THE OHIO STATE UNIVERSITY

Grant Writing:
An Introduction

Effective Proposal Development

Office of Research
Office of Corporate and Foundation Relations

Workshop Agenda

- Review basic grant terms and parts of a grant proposal
- Know and understand the Solicitation Cycle
- Access funding opportunity resources
- Organize and plan for grant writing
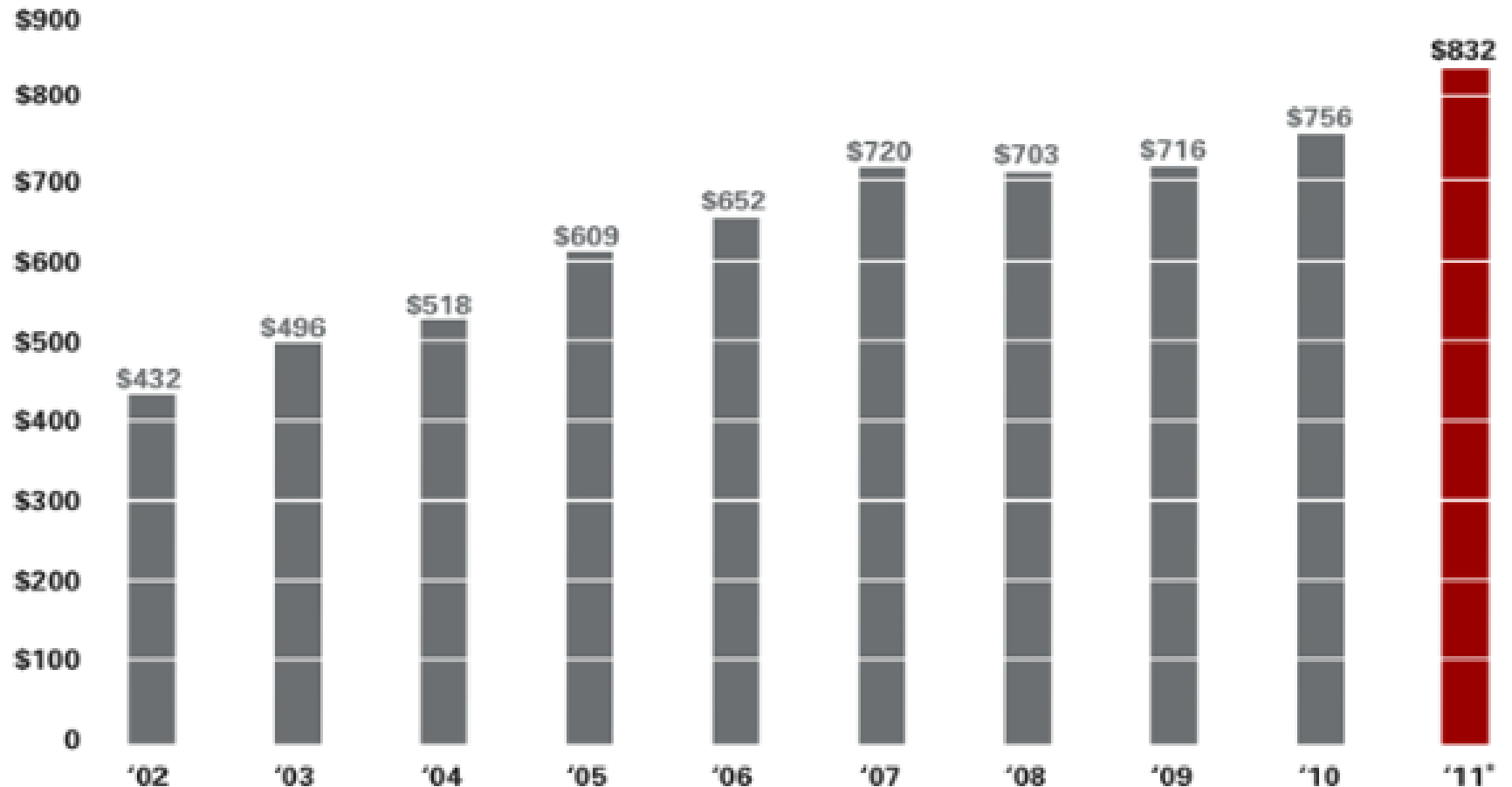- Avoid common reasons for not being funded

Big Questions

- What is your area of study?

- What would you like to learn from today's training?

- How many grants have you submitted?

- How many of you have been funded?

The Ohio State University 10-year Research Funding Profile 2002-2011*
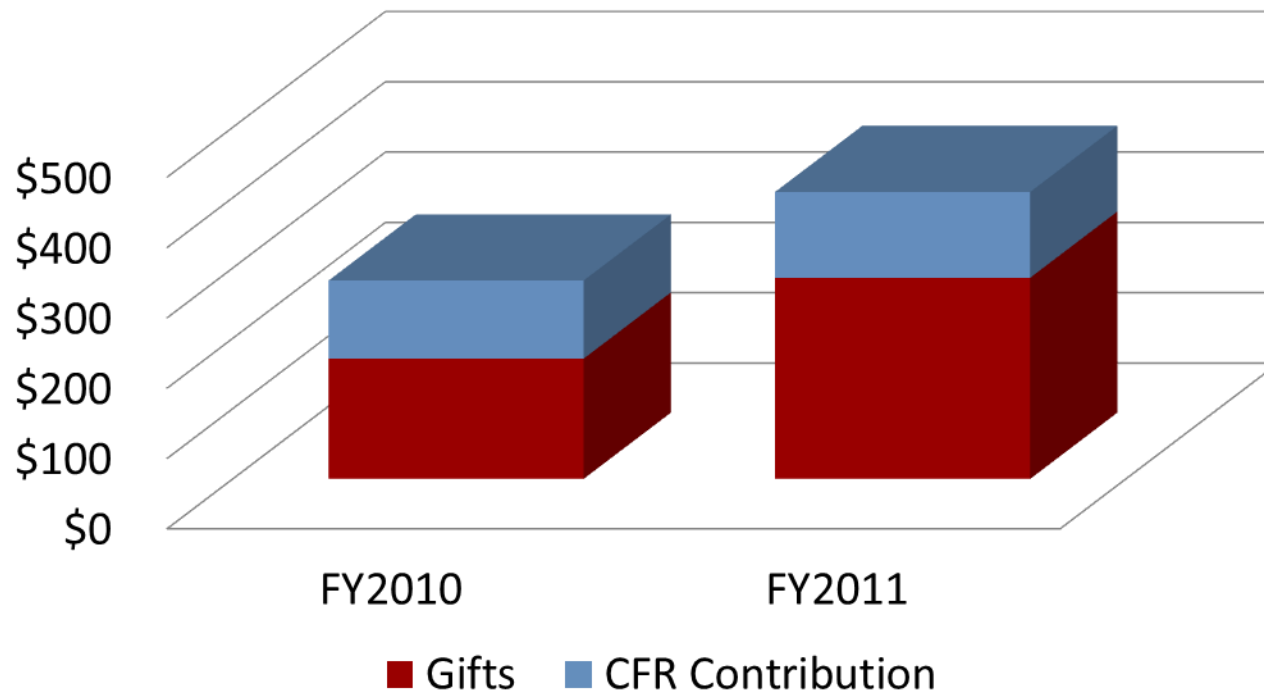
Dollars in Millions

*Based on total R&D expenditures reported to NSF.

The Ohio State University Foundation

Total Fundraising Activity 2010-2011 ($ Millions)

Grant-Making Organizations

Government

- Federal – NIH, NSF, DOD, NEA
- State – Jobs Ohio, Ohio Dept of Ed
- County, Municipalities

Private

- Non-Profit – Sloan Foundation, Columbus Foundation
- For Profit – AEP, Honda, General Electric

Funding & Research Development

- Assistance with finding funding, locating collaborators, and leveraging Ohio State's resources
- Coordination of the limited submission process, Ohio State's internal nomination process

Jeff Agnoli

✉ agnoli.1@osu.edu or ☎ (614) 292-6269

Office of the Vice President Research

208 Bricker Hall

190 N. Oval Mall

Columbus, Ohio 43210

Funding and Research Development (go.osu.edu/funding)

- SPIN Funding Opportunities Database
  - www.infoedglobal.com

- Research Development and Grant Writing Newsletter
  - http://go.osu.edu/grantwritingnews (OSU login required)

- Federal Grants and Contracts
  - http://grants.gov

- Research Databases
  - http://library.ohio-state.edu/screens/databases.html

Funding and Research Development (go.osu.edu/funding)

- Knowledge Management (KM) Data
  - http://kmdata.osu.edu (faculty expertise)
- Internal Funding Opportunities
  - College, institute/center, and department web sites
- Sponsored Program Officers
  - http://osp.osu.edu/spos
- Google Alerts and Google Scholar searches
  - http://google.com

Grant-Seeking Career Strategies

Internal Funding - Small Grants - Medium Grants - Big Grants - Huge Grants

Beginning or Early Career ………………………………………..Height of Career

Funding from Corporations & Foundations

- **Foundation Center (funding from community agencies, corporations, and families)**
  - Available through college development officer
  - Also accessed through University Libraries catalog
- **Contacts for Corporate and Foundation Relations**
  - **Foundations**
    - **Amy Holden**, holden.108@osu.edu
    - **Dinessa Solomon,** solomon.189@osu.edu
  - **Corporations**
    - **Matt Meyer**, meyer.31@osu.edu

University Requirements

Every proposal requires:

- ePA-005 – Authorization to Seek Off-Campus Funds form with appropriate signatures

- Principal Investigator (PI) Status Eligibility

- Approval for use of human subjects, animals, or other institutional clearances (research risks)

- Conflict of Interest requirements

- Appropriate facilities and administrative (F&A) costs as allowed by sponsor

- The Ohio State University or The Ohio State University Foundation is listed as the applicant and contractual entity

University Requirements

Proposal may also require:

- Documentation that sufficient research space is available

- Documentation of sources of cost sharing, if included in proposal

- Faculty salary recovery if required by college

Electronic Proposal Submission

- Cayuse424 – Ohio State's federal agency proposal development and submission system

- Submit proposal 3-5 days before the actual deadline

- Other agencies may have their own systems which are variously well-developed

14

What is the Difference between…

Office of Sponsored Programs (OSP)

- Does not have a 501(c)(3) designation
- Reporting requirements help determine who submits Government grants (federal, state, local)
- Facilities and Administration Costs where applicable
- http://osp.osu.edu

The Ohio State University Foundation

- Does have a 501(c)(3)
- Individual donors
- Foundations
- Corporate funding
- Six month check hold (administrative costs)
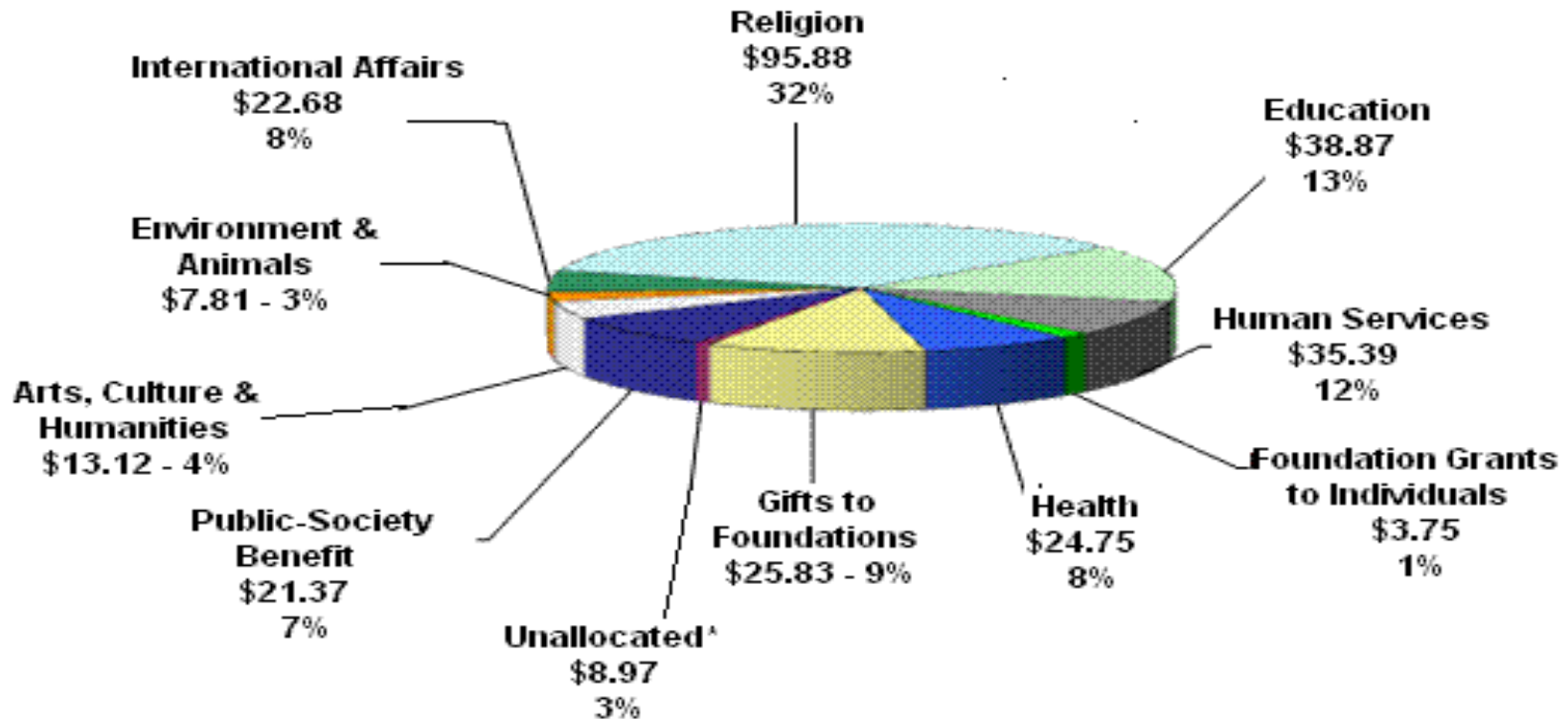- http://giveto.osu.edu

2011 CONTRIBUTIONS: $290.89 BILLION
BY SOURCE OF CONTRIBUTIONS
($ in billions - All figures are rounded)

Corporations
$14.55
5%

Foundations*
$41.67
14%

Bequests
$24.41
8%

Individuals
$217.79 - 73%
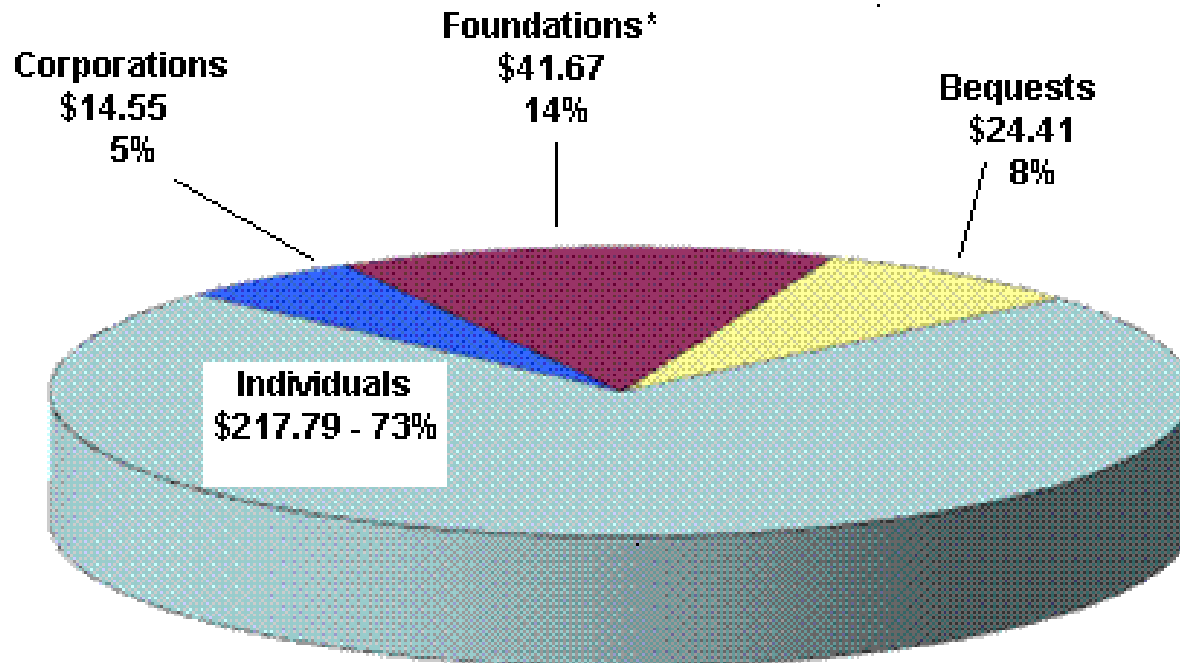
2011 CONTRIBUTIONS: $298.42 billion by type of recipient organization ($ in billions - All figures are rounded

- Religion $95.88 32%
- International Affairs $22.68 8%
- Environment & Animals $7.81 - 3%
- Arts, Culture & Humanities $13.12 - 4%
- Public-Society Benefit $21.37 7%
- Unallocated^ $8.97 3%
- Gifts to Foundations $25.83 - 9%
- Health $24.75 8%
- Education $38.87 13%
- Human Services $35.39 12%
- Foundation Grants to Individuals $3.75 1%

17

What is the difference between…

A Gift

A Contract

A Grant

18

What is a Gift?

Gift: A gift is a contribution or donation made on a non-competitive basis and may obligate the recipient to produce specific results, e.g., naming rights and other university benefits.

Processed by the Ohio State University Foundation.

What is a Contract?

Contract: legally binding agreement between one or more sponsors and the grantee

- Outlines specific goals and requirements for goods and/or services to be provided by the grantee
- The relationship between the sponsor and the grantee is one of procurement
- Processed by the Office of Sponsored Programs

What is a Grant?

Grant: an assistance award, generally financial in nature, given for the implementation of a specific task

- Generally not as restrictive as a contract
- Processed by the Office of Sponsored Programs
- Processed by the Ohio State University Foundation if a 501 (3) (c) nonprofit organization requirement is listed in the guideline

The Solicitation Cycle
(gifted memory.com)

Identification

Find ***people or organizations that believe in your*** mission, non-profit enterprise, ***and have the capacity*** to make a significant contribution.

Research

Involves understanding the motivations and interests of your prospects to determine whether you and they share an interest in the same objective.

- Information may be found in the public record.
- The best information gathering tool is a conversation!

Strategic Planning

Strategic planning in a charitable gift setting involves conceiving the appropriate method of engaging your prospect in your organization.

- Understand that philanthropic giving is tangible evidence of an emotional event.

THE OHIO STATE UNIVERSITY

Cultivation

- Enables philanthropists to learn about your organization, its leadership, its vision for the future, and the efficacy of its past programs.

- The gift becomes a natural resolution to a mutually recognized problem.

- Remember you are trying to establish a life long relationship. Even after a grant is received, you want to continue to cultivate existing relationships.

Solicitation

- Ask for the gift (include $ request in paragraph 1-2 of letter of intent/inquiry (LOI) or proposal

- Be sure to provide exactly what they request (follow the guidelines)

- State your case effectively and remember to say thank you!

Stewardship

- Inform sponsor of your organization's success in delivering the service for which you solicited the gift.

- Usually grants require reporting (fiscal and programmatic)

- Say thank you!

Renewal

- Once sponsors make the first gift they are inclined to give again.

- To earn a donor's repeat generosity, you must first do an outstanding job of service delivery.

Developing Your Proposal Begins with a Good Idea

- Does it address an important problem?

- Will scientific knowledge be advanced?

- Does it build upon or expand current knowledge?

- Is it feasible…

  ➢ to implement?

 ➢ to investigate?

Additional Proposal Considerations

- Have you researched the sponsor's web site?

- Have you selected the right sponsor?

- Have you followed all guidelines?

- Is your project in alignment with the sponsor's mission?

- Is the significance of your project clear?

- Is the evaluation of your program sound?

- Is the budget realistic and includes only essential costs?

Application Development Strategy

Act (Plan)
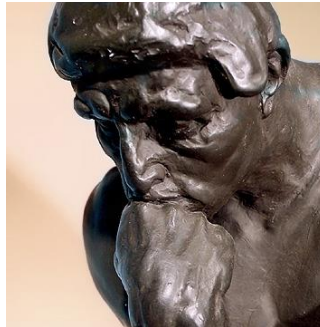
Think

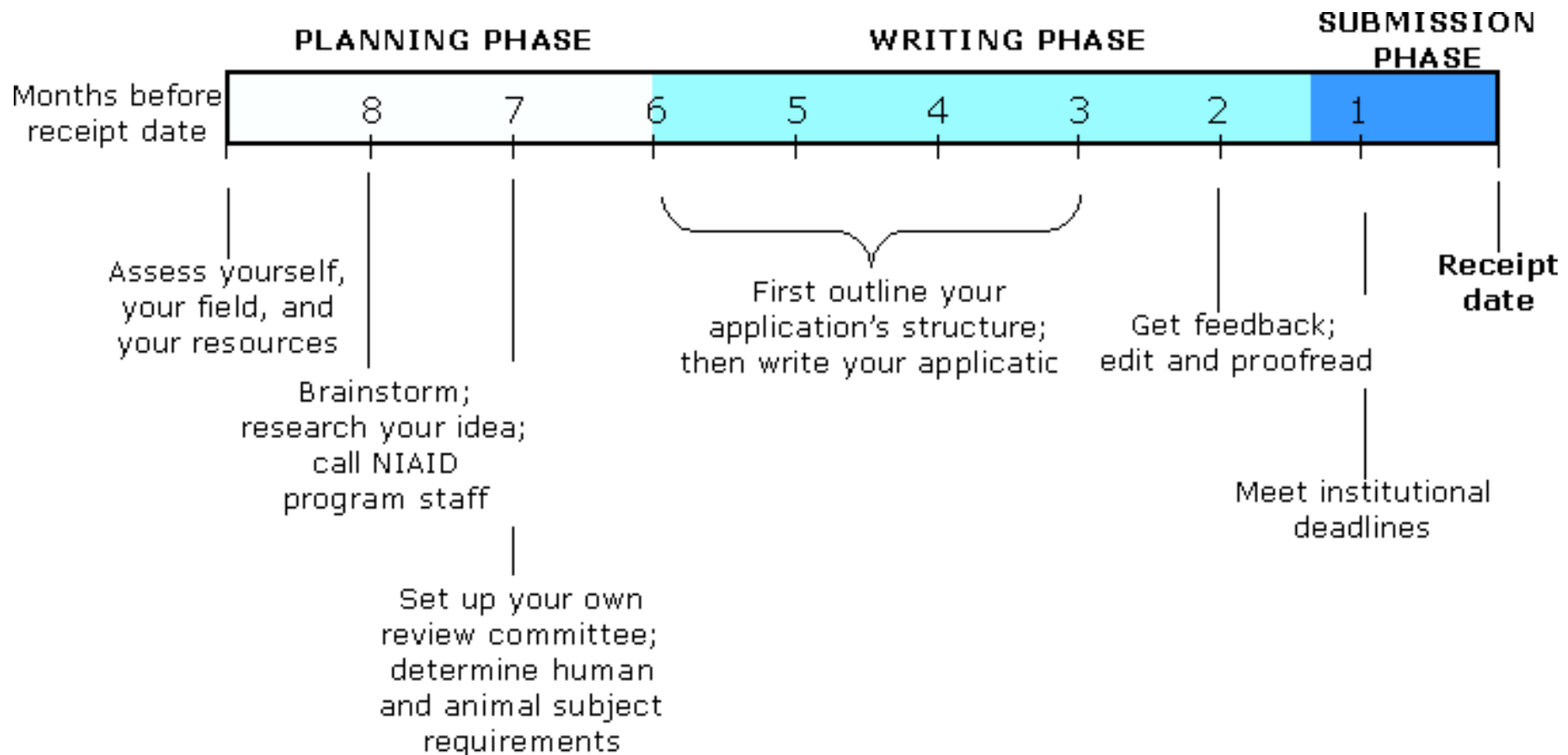

Write

So WHY Plan?

You're more likely to get…

- A compelling scientific question
- Appropriate sponsor
- Appropriate review committee
- Adequate time to complete
  - ➤ A major stress reducer, no need to wait to get started

…a better grant application

Sample Pre-Submission Timeline

Components of a Grant Proposal

8 Components of Grant Proposal

✓ Cover Letter (write last)

✓ Executive Summary

✓ Problem Statement

✓ Project Description (includes evaluation)

✓ Budget

✓ Organizational Information (ask department/college for assistance)

✓ Conclusion

✓ Appendix

Components of a Cover Letter

- Reference conversations/past contacts

- Make the request (including the ask amount)

- Describer what is in your proposal package (narrative, appendix)

- Offer to answer questions/meet

- Institutional signature(s)

Executive Summary Components

- Need Statement

- Project Description

- Funding Requirements/Budget

- Expertise/Organizational Info

Problem or Need

- How it relates to the goal and mission of the project
- The applicant's capacity to make a change in the condition
- Who is experiencing the problem
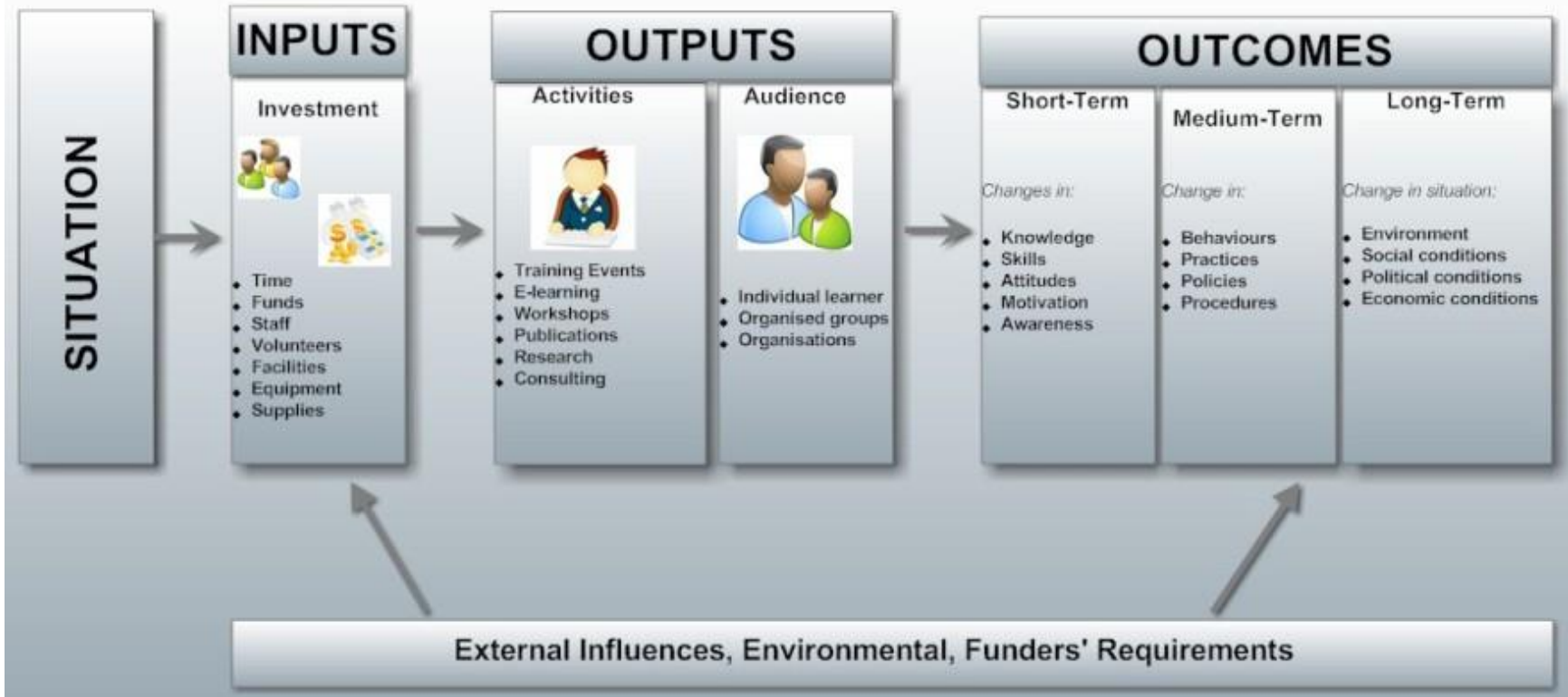- Project purpose

Project Description

- Goals and objectives

- Planned activities (outputs)

- Project time line (logic model)

- Evaluation and sustainability plan

Sample Logic Model

Organizational Information

- Depending on which organization (OSP or CFR) submits the proposal, additional institutional information may need to be submitted, e.g., list of board members, audited financial statements, etc.

Conclusion

- Final appeal
- Reiterate what your nonprofit wants and why it is important

THE OHIO STATE UNIVERSITY

Budget

1. Expense Information
- Personnel
- Non-personnel
- Overhead

2. Income Information
- Earned income
- Grants and Gifts

3. Budget Narrative and/or Justification

Appendix

- Additional information they may request, examples memorandum of understanding (MOU) or letters of support.

- Additional documents which add to the credibility of the proposal, e.g., journal articles, CVs, etc. (refer to guidelines)

Scientific Proposal Contents

- Abstract
- Methods
- Expected Results
- Potential problems and plans for resolution
- Budget and justification
- Personnel and their qualifications
- References cited
- Letters of support

Why Are Proposals Not Funded: Common Proposal Weaknesses

- Project not "innovative" or "transformative" enough; questionable importance

- Project not logical; planning is lacking

- Lack of preliminary data; need not documented

- Staff unqualified; team lacks expertise

- Overly ambitious; project timeline unrealistic

- **Key point: make it easy for reviewers to understand and read**

NSF: Return Without Review

- Inappropriate for funding by the NSF

- Insufficient lead-time before activity is to begin

- Does not separately address merit review and one-page Project Summary

- Already received a "not invited" response; duplicates another proposal already awarded

- Does not meet requirements, i.e., page limits, formatting, etc.; not responsive to program guidelines

Common Reasons Cited for a Weak Application

- Lack of or weak impact

- Significance not obvious or weak
  - Too ambitious, lacking focus
  - Unclear or flawed hypothesis
  - Feasibility unsupported

- Poor writing

- Applicant track record weak or lacking appropriate expertise

- Approach flawed

Hallmarks of an Outstanding Grant Application

- Strong significance to an important problem; IMPACT is high; high degree of novelty and innovation; clear rationale

- Strong track record by a well-qualified applicant

- Relevant and supportive preliminary data

- Clear and focused approach that provides unambiguous results

- Careful attention to details:
  - Fonts, clarity of data, spelling, etc.

How To Assure That Your Grant Gets Funded?

- Good ideas, well-presented always win

- Think clearly

- Write clearly

- Be complete but not verbose

- Never lose sight of the significance

- Point to the impact

- Pay attention to details

The Peer Review Process

- Know that reviewers are exceptionally busy people
  - Generally do not read proposal all at once
  - Most may not have expertise in your field of study
- Ask for a list of reviewers when available; review their funding history and publications
- Talk with colleagues who have served as peer reviewers and/or volunteer to serve as a reviewer

Good Grantsmanship

- Collaborate with other investigators
    - Fills gaps in your expertise and training
    - Add critical skills to your team
- "Team Science" can be powerful

#1 Concern

There is not a

CLEAR HYPOTHESIS, or

WELL DEFINED GOALS

- Provide a focused hypothesis, objectives
- Describe the importance and relevance of your problem
- Be clear on how your project will move the field forward

Sample NIH Grant #1

***Hypothesis*:** The proposed research seeks to examine the relationship between *neurotransmitter A* and *neuro-transmitter B* signaling in B*rain Region of Interest* and in vivo electrophysiological measures of B*rain ROI* output during the transition from chronic morphine exposure to morphine withdrawal… additionally seeks to determine whether putative *Brain ROI* projection neurons exhibit altered basal and behaviorally-correlated firing profiles during these states… finally seeks to determine whether the observed behavioral, neurochemical, and neurophysiological indices associated with morphine dependence and withdrawal are dependent on *Neurotransmitter A* projections to the B*rain ROI.*

Grant #1 (Specific Aims)

SA #1: Examine alterations in B*rain ROI neuro-transmitter A* and *neurotransmitter B* efflux in response to acute morphine challenge and withdrawal in morphine-dependent rats

SA #2: Examine alterations in *Brain ROI* single-unit neuronal activity in response to acute morphine challenge…
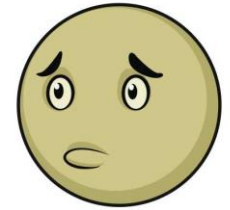
SA #3: Determine the sensitivity of withdrawal-associated *neurotransmitter A* efflux, single unit neuronal activity, and withdrawal-associated behaviors to lesions of the *neurotransmitter A afferent inputs*

Grant #1

Reviewer Comments:

1. This application appears to lack a hypothesis driven from a specific mechanism.
2. Enthusiasm… dampened by the lack of a specific mechanism
3. …the proposal begins to look more like a collection of experiments where the applicants are simply listing experiments according to their expertise in specific techniques
4. …overambitious nature of the project

#2 Concern

The specific aims do **NOT TEST** the Hypothesis, or the specific aims **DEPEND** on results from previous aims

The best proposals are those with independent specific aims that address your hypothesis using different approaches

Grant #2

***Hypothesis*:** The increase in *brain* receptor subunits after chronic morphine is an adaptation to reduced tonic *neurotransmitter* release in the *brain region of interest* and elevates the threshold for opioid analgesia.

***Objective*:** Study is to design opioid-based pain relief paradigms with extended analgesic efficacy and reduced risk of abuse.

***Purpose*:** To determine whether *these brain* receptors are good targets for "anti-tolerance" drugs

Grant #2

SA #1: Determine the anatomical location(s) of chronic morphine-induced changes in *brain receptor* subunit levels

SA #2: Examine the role of *brain receptor subunits* in opioid-induced behaviors other than analgesia

- **R01**
- **Requested $225,000 direct costs / 5 years**

Grant #2

Reviewer Comments:

1. Unfortunately, several of the experiments proposed do not directly test the hypothesis and may or may not aid in our further understanding of opioid tolerance.
2. ..it is not clear whether such changes would correlate with antinociceptive function
3. ..there is a lack of preliminary data determining whether such studies can be accomplished and whether any significant changes can be measured
4. ..the literature reports 15 to 20 different mechanisms demonstrating the inhibition of opioid antinociceptive tolerance, yet none of these are addressed
5. ..studies proposed in aim 2 lack rationale

Good Grant #1

Hypothesis: *Chronic drug* exposure upregulates the expression of *Factor X*, which triggers and sustains the exocytotic trafficking and surface expression of functional *Receptor A*

Purpose: To investigate the molecular mechanisms for *Factor X*-induced *Receptor A* trafficking

Good Grant #1

SA #1: Determine the signaling pathways mediating *Factor X*-induced R*eceptor A* trafficking

SA #2: Determine *Factor X* involvement in *drug*-induced *Receptor A* trafficking

SA #3: Determine the synaptic sites of *Receptor A* trafficking and *Receptor A-B* interactions

SA #4: Determine the behavioral significance of emergent *Receptor A* and behavioral *Receptor A-B* interactions

Good Grant #1

Reviewer Comments:

1. Strengths are numerous and include novel and innovative hypotheses, sound experimental design using multidisciplinary approaches, a highly qualified investigator and research team, and a high likelihood of meaningful findings

2. Strengths include the significance of the central hypothesis, the well-designed experimental plan, supportive preliminary data…

3. ...the rationale for the studies are clearly delineated, appropriate controls are in place, scope of the studies is appropriate, and there is … complete discussion of possible limitations of some approaches and how findings will be interpreted

Push the Button

Contact

Jeff Agnoli (agnoli.1@osu.edu or 614-292-6269)

Education, Funding and Research Development

>Office of the Vice President for Research

>208 Bricker Hall / 190 N Oval Mall

>Columbus, Ohio 43210

Dinessa Solomon (solomon.189@osu.edu or 614-688-3049)

Director, Foundation Relations

>The OSU Foundation, Office of Corporate and Foundation Relations

>1480 West Lane Avenue

>Columbus, Ohio 43221