



# *Writing Successful Proposals*

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## Faculty Responsibilities

- Research (proposals, grants, graduate student supervision, publications..)
- Teaching (proposals, grants, classroom teaching, educational innovation..)
- Services

## Writing Proposals

- Focus on a few good proposals. Submission of many proposals to deal with low hit rates is not a good strategy.
- Make a serious effort to develop new/good ideas. Then, even if the proposal is not successful, there should be useful outcomes, e.g., papers.
- This is a memoryless system – being successful in the past does not guarantee the future.



## Funding Agencies

- NSF and some other government agencies - fundamental research, educational component
- Industry - cost/benefits of the work, implementation in a practical environment is important
- Internal funding at universities - show seed money leads to more opportunities for external funding



## Proposal Review Procedures

- Peer review: How NSF panels work?
- Program officers review: More targeted R&D



## Industry Collaboration

- Understanding the real world environment
- Industry asks: What can you do for us?
- Professors should ask: What can I do for you?
- Collaborations through R&D, implementation, testing, publication, student training, etc.
- Technology transfer and licensing of technology



## A Good Proposal

- Solving a real problem
- Starting a new field
- Potential impact to the state-of-the-art
- Potential impact to industry
- Novelty of ideas, imaginative concepts
- Sufficient details of the technical approach
- Illustration with simple examples
- Generalization from simple examples

## Example Problems

- Discuss the past work in detail but little about what will be done if awarded
- Incremental improvement of technology
- Obvious weakness in presentation
- Not putting work in the context of the state-of-the-art (important work cited??)
- Too ambitious



## Example Problems - Conti.

- Proposal sent to wrong programs
- Weak track record in research
- Broad coverage without focus
- Problem areas no longer of interest
- Making incorrect statements
- Poor reviewers can hurt too.



## *Successful Research and Educational Consortia*

- Close partnership among team leaders and members in the institutions
- Shared vision of the technical and educational program
- Strong leadership to achieve the program goals
- Strong institutional support to overcome barriers between universities
- Procedure to manage the intellectual properties
- Strong industry support through track records
- Strong staff support to organize the program activities
- A strong team of faculty with shared interests
- Close interaction with students
- Interdisciplinary technical expertise



## Guidelines on Writing

- *Write for readers, not yourself*
- *Visualize the text – Picture what you write*
- Use passive voice
- Avoid long sentences
- Every reference should be cited in the text
- Follow the numeric order for references
- Help the reviewers, make it easier for them
- Be a perfectionist