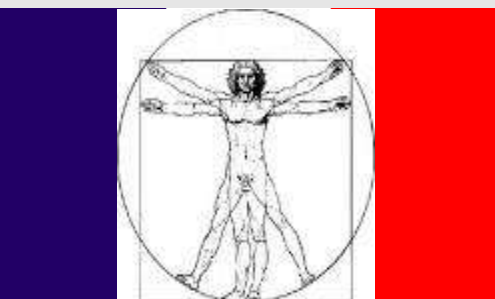
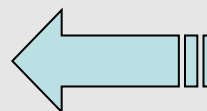
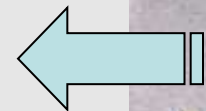
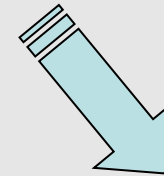
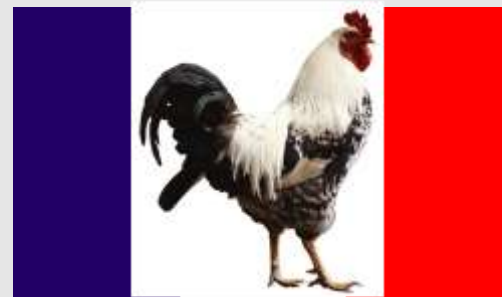
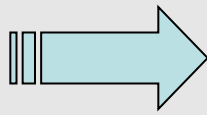
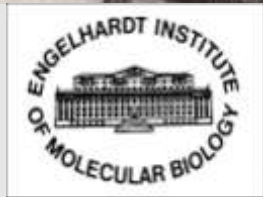


WRITING A SUCCESSFUL GRANT APPLICATION

Yegor Vassetzky, CNRS, France
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Editorial Activities:

- Associate Editor, Biopolymers and Cell (ISSN:1993-6842)
- Member of the Editorial Board, Oncotarget (ISSN: 1949-2553)
- Member of the Editorial Board, PeerJ (ISSN: 2167-8359)
- Member of the Editorial Board, Moscow University Biological Sciences Bulletin (ISSN:1934-791X)
- Ad Hoc* reviewer for peer-reviewed journals: Aging, Biochemistry, Biochem. Biophys. Acta, Biochimie, Blood, Blood Discovery, BMC Biology, Cancer Lett., Cancer Res., Cancers, Cell Cycle, Cell. Prolif., Front. Immunol., Gene, Genome Biology, Genome Res, Genomics, J. Cell Biol., J. Cell. Mol. Biol., J. Cell. Physiol., J. Cell. Biochem., Mol. Cancer, Mol. Cell Endocrinol., Mol. Therapy, Neuromuscular Disorder, Nucleus, Oncotarget, PNAS, PLoS Genetics, Nature, Nucleus, Stem Cell, Viruses, etc.

Panel activities:

Ad Hoc reviewer for funding agencies: AFM, ANR, Canceropole, FRM, INCA, Ligue contre le cancer (France); Academia Europaea, CNPQ (Brazil); FNRS (Belgium); FWF, GEN-BIO (Austria), INTAS (EU); ISTC (Ukraine); MDA (USA); NOW (the Netherlands); Foundation for Polish Science, RFBR, RNF (Russia); Telethon Italia; MDUK, MRC (UK); etc.



WHERE CAN I FIND MONEY FOR RESEARCH?

- Look local
- Look for bilateral grants
- Look for international governmental/non-governmental agencies funding research in your area of expertise
- Think big: Europe (Horizon 2020) or USA (NSF, NIH etc)

HOW CAN I WISELY INVEST MONEY INTO RESEARCH?

- Support bilateral research:
 - money will stay home and bring new collaborations and expertise
- Support returning scientists:
 - they may bring money, expertise and networks
- Support (*seriously*) young scientists:
 - *they, not you* are the future of the Ukrainian science

Ukrainian science needs elixir of youth

Ukraine's science system stands to benefit from its association with the European Union (EU) Horizon 2020 flagship research programme (*Nature* <http://doi.org/4kq>; 2015). But it has problems beyond funding: the re-election of Boris Paton as president of Ukraine's National Academy of Sciences at the age of 96 is symptomatic.

We are involved in an initiative to boost cooperation between the EU and Ukraine in biomedicine (COMBIOM). In our view, this will be difficult as long as young scientists feel that they are being held back by the rigid Soviet-style system run by scientists of the old school. Early-career researchers want to gain experience abroad and have little incentive to return.

Ukraine's science system must be made more competitive. It should reward young scientists

who have international expertise and enable them to lead research teams. It should encourage job flexibility and contracts for academy researchers, and identify strategies and research areas to optimize scientific development. It should create institutions that specialize in those areas, and appoint an independent body of EU researchers and Ukrainian scientists abroad to evaluate internal funding applications.

Such measures would create a healthy scientific community and promote Ukraine's integration with the European Research Area.

Yegor Vassetzky *CNRS-Institut Gustave Roussy, Villejuif, France.*

Ivan Gout *University College London, UK.*

Jacek Kuznicki *International Institute of Molecular and Cellular Biology, Warsaw, Poland.*
vassetzky@igr.fr

WHAT GRANT TYPE? WHAT AGENCY?

- Step 1: Draft an abstract with Aims (with input from mentors and colleagues)
- Step 2: Choose an Agency
 - Read their web pages to learn about THEIR priorities
 - Decide how your work fits/enhances their research agenda/portfolio
- Step 3: Look up what grants have been awarded previously
 - Does your project fit within the scope?
 - How your CV/publications compare with that of previous winners?
- Step 4: Contact the Program Officer
 - Job = advocate for researchers, demystify process
 - Will help you with “fit” – how your work aligns with the Agency

FIVE CORE REVIEW CRITERIA

- **Significance** – Addresses an important problem or critical barrier to progress
- **Investigators** – Qualifications of the team
- **Innovation** – Novel concepts or approach
- **Approach** – Feasibility/strength/match of strategy to project aims. Adequate human subjects protections
- **Environment** – Institutional support/resources

HOW ARE APPLICATIONS SCORED?

- 2 reviewers assigned to review in detail; others **often only read abstract and aims page**
- Each assigned reviewer is required to score each of the 5 core review criteria
- Each assigned reviewer gives a preliminary overall impact score (not an average or addition)
 - Performed prior to the meeting
 - Applications are ranked by the overall impact score – only the upper half are discussed
- Discussed applications are then assigned a final impact score by each member of the panel and averaged



MAKE AN AGENDA WITH GRANT DATES

Grants	Cycle I-Winter	Cycle II-Summer
Due Dates:		
Grant A	February 5	June 5
Grant B	February 12	June 12
Grant C	February 16	June 16
Scientific Review	June – July	October – November
Advisory Council Round	August or October	January
Earliest Start Date	September or December	April

WRITING TIPS: GETTING READY

■ Plan ahead

- 6 months pilot work + research question
- 6 months writing the grant
- Involve mentor / co-investigators

■ Write and revise a 1-2 page **concept paper**

- Share ahead of every meeting with colleagues
- Revise between meetings
- This will become Specific Aims section . . .

GRANT WRITING SECRETS:

- Read successful grants
- Sit in on mock reviews
- No typos, each page a thing of beauty . . .
- Read and check your final version several times, use text editing services if your grant is in foreign language
- Involve mentor, co-investigator, biostatistician early (3-6 months)

WRITING TIPS

- Tell a story . . .
 - Build your argument
 - Help reviewers care
- Punctuate key points
 - Write the Aims first....and Last.
 - You are writing a prose poem - use subheads/bold key sentences that structure the argument.
- Use illustrations and diagrams
 - Diagram cause-effect or temporal relations
 - Make the link between aims and final products clear



TIPS FOR THE JUNIOR INVESTIGATORS

- **Find a MENTOR**
- Know the experts in the “niche area” you are investigating
 - Begin to develop these relationships today
 - Share emails, phone numbers, plan a phone conference
- Make sure you are getting Funding Opportunity Announcements
- Subscribe to mailing lists from the funding agencies
- Seek and build a Research Team early in your career
- Don’ t underestimate the need for a competent statistician!
- NEVER write a grant alone – involve your colleagues and mentors!

BEFORE YOU SUBMIT THE GRANT

- Organize an internal peer review
- Include persons who already reviewed grants
- Do early in the process (eg. If June submission – review in early May)
- Determine how to include the feedback
- External review- find and talk to experts in the proposed field of inquiry.
- Make a list of potential reviewers (requested for some grant applications)

AFTER THE REVIEW

- Obtain the summary statement

Do not accept a simple no for an answer!

- Read the summary statement
- Contact your program officer and be prepared to discuss:
 - what the reviewers said about your application (after you have summary statement)
 - Scores and reviews
 - the likelihood of funding
 - the prospects of a revised application
- Wait for the AWARD, or
- Listen to advice from Program Officer about options

IF NOT FUNDED, TRY AGAIN!

- You are in good company
- Know your options
- Get advice, Regroup
- Contact your Program Officer

REVISE AND RESUBMIT

- Properly Revised applications can receive fundable scores and subsequent
 - Score can inform degree of revision necessary
- Update Preliminary Results

REVISING AND RESUBMITTING

- Write A Clear Introduction Section
- Address All Criticisms Thoroughly
- Respond Constructively
- Acknowledge and Accept the Help of Reviewer Comments
- Don' t Be Argumentative!
- Don' t be Abrasive or Sarcastic!

WHERE CAN I FIND INTERNATIONAL MONEY FOR BIOMEDICAL RESEARCH?

Some examples:

Trialect: <http://trialect.com/>

Pharmaceutical companies

Brokers, e.g. Biowebspin: <http://www.biowebspin.com/>

GRANT OPPORTUNITIES IN THE USA:

- Charities (eg Muscle Dystrophy Association, Cancer Research Fund etc)
- Pharmaceutical and Biotech companies
- NIH and NSF

R03: Small grants – Scope includes:

Pilot/feasibility studies

Secondary analyses

Development of research methodology or technology

Maximum time = 2 years

Maximum budget = \$100,000 (\$50K/yr)

R21: Focus on exploratory/ developmental work

Novel/innovative/riskier ideas

Extend previous work in new directions

Maximum time = 2 years

Maximum budget = \$275,000 (no more than \$200K in a single yr)

R01: Research project grant

Broad range of projects

Maximum time = 5 years, some eligible for competitive renewal

Many argue for smaller first project (3 yr)

Maximum budget = no specified limit

Best to aim for \$350K/yr to start



TOOLS OF INTERNATIONAL COOPERATION WITH FRANCE:

- Dnipro PHC research grant
 - Money to spend 2-4 months in France
 - Money to invite French researchers to Ukraine
 - Co-directed theses
 - Fellowships for senior researchers
 - Fellowships for students and postdocs
- More on the website of the French Institute
<https://institutfrancais-ukraine.com/>



Tools of international cooperation:

1. PICS (Programme International de Coopération Scientifique)

→ Typically 7-10000 € per year for three years

Call: once per year. Need previous joint publications





Tools of international cooperation:

3. LIA (International laboratory)

- Typically 10-15000 € per year for each participant
- Four years renewable. Requires previous collaborations
- Additional support from the French Ministry of Foreign Affairs





Tools of international cooperation:

4. IRN (International research network)

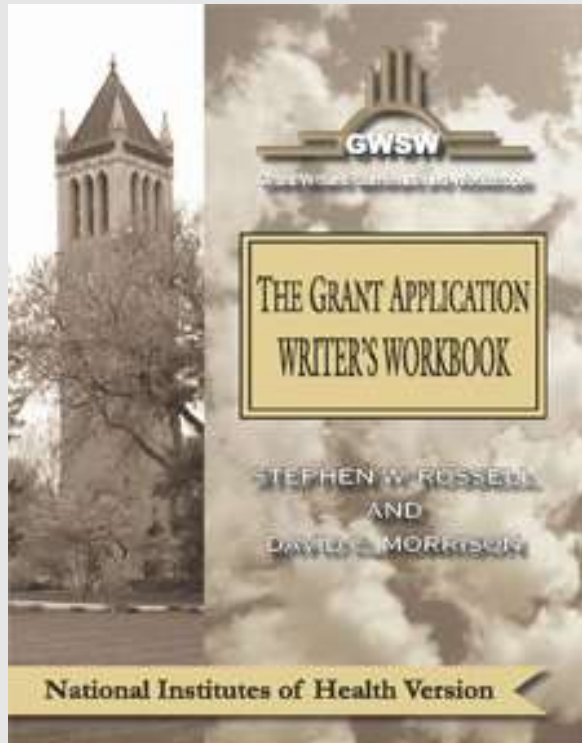
→ Typically 15-20000 € per year for each participant

→ Four years renewable

→ Additional support from the French Ministry of Foreign Affairs



HELPFUL RESOURCES



■ http://www.grantcentral.com/workbook_nih_sf424_shortened.html

- Instructions for completing an NIH Grant:

<http://grants.nih.gov/grants/funding/phs398/phs398.html>

THANK YOU FOR YOUR ATTENTION



FACULTE DE MEDECINE
PARIS-SUD



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