Getting Funding
(... ensuring your ideas get funded ...)

* from DARPA
  * differences with NSF opportunities
  * ... and some more items ...

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DARPA Program Formulation

• Programs developed by the Program Managers (PMs)
• PM needs to have a vision for specific technical directions
• Develops briefing, justifying the need for novel technology
  – includes demonstrating the existing technology gap
  – relevance of this research to DoD (… and excellence in science!)
  – expected scope of research needed, in the form of specific tasks
  – milestones and deliverables from the program; required budget
• “Sells” the program to the Office Director, and to the DARPA Director and Deputy Director
• Budget allocated; followed by call for proposals (BAA)
• Typically programs last for 3-5 years
  – awards are made for 3-5 years; to academe and industry
  – sometimes first phase (2-3y) followed by second phase (2-3y)
  – possibly a BAA for each of the first 2-3 years of the program
DARPA Announcements

- **BAAs (Broad Agency Announcements)**
  - posted on the DARPA web pages
  - posted on the CBD
  - sometimes briefing to the community (prior to issuing BAA)

- **+ DoD SBIR Program**

- **Proposal Deadlines**
  - 60 days or more from date of publication of BAA

- **Proposal size** $200K/yr to >$1M/yr; for 3-5y

- **Proposal Review**
  - Panels
    - representatives from other agencies, industry and academe
  - Proposals rated as “must fund”, selectable, rejected
  - Proposers notified by mail on the outcome
  - Proposers may receive briefing summarizing the reviews

- **Proposal success rate:** ~10-20% (variable...)

Project Monitoring

• Funded proposals are contractual projects
• Projects have specific deliverables
  – research accomplishments
  – technology deliverables, payable milestones
  – products of value to DoD (and … to society)
• Are reviewed periodically
  – quarterly progress reports (meeting interim milestones)
  – once/yr
  – or more frequently as needed
• May be terminated
  – due to unsatisfactory performance
  – due to budget cuts
  – due to redirection of DARPA’s needs
• Completion of the project (end of contract) w deliverables
Comparison with NSF Programs/Awards

• NSF programs
  – mostly generated with academic community input
  – broad research scope

• DARPA (programs) portfolio of projects
  – generated by PM’s vision
  – focused research; can have broad impact

• DARPA: Contracts vs NSF: Grants

• DARPA: Specific research focus with deliverables vs NSF: “free-thinking” research/publications

• DARPA PIs have established research record; There are no CAREER, POWRE, etc awards
Writing successful proposals

• Key ingredient: Your own novel and great ideas!
• Define adequately the scope of your proposed research
• In the executive summary explain the what, why this, why now, what is the “technology/knowledge quantum leap”
• Similarly in main body of proposal
• Explain why it is responsive to that particular BAA
• Explain what’s the state-of-the-art; explain why your approach is superior to other known approaches
• Specify the milestones and deliverables
• Substantiate the proposed deliverables
• Present roadmap & management plan for the deliverables
• Write no more than needed to substantiate the value and excellence of your proposed project
and...

Some tips for having successful (DARPA) proposals

- Get known to the PM; get to know the PM
- Communicate your ideas to the PMs (before the BAA is out)

THE PM IS YOUR FRIEND! (BEFORE AND AFTER THE AWARD)

- Get involved in proposal writing early (like in grad.school)
- Ask others (peers, mentors, etc) to give you feedback on your proposal drafts
- Consider the feedback you get from your failed attempts
- If you are junior academic, pair-up with senior PI’s
  …. But establish yourself expediently…
More tips on writing successful (DARPA) proposals

• Don’t assume people understand your ideas immediately
• You need to repeat it multiple times:
  (in a proposal or a presentation)
  – tell them what you are going to say
  – tell them what you are saying
  – tell them what you said
• the more novel the idea, the more needs repeating
• present your ideas to more than one person
• DOCUMENT YOUR IDEAS
  – *Verba volent, scripta manent!*
and...

Some tips for having successful (DARPA) proposals

• Be on-top of the state-of the art in your field
• Become aware of trends, like that research is becoming more and more multidisciplinary
  – even within a given discipline, not only across disciplines
  – get familiarized with other fields
    • pick some and get to know in depth
    • others have more general understanding

• Network
  – get to know other PI’s
  – seek mentors
    • can teach you how to write good proposals
    • advise you on their perspective on the field
and...

Some tips for having successful (DARPA) proposals

• Start being active in publishing papers early
• Start early on submitting papers to conferences
• Go to conferences
• Become known to your peers (academe, industry, agencies)
• Serve in conference committees, or paper reviewer
  and
• Serve as a proposal reviewer when called!
• Participate in workshops where new initiatives/programs are being formulated
• COME TO THE AGENCIES AND SERVE AS A PM!
• See it as an opportunity for a broader impact to your field
• CREATE PROGRAMS stemming from your vision for your area
Next Generation Software Program

Performance Engineering Technology
for the
Design, Management and Control of Computing Systems

and
New Software Architecture for
Applications Development and Run-time Support

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