HONING YOUR GRANTSMANSHIP SKILLS:
HOW TO DEVELOP A SUCCESSFUL PROPOSAL

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Joining the moderator were three NSF program officer colleagues: Dr. William Butcher, Senior Engineering Advisor; Dr. Larry Goldberg, Acting Director, Division of Electrical and Communications Systems; and Dr. Betty Jones, Program Director, Division of Human Resource Development. They discussed, in an interactive format with the participants, a number of aspects of grantsmanship.

The workshop considered some of the important elements in successful proposal development and clarified the process involved. While the perspective was that of a federal agency, much of the discussion was applicable to proposals for any funding source. The workshop focused on some of the things that help to make a proposal successful--and unsuccessful, utilizing the following outline:

I. SETTING THE STAGE
    o   Developing the bright idea--new investigators particularly
        (surveying the literature; attending professional meetings;
        contacting investigators working on topic, etc.)
    o   Preparing to do the research/project (determining available
        resources; assessing needs; developing preliminary data,
        etc.)
    o   Targeting the program opportunities: where does the project fit?
    o   Information sources:
        -   Program announcements and guides; Dear Colleague letters, etc.
        -   Awards lists
        -   Program officers (telephone/personal conversations)
        -   Commercial publications
        -   Networks

II. UNDERSTANDING THE "RULES OF THE GAME"
    o   Organization's scope and mission
    o   Proposal processing--review and decision making
    o   Agency/program requirements and procedures (proposal
        guidelines and program announcements)
    o   Agency/organization funding mechanisms
    o   Deadlines/target dates

    o   Conflicts of interest

III. PROJECT DEVELOPMENT
- o   Significance of proposed effort--problem(s)/objectives
- o   Feasibility of proposed effort--suitability of methodology
- o   Experimental/activity plan, including duration & timing
- o   Preliminary data; expected project outcomes and assessment
- o   Plans for evaluation, documentation/preservation/sharing (dissemination) and/or continuation, as appropriate
- o   "Outside" input (including previous reviewer comments)

IV. PROPOSAL DEVELOPMENT & SUBMISSION ("divide and conquer")
- o   General Suggestions:
  - - Format requirements
  - - Writing style
  - - Organizing ideas/information
  - - Using clarifying materials
  - - Addressing special requirements
  - - Editing/proofing
  - - Utilizing available expertise

- o   Cover Sheet, including title (and 1225 for NSF)

- o   Proposal Summary (maximum: 1 page)
  - - Is a self-contained description of activity that would result from funding
  - - Is brief, clear, written in third person, understandable to technically literate lay reader (interesting???)
  - - Addresses objectives, methods, significance

- o   Table of Contents (Can the reader find what is sought?)

- o   Project Description
  - - *Introduction:*
    - . Establishes who is applying (organization)
    - . Describes objectives and expected significance of project
    - . Leads logically to problem statement

  - - *Problem statement/needs assessment:*
    - . Relates to purposes and goals
    - . Describes relation to: present state of knowledge in field; work in progress by PI and by others elsewhere; PI's long term goals
    - . Indicates project is of reasonable

dimensions, supported by statistical evidence/literature
. Is developed with appropriate input in terms of results
. Does not makes assumptions, nor use unnecessary jargon

- *Objectives:*
  . Describes problem-related outcomes (not methods)
  . Defines population to be served, if applicable
  . States when objectives will be met
  . Describes objectives in numerical terms, if possible

- *Plan of work/methodology:*
  . Flows naturally from problems/objectives
  . Clearly describes broad design of procedure/methods/activities, reasons for their selection, and their sequence
  . Describes staffing
  . Describes expected outcomes or clients/participants and their selection
  . Presents a reasonable scope of work/activities that can be accomplished with the allotted time/resources
  . Provides benchmarks/timeline

- *Evaluation:*
  . Covers product and process
  . Tells how evaluation will be performed (methodology) and who will do it
  . Defines evaluation criteria
  . Describes test instruments (or questionnaires) and process of data analysis
  . Indicates how evaluation will be used, earmarks its cost, and notes reports, if any, to be produced

- *Future:*
  . Shows where effort fits into long range plans/larger picture
  . Plans for follow-up, continuation and/or institutionalization, if appropriate
  . Plans for dissemination (as appropriate): data, samples, physical collections, products, etc.

- *Results from Prior Support (NSF)*

o Bibliography

o Bio Sketches

o Budgets:

      - Inclusions
      - Justifications
      - Institutional commitment

o   Current/Pending Support

o   Facilities, Equipment and Other Resources

o   Special Information & Supplementary Documentation
      - Certifications and/or required forms/statements
      - Letters of *commitment*
      - Other

o   Special types of proposals: group, equipment, conferences/workshops

o   Proposal submission

V. WHAT MAKES A PROPOSAL SUCCESSFUL/UNSUCCESSFUL (summary)

VI. POST FACTO (follow-up and post-award considerations)