Undergraduates Excel in Research

Each year the Killgore Research Committee awards grants to deserving undergraduate students. In 2010, 13 students received awards for 9 separate proposals. Here are the students' names and the titles of their proposals:

* Bryant Coon, "Modeling Our World Using a Combination of Modern Surveying Techniques"
* Kristen Estrada, Chadra Agundiz, Bryan Viteri, Adrina Contreras, "Developing a Strategic Marketing Plan for the Presbyterian Children's Home"
* James Graves, "Impact of Isolation Method on Prevalence Estimates of Antimicrobial Resistance"
* Dustin Hume, "Toward the Design and Understanding of Mobile Geo-Spatial Privacy"
* Jarret Katchel, "Avian Responses to Snake Abundance in Mesquite-Encroached Grasslands"
* Trang Le, "A Fiber-Optic Sensor for Monitoring Ozone Concentration in Water"
* Garth McDonald, "Comparison of Salmonella Recovery between Pen Surface and Rectal Samples"
* Joshua O'Brien, "The History of Magical Realism in the Americas"
* Manoj Pant, "Analyze the Presence of Albumin in Permeable Tumors Compared with Non-Permeable Tumors"
* Teal Perry, "Molecular Examinations of Hybridization between Mule Deer and White-Tailed Deer"

5 Common Mistakes That Will Sink Your Grant

1. The reviewers did not find your central scientific question interesting.
Reviewer disinterest in your question could stem from a failure to communicate its significance clearly, an overly narrow focus, or a lack of novelty and originality that suggests you are addressing a problem already solved. A common pitfall is that the applicant is so enamored with a particular technology or set of new observations that he or she fails to explain how the work will transform a field, or fails to highlight important links between the work in question and other fields. One way to test the significance of your proposal is to provide a non-expert colleague with a three-sentence description; if he or she can appreciate why you are doing the work, then you are on the right track.

2. The preliminary data is weak and calls into question the feasibility of the proposal and the validity of your central hypothesis.
A highly provocative hypothesis might be just the thing your field needs but, like a good murder mystery, your jury won't be convinced without detailed evidence. Along these lines, a second flaw that kills some applications is a gap between Continued on page 2

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22-23 – 8th Annual Pathways Student Research Symposium
the hypothesis presented and what the results are actually likely to show. If reviewers perceive that the results will actually be quite a bit more mundane than what the central hypothesis is proposing, their scores will reflect this accordingly.

3. The proverbial house of cards: the overall success of the grant is dependent upon the outcome of a key experiment, which has yet to be performed.
If the succeeding aims all depend on a positive outcome of Aim One (whose outcome is as yet unproven), then the fate of the whole grant depends on the success of that first experiment. In general, reviewers have a much easier time advocating for a grant whose aims are independent, but mutually supporting, with experiments that will provide useful information whether or not your starting hypothesis is true.

4. The scope of the project is too ambitious, with multiple hypotheses or rationales that pull the grant in disparate directions.
Another common flaw of novice grant writers is the "spaghetti syndrome", where every good hypothesis, experiment, or reagent in the PI’s pantry is thrown at the problem. This approach rests on the assumption that reviewers will find at least a few good ideas stuck on the proverbial wall, and this will raise their enthusiasm. In reality, these types of organizational flaws generally diminish enthusiasm, because they signal a PI is unable to prioritize among various facets of the project, which down the road can lead to an inefficient deployment of people and resources. Your research plan should portray a realistic balance between what you hope to accomplish, and the number of junior researchers that you will have available.

5. The PI and or research team lacks the experience to carry out the proposed work.
Once reviewers have determined that the work is significant and the approach is valid, they have to answer the question, “Is this the appropriate PI to carry out the work?” For first time and early investigators, the training and accomplishments during the post-doctoral years will provide clues about the likelihood of success. For more senior investigators, past career experience and productivity will be scrutinized carefully. If a particular approach is unproven with respect to
Research Connection is a new e-newsletter, and we encourage you to forward it, print it, and share it. **Want to keep receiving this newsletter?** Just click [here](#) and hit SEND, and we will do the rest! Your e-mail will never be given or sold to other parties. Topic suggestions concerning sponsored research are always welcome. Contact the editor via email [here](#).

*SRS Hosts NCURA Live Webinar*  
**September 21**  
**Open to All Faculty and Staff at No Cost!**

**Negotiating Federal Contracts and Pass-Through Awards**

Award negotiation encompasses a scope of activities between proposal submission and award acceptance. This session is designed to benefit individuals involved in negotiating agreements with federal and federal pass-through entities, as either prime awardees or sub-awardees, and **will include some discussion of complex grants and cooperative agreements.**

To register for this informative FREE webinar, contact Sponsored Research Services at 651-2984 or come by Killgore Research Center, Room 187.

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