



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 2-3years 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**
 - 60days 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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