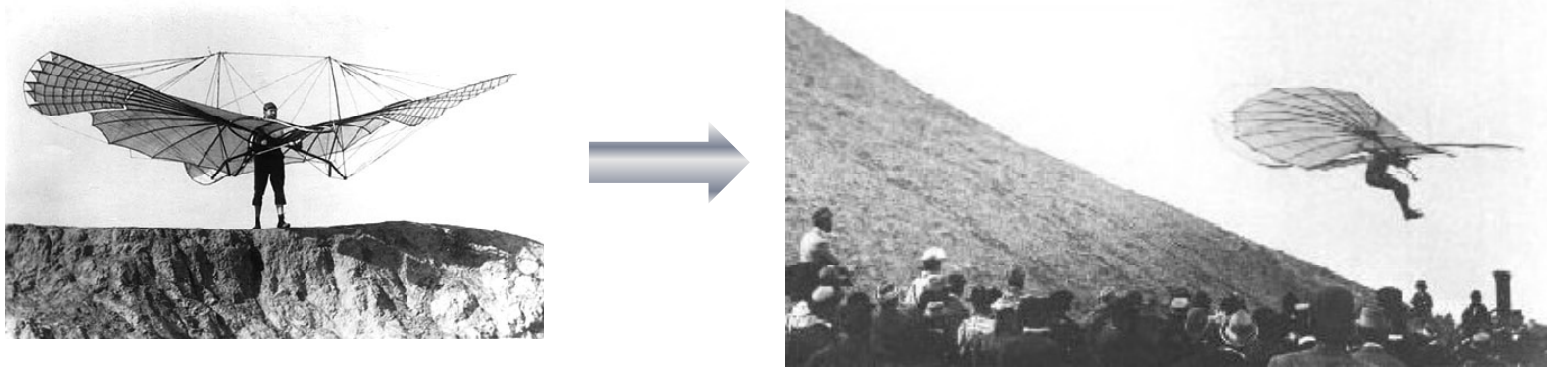
Do not look for the “niche”.
Most likely you just will end up in a
spot nobody else is interested in.



Selling your preliminary results

If you have no preliminary results you will not get funded

➤ As a rule of thumb, ca. 20-30% of what you are proposing should be supported by preliminary results



Your ideas will fly on your preliminary results

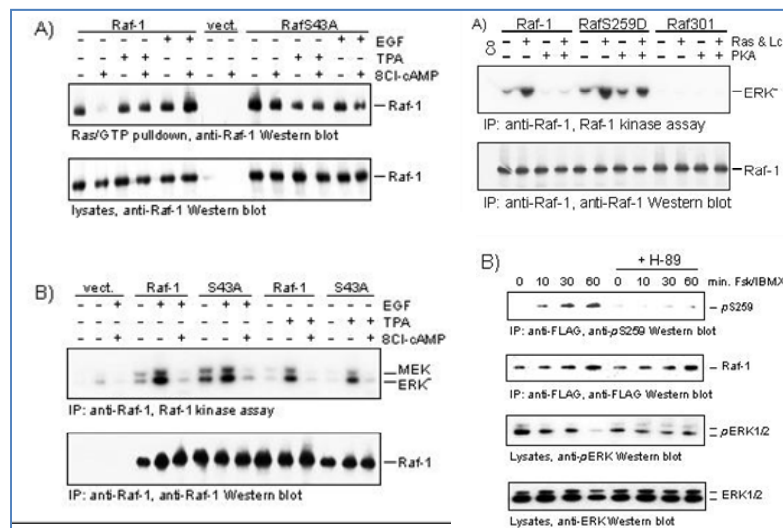
Good preliminary results make up for a lack of track record!

Selling your preliminary results

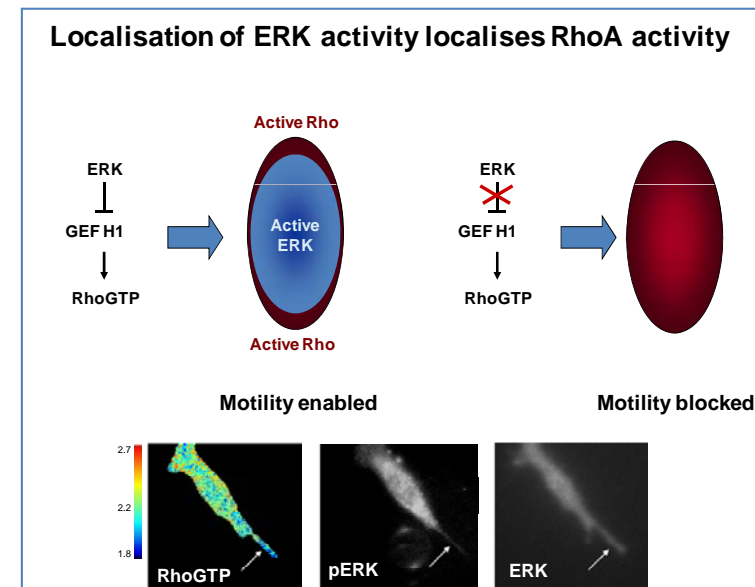
Refer to your preliminary results throughout the proposal.

Present your preliminary results in an appealing way.

Just dropping a huge amount of data on the reviewer does not work well



Showing hypothesis, experimental design & results together works well



What makes a good grant proposal?

Writing a grant

- What makes a good proposal?



Ludwig Mies van der Rohe
BRNO Chair, designed 1930

A good grant proposal has

- Clear overall concept
- Clear line of thought
- Clear purpose
- Wow factor, yet
- Comfort that it can be achieved
- Appealing design

Why are concept & clarity so important?

The reviewer most likely reads your proposal

➤ on an airplane or train



➤ in a crowded place



➤ under time pressure



➤ on the weekend



A grant has to be written in a way that an overworked reviewer can read and understand it after a sleepless night while being stuck at an airport.

- What makes a good proposal?

Clear overall concept

Any intelligent fool can make things bigger and more complex... It takes a touch of genius - and a lot of courage to move in the opposite direction.
Albert Einstein

**Distil out the big question in your proposal.
And ask it!**

By the way, less is usually more.



Clear overall concept

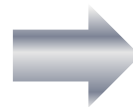
An example:

Cancer can be caused by

- Oncogenes
- Loss of tumour suppressor genes
- Genetic instability
- Viruses
- Mutagenic chemicals
- ...

- We have found all that out in the last 40 years. We understand cancer better than ever before.
- Cancer prognosis has dramatically improved mainly due to better screening & early diagnosis.
- However, our vastly improved understanding of cancer has not lead to equally dramatic improvements in the therapy of cancers

The big question



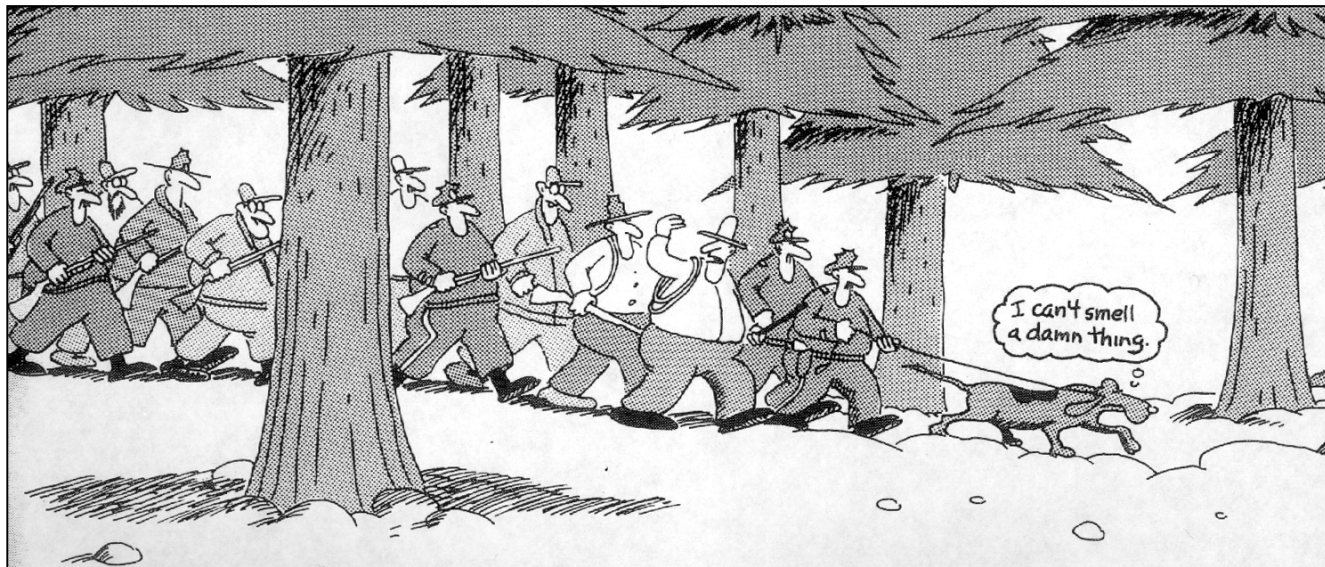
So, what halts progress in cancer therapy based on molecular cancer research?

Clear overall concept

Writing a grant

- What makes a good proposal?

Explain the concept!



This is your chance to lead the reviewers where you want them

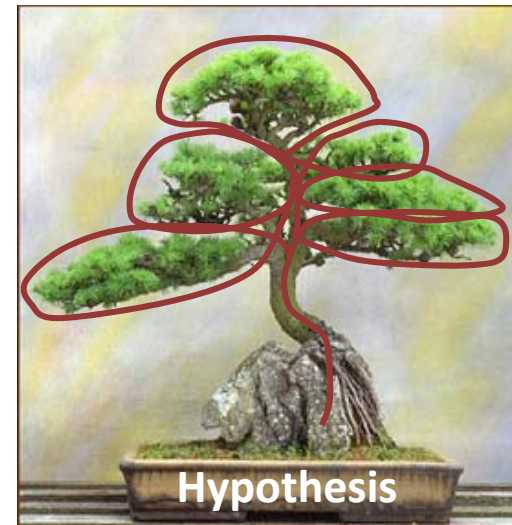
- What makes a good proposal?

Clear line of thought

You have started with the big question in your proposal!

Now develop the details from it.

The experimental plan should flow logically from the hypothesis.



An good way is to work with questions.

For instance, instead of saying “ The role of protein interactions is unknown, and we will investigate it here”, say:

“What is the role of protein interactions?”

- What makes a good proposal?

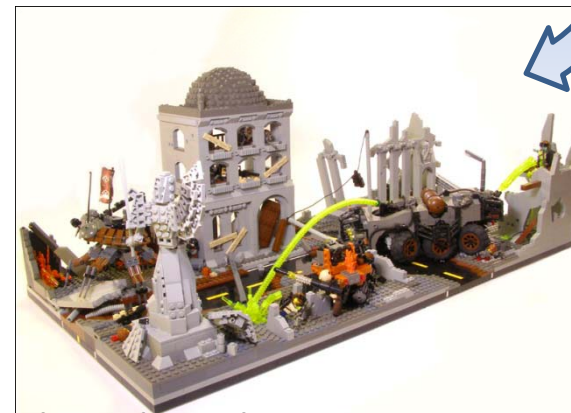
Clear purpose

**Explain what your project will deliver.
Which outcomes are you aspiring to achieve?**

- New knowledge
- New applications
- New methods
- Etc.



The reviewers want to see
the experimental parts



but also what you want to
build out of them!

The Wow factor

What excites you about your proposal?

What makes it different & better?

- Just a cool idea
- An unexpected outcome
- New methods
- Etc.



Think hard. Be bold, but realistic.

Comfort that it can be achieved

Writing a grant

- What makes a good proposal?



- What makes a good proposal?

Supplying the comfort

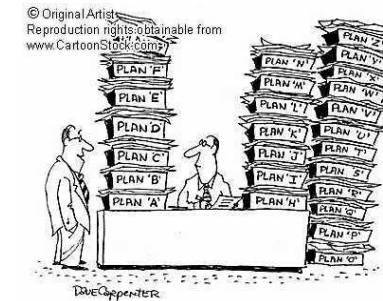
Make sure your plan of research is realistic.

Main mistake is to include sideline projects.

Concentrate on the core experiments and hammer them home.

Mention your skills that will ensure a positive outcome.

This is especially needed when using new technologies. You need to show that you have the skills & tools.



- What makes a good proposal?

Supplying the comfort

Show that you can manage a project.

- Include a GANTT chart.

| | Yr 1 | Yr 2 | Yr 3 |
|-------|------------|------------|------------|
| AIM 1 | ██████████ | ██████████ | |
| AIM 2 | ██████████ | ██████████ | |
| AIM 3 | | ██████████ | ██████████ |
| AIM 4 | | ██████████ | ██████████ |
| AIM 5 | ██████████ | ██████████ | ██████████ |



- Include any project management or supervisory experience you have.
- Include a justification of resources.
- Include a description of facilities necessary for your project, and access arrangements.

- What makes a good proposal?

Appealing design

First impressions count!



1. Scientific and/or technical quality, relevant to the topics addressed by the call

1.1 Concept and objectives

1.1.1 Concept

What hails progress in cancer research? Tumorigenesis involves complex genetic alterations impeding the definition of clear mechanistic principles to develop targeted therapeutic strategies. Damage caused by multiple environmental and endogenous sources accumulates many decades before cancer onset in the adult. Thus, it is difficult to delineate clear pathogenetic models and mechanistic insights on a molecular level. However, such knowledge is critical to develop rational approaches for therapeutic interventions, in particular, to exploit the armoury of signal transduction inhibitors that is now becoming available. Malignant tumours occurring in children offer a unique chance to elaborate mutations accumulated during a long tumours (ET), which are dysplastic organ or tissue of origin and include if family tumours (EGFT). These tumours burdened by passenger mutations are than adulthood tumours. This is the fit

ETs seem to share common aberrant disease-specific manifestations. This recently finished FP6 project, the Euro is the second hypothesis ASSET but modelling, ASSET will analyse ETs a etiologies to the common core gene cancers accessible to therapeutic at hypothesis by (i) predictive models I screens for inhibitors (drugs, siRNAs) and efficacious combinations in ETs ASSET focuses on examining this hy new concepts for the treatment of adu cancers towards a focus on finding an ASSET builds on a wealth of high qu also will benefit from access to the comprise >1000 molecularly character from ETs and cell lines. Importantly mechanistic domain informed and di integrating quantitative, large-scale d disease models and clinical samples.



These research major goal is vulnerabilities, diagnosis and ti

Elucidating such and therapeutic and (ii) inform a pathogenesis of promising clinice of advanced can complete respon during therapy. approaches to it targeted agents t networks. This approach matches therapy to genetic and medicine needed to increase treatment responses and to:

As a result, we expect to obtain comprehensive insight in computational models that are useful for (i) identifying frag maximal disease-specific effects while minimising side ef by molecular functional features and (ii) guiding the treat cancers.

1.1.2 Objectives

ASSET objectives arise from four central hypotheses motivating this project:

1. As ETs arise early in life, pathogenetic lesions that drive tumorigenesis are less confounded by passenger mutations and can be uncovered more easily than in adulthood tumours
2. Despite their clinical heterogeneity ETs share common functional aberrations, which may enable definition of a pathogenetic ET core signalling network
3. The deregulation of a core network is essential for ET pathogenesis, while the disease-specific features are manifestations of modifying factors
4. Mathematical models can be used to identify individual or combinationally critical points of vulnerability in networks, which lend themselves as ideal targets for drugs

ASSET operates a systems biology-driven discovery and i

- the combined analysis of genomic mutations, tren changes
- mathematical modelling to elucidate molecular pathog
- systematic perturbations to probe and refine these net
- implementation of a virtuous cycle of model making a culture models and preclinical mouse models) and clin

ASSET: Analysing and Shaping the Sensitivities of Embryonal Tumours

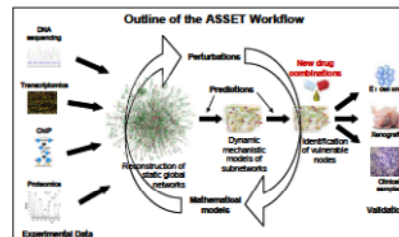
General Objectives

- ASSET operates a systems biology driven discovery and validation engine that will enable
- The combined analysis of genomic mutations, transcriptome, miRNA expression and dynamic proteome changes
 - Mathematical modelling to elucidate pathogenetic networks and their emergent properties
 - Systematic perturbations to probe and refine these networks
 - The virtuous cycle of model making and validation in relevant biological model systems (cell culture models and preclinical mouse models) and clinical samples

Specific Objectives

The general conceptual flow of the project is to start from the reconstruction of global, but static networks (GRN networks based on existing EETP data and protein signalling networks based on the quantitative proteomics experiments performed in ASSET), then use large-scale and targeted perturbation analysis to validate the network topologies, and in combination with model predictions, extract functionally important subnetworks that subsequently will be modelled using dynamic, kinetic methods. The latter models will allow us to analyse emergent network properties and simulate the behaviour of networks to perturbances. This analysis will be deployed to identify nodes that are individually, or in combination, vulnerable to interference by drugs or siRNAs. These predictions will be tested in ET cell models with conditional oncogene expression, preclinical xenograft models and clinical specimens. The data throughout the project are collected in a data warehouse in a semantically linked form so that both experimental data and models are tractable and amenable to meta-analysis. As a result, we expect to achieve a rational prediction and validation of drug sensitivities in pathogenetic ET signalling networks.

This workflow is schematically represented in the overview scheme, and its implementation in the workpackages is briefly described in the outline below.



The first pages win or loose the proposal!

- What makes a good proposal?

Appealing design

How to make a good impression?

Content

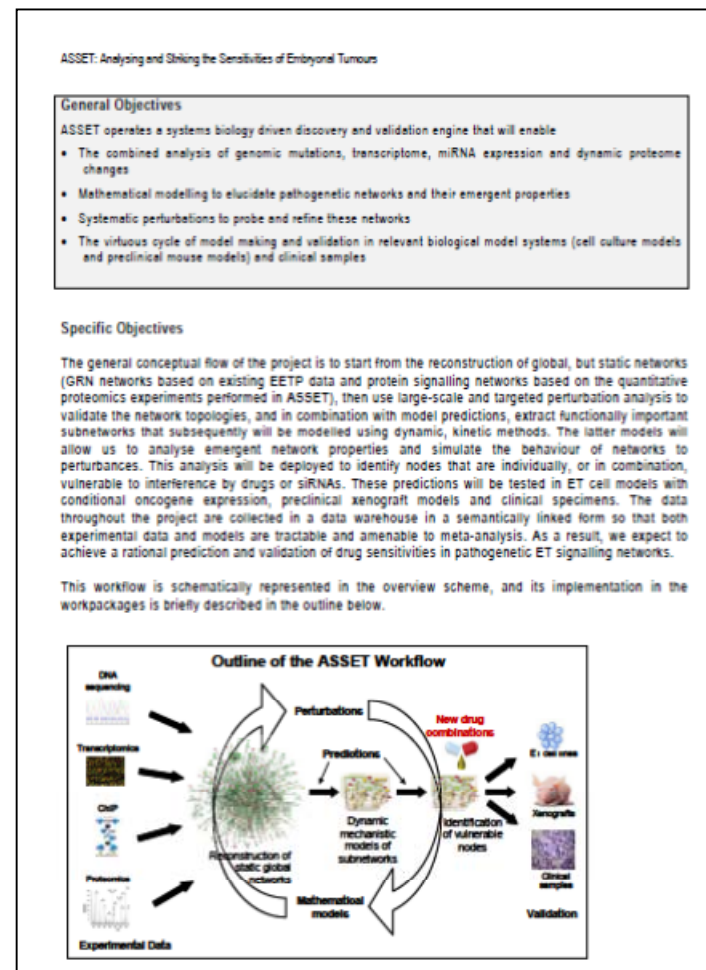
- Clear
- Interesting
- Easy to read

Layout

- Appealing
- Uncluttered
- Easy to read

Pictures

- Scheme of concept
- Scheme of workflow
- Key experimental data



Fellowship Applications

A few points to consider

You are selling

- Your science
- Your achievements
- Your future potential
- YOURSELF



The main question of the reviewers will be: Can s/he do it?

This question is usually answered by the track record of the applicant. In a fellowship application you have to provide the answer for this question yourself.

Fellowship Applications

For you the main challenge is the balancing act

Your proposal needs to be / or have

- | | |
|------------------------------|--|
| ➤ Innovative | ✓ Feasible |
| ➤ Creative | ✓ Credible |
| ➤ Exciting | ✓ Doable |
| ➤ Have an important question | ✓ Competitive |
| ➤ Broad scope | ✓ Focussed |
| ➤ New Technologies | ✓ Skills & instruments available? |
| ➤ Your own baby | ✓ Anchored in the scientific community |
| ➤ Basis for your career | ✓ Reachable within the timeframe |



Fellowship Applications

How do you juggle this?

Develop your idea

- explain why your idea is important
- explain the progress arising from the answer
- mention your relevant background and skills



Develop your research plan

- explain the approach and why are you taking it
- have a backup plan and describe it
- make sure the experimental approach fits the goals
- If there is special equipment involved explain how you will access & use it
- Include preliminary results
- mention your relevant background and skills

Show how this fellowship will develop your career

- State your overall career goal & how this fellowship will help achieve it
- State what benefits (intellectual, publications, networking, exposure to different research culture, etc) you will derive from this grant

Sundries

- 1) Read the instructions.
- 2) Read the instructions again.
- 3) Obey them to the letter.



A large number of applications fail on formal grounds.

There may be some sections where you have no clue what to write. Do not ignore. Ask somebody who has experience with grant writing.

Sundries

Start in good time. You will get into a squeeze with the deadline.

(see below)



Have an experienced peer critically read the proposal.

Get all the letters of support you need. If you ask for such a letter, provide all the necessary information. Poor information will give you a poor letter of support!

Get all collaboration letters you need. If you ask for such a letter, provide all the necessary information. Poor information will give you a poor letter of collaboration!

Sundries

Carefully choose which grant you want to apply for!

Help is available

General support: UCD Research

Karina Daly karina.daly@ucd.ie

Support for Systems Biology Ireland & the Conway Institute

Lauren Montague lauren.montague@ucd.ie

The End