NIH Grantsmanship Elements of Success

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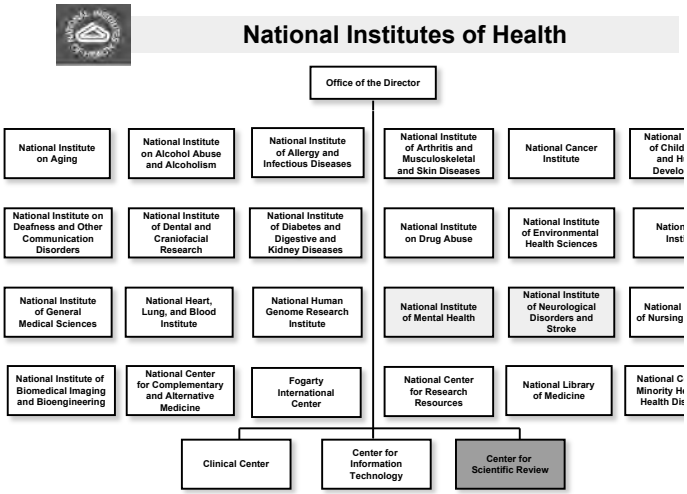


How does NIH Support Research?

- **Grants**
  - **Investigator-initiated research grants (majority)**
  - **Program Announcements (multiple receipt dates)**
  - **Request for Applications (one time with set-aside $**
- **Contracts**
- **Cooperative Agreements**

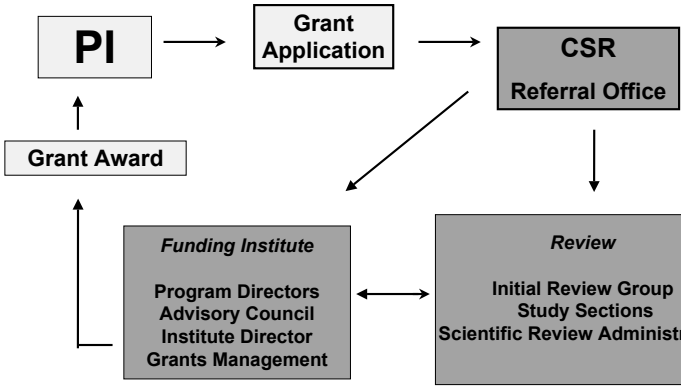
NIH Guide
http://grants.nih.gov/grants/guide/index.html

When to Submit Your Application?

There are three overlapping cycles per year

	Cycle I	Cycle II	Cycle III
R01	February 5	June 5	October 5
R21, R03	February 16	June 16	October 16
Review	June	October	February
Council	September	January	May
Award	December	April	July

What Happens to Your Application?



What Should Be in the Application?

- **Face Page – Title of Project**
- **Abstract**
- **Key Personnel**
- **Budget**
- **Biographical Sketch**
- **Resources**
- **Research Plan**
  - **Specific Aims**
  - **Background and Significance**
  - **Preliminary Studies**
  - **Research Design and Methods**
  - **Human Subjects and Vertebrate Animals**
  - **Literature Cited**
  - **Letters of Support**

Abstract

- Research goal and rational
- General hypothesis and aims
- Methodological approaches
- Significance

Specific Aims

- Hypothesis-driven
- Focused
- Realistic

Background

- Intimate familiarity with the field
- In-depth knowledge about the research
- Thorough literature review
- Appropriate credit

Preliminary Studies

- Demonstrate expertise & feasibility
- Appropriate amount
- Critical interpretation

Design and Methods

- Hypothesis-driven, not "fishing expedition
- Use sate-of-the art technologies
- Address pitfalls and alternative plans
- Apply appropriate statistical and/or informatics analysis
- Provide adequate details

What is a Study Section?

What is a Study Section?

What are the Review Criteria?

- Significance
- Approach
- Innovation
- Investigator
- Environment

Significance

- Does this study address an important problem?
- If the aims of the application are achieved, how will scientific knowledge be advanced?
- What will be the effect of these studies on the concepts or methods that drive this field?

Approach

- Are the conceptual framework, design, methods, and analyses adequately developed, well-integrated, and appropriate to the aims of the project?
- Does the applicant acknowledge potential problem areas and consider alternative tactics?

Innovation

- Does the project employ novel concepts, approaches or methods?
- Are the aims original and innovative?
- Does the project challenge existing paradigms or develop new methodologies or technologies?

Investigator

- Is the investigator appropriately trained and well suited to carry out this work?
- Is the work proposed appropriate to the experience level of the principal investigator and other researchers?

Environment

- Does the scientific environment in which the work will be done contribute to the probability of success?
- Do the proposed experiments take advantage of unique features of the scientific environment or employ useful collaborative arrangements?
- Is there evidence of institutional suppor

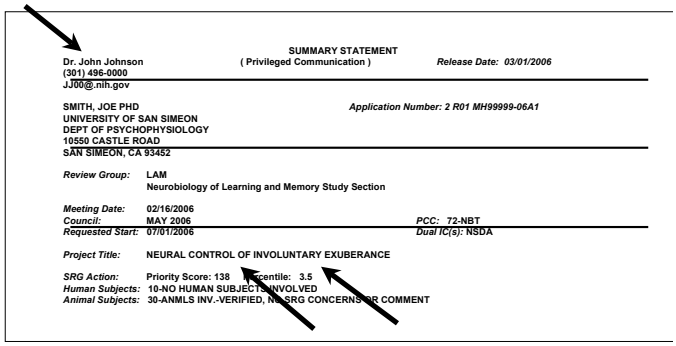
What do the Reviewers Want to Kno

- WHY is your research important?
  (background, significance, innovation)
- WHAT are you proposing to do?
  (research plan, specific aims)
- HOW are you going to do it?
  (approaches, experimental design, method and analysi
- Are YOU the best person to do it?
  (investigator, preliminary data, environment)

How is an Application Reviewed?

- Primary reviewer
  - Describes application and provides critiques (5-10 min)
- Secondary reviewer(s)
  - Adds differences or enhancements to the primary (1-2 min)
- Committee
  - General discussion (all members)
- Score
  - First given by assigned reviewers
  - All committee members then give individual score
- SRA
  - Calculates the score and the percentile
  - Prepares the Summary Statement

What are in the Summary Statement



SUMMARY STATEMENT

Dr. John Johnson (Privileged Communication) *Release Date: 03/01/2006*
(301) 496-0000
JJ00@.nih.gov

SMITH, JOE PHD *Application Number: 2 R01 MH99999-06A1*
UNIVERSITY OF SAN SIMEON
DEPT OF PSYCHOPHYSIOLOGY
10550 CASTLE ROAD
SAN SIMEON, CA 93452

Review Group: LAM
Neurobiology of Learning and Memory Study Section

Meeting Date: 02/16/2006
Council: MAY 2006 *PCC:* 72-NBT
Requested Start: 07/01/2006 *Dual IC(s):* NSDA

Project Title: NEURAL CONTROL OF INVOLUNTARY EXUBERANCE

SRG Action: Priority Score: 138 Percentile: 3.5
Human Subjects: 10-NO HUMAN SUBJECTS INVOLVED
Animal Subjects: 30-ANMLS INV.-VERIFIED, NO SRG CONCERNS OR COMMENT

What is the Next Step?

Two stages of review:

- Study Section
  - Scientific and technical merit
- National Advisory Council
  - Scientific, clinical and lay representation
  - Focus on policy and strategy
  - Make recommendations to the Institute Director

What are the Funding Criteria?

- Scientific Merit
  - Priority score/percentile
- Program Relevance
  - Is the project related to the mission of the funding institute?
- Program Balance
  - Are many similar projects already funded?
- Availability of Funds
  - Dose the funding institute have sufficient resources available at the time?

What is the Outcome of Review?

- **Fundable**  **Receive funding**
- **Gray Zone**  **Contact Program Director**
- **Unfundable**  **Resubmission**

How to Write a Successful Revised Application?

- **Respond to <u>All</u> criticisms**
- **Provide explicit responses**
- **Supply additional data and material**
- **Be <u>polite</u>**
- **Be <u>persistent</u>!**

Pearl of Wisdom

- **Do not submit prematurely**
- **Follow instructions**
- **Be a "reviewer" of your own application**
- **Have at least three people read your application prior to submission**
- **Write clearly!**

Some Useful Websites

- **"All About Grants" Tutorials**
  http://www.niaid.nih.gov/ncn/grants/
- **The NIH Peer Review Process**
  http://cms.csr.nih.gov/AboutCSR/OverviewofPeerReviewProcess
- **NIH Guide**
  http://grants.nih.gov/grants/guide/index.html
- **NIH CSR Study Section Roster**
  http://www.csr.nih.gov/Roster_proto/sectionl.asp
- **NIH Institutes Centers and Offices**
  http://www.nih.gov/icd/

Funding Opportunities - Bioengineering

- **PA-06-418 Exploratory/Developmental Bioengineerin Research Grants (EBRG) [R21]**
  - Innovative, high risk/high impact research in new areas
  - Minimal or no preliminary data required
- **PA-07-279 Bioengineering Research Grants (BRG) [R01]**
  - Basic and applied multi-disciplinary research
  - Important biological, bioengineering or medical problems
  - Hypothesis-driven, discovery-driven or design-directed
- **PAR-07-352 Bioengineering Research Partnerships (BRP) [P01]**
  - Multi-disciplinary research team
  - Integrative, systems approaches

http://www.becon.nih.gov/becon_funding.htm#becor

Funding Opportunities – Computational & Informatics

- **PA-06-411 Exploratory Innovations in Biomedical Computational Science and Technology (R21)**
  - Innovative, with high risk/high impact research in new areas
  - Minimal or no preliminary data required
- **PAR-07-344 Innovations in Biomedical Computational Science and Technology (R01)**
  - Database design, graphical interfaces, data querying, retrieval, visualiz manipulation, integration and analytical tools
  - Computational modeling & simulation
- **PAR-07-235 Continued Development and Maintenance of Software**
  - Continued development, maintenance, testing and evaluation of existin biomedical informatics/computational biology software and its applicat to broader biomedical research communities

http://www.bisti.nih.gov/bistic_funding.cfm