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Writing Responsive Proposals

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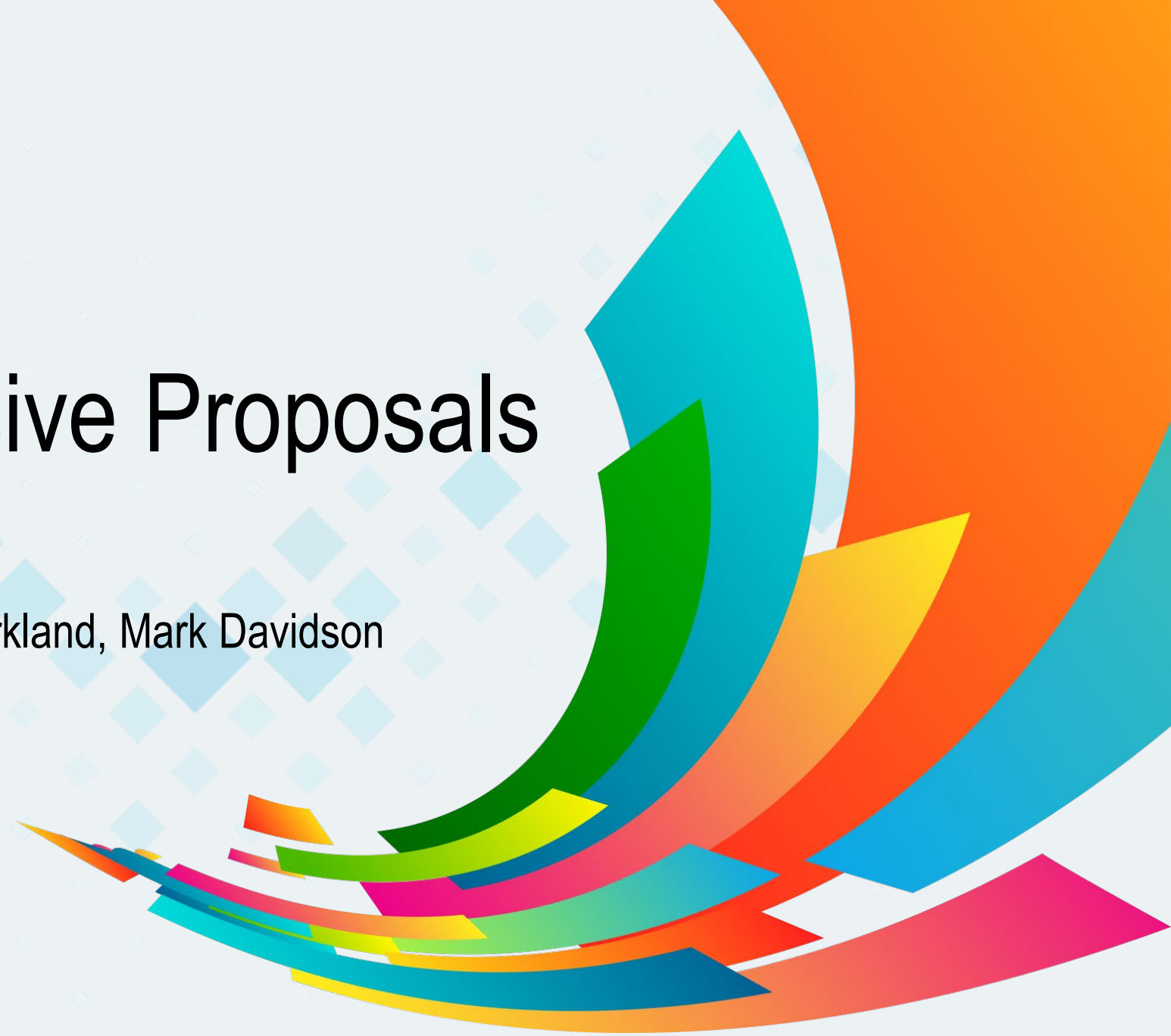

Proposal Advice

- The proposal process begins right now, not after the solicitation is released.
- Writing a winning a proposal is a long term process that involves:
  - Understanding the needs and interests of NASA
  - Interacting with the technical community
    - Help us write our subtopic descriptions by letting us know what you are capable of providing.
    - Find out how you can best be a benefit to NASA science and technical needs.
- Read the solicitation carefully
  - Do not assume it is the same as last year.
  - Reread it again, your competition did.
- Provide all of the required information, including Part 7 – Commercialization for Phase II proposals and the Commercial Metric Survey.
- Explain (early and concisely) how your effort will benefit NASA interests.
- You never finish writing a proposal, you just run out of time.

Writing Responsive (Winning) Proposals

- Know your Vision
- Know the Context
- Define the State of the Art
- Describe Your Contribution
- Justify Why You and Not Somebody Else
- Defend Your Proposal
- Respect Your Audience
- Proposal Advice
- SBIR/STTR Proposal Tips

Know Your Vision

- Have a vision of work you would like to do
  - Target your work/proposal to the appropriate subtopic – be responsive
  - Don’t find a subtopic and figure out what to propose – just to get funding
- Proposal writing is a long-term process
  - It is not just about *this* proposal
  - Your reputation is made by how well you deliver on every proposal you write and win (or lose)

Know the Context

- Read the *solicitation* carefully
- Understand the *scientific and technological importance* of your idea
  - Who, besides you, cares about this work?
  - What new measurement will this work enable?
  - What theory will this measurement prove or disprove?
  - How does this work fit into the “big picture”?
- Understand the *programmatic relevance* of your idea
  - What NASA missions will the proposed work make cheaper, better, or possible at all?
- Use National Academy reports, conference reviews, NASA Strategic Plans, Roadmaps for guidance
- Ask colleagues, supervisor, scientists, Directorate program scientists for help
- During non-blackout periods, contact NASA SBIR program to talk to technical experts

Why You and Not Somebody Else?

- Justify your firm
- Justify yourself as PI and defend your selection of Co-Investigators
  - A role for every team member
  - A team member for every role
- Demonstrate excellence, don’t claim it.
- Don’t be modest *or* inflate your resume
- Define clear roles and responsibilities, qualifications of key personnel (use tables!)

Define the State of the Art

- Demonstrate your grasp of the field
  - Offer a short, well-researched overview of relevant science and technology
  - Cite key references
    - With luck, your referee will be among your citations
- Include 1-2 figures showing state of the art and *how you will advance it*
  - When reviewer is arguing on your behalf, he/she can jump to a compelling figure
  - Include compelling figure in your Company Quad chart if possible
- Include non-NASA work if relevant
  - Non-NASA technology dominates an increasing number of fields

Describe Your Contribution

- What will your work, if funded instead of somebody else's, contribute to the field?
  - New scientific knowledge?
  - Better measurement capability enabling new scientific knowledge?
  - Applications to NASA missions?
- Be modest, not grandiose
  - Show restraint in objectives – don't over-claim or over-reach
  - Gains of factors of 2-5 can be hard to come by, but may be valuable (and credible to experienced reviewer)
  - Gains of factors of tens, hundreds … are great, but are usually greeted with disbelief
    - Vague promises of "revolutionary" advances are usually annoying, not convincing

Defend Your Proposal

- Can you do the job on the schedule?
  - Reviewers will be skeptical!
- Can you do the job for the budget?
  - Reviewers will be VERY skeptical!
- Prove it!
  - Provide SPECIFIC intermediate milestones
    - Offer substantial, incremental improvements, e.g.,
      - 8x better detector in three 2x steps every 6 months
      - Measurement of hundreds of galaxies leading to catalog of thousands of galaxies
  - Cite record of on-time, on-budget achievement

Respect Your Audience

- Reviewers and NASA HQ officials will decide your fate
  - Most will read only the abstract or maybe a few pages
  - Only a few reviewers will read whole proposal looking for technical advances and flaws
- Tell them your key idea 3 times (at least)
  - Tell them what you are going to tell them
  - Tell them
  - Tell them what you told them
- Neatness, including spelling and grammar, counts
- Make sure you address all selection criteria. Somebody will be checking.

Proposal Advice

- Read the solicitation – Are you responsive?
- Read the solicitation again.
- Demonstrate excellence, don't claim it.
- If you think it's your proposal to lose, you probably will.
- Don't get cocky. "Dream teams" or "Dream Firms" often lose.
- Go back and really read the solicitation. The other person did.
- Be hungry. The underdog works harder and often wins.
- You need a reviewer to champion your proposal. Make it easier for them by providing concise material up front.

Proposal Advice (continued)

- Examine the selection criteria and directly address them up front. A reviewer should be able to lift sentences from your introduction that could go into their review.
- Proposals lose because of single sentences or paragraphs. What did you say or forget to say that could hurt you?
- If you have a particular strength claim it and ghost the weakness of the competition.
- You will never finish writing your proposal. You will, however, reach a time that you have to send it in.

SBIR/STTR Proposal Tips

- Review prior years solicitations at http://sbir.nasa.gov/
- Search and identify specific technical areas (subtopics) and lead center(s) of your interest
- Request subject matter expert contact information from respective field center program POCs
- E-mail/Call technical POCs and initiate dialogues
- Learn technology needs, priorities, and funding gaps
- Visit and brief NASA on your companies capabilities, if the opportunity presents itself (like today)
- **Please note** – once a solicitation is active, NASA centers, including JPL are not permitted to discuss the active solicitation