



Advanced Detector Research Program

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Outline

- Program Description
- Year 1 Status
- Lessons Learned
- This Year's Program
- Other Detector Research Programs at DHEP



Program Description

- Support detector research at universities
 - Part of DHEP Physics Research (university)
- Earliest phase of detector research
 - Not for final exp. specific engineering
 - Generic research with broad applicability
 - Multiyear funding possible
- Competitive program like the OJI program
- Recommended by Gilman sub-panel (\$2M/year)
- Start with \$500K in FY 2001



Year 1 Status

- Announcement posted August 2000.
 - Deadline for proposals December 5, 2000.
 - Report made to HEPAP October, 2000.
- 20 proposals received:
 - Covering semiconductor trackers, calorimetry, photodetectors, electronics, detectors for non-accelerator experiments.
 - All proposals reviewed by 3 outside experts.
 - Review committee helped rank proposals.



Winners

- Six proposals stood out as superior.
- Achieved variety among the winners by simply choosing best reviewed.
- Topics:
 - 1 silicon,
 - 2 calorimetry,
 - 2 photodetectors,
 - 1 non-accelerator experiment.



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- Age
 - 3 young PI's, 3 "experienced" PI's
 - Other
 - 5 one-year grants, 1 two-year grant
 - Two funded for fewer years than requested.
 - All funded for requested amount.
 - Total of \$410K in awards out of \$500K allotted.



Problems Encountered

- Timing
 - Reviewer selection spanned the holidays.
 - OJI program competed for staff time.
 - New DOE proposal database installed.
 - I had back surgery during the review period.



Problems, problems, ...

- Reviewers hard to find
 - Some areas of research have heavy collaboration.
 - Some areas have very few researchers.
- Proposal quality
 - Some collaborative proposals were improperly submitted.
 - Some proposals were somewhat off-topic.



Solutions

- Move deadline up to October 30.
- Rewrite the announcement to make the program requirements clearer.
- Meet more detector experts while I am here.
- Regular stretching and strengthening exercises for my back.



Specific Requirements

- Scientific/technical merit of the project:
 - the importance of the physics that motivates developing the proposed detector,
 - whether the proposed research is generic detector research that will benefit more than one experiment,
 - the magnitude of the potential impact versus the risk of failure.



Further Information

- Planning \$500K again this year despite the cuts in the university program
- DOE HEP website:
http://hepserve.fnal.gov:8080/doe-hep/adr_2002.htm
- Contact me at
Michael.Procario@science.doe.gov
- Optional letter of intent by September 25.
 - Email ok
- Full proposal by October 30.



Other Detector Research Programs

- SBIR - Small Business Innovation and Research
 - Grants are made to small businesses for research.
 - Small sums may go to university consultants.
 - Funded from a set aside of 2.5% of the DOE research budget.
 - Phase I projects can receive \$100K.
 - Phase II projects can receive \$750K.
 - A well reviewed proposal currently has a 50% chance of funding in HEP.
 - Most HEP funding goes to accelerator R&D now



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- Best proposals come from companies that work with high energy physicists.
 - This year we had 6 fundable Phase I proposals on LHC computing.
 - Fewer detector proposals were received this year.

 - New subtopic added last year
 - Innovative detector supports, cooling systems, interconnects, etc.
 - Phase II grant for ATLAS pixel support in 2000



- STTR – Small Business Technology Transfer
 - Grants to non-profit/small business partnerships
 - At least 40% of the funds to business
 - At least 30% of the funds to the non-profit
 - Smaller program than SBIR
 - Only 0.15% set aside
 - Run in parallel to SBIR
 - same application and review process.
 - Check the STTR box.