





#### Important Things to Know:

- 1. The handout material is a reference resource
- 2. The handout contains more information than I will discuss
- 3. Information that is important is repeated to remind you that it is important

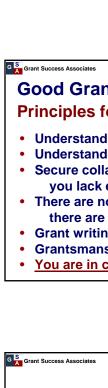
G S Grant Success Associates		
Anthony M. Coelho, Jr	., Ph.D.	
Grant Success Associates	1 year	
Health Research Associates	1 year	
NIH Review Policy Officer	8 years	
Scientific Review Administrator and Chief - Clinical Studies and Training		
Review Section - NHLBI	7 years	
Peer Reviewer	12 years	
NIH Funded Investigator	18 years	
DOE Funded Investigator	8 years	
Other Agencies and Private Sector Fund	dina	



#### **My Research Experience:**

- Role of Diet, Exercise and Stress on Blood Pressure Regulation, Atherosclerosis and Cardiovascular Disease.
- Effects of Exposure to Electric and Magnetic Fields on the Central Nervous System





## **Good Grantsmanship**

## **Principles for Success:**

- Understand the Agency Mission
- Understand Peer Review
- Secure collaborators for areas in which you lack experience and training
- There are no competitors in science, there are only potential collaborators.
- · Grant writing is a learned skill
- Grantsmanship is a full time job
- You are in control of your life

# **Understanding**

## the **Agency Mission**

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• NIH Mission is science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability.



#### NIH supports research:

- in causes, diagnosis, prevention, and cure of human diseases:
- in processes of human growth and development;
- in biological effects of environmental contaminants;
- in understanding of mental, addictive and physical disorders; and
- in directing programs for the collection, dissemination, and exchange of information in medicine and health, including development and support of medical libraries and training of medical librarians and other health information specialists.



#### **Understanding the Agency Mission:**

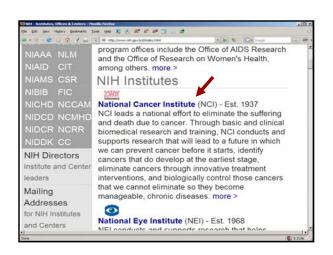
- NIH mission is based and defined in law
- Appropriations bills define expectations
- · NIH must report to Congress that it has complied with the legislative expectations
- · NIH reports to congress on success
- · NIH funding dependent on success and compliance with the legislative mandate
- · NIH success based on the success of the scientists it supports
- · NIH wants you to be a successful scientist

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		NIH INSTITUTES AND CENTERS	
	AA	National Institute on Alcohol Abuse and Alcoholism	NIAAA
	AG	National Institute on Aging	NIA
•	ΑI	National Institute of Allergy and Infectious Diseases	NIAID
•	AR	National Institute of Arthritis and Musculoskeletal and Skin Diseases	NIAMS
•	AT	National Center for Complementary and Alternative Medicine	NCCAM
•	CA	National Cancer Institute	NCI
•	DA	National Institute on Drug Abuse	NIDA
•	DC	National Institute on Deafness and Other Communicative Disorders	NIDCD
•	DE	National Institute of Dental and Craniofacial Research	NIDCR
•	DK	National Institute of Diabetes and Digestive and Kidney Diseases	NIDDK
•	EB	National Institute of Biomedical Imaging and Bioengineering	NIBIB
•	ES	National Institute of Environmental Health Sciences	NIEHS
•	EY	National Eye Institute	NEI
	GM	National Institute of General Medical Sciences	NIGMS
•	HD	National Institute of Child Health and Human Development	NICHD
•	HG	National Human Genome Research Institute	NHGRI
•	HL	National Heart, Lung, and Blood Institute	NHLBI
•	LM	National Library of Medicine	NLM
•	MD	National Center on Minority Health and Health Disparities	NCMH
•	MH	National Institute of Mental Health	NIMH
•	RM	NIH Roadmap Initiative, Office of the Director	RMOD
•	NR	National Institute of Nursing Research	NINR
•	NS	National Institute of Neurological Disorders and Stroke	NINDS
•	RR	National Center for Research Resources	NCRR
	TW	John E. Fogarty International Center	FIC

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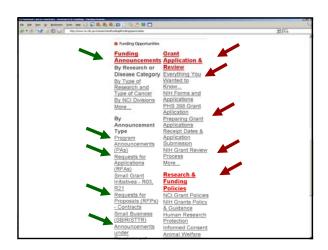




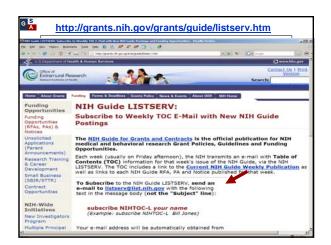




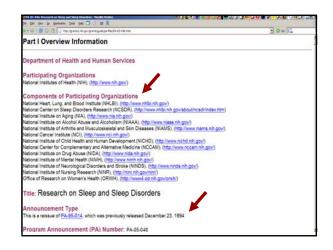


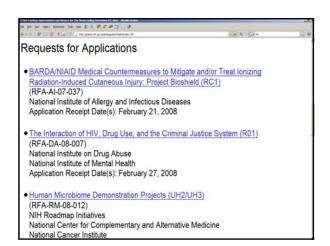




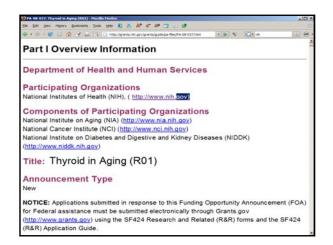


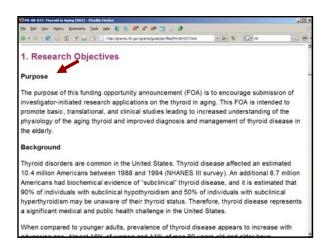


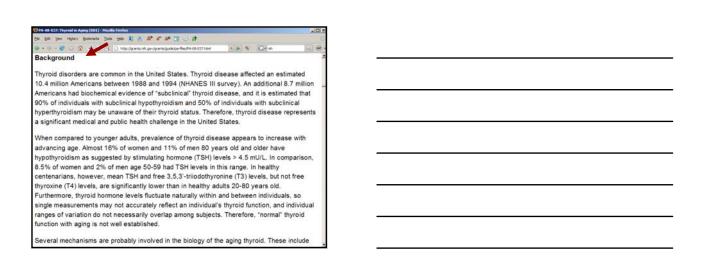


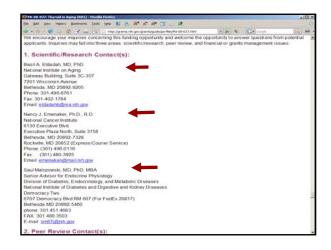


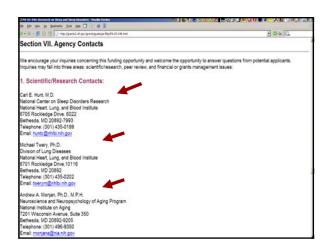


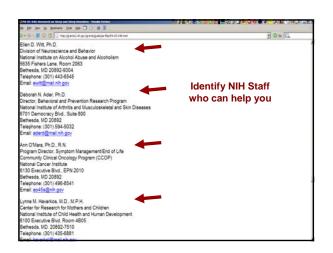


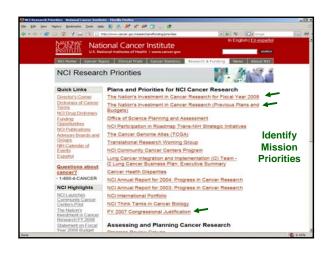


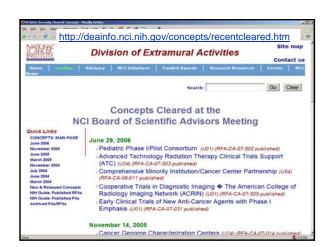








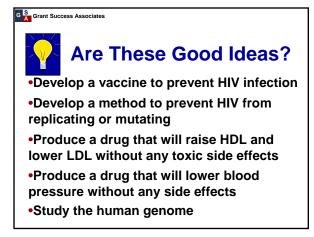














#### Are These Ideas Understandable?

What if you thought of these ideas in

#### 1952? 1962? 1972? Are they still Good Ideas?

- •Develop a vaccine to prevent HIV infection
- Develop a method to prevent HIV from replicating or mutating
- Produce a drug that will raise HDL and lower LDL without any toxic side effects
- Produce a drug that will lower blood pressure without any side effects
- Study the human genome



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## **Good Timing**

- Will the idea be understood by others?
- Does it build upon existing knowledge?
- Does it build upon similar ideas?
- · Do you have preliminary data?
- · How will the idea be received?



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## **Good Timing is NOT**

"I plan on submitting a grant application in two weeks can you tell me who might be a good program person for me to speak with before I send my application in?"



## **Good Presentation**

**Organize the Application** 

- What do you want to do?
- Why do you want to do it?
- · How are you going to do it?
- · What is the expected outcome?
- · Why is it a good thing?



## Good Presentation:

## Organize the Application

- Develop a logical outline (presentation sequence)
  Use Section Heading help reviewers "find things"
- Llanding moved well at the contents of the management
- Heading must reflect the contents of the paragraphs
- Use both major and minor section headings
- Make it easy for reviewers Don't make them work
- Use a detailed table of contents
- Do everything to help reviewers:

Understand your idea,

Why it is important and

Why it is reasonable and feasible



### **Good Presentation**

Address Review Criteria:

Significance

Approach

Innovation

Investigator

Environment

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#### (1) SIGNIFICANCE:

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





## **Good Presentation: Address Review Criteria**

#### (2) APPROACH:

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

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## **Good Presentation: Address Review Criteria**

#### (3) Innovation:

- Is the project original and innovative? For example: Does the project challenge existing paradigms or clinical practice; address an innovative hypothesis or critical barrier to progress in the field?
- Does the project develop or employ novel concepts, approaches, methodologies, tools, or technologies for this area?



## **Good Presentation: Address Review Criteria**

#### (4) Investigator:

- •Are the investigators 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?
- •Does the investigative team bring complementary and integrated expertise to the project (if applicable)?



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## **Good Presentation: Address Review Criteria**

#### (5) Environment:

- Does the scientific environment in which the work will be done contribute to the probability of success?
- Do the proposed studies benefit from unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements?
- Is there evidence of institutional support?





## **Good Reviewers**

#### Reviewer --- Good Reviewer

- Organize and make reviewers "Happy"
- Make it easy for them to understand things
- Make it easy for them to find things
- Make it easy for them to be your advocate
- Don't make them "work hard"



## **Good Reviewers**

#### **Factors Involved in Reviewer Assignment**

- Abstract
- Specific Aims
- Methods Section
- Self Referral Letter request specific study section
- · Research the background of the review committee
- Letter to SRA recommending types of reviewers <u>TYPES OF REVIEWERS NOT NAMES OF REVIEWERS</u>

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## **Good Reviewers**

Know who the potential reviewers are and do what you can to control the selection process.

Self Referral Letter - request specific study section

- Research the background of the review committee
  - •CRISP Database •Rosters of Committees
- Letter to SRA recommending types of reviewers

  TYPES OF REVIEWERS NOT NAMES OF REVIEWERS

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## **Good Luck**

The consequence of:

- Good Ideas
- Good Presentation
- Good Timing
- Good Reviewers
- Good Grantsmanship



### **COMMUNICATE WITH NIH**

- Program Staff
- Review Staff
- Grants Management Staff

Improve your luck by preventing problems before they happen



#### **COMMUNICATING WITH NIH**

#### **Before Submitting, Call Institute Program Staff**

- Assess scientific interest and match
- What do they want to fund?

#### Submit Your Application With a Cover Letter

- · Institute interest
- Study Section Interest Charter

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## **COVER LETTER**

- Suggest Key Areas of Expertise Required
- <u>Do Not</u> Suggest Specific Reviewer Names
- Suggest Institute(s) For Potential Funding
- Suggest Study Section(s) For Review

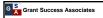


#### **COMMUNICATING WITH NIH**

#### **CONTACTS WITH REVIEW STAFF**

#### Scientific Review Administrator answers

- · Questions about the review process
- Format and structure of application
- "Oops" missing material or late material



#### **COMMUNICATING WITH NIH**

#### AFTER REVIEW, CONTACT PROGRAM STAFF

#### Institute Program Administrator

- Questions about the discussion of your application (after you have summary statement)
- Scores and percentiles
- · Questions about the fundability of application

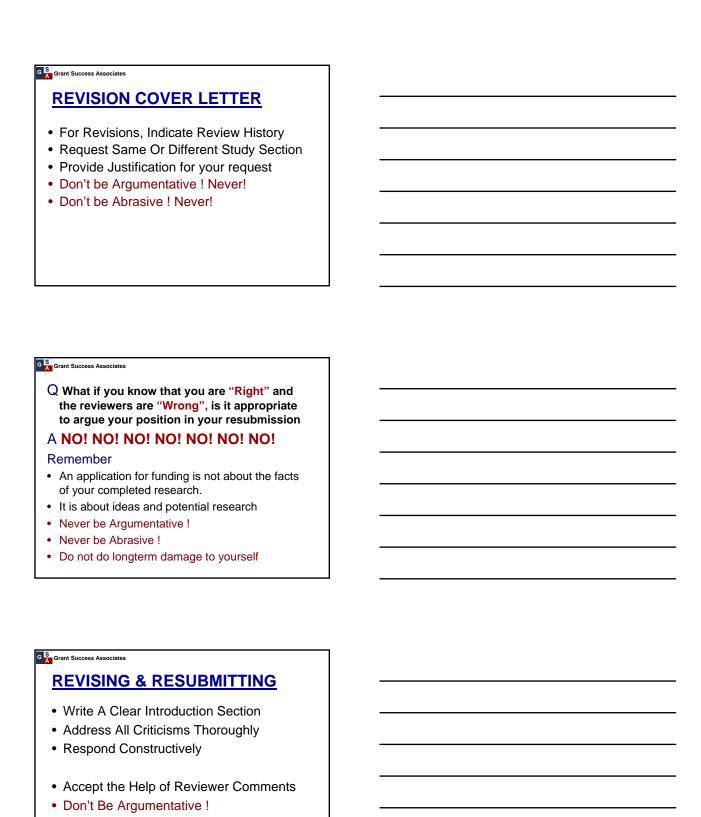


#### **REVISE & RESUBMIT**

## **Do Not Appeal Review Outcome**

NIH Appeal Outcomes:

- 1. Council Denies Appeal (bad outcome)
- Council Accepts Appeal: Original Application and Letter of Appeal is sent to the Same Study Section for a second examination and evaluation (bad outcome)
- Council Accepts Appeal: Original Application be sent to a new Study Section but without the Letter of Appeal (bad outcome)



• Don't be Abrasive!



#### **REVISING & RESUBMITTING**

- Update Preliminary Results
- Remember that Properly Revised applications can received fundable scores and subsequent \$\$
- Maintain communications with Scientific Review Administrator and Program Administrator

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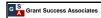
#### **DO'S AND DON'TS**

- Do Pursue original science. This is an area that study sections are most concerned about.
- Do Provide a well focused research plan.
- Do not let your ideas wander from the main theme.



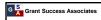
"This application is characterized by ideas that are both original and scientifically important.

Unfortunately the ideas that are scientifically important are not original and the ideas that are original are not scientifically important."



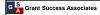
"In addition to proposing a research design that is a fishing expedition,

the applicant also proposes to use every type of bait and piece of tackle known to mankind."



### DO'S AND DON'TS (2)

- Provide a critical approach to project.
- Discuss potential problem areas and alternative approaches.
- Never assume that the reviewers will know what you mean.
- Always be explicit about what you want the reviewers to know and what they need to know.



#### DO'S AND DON'TS (3)

- Read the application instructions carefully.
- Read the application instructions carefully.
- Read the application instructions carefully.



### DO'S AND DON'TS (4)

- Read the application instructions carefully.
- They may seem overwhelming but the effort is worth it and could spell the difference between success and failure.
- Supply sufficient detail.
- Stay within the page limitations.
- If you don't understand something in the instructions ask for help.
- Call the SRA call the PA.



### DO'S AND DON'TS (5)



 Do Secure collaborators for areas of research in which you lack experience and training.

# Grant Success Associates Point of View

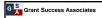


- There are no competitors in science,
- There are only potential collaborators.



### DO'S AND DON'TS (6)

- Secure collaborations for areas of research in which you lack experience and training.
- "Independent Researcher" does not mean that you working in isolation.
- "Independent Researcher" does mean that you set the direction of the research
- Don't give the impression of being intellectually "Isolated".



### DO'S AND DON'TS (7)

- Prepare a reviewer friendly application.
- It should be well organized and clear.
- Tables and figures should be easily viewed.
- Do not hand-draw structures.
- Do not photoreduce your application to an unreasonable size.
- Remember that Reviewers work late at night.



## DO'S AND DON'TS (8)

- Do not be overly ambitious.
- Project a realistic amount of work.
- Provide a thorough literature search.
- Be sure you have found key references.
- Know your Reviewers do literature searches of committee members.
- Minimize typographical errors.



### DO'S AND DON'TS (9)

- If you are a new investigator, ask for 5 years.
- The sentiment at NIH is to award sufficient time and funds for new investigators to establish their programs.
- Make sure that you have collaborators who can compensate for your deficiencies and who and add credibility to your innovative ideas.
- · Don't appear intellectually isolated.

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#### DO'S AND DON'TS (10)

- If your application is a renewal or supplement request, be aware that study section members will not have the benefit of your previous application but rather only the previous summary statement.
- Be sure to explain your progress carefully in the current application.
- Publish, Publish be productive.



#### BEFORE YOU SUBMIT AN APPLICATION

- Show your application to a colleague
- Show you application to a colleague who knows little to nothing about your area of research and ask them if they understand
  - What you are proposing to do?
  - How you are proposing to do it?
  - Why you are proposing to do it?

If they do not understand Revise until they do

- Get feedback on clarity
- · Get feedback on scientific merit



#### AFTER REVIEW IS OVER

- The Program Administrator at the Institute to which your proposal was assigned is the new contact point. Wait for the Summary Statement
- · Address any concerns on review to them.
- Appeal letters are appropriate only if review was flawed (legal and procedural).
- More constructive use of your energy is amending and resubmitting the application and incorporating reviewer comments.
- Do not take the review comments personally.



#### IF YOU RESUBMIT

- · Answer previous critiques completely
- Supply an introduction section which explains the changes you have made
- Leave your irritations with the review out of your resubmission
- Don't argue or be hostile
- You will not be help yourself if you force the study section into a defensive posture
- Accept Reviewers comments and suggestions as helpful and incorporate them in your revision



#### **IF YOU RESUBMIT**

- Remember that the study section will have the previous summary statement, but not the previous application.
- Do not refer to the previous application for details.
- Remember that reviewers are generally trying to help you become a better research scientist



### **Top 10 errors in grant proposals**

### 1. Proposing to do too much

- Common problem of new Pls
- Giving reviewers too many targets to throw darts at
- Assuming that the reviewers will be impressed with your ability to do everything
- · Demonstrates a lack of focus

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### Top 10 errors in grant proposals

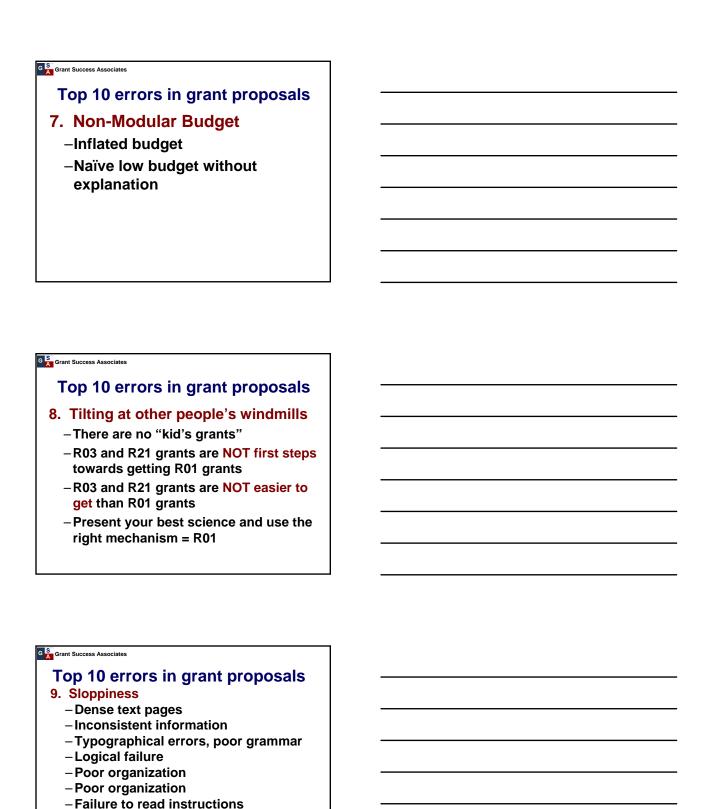
- 2. Not Amending proposals properly
  - Hasty response
  - Giving reviewers new targets to throw darts at (change in the wrong places)
  - Failing to take advice
  - Failing to take advice of reviewers
  - Failing to respond to reviewer comments
  - Revising only what the reviewers point out and not using the opportunity to create a better application.

## **Top 10 errors in grant proposals**

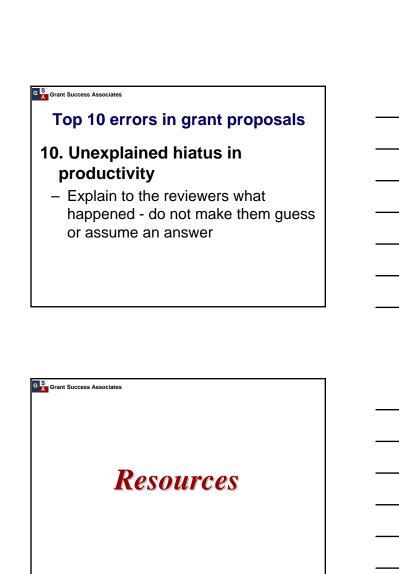
- 3. No Hypotheses or Predictions
  - -Methods in search of reasons
  - -Create animal models
  - -Descriptive 'bean counting' or 'fishing'

[If you must do any of these, explain why.]

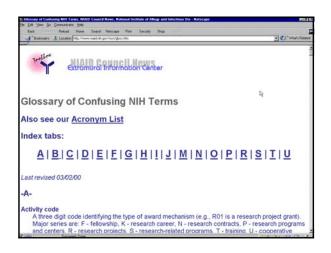
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Top 10 errors in grant proposals	
4. Silly Hypotheses	
We propose to test the hypothesis	
that our methods of measurement are better than your methods of	
measurement	
G S Grant Success Associates	]
Top 10 errors in grant proposals	
5. Disconnect between Specific Aims	
and Research Design & Methods	
<ul><li>–Methods without Designs</li><li>–Incomplete details of methods</li></ul>	
-incomplete details of methods	
G S Grant Success Associates	1
Top 10 errors in grant proposals	
6. Expertise missing	
-Failure to demonstrate capability in preliminary studies	
-Capability not demonstrated in publications	
Lack of appropriate collaborators and consultants	
-Reliance on cameo appearances	
as backup	

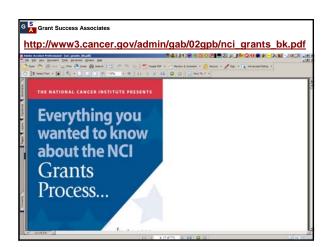


Failure to read instructions
Failure to follow instructions
Failure to follow instructions

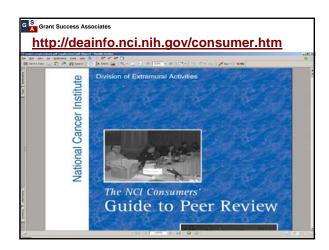










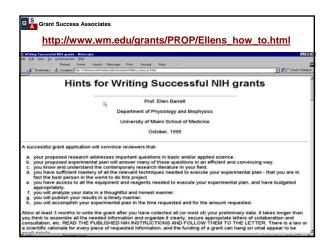










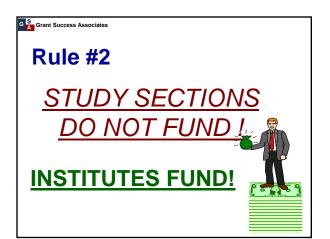


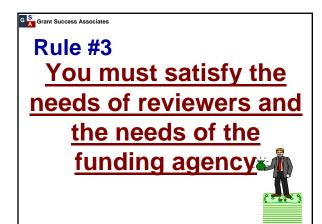




DO NOT write the application for Yourself unless you are going to fund it yourself

You MUST convince the entire review committee and the funding agency





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Rule #4

Reviewers are never wrong,
Reviewers are never right;
they simply provide an
assessment of material that you
provided
in your application



Rule #5

Comments in the summary statements are never about you as a person.

The comments are about the material that you provided in your application and the way in which you provided the information



### Rule #6

The comments in the summary statements only list some of the weaknesses not all of the weaknesses.

When you revise your application use the time as an opportunity to improve the entire application.



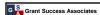


### Rule #7

Always contact NIH staff before you submit an application and preferably when you are in the planning stages.

Make sure that you give yourself and the NIH staffer enough time to work with together.





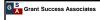
- Q. Do I really have to contact NIH before I submit an application?
- A. Only if you want to get funded!
- Always contact program staff during application development
- Must contact & IC staff prior to a submission if you want them to agree to accept the application for any investigator-initiated competitive applications with ≥\$500,000 direct cost for any single year
- Request must be at least six weeks before deadline





DO NOT write the application for the "Specialist"

You MUST convince the entire review committee



## Rule #9



**Secure Collaborators** 

for areas of research in which you lack experience and training and who can complement you.
Let them help you prepare the best possible application

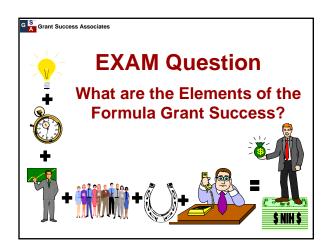


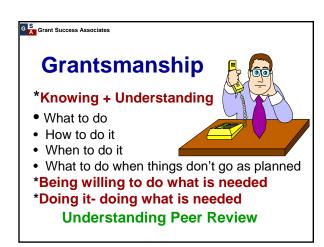


Secure a mentor or mentors

who can help you succeed

Who is a good Mentor?









## **Thank You**

See the Videos http://ora.stanford.edu/ora/ratd/nih\_04.asp

Dr.Coelho@Lycos.com