Writing a Successful Proposal for the Murdock College Research Program for the Natural Sciences – Life Sciences Division

Tom Bultman
Hope College
Holland, MI
The Nature of the Review

- Ad hoc external reviewers working in your area of research (2-5)
- A review panel
  - 3-4 biologists with fairly broad training and experience with the PUI environment
- The proposal must be written for a broadly trained biologist
- Avoid excessive jargon and define terms
Title

- 250 word max
- Nontechnical
- Descriptive and inviting
Abstract

• Write for the non-specialist
• Your chance to get reviewer’s interest
  – Why should she read on?
• Write last
Narrative of Proposed Research

• Specific aims
• Hypotheses & predictions
  – Proposals not hypothesis-driven generally rated lower
  – Need to be clear and clearly testable
Narrative, continued

• Background
  – Review literature, highlight gaps, set your proposed work within this background. Don’t overlook pertinent literature – reviewers will catch this! Use number citation format.
  – Important section – you are making an argument – is it convincing?
  – Need to highlight significance of the proposed area of research
  – Keep to less than 25% of narrative, some applicants write too much here and leave too little space for subsequent sections
Narrative, continued

• Preliminary results
  – Proposal much stronger if you have preliminary results, but not required
  – Do not need to be published, but if not, you need to show them in the proposal!
  – Even more important if applicant is proposing a study in a field new to her/him
Narrative, continued

• **Methods**
  – Need sufficient details so reviewer can follow what you will do
  – Sometimes these are too sketchy
  – May need to convince reviewers you can perform the proposed procedures in your environment
  – Shipping out analyses is ok, but many panelists like to see students involved in as much of the work as possible
Methods continued

– Need to include description of statistical analyses
  • A common omission!
– Be careful not to pose questions in the introduction that your methods will not answer
General Comments

• Common mistake is to propose a 6-8 year project for this 3 year program. Make sure your proposal is not overly ambitious.

• Be careful not to propose a “fishing expedition” that is little more than shot in the dark, hoping to find something with little evidence to expect you will.

• Avoid project areas that are very competitive at R-I institutions.
  – Do you have a new approach?
  – A new perspective?
• Think big
  – The award should fit within a big and interesting area of research
  – It should be a project that could lead to federal funding